RIVERS PHASE II

Draft Environmental Impact Report

SCH 2005042018





November 2005

Prepared for:
City of West Sacramento
Community Development Department
1110 West Capitol Avenue
West Sacramento, CA 95691

Prepared by:
EIP Associates
1200 Second Street
Sacramento, CA 95984

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1. INTRODUCTION

1. INTRODUCTION

1.1 INTRODUCTION

The City of West Sacramento is the Lead Agency for the preparation of an Environmental Impact Report (EIR) for the Rivers Phase II (proposed project) located in Yolo County in the northeastern portion of the City, within an area of the previously approved Lighthouse Marina and Riverbend Development project.

Rivers Phase II includes a proposal by West Riverview LLC to develop approximately 68 acres of the former Lighthouse Marina Golf Course that was closed in December 2003. The Rivers Phase II project would construct one of two scenarios. Scenario A includes the development of a mix of single-family residential units (approximately 626 units), an approximately 12.3-acre K-8 school, two-acre park, and supporting infrastructure. Scenario B would construct an additional 176 residential units on the school site for a total of 802 units if the Washington Unified School District (WUSD) does not construct the school. The proposed project also includes installation of approximately 3,000 linear feet of bank stabilization along the Sacramento River.

The General Plan designation is Riverfront Mixed Use (RMU). The zoning for the Rivers Phase II project site is Waterfront Planned Development (WF PD-29). The proposed project includes approval of text amendments to PD-29 to accommodate the proposed approval of a vesting tentative subdivision map and approval of a Water Supply Assessment. See Chapter 3, Project Description, for a detailed description of the proposed project.

The proposed project site is located in the City's Redevelopment Area where 15 percent of new and substantially rehabilitated housing units must be affordable to low and moderate income households, of which 40 percent must be available at a cost affordable to very low income households. Thus the proposed project would be required to meet this inclusionary requirement.

Project Background

Lighthouse Marina and Riverbend Development Project

The Lighthouse Marina EIR was certified by Yolo County in 1986. The project envisioned a mixed-use development that included 1,881 residential units, a hotel/convention center, hotel-related uses, office uses, commercial uses, a marina and related uses and an 18-hole golf course. The City of West Sacramento, following incorporation in 1987, revised the Lighthouse Marina project in 1989 and 1991. PD-29 was created as part of the 1989 revision. The intent of this zone overlay was to implement the Lighthouse Marina project. In 1991, the City approved Tentative Map #3953 that included 308 acres (including the proposed project site). Unit A of TM #3953, which included most of the lots located west of Fountain Drive, was recorded in 1992 and included 285 single-family lots and four multi-family lots. The proposed marina was dropped from the plan in 1998. The golf course was closed in 2003. Prior to 2003, one residential unit had been constructed. As of September 2005, 260 homes have either been constructed or are under construction, and 119 homes have been occupied.

Lighthouse Marina and Riverbend Development Bank Stabilization Project

The proposed project site is located adjacent to the west bank of the Sacramento River. Lots of the recorded tentative subdivision map were constructed on fill on the river side of the levee. Since the original development of the project, erosion of one of the parcels, Lot 305, has occurred. River bank protection efforts began in 1991 due to extensive erosion. In 1992 the U.S. Army Corps of Engineers (USCOE) and the California Department of Fish and Game (CDFG) permitted a 500-linear foot long bank stabilization project for the area subject to the most severe erosion.

In 1993, additional erosion occurred and further bank stabilization was requested for a longer stretch of levee upstream and downstream from the work completed in 1992. At that time, agency representatives determined that the entire riverbank portion of the site should be analyzed and alternative bank protection/habitat restoration methods evaluated. During 1993/94, various bank protection alternatives were discussed and in January 1995, another 300 lineal feet of riverbank was stabilized due to erosion in severe storms.

In 1996, the Lighthouse Marina and Riverbend Development Bank Protection and Greenway EIR (State Clearinghouse #94123008) for the California State Lands Commission was completed. In this document, alternatives to bank stabilization along the Lighthouse project were evaluated. No construction work has been completed and all previous permits relating to the bank stabilization have since expired.

1.2 TYPE OF EIR

The requirement to prepare an EIR is set forth in the California Environmental Quality Act of 1970 (CEQA), as amended (Public Resources Code, Section 21000, et seq.) and the State Guidelines for Implementation of CEQA of 1970, as amended (California Code of Regulations, Section 15000, et seq.), (CEQA Guidelines). Consistent with Section 15161 of the CEQA Guidelines, this EIR is a Project EIR and is intended to evaluate the environmental impacts of the proposed project, including construction and operation impacts.

Scenario A includes the acquisition, construction, and operation of the proposed school for the WUSD; therefore, this EIR will conform to the requirements of CEQA Guidelines Section 15186(c), which addresses special requirements for the purchase and construction of an elementary or secondary school.

1.3 INTENDED USE OF EIR

This EIR will be used for the following approvals by the City of West Sacramento:

- PD-29 text amendments;
- Vesting tentative map approval; and
- Water Supply Assessment.

This EIR, in accordance with CEQA Guidelines Section 15126, will also be used as the primary environmental document to evaluated subsequent permitting actions by other agencies including:

- US Army Corps of Engineers;
- US Environmental Protection Agency;

- US Fish and Wildlife Service;
- National Marine Fisheries Service;
- California Department of Fish and Game;
- State Water Resources Control Board;
- State Reclamation Board;
- California State Lands Commission;
- California Department of Education;
- California Office of Public School Construction; and
- Division of the State Architect.

For a complete discussion of subsequent permit actions, refer to Chapter 3, Project Description.

1.4 SCOPE OF THE EIR

This Draft EIR describes existing environmental resources on and around the project site(s), analyzes potential impacts on those resources and identifies mitigation measures to reduce identified significant impacts (if available). Environmental subject areas evaluated in this Draft EIR include: change in visual character; increase in criteria air pollutants (associated with project construction and operation) and exposure of sensitive receptors; potential loss of habitat and adverse effects on candidate, sensitive or special status plant and/or animal species; potential damage or destruction of archeological resources; potential impacts associated with existing and/or proposed on-site and/or adjacent land uses; exposure to increases in ambient noise levels (associated with project construction and operation); ability for the City to continue to provide adequate public services including those associated with fire and police protection, parks, schools, and solid waste; and ability for the City to continue to provide adequate infrastructure capacity associated with water, wastewater and electricity and natural gas; and effects on increased vehicle traffic on roadway levels of service. It should be noted that the EIR attempts to quantify project impacts as specifically as possible. Though used for analytical purposes, the numbers contained in the impact analyses are approximations. Actual numbers may vary slightly with no invalidation of this analysis or its conclusions.

The evaluation of project-specific and cumulative effects is presented on a resource-by-resource basis in Chapter 4. The structure of the sections in Chapter 4 is described in Section 4.1, Introduction to the Analysis. A total of three alternatives have been evaluated including No Project/No Development Alternative, No Project/Existing Zoning Alternative, and Estate Parcel/Reduced Density Alternative. The description of these alternatives is summarized in Chapter 2, Summary and the analysis is presented in Chapter 6, Alternatives. Other issues required to be considered under CEQA, such as growth-inducing effects and significant irreversible environmental effects are presented in Chapter 5, Other CEQA Considerations.

1.5 PUBLIC AND AGENCY REVIEW

Notice of Preparation

In accordance with Sections 15082(a), 15103, and 15375 of the CEQA Guidelines, the City of West Sacramento, as Lead Agency, circulated a Notice of Preparation (NOP) of an EIR for the proposed project from April 4, 2005 to May 4, 2005 (see Appendix A). The NOP was circulated to local, state, and federal agencies and to other interested parties in order to solicit comments on the proposed project. Concerns raised in response to the NOP were considered in preparing this Draft EIR. These areas of concern are summarized in Chapter 2, Summary. Correspondence received in response to the NOP is included in Appendix B.

As required by CEQA, this Draft EIR is being circulated for public and agency review and comment beginning Monday November 21, 2005 for 45-days ending at 5 pm on Wednesday January 4, 2006. A public meeting regarding the information contained in the Draft EIR will be held during the public review period on December 15, 2005 at 6:00 p.m. During this period, comments from the general public as well as organizations and agencies on the accuracy and completeness of the Draft EIR may be submitted to the Lead Agency (City of West Sacramento).

Upon completion of the public review period, a Final EIR will be prepared which will include all written comments on the Draft EIR received during the public review period and responses to those comments, as well as a summary of any revisions to the Draft EIR made in response to public comments. The Final EIR will be distributed to applicable commenting agencies, advisory and decision-making bodies, and other interested parties before the City makes a determination about whether to certify the EIR, and adopt the proposed project and take the other related implementation actions. The Draft EIR and Final EIR will comprise the EIR for the proposed Rivers Phase II Development Project.

As provided in the CEQA Guidelines, public agencies are charged with the duty to avoid or substantially reduce significant environmental damage where feasible. In discharging this duty, the public agency has an obligation to balance a variety of public objectives, taking into account economic, environmental, and social issues. The EIR is an informational document that informs public agency decision makers and the general public of the significant environmental effects of a proposed project. An EIR must identify possible means to minimize the significant effects and describe reasonable alternatives to the project. The City of West Sacramento is required to consider the information in the EIR along with any other available information in making its decision.

Prior to adopting the project, the Lead Agency is required to certify that the EIR has been completed in compliance with CEQA, that the decision-making body reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the Lead Agency. The FEIR will be reviewed by the City of West Sacramento City Council for certification in accordance with CEQA. Written findings of fact for each significant environmental impact identified in the EIR will be prepared by the Lead Agency to:

- Determine if the proposed project has been changed to avoid or substantially reduce the magnitude of the impact;
- Find that changes to the proposed project are within another agency's jurisdiction, and such changes have been or should be adopted; or
- Find that specific economic, social, or other considerations make mitigation measures or proposed project alternatives infeasible.

The findings of fact prepared by the Lead Agency must be based on substantial evidence in the administrative record and must include an explanation that bridges the gap between evidence in the record and the conclusions required by CEQA. Based on these findings, the Lead Agency may also prepare a Statement of Overriding Considerations (Statement) as part of the project approval process. If the decision-making body elects to proceed with a project that would have significant impacts, then a Statement explaining the decision to balance the benefits of the project against unavoidable environmental impacts must be prepared.

Lead Agency

As identified previously, the City of West Sacramento is the Lead Agency for preparing the EIR for the Rivers Phase II project. The Lead Agency contact for this EIR is:

Sandra White
Senior Planner
City of West Sacramento
Community Development Department
1110 West Capitol Avenue
West Sacramento, CA 95691
(916) 617-4645

1.6 ORGANIZATION OF THE DRAFT EIR

The Draft EIR is organized into the following sections:

Chapter 1 – Introduction - provides an introduction and overview describing the intended use of the Draft EIR and the review and certification process.

Chapter 2 – Summary - summarizes the proposed project and the environmental impacts that would result from construction and operation of the proposed project, describes proposed mitigation measures, and conclusions as to the level of significance of impacts before and after mitigation.

Chapter 3 - Project Description - provides a detailed description of the proposed project, including its location, background information, major objectives, and technical characteristics.

Chapter 4 - Environmental Setting, Impacts and Mitigation Measures - contains an analysis of environmental impacts that could result from the proposed project. The subsection for each environmental issue contains an introduction and description of the setting of the project site, explains the baseline(s) used for the analysis, identifies project impacts and recommends appropriate mitigation measures.

Chapter 5 – Other CEQA Considerations - provides discussions required by CEQA regarding impacts that would result from the proposed project, including a summary of cumulative impacts and significant and unavoidable impacts, potential growth-inducing impacts, and significant irreversible changes to the environment.

Chapter 6 - Alternatives Analysis. Describes and analyzes the three proposed alternatives to the proposed project and their respective environmental effects.

Chapter 7 - References. Provides information for all resources cited.

Chapter 8 - Report Preparation. Lists report authors by section, City of West Sacramento staff and others who provided technical assistance in the preparation and review of the EIR.

Appendices. Includes the NOP/Initial Study, comments received on the NOP/Initial Study, and additional technical information relevant to the environmental analyses including, but not limited to water supply, cultural and historic resources, and transportation.

2. SUMMARY OF IMPACTS AND MITIGATION MEASURES

2. SUMMARY

2.1 PROJECT UNDER REVIEW

This EIR evaluates the potential environmental impacts associated with construction and occupancy of the proposed Rivers Phase II project. Specifically, this document evaluates potential significant effects in the following resource areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Land Use
- Noise
- Population/Housing
- Public Services
- Public Utilities
- Recreation
- Transportation and Circulation
- Water Supply

Project Under Review

The Rivers Phase II project (proposed project) would construct one of two scenarios on approximately 68 acres of the approved Lighthouse Marina and Riverbend Development Project area in the City of West Sacramento. Scenario A includes the development of a mix of single-family residential units (approximately 626 units), an approximately 12.3-acre K-8 school, two-acre park, and supporting infrastructure. Scenario B would construct an additional 176 residential units on the school site for a total of 802 units if the Washington Unified School District (WUSD) determines that it does not want to construct and operate the school. The proposed project also includes installation of approximately 3,000 linear feet of bank stabilization along the Sacramento River. Finally, the proposed project includes text amendments to PD-29, approval of a small lot vesting tentative map and approval of a Water Supply Assessment.

Please see Chapter 3, Project Description, for a complete description of proposed project elements and project objectives.

2.2 KNOWN AREAS OF CONTROVERSY

Notice of Preparation

Section 15123 of the CEQA Guidelines requires that an EIR identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public. The following agencies submitted comments in response to the NOP:

- US Army Corps of Engineers regarding waters of the United States;
- California Department of Water Resources regarding permits;
- California Department of Transportation regarding traffic and alternative transportation;
- California State Lands Commission regarding the bank stabilization project;
- California Department of Fish and Game (DFG) regarding need for project to comply with DFG 1600 regulations and potential for project to apply for an Incidental Take Permit (2081 Permit).
- California Regional Water Control Board regarding need for permits, Best Management Practices, and certifications
- City of West Sacramento Planning Division with miscellaneous revisions to the Initial Study that accompanied the NOP. The revisions were incorporated into the project description and technical chapters of this DEIR.
- City of West Sacramento Engineering Division regarding impacts to off-site traffic, water supply, wastewater collection and treatment facilities and storm drain collection system;
- City of West Sacramento Department of Housing and Community Investment regarding the need for a Master Inclusionary Housing Agreement to address the prior and remaining inclusionary housing obligations of the entire Rivers development.
- City of West Sacramento Police Department regarding impacts to the Department.
- Washington Unified School District regarding the need for the EIR to adequately address the potential impacts related to the construction and operation of the school to allow the District to obtain approval from State regulatory agencies.

In addition, the project applicant, West Riverview LLC, submitted comments that clarified information in the NOP and the Initial Study.

These topics are discussed in detail in each respective chapter of Section 4, Environmental Analysis of this EIR.

Scoping Meeting

The City held a public scoping meeting for the proposed Rivers Phase II project on April 14, 2005, at the West Sacramento Civic Center Galleria. Participants of the meeting had the following comments or questions about the analysis of the proposed project in the EIR:

- Height of proposed residences adjacent to existing homes;
- Fencing along proposed project boundaries;
- Emergency Vehicle Access next to the existing apartment complex.

The first topic regarding the potential environmental impacts due to the height of the proposed residences adjacent to the existing homes is discussed in the technical sections of Chapter 4, as appropriate.

At the meeting, the representative of the project applicant provided information about the fencing of the project. EIP incorporated this information into Chapter 3, Project Description. The representative also informed the public that the proposed project would not affect the existing emergency vehicle access next to the apartment complex.

2.3 ALTERNATIVES ANALYSIS

The following alternatives are evaluated in Chapter 6 of this EIR and are compared to the proposed project to identify the environmentally superior alternative:

- **Alternative 1: No Project/ No Development Alternative:** assumes the site would remain under its current condition (vacant land and former golf course use with associated landscaping, hardscape and existing structures). Residential, school, park and associated infrastructure associated with the proposed project would not be developed. The bank stabilization component would not be installed.

- **Alternative 2: No Project/ Existing Zoning:** assumes development of the proposed project consistent with the current land uses, zoning, and development intensities currently identified in PD-29 (Ordinance 92-9). The bank stabilization component would be installed as part of this alternative.

- **Alternative 3: Estate Parcel/ Reduced Density Alterative:** assumes that approximately 486 residential units, an 11.5-acre estate parcel with a heliport, supporting infrastructure, park, and the bank stabilization component would be developed. Construction and operation of a K-8 school by the WUSD is also assumed under this alternative.

Detailed descriptions and analysis of potential impacts of these alternatives are presented in Chapter 6, Alternatives.

2.4 SUMMARY TABLE

Table 2-1 provides a complete list of all impacts and mitigation measures for the topics evaluated in this EIR, as listed above. For each impact, the table presents the significance of the impact before mitigation, applicable project-specific mitigation, and the level of significance of the impact after implementation of applicable mitigation measures.

TABLE 2-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
4.2 Aesthetics					
4.2-1 Development of the proposed project would alter the existing visual character of the project site and its surroundings.	LS	LS	4.2-1 (A & B) *None required.*	NA	NA
4.2-2 Development of the proposed project would contribute to a cumulative alteration of the visual character of the project site viewshed by increasing urban development.	LS	LS	4.2-2 (A & B) *None required.*	NA	NA
4.3 Air Quality					
4.3-1 Construction activity would generate emissions of PM_{10}.	S	S	4.3-1 (A & B) *The project applicant shall incorporate the following requirements into construction documents.* • *Soil stabilizers shall be applied to inactive areas.* • *Ground cover shall be replaced quickly in disturbed areas.* • *Exposed surfaces shall be watered three times daily.* • *All stock piles shall be covered with tarps.* • *All haul roads shall be watered twice daily.* • *Speed shall be reduced on unpaved roads to less than 15 miles per hour.*	LS	LS
4.3-2 Construction of the proposed project would generate the ozone precursors ROG and NO_x.	S	S	4.3-2 (A & B) *The project applicant shall incorporate the following requirements into construction documents.* • *Use a lean-NO_x catalyst in all applicable heavy-duty diesel equipment.* • *Ensure that all heavy-duty equipment engines are tuned and in proper working order.*	SU	SU

LS = Less than Significant S = Significant PS = Potentially Significant SU = Significant and Unavoidable NA = Not Applicable

TABLE 2-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
4.3-3 Construction of the proposed project would require diesel-fueled equipment that would emit diesel particulate matter.	LS	LS	4.3-3 (A & B) *None required.*	NA	NA
4.3-4 Operation of the proposed project would generate ROG, NO_x, and PM_{10}.	S	S	4.3-4 (A & B) (a) *No wood stoves shall be installed in new residences in the proposed project.* (b) *SMAQMD Guide Mitigation Measure 24: Install only natural gas fireplaces. (1%)* Scenario B only: (c) *The Proposed Project shall ensure that Class II bike lanes are included as a component of the Project. (1.0%)*	LS	LS
4.3-5 Traffic associated with the proposed project would increase concentrations of CO at surrounding intersections.	LS	LS	4.3-5 (A & B) *None required.*	NA	NA
4.3-6 The proposed project would add to the cumulative amount of ozone precursors in the Sacramento Ozone Nonattainment Area.	LS	LS	4.3-6 (A & B) *None required.*	NA	NA
4.3-7 Traffic generated by the proposed project would contribute to cumulative CO levels at nearby intersections.	LS	LS	4.3-7 (A & B) *None required.*	NA	NA

LS = Less than Significant S = Significant PS = Potentially Significant SU = Significant and Unavoidable NA = Not Applicable

TABLE 2-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
4.4 Biological Resources					
4.4-1 Construction of the proposed bank stabilization project would result in the filling or adverse modification of "waters of the U.S."	PS	PS	4.4-1 (A & B) (a) *The project applicant shall obtain all appropriate permits prior to construction of the project, including a Section 404 Wetlands Fill Permit from the Corps, a Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board, and a Streambed Alteration Agreement (SBAA) from CDFG.* (b) *Water quality within the Sacramento River along the area of effect shall be protected using rigorous erosion control techniques during construction of the bank stabilization project. Floating silt barriers around the perimeter of all in-water construction shall be properly installed and maintained during the duration of the project to ensure that turbidity levels remain at a threshold considered acceptable by the Central Valley Regional Water Quality Control Board.*	LS	LS
4.4-2 Construction of the proposed bank stabilization project could result in impacts to fisheries resources in the Sacramento River.	PS	PS	4.4-2 (A & B) *The project applicant shall consult with NMFS and USFWS to determine the extent and severity of impacts to fisheries resources, along with the implementation of appropriate mitigation measures. The following or equally effective measures shall be required.* (a) *River-side construction using barges to minimize impacts to existing streambank and riparian habitat* (b) *In-water construction shall occur between July 1st to October 31st, which coincides with the summer upstream migration period – the stage of development when fish are least sensitive to disturbance.*	LS	LS

LS = Less than Significant S = Significant PS = Potentially Significant SU = Significant and Unavoidable NA = Not Applicable

TABLE 2-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
			(c) *On-site conservation for rock placement shall be implemented as phased construction begins. As-built plans shall include the following, or equally effective mitigation measures:* i. *a diked bench installed to provide shallow water habitat;* ii. *collateral large woody debris anchored along the diked bench;* iii. *the diked bench designed to allow for frequent flooding during the winter through spring rainy season to create shallow-water habitat;* (d) *Conservation values managed for the life of project.*		
4.4-3 Construction of the proposed bank stabilization project could result in the loss of western pond turtles or their habitat.	PS	PS	4.4-3 (A & B) *The project applicant shall retain a qualified biologist to monitor construction activities along the bank stabilization project site to ensure that no western pond turtles are injured or killed during the construction of the proposed project. Any turtles found in or near the construction zone that could potentially be injured or killed as a result of construction activities should be relocated to an appropriate location (i.e., an area of suitable habitat) that is a minimum of 100 feet downstream of the construction zone.*	LS	LS

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TABLE 2-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
4.4-4 Construction of the proposed project could result in the direct loss or disturbance of nesting birds.	PS	PS	4.4-4 (A & B) (a) *The project applicant shall retain a qualified biologist to conduct pre-construction breeding-season surveys (approximately March 15 through August 30) of the project site and vicinity during each calendar year that construction is planned to begin, in consultation with the City of West Sacramento and CDFG. Phased construction procedures are planned for the proposed project; the results of the above survey shall be valid only for the season when it is conducted.* *A pre-construction survey report shall be submitted to the City of West Sacramento that includes, at a minimum:* • *A description of methodology including dates of field visits, the names of survey personnel with resumes, and a list of references cited and persons contacted.* • *A map showing the location(s) of any bird nests observed on the project site.* (b) *Should active bird nests be located on the project site, the project applicant, in consultation with the City of West Sacramento and CDFG, shall delay construction in the vicinity of active nest sites during the breeding season (approximately March 15 through August 30) while the nest is occupied with adults and/or young. A qualified biologist shall monitor any occupied nest to determine when the nest is no longer used. If the construction cannot be delayed, avoidance shall include the establishment of a non-disturbance buffer zone around the nest site. The size of the buffer zone will be determined in consultation with the City and*	LS	LS

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Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
			CDFG. The buffer zone shall be delineated by highly visible temporary construction fencing. (c) *No disturbances (e.g. heavy equipment operation, cranes or draglines, rock-crushing activities) or other project related activities (such as crew and equipment parking on site) which may cause nest abandonment or forced fledging, should be initiated within ¼-mile (buffer zone) of an active nest between March 1 – September 15 or until August 15 if a Management Authorization or Biological Opinion is obtained from the CDFG.* (d) *Before any unavoidable loss or disturbance of an active nest site occurs, special permits would be required depending on the bird species:*		
			• *For a State-listed bird (i.e. Swainson's hawk), the project applicant shall obtain a CDFG Section 2081 permit. Standard mitigation determined in consultation with CDFG for the loss of an active nest tree generally requires planting 15 trees (a mix of cottonwood, sycamore and valley oaks) and monitoring the success of the trees for five years with a 55% success rate.* • *For any bird covered by the Migratory Bird Treaty Act, the project applicant would consult with the USFWS to determine appropriate mitigation measures.* • *If any trees along the Sacramento River will be removed that support raptor nests, the tree may only be removed during the non-breeding, non-nesting season.*		

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Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
			(e) *Active nest trees that would not be removed but are in close proximity to construction activities shall be monitored weekly to determine if construction activities were disturbing the adult or young birds, until the birds left the nest.*		
4.4-5 The proposed bank stabilization project could result in the loss or degradation of rare plant populations.	PS	PS	4.4-5 (A & B) *The project applicant shall retain a qualified biologist to conduct focused surveys within the project site for rose-mallow, Sanford's arrowhead, and northern California black walnut during the appropriate time of year (April through October). If none of these species are located during the surveys, no further mitigation would be required.* *If any special-status plant species are located during the surveys, the project applicant shall implement seed collection and/or transplanting if necessary.*	LS	LS
4.4-6 The proposed bank stabilization project could result in the loss and/or degradation of riparian habitat.	PS	PS	4.4-6 (A & B) *Prior to project construction, the project applicant shall prepare a tree report documenting the number and species of trees present within the proposed bank stabilization project, and those trees to be impacted and/or removed from within the riparian woodland. This report and a revegetation plan shall be submitted to and approved by CDFG as part of the Streambed Alteration Agreement.*	LS	LS
4.4-7 The proposed project could disrupt wildlife migratory corridors along the Sacramento River corridor.	LS	LS	4.4-7 (A & B) *None required.*	NA	NA

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Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
4.4-8 Development of the proposed project could result in the loss of potential habitat for the valley elderberry longhorn beetle.	PS	PS	4.4-8 (A & B) (a) *All elderberry shrubs to be avoided during construction of the bank stabilization project shall be encircled by high visibility exclusionary fencing, at a minimum distance of 20 feet from the dripline of the elderberry shrubs to be avoided.* (b) *The project proponent shall conduct Worker Environmental Awareness Program (WEAP) training for construction crews (primarily crew and construction foreman) before construction activities begin. The WEAP shall include a brief review of the special status species and other sensitive resources that could occur in the proposed project site (including their life history and habitat requirements and what portions of the proposed project area they may be found in) and their legal status and protection. The program shall also cover all mitigation measures, environmental permits and proposed project plans, such as the SWPPP, BMPs, erosion control and sediment plan, and any other required plans. During WEAP training, construction personnel shall be informed of the importance of avoiding ground-disturbing activities outside of the designated work area. The designated biological monitor shall be responsible for ensuring that construction personnel adhere to the guidelines and restrictions. WEAP training sessions shall be conducted as needed for new personnel brought onto the job during the construction period.*	LS	LS

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	Scenario A	Scenario B		Scenario A	Scenario B
4.4-9 Development of the proposed residential development could result in the loss of potential foraging habitat for Swainson's hawk, white-tailed kite, Cooper's hawk, and other raptors (birds of prey).	PS	PS	4.4-9 (A & B) *The developer shall participate in the Yolo County H/NCCP (Habitat Natural Community Conservation Program) to satisfy the requirement to mitigate the loss of Swainson's hawk foraging habitat. Participation in the H/NCCP shall mean compliance with the mitigation strategies that are in effect prior to the issuance of a grading permit or recordation of the final map, whichever comes first, or implementation of another project specific mitigation plan which is deemed appropriate to the CDFG. In the event that the final H/NCCP is adopted before development occurs, the developer shall participate in the Final H/NCCP to mitigate for the loss of Swainson's hawk habitat.*	LS	LS
4.4-10 Implementation of the proposed residential development, in combination with other regional development, would convert open space to urban uses, leading to a continuing loss of habitat for native resident and migratory wildlife.	LS	LS	4.4-10 (A & B) *None required.*	NA	NA
4.4-11 Implementation of the proposed bank stabilization project, in combination with other regional development, could degrade riparian habitat along the Sacramento River, continuing the regional loss of habitat for native resident and migratory wildlife.	LS	LS	4.4-11 (A & B) *None required.*	NA	NA
4.5 Cultural Resources					
4.5-1 Construction of the bank stabilization component of the project could disturb or destroy prehistoric site CA-YOL-25.	S	S	4.5-1 (A & B) (a) *The project applicant shall retain a qualified archeologist, who are either certified by the Society of Professional Archaeologists (SOPA) or meet the federal standards as stated in the Code of Federal Regulations (36 C.F.R. 61,) to perform on-site*	LS	LS

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	Scenario A	Scenario B		Scenario A	Scenario B
			monitoring during all construction activities related to the bank stabilization portion of the proposed project. If archeological resources are discovered during construction all work shall stop within a 100 foot radius. The appropriate Native American Group shall be notified of the construction dates and consulted concerning mitigation if any portion of the site is found during construction. The qualified archeologist shall complete a mitigation plan for all eligible resources, which is to be reviewed and approved by the City prior to implementation. Data recovery could be required as a part of this plan. This mitigation plan shall be implemented as specified by the plan. (b) *The project applicant shall assure that project personnel are informed that collecting significant historical or unique archaeological resources discovered during development of the project is prohibited by law. Prehistoric or Native American resources can include chert or obsidian flakes, projectile points, mortars, and pestles as well as dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources can include nails, bottles, or other items often found in refuse deposits.* (c) *Any report prepared by a qualified archeologist pertaining to resources found at the project site shall be submitted to the Northwest Information Center and the City.*		
4.5-2 Construction of the proposed residential uses, school and supporting infrastructure could disturb or destroy undiscovered archeological resources.	LS	LS	4.5-2 (A & B) *None required.*	NA	NA

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	Scenario A	Scenario B		Scenario A	Scenario B
4.5-3 Cumulative development including the proposed project could result in the damage or destruction of previously unidentified prehistoric resources.	S	S	4.5-3 (A & B) *Implement Mitigation Measure 4.5-1 (a) through (c).*	SU	SU
4.6 Land Use					
4.6-1 Development of the proposed project could result in land uses that are incompatible with internal existing and planned uses.	LS	LS	4.6-1 (A & B) *None required.*	NA	NA
4.6-2 Development of the proposed project could result in land uses that are incompatible with surrounding existing and planned uses.	LS	LS	4.6-2 (A & B) *None required.*	NA	NA
4.6-3 Development of the proposed project could result in a conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental impact.	LS	LS	4.6-3 (A & B) *None required.*	NA	NA
4.7 Noise					
4.7-1 Construction of the proposed project would temporarily increase noise levels at nearby sensitive noise receptors.	S	S	4.7-1 (A & B) (a) *Construction activities shall be restricted to occur between the hours of 7:00 A.M. and 6:00 P.M. All internal combustion engines shall be adequately muffled and maintained.* Scenario A only: (b) *Construction of the school shall include noise attenuation techniques and materials to ensure acceptable interior noise levels.*	LS	LS
4.7-2 Proposed project would create non-transportation noise.	S	LS	4.7-2 (A) *School playgrounds shall be sited at least 100 feet from the nearest residence.*	LS	NA

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	Scenario A	Scenario B		Scenario A	Scenario B
4.7-3 The proposed project would create transportation noise that could affect new and existing sensitive receptors.	S	S	4.7-3 (A & B) *None available.*	SU	SU
4.7-4 The proposed project would influence cumulative noise levels in future years.	S	LS	4.7-4 (A) *None available.*	SU	NA
4.8 Public Services					
4.8-1 Development of the project could generate the need for additional firefighters, resulting in the need to construct additional fire protection facilities in order to maintain acceptable levels of service.	PS	PS	4.8-1 (A & B) *The City shall collect sufficient funding for ongoing operations, including the cost of additional fire department personnel associated with the proposed project. The funds shall be generated from property taxes collected from areas that are outside the City's Redevelopment Project Area; sales taxes generated within the City; and pass through payments from the City's Redevelopment Agency to the City's General Fund.*	LS	LS
4.8-2 Implementation of the proposed project, in combination with other development in the City of West Sacramento, could result in increased demands for fire protection services.	PS	PS	4.8-2 (A & B) *Implement Mitigation Measure 4.8-1.*	LS	LS
4.8-3 Development of the project could generate the need for additional sworn and non-sworn officers resulting in the need to construct additional police protection facilities in order to maintain acceptable levels of service.	PS	PS	4.8-3 (A & B) (a) *The City shall collect sufficient funding for ongoing operations, including the cost of additional police department personnel associated with the proposed project. Personnel funding shall be generated from property taxes collected from areas that are outside the City's Redevelopment Project Area; sales taxes generated within the City; and pass through payments from the City's Redevelopment Agency to the City's General Fund. Facility funding shall be generated through payment of the Police Facilities Development Fee. This fee is required prior to issuance of building permits.*	LS	LS

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Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
			(b) *The Police Facility Development Fee shall be collected by the City from the applicant prior to the issuance of building permits.*		
4.8-4 Implementation of the proposed project, in combination with other development in the City of West Sacramento, could result in increased demands for police services.	PS	PS	4.8-4 (A & B) *Implement Mitigation Measure 4.8-3.*	LS	LS
4.8-5 Development of the project could result in increased production of solid waste in excess of available landfill capacity.	LS	LS	4.8-5 (A & B) *None required.*	NA	NA
4.8-6 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in increased population could result in increased generation of solid waste in excess of available landfill capacity.	LS	LS	4.8-6 (A & B) *None required.*	NA	NA
4.8-7 Development of the project could generate students exceeding the capacity of existing schools, resulting in the need to construct additional school facilities.	PS	PS	4.8-7 (A & B) *Prior to initiation of property acquisition or development of any school facilities, WUSD shall prepare an Environmental Site Assessment consistent with the requirements and contents specified by California Education Code.*	LS	LS
4.8-8 Development of the project could generate students exceeding the capacity of existing schools.	LS	S	4.8-8 (A & B) *Prior to issuance of building permits, the developer shall pay the necessary school impact fees for the standard capital improvements fund as mandated by State law and established by the Washington Unified School District.*	NA	LS
4.8-9 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in increased numbers of students.	S	S	4.8-9 (A & B) *Implement Mitigation Measure 4.8-8.*	LS	LS

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Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
4.8-10 Proposed Project would create additional demand necessitating the construction or expansion of existing recreational facilities, which could have an adverse physical effect on the environment.	PS	PS	4.8-10 (A & B) *Prior to issuance of any building permit, the project developer shall pay in lieu fees or provide a combination of land dedication and fees in order to maintain the City's defined parkland standards.*	LS	LS
4.8-11 Proposed project could increase use of existing park facilities such that substantial physical deterioration of the facility could occur or be accelerated.	LS	LS	4.8-11 (A & B) *None required.*	NA	NA
4.8-12 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in increased population and demands for parkland.	PS	PS	4.8-12 (A & B) *Implement Mitigation Measure 4.8-10.*	LS	LS
4.9 Public Utilities					
4.9-1 The proposed project could increase flow to regional wastewater treatment plants beyond the plants treatment capacity necessitating the expansion of existing or construction of additional wastewater treatment facilities.	PS	PS	4.9-1 (A&B) *Wastewater from the initial phases of the project may shall be accommodated at the existing wastewater treatment plant until such time as the total treatment requirements reach 90 percent of capacity. Thereafter, development shall not occur until the construction and connection to the Sacramento Regional County Sanitation District (SRCSD) interceptor is completed.*	LS	LS
4.9-2 Development of the proposed project could generate wastewater that could exceed the capacity of the existing infrastructure system.	PS	PS	4.9-2 (A&B) (a) *Prior to tentative map approval, the developer shall submit engineering calculations and wastewater conveyance system design specifications to the City Engineer for review and approval.* (b) *Implementation of Mitigation Measure 4.9-1.*	LS	LS

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		Scenario A	Scenario B		Scenario A	Scenario B
4.9-3	**Implementation of the proposed project, in combination with other development in the City of West Sacramento, could result in increased quantities of wastewater that would exceed existing regional collection, treatment and disposal capabilities.**	PS	PS	4.9-3 (A&B) *Implementation of Mitigation Measure 4.9-1.*	LS	LS
4.9-4	**Development of the project would increase the demand for electricity and could result in the need for additional supply and/or distribution infrastructure.**	LS	LS	4.9-4 (A&B) *None required.*	NA	NA
4.9-5	**Development of the proposed project would increase the demand for natural gas, and could result in the need for additional distribution infrastructure.**	LS	LS	4.9-5 (A&B) *None required.*	NA	NA
4.9-6	**Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in an increased demand for electrical and natural gas supplies and distribution infrastructure.**	LS	LS	4.9-6 (A&B) *None required.*	NA	NA
4.9-7	**The proposed project would result in increased storm water runoff that could exceed the capacity of the existing drainage infrastructure.**	S	S	4.9-7 (A & B) *The project applicant shall hire a State registered engineer to model 100-year storm event flows and design the stormwater drainage infrastructure to convey the flows from the 100-year storm event prior to improvement plan approval.*	LS	LS
4.9-8	**The proposed project, in combination with buildout of The Rivers development area served by the RD 811, would result an increase in stormwater runoff that could exceed the capacity of existing drainage infrastructure.**	S	S	4.9-8 (A & B) *Implement Mitigation Measure 4.9-7.*	LS	LS

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	Scenario A	Scenario B		Scenario A	Scenario B
4.10 Transportation and Circulation					
4.10-1 Under Existing Plus Project conditions, the Douglas Street/Sacramento Avenue intersection would continue to operate at an unacceptable LOS E during the PM peak hour.	LS	LS	4.10-1 (A & B) *None required.*	NA	NA
4.10-2 Under Existing Plus Project conditions, the proposed project could adversely affect existing or planned features or programs that support alternative transportation.	S	S	4.10-2 (A & B) *The applicant shall be required to provide public transit facilities including bus turnouts, bus shelters and adequate lighting as required by the City's Engineering Division and the Yolo Transit Authority. Construction of these facilities shall be phased consistent with the phased development of the project.*	LS	LS
4.10-3 Under Existing Plus Project conditions, the proposed project could adversely affect existing bikeway or pedestrian facilities and/or aspects of the City's Bicycle and Pedestrian Path Master Plan.	LS	LS	4.10-3 (A & B) *None required.*	NA	NA
4.10-4 Under existing plus project conditions, the proposed project could result in inadequate parking capacity.	S	S	4.10-4 (A & B) (a) *All on-site parking shall be designed consistent with PD-29, the Zoning Ordinance and the City's Standard Specifications for residential development.* Scenario A only: (b) *The school shall be designed to accommodate all parking on-site.*	LS	LS
4.10-5 Under Cumulative Plus Project conditions, the Kegle Drive/Lighthouse Drive/Pierce Street intersection would operate at an unacceptable LOS F during the AM peak hour under Scenario A.	S	LS	4.10-5 (A) *The applicant shall make a fair share contribution to funding the installation of a traffic signal at the intersection of Kegle Drive/Lighthouse Drive/Pierce Street*.	LS	NA

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	Scenario A	Scenario B		Scenario A	Scenario B
4.10-6 Under Cumulative Plus Project conditions, the Kegle Drive/Jefferson Boulevard/Sacramento Avenue intersection would operate at an unacceptable LOS F during both the AM and PM peak hours, and the V/C ratio would increase by more than .05 during the AM peak hour.	S	S	4.10-6 (A&B) *The applicant shall make a fair share contribution to funding the addition of a southbound right-turn lane at the intersection of Kegle Drive/Jefferson Boulevard/Sacramento Avenue*.	LS	LS
4.10-7 Under Cumulative Plus Project conditions, the Douglas Street/Sacramento Avenue intersection would operate at an unacceptable LOS F during both the AM and PM peak hours.	S	S	4.10-7 (A&B) *The applicant shall make a fair share contribution to funding the installation of a traffic signal at the intersection of Douglas Street/Sacramento Avenue and an eastbound left-turn lane.*	LS	LS
4.10-8 Under Cumulative Plus Project conditions, cumulative development could adversely affect existing or planned features or programs that support alternative transportation.	S	S	4.10-8 (A & B) *Implement Mitigation Measure 4.10-2.*	LS	LS
4.11 Water Supply					
4.11-1 The proposed project's demand for water could exceed available sources of water supply sources.	LS	LS	4.11-1 (A & B) *None required.*	NA	NA
4.11-2 The proposed project's demand for water could exceed the availability of treated water, citywide water storage and distribution facilities resulting in the need for new or expanded facilities.	S	S	4.11-2 (A & B) *In accordance with the 2005 Water Master Plan Update, the master planned water storage shall be constructed by the developer and functional prior to the first occupancy within the project site.*	LS	LS
4.11-3 The proposed project, in combination with buildout of project's in the City of West Sacramento, would increase water demand throughout the City that could exceed water supplies.	LS	LS	4.11-3 (A & B) *None required.*	NA	NA

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	Scenario A	Scenario B		Scenario A	Scenario B
4.11-4 The proposed project, in combination with buildout of project's in the City of West Sacramento, would contribute to increased water demands throughout the City that could exceed BBWTP treatment capabilities, stifle the pumping facilities or deplete firm storage capacities within the City's service area.	S	S	4.11-4 (A & B) *Based on the analysis and recommendations in the 2005 Water Master Plan Update, the City should proceed with project PO7 and the recommended rate increases on the proposed timeline.*	LS	LS
Initial Study					
I. AESTHETICS **Would the project:** **Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**	LS	LS	*None required.*	NA	NA
III. AIR QUALITY **Would the project:** **Create objectionable odors affecting a substantial number of people?**	LS	LS	*None required.*	NA	NA
IV. BIOLOGICAL RESOURCES **Would the project:** **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**	PS	PS	Mitigation Measure 1 *The project applicant shall remove and/or conduct maintenance on any trees protected by the Tree Preservation Ordinance, including mitigation and obtaining permits from the City. In addition, on-site trees not being removed shall be protected during construction activities.*	LS	LS

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	Scenario A	Scenario B		Scenario A	Scenario B
V. CULTURAL RESOURCES **Would the project:** **Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?**	PS	PS	Mitigation Measure 2 *The project applicant shall incorporate the following language into construction documents:* • *Should any evidence of either surface or subsurface historic resources be encountered during grading or excavation, work shall be suspended within 100 feet of the find, and the City of West Sacramento shall be immediately notified. At that time, the City shall coordinate any necessary investigation of the site with a qualified historical architect to assess the resource and provide proper management recommendations. Possible management recommendations for important resources could include resource avoidance or data recovery and relocation. The contractor shall implement any measures deemed necessary by the City of West Sacramento for the protection of the historic resource.*	LS	LS
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	PS	PS	Mitigation Measure 3 *The project applicant shall require incorporate the following language into construction documents:* • *Should any evidence of paleontological resources (e.g., fossils) be encountered during grading or excavation, work shall be suspended within 100 feet of the find, and the City of West Sacramento shall be immediately notified. At that time, the City shall coordinate any necessary investigation of the site with a qualified paleontologist to assess the resource and provide proper management*	LS	LS

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	Scenario A	Scenario B		Scenario A	Scenario B
			recommendations. Possible management recommendations for important resources could include resource avoidance or data recovery excavations. The contractor shall implement any measures deemed necessary by the paleontologist for the protection of the paleontological resources.		
Disturb any human remains, including those interred outside of formal cemeteries?	PS	PS	Mitigation Measure 4 *The project applicant shall incorporate the following language into construction documents:* • *In the event of discovery or recognition of any human remains on the project site, the project sponsor shall contact the Yolo County Coroner, pursuant to Section 7050.5(b) of the California Health and Safety Code. In this event, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until (1) the Coroner determines that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and (2) the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. No further disturbance of the site may be made except as authorized by the County Coroner. The Coroner shall make the determination within two working days from the time the person responsible for the excavation, or authorized representative, notifies the Coroner of the discovery or recognition of the human remains.*	LS	LS

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	Scenario A	Scenario B		Scenario A	Scenario B
			• *If the remains are Native American, the Coroner shall notify the Native American Heritage Commission, which in turn shall inform a most likely descendent. The descent will then recommend to the landowner appropriate disposition of the remains and any grave goods. Disposition may include (1) in-situ reinternment of the remains and associated artifacts and capping the site or (2) relocation and reinternment.*		
IV. GEOLOGY AND SOILS **Would the project:** **Expose people or structures to potential substantial adverse effects including the risk of loss injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**	PS	PS	Mitigation Measure 5 *The project applicant shall incorporate the recommendations contained in the April 22, 2004 Geotechnical Engineering Report, The Rivers Phase 2-Portions of Lots 53, 54 and 55 prepared by Wallace-Kuhl & Associates, Inc. into site preparation techniques, and building and infrastructure design and construction.*	LS	LS
Expose people or structures to potential substantial adverse effects including the risk of loss injury, or death involving strong seismic ground shaking?	PS	PS	*Implement Mitigation Measure 5.*	LS	LS
Expose people or structures to potential substantial adverse effects including the risk of loss injury, or death involving seismic-related ground failure, including liquefaction?	PS	PS	*Implement Mitigation Measure 5.*	LS	LS

LS = Less than Significant S = Significant PS = Potentially Significant SU = Significant and Unavoidable NA = Not Applicable

TABLE 2-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
Result in substantial soil erosion or the loss of topsoil?	PS	PS	Mitigation Measure 6 *The applicant shall prepare a grading, geotechnical and erosion control plan. The plan shall be submitted to the City of West Sacramento Public Works Department for approval prior to approval of the Improvement Plans.*	LS	LS
Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	PS	PS	*Implement Mitigation Measure 5.*	LS	LS
Be located on expansive soil, as defined in Table 18-1-B of the uniform Building Code (1994), creating substantial risks to life or property?	PS	PS	*Implement Mitigation Measure 5.*	LS	LS
VII. HAZARDS AND HAZARDOUS MATERIALS **Would the project:** **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**	LS	LS	*None required.*	NA	NA

LS = Less than Significant S = Significant PS = Potentially Significant SU = Significant and Unavoidable NA = Not Applicable

TABLE 2-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	PS	PS	Mitigation Measure 7 (a) *Prior to any activity involving site preparation and/or demolition of golf course structures, the results of a follow-up investigation to the previous Phase I ESAs for the project site shall be prepared by a qualified professional to identify whether there are any "recognized environmental conditions," as defined by the ASTM Phase I ESA standard, requiring mitigation. The evaluation shall include identification of ACBM, lead-based paint, and other structural or non-structural items that could include or be contaminated with hazardous substances. The evaluation shall also include a qualitative determination of whether past pesticide and herbicide use at the golf course could have resulted in levels of contaminants in soil or groundwater that would present a human health risk to construction workers and future single-family residential development.* (b) *If the Phase I ESA recommends a Phase II evaluation, the Phase II evaluation shall be completed prior to site preparation. No site work or demolition shall occur until all hazards are identified and managed to the satisfaction of the Yolo County Environmental Health Department, City of West Sacramento, and Yolo-Solano Air Quality Management District (for asbestos abatement).*	LS	LS

LS = Less than Significant S = Significant PS = Potentially Significant SU = Significant and Unavoidable NA = Not Applicable

TABLE 2-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
			(c) *In the event that previously unidentified USTs or other features or materials that could present a threat to human health or the environment are discovered during excavation and grading, construction in that immediate area shall cease immediately. A qualified professional shall evaluate the location and hazards and make appropriate recommendations. Work shall not proceed in that area until identified hazards are managed to the satisfaction of YCEHD.*		
Emit hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	LS	LS	*None required.*	NA	NA
VIII. HYRDROLOGY AND WATER QUALITY **Would the project:** **Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?**	LS	LS	*None required.*	NA	NA

LS = Less than Significant S = Significant PS = Potentially Significant SU = Significant and Unavoidable NA = Not Applicable

TABLE 2-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	PS	PS	Mitigation Measure 8 *The applicant shall prepare a comprehensive plan demonstrating how erosion, siltation and contamination of stormwater shall be prevented. The plan shall be submitted to the City of West Sacramento Public Works Department for approval prior to approval of the final map. The plan shall be prepared in accordance with the conditions and requirements of the NPDES General Construction Activity Stormwater Permit.* Mitigation Measure 9 *The applicant shall prepare a comprehensive plan demonstrating how post-construction stormwater quality measures shall be designed and implemented to protect receiving water quality. The plan shall be submitted to the City of West Sacramento Public Works Department for approval prior to approval of the Improvement Plans.*	LS	LS
Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	PS	PS	*Implement Mitigation Measure 8 and 9.*	LS	LS
Otherwise substantially degrade water quality?	PS	PS	*Implement Mitigation Measure 8 and 9.*	LS	LS
Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	LS	LS	*None required.*	NA	NA
Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	LS	LS	*None required.*	NA	NA
Inundation by seiche, tsunami, or mudflow?	LS	LS	*None required.*	NA	NA

LS = Less than Significant S = Significant PS = Potentially Significant SU = Significant and Unavoidable NA = Not Applicable

TABLE 2-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Scenario A	Scenario B		Scenario A	Scenario B
X. MINERAL RESOURCES **Would the project:** **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**	LS	LS	*None required.*	NA	NA
Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	LS	LS	*None required.*	NA	NA
XI. NOISE **Would the project:** **Exposure of persons to or generation of excessive groundborne vibration noise levels?**	PS	PS	Mitigation Measure 10 *The project proponent shall incorporate the following language into construction documents:* • *All construction activities shall take place between the hours of 7 a.m. and 6 p.m.* • *Prior to any demolition and construction activity associated with the proposed project, all habited structures located within a radius of 100 feet of the construction sites shall be notified of the planned schedule of construction activities that could generate substantial groundborne vibration.*	LS	LS
XV. TRANSPORTATION/TRAFFIC **Would the project:** **Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**	LS	LS	*None required.*	NA	NA
Result in inadequate emergency access.	LS	LS	*None required.*	NA	NA

LS = Less than Significant S = Significant PS = Potentially Significant SU = Significant and Unavoidable NA = Not Applicable

3. PROJECT DESCRIPTION

3. PROJECT DESCRIPTION

3.1 INTRODUCTION

The Rivers Phase II Project (proposed project) includes development of approximately 626 single-family homes, an approximately 12.3-acre K-8 school, a two-acre park, and supporting infrastructure on approximately 68 acres of the approved Lighthouse Marina and Riverbend Development Project area in the City of West Sacramento. If the Washington Unified School District (WUSD) does not construct and operate the school, then the project would construct an additional 176 residential units on the 12.3-acre site for a total of 802 units. The proposed project also includes installation of approximately 3,000 linear feet of bank stabilization along the Sacramento River. Finally, the proposed project includes text amendments to PD-29, approval of a small lot vesting tentative subdivision map and approval of a Water Supply Assessment.

The background of the proposed development is described in Chapter 1, Introduction. Specific project components are discussed in detail below.

3.2 PROPOSED PROJECT

Project Location and Setting

West Sacramento lies in eastern Yolo County between the Sacramento River on the east and the Yolo Bypass on the west. West Sacramento is immediately west of the City of Sacramento across the Sacramento River and is approximately 85 miles east of San Francisco (see Figure 3-1). Interstate 80 (I-80) goes through the northwestern part of the City and Business 80 bisects the City running east-west to the junction with I-80.

The proposed approximately 68-acre Rivers Phase II residential development site is bordered by the Sacramento River on the north, Fountain Drive on the east, Lighthouse Drive on the south, and Fountain Drive and Westlake Drive on the west (see Figure 3-2).

The bank stabilization portion of the project is located immediately adjacent to the west bank of the Sacramento River from approximately River Mile 60.5 to River Mile 61.3, just upstream of the confluence of the American and Sacramento Rivers (see Figure 3-2).

Existing Land Uses

Proposed Project Site

The topography of the proposed project site is gently rolling with a surface elevation of approximately 20 feet relative to mean sea level.[1] Approximately 60 percent of the site is located within the boundaries of the former Lighthouse Golf Course (that was opened to the public until its closure in December 2003). The former golf course portion of the site includes several existing structures (including maintenance buildings and a snack bar and restroom building), concrete paths, ponds and landscaping. Existing underground utilities also currently exist within and adjacent to the boundaries of the site. Approximately 40 percent of the project site has always been proposed for development and is currently vacant.

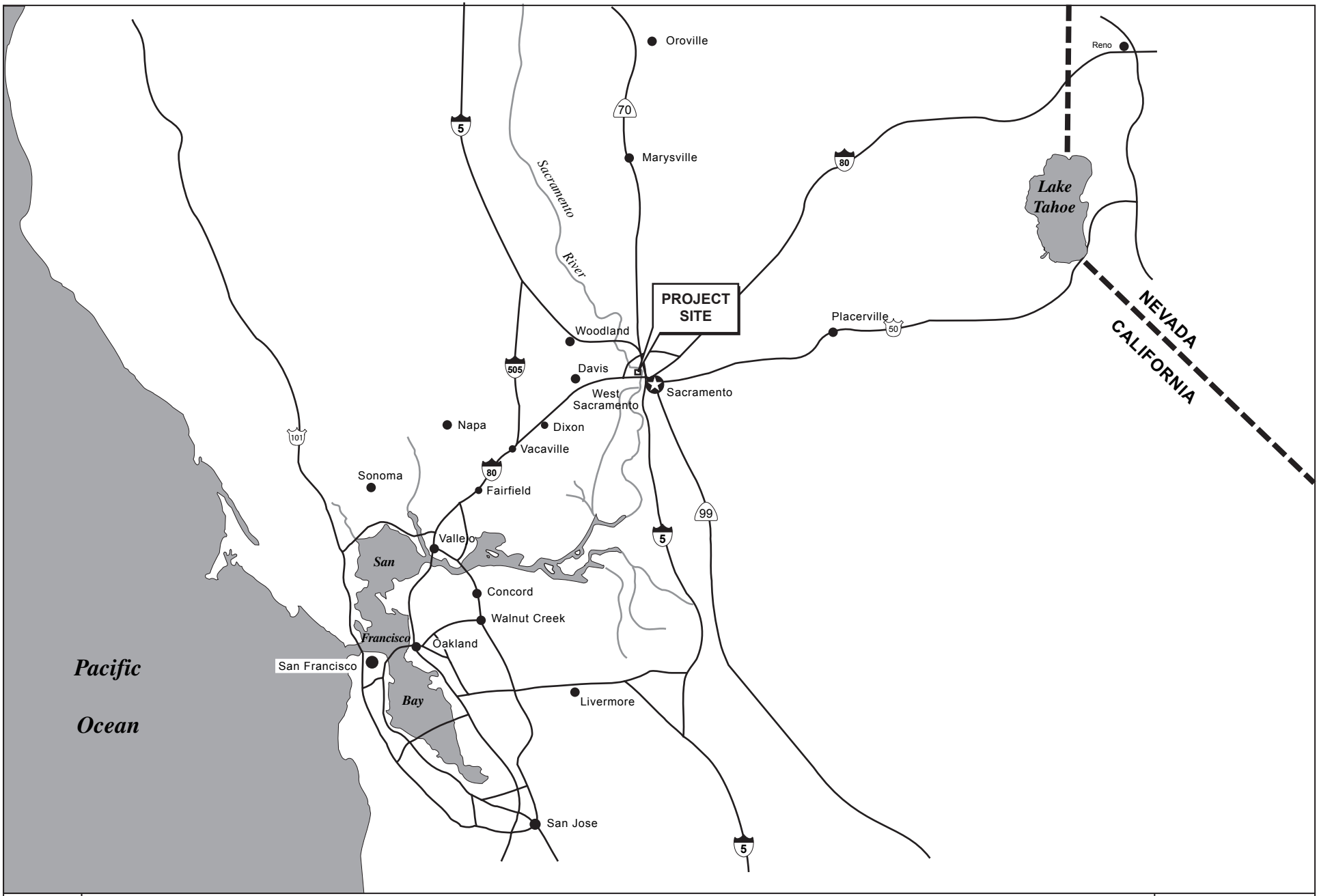

FIGURE **3-1**

Regional Site Map

Not to Scale

11006-00

Source: EIP Associates, March 2005

EIP ASSOCIATES

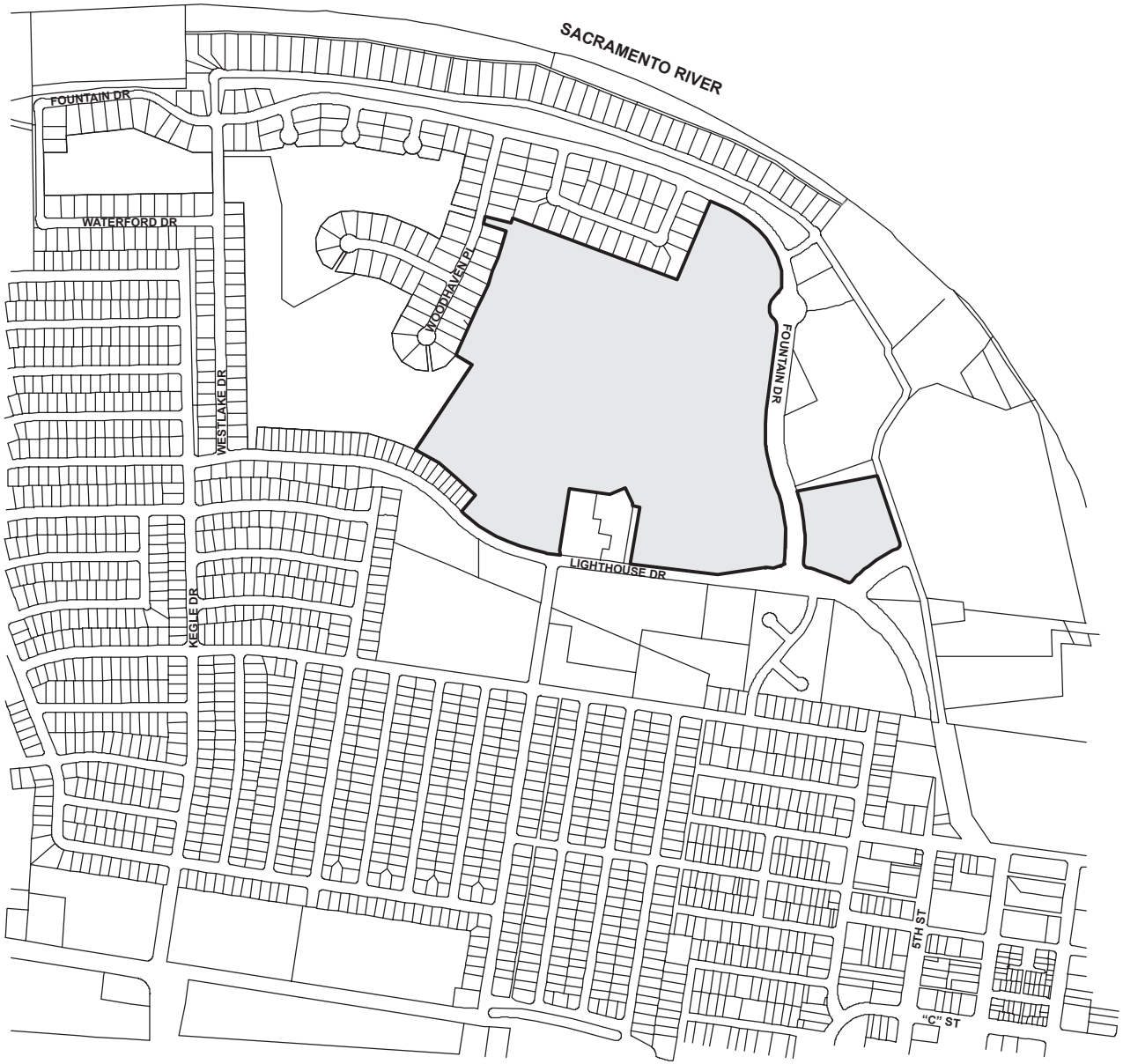

FIGURE **3-2**

Vicinity Map

***Source*:** NOLTE

Not to Scale

11006-00

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Vegetation that currently exists on the 3,000 linear feet of bank to be stabilized includes some young trees (mostly oak), poison oak, wild grape, and blackberry.

Current General Plan Designation and Zoning

The current General Plan designation for the property is Riverfront Mixed Use (RMU), which provides for marinas, various commercial uses, offices, and multi-family housing oriented to the Sacramento River.

The current zoning for the proposed Rivers Phase II project is Waterfront (WF) PD–29. The PD-29 overlay zone allows for mixed use development consisting of low, medium, and high density residential uses, retail and commercial uses, office and marina and marina-related uses. PD-29 includes detailed development standards for 13 land use sub-areas including: six for residential development; a business professional sub-area for office uses; three sub-areas for tourist commercial, retail commercial, and marine commercial uses; and three sub-areas for a marina, golf course, and open space uses.

Existing PD-29 Designations

The project site is currently designated RC, RGC, RE and BP. The following describes existing land use designations.

RC Residential Use Area-Under this designation residences are restricted to a maximum of 12 dwelling units per gross acre at a maximum height of 31 feet. Setbacks are established and lot coverage is set at a maximum of 70%. This district is established to provide higher density single family residences. No more than six units would be allowed to have contiguous zero lot lines creating the possibility for up to six attached units.

RGC Golf Course-This designation allows for the development of a golf course and all golf-related services, facilities and associated uses.

RE Condominium and Apartment Use Area-This designation provides for multifamily development at a maximum of 38 units an acre.

BP Business/Professional Offices-This designation allows for the development of business and professional offices and is not included in the proposed designations.

West Sacramento Redevelopment Project Area

Rivers Phase II is located in the City's Redevelopment Project Area. The West Sacramento Redevelopment Project Area was originally adopted in 1986 by the Yolo County Board of Supervisors, before the City of West Sacramento was incorporated. Upon incorporation in 1987 the project area was transferred to the West Sacramento Redevelopment Agency, which is governed by the City Council. "The mission of the Redevelopment Agency is to stimulate positive change, build a vibrant retail sector, a prestigious office address, diverse, high-quality residential neighborhoods, and to provide quality employment opportunities for all residents."[2] The Redevelopment Agency is responsible for carrying out a redevelopment plan through a variety of actions including buying and selling of land, improving dilapidated facilities, and using tax increment financing. The mission of the West Sacramento Redevelopment Agency is to maximize the abundant potential of West Sacramento's land, assets, and people with positive physical change that creates vibrant retail commerce, a prestigious office address, diverse and

highly desirable residential neighborhoods and quality employment opportunities.[3] Projects located in the City's Redevelopment Project Area are required to provide inclusionary housing. This project will, therefore, be required to satisfy its inclusionary housing obligation.

Adjacent Land Uses

The proposed project site is surrounded by single-family residential uses to the north, the Sacramento River to the east (vacant land does exist between the project site and the River), multi-family residential to the south, and single-family residential and active open space to the west.

Project Objectives

The objectives for the Rivers Phase II project are:

- Create a unique and attractive community with a strong sense of place.
- Provide opportunities for innovative community design.
- Enhance and preserve a residential environment adjacent to the Sacramento River.
- Develop land uses that are consistent with the City's land use policies for the site and that are compatible with surrounding neighborhoods.
- Enhance the City's supply of quality housing that provides a range of housing opportunities available to residents from a wide range of economic levels.
- Increase the City's housing supply in close proximity to existing infrastructure, transportation corridors, and employment centers.
- Provide and maintain services and infrastructure in accordance with City standards and policies.
- Provide for the development of adequate school facilities for residents of the community.
- Develop land uses that are economically viable and financially feasible.
- Prevent the loss of property and the risk of hazards associated with damage to the Sacramento River levee.

Project Elements

The Rivers Phase II project proposes development of a mix of single-family residential units (Scenario A: approximately 626 units) (Scenario B: approximately 802 units), an approximately 12.3-acre K-8 school (Scenario A), two-acre park, and supporting infrastructure (see Figure 3-3, large scale map available from the City of West Sacramento). The General Plan designation would remain RMU. The zoning for the Rivers Phase II project would remain PD-29; however, the developer proposes amendments to PD-29 to accommodate the proposed development. The proposed project also includes installation of approximately 3,000 lineal feet of bank stabilization along the Sacramento River. Table 3-1 summarizes the proposed project uses. The specific project components are discussed in detail below.

TABLE 3-1

SUMMARY OF PROPOSED PROJECT LAND USES

	Scenario A With School		Scenario B Without School	
Proposed Project Uses	**Acres**	**Units**	**Acres**	**Units**
Single-Family Residential	53.5	626	65.8	802
K-8 School	12.3			
Park	2.0		2.0	
Total	**67.8**	**626**	**67.8**	**802**

Source: Correspondence from Alberto Esquivel, Project Manager, West Riverview LLC to EIP, March 3, 2005.

Residential Land Uses

The proposed project proposes development of single-family detached (SFD) and single-family attached (SFA) units. Under Scenario A (with development of the K-8 school), a total of 220 SFD units are proposed on lots ranging from 2,660 to 18,000 square-feet. The proposed project also includes development of 406 SFA units consisting of townhouse and stacked flat types with condominium ownership ranging from 16 dwelling units per acre (du/ac) to 28 du/ac. Under Scenario B (without development of the K-8 school), a total of 220 SFD units would be constructed and 582 SFA units would be constructed. The range of densities would be the same under Scenario B as they are with Scenario A. Table 3-2 summarizes the mix of proposed housing types.

TABLE 3-2

PROPOSED HOUSING TYPES AND DWELLING UNITS

				Scenario A	Scenario B
Housing Type	**Density**	**PD – 29 Use Area Designation**		**Number of Dwelling Units with School**	**Number of Dwelling Units without School**
SFD[1]	7,200 – 18,000 sf[2] lots	RB		18	18
SFD	5,000 sf lots	RC		82	82
SFD	2,660 sf	RC-A		120	120
SFA[3]	28 du/acre[4]	RE		344	344
SFA	16 du/acre	RD		62	62
School	22 du/acre[5]	RD		No DUs	176
Total Dwelling Units				**626**	**802**

Notes:
1. SFD = single family detached homes.
2. sf = square foot.
3. SFA = single family attached homes. Housing types would consist of townhouse and stacked flat types with condominium ownership.
4. du/acre = dwelling units per acre.
5. For Scenario B.

Source: Correspondence from Alberto Esquivel, Project Manager, West Riverview LLC to Sandra White, Senior Planner, City of West Sacramento, July 13, 2005.

School

As part of the proposed project, the WUSD is in negotiations with the developer to acquire 12.3 acres located at the northwest corner of Lighthouse Drive and Fountain Drive (see Figure 3-3).

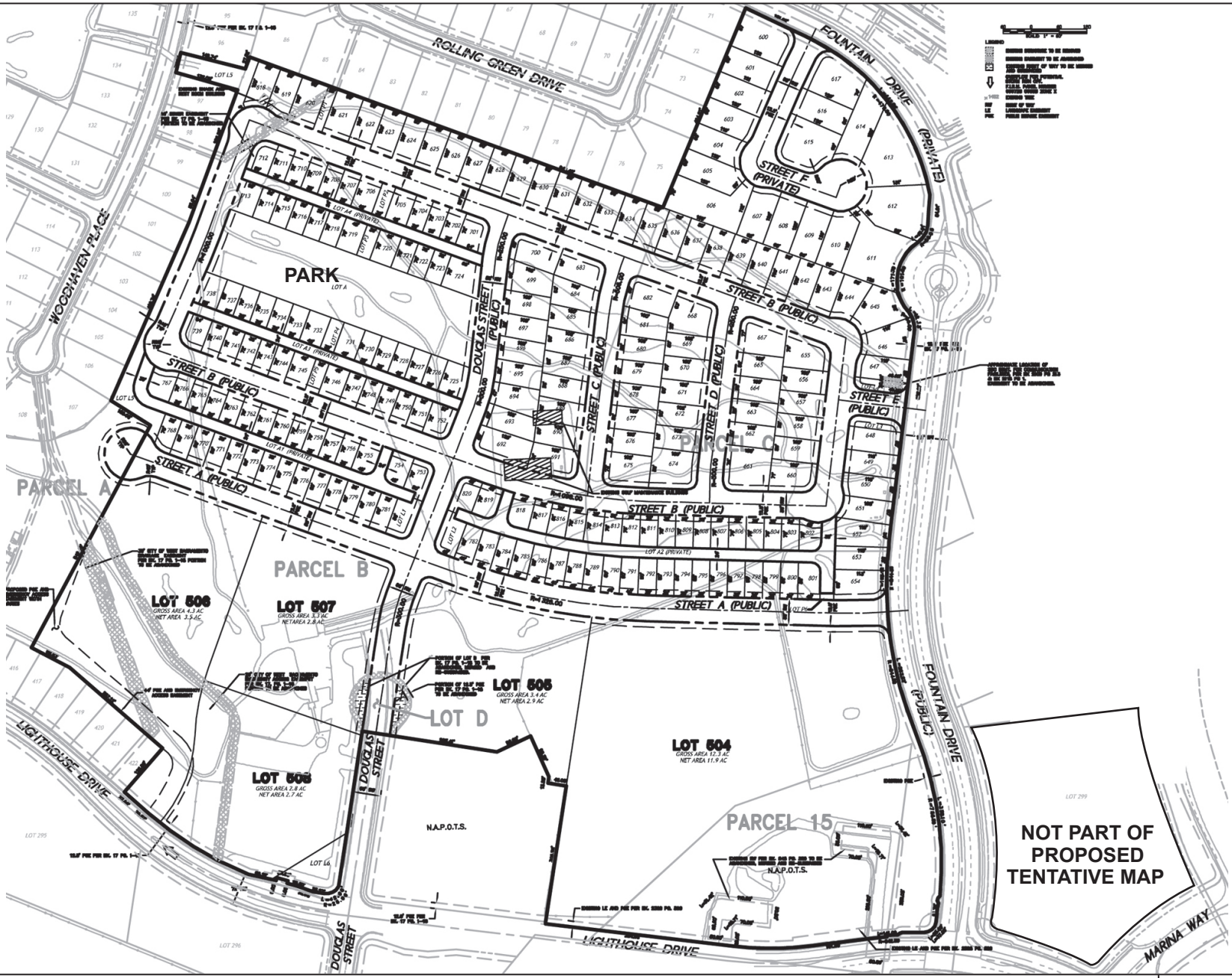

FIGURE **3-3**

Vesting Tentative Subdivision Map

11006-00

Source: NOLTE, 2005

City of West Sacramento

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The WUSD would construct a K-8 school (Fundamental Academy) for approximately 550 students. The school's focus would be basic academics and citizenship skills. Approximately half of the student population would be from the Rivers Development (including Phase II) and the other half would be allocated from the eight existing elementary schools.

The proposed school would include approximately 48,616 square-feet of building area. The proposed uses are shown in Table 3-3.

TABLE 3-3

PROPOSED SCHOOL USES IN SQUARE-FEET

Use	Square-feet
Administrative (offices)	2,775
Library Media Center	3,120
Multi-use/Kitchen	6,640
Classrooms	22,998
Student Services	2,300
Custodial and Support Uses	2,660
Other Support Space (walls, covered walks, electrical/mechanical closets)	8,123
Total	**48,616**

Source: Correspondence from Denny Jones, Facilities Planning and Construction, WUSD to Sandra White, Senior Planner, City of West Sacramento, April 22, 2005.

Classroom space would include two kindergarten classrooms, 19 standard classrooms, a science classroom, Special Day Class (SDC) classroom, and a learning lab.

WUSD would hire approximately 35 employees, including teachers, support staff, and administrators for the proposed school.

Parks

Approximately two acres of the project site would be developed as a private park (open space). In addition, residents would have access to the existing Rivers 40-acre park system.

Similar to other schools in the WUSD, the public would have after-hour access to the playing fields and multipurpose room at the proposed K-8 school.

Infrastructure

Roadways and Circulation

The proposed project would include construction of additional on-site roads to accommodate internal circulation. All streets constructed as part of the proposed project would be designed according to current City standards. There would be 18 lots located in the northeastern portion of the site that would be gated and served by a private street. The rest of the road network would be public. No improvements to off-site roads are proposed as part of this project.

Water Supply Distribution

The City of West Sacramento would provide domestic and irrigation water to the proposed project. Preliminary analysis indicates that existing off site water facilities are adequate to serve the proposed project. New distribution lines within the Rivers Phase II site would be installed (see Figure 3-4). The May 2005 Water Master Plan Update requires an additional 1.9 MG reservoir and pump station as a result of The Rivers development.

Wastewater Collection

The City of West Sacramento would provide wastewater collection and treatment facilities to the proposed project site. The existing wastewater collection system includes a series of 6 to 12-inch mains to a 15-inch discharge main in Hardy Drive, located just south of the proposed project site.

The proposed Rivers Phase II project would install new collection lines within the project site and discharge to the existing system (see Figure 3-5). A draft sanitary sewer master plan is currently under study. Sufficient calculations were made to indicate that the existing off-site infrastructure has sufficient capacity to convey the increased wastewater flows resulting from development of the proposed project site in addition to the existing flows.[4]

Storm Drain Collection

The portion of the proposed project site that is proposed to be developed within the former golf course does not currently drain to the City's storm drainage system. The area drains to one of a series of lakes within the former golf course that are used for retention and percolation to groundwater. The remaining portions of the proposed project site drain naturally to the City's storm drain collection system.

The Rivers Phase II project includes installation of a new storm drain outfall line located in Lighthouse Drive (see Figure 3-6). The new line would convey the storm drainage to an existing pump station. The proposed project includes modification of the pump station to increase the capacity and upgrade the facilities. The pump station directs storm water to the Sacramento River.

Electric, Gas, Telephone, and Cable Utilities

The project applicant anticipates that the following service providers would serve the proposed project:

Electric and Natural Gas – Pacific Gas and Electric
Telephone – SBC Communications
Cable Television – Charter Communications

The proposed project would use existing utility infrastructure for these utilities and no new distribution lines are proposed.

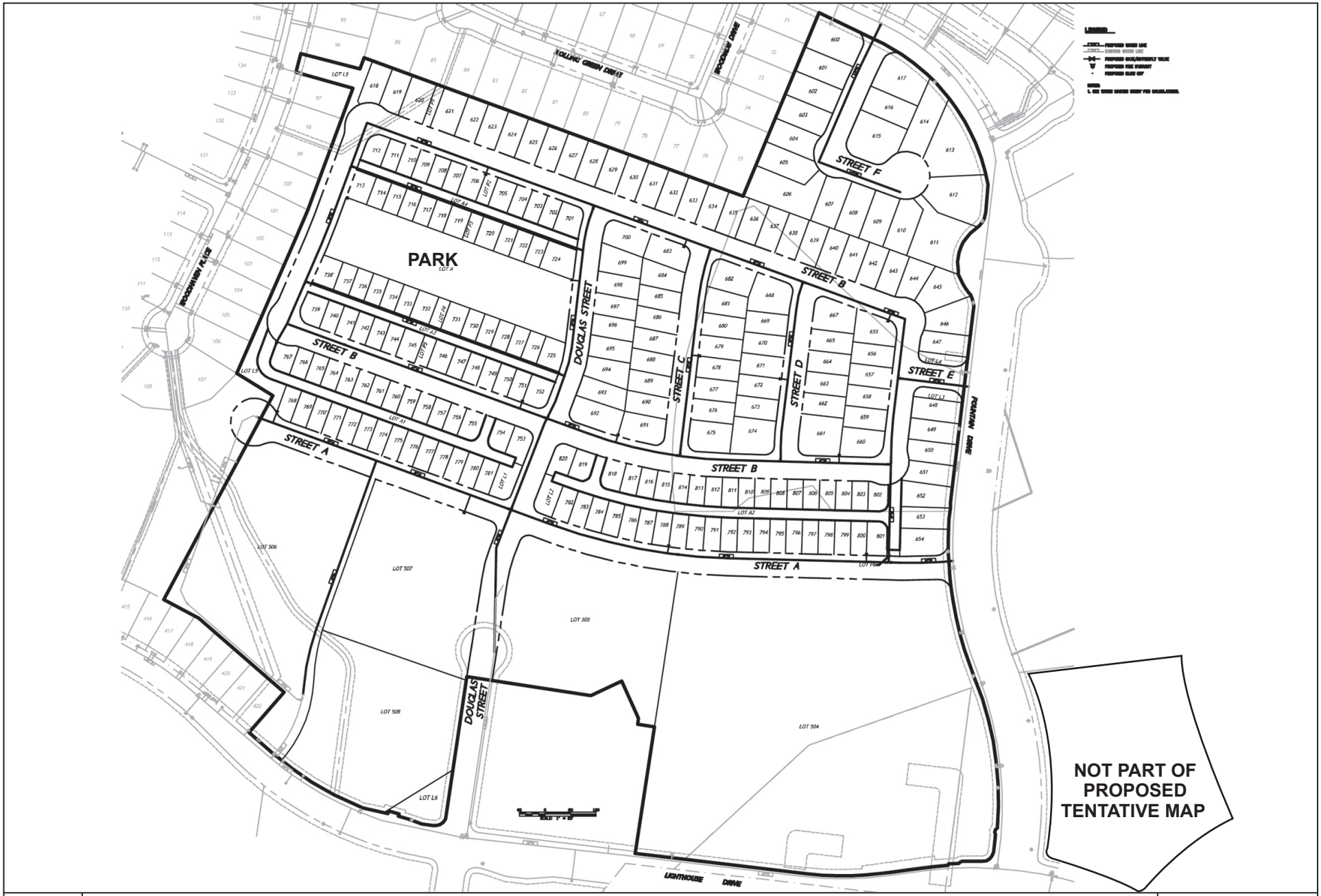

FIGURE **3-4**

Water Master Plan Study

***Source*:** NOLTE, 2005

City of West Sacramento

11006-00

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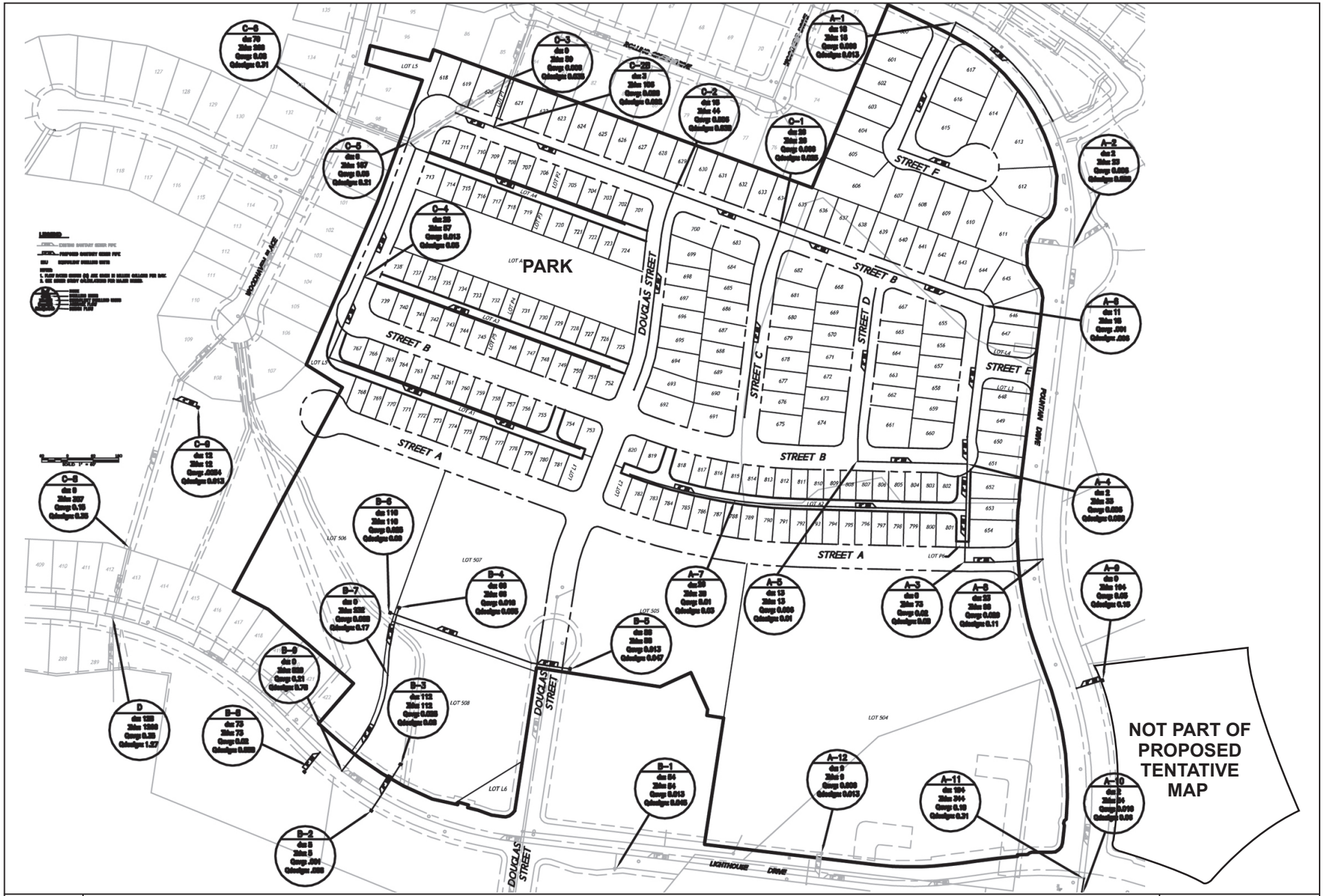

FIGURE **3-5**

Sanitary Sewer Master Plan Study

***Source*:** NOLTE, 2005

City of West Sacramento

11006-00

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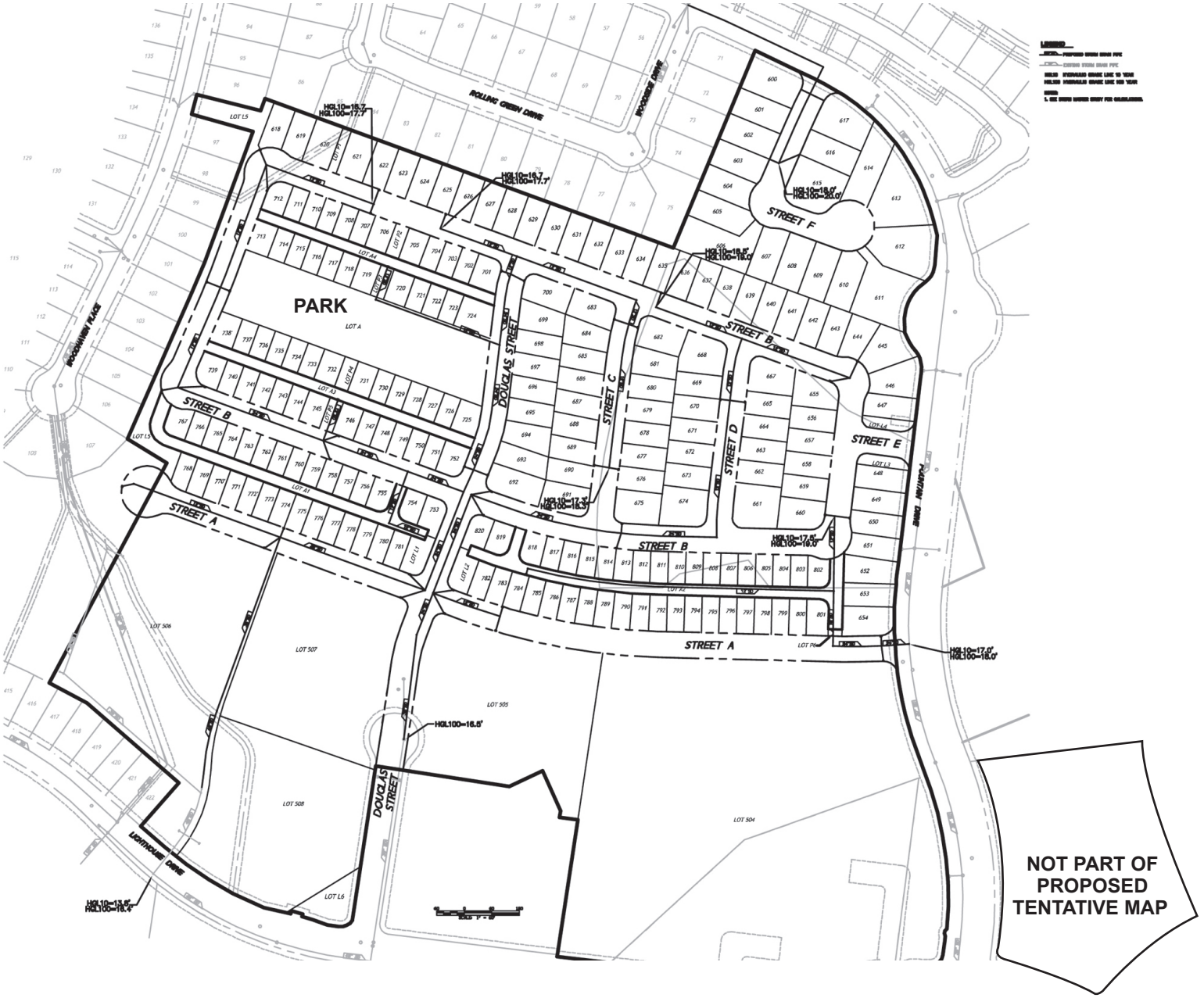

FIGURE **3-6**

Storm Drain Master Plan Study

***Source*:** NOLTE, 2005

City of West Sacramento

11006-00

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Landscaping

Existing landscaping is located along Lighthouse Drive and Fountain Drive at the perimeter of the site. The project site also includes numerous trees that would need to be removed to accommodate project construction (see Figure 3-7, large scale map available from the City of West Sacramento). Any trees removed would be subject to the requirements of the City's Tree Ordinance, as appropriate. Proposed on-site landscaping would include street trees, front yard landscaping for single-family detached homes, and perimeter landscaping for single family attached homes. The school (Scenario A) would include play fields and landscaped areas.

Proposed PD-29 Designations

The applicant proposes to amend current land use designations to RB, RC-A, RD, and RE. The following describes the proposed land use designations. For a copy of the existing and proposed amendments to PD-29, refer to Appendix C.

RB Single Family Residential Use-Under this designation residences would be restricted to six dwelling units per acre at a maximum height of 31 feet. Setbacks would be established and lot coverage would set at 70 percent. Second floor square-footage would be limited to 80 percent of the ground floor square-footage. Minimum lot size would be 5,000 square feet.

RC-A Residential Use Area-Under this designation residences would be restricted to a maximum of 12 dwelling units per gross acre at a maximum height of 31 feet. The minimum lot size would be 2,500 net square feet. Setbacks would be established and lot coverage is set at a maximum of 70 percent. This designation would provide higher density single family residences.

RD Condominium and Apartment Use Area-Under this designation residences would be restricted to multifamily development at a maximum of 22 units an acre. Buildings would be restricted to a maximum height of 40 feet. Setback requirements would vary for one- and two-story buildings abutting existing or future low-density development.

RE Condominium and Apartment Use Area-Under this designation residences would be restricted to multifamily development at a maximum of 38 units an acre.

The applicant also proposes RE land use designation. See previous discussion in this chapter under Existing PD-29 Designations.

Community Facilities District

Community Facilities District (CFD) has been formed to fund the cost for lighting services, street landscaping, and drainage system operation and maintenance. Specifically, authorized services to be funded include:

- Maintenance of landscaping, lighting, and other equipment in or along public rights-of-way for landscape corridors;
- Cost of parkway landscape improvement, repair, or replacement;
- Cost of open space improvement, repair, or maintenance;
- Storm drainage and drainage system facilities maintenance;

SYMBOLS

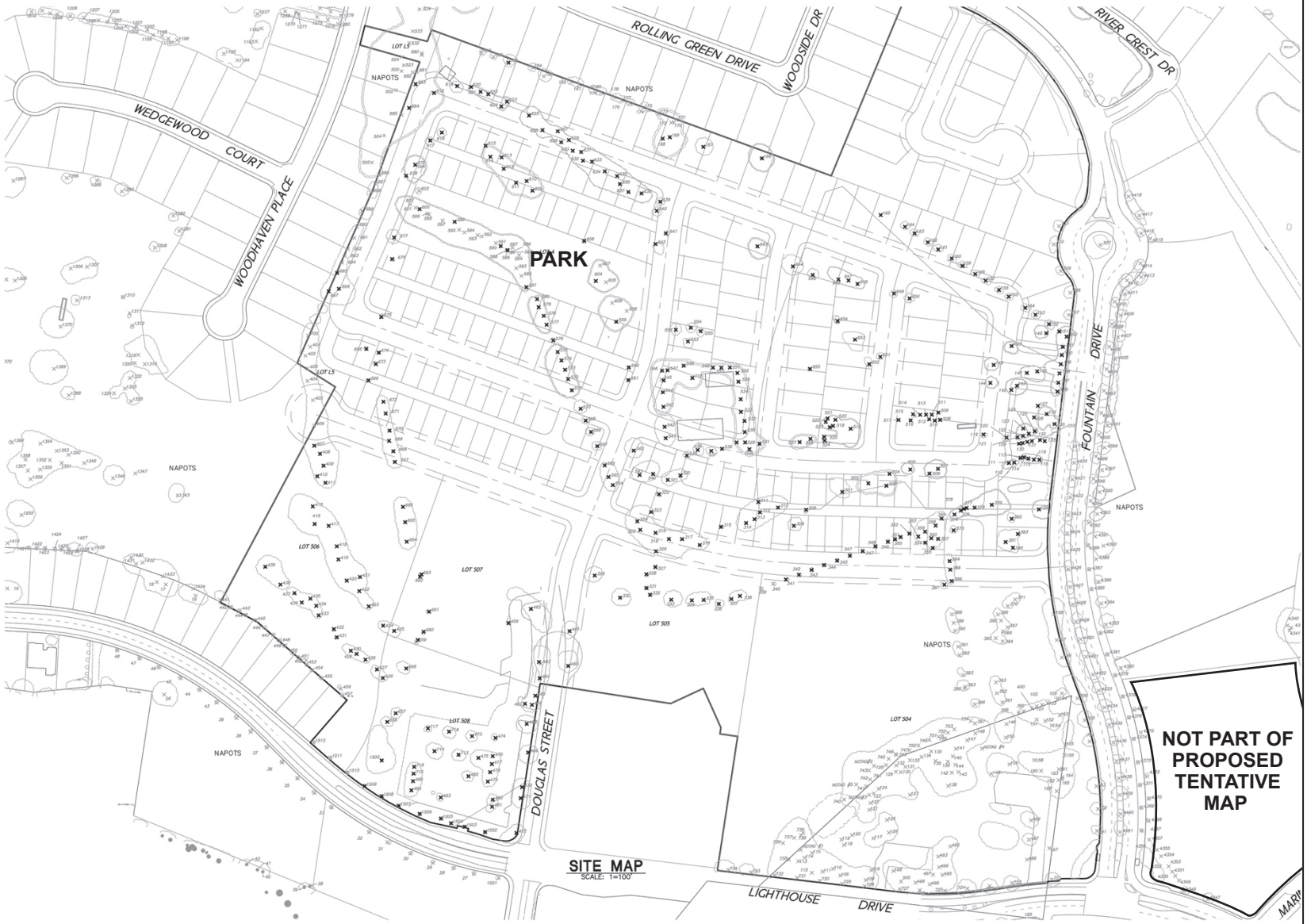
350	TREE NUMBER
350	TREE PLANNED TO BE REMOVED
	TREE DRIPLINE
NAPOTS	NOT A PART OF THIS STUDY

SHEET INDEX

1. TITLE SHEET
2. TREE TABLE

NOTES

1. ALL TREES IDENTIFIED ON THIS EXHIBIT ARE SUBJECT TO THE REGULATIONS GOVERNED BY THE CITY OF WEST SACRAMENTO TREE PRESERVATION ORDINANCE, AS SPECIFIED IN MUNICIPAL CODE SECTION 8.24.
2. TREES NOT MARKED FOR REMOVAL WITHIN LOT A AND LOT L5 ARE TO BE SAVED AND MAINTAINED BY THE RIVERS COMMUNITY ASSOCIATION. SEE SHEET 2 FOR TREE LIST.
3. TREE REMOVAL WITHIN LOT 504 HAS NOT BEEN DETERMINED AT THIS TIME.



SITE MAP
SCALE: 1=100'

FIGURE **3-7**
Tree Exhibit

11006-00

***Source*:** NOLTE, 2005

City of West Sacramento

EIP ASSOCIATES

- Miscellaneous costs related to any of the items described above including planning, engineering, and legal and administration costs; and
- Levy of Special Taxes to accumulate funds for anticipated future repair or replacement costs of landscaping, irrigation facilities, lighting and other facilities maintained by the CFD.

Other Project Component – Bank Stabilization

The proposed Rivers Phase II project includes the stabilization of approximately 3,000 linear feet of the west bank of the Sacramento River, located on the north side of the proposed project site from River Mile 60.5 to River Mile 61.3. A three foot to five foot informal hiking trail of decomposed granite or similar material could be included. Within the proposed project limits, fill dirt, rock, and vegetation would provide increased stability and erosion protection to the river bank

The method for bank stabilization would include construction of a dike behind which would be a vegetative berm (see Figure 3-8 for a cross-section of the proposed bank stabilization project and Figure 3-9 for an example of bank stabilization work). The dike would incorporate large woody debris on the site that could provide fish habitat on the waterside of the berm. The berm would be vegetated with native riparian species. Upslope of the berm, the bank would be further protected with rock. Native vegetation would be planted through the stone to achieve a natural-looking bank. The rock dike and vegetated berm would add to the stability of the waterside toe of the bank.

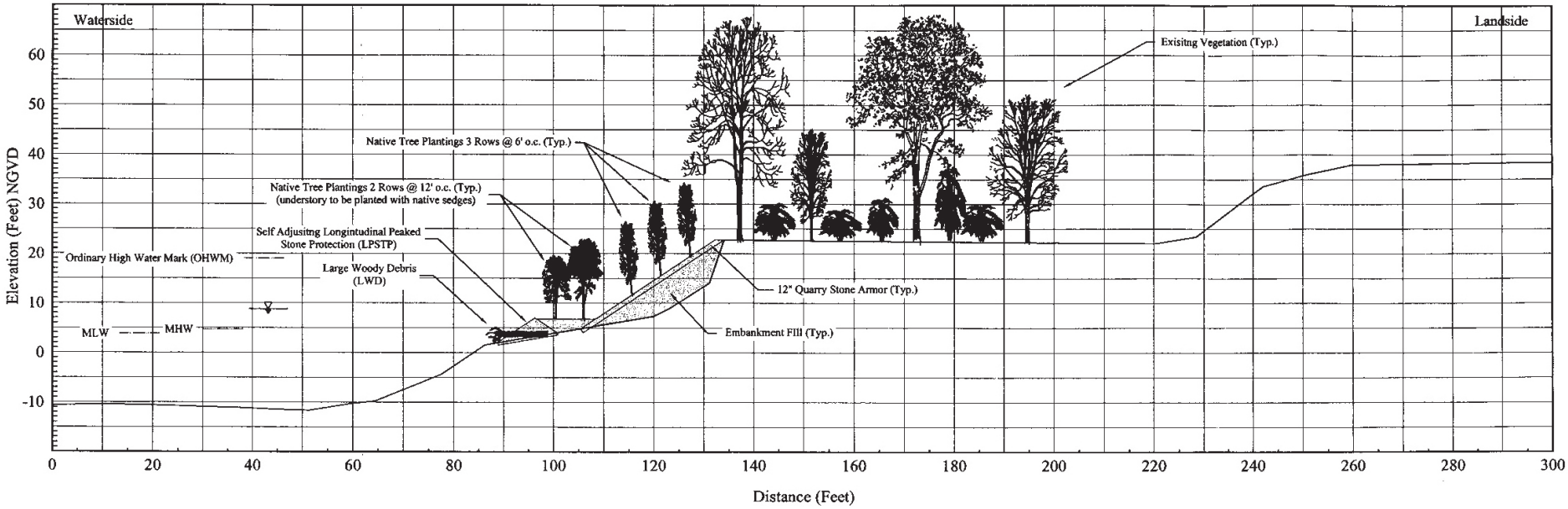
The dike would be constructed with clean rock rip rap from either a hard rock quarry near Ione or a quarry in San Rafael. The rock from Ione would be trucked to where it could be loaded onto a barge in the Sacramento River. If the rock comes from the quarry in San Rafael, it would be loaded directly into a barge and conveyed to the proposed bank stabilization site. There would be no land access for heavy equipment during construction or maintenance of the bank stabilization.

During construction, a barge-mounted crane would lift and place rock for the dike and fill for the berm from a material barge with a capacity of approximately 300 to 1,000 tons. The first order of work would be the construction of the rock dike, then the existing bank would be flattened from its current steep contour and prepared to receive the rip rap. The rock rip rap on the flattened slope would protect the soil from erosion until the plants become established. Once the bank is stabilized, the area between the bank and the dike would be filled with clean fill from the barge.

Construction Considerations

Site Preparation and Grading

Construction of the proposed project would require redevelopment of the portion of the former golf course located within the project boundary. Facilities that supported the golf course operation would also be removed including irrigation piping, concrete paths, ponds, two existing maintenance buildings, and a building housing a snack bar and restrooms. As previously stated, any trees removed would be subject to the requirements of the City's Tree Preservation Ordinance, as appropriate. All construction staging areas would be located on the proposed



Planting Quantity Estimate

Trees (Willow, Alder, Cottonwood)	2,000
Herbaceous (Sedge, Rush)	6,000

FIGURE **3-8**

MBK Levee Typical Cross Section

11006-00

Source: MBK Engineers, 2005

City of West Sacramento

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Just after installation of the bank stabilization (1999)



Interim picture



Interim picture



Same site in 2005. The cottonwood trees are approximately 30 feet tall.

11006-00

FIGURE **3-9**

Example of Bank Stabilization

***Source*:** NOLTE, 2005

City of West Sacramento

EIP ASSOCIATES

project site. The proposed grading plan is presented in Figure 3-10. Approximately 110,000 cubic yards of fill would be required to accommodate development of the proposed project. A couple of potential sources for the imported fill have been identified. One possible source includes downtown City of Sacramento construction sites. Another would be Sutter Park within the Rivers project area. Haul routes will be identified after the small lot vesting tentative map is approved and prior to construction.

Project Phasing

The project applicant anticipates that construction of the proposed project would be done in one phase. Construction is anticipated to occur from 2006 through 2009, although market conditions could extend the schedule or require an additional phase(s).

Construction of the school is anticipated to begin in Spring 2006, with the facilities ready for occupancy in Fall 2007.

The start of construction for the bank stabilization component of the proposed project would be determined by the biological opinions from the National Oceanic Atmospheric Administration**,** USFWS, and DFG. It is anticipated that work would be performed during the window of August to October, with construction taking two to three months. It is currently anticipated that the necessary permits would take approximately six to nine months to obtain and that work would be completed in 2006.[5]

3.3 REGULATORY REQUIREMENTS, PERMITS, AND APPROVALS

The City of West Sacramento is the Lead Agency for the proposed project. The EIR is intended to be used in conjunction with the consideration of the following entitlements by the City of West Sacramento: the text amendments to PD-29; a small lot vesting tentative subdivision map; and approval of the Water Supply Assessment for the proposed project. Prior to acting on these entitlements, however, the City Council must certify the EIR as complete and adequate. Approval of the Rivers Phase II EIR would also require adoption of a Mitigation Monitoring Plan (MMP), which would specify the methods for monitoring mitigation measures required to eliminate or reduce the project's significant effects on the environment. The City Council also would be required to adopt Findings of Fact, and for those impacts determined to be significant and unavoidable, adopt a Statement of Overriding Considerations.

As part of implementation of the proposed project, other permits and approvals would also be necessary prior to construction. These are listed below and the relevant agencies listed in the review process are identified.

Federal

The following federal actions could be required prior to development occurring on the project site.

Section 404 Permit (U.S. Army Corps of Engineers and U.S. Environmental Protection Agency)

The U.S. Army Corps of Engineers (USCOE) regulates the placement of fill or dredged materials that affect waters of the United States. The USCOE regulates these activities under the authority of Section 404 of the Clean Water Act (CWA), and the U.S. Environmental Protection Agency (EPA) has commenting and vetoing authority on USCOE decisions. The

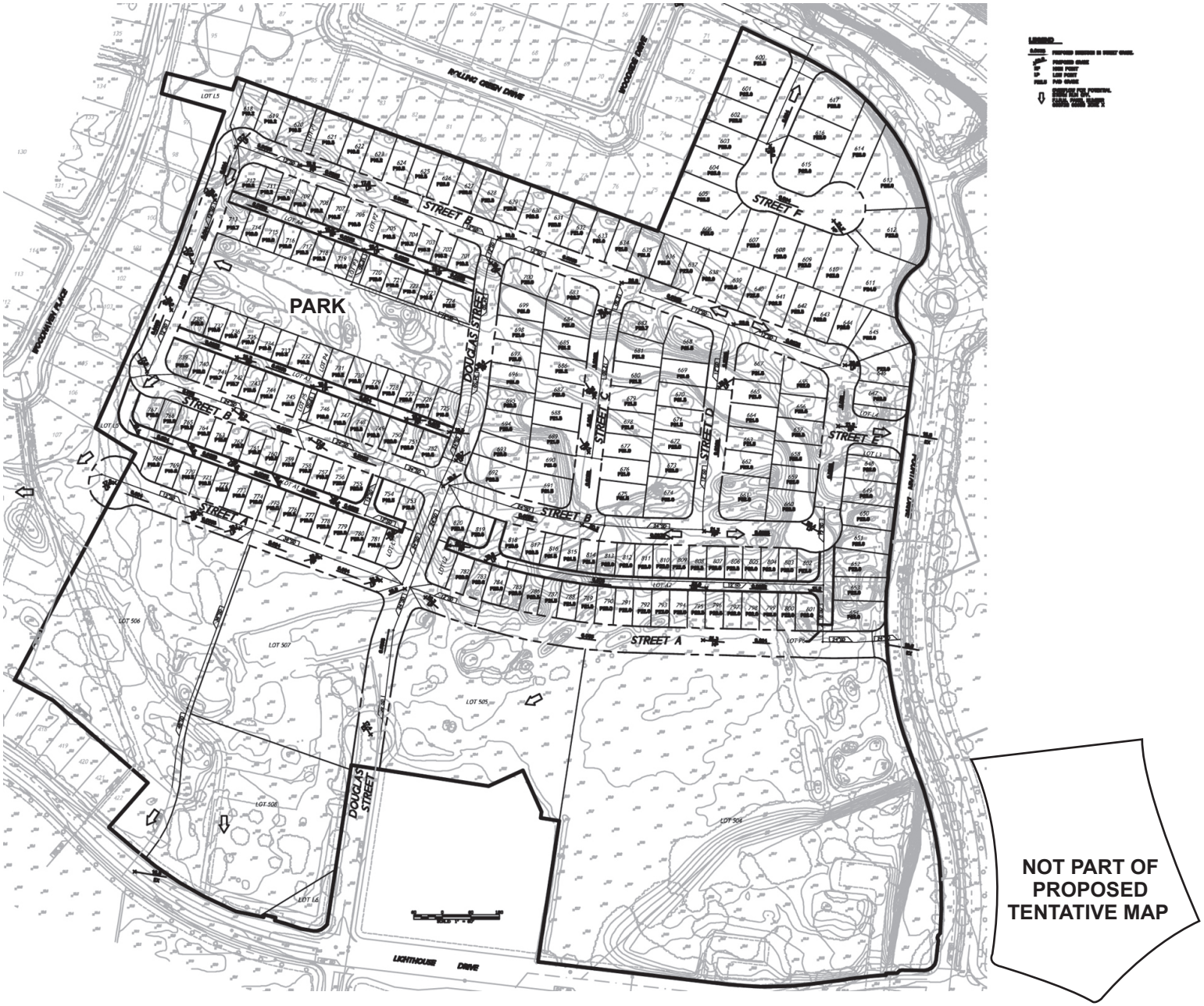

FIGURE **3-10**

Grading Master Plan Study

***Source*:** NOLTE, 2005

City of West Sacramento

11006-00

EIP ASSOCIATES

USCOE would regulate any development associated with the proposed project that affects jurisdictional waters, such as the Sacramento River.

Pursuant to Section 404(e) of the CWA, the USCOE has the authority to issue general permits on a nationwide basis for any category of activity involving discharges of dredged or fill material. A Nationwide Permit (NWP) is a type of general permit issued by the USCOE and is designed to authorize certain activities having minimal individual or cumulative adverse effects on the environment. The proposed bank stabilization project could require a Nationwide Permit (NWP 13) from the USCOE.

Section 10 Permit (USCOE)

A permit, issued by the USCOE under Section 10 of the Rivers and Harbors Act, would be required for all activities in navigable waters that involve excavation, filling, construction, or placement of an obstruction.

Section 7 Consultation (Federal Endangered Species Act)

As part of the 404 permit process, the USCOE has initiated formal consultation with the U.S. Fish and Wildlife Service (USFWS) to determine whether any federally listed species could be adversely affected, and to identify measures to avoid or lessen adverse impacts on listed species. The USFWS response to the USCOE can be found in Appendix F. Consultation would also be integrated with the National Marine Fisheries Service (NMFS) for anadromous fish habitat.

State

State regulatory agencies would also need to take action on elements of the proposed project, as indicated below.

Streambed Alteration Agreement (California Department of Fish and Game)

Sections 1600 through 1607 of the California Fish and Game Code regulate activities that would alter the flow, bed, channel, or banks of streams and lakes. Fish and Game Code section 1602 requires notification before beginning any activity that will do one or more of the following: 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Water Quality Certification (State Water Resources Control Board)

Construction of the proposed project has the potential to directly or indirectly affect “waters of the United States”. Disturbance could result in a discharge to the Sacramento River. A water quality certification would be required by the SWRCB for development requiring a Section 404 permit.

Because the proposed project includes obtaining a NWP for the bank stabilization project, a water quality certificate would be required.

Construction Storm Water Discharge Permit (State Water Resources Control Board)

Construction would involve clearing, grading, and excavation activities that would result in the disturbance of one acre or more of land. As such, a SWRCB permit would be required for storm water discharge from construction sites. The permit process would include development of a Storm Water Pollution Prevention Plan (SWPP) and identification of Best Management Practices (BMPs) to control pollutants in storm water discharges both during and after construction.

State Reclamation Board Permit (State Reclamation Board)

Section 8710 of the California Water Code requires that a permit from the State Reclamation Board must the obtained prior to beginning work within floodways, levees, and ten feet landward of the landside of a levee toe. Installation of the bank stabilization facilities would require work within the Sacramento River and its associated levees.

State Lands Commission Lease (California State Lands Commission)

The bank stabilization project would occur primarily on property owned by the State Lands Commission. Any work would require authorization by the Commission through a lease between the applicant and the Commission.

California Department of Education and California Office of Public School Construction (State of California)

The California Education Code defines the criteria that new school sites and construction must meet in order to be approved.

The Office of Public School Construction administers the school facility program for funding for school construction.

Division of State Architect (State of California)

This agency would approve the final drawings for the proposed WUSD school.

Local

City of West Sacramento

The following land use actions and entitlements would be required to allow the proposed project to proceed.

PD-29 Text Amendments

The PD-29 zone would be amended for consistency with the proposed project. The amended PD-29 would establish the land use regulatory control for lands within this zoning overlay, including the land uses permitted by each use area designation within PD-29.

Tentative Map Approval

The City would be required to approve the small lot vesting tentative subdivision map for 62.7 acres of the total 67.8 acre site.

Building Permits

Building permits for the proposed project would be reviewed, approved and issued by the City.

Water Supply Assessment

The City would approve the Water Supply Assessment prepared for the proposed project and provide a written verification consistent with SB 610/221 requirements.

Washington Unified School District Superintendent of Schools

The WUSD would acquire the proposed school site in order to build a 550-student academy. The academy would be constructed and operated by the WUSD and would require approval from the Superintendent of Schools.

ENDNOTES

1. Wallace-Kuhl and Associates, Inc., *Geotechnical Engineering Report, The Rivers Phase 2 – Portions of Lots 53, 54, and 55*, April 22, 2004, page 3.

2. The City of West Sacramento's website, http://www.ci.west-sacramento.ca.us/cityhall/departments/redev/default.cfm, accessed September 1, 2005.

3. The City of West Sacramento, *2005-2009 Implementation Plan for the West Sacramento Redevelopment Plan No. 1.*

4. Correspondence from Craig Cameron, Project Engineer, Nolte Associates, to Cathy McEfee, Project Manager, EIP Associates, February 23, 2005.

5. Correspondence from Gilbert Cosio, MBK Engineers, to Al Esquivel, Grupe Company, on May 25, 2005.

4. ENVIRONMENTAL ANALYSIS

4.1 INTRODUCTION TO ANALYSIS

4.1 INTRODUCTION TO THE ANALYSIS

4.1 SCOPE OF THE EIR ANALYSIS

The Environmental Analysis chapter of this Draft EIR discusses the environmental and regulatory setting, impacts, and mitigation measures for each of the following technical issue areas (Sections 4.2 through 4.11):

4.1 Introduction to Analysis
4.2 Aesthetics
4.3 Air Quality
4.4 Biological Resources
4.5 Cultural Resources
4.6 Land Use
4.7 Noise
4.8 Public Services
4.9 Public Utilities
4.10 Transportation and Circulation
4.11 Water Supply

4.2 SECTION FORMAT

Each section begins with a description of the project environmental setting and a regulatory setting as it pertains to a particular issue. The environmental setting provides a point of reference for assessing the environmental impacts of the proposed project and alternatives (Chapter 6). The setting description in each section is followed by an impacts and mitigation discussion. The impact and mitigation portion of each section includes impact statements, which are prefaced by a number in bold-faced type. An explanation of each impact and an analysis of its significance follow each impact statement. All mitigation measures pertinent to each individual impact follow directly after the impact statement. The degree to which the identified mitigation measure(s) would reduce the impact is also described.

Examples of the format are shown below.

4.X-X Statement of impact for the proposed project in bold type.

The discussion of impacts for the proposed project is presented in paragraph form and a determination of the impact's significance in ***bold, italic type***.

Two proposed scenarios for development of the Rivers Phase II are analyzed in this EIR. Scenario A includes the development of 626 residential units, a two-acre park, and a school. Scenario B would develop 802 residential units and a two-acre park. The following headings are used in the impact analysis to differentiate between the two analyses:

Scenario A and B

If discussion applies to Scenario A and B.

Scenario A

If the discussion is unique to Scenario A

Scenario B

If the discussion is unique to Scenario B

Mitigation Measure

4.X-1 (A & B) or (A) or (B) *Statement of what, if any, mitigation measures are required.*

Terminology Used in the EIR

This Draft EIR uses the following terminology to describe environmental effects of the proposed project:

- **Standards of Significance:** A set of criteria used by the lead agency to determine at what level or "threshold" an impact would be considered significant. Standards of Significance used in this EIR include those discussed in the CEQA Guidelines; criteria based on factual or scientific information; criteria based on regulatory standards of local, state, and federal agencies; and criteria based on goals and policies identified in the City of West Sacramento General Plan. In determining the level of significance, the analysis assumes that the proposed project would comply with relevant federal, State, and local regulations and ordinances.
- **Less Than Significant Impact:** A project impact is considered less-than-significant when it does not reach the standard of significance and would therefore cause no substantial change in the environment (no mitigation required).
- **Potentially Significant Impact:** A potentially significant impact is an environmental effect that may cause a substantial adverse change in the environment; however, additional information is needed regarding the extent of the impact to make the determination of significance. For CEQA purposes, a potentially significant impact is treated as if it were a significant impact.
- **Significant Impact:** A project impact is considered significant if it results in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects in the context of specified significance criteria. Mitigation measures and/or project alternatives are identified to reduce these effects to the environment where feasible where feasible.
- **Significant and Unavoidable Impact:** A project impact is considered significant and unavoidable if it would result in a substantial adverse change in the environment that cannot be feasibly avoided or mitigated to a less-than-significant level if the project is implemented. Findings of Overriding Considerations must be adopted if impacts cannot be mitigated.
- **Cumulative Impacts:** According to CEQA, "cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, Section 15355). CEQA requires that cumulative impacts be discussed when the "project's incremental effect is cumulatively considerable" (CEQA Guidelines, Section 15130 (a)).

- **Mitigation Measures:** The CEQA Guidelines (Section 15370) define mitigation as:

  (a) Avoiding the impact altogether by not taking a certain action or parts of an action;
  (b) Minimizing impacts by limiting the degree of magnitude of the action and its implementation;
  (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
  (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
  (e) Compensating for the impact by replacing or providing substitute resources or environments.

4.2 AESTHETICS

4.2 AESTHETICS

4.2.1 INTRODUCTION

This section of the EIR presents a description of the existing visual character of the site and surrounding area, describes views to and from the site, and evaluates the alteration in views of the project site from surrounding areas. PD-29 design standards and other applicable City standards are assessed.

Information provided in this section was gathered from site visits and a review of applicable planning and policy documents that are cited, as appropriate.

Comments received in response to the NOP (see Appendix B) raised a concern that aesthetics resources would not be addressed in the EIR. As discussed in the Initial Study (see Appendix A), some aesthetics issues such as impacts on scenic vistas, scenic resources within a state scenic highway, and light and glare, were determined not to require further analysis in the EIR. As discussed in the Initial Study (see Appendix A), while the proposed project would result in an increase in the amount of reflective surfaces and artificial lighting over that which currently exists, compliance with PD-29 and the Uniform Building Code would result in less-than-significant lighting and glare impacts and this issue is not discussed further in this section.

4.2.2 ENVIRONMENTAL SETTING

Regional Setting

The proposed project is located in the City of West Sacramento. The City of Sacramento lies to the east, just across the Sacramento River, and the City of San Francisco lies approximately 85 miles to the west. The residential development is located within the boundaries of the former Lighthouse Golf Course and is bordered by the Sacramento River on the north. The bank stabilization portion of the project is located immediately adjacent to the west bank of the Sacramento River from approximately River Mile 60.5 to River Mile 61.3, just upstream of the confluence of the American and Sacramento Rivers (see Figure 3-2 in Chapter 3, Project Description).

Existing Visual Character

The following provides a visual description of the proposed residential development and bank stabilization sites and of views to and from the sites. Figure 4.2-1 shows the location of the photo views presented in Figures 4.2-2 through 4.2-5.

Approximately 60 percent of the project site is on the former golf course while the remaining 40 percent is vacant land. The site includes mature trees and other landscaping, along with the various support buildings for the golf course (see Figure 4.2-2 View 1). The gently rolling topography of the site is approximately 20 feet relative to mean sea level. The bank stabilization site includes some young trees (mostly oak), poison oak, wild grape, and black berry (see Figure 4.2-2 View 2).

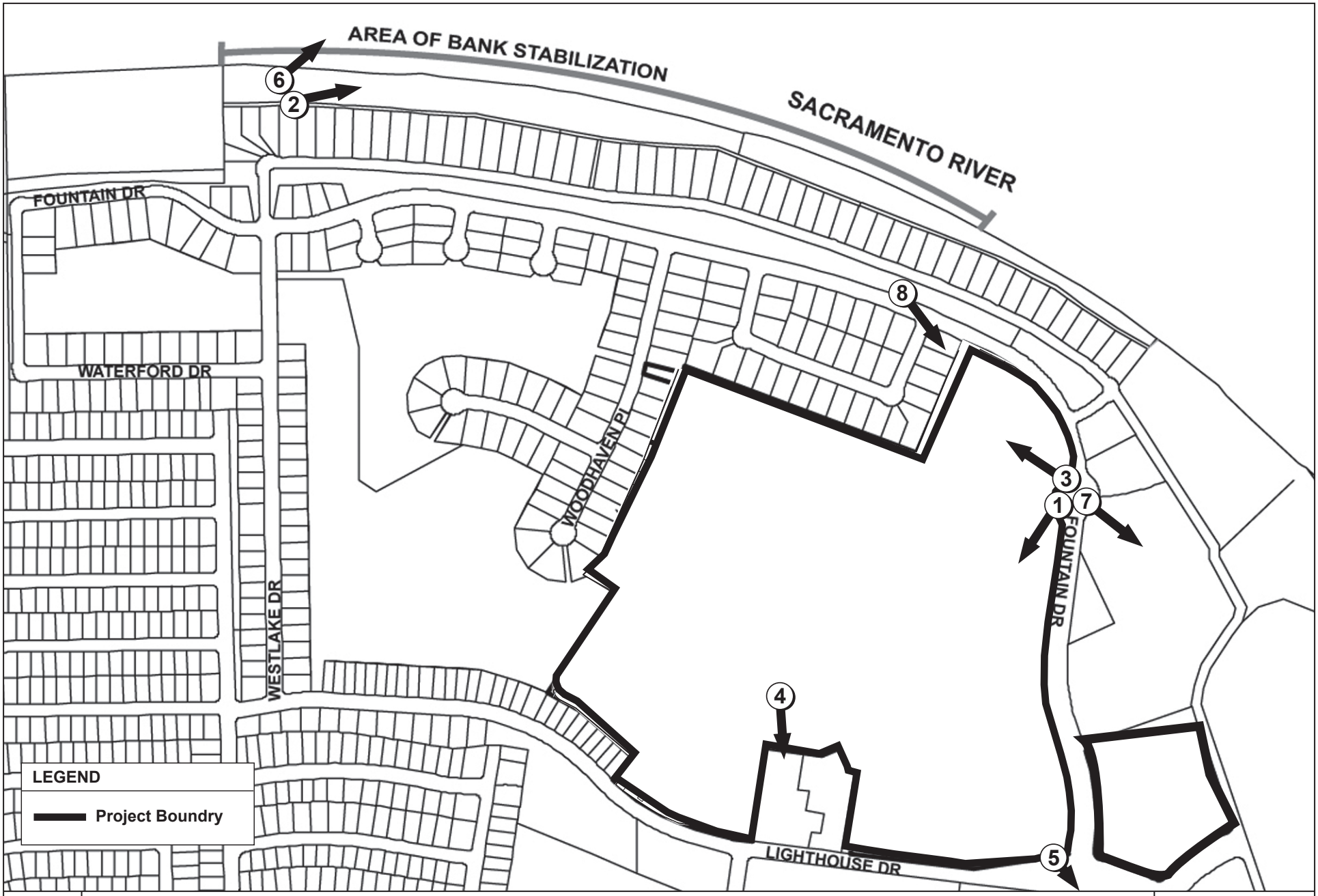

FIGURE **4.2-1**
View Point Map

Not to Scale

11006-00

Source: NOLTE

EIP ASSOCIATES



View 1: From Fountain Drive looking southwest at the project site



View 2: Area of Bank Stabilization looking east

FIGURE **4.2-2**
Views 1 and 2

11006-00

***Sources*:** EIP Associates, 2005

EIP ASSOCIATES



View 3: From Fountain Drive looking northwest



View 4: From the project site looking south at adjacent residential development

FIGURE **4.2-3**
Views 3 and 4

***Sources*:** EIP Associates, 2005



View 5: From the project site looking southeast at adjacent residential development



View 6: Area of Bank Stabilization looking northeast

FIGURE **4.2-4**
Views 5 and 6

11006-00

***Sources*:** EIP Associates, 2005

EIP ASSOCIATES



View 7: From Fountain Drive looking southeast from project site



View 8: From River Crest Drive looking southeast to project site

FIGURE **4.2-5**
Views 7 and 8

***Sources*:** EIP Associates, 2005

EIP ASSOCIATES

Existing Views from the Project Site

Short-range views from the residential development portion of the project include the existing and developing residential uses to the north, west, and south (see Figure 4.2-3 View 3 and 4 and Figure 4.2-4 View 5). Both the single and multi-family residential uses that surround the site consist of one and two-story structures with scattered mature and new landscaping. To the south and east, roadways are adjacent to the project site, ranging from two to four lanes. To the east, across Fountain Drive, is vacant land that is part of the project area. From the area of bank stabilization site the development on the opposite side of the bank is visible to the north, east, and west (see Figure 4.2-4 View 6). Development across the river consists of a few residences and businesses at the top of the bank as well as the docks located on the river. The I-5 river crossing is visible to the east.

Medium-range views from the residential development portion of the project to the west and south include more buildings, a residential landscape of one- and two-story single- and multi-family homes. View to the north and east include the levee, which separates the residences from the Sacramento River (see Figure 4.2-5 View 7). To the north more residences are built on top of the levee. Medium-range views from the area of bank stabilization are limited and primarily include views up and down the river.

The residential development portion of the project site is at a lower elevation than land to the north and east partially obscuring the long-range views. Long-range views to the east and partially to the south include the City of Sacramento skyline. Views to the north beyond on the levee are obscured by the levee and the large trees and other vegetation that live along the river banks. Long-range views from the area of bank stabilization are limited and primarily include views up and down river.

Existing Views to the Project Site

The residential portion of the project site consists of large open space, mature trees, man-made bodies of water, and a few structures (see Figure 4.2-2 View 1). A portion of the site is located on the east side of Fountain Drive and is vacant. From the adjacent existing and developing residential uses to the north and west, vacant land, landscaped open space, and former golf course structures can be seen. Similar views are available from the adjacent streets to the east and south and the vacant lots beyond to the east and residential uses beyond to the south. The area of bank stabilization can be viewed from the other side of the river from the residences and business to the north that line the river as well as the I-5 overcrossing.

Medium-range views from west and south consist of the tops of mature trees on the project site because existing development blocks direct views of the site. From the top of the levee located to the north and east, the project site is much more visible as the levee is elevated from the site allowing greater visibility and there is little intervening development between the levee and the project site (see Figure 4.2-5 View 8). A large portion of the vacant land and former golf course landscape area is visible from these north and east vantage points as well as the associated structures. Medium-range views from the surrounding area to the area of bank stabilization are limited due to vegetation cover and the levee.

Existing long-range views from all directions consist only of the tops of the trees located on site. The project site cannot be viewed from the Sacramento River or from the opposite bank, on the Sacramento side of the river, due to the levee. Limited views are available from elevated roadways/bridges and high-rise buildings to the east. Long-range views from the surrounding

area to the area of bank stabilization are extremely limited due to vegetation cover, topography, the levee, and the surrounding development.

4.2.3 REGULATORY SETTING

Federal

There are no federal regulations that pertain to aesthetics issues related to the proposed project.

State

There are no State regulations that pertain to aesthetics issues related to the proposed project.

Local

City of West Sacramento

General Plan

The following goals from the City of West Sacramento General Plan are relevant to Aesthetics:

Scenarios A and B

Goal A: **To promote the development of a cohesive and aesthetically-pleasing urban structure for West Sacramento.**

Policy 4: The City shall seek to preserve the vital qualities of existing, stable neighborhoods and shall promote the development of new neighborhoods with these same qualities.

Goal C: **To preserve existing community character and fabric and promote the development of neighborhoods and districts that emphasizes pedestrian convenience.**

Policy 1: The City shall respect existing neighborhood scale and character when infilling and/or upgrading existing residential neighborhoods.

Policy 2: The City shall promote the creation of well-defined residential neighborhoods in newly-developing areas. Each of these neighborhoods should have a clear focal point, such as a neighborhood shopping center, park, school, or other open space and community facility, and should be designed to promote pedestrian convenience. To this end, the City shall encourage the use of existing West Sacramento neighborhoods, including the modified grid street system, as models for the planning and design of new residential neighborhoods.

Goal D: **To maintain and enhance the quality of the city's landscape and streetscape.**

Policy 1: The City shall endeavor to protect the tree canopy created by mature trees in existing developed areas and in newly developing areas.

Policy 2: The City shall require that all new development incorporate the planting of trees and other vegetation to extend the vegetation pattern of older adjacent neighborhoods into new development.

PD-29

As discussed in Chapter 3, Project Description, the project site is zoned WF. The City of West Sacramento Ordinance 681.120 created PD-29 as amended by Ordinance 92-9 (May 13, 1992). The land use regulations of this PD overlay zone were adopted for the former Lighthouse Marina and Riverbend project.

4.2.4 IMPACTS AND MITIGATION MEASURES

Method of Analysis

A description of the project site was prepared based on visits to the project site in February and May 2005. The proposed site plan and proposed PD-29 amendments were used to determine the character and form of the proposed development.

The visual impacts of the proposed Rivers Phase II Project are analyzed in relation to existing conditions. The positive or negative value attached to changes in visual character is largely subjective. This EIR does not seek to assign a judgment of "good" or "bad" change; rather, it identifies any substantive changes as significant.

The visual effects of construction activities are not evaluated in this section because they would be intermittent and temporary. Views of construction activities would vary depending on where such activities were focused.

Standards of Significance

For the purpose of this EIR, aesthetics impacts are considered significant if the proposed project would:

- Substantially alter the existing visual character or quality of the project site and its surroundings.

Project Impacts and Mitigation Measures

4.2-1 Development of the proposed project would alter the existing visual character of the project site and its surroundings.

Scenarios A and B

The 68-acre residential development site is located in an urbanized area of West Sacramento on a part of the former Lighthouse Golf Course. The site includes mature trees and other landscaping, along with several support buildings for the golf course. Approximately 40 percent of the project site is located on vacant land that was intended for development. The portion of the golf course that is not within the project site is planned to be preserved as a private park, separate from this proposed project. Surrounding uses include residential and the Sacramento River. The bank stabilization site includes some young trees (mostly oak), poison oak, wild grape, and blackberry.

Under Scenario A and B, the proposed residential development project would include residential, park and school uses (under Scenario A) and supporting infrastructure. These uses would replace a portion of the former golf course use which is predominately landscaped open

space and existing vacant land that was planned for development. Therefore, implementation of the project would result in more intense developed uses than what currently exists which would result in a change to the visual character of the site. In order to minimize visual impacts, the proposed PD-29 amendment includes restrictions including building setbacks, lot coverage, building height, fence and wall heights, signs, parking, and landscaping. The proposed project includes PD-29 RB, PD-29 RC-A, PD-29 RD, and PD-29 RE designations. Refer to Chapter 3, Project Description, for descriptions of each of these designations. Under the RC-A designation, a new designation proposed under the PD-29 amendment, residences are restricted to one single-family dwelling per lot at a maximum height of 31 feet. Minimum lot size is 2,500 square feet and setbacks are established.

The applicant has draft residential design guidelines (The Rivers Residential Design Guidelines, Draft, October 22, 2004) that reinforce restrictions such as building height, setbacks, and allowed uses that are also established in the proposed PD-29 amendment. The City does not enforce implementation of these design guidelines. However, the draft design guidelines also provide guidance for the architectural style of the residential component of the development as well as landscaping, lighting and fencing. A variety of architectural styles and use of human scale details is encouraged and a break down of the architectural components as well as the various architectural styles is provided to assist in the creation of a pedestrian-friendly neighborhood. Stipulations are provided for the varying of the styles along the streetscape, the creation of detailed and articulated elevations, exterior color selection, diverse and visually interesting building forms, roof styles, garages/covered parking structures, entries/porches, and courtyards. The landscaping, lighting and fencing portion outlines tree preservation and new planting including maintenance, street lighting, wall and fencing placement and materials, etc. Signage and monumentation throughout the community is also restricted. Finally, the draft guidelines provide instructions for the establishment of a Design Review Committee to ensure that the guidelines are implemented throughout development.

The school site layout and design has not been finalized; however, the exterior wall finish of the proposed school may include stucco, concrete masonry, or brick. The playing fields and landscaped areas would be irrigated. Elementary schools are generally one-story with play grounds and fields surrounding the school buildings and surface parking for staff and visitors adjacent to the street.

The majority of the surrounding development is also subject to the PD-29. Therefore, the general character of the proposed development would be similar to that already built in the area. The restrictions imposed by the PD-29 designations would assure that the proposed development would be visually compatible with the surrounding residential development.

The method for bank stabilization would include construction of a dike behind which would be a vegetative berm. The berm would be vegetated with native riparian species. Upslope of the berm, the bank would be further protected with rock. Native vegetation would be planted through the stone to achieve a natural-looking bank. Because the area of bank stabilization would ultimately be re-vegetated with native vegetation there would be a minimal visual change over existing conditions.

As previously described, the development of the residential component of the project would result in a more intense development of an already urban environment. There would be a change in the visual character of the site because what is now vacant land and open space associated with the former golf course would be replaced with residential, school (Under Scenario A) uses with associated landscaping, and supporting infrastructure. However,

restrictions imposed by the proposed PD-29 development standards would ensure that visual impacts are minimized. Following completion of the bank stabilization project, the site would be returned to its natural conditions with the re-planting of native vegetation. Therefore, Scenario A or B would not substantially degrade the existing visual character or quality of the project sites or surrounding areas and would result in a ***less-than-significant impact.***

Mitigation Measure

4.2-1 (A & B) *None required.*

Cumulative Impacts and Mitigation Measures

The cumulative context for the evaluation of cumulative impacts on aesthetics is the surrounding area within the viewshed of the project site. The viewshed of the project site would be that area surrounding the site that is able to view the site. This area is limited due to development to the west and south and the levee and Sacramento River to the north and east.

4.2-2 Development of the proposed project would contribute to a cumulative alteration of the visual character of the project site viewshed by increasing urban development.

Scenarios A and B

The proposed residential site is located in an area of West Sacramento that is primarily developed with residential and supporting uses and is urban in character. There is some vacant land to the east between the project site and the levee that is zoned for development. As described above, the development of the residential component of the project would result in a more intense development of an already urban environment. There would be a change in the visual character of the site because what is now vacant land and open space associated with the former golf course would be replaced with residential, school (Under Scenario A) uses with associated landscaping, and supporting infrastructure. This increase in urbanization would contribute to a cumulative change in the visual character of the project site viewshed. The majority of the surrounding area, including the proposed residential development site, is subject to PD-29. Therefore, the general character of the proposed project would be similar to that already built in the area and the development standards imposed by PD-29 would assure that the proposed development would be visually compatible with the surrounding residential development.

The visual character of the bank stabilization site viewshed would not be altered because following completion of the project, the site would be returned to its natural conditions with the re-planting of native vegetation.

Therefore, while development of the proposed project under both Scenarios A and B would contribute to a cumulative alternation of the visual character of the project site viewshed, it would be considered a ***less than significant cumulative impact***.

Mitigation Measure

4.2-2 (A & B) *None required.*

4.3 AIR QUALITY

4.3 AIR QUALITY

4.3.1 INTRODUCTION

This section assesses the potential air quality effects of the Rivers Phase II project (proposed project). This section describes the climate in the project area; existing air quality conditions in the project area for both "criteria air pollutants" and "toxic air contaminants"; and applicable federal, State, and regional air quality standards. The section also analyzes the air quality effects caused by stationary and mobile sources related to construction and operation of the proposed project and recommends mitigation measures to reduce or eliminate significant impacts.

Odor impacts were fully evaluated in the IS (see Appendix A) and are not evaluated in this section because any odors associated with construction would be temporary, and because the proposed land use is not considered to be an odor generator. Also, the project would not locate new receptors in proximity to existing odor sources.

No comments on the NOP were received regarding air quality (see Appendix B).

4.3.2 ENVIRONMENTAL SETTING

A region's air quality is influenced by the region's climate, topography, and pollutant sources. The characteristics of the region encompassing the City of West Sacramento are such that the area has a potential for high concentrations of regional and localized air pollutants.

Topography and Meteorology

The proposed project is located in the City of West Sacramento, which is one of the major metropolitan areas of Yolo County. Yolo County is located at the southern end of the Sacramento Valley, which is bounded by the Coast and Diablo ranges on the west and the Sierra Nevada on the east. The intervening terrain is, for the most part, flat.

Hot dry summers and mild rainy winters characterize the Mediterranean climate of the Sacramento Valley. Throughout the year, the temperature may range from 20 degrees Fahrenheit with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist clean breezes from the south to dry land flows from the north.

The mountains surrounding the Sacramento Valley create a barrier to airflow, which can trap air pollutants in the Valley. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the Valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning or when temperature inversions trap cool air and pollutants near the ground.

The warmer months (May through October) are characterized by stagnant morning air or light winds with the delta sea breeze arriving in the afternoon out of the southwest. Usually, the evening breeze transports the airborne pollutants to the north and out of the Sacramento Valley. During about half of the day from July to September, however, a phenomenon called the "Schultz Eddy" prevents this from occurring. Instead of allowing the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This phenomenon exacerbates the pollution levels in the area and increases the likelihood of violating federal or state standards. The Schultz Eddy normally dissipates around noon when the Delta sea breeze begins.[1]

Criteria Air Pollutants

Criteria air pollutants are a group of pollutants for which federal or state regulatory agencies have adopted ambient air quality standards. Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), fine particulate matter (PM_{10}, $PM_{2.5}$), and lead. Most of the criteria pollutants are directly emitted. Ozone (O_3), however, is a secondary pollutant that is formed in the atmosphere by chemical reactions between oxides of nitrogen (NO_x) and reactive organic gases (ROG). Consequently, regulatory efforts to reduce O_3 concentrate on reducing emissions of ROG and NO_x. According to the most recent emissions inventory data for Yolo County, mobile sources are the largest contributors of both ROG and NO_x.[2]

Criteria air pollutants are classified in each air basin, county, or in some cases, within a specific urbanized area. The classification is determined by comparing actual monitoring data with State and federal standards. If a pollutant concentration is lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "non-attainment" for that pollutant. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified". The ambient air quality standards and Yolo County's attainment status for the criteria pollutants are summarized in Table 4.3-1. Table 4.3-2 lists the health effects associated with these pollutants.

Monitors that collect air quality data are located throughout the Sacramento Valley Air Basin (SVAB). The closest monitoring station to the project area is 15th Street station in West Sacramento. However, this station only monitors for PM_{10}. The nearest station that monitors for criteria pollutants other than PM_{10} is the Sacramento T-Street station located in downtown Sacramento, east of the project site. This monitoring station is operated by the Air Resources Board (ARB). Recent air quality data collected at these monitoring sites is summarized in Table 4.3-3.

Existing Attainment Status

The criteria air pollutants most relevant to air quality planning and regulation in Yolo County include O_3, CO, PM_{10} and $PM_{2.5}$. Each of the relevant criteria pollutants is briefly described below in the context of the County's attainment status.

TABLE 4.3-1

STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[a]	National Standards[b]		Yolo County State Status/ Classification	Yolo County National Status/ Classification
		Concentrations[c]	Primary[c,d]	Secondary[c,e]		
Ozone	8-hour 1-hour[f]	-- 0.09 ppm	0.08 ppm 0.12 ppm	Same as Primary	Nonattainment/ Severe	Nonattainment/ Severe
Carbon Monoxide	8-hour 1-hour	9.0 ppm 20.0 ppm	9 ppm 35 ppm	Same as Primary	Attainment/ None	Attainment/ None
Nitrogen Dioxide	Annual Mean 1-hour	-- 0.25 ppm	0.053 pm --	Same as Primary	Attainment/ None	Attainment/ None
Sulfur Dioxide	Annual Mean 24-hour 3-hour 1-hour	-- 0.04 ppm -- 0.25 ppm	0.03 ppm 0.14 ppm -- --	-- -- 0.5 ppm --	Attainment/ None	Attainment/ None
Fine Particulate Matter (PM_{10})	Annual Mean Annual Geometric Mean 24-hour	-- 30 $\mu g/m^3$ 50 $\mu g/m^3$	50 $\mu g/m^3$ -- 150 $\mu g/m^3$	Same as Primary -- Same as Primary	Nonattainment	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Annual Mean 24-hour	-- --	15 $\mu g/m^3$ 65 $\mu g/m^3$	Same as Primary	Not Designated/ None	Not Designated/ None

Notes:

ppm = parts per million, $\mu g/m^3$ = micrograms per cubic meter

a California standards, other than carbon monoxide, sulfur dioxide (1-hour), and fine particulate matter, are values that are not to be equaled or violated. The carbon monoxide, sulfur dioxide (1-hour), and fine particulate matter standards are not to be violated.

b National standards, other than ozone, the 24-hour $PM_{2.5}$, the PM_{10}, and those standards based on annual averages, are not to be exceeded more than once a year. The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or les than one. The 8-hour ozone standard is attained when the 3-year average of the annual fourth highest daily maximum concentration is less than 0.08 ppm. The 24-hour PM_{10} standard is attained when the 99th percentile of 24-hour PM_{10} concentrations in a year, averaged over 3 years, at the population-oriented monitoring site with the highest measured values in the area, is below 150 $\mu g/m^3$. The 24-hour $PM_{2.5}$ standard is attained when the 98th percentile of 24-hour $PM_{2.5}$ concentrations in a year, averaged over 3 years, at the population-oriented monitoring site with the highest measured values in the area, is below 65 $\mu g/m^3$. The annual average $PM_{2.5}$ standard is attained when the 3-year average of the annual arithmetic mean $PM_{2.5}$ concentrations, from single or multiple community oriented monitors is les than or equal to 15 $\mu g/m^3$.

c. All measurements of air quality are to be corrected to a reference temperature of 25° C and a reference pressure of 760 mm of mercury (Hg) (1013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

d National Primary Standards: The levels of air quality deemed necessary by the federal government, with an adequate margin of safety, to protect the public health.

e National Primary Standards: The levels of air quality deemed necessary by the federal government, to protect the public welfare from any known or anticipated adverse effects to a pollutant.

f The 1-hour ozone standard will be replaced by the 8-hour standard on an area-by-area basis when the area has achieved 3 consecutive years of air quality data meeting the 1-hour standard.

Source: CARB http:///www.arb.ca.gov, June 2002.

TABLE 4.3-2

HEALTH EFFECT SUMMARY OF THE MAJOR CRITERIA AIR POLLUTANTS

Air Pollutant	Adverse Effects
Ozone	Eye irritation Respiratory function impairment
Carbon Monoxide	Impairment of oxygen transport in the blood stream Aggravation of cardiovascular disease Impairment of central nervous system function Fatigue, headache, confusion, dizziness Can be fatal in the case of very high concentrations in enclosed places
Particulate Matter	May be inhaled and lodge in and irritate the lungs Increased risk of chronic respiratory disease with long exposure Altered lung function in children May produce acute illness with sulfur dioxide
Nitrogen Dioxide	Increased risk of acute and chronic respiratory disease
Sulfur Dioxide	Irritation of lung tissue Increased risk of acute and chronic respiratory disease

Source: Monterey Bay Unified Air Pollution Control District – CEQA Air Quality Guidelines, 1995, revised 2004. Pages 3-1 to 3-5.

TABLE 4.3-3

SUMMARY OF AIR POLLUTANT DATA FROM SACRAMENTO – T STREET AND WEST SACRAMENTO – 15TH STREET MONITORING STATIONS (COMPARED TO FEDERAL AND STATE STANDARDS)

Pollutant	2002	2003	2004
OZONE (1-hour)			
Highest 1-hour (ppm)	0.109	0.111	0.105
Days>0.125 ppm (Fed)	0	0	0
Days>0.09 ppm (Cal)	6	4	1
OZONE (8-hour)			
Highest 8-hour (ppm)	0.091	0.091	0.075
Days>0.08 (Fed)[1]	3	1	0
CARBON MONOXIDE			
Highest 8-hour (ppm)	4.31	3.40	2.96
Days>=9.5 ppm (Fed)	0	0	0
Days>=9.1 ppm (Cal)	0	0	0
PARTICULATE MATTER (PM_{10})			
Highest 24-hour (ug/m^3)	87.0	70.0	48.0
Days>50 ug/m^3 (Cal)	3	2	0
Days>150 ug/m^3 (Fed)	0	0	0
PARTICULATE MATTER ($PM_{2.5}$)[2]			
Highest 24-hour (ug/m^3)	73.0	49.0	41.0
Days>65 ug/m^3 (Fed)	4	0	0
NITROGEN DIOXIDE			
Highest 1-hour (ppm)	0.084	0.084	0.072
Days>.25 ppm (Cal)[3]	0	0	0

Notes:
All readings are from Sacramento T-Street monitoring station except PM_{10} readings, which are from the West Sacramento – 15th Street. monitoring station.
There is no State 8-hour ozone standard.
There is no federal standard for nitrogen dioxide.
Source: California Air Resources Board. www.arb.ca.gov Site accessed 3/17/05.

Ozone is a gas that is formed when ROG and NO_x undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. The federal government divides the State into air basins. Each basin is given a designation to describe the extent to which a basin is in nonattainment for the federal ozone standard. Yolo County is in the Sacramento Ozone Nonattainment Area, which is currently classified as being in "serious" nonattainment for the eight-hour ozone standard.

The eight-hour standard was put in place once the previous one-hour standard was revoked in June 2005.

Carbon Monoxide is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines—unlike ozone—and motor vehicles operating at slow speeds are the primary source of CO in the SVAB, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Additional traffic generated by a project may increase congestion at nearby intersections, and consequently increase the likelihood of creating high levels of CO.

Through control measures adopted by State, local and federal agencies, all areas of the Sacramento Valley, including Yolo County, have attained the current California and federal CO standards.

Fine Particulate Matter consists of extremely small, suspended particles or droplets 10 microns or smaller in diameter. Particles smaller than 2.5 microns in diameter are designated $PM_{2.5}$, and have their own separate standards. Some sources of PM_{10}, like pollen and wind-blown dust, are naturally occurring. However, in populated areas, most PM_{10} is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities. PM_{10} can also be generated through operations of fireplaces and wood-stoves. Particulates are of concern because they can be inhaled deep into the lungs and cause respiratory problems. Yolo County is currently designated as non-attainment for the State $PM_{10.}$ $PM_{2.5}$ is normally found in smoke and haze.

Other Criteria Pollutants

Yolo County is in attainment of State and federal standards for all other criteria pollutants, which include NO_2, sulfates, SO_2, lead, hydrogen sulfide $PM_{2.5}$ and vinyl chloride.

Toxic Air Contaminants

In addition to the criteria air pollutants, another group of airborne substances called Toxic Air Contaminants (TACs) are known to be highly hazardous to health, even in small quantities. TACs are airborne substances capable of causing short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects (i.e., injury or illness).

TACs can be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. Natural source emissions include windblown dust and wildfires. Farms, construction sites, and residential areas can also contribute to toxic air emissions. Importantly for the SVAB, the California Air Resources Board (CARB) has also recently identified diesel particulate matter as a TAC.

Regulation of TACs is achieved through federal and State controls on individual sources. The 1990 federal Clean Air Act Amendments (CAA Amendments) offer a comprehensive plan for achieving significant reduction in both mobile and stationary source emissions of certain designated Hazardous Air Pollutants (HAP). All major stationary sources of designated HAP's are required to obtain and pay the required fees for an operating permit under Title V of the federal CAA Amendments.

TAC impacts are assessed using a standard Maximally Exposed Individual (MEI) health risk of 10 in 1 million. The CARB and local air districts have determined that any source that poses a risk to the general population that is equal to or greater than 10 people out of 1 million contracting cancer as excessive. When estimating this risk, it is assumed that an individual is exposed to the maximum concentration of any given TAC, continuously for 70 years. If the risk of such exposure levels meets or exceeds the threshold of 10 excess cancer cases per 1 million people, then the CARB and local air district require the installation of best available control technology (BACT) or maximum available control technology (MACT) to reduce the risk threshold.

The CARB has conducted studies to determine the total cancer risk to individuals due to outdoor toxic pollutant levels. According to the map prepared by the CARB showing the estimated inhalation cancer risk for TACs in the State of California, the project site has an existing estimated risk that is between 100 and 250 cancer cases per one million people.[3] While TACs are produced by many different sources, the largest contributor to inhalation cancer risk in California is diesel particulates. Diesel particulate matter is emitted into the air via heavy-duty diesel trucks, construction equipment, and passenger cars. According to CARB's *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*[4] (RRP), the existing average statewide potential cancer risk from diesel particulate matter is over 500 potential cancer cases per one million people. Levels of TACs may be exacerbated by the fact that I-80, which experiences semi-truck traffic, is adjacent to the northwest corner of the project site. The RRP contains proposes to implement various diesel-reduction measures that are estimated to reduce diesel emissions by approximately 85 percent by the year 2020. Examples of these diesel-reduction measures include engine retrofits and idling restrictions for diesel school buses and commercial, diesel-fueled vehicles with a gross vehicle weighting of 10,000 pounds or more.

Sensitive Receptors

Some individuals are considered to be more "sensitive" than others to air pollution. Possible reasons for greater sensitivity include existing health problems, proximity to the emission source, or duration of exposure to air pollutants. Land uses such as primary and secondary schools, hospitals, and retirement homes are considered to be sensitive receptors because the very young, the old and the infirm are more susceptible to respiratory infections and other air quality related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they can be exposed to pollutants for extended periods.

Most of the proposed residential site is located within the boundaries of the former Lighthouse Golf Course, which was closed in December 2003. The former golf course property includes several existing structures. Residential development has been built on land to the north and west of the site, and residences currently border the site's property line in these areas. No other sensitive uses such as schools, hospitals, or retirement homes exist near the proposed residential development site.

Existing Emissions Sources

Criteria pollutants are generated by many different sources in Yolo County. These sources can be divided into two categories: (1) mobile and, (2) stationary/area sources. Mobile sources consist primarily of vehicles driven on and off roadways, as well as watercraft and other special mobile sources such as locomotives. Stationary/area sources include all other man-made emission sources. The CARB maintains an emission inventory of air pollutants within the State's air basins and counties inside those air basins. Table 4.3-4 presents the latest emission inventory of reactive organic gases, nitrogen oxides, carbon monoxide, and particulate matter for Yolo County. This inventory subdivides "stationary/area" and "mobile" sources into smaller, more specific categories. According to the inventory, on-road motor vehicles are the primary source of ROG, NO_x, and CO in Yolo County. "Miscellaneous Processes", which includes cooking, farming operations, and construction and demolition activities, is the largest contributor of PM_{10}.[5]

TABLE 4.3-4

2004 ESTIMATED ANNUAL EMISSIONS SUMMARY FOR YOLO COUNTY (TONS/DAY)

Source Category	ROG	CO	NO_x	PM_{10}
Stationary Sources				
Fuel Combustion	0.32	1.99	4.67	0.65
Waste Disposal	0.06	0.06	0.01	-
Cleaning and Surface Coatings	1.30	0.62	0.05	0.02
Petroleum Production and Marketing	1.38	0.11	0.02	-
Industrial Processes	0.41	0.55	0.17	1.80
Total Stationary Sources	*3.48*	*3.33*	*4.92*	*2.47*
Area-Wide Sources				
Solvent Evaporation	2.76	-	-	-
Miscellaneous Processes	0.87	7.01	0.53	25.01
Total Area-Wide Sources	*3.63*	*7.01*	*0.53*	*25.01*
Mobile Sources				
On-Road Vehicles	4.27	40.44	14.01	0.39
Other Mobile	2.36	17.39	5.78	0.44
Total Mobile Sources	*6.64*	*57.83*	*19.80*	*0.83*
Natural (Non-Anthropogenic) Sources				
Wildfires	-	-	-	-
Total Natural Sources	-	-	-	-
Total	***13.75***	***68.16***	***25.25***	***28.31***

Source: California Air Resources Board. Website accessed 3/17/05.

4.3.3 REGULATORY SETTING

Air quality in Yolo County is regulated by federal and State agencies, as well as the local air quality management district. These agencies develop rules or regulations to meet the goals or directives imposed on them through legislation. Although federal regulations may not be superseded, both state and local regulations may be more stringent than the federal standards. Mobile sources of air pollutants are largely controlled through federal and state agencies, while most stationary sources are regulated by the local air pollution control or air quality management districts.

Federal

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. The EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives.

As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs.

State

The CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, the CARB conducts research, sets State ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. The CARB also has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts.

Local

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to air quality.

Scenarios A and B

Goal D: **To promote and, insofar as possible, improve air quality in West Sacramento and the Sacramento Region**

Policy 1: The City shall support and participate in local and regional air quality planning programs to ensure the earliest practicable attainment and subsequent maintenance of federal and state ambient air quality standards.

Policy 2: The City shall utilize the CEQA process to identify and avoid or mitigate potentially significant air quality impacts of development proposals. The CEQA process shall also be utilized to ensure early consultation with the Yolo-Solano Air Quality Maintenance District (AQMD) concerning air quality issues associated with specific development proposals.

Policy 3: The City shall separate sensitive land uses from significant sources of air pollutants or odor emissions.

Policy 5: The City shall promote mixed-uses for major development projects to reduce the length and frequency of vehicle trips.

Policy 6: The City shall develop a local circulation system that encourages and accommodates the use of transportation modes other than the automobile.

Policy 7: The City shall ensure that new development incorporates the infrastructure, facilities, and design standards necessary to encourage and accommodate transit, ridesharing, and non-automobile travel modes.

Policy 8: The City shall encourage the establishment of child care facilities at or near worksites and near residential areas as a means of reducing pollutants from automobile travel.

Policy 9: The City shall continue to implement a local Transportation System Management (TSM) ordinance as a mitigation measure in accordance with state law. The TSM ordinance was developed in consultation with the Yolo-Solano Air Pollution Control District, Yolo County, the Sacramento Area Council of Governments, and the Sacramento Metropolitan Air Quality Management District. The TSM ordinance distinguishes between the physical facilities to be provided by developers and the trip reduction incentives and programs to be implemented by employers.

Policy 10: The City shall verify air quality projections with periodic spot monitoring, especially at identified emission point-sources.

Policy 11: Major intersections shall be designed to minimize long vehicle delays which result in carbon dioxide (CO) "hot spots."

Yolo-Solano Air Quality Management District

The Yolo-Solano Air Quality Management District (YSAQMD) is the primary agency responsible for planning to meet federal and State ambient standards in Yolo County. In addition to covering Yolo County, the District's jurisdiction covers the northern and eastern portions of Solano County as well. The YSAQMD is part of the Sacramento Ozone Nonattainment Area. Nonattainment areas are created by the federal government because ozone is a regional pollutant, and local jurisdictions can influence each others' O_3 concentrations. The YSAQMD works with the other local air districts in the nonattainment area to maintain the area's portion of the SIP for O_3. The SIP is a compilation of plans and regulations that govern how the region and the State will comply with the federal CAA requirements to attain and maintain the federal ozone standard. The Sacramento Nonattainment Area's plan for meeting the O_3 standard is called the Sacramento Area Regional Ozone Attainment Plan. The Plan was adopted on November 15, 1994. The federal standard for O_3 will switch completely from a 1-hour standard to an 8-hour standard in June of 2005. The Sacramento Ozone Nonattainment Area has been designated as a "serious" nonattainment area for this 8-hour standard, and has been given an attainment deadline of 2013. As part of the planning process for this new standard, the YSAQMD will help prepare a "rate of progress" (ROP) plan for the nonattainment area showing a 3% per year reduction in ROG. Adoption of the ROP is expected in July of 2005. A new comprehensive clean air plan for the 8-hour standard must also be prepared to meet federal requirements. The districts of the nonattainment area are in the process of developing this plan, and expect plan adoption in early 2007.

YSAQMD Rules

The YSAQMD has several rules that relate to the proposed project, summarized below:

RULE 2.5 – Nuisance
Prohibits a person from discharging, from any source whatsoever, such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.

Rule 2.11 – Particulate Matter
Prohibits the discharge or release into the atmosphere, from any source, particulate matter in excess of 0.3 grains per cubic foot of exhaust volume as calculated standard conditions.

Rule 2.14 – Architectural Coatings
Limits the quantity of volatile organic compounds (VOC) in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the YSAQMD.

Rule 2-33 – Adhesive Operations
Limits emissions of volatile organic compounds from the use of adhesives, sealants, adhesive primers, sealant primers, and from the related use of solvents in the application of adhesives.

Rule 2-37 – Natural Gas-Fired Residential Water Heaters
Limits emissions of NO_X from the use of natural gas-fired residential hot water heaters.

Rule 2-39 – Wood Products Coating Operations
Establishes limits on emissions of volatile organic compounds from coatings and strippers used on wood products, and from products used for wood product coating surface preparation and cleanup.

4.3.4 IMPACTS AND MITIGATION MEASURES

Method of Analysis

The analysis in this section focuses on the nature and magnitude of the change in the air quality environment due to construction and operation of the proposed project. Air pollutant emissions associated with the project would result from construction activities, increased residential population, and increased traffic volumes. The net increase in emissions generated by these activities and other secondary sources have been estimated and compared to thresholds of significance recommended by the YSAQMD. The YSAQMD establishes standards for three types of impacts – short-term impacts from construction, long-term impacts from project operation, and cumulative impacts.

Construction Emissions

To analyze impacts from construction, emissions were calculated by estimating the type of equipment that would be used during the most intensive periods of site clearing and grading, excavating, and construction of buildings. Peak daily construction emissions associated with these activities were estimated using emission factors from the URBEMIS 2002 emissions model developed for CARB.

Operational Emissions

Operational emissions refer to the emissions that would be generated during operation of the project. In this case, the main source of operational emissions would be the motor vehicles that drive to and from the residences, although emissions would also be generated through the use of consumer products, landscaping equipment, and other area sources associated with residential development.

During the operational phase, ozone precursor emissions and carbon monoxide are the pollutants of primary concern. The YSAQMD specifies thresholds of significance for operational emissions of these pollutants.

The average daily emission factors for operational emissions of criteria pollutants are estimated using the URBEMIS 2002 emissions model. For mobile source emissions, the daily trip generation rates used in the traffic study were input into the URBEMIS 2002 model.

Localized CO Concentrations

The CALINE4 dispersion model for predicting CO concentrations is the preferred method of estimating pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4 adds roadway-specific CO emissions calculated from peak-hour turning volumes to the existing ambient CO air concentrations. For this analysis, CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District. The simplified model is intended as a screening analysis in order to identify a potential CO hotspot. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations.

Standards of Significance

For the purpose of this EIR, impacts to air quality are considered significant if the proposed project would:

- Conflict with or obstruct implementation of the 1994 Sacramento Area Regional Ozone Attainment Plan;
- Violate or contribute substantially to an existing or projected violation of the CAAQS;
- Expose sensitive receptors to substantial pollutant concentrations; or

As discussed above, thresholds for air quality have also been established by the YSAQMD. As the agency principally responsible for air pollution control in Yolo County, the YSAQMD recommends that projects should be evaluated in terms of these air pollution impact significance thresholds. The following quantifiable thresholds are currently recommended by the YSAQMD and are used to determine the significance of air quality impacts associated with the proposed project:

- 82 pounds per day of ROG
- 82 pounds per day of NO_x
- 150 pounds per day of $PM_{10.}$
- 550 pounds per day of CO.

The thresholds listed above apply to individual projects and not cumulative development. For cumulative impacts, the YSAQMD determines that a project will not be cumulatively significant if it does not require a change in land use designations (i.e., general plan and zoning), to a more intensive use. Development projects meeting these criteria are considered to be consistent with the 1994 Sacramento Area Regional Ozone Attainment Plan. This is because the Plan accounts for growth and development that is expected to occur in the Sacramento Area based on the General Plans of local jurisdictions in the area. Projects that require a change in land-use designation to a more intensive use would not be accounted for or be consistent with the most current Regional Ozone Attainment Plan.

For TAC impacts, the YSAQMD recommends that projects that could emit carcinogenic or toxic air contaminants that exceed the maximum individual cancer risk of 10 in one million be considered significant.

Emissions of TAC can be a concern when a project would involve certain activities or processes. The proposed project would consist of residential and educational uses. Neither of these uses are normally associated with TAC emissions. The SMAQMD's Rule – 904 Air Toxics Control Measures regulates various activities that are of concern as TAC producers. This includes chrome-plating, dry-cleaning, and the use of medical sterilizers. None of these activities would be expected to develop as part of the project so the proposed project would not result in a TAC emissions and no impact would occur. This issue will not be further evaluated in this EIR.

Project Impacts and Mitigation Measures

4.3-1 Construction activity would generate emissions of PM_{10}.

Scenarios A and B

Grading of the project site would generate PM_{10} as heavy construction equipment disturbs the earth and levels the area. PM_{10} would also be created during the bank stabilization portion of the proposed project, and the importing of 50,000 cubic yards of fill would create many opportunities for fugitive dust emissions as well. The grading that would be associated with the residential and school uses is expected to take place during late spring/early summer of 2006 and last approximately four months. The bank stabilization portion of the proposed project is expected to begin in August 2006 and last until November 2006. Since the last portion of the grading and the bank stabilization could occur simultaneously, PM_{10} emissions from these two activities would be combined to determine peak PM_{10} levels.

The YSAQMD's *Air Quality Handbook* (Handbook), Appendix D – Construction Air Quality Impacts and Mitigation Measures, contains a methodology for assessing the construction impacts of a development project. Appendix D sets significance criteria for construction activity of 150 pounds per day for PM_{10}.

The URBEMIS calculations for project construction are shown in Table 4.3-5. As shown in the table, the grading phase of the proposed project shows that a maximum peak of approximately 327 pounds per day of PM_{10} would be generated. Also, the bank stabilization portion of the proposed project could contribute an additional 5.42 pounds per day of PM_{10}. If peak PM_{10} emissions from the grading and bank stabilization occur simultaneously, a total of about 332 pounds per day of PM_{10} would be generated. This would exceed the YSAQMD significance criteria by 150 pounds per day. This would be a ***significant impact***.

TABLE 4.3-5

ESTIMATED PEAK DAILY CONSTRUCTION EMISSIONS

SCENARIO A			
Emissions Source	**ROG (pounds/day)**	**NO_x (pounds/day)**	**PM_{10} (pounds/day)**
Site Excavation and Grading Phase			
Fugitive Dust	-	-	316
Off-Road Diesel	34.56	252.01	11.17
On-Road Diesel	-	-	-
Worker Trips	0.34	0.4	0.03
Total Grading Phase Emissions	34.90	252.41	327.2
Total Grading Phase Emissions (Mitigated)	34.90	202.01	60.72
Construction Phase			
Building Construction Off-Road Diesel	158.57	1229.25	55.6
Building Construction Worker Trips	2.36	1.82	0.45
Arch. Coatings Off-Gas	820.01	-	-
Arch Coatings Worker Trips	2.36	-	-
Asphalt Off-Gas	1.23	-	-
Asphalt Off-Road Diesel	9.50		-
Asphalt On-Road Diesel	9.5	-	-
Asphalt Worker Trips	0.04	-	-
Total Construction Phase Emissions	994.21	1,231.07	56.05
Total Construction Phase Emissions (Mitigated)	994.21	985.22	56.05
SCENARIO B			
Emissions Source	**ROG (pounds/day)**	**NO_x (pounds/day)**	**PM_{10} (pounds/day)**
Site Excavation and Grading Phase			
Fugitive Dust	-	-	316
Off-Road Diesel	34.56	252.01	11.17
On-Road Diesel	-	-	-
Worker Trips	0.34	0.4	0.03
Total Grading Phase Emissions	34.9	252.41	327.2
Total Grading Phase Emissions (Mitigated)		202.01	60.72
Construction Phase			
Building Construction Off-Road Diesel	202.57	1,569.16	70.94
Building Construction Worker Trips	3.0	2.32	0.57
Arch. Coatings Off-Gas	1,044.78	-	-
Arch Coatings Worker Trips	3	-	-
Asphalt Off-Gas	1.23	-	-
Asphalt On-Road Diesel	9.5	-	-
Asphalt On-Road Diesel	0.17	-	-
Asphalt Worker Trips	0.04	-	-
Total Construction Phase Emissions	1,264.28	1,571.48	71.51
Total Construction Phase Emissions (Mitigated)	1,264.28	1,257.65	71.51

Source: EIP Associates, 2005.

Mitigation Measure

Many feasible mitigation measures are available to control emissions of fugitive dust. With implementation of these mitigation measures, maximum fugitive dust emissions from either Scenario A or Scenario B, including those produced during the bank stabilization portion of the project, would be reduced to maximum daily levels of 61 pounds per day. This would be below the YSAQMD threshold of significance for PM_{10} of 150 pounds per day, and would reduce the impact to a *less-than-significant level.*

4.3-1 (A & B) *The project applicant shall incorporate the following requirements into construction documents.*

- *Soil stabilizers shall be applied to inactive areas.*
- *Ground cover shall be replaced quickly in disturbed areas.*
- *Exposed surfaces shall be watered three times daily.*
- *All stock piles shall be covered with tarps.*
- *All haul roads shall be watered twice daily.*
- *Speed shall be reduced on unpaved roads to less than 15 miles per hour.*

4.3-2 Construction of the proposed project would generate the ozone precursors ROG and NO_x.

The YSAQMD has set standards of significance for construction of 82 pounds per day for both ROG and NO_x in Appendix D of their Handbook. Equipment used during the construction phase for clearing, grading, and building construction would be the primary emission source of NO_x. The application of paints and adhesives, and the paving of roads would generate the most ROG.

Scenario A

URBEMIS modeling of the construction phase for Scenario A is shown in Table 4.3-5. Peak emissions of ROG are mostly related to architectural coatings, while NO_x emissions are mostly due to operation of heavy-duty construction equipment. As shown, maximum daily emissions of approximately 994 pounds per day of ROG and 1,231 pounds per day of NO_x would be generated on peak days during construction. While crane operation associated with the bank stabilization would generate NO_x, these NO_x emissions would occur during the grading portion of the project, not the construction portion. Consequently, crane emissions would not contribute to peak daily construction NO_x emissions. This would be 912 pounds per day over the YSAQMD ROG standards of significance and 1149 pounds per day over the NO_x threshold.

Scenario B

Scenario B would involve construction of 176 more residential units than under Scenario A. These additional homes would cause more construction equipment to be used during building of the residences. URBEMIS modeling of construction activity associated with Scenario B (Table 4.3-5) showed that maximum amounts of approximately 1,264 pounds per day of ROG and 1,571 pounds per day of NO_x would be generated during building of the proposed project. As with Scenario A, while crane operation associated with the bank stabilization would generate NO_x, these NO_x emissions would occur during the grading portion of the project, not the

construction portion. Consequently, crane emissions would not contribute to peak daily construction NO_x emissions.

Analysis

Construction under both Scenarios A and B would exceed the YSAQMD thresholds of significance for ROG and NO_x of 82 pounds per day. Therefore, this would be considered a ***significant impact***.

Mitigation Measure

Implementation of the following mitigation measures would reduce the overall emissions of NO_x during construction. There are no feasible mitigation measures available for reducing ROG emissions from architectural coatings, as YSAQMD Rule 2.14 already requires that low-VOC coatings be used. The NO_x reduction measures would decrease peak NO_x emissions to approximately 985 pounds per day for scenario A and 1,257 pounds per day for Scenario B. In both cases, these emissions would not be below YSAQMD thresholds. Implementation of the following mitigation measure would reduce the amount of criteria pollutants generated by equipment during construction, but emissions would still be above the thresholds of significance, and this impact would be *significant and unavoidable*.

4.3-2 (A & B) *The project applicant shall incorporate the following requirements into construction documents.*

- *Use a lean-NO_x catalyst in all applicable heavy-duty diesel equipment.*
- *Ensure that all heavy-duty equipment engines are tuned and in proper working order.*

4.3-3 Construction of the proposed project would require diesel-fueled equipment that would emit diesel particulate matter.

Scenarios A and B

Grading, building construction, and road paving would all involve the use of diesel-fueled construction equipment. Also, the bank stabilization portion of the project would involve the use of a diesel-fueled crane. As this equipment burns diesel fuel, it will produce diesel particulate matter, which has been classified by the CARB as a TAC. The CARB determined that the chronic impact of diesel particulate was of more concern than the acute impact in its *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines* (CARB, 2000). In this document, the CARB noted that "Our analysis shows that the potential cancer risk from inhalation is the critical path when comparing cancer and noncancer risk. In other words, a cancer risk of 10 per million from the inhalation of diesel PM will result from diesel PM concentrations that are much less than the diesel PM or TAC concentrations that would result in chronic or acute noncancer hazard index values of 1 or greater."[6] Consequently, any analysis of diesel TAC should focus on the long-term, chronic cancer risk posed by the diesel. As mentioned above, chronic cancer risk is normally measured by assessing what the risk to an exposed individual from a source of TACs would be if the exposure occurred over 70 years.

Since the construction activity associated with the proposed project would occur over the course of approximately three years. During this time, receptors in the vicinity of the proposed project would be exposed to diesel emissions intermittently. Since receptors would not be subject to

continuous TAC exposure during construction, and since the duration of the construction period would be far less than the 70-year time-frame normally used to assess chronic TAC impacts, the impact of the proposed project would be ***less than significant***.

Mitigation Measure

4.3-3 (A & B) *None required.*

4.3-4 Operation of the proposed project would generate ROG, NO_x, and PM_{10}.

The bank stabilization, which is part of the project, would not contribute any long-term, permanent emissions because the bank stabilization portion of the proposed project would not generate additional vehicle trips or cause an increase in area sources that generate criteria pollutants.

Once the proposed project is built and is operational, daily activities associated with proposed uses will contribute emissions of criteria pollutants. The majority of the emissions generated by the proposed project would come from the operation of personal vehicles. The use of consumer products and landscaping equipment, as well as operations of heating and cooling equipment, would also produce criteria pollutants.

The URBEMIS 2002 model was used to estimate emissions that would be generated by the proposed project once the proposed project would be operational. The URBEMIS modeling outputs can be found in Appendix D.

Scenario A

The modeling results for Scenario A are shown in Table 4.3-6. As depicted in the table, under Scenario A, the proposed project could have long-term emissions of 945.27 pounds per day of ROG, 86.44 pounds per day of NO_x, and 365.36 pounds per day of PM_{10}. For both ROG and PM_{10}, the majority of emissions are from fireplace and wood stove use. Most of the NO_x emissions are from motor vehicles.

TABLE 4.3-6

ESTIMATED PEAK DAILY OPERATIONAL EMISSIONS (SCENARIO A)

Emissions Source	ROG (pounds/day)	NO_x (pounds/day)	PM_{10} (pounds/day)	CO (pounds/day)
Water and Space Heating	0.48	7.49	0.01	2.64
Wood Stoves	163.79	25.69	214.10	1,312.43
Fireplaces	701.18	7.96	105.94	773.44
Landscape Maintenance	0.47	0.05	0.01	3.85
Consumer Products	30.63	-	-	-
Motor Vehicles	48.72	45.25	45.30	515.31
Total Emissions	945.27	86.44	365.36	2,607.67
Thresholds	82	82	150	550
Significant Impact?	Yes	Yes	Yes	Yes
Total Emissions (Mitigated)	80.3	60.28	45.32	521.8
Significant Impact After Mitigation?	No	No	No	No

Source: EIP Associates, 2005.

Scenario B

Under Scenario B, 176 more residential units would be built than under Scenario A, but there would be no school. The additional homes would create additional vehicle trips and greater use of consumer products and possibly greater use of landscaping equipment. The modeling results for Scenario B are shown in Table 4.3-7. As shown in the table, under Scenario B, the proposed project could have long-term emissions of 1193.43 pounds per day of ROG, 97.7 pounds per day of NO_x, and 457.12 pounds per day of PM_{10}. As with Scenario A, under Scenario B most ROG and PM_{10} emissions are due to the use of fireplaces and wood stoves, and NO_x emissions are predominantly generated by motor vehicle use.

TABLE 4.3-7

ESTIMATED PEAK DAILY OPERATIONAL EMISSIONS (SCENARIO B)

Emissions Source	ROG (pounds/day)	NO_x (pounds/day)	PM_{10} (pounds/day)	CO (pounds/day)
Water and Space Heating	0.58	7.49	0.01	3.19
Wood Stoves	209.83	32.92	274.29	1,681.42
Fireplaces	898.31	10.2	135.73	990.89
Landscape Maintenance	0.49	0.05	0.05	4.10
Consumer Products	39.24	-	-	-
Motor Vehicles	44.98	47.04	47.04	477.88
Total Emissions	1,193.43	97.7	457.12	3,157.48
Thresholds	82	82	150	550
Significant Impact?	Yes	Yes	Yes	Yes
Total Emissions (Mitigated)	81	54.58	47.1	485.17
Significant Impact After Mitigation?	No	No	No	No

Source: EIP Associates, 2005.

Analysis

Operation of the proposed project under both Scenarios A and B would result in ROG, NO_x and PM_{10} emissions that would exceed the adopted YSAQMD thresholds of significance. Therefore, operational activity associated with proposed project uses would result in a ***significant impact***.

Mitigation Measure

The following mitigation measures would reduce the operational emissions from the proposed project to a *less-than-significant level.* For both Scenarios A and B, the residual emissions would be below YSAQMD thresholds of significance for ROG, NO_x, and PM_{10}. Some of the mitigation measures listed below can be input into the URBEMIS model to calculate emissions reductions. Other mitigation measures listed below are not available in the URBEMIS model. These mitigations come from a list of mitigations available in the Sacramento Metropolitan Air Quality Management District's *Guide to Air Quality Assessment in Sacramento County*, Appendix E. This appendix lists feasible mitigation measures and assigns a ROG reduction percentage to each. These measures and reductions are accepted by the YSAQMD. Mitigation measures from the SMAQMD Guide, along with their emissions reduction percentage, are designated below. Some mitigation measures, such as installing only natural gas fireplaces, would achieve both ROG and PM_{10} reductions.

As shown in Table 4.3-6, the mitigation measures listed below will reduce Scenario A and Scenario B operational ROG, NO_x, and PM_{10} emissions to levels below the YSAQMD thresholds of significance. These measures would reduce the Scenario A and Scenario B impacts to *less-than-significant levels*.

4.3-4 (A & B) (a) *No wood stoves shall be installed in new residences in the proposed project.*

(b) *SMAQMD Guide Mitigation Measure 24: Install only natural gas fireplaces. (1%)*

In addition, the following mitigation measures are recommended for Scenario B only:

(c) *The Proposed Project shall ensure that Class II bike lanes are included as a component of the Project. (1.0%)*

As shown in Tables 4.3-6 and 4.3-7, the mitigation measures listed above would reduce the daily emissions of ROG and PM_{10} to levels below the YSAQMD thresholds of significance. Consequently, the operational impact from Scenarios A and B would be reduced to less than significant levels.

4.3-5 Traffic associated with the proposed project would increase concentrations of CO at surrounding intersections.

While Yolo County is in attainment of both federal and State CO standards, the potential for localized concentrations of CO that exceed the standards still exists. This is because CO is primarily a product of incomplete combustion of fuels. Intersections that experience congested conditions can produce high CO concentrations as more vehicles idle in a localized area for a longer period of time and the products of incomplete fuel combustion collect. The burning of wood products can also create CO emissions, but this is less likely to produce unhealthy concentrations of CO.

The YSAQMD's Air Quality Handbook specifies that localized CO concentrations may be a problem when either: a) a sensitive receptor is located within ¼ mile of a CO violation, or b) the proposed project's CO contribution exceeds five percent of the CAAQS, or exceeds 550 pounds per day of CO.[7]

Scenarios A and B

As shown in Tables 4.3-6 and 4.3-7, CO emissions for both Scenario A and Scenario B would exceed the 550 pounds per day threshold of significance. The proposed project would also cause one intersection in the project vicinity to decrease its level of service (LOS). Sensitive receptors exist within ¼ mile of this intersection. When intersections operate at LOS "D" or below, traffic no longer is moving at free-flow conditions. This can lead to congested conditions, especially at peak hours, and increased levels of CO. The proposed project would generate additional traffic that would utilize surrounding roads and contribute to congestion. According to the traffic report produced for the proposed project, one intersection in the vicinity of the project site would have its LOS lowered to LOS "D" or worse as a result of project-related traffic under both Scenario A and Scenario B.

To ensure that CO concentrations would not exceed the CAAQS, existing-plus-project conditions at the affected intersection for both Scenario A and Scenario B was modeled for CO using the simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District. The YSAQMD Air Quality Handbook recommends the use of CALINE 4 to estimate the potential for CO hotspots at congested intersections.[8] To determine a CO background level for the project site, the highest CO reading over the past three years from the nearest monitoring station was used. This provides a "worst-case" CO background. As shown in Table 4.3-8, the proposed project would not cause any of these intersections to exceed the CAAQS for CO. Also, maximum daily CO emissions would be reduced below YSAQMD the threshold of 550 lbs/day through the implementation of Mitigation Measures 4.3-4(a) and 4.3-4(b). This would be a ***less-than-significant impact***.

TABLE 4.3-8

LOCALIZED CARBON MONOXIDE CONCENTRATIONS (EXISTING AND EXISTING PLUS PROJECT)

	CO Concentrations in Parts per Million[1]		
Intersection	**25 Feet 8-Hour**	**50 Feet 8-Hour**	**100 Feet 8-Hour**
Douglas Street/Sacramento Avenue (Existing)	4.7	4.6	4.5
Douglas Street/Sacramento Avenue (Scenario A)	4.7	4.6	4.5
Douglas Street/Sacramento Avenue (Scenario B)	4.7	4.6	4.5

1. National 8-hour standard is 9.5 parts per million. State 8-hour standard is 9.1 parts per million.
The Broadway/Salida intersection was not included in the traffic study for existing conditions.
Source: EIP Associates 2005. Calculation sheets are provided in Appendix D.

Mitigation Measure

4.3-5 (A & B) *None required.*

Cumulative Impacts and Mitigation Measures

The cumulative context for the proposed project is dependent on the impact being analyzed. For localized pollutants, such as PM_{10} or CO, the cumulative context would be the proposed project, plus other existing and reasonably foreseeable future projects in the vicinity (refer to Section 5.3, Cumulative Impacts for a discussion projects proposed to be built out in the City of West Sacramento. For ozone, which is a regional pollutant, the cumulative context would be the proposed project, plus all other existing and reasonably foreseeable projects in the Sacramento Ozone Nonattainment Area.

4.3-6 The proposed project would add to the cumulative amount of ozone precursors in the Sacramento Ozone Nonattainment Area.

The YSAQMD Air Quality Handbook contains a methodology for assessing the cumulative impact of a project on regional ozone levels. According to the Handbook, a project would be considered cumulatively significant if:

1. The project requires a change in the existing land use designation (i.e., general plan amendment, rezone), and

2. Projected emissions (ROG, NO_x or PM_{10}) of the proposed project are greater than the emissions anticipated for the site if developed under the existing land use designation.

Scenarios A and B

Operations of the proposed project would generate emissions of ROG and NO_x. These precursor emissions would combine with other precursors generated in the rest of the Sacramento Ozone Nonattainment Area to add to regional ozone concentrations.

The proposed project would change existing land use designations. In fact, the proposed residential, park and school uses would be less intense than other uses that could be built under the existing General Plan designation and PD-29 zoning, such as a commercial or retail. However, as explained in Impact 4.3-4, operations of the proposed project under both Scenarios A and B would exceed YSAQMD thresholds of significance. With mitigation, though, these impacts would be reduced to less-than-significant levels. Consequently, the proposed project would not produce emissions that would be greater than those that are already assumed for the site in the local air quality plan. According to the YSAQMD's significance criteria for cumulative impacts, the project would have a ***less-than-significant cumulative impact***.

Mitigation Measure

4.3-6 (A & B) *None required.*

4.3-7 Traffic generated by the proposed project would contribute to cumulative CO levels at nearby intersections.

Scenarios A and B

The proposed project would add traffic to roadways in the vicinity of the proposed project site. As discussed in Impact 4.3-5, increases in traffic can lead to congested conditions at intersections and, consequently, increases in localized CO levels. Intersections that operate at LOS "D" or worse, which are not "free-flow" conditions, are especially prone to produce high concentrations of CO.

The traffic report for the proposed project includes traffic volumes for future year 2025. Intersections that were forecasted to operate at LOS "D" or worse were modeled using the simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District. The results of this modeling are shown in Table 4.3-9 for Scenario A and Table 4.3-10 for Scenario B. As shown in the tables no intersections are forecast to experience CO levels that would exceed the CAAQS in 2025. Consequently, the proposed project would have a ***less-than-significant cumulative impact***.

Mitigation Measure

4.3-7 (A & B) *None required.*

TABLE 4.3-9

LOCALIZED CARBON MONOXIDE CONCENTRATIONS (EXISTING PLUS SCENARIO A PROJECT 2025)

Intersection	CO Concentrations in Parts per Million[1]		
	25 Feet 8-Hour	50 Feet 8-Hour	100 Feet 8-Hour
Existing			
Douglas Street/Sacramento Avenue	6.4	5.9	5.4
Kegle Drive/Lighthouse Drive/Pierce Street	4.5	4.5	4.4
Kegle Drive/Jefferson Boulevard/Sacramento Avenue	4.6	4.6	4.5
Existing Plus Project (Scenario A)			
Douglas Street/Sacramento Avenue	4.5	4.4	4.4
Kegle Drive/Lighthouse Drive/Pierce Street	4.4	4.4	4.4
Kegle Drive/Jefferson Boulevard/Sacramento Avenue	4.6	4.6	4.5

Notes:
1. National 8-hour standard is 9.5 parts per million. State 8-hour standard is 9.1 parts per million.
The Broadway/Salida intersection was not included in the traffic study for existing conditions.
Source: EIP Associates 2005. Calculation sheets are provided in Appendix D.

TABLE 4.3-10

LOCALIZED CARBON MONOXIDE CONCENTRATIONS (EXISTING PLUS SCENARIO B PROJECT 2025)

Intersection	CO Concentrations in Parts per Million[1]		
	25 Feet 8-Hour	50 Feet 8-Hour	100 Feet 8-Hour
Existing			
Douglas Street/Sacramento Avenue	6.4	5.9	5.4
Kegle Drive/Lighthouse Drive/Pierce Street	4.5	4.5	4.4
Kegle Drive/Jefferson Boulevard/Sacramento Avenue	4.6	4.6	4.5
Existing Plus Project (Scenario B)			
Douglas Street/Sacramento Avenue	4.5	4.4	4.4
Kegle Drive/Lighthouse Drive/Pierce Street	4.6	4.6	4.5
Kegle Drive/Jefferson Boulevard/Sacramento Avenue	4.4	4.4	4.4

Notes:
1. National 8-hour standard is 9.5 parts per million. State 8-hour standard is 9.1 parts per million.
The Broadway/Salida intersection was not included in the traffic study for existing conditions.
Source: EIP Associates 2005. Calculation sheets are provided in Appendix D.

ENDNOTES

1. Sacramento Metropolitan Air Quality Management District Guide to Air Quality Assessment in Sacramento County, July 2004. Page 1-7.

2. CARB website: www.carb.gov/app/emsinv/emssumcat. Accessed 3/17/05.

3. CARB website: www.arb.ca.gov/toxics/cti/hlthrisk/cncrinhl. Accessed 6/11/2004

4. CARB's Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, October 2000, p.1.

5. CARB website: www.arb.ca.gov/app/emsinv/emssumcat_query. Accessed 3/17/05

6. Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines, p. 22-23. CARB, October 2000.

7. YSAQMD Air Quality Handbook, May 1996, page 14.

8. YSAQMD Air Quality Handbook, May 1996, page 14.

4.4 BIOLOGICAL RESOURCES

4.4 BIOLOGICAL RESOURCES

4.4.1 INTRODUCTION

Information contained in this section is based on reconnaissance-level field surveys and a review of existing documentation, including the 1986 *Lighthouse Marina EIR-EIS*[1] and 1996 *Lighthouse Marina and Riverbend Development Bank Protection and Greenway*.[2] This section identifies the potentially affected biotic communities and special status species that could be affected by implementation of the proposed project. Included in the discussion is a summary of applicable laws and regulations related to biological resources and agencies responsible for their implementation.

As discussed in the NOP (see Appendix A), the following biological issues were considered to be less than significant or of no impact and are therefore not evaluated in this EIR: (1) conflicts with local policies or ordinances protecting biological resources; and (2) conflicts with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP.

Three comment letters on the NOP were received regarding impacts to biological resources (see Appendix B). Letters raised concerns regarding actual construction activities, and notification of the appropriate regulatory agencies (i.e., California Department of Fish and Game (CDFG) and Regional Water Quality Control Board). Details of project construction are included in Chapter 3 of this document and notification has been discussed under Impact 4.4-1.

4.4.2 ENVIRONMENTAL SETTING

Project Setting

The Rivers Phase II project includes development of residential and school uses (under Scenario A) and residential uses (Scenario B). The proposed project also includes installation of approximately 3,000 linear feet of bank stabilization along the Sacramento River. The proposed development is located in the City of West Sacramento near the confluence of the American and Sacramento Rivers. The topography of the 68-acre site is gently-rolling to nearly-flat, with a surface elevation of approximately 20 feet above mean sea level. Historic anthropogenic (human-caused) activities (construction of levees, destruction of natural habitat, general urbanization, etc.) in the Sacramento River floodplain have greatly influenced the site's present physiography.

The Sacramento River forms the northern boundary of the proposed Rivers Phase II project site. Land uses surrounding both the proposed residential development and bank stabilization project include single-family residential development to the west and south, mixed-use commercial riverfront development along the opposite bank of the Sacramento River to the north, and open space to the east, where the Sacramento River bends to the south. Existing habitats surrounding the project area include: urbanized landscapes; riverfront landscaping associated with "Riverwalk;" fragmented riparian corridor, and open-water aquatic habitat associated with the American and Sacramento Rivers.

Riparian woodland characterizes most of the vegetation currently found along the Sacramento River within the proposed bank-stabilization project site. Vegetation found within the proposed residential development consists of degraded riparian scrub habitat associated with a historic drainage feature along the southern portion of the site, scattered patches of ruderal (weedy) communities in highly disturbed areas, and ornamental plantings associated with landscaping of the abandoned golf course (fairways, greens, and tees) and around residential uses (Figure 4.4-1). The following summarizes habitat types that characterize the project area.

Riparian Woodland

Riparian woodland is the predominant vegetation community found within the proposed bank stabilization project, and consists of a narrow, land-water interface along the west bank of the Sacramento River (see Figure 4.4-1). Most of the habitat found within this section has been heavily degraded by human activity and is highly fragmented along this portion of the Sacramento River. The overstory is dominated by Fremont's cottonwood (*Populus fremontii*), with some valley oak (*Quercus lobata*) and arroyo willow (*Salix lasiolepis*). Shrub cover is heavy in the northwestern portion and is comprised primarily of Himalayan blackberry (*Rubus discolor*), poison oak (*Toxicodendron diversilobium*), and coyote brush (*Baccharis pilularis*). The herbaceous understory consists of creeping wild rye (*Leymus triticoides),* western vervain (*Verbena lasiostachys*), wild pea (*Lathyrus jepsonii ssp. californicus*), mugwort (*Artemisia californica*), and white sweetclover (*Melilotus alba*).

There is also a stand of remnant riparian woodland located along a truncated drainage feature along the southern boundary of the proposed residential development site, near the intersection of Fountain and Lighthouse Drives (see Figure 4.4-1). This drainage appears to have been altered with construction of the golf course. Although the approximately four-foot deep drainage no longer conveys water, valley oak, willow (*Salix* sp.), and northern California walnut (*Juglans hindsii*) trees form a closed, but narrow canopy along the sides and bottom of this feature and dense stands of Himalayan blackberry occur along its slopes, along with a vine canopy of California wild grape (*Vitis californica*) and English ivy (*Hedera helix*). The herbaceous understory consists of creeping wild rye, barley (*Hordeum murinum* spp. *leporinum*), wild oat (*Avena fatua*), rip-gut brome (*Bromus diandrus*), cutleaf geranium (*Geranium dissectum*), hairy vetch (*Vicia villosa*), white-stem filaree (*Erodium moschatum*), and prickly sow-thistle (*Sonchus asper*). There was no evidence that the drainage currently conveys water or would be considered a wetland.

Riparian woodland is a structurally complex and productive terrestrial community that provides a variety of wildlife species with abundant food, cover and nesting habitat in close proximity to water. Riparian corridors in the Central Valley also provide important movement corridors for wildlife between fragmented habitat patches. Due to the value and scarcity of riparian woodlands, on both a state and region-wide scale, they are considered a sensitive habitat type and monitored closely by the CDFG.

The cottonwood-dominated canopy of this woodland habitat supports a diverse assemblage of wildlife - from birds that nest high in the upper canopy, to reptiles, amphibians, and small mammals occurring in leaf litter. Bird species observed during field surveys included northern flicker (*Colaptes auratus*), great blue heron (*Ardea herodias*), belted kingfisher (*Ceryle alcyon*), mourning dove (*Zenaida macroura*), western scrub jay (*Aphelocoma coerulescens*), and black phoebe (*Saynoris nigricans*). Mammals typically found within these woodlands include opossum (*Didelphis virginianus*), raccoon (*Procyon lotor*), deer mouse (*Peromyscus*



Source: USGS, DOQQ, Sacramento West NE, 2001; and EIP Associates, Project Boundary and Vegetation Communities, April 13, 2005, and GIS Program, April 18, 2005.

EIP

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FIGURE 4.4-1
VEGETATION COMMUNITIES

Rivers Phase II EIR
West Sacramento, CA

0 225 450
Feet

1 inch equals 450 feet

maniculatus), broad-footed mole (*Scapanus latimanus*), striped skunk (*Mephitis mephitis*), and gray fox (*Urocyon cinereoargenteus*). Amphibians and reptiles likely to occur include the western toad (*Bufo boreas*), Pacific tree frog (*Hyla regilla*), California king snake (*Lampropeltis getulus californiae*), valley garter snake (*Thamnophis sirtalis fitchii*), and Gilbert's skink (*Eumeces gilberti*). Riparian woodlands also provide nesting and foraging habitat for a variety of special-status wildlife species including western pond turtle (*Clemmys marmorata*), Swainson's hawk (*Buteo swainsoni*), tricolor blackbird (*Agelaius tricolor*), and white-tailed kite (*Elanus leucurus*).

Ruderal Habitats

Ruderal communities within the proposed residential development are characterized by plant species adapted to continued disturbance (mowing, spraying, grading, etc.) and are largely comprised of non-native annuals that have displaced the more conservative, native perennial species. Ruderal assemblages of species were found in open areas east and west of Fountain Drive and along the boundaries of active construction zones where recent grading or stockpiling of soils had taken place in the proposed residential development. Non-native species observed within these areas include common sow-thistle, white sweetclover, rip-gut brome, wild oat, Bermuda grass (*Cynodon dactylon*), foxtail fescue (*Vulpia myuros*), Italian rye-grass (*Lolium multiflorum*), wild radish (*Raphanus sativus* and *R. raphanistrum*), bur-clover (*Medicago polymorpha*), common plantain (*Plantago major*), milk thistle (*Silybum marianum*), common groundsel (*Senecio vulgaris*), cudweed (*Gnaphalium luteo-album*), filaree (*Erodium cicutarium* and *E. botrys*), spring vetch (*Vicia sativa*), common knotweed (*Polygonum arenastrum*), prickly lettuce (*Lactuca serriola*), red clover (*Trifolium hirtum*), shepherd's purse (*Capsella bursa-pastoris*) and bull thistle (*Cirsium vulgare*). Native species observed included fiddleneck (*Amsinckia intermedia*), fireweed (*Epilobium brachycarpum*), horseweed (*Conyza canadensis*), miniature lupine (*Lupinus bicolor*), and toad-rush (*Juncus bufonius*).

Although not as ecologically diverse as other habitat types, many wildlife species use ruderal communities for all or part of their life cycle. Mammals typically found in these communities include Botta's pocket gopher (*Thomomys bottae*), California vole (*Microtus californicus*), black-tailed hare (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), and western harvest mouse (*Reithrodontomys megalotis*). These rodent populations provide prey for mammalian predators, such as coyote (*Canis latrans*), and avian predators such as American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), and great horned owl (*Bubo virginianus*). Additional species found in this habitat type include killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaisa macroura*), savannah sparrow (*Passerculus sandwichensis*), western meadowlark (*Sturnella neglecta*), gopher snake (*Pituophis melanoleucus*) and striped skunk.

Ornamental Landscaping

Ornamental vegetation is found primarily in the abandoned golf course and along the curbed landscapes defining the boundaries of the proposed residential development. Vegetation in these areas is dominated by a variety of introduced cultivars, specimen plants, and commonly used landscaping plants. Large areas of the former golf course were originally planted in turf grasses, but lack of continued maintenance is resulting in successional replacement by herbaceous, ruderal species such as common sow-thistle, bur-clover, annual bluegrass (*Poa annua*), bristly ox-tongue (*Picris echioides*), common dandelion (*Taraxacum officinale*), white clover (*Trifolium repens*), chicory (*Cichorium intybus*), and mouse-ear chickweed (*Cerastium glomeratum*). Aquatic vegetation associated with the water features at the golf course consists

primarily of cattail (*Typha* spp.), filamentous algae, and dense submerged populations of hornwort (*Ceratophyllum demersum*).

Despite their highly-manicured and intensively-maintained appearance, urban landscapes offer local wildlife populations a surprising variety of habitat types for exploiting food, nesting, and cover resources. Avian species observed throughout the abandoned golf course included yellow-billed magpie (*Pica nuttalli*), northern flicker (*Colaptes auratus*), dark-eyed junco (*Junco hyemalis*), mallard (*Anas platyrhynchos*), wood duck (*Aix sponsa*), great blue heron (*Ardea herodias*), Canada goose (*Branta canadensis*), American robin (*Turdus migratorius*), and western scrub jay. The presence of mature coniferous and deciduous trees along the fairways of the former golf course also provides potential nesting habitat to a number of raptors, songbirds, and other species.

Special Status Species

For the purposes of this EIR, special-status species include:

- species listed, proposed, or candidate species for listing as Threatened or Endangered by the United States Fish and Wildlife Service (USFWS) pursuant to the Federal Endangered Species Act (FESA) of 1973, as amended;
- species designated as Species of Concern by the USFWS (note: although this status designation does not itself trigger any FESA requirements, many of the species that have this designation meet the definition of rare, threatened or endangered under CEQA);
- species listed as Rare, Threatened, or Endangered by CDFG pursuant to the California Endangered Species Act (CESA) of 1973, as amended;
- species designated as Fully Protected under Sections 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians) of the California Fish and Game Code;
- species designated by the CDFG as California Species of Special Concern;
- plant species listed as Category 1B or 2 by the California Native Plant Society (CNPS); and
- species not currently protected by statute or regulation, but considered rare, threatened or endangered under CEQA (Section 15380).

Records of special-status plant or wildlife species and sensitive natural communities observed within a 10-mile radius of the project site were reviewed in the California Natural Diversity Database (CNDDB)[3] (Appendix E) (Figure 4.4-2), along with a species list provided by the USFWS in a letter dated March 17, 2005 (Appendix F).[4]

During reconnaissance-level surveys, particular attention was given to areas that appeared to provide the most suitable habitat for the special-status species expected to occur in the region (e.g. riparian woodland, wooded habitat, aquatic habitat). Using the information gathered during these site visits, three special-status plant species, 13 special-status wildlife species, and one sensitive natural community were determined to potentially occur within and around the proposed development. Table 4.4-1 lists the special-status species known or with the potential to occur in the vicinity of the proposed residential development and bank stabilization project and indicates the species' current regulatory status, habitat association, and potential for occurrence within the construction footprint of the proposed project.

FIGURE 4.4-2
CNDDB OCCURRENCES

Rivers Phase II
West Sacramento, CA

1 American badger
2 Boggs Lake hedge-hyssop
3 California linderiella
4 Cooper's hawk
5 Elderberry Savanna
6 Great Valley Cottonwood Riparian Forest
7 Northern California black walnut
8 Northern Claypan Vernal Pool
9 Northern Hardpan Vernal Pool
10 Sacramento perch
11 Sacramento splittail
12 Sanford's arrowhead
13 Swainson's hawk
14 bank swallow
15 black-crowned night heron
16 burrowing owl
17 dwarf downingia
18 giant garter snake
19 great blue heron
20 great egret
21 legenere
22 purple martin
23 rose-mallow
24 snowy egret
25 valley elderberry longhorn beetle
26 vernal pool fairy shrimp
27 vernal pool tadpole shrimp
28 western pond turtle
29 western snowy plover
30 white-tailed kite

0 1 2
Miles

1 inch equals 2 miles

Source: CA Dept. of Fish and Game, CNDDB Occurrences, County Boundaries, Jan. 2005; ESRI, Transportation Network, June, 2000; USGS, Hydrography, Dec. 1998; and EIP Associates, GIS Program, March 30, 2005.

EIP ASSOCIATES

N:\GIS\projects\Rivers Phase II 11006\CNDDB Occurrences.mxd

TABLE 4.4-1

SPECIAL STATUS SPECIES[1] POTENTIALLY OCCURRING WITHIN THE VICINITY OF THE PROJECT SITE

Common Name	Scientific Name	Status[2] Fed/CA/other	Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity[3]
PLANTS				
rose-mallow	*Hibiscus lasiocarpus*	none/none/2	Freshwater marshes and swamps. 0-120 m.	**Low**. Marginal streamside habitat may be present along the Sacramento River; nearest CNDDB occurrence is less than 1 mile from project site.
northern California black walnut	*Juglans hindsii*	none/none/1B	Riparian woodland and forest. 0-440 m.	**Low**. Suitable habitat may be present for this species to occur; nearest CNDDB occurrence approximately. 9 miles south of project site.
Sanford's arrowhead	*Sagittaria sanfordii*	none/none/1B	Shallow freshwater marshes, swamps, and slow gradient streams.	**Low**. Marginal habitat may be present for this species to occur; nearest CNDDB occurrence approximately. 2.9 miles east of project site.
COMMUNITIES				
Elderberry Savanna				**Low**. Elderberry shrubs occur on project site in highly degraded habitat; nearest CNDDB occurrence approximately 3.7 miles east of project site.
Great Valley Cottonwood Riparian Forest				**High**. Known habitat type documented as occurring along this section of the Sacramento River.
INVERTEBRATES				
valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT/none/none	Occurs only in the Central Valley, in association with blue elderberry (*Sambucus mexicana*). Prefers to lay eggs in elderberry branches 2-8 inches in diameter.	**High.** The project site supports one documented elderberry plant with a single 4" stem; no other previously documented shrubs currently occur; there are several recorded occurrences within 1 mile of the project site.
FISH				
Sacramento splittail	*Pogonichthys macrolepidotus*	none/CSC/none	Native to deltaic and riverine systems of the Central Valley.	**Low.** The project site is adjacent to the Sacramento River that provides a migratory corridor for this species, but unlikely to provide suitable breeding or spawning habitat.
delta smelt	*Hypomesus transpacificus*	FT/none/none	Native to deltaic and riverine systems of Sacramento Valley.	**Low.** The project site is adjacent to the critical habitat designated for this species, but unlikely to provide suitable breeding or spawning habitat.

TABLE 4.4-1

SPECIAL STATUS SPECIES[1] POTENTIALLY OCCURRING WITHIN THE VICINITY OF THE PROJECT SITE

Common Name	Scientific Name	Status[2] Fed/CA/other	Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity[3]
Central Valley steelhead	*Oncorhynchus mykiss*	FT/none/none	Native to Sacramento and San Joaquin rivers and their tributaries.	**Low.** The project site is adjacent to the Sacramento River that provides a migratory corridor for this species, but unlikely to provide suitable breeding or spawning habitat.
Central Valley winter-run chinook salmon	*Oncorhynchus tshawytscha*	FE/SE/none	Native to Sacramento and San Joaquin rivers and their tributaries.	**Low.** The project site is adjacent to the Sacramento River that provides a migratory corridor for this species, but unlikely to provide suitable breeding or spawning habitat.
Central Valley spring-run chinook salmon	*Oncorhynchus tshawytscha*	FE/SE/none	Native to Sacramento and San Joaquin rivers and their tributaries.	**Low.** The project site is adjacent to the Sacramento River that provides a migratory corridor for this species, but unlikely to provide suitable breeding or spawning habitat.
REPTILES				
Western pond turtle	*Clemmys marmorata*	none/CSC/none	Associated with permanent or nearly permanent water in a wide variety of aquatic habitats. Requires basking sites. Nest sites may be found up to 0.5 km from water	**Known.** Species was observed basking in the Sacramento River along the edge of the riparian woodland during March 2005 surveys. Nearest CNDDB occurrence approximately 6.9 miles NE of project site.
BIRDS				
Swainson's hawk	*Buteo swainsoni*	none/ST/none	Nesting grounds occur in northwestern Canada, the western U.S., and Mexico and most population migrate to wintering grounds in California. Nests are typically found in the Central Valley of California in scattered trees or along riparian systems adjacent to agricultural fields or pastures. Primary foraging areas are open grassland and agricultural fields.	**Known**. Previous documentation of active nesting on the project site (CDFG; 1996 Lighthouse Marina EIR), along with numerous CNDDB occurrences within the immediate vicinity of the project site make it likely that this species could utilize the habitat present at the project site for nesting and foraging. Nearest CNDDB occurrence is approximately. 0.3 mile north of project site.

TABLE 4.4-1

SPECIAL STATUS SPECIES[1] POTENTIALLY OCCURRING WITHIN THE VICINITY OF THE PROJECT SITE

Common Name	Scientific Name	Status[2] Fed/CA/other	Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity[3]
Tricolored blackbird	*Agelaius tricolor*	FSC/CSC/none	Highly colonial species. Most numerous in the Central Valley. Requires open water, cattail or tulle marshes, protected nesting substrate (blackberry thickets), and a foraging area with insect prey within a few kilometers of the colony	**Low**. Marginal nesting habitat located on the project site.
White-tailed kite	*Elanus leucurus*	FSC/CFP/none	Preferred habitat is marshes and waste fields in the Central Valley and coastal plains of California.	**Low**. Marginal nesting habitat is located at the project site. The site may provide some foraging habitat. Nearest CNDDB occurrence approximately. 4.4 miles from project site.
Loggerhead shrike	*Lanius ludovicianus*	FSC/CSC/none	Found in broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub, and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	**Moderate.** Marginal nesting habitat exists in riparian woodland and former golf course within proposed project area.
Cooper's hawk	*Accipiter cooperii*	none/CSC/none	(Nesting) woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	**Low.** Marginal nesting habitat present at project site.
Great blue heron	*Ardea herodias*	none/none/none	A colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, and wet meadows.	**Low.** No rookeries known from the vicinity of proposed project. No nest structures observed in trees along riparian woodland within bank stabilization project area.

Notes:

1. Special Status Species: Animals that were included in this table have a ranking of CSC or higher. Special-status plants that were included in this table having a ranking of 2 or higher.

2-Status:

Federal

FE Federally listed as Endangered
FT Federally listed as Threatened
FSC U.S. Fish and Wildlife Service designated "Species of Concern"

State

SE State listed as Endangered
ST State listed as Threatened
CFP California Department of Fish and Game designated "Fully Protected" or "Protected" – Permit required for "take."
CSC California Department of Fish and Game designated "Species of Special Concern"

TABLE 4.4-1

SPECIAL STATUS SPECIES[1] POTENTIALLY OCCURRING WITHIN THE VICINITY OF THE PROJECT SITE

Common Name	Scientific Name	Status[2] Fed/CA/other	Habitat and Seasonal Distribution in California	Likelihood of Occurrence Within the Site Vicinity[3]

Other

1B California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California and elsewhere.

2 California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California, but more common elsewhere.

3-Likelihood of Occurrence: CDFG Natural Diversity Database (CNDDB).

Species that have been observed in the proposed project area were given a rating of "known" under probability of occurrence. A "high" probability of occurrence was assigned to species not observed, but where sufficient information is available to indicate suitable habitat and conditions to warrant a high probability of occurrence. A "moderate" probability of occurrence was assigned to species that could use suitable habitat on-site and do occur in the vicinity of the proposed project area, but for which the likelihood of occurrence in the proposed project area is difficult to assess. A "low" probability of occurrence indicates that the species was not found during biological surveys and should not be expected to occur, given the species' known regional distribution or the quality of habitats located.

California Natural Diversity Database, 2005.

Special-status species which have no potential to occur at the Rivers Phase II project site either because there is no suitable habitat present or it is outside the known range for this species, have been removed from further consideration and will not be analyzed in this EIR.

Life histories of species determined to have a "low," or better potential to occur in the project vicinity are discussed below.

Special-Status Plants

No special-status plant species were observed during the reconnaissance surveys performed by EIP Associates in March, 2005. However, because focused floristic surveys have not been conducted during the appropriate flowering period for these species, those with the potential to occur in the project area are discussed below.

Rose-mallow (*Hibiscus lasiocarpus*) is a CNPS List 2[5] species. It is a member of the mallow family (Malvaceae) and blooms from June to September. This emergent perennial herb grows from 100 to 200 centimeters (cm) from the base (sometimes prostrate forms can be found), and has white or rose-colored flowers. Rose-mallow is associated with wet banks and marshes at elevations less than 40 meters throughout the central and southern portions of the Sacramento Valley and deltaic portions of the Great Central Valley. The riparian habitat present within the bank stabilization portion of the proposed project could marginally support this species.

Northern California black walnut (*Juglans hindsii*) is a CNPS List 1B[6] species. It is a member of the walnut family (Juglandaceae) and blooms from April to May. This species is widely naturalized throughout much of north-central California and can be found in riparian forest and woodland habitat. It was formerly cultivated as rootstock, but is now threatened by hybridization with orchard trees (especially English walnut (*Juglans regia*), with which it readily hybridizes), urbanization, and conversion to agriculture. The degraded riparian woodland within the bank stabilization portion of the proposed project provides marginal habitat for this species.

Sanford's arrowhead (*Sagittaria sanfordii*) is a CNPS List 1B species. It is a member of the water-plantain family (Alismataceae) and blooms from May to October. It can be found growing in assorted shallow freshwater habitats. It is threatened by grazing, development, and channel

alteration. Riparian habitat along the bank stabilization project site provides marginal habitat for this species.

Special Status Wildlife

Valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*) is a federally threatened species that occurs throughout the year in riparian woodlands and other Central Valley habitats containing elderberry shrubs (*Sambucus* spp.), upon which the VELB are completely dependent for all stages of their life cycle. All elderberry shrubs within the known range of the VELB, which have one or more stems with diameters of one inch or greater at ground level, are considered potential habitat for this species. Although typically associated with the Central Valley, *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*[7] recommend surveys for this species in all or portions of 31 counties in California.

There are 11 CNDDB occurrences for VELB within a 10-mile radius of the proposed project. With the exception of one shrub, the elderberry plants documented in Gibson and Skordal's 2004 survey were outside the proposed project boundaries.[8] All three elderberry shrubs identified during the original Lighthouse Marina surveys have been successfully transplanted to the Katchituli Mitigation Site (see Impact 4.4-8). Recent (March 2005) EIP surveys identified three healthy elderberry plants within the proposed project boundaries: 1) Reach A of the bank stabilization project;[9] 2) former golf maintenance building; and 3) remnant riparian woodland. The elderberry in Reach A of the bank stabilization project consisted of an approximately four-inch diameter at ground level (DGL) single main trunk and several clonal sprouts (all less than one-inch in diameter) around the base. There were no discernable VELB exit bore holes on the main trunk or secondary branches. The other two elderberries contained stems that were approximately less than one-inch DGL and contained no evidence of VELB bore holes and therefore do not meet the minimum mitigation requirements for replacement as defined by the USFWS.

Delta smelt (*Hypomesus transpacificus*) was federally listed as a Threatened species in March of 1993 (58 FR 12854). Critical habitat for the species was designated in December 1994 and includes the portion of the Sacramento River along the proposed bank stabilization project site (59 FR 65256). Delta smelt are tolerant of a wide range of salinity and typically rear in shallow, fresh or slightly brackish waters of the Estuary. For a large part of its annual life span, this species is associated with the freshwater edge of the mixing zone, in the portion of the water column that has relatively low water velocities. Spawning season varies from year to year and may occur from February to July, but mainly from April through May.[10] There are no recorded occurrences of delta smelt in the project area, but this species is included, since the site is within recognized critical habitat for this species.

Central Valley steelhead (*Oncorhynchus mykiss)* was federally listed as a Threatened species in March of 1998 (63 FR 13347). This Evolutionarily Significant Unit (ESU) includes all naturally spawned populations of steelhead in the Sacramento and San Joaquin rivers and their tributaries. Steelhead begin their migration from the ocean when winter rains provide large amounts of cold water for migration and spawning. Peak migration periods for adult fish in the Sacramento River are in mid-winter. They typically spawn in tributaries to mainstem rivers, often long distances from the ocean. Juvenile steelhead generally spend one to three years in freshwater before migrating to the ocean.[11]

While steelhead migrate along this section of the Sacramento River, the project area does not support spawning habitat for adult fish, nor rearing habitat for juvenile steelhead. There may be

the occasional stray into the project area along the Sacramento River, but long-term residency is unlikely.

Chinook salmon (*Oncorhynchus tshawytscha*):

Winter Run – Winter-run Chinook salmon are listed as an Endangered species under both the California and federal ESAs. Designated critical habitat for winter-run Chinook is included in the project area (58FR33212). Winter-run Chinook return to the upper Sacramento River between December and July, but delay spawning until the spring and summer (April-August).[12] Juveniles spend five to nine months in the river and Sacramento-San Joaquin Estuary before entering the ocean.[13]

Spring Run – Spring run Chinook salmon are listed as a Threatened species under the California and federal ESAs. Spring-run Chinook enter the Sacramento River between March and September and move upstream into the headwaters, where they hold in pools until they spawn between August and October.[14] Juveniles emigrate from the tributaries from mid-November through June; however, some juveniles spend a year in the streams and emigrate as yearlings the following October.[15]

Chinook are relatively common within the Sacramento-San Joaquin River System. Adult and juvenile Chinook may move through the project area on their way to and from the ocean. There are no spawning areas within the project area, but both winter and spring-run Chinook migrate through the project area.

Sacramento splittail (*Pogonichthys macrolepidotus*) is a California species of concern native to the Central Valley. Historically, major flood basins throughout the Sacramento and San Joaquin Valleys provided spawning and rearing habitat but in recent times, dams and diversions have increasingly prevented upstream access to large rivers and the species is now restricted to only a small portion of its former range. While migration by the Sacramento splittail is likely to occur in the Sacramento River adjacent to the project site, breeding and spawning is unlikely due to the lack of suitable habitat within this portion of the Sacramento River along the proposed bank stabilization project site.

Western pond turtle (*Clemmys marmorata*) is a California species of concern that occurs in permanent ponds and slow-moving streams throughout western California. Six western pond turtles were observed basking on downed trees during the March 2005 site surveys along the shoreline of the Sacramento River within the area of the proposed bank stabilization project.

Swainson's hawk (*Buteo swainsoni*) is a California Threatened species and federal species of concern found throughout the Central Valley where suitable nesting and foraging habitat is available. Swainson's hawks often nest within, or on the edge of riparian areas adjacent to suitable foraging habitat, as well as in single or stands of trees in agricultural fields. They are open-country birds that forage in large, open grasslands and agricultural fields, especially after the fields have been disked or harvested. Swainson's hawks can forage as much as 20 miles from the nest and sightings of this species within the vicinity of the proposed project are not uncommon.

There are 34 CNDDB records of Swainson's hawk nests within a five-mile radius of the proposed project, including confirmed sightings of two pairs and a single bird within the proposed bank stabilization project site boundary in 2004 (with one pair observed actively building a nest within the riparian woodland along the Sacramento River)[16] and one 2003 observation approximately 0.3 mile from the proposed bank stabilization project site.[17]

Swainson's hawks and active nests were observed in 1993 and 1994 during surveys conducted for the 1996 Lighthouse Marina and Riverbend Development Bank Protection and Greenway EIR.[18] Although no Swainson's hawk were observed by EIP biologists during the March 2005 reconnaissance-level surveys, potential nesting and low quality foraging habitat still does exist within the abandoned golf course, riparian woodland, and ruderal areas of the proposed project.

White-tailed Kite (*Elanus leucurus*; aka black-shouldered kite) is a federal species of concern, a "fully protected" species under Section 3511 of the California Fish and Game Code, and protected under the U.S. Migratory Bird Treaty Act. It breeds between February and October and feeds on rodents, small reptiles, and large insects in fresh emergent wetlands, annual grasslands, pastures, and ruderal vegetation. Unlike other raptors, kites often roost and occasionally nest communally; therefore, disturbance of a relatively small roost or nesting area could affect a large number of birds. The nearest CNDDB occurrence for this species is approximately 4.4 miles northeast of the Rivers Phase II project site. Although no white-tailed kites were observed during field surveys, potential nesting and foraging habitat is present within the proposed residential development project site.

Loggerhead Shrike (Lanius ludovicianus) is a federal and California species of concern. It is a resident of open habitats with scattered shrubs and trees, chaparral, riparian woodlands, and open-canopied oak and pine woodlands and nests in shrubs or small trees. It feeds opportunistically on insects and other arthropods, small mammals, reptiles, amphibians, small birds, and carrion in grasslands adjacent to woodland areas. The shrike is also called "butcher bird" for its habit of impaling its prey on thorns or barbed wire fences. Perch sites, foraging habitat, and nesting habitat are available for the loggerhead shrike on and adjacent to the proposed project site. Though the species does appear on the USFWS list, the CNDDB includes no records for loggerhead shrike within a 10-mile radius of the proposed project. No loggerhead shrikes or their nests were observed during biological reconnaissance surveys.

Tricolored Blackbird (*Agelaius tricolor*) is a California and federal species of concern that is endemic species to the Central and coastal valleys of California. They are highly gregarious, forming large flocks in both breeding and non-breeding seasons. Nests are built near or over water, and occasionally in agricultural fields. Recently, tricolored blackbirds have displayed increased tendencies toward nesting in patches of blackberry, willows, mustard, thistles, nettles, and even grasses. Riparian habitat associated with the Sacramento River provides marginal habitat for this species, but no tricolored blackbirds were observed during field surveys of the Rivers Phase II project site.

Great blue heron (*Ardea herodias*) is protected under the U.S. Migratory Bird Treaty Act. It is a fairly common, year-round resident throughout most of California in shallow estuaries and fresh and saline emergent wetlands and less commonly along riverine and rocky marine shores, in croplands, pastures, and in mountains above foothills. Herons nest communally from February to July in protected rookeries. Great blue heron are frequently encountered throughout the region wherever suitable foraging habitat is available, even in highly urbanized open landscapes. One great blue heron was observed near one of the water features at the abandoned golf course in March 2005. The absence of established rookeries at the project site makes it likely that the great blue heron observed is using the Sacramento River as a corridor for foraging and movement.

Sensitive Natural Communities

Besides special-status plant and animal species, the CNDDB also generates a list of ecologically sensitive and/or threatened habitat types within the state of California. The CNDDB query for the Rivers Phase II project site reported a sensitive natural community, *Cottonwood Riparian Forest,* occurrence along the Sacramento River within the proposed bank stabilization site. Presence of this habitat type was confirmed in EIP's March, 2005 reconnaissance surveys.

Cottonwood riparian forest occurs along perennial streams where inundation occurs every spring. The forest canopy is dominated by Fremont cottonwood (*Populus fremontii)* and Goodding's willow (*Salix gooddingii*) typically draped with California grape vine (*Vitis californica*). The understory often supports California box elder (*Acer negundo* var. *californicum*), California blackberry (*Rubus ursinus*), buttonbush (*Cephalanthus occidentalis*), and elderberry (*Sambucus* spp.). Great Valley cottonwood riparian forest are characterized as having a greater than 80 percent canopy cover of cottonwoods (one year old or greater), and ecologically, represents the earliest successional sere. Due to increasing fragmentation and/or degradation caused by urban development and agriculture, Great Valley cottonwood riparian forest is recognized by the CDFG as a natural community type of concern.

4.4.3 REGULATORY SETTING

Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) was enacted in 1973. Under the FESA, the Secretary of the Interior and the Secretary of Commerce, jointly have the authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). FESA is administered by both the National Marine Fisheries Service (NMFS) and the USFWS. NMFS is accountable for animals that spend most of their lives in marine waters, including marine fish, most marine mammals, and anadromous fish such as Pacific salmon. The USFWS is accountable for all other federally-listed plants and animals.

Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed threatened or endangered species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation.

The Sacramento Fish and Wildlife Office maintains a list of "species of concern" that receive special attention from federal agencies during environmental review, although they are not otherwise protected under FESA. Project-related impacts to such species would also be considered significant under CEQA Guidelines Section 15380 and would require mitigation.

Projects that would result in "take"[19] of any federally-listed threatened or endangered species are required to obtain authorization from NMFS and/or USFWS through either Section 7 (interagency consultation) or Section 10(a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the project. The Section 7

authorization process is used to determine if a project with a federal nexus would jeopardize the continued existence of a listed species and what mitigation measures would be required to avoid jeopardizing the species. The Section 10(a) process allows take of endangered species or their habitat in non-federal activities.

Federal Clean Water Act

Section 404

The objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Section 301 prohibits the discharge of any pollutant into the Nation's waters without a permit, and Section 402 establishes the permit program. Section 404 of the CWA regulates activities that result in discharge of dredged or fill material into waters of the United States. The United States Army Corps of Engineers (Corps) is responsible for permitting certain types of activities affecting wetlands and "other" waters of the United States. Under Section 404 of the CWA, the Corps has the authority to regulate activity that discharge fill or dredge material into wetlands or other waters of the U.S. The Corps implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland values or acres.

Section 401

The State Water Resources Control Board (SWRCB) has authority over wetlands through Section 401 of the CWA, as well as the Porter-Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy.

The CWA requires that an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) first obtain a certificate from the appropriate state agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the SWRCB to nine regional boards. The Central Valley Regional Water Quality Control Board (CVRWQCB) is the appointed authority for Section 401 compliance in the proposed project area. A request for certification or waiver is submitted to the regional board at the same time that an application is filed with the Corps. The regional board has 60 days to review the application and act on it. Because no Corps permit is valid under the CWA unless "certified" by the state, these boards may effectively veto or add conditions to any Corps permit.

Rivers and Harbors Act

Under Section 10 of the Rivers and Harbors Act, the Corps has jurisdiction over navigable waters of the U.S. to the historic limits of mean high water. Section 10 requires that a permit be obtained from the Corps for all activities in navigable waters that involve excavating, filling, dredging, construction, or placement of an obstruction in or to a navigable water body. Section 10 jurisdiction extends to the entire surface and bed of all water bodies subject to tidal action (33 CFR 329.12[b]).

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by

the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

State

California Endangered Species Act

The California Endangered Species Act (CESA) was enacted in 1984. Under the CESA, the California Fish and Game Commission (CFGC) has the responsibility for maintaining a list of threatened species and endangered species. CDFG also maintains lists of species of special concern which impacts would be considered significant under CEQA Guidelines Section 15380 and could require mitigation. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project would have a potentially significant impact on such species. In addition, CDFG encourages informal consultation on any proposed project which may impact a candidate species. CESA prohibits the take of California listed animals and plants in most cases, but CDFG may issue Section 2081 incidental take permits under special conditions.

CEQA Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals, and allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFG (i.e., species of concern) would occur. Whether a species is rare, threatened, or endangered can be legally significant because, under CEQA Guidelines Section 15065, an agency must find an impact to be significant if a project would "substantially reduce the number or restrict the range of an endangered, rare, or threatened species." Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Fish and Game Code – Sections 3503, 3503.5, 3513

Birds of Prey are protected in California under the California Fish and Game Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird, except as otherwise provided by this code or any regulation adopted pursuant thereto. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered taking by CDFG. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact.

California Native Plant Society

The California Native Plant Society (CNPS) maintains an inventory of special-status plant species. CNPS maintains four species lists of varying rarity. Vascular plants listed as rare or

endangered by the CNPS,[20] but which have no designated status or protection under federal or state-endangered species legislation, are defined as follows:

List 1A	Plants Believed Extinct.
List 1B	Plants Rare, Threatened, or Endangered in California and elsewhere.
List 2	Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere.
List 3	Plants About Which More Information is Needed - A Review List.
List 4	Plants of Limited Distribution - A Watch List.

In general, plants appearing on CNPS List 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria and effects to these species are considered significant in this EIR.

CDFG Streambed Alteration Agreements

Under sections 1600-1616 of the California Fish and Game Code, the CDFG regulates activities that would alter the flow, or change or use any material from the bed, channel, or bank of any perennial, intermittent or ephemeral river, stream and lake. Notification is required prior to any such activities and CDFG will issue an Agreement with any necessary mitigation to ensure protection of the state's fish and wildlife resources.

Local

Yolo County Habitat/Natural Community Conservation Plan Joint Powers Agency

The Yolo County Habitat/Natural Community Conservation Plan Joint Powers Agency (JPA) was formed in August 2002 for the purposes of acquiring habitat conservation easements and to serve as the lead agency for the preparation of a Habitat/ Natural Communities Conservation Plan (H/NCCP) for all of Yolo County. Yolo County, and the Cities of Woodland, West Sacramento, Winters, and Davis are participants in the Yolo County Habitat JPA.

As a local governmental agency, the JPA has two primary roles:

1. Facilitate mitigation for impacts to the foraging habitat of the Swainson's hawk by assisting in the acquisition of conservation easements.
2. Assist in the planning, preparation and subsequent administration of a County-wide H/NCCP.

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to natural resources goals and policies:

Scenarios A and B

Goal A: **To protect water quality in the Sacramento River, Sacramento Deep Water Ship Channel, Lake Washington, and the area's groundwater basin.**

Policy 7: The City shall implement measures to minimize the discharge of sediment into its watercourses.

Goal B: **To protect sensitive native vegetation and wildlife communities and habitat in West Sacramento.**

Policy 2: The City shall support state and federal policies for preservation and enhancement of riparian and wetland habitats by incorporating, as deemed appropriate, the findings and recommendations of the *Sacramento Greenway Plan*, California Department of Fish and Game and the U.S. Fish and Wildlife Service into site-specific development proposals.

Policy 3: The City shall require site-specific surveys to identify significant wildlife habitat and vegetation resources for development projects located in or near riparian or wetland areas.

Policy 4: The City shall support mitigation measures which provide for no net loss of riparian or wetland habitat acreage and value by regulating development in and near these habitats and promoting projects that avoid sensitive areas. Where habitat loss is unavoidable, the City shall seek replacement on at least a 1:1 basis. Replacement entails creating habitat that is similar in extent and ecological value to that displaced by the project. The replacement habitat should consist of locally occurring, native species and shall be located as close as possible to the project site or be part of a larger replacement habitat project.

Policy 5: To minimize disturbance to wildlife, the City shall require the provision of maintenance of an adequate setback between significant wetland habitat and adjacent development. The buffer shall be landscaped with native or compatible introduced ornamental vegetation and may be used for passive recreation purposes.

Policy 7: The City shall seek to minimize the loss or degradation of wetland and riparian habitats at the following sites: Lake Washington and associated wetlands; Bee Lakes and associated riparian woodlands; riparian woodlands along the Sacramento River north of the I Street Bridge and south of the barge canal; and riparian woodlands along the Deep Water Ship Channel and the Yolo Bypass.

Policy 8: The City shall seek a cooperative effort with other jurisdictions, the State, and the federal government to conserve habitat. The goal of this effort shall be to preserve and enhance habitat values in appropriate large areas while allowing the orderly development within the incorporated areas of the County.

In the event a multi-jurisdictional effort is unsuccessful, the City shall adopt a conservation coordinator plan that identifies specific habitats and sites where development could diminish or eliminate significant biological habitat and protects them from the adverse effects of excavating, grading, filling, dredging, removing vegetation, landscaping with exotic species, and other incompatible uses and activities. In the event protection is not possible, full mitigation shall be required.

Policy 9: The City shall seek to preserve populations of rare, threatened, and endangered species by ensuring that development does not adversely affect such species or by fully mitigating adverse effects.

Policy 10: The City shall not approve projects that would cause unmitigatible impacts on rare, threatened, or endangered wildlife or plant species.

Policy 11: The City shall implement measures to ensure that development in the city does not adversely affect fishery resources in the Sacramento River, Deep Water Ship Channel, and Lake Washington.

Policy 12: Public access and recreation facilities shall not eliminate or degrade riparian habitat values. Trails, picnic areas, and other developments shall be sited to minimize impacts on sensitive wildlife habitat or riparian vegetation.

Policy 13: The City shall promote the use of native plants, especially valley oaks, for landscaping roadsides, parks, and private properties. In particular, native plants

should be used along the Sacramento River and in areas adjacent to riparian and wetland habitats.

The following goals and policies from the City of West Sacramento General Plan are relevant to natural resources under urban structure and design:

Goal A: **To enhance the relationship between the City and the Sacramento River.**

Policy 1: The City shall seek to preserve trees and other vegetation along the Banks of the Sacramento River for their aesthetic qualities and environmental and ecological values.

Goal D: **To maintain and enhance the quality of the city's landscape and streetscape.**

Policy 1: The City shall endeavor to protect the tree canopy created by mature trees in existing developed areas and in newly developing areas.

Policy 2: The City shall require that all new development incorporate the planting of trees and other vegetation to extend the vegetation pattern of older adjacent neighborhoods into new development.

4.4.4 IMPACTS AND MITIGATION MEASURES

Method of Analysis

Information for this biological resources impact assessment is based on a review of previous biological resource reports prepared by EDAW, Inc. (1986) and Jones & Stokes (1996). Recent permitting requests include a Pre-Construction Notification (PCN) submitted to the Corps for the bank stabilization project by MBK Engineers on behalf of Gibson & Skordal, LLC (2004),[21] while ECORP Consulting, Inc. conducted a nesting raptor survey that included both the proposed residential development and bank stabilization project sites (2004).[22] Reconnaissance-level field surveys were conducted by EIP Associates (2005), to confirm these previous biological reports and to gather additional information on existing habitats, plants and wildlife found on the 68-acre residential development and bank stabilization sites. For this impact analysis, a conservative assumption is made that all habitat will be lost within the area designated for development. Resources potentially impacted by the proposed project have been identified and recommendations for mitigation, if necessary to preserve those resources, are provided.

Standards of Significance

For the purposes of this EIR, impacts to biological resources are considered significant if the proposed project would:

- Have a substantial adverse effect, either directly or through habitat modifications on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or USFWS;

- Have a substantial adverse effect on federally protected wetlands or other "waters of the U.S.", as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal

pool, coastal, etc.) or as defined by Section 10 of the Rivers and Harbors Act, through direct removal, filling, hydrological interruption, or by other means; or

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Project Impacts and Mitigation Measures

4.4-1 Construction of the proposed bank stabilization project would result in the filling or adverse modification of "waters of the U.S."

Scenarios A and B

The bank stabilization project extends from River Mile (RM) 60.5 to RM 61.3 (labeled as "riparian woodland" in Figure 4.4-1), and would include placement of approximately 2.5 acres of l stone dike, bench fill, slope fill, and/or stone armor fill material on the levee slope below the bench where vertical erosion is actively scouring the bank of the Sacramento River. The work would commence with construction of the rock dike, then the bank would be sloped with a crane bucket and prepared to receive riprap. Once the bank is stabilized, the area between the bank and the dike would be filled with clean fill.

The project would stabilize the bank by flattening the slope from its current steepened condition. The rock riprap on the flattened slope would protect the soil from erosion until native woody and herbaceous plants (mitigation installation)[23] become established. The rock dike and vegetated berm would add to the stability of the water-side toe of the bank. The entire fill, rock and vegetation would provide increased stability and erosion protection to the bank.

All work in the Sacramento River is regulated under Section 10 of the Rivers and Harbors Act and placement of fill in "waters of the U.S." is regulated under Section 404 of the CWA. Any construction-related impacts of the bank stabilization project along the west bank of the Sacramento River below the ordinary high water mark (OHWM) would require appropriate permits from the Corps, CVRWQCB and CDFG. Aside from the Sacramento River, the bank stabilization and residential project sites do not support any other jurisdictional wetlands. Even though the proposed project would ultimately enhance the river corridor and associated fisheries habitat, construction of the bank stabilization project constitutes "fill." Since the Sacramento River is considered a "water of the U.S.," adverse effects to this resource are considered a ***potentially significant impact***.

Mitigation Measure

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

4.4-1 (A & B) (a) *The project applicant shall obtain all appropriate permits prior to construction of the project, including a Section 404 Wetlands Fill Permit from the Corps, a Section 401 Water Quality Certification from the CVRWQCB, and a Streambed Alteration Agreement from CDFG.*

(b) *Water quality within the Sacramento River along the area of effect shall be protected using rigorous erosion control techniques during construction of the*

bank stabilization project. Floating silt barriers around the perimeter of all in-water construction shall be properly installed and maintained during the duration of the project to ensure that turbidity levels remain at a threshold considered acceptable by the CVRWQCB.

Gibson and Skordall initiated the permitting process with the submittal of a preconstruction notification to the Corps on behalf of the developer, West Riverview LLC on October 21, 2004. Before the Corps can permit any project, they need to, among other things, ensure that it would not adversely impact federally listed species. The Corps has formally initiated Section 7 consultation with NMFS and USFWS. At this time, Gibson and Skordall are mediating consultation on the 3000-linear foot bank stabilization project.

The Section 401 Water Quality Certification and Streambed Alteration Agreement both require a certified CEQA document. Applications will be submitted following publications of the Draft EIR. There is a 60-day response time once applications are submitted.

4.4-2 Construction of the proposed bank stabilization project could result in impacts to fisheries resources in the Sacramento River.

Scenarios A and B

Fisheries within the Sacramento River are both resident and anadromous. Resident fishes remain in the stream throughout their life, while anadromous fish hatch in freshwater, migrate to the ocean, and spend the majority of their life in saltwater, only returning to freshwater streams to spawn.

There are four listed fish species and their critical habitat that may be affected by the proposed project: delta smelt, Central Valley winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead. Peak migration periods in the Sacramento River for adult salmon is September to October and mid-winter for steelhead. Salmon and steelhead young migrate downriver throughout the year. The largest numbers of migrating salmon smolt (young fish) are found in the river from March through June. Peak migration for steelhead young occurs during May through July. While the project site does not support spawning or breeding habitat, special status fish species do migrate through the project area. Loss or degradation of aquatic habitat as a result of construction activities relating to the bank stabilization project would therefore be considered a ***potentially significant impact*.**

Mitigation Measure

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

4.4-2 (A & B) *The project applicant shall consult with NMFS and USFWS to determine the extent and severity of impacts to fisheries resources, along with the implementation of appropriate mitigation measures. The following or equally effective measures shall be required.*

(a) *River-side construction using barges to minimize impacts to existing streambank and riparian habitat*

(b) *In-water construction shall occur between July 1st to October 31st,24 which coincides with the summer upstream migration period – the stage of development when fish are least sensitive to disturbance.*

(c) *On-site conservation for rock placement shall be implemented as phased construction begins. As-built plans shall include the following, or equally effective mitigation measures:*

i. *a diked bench installed to provide shallow water habitat;*
ii. *collateral large woody debris anchored along the diked bench;*
iii. *the diked bench designed to allow for frequent flooding during the winter through spring rainy season to create shallow-water habitat;*

(d) *Conservation values managed for the life of project.*

As part of the 404 Nationwide permit process discussed under Impact 4.4-1, the project applicant has initiated formal consultation both with the NMFS and USFWS for input into the design of bank protection and in-water construction activities for the bank stabilization project. NMFS has requested additional information regarding rock revetment and existing natural features that could be impacted from the bank stabilization project. They need more information on how much woody vegetation is present along this portion of the Sacramento River, and whether suitable recruitment (both upstream and downstream) of woody debris and riparian vegetation is available to provide habitat for listed fish species at the termination of the project. A response to this request is under preparation.

The NMFS normally requires mitigation to replace or enhance riparian vegetation. This project as designed has a substantial revegetation plan, thus negating any NMFS mitigation requirements.[25] Construction of the project has also been planned around the July 1 to October 31 timing constraints.

4.4-3 Construction of the proposed bank stabilization project could result in the loss of western pond turtles or their habitat.

Scenarios A and B

Western pond turtles are associated with slow-moving streams and ponds adjacent to upland areas suitable for basking. The Sacramento River, its tributaries, and their adjacent upland habitat within the project site support suitable habitat for this species which has been documented as occurring in the Sacramento River. Six adults were observed basking on downed trees along the bank of the Sacramento River during the March 2005 survey.

Implementation of the proposed bank stabilization project could result in disturbance to or loss of perennial aquatic habitat or individual turtles during construction. The western pond turtle is both a state and federal Species of Concern. Loss of individual western pond turtles or their habitat as a result of construction activities relating to the bank stabilization project would therefore be considered a ***potentially significant impact****.*

Mitigation Measure

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

4.4-3 (A & B) *The project applicant shall retain a qualified biologist to monitor construction activities along the bank stabilization project site to ensure that no western pond*

turtles are injured or killed during the construction of the proposed project. Any turtles found in or near the construction zone that could potentially be injured or killed as a result of construction activities should be relocated to an appropriate location (i.e., an area of suitable habitat) that is a minimum of 100 feet downstream of the construction zone.

4.4-4 Construction of the proposed project could result in the direct loss or disturbance of nesting birds.

Scenarios A and B

Trees existing on both the proposed residential development and bank stabilization project sites could provide nesting habitat for a number of bird species, including Swainson's hawk. Confirmed presence of Swainson's hawk and other raptors in and around the project site was documented by ECORP Consulting in March 2004.[26] Evidence of raptor courtship behavior was observed by an EIP Associates biologist during a March 2005 survey within Reach A of the riparian woodland along the Sacramento River. While nesting activities were not observed during surveys of the proposed residential development site, those trees could support nesting birds. Although the project applicant plans to retain as many trees on the site and the riparian habitat as is feasible, tree removal and construction activities adjacent to active nest sites could adversely impact nesting birds within both project sites.

Nesting birds are protected under the Migratory Bird Treaty Act and Fish and Game Code 3503.5. Disruption of nesting birds, resulting in the abandonment of active nests, or the loss of active nests through structure removal would therefore be considered a ***potentially significant impact.***

Mitigation Measure

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

4.4-4 (A & B) (a) *The project applicant shall retain a qualified biologist to conduct pre-construction breeding-season surveys (approximately March 15 through August 30) of the project site and vicinity during each calendar year that construction is planned to begin, in consultation with the City of West Sacramento and CDFG. Phased construction procedures are planned for the proposed project; the results of the above survey shall be valid only for the season when it is conducted.*

A pre-construction survey report shall be submitted to the City of West Sacramento that includes, at a minimum:

- *A description of methodology including dates of field visits, the names of survey personnel with resumes, and a list of references cited and persons contacted.*
- *A map showing the location(s) of any bird nests observed on the project site.*

(b) *Should active bird nests be located on the project site, the project applicant, in consultation with the City of West Sacramento and CDFG, shall delay construction in the vicinity of active nest sites during the breeding season (approximately March 15 through August 30) while the*

nest is occupied with adults and/or young. A qualified biologist shall monitor any occupied nest to determine when the nest is no longer used. If the construction cannot be delayed, avoidance shall include the establishment of a non-disturbance buffer zone around the nest site. The size of the buffer zone will be determined in consultation with the CDFG. The buffer zone shall be delineated by highly visible temporary construction fencing.

(c) *No disturbances (e.g. heavy equipment operation, cranes or draglines, rock-crushing activities) or other project related activities (such as crew and equipment parking on site) which may cause nest abandonment or forced fledging, should be initiated within ¼-mile (buffer zone) of an active Swainson's hawk nest between March 1 – September 15 or until August 15 if a Management Authorization or Biological Opinion is obtained from the CDFG.*

(d) *Before any unavoidable loss or disturbance of an active nest site occurs, special permits would be required depending on the bird species:*

- *For a State-listed bird (i.e. Swainson's hawk), the project applicant shall obtain a CDFG Section 2081 permit. Standard mitigation determined in consultation with CDFG for the loss of an active nest tree generally requires planting 15 trees (a mix of cottonwood, sycamore and valley oaks) and monitoring the success of the trees for five years with a 55 percent success rate.*
- *For any bird covered by the Migratory Bird Treaty Act, the project applicant would consult with the USFWS to determine appropriate mitigation measures.*
- *If any trees along the Sacramento River will be removed that support raptor nests, the tree may only be removed during the non-breeding, non-nesting season.*

(e) *Active nest trees that would not be removed but are in close proximity to construction activities shall be monitored weekly to determine if construction activities were disturbing the adult or young birds, until the birds left the nest.*

4.4-5 The proposed bank stabilization project could result in the loss or degradation of rare plant populations.

Scenarios A and B

Rose-mallow and Sanford's arrowhead occur in wetland habitats; northern California black walnut occurs in riparian woodland, both of which can be found at the proposed bank stabilization project site along the riparian woodland corridor bordering the Sacramento River. The construction footprint of the bank stabilization project will occur from the toe of the levee to the top-of-bank, which could support suitable habitat for these listed species.

Implementation of the proposed project could result in the removal of habitats that support some or all of the special-status plant species listed above, which could constitute a ***potentially significant impact.***

Mitigation Measure

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

4.4-5 (A & B) *The project applicant shall retain a qualified biologist to conduct focused surveys within the project site for rose-mallow, Sanford's arrowhead, and northern California black walnut during the appropriate time of year (April through October). If none of these species are located during the surveys, no further mitigation would be required.*

If any special-status plant species are located during the surveys, the project applicant shall implement seed collection and/or transplanting if necessary.

4.4-6 The proposed bank stabilization project could result in the loss and/or degradation of riparian habitat.

Scenarios A and B

Great Valley cottonwood riparian forest is recognized by the CDFG as a sensitive natural community. The City of West Sacramento also recognizes the importance of preserving riparian habitats in their general plan. The proposed bank stabilization project could impact up to 3,000 linear feet (4.1 to 4.4 acres) of riparian habitat along the west bank of the Sacramento River.[27] While most of the bank stabilization work will occur from the water, unstable trees at the edge of the vertically eroding bank would be removed and incorporated into the project design as large, woody debris. Though the exact number and species of trees potentially impacted by the bank stabilization project is not currently known,[28] tree removal within the riparian woodland along Sacramento River Reaches A and B from bank stabilization activities would constitute a ***potentially significant impact.***

Mitigation Measure

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

4.4-6 (A & B) *Prior to project construction, the project applicant shall prepare a tree report documenting the number and species of trees present within the proposed bank stabilization project, and those trees to be impacted and/or removed from within the riparian woodland. This report and a revegetation plan shall be submitted to and approved by CDFG as part of the Streambed Alteration Agreement.*

The project applicant has proposed to install approximately 2,000 trees (willow, alder, cottonwood, etc.) and 6,000 herbaceous species (sedge, rush, etc.) along the newly installed levee slope to compensate for the loss of riparian habitat along the Sacramento River. A typical planting would be three evenly spaced rows of trees at 6-feet on-center (o.c.), two rows of trees at 12-feet o.c., and an understory of sedges and rushes planted in four rows at 2-feet o.c. The planting is to be uniform throughout the entire site, and a formal maintenance and monitoring period shall extend for a period of four years following the completion of planting activities.

4.4-7 The proposed project could disrupt wildlife migratory corridors along the Sacramento River corridor.

Scenarios A and B

The riparian woodland, former golf course, and ruderal open space present at the proposed project site represents potential seasonal and migratory habitat for a number of wildlife species along the Sacramento River corridor.

The proposed residential development and bank stabilization project sites are surrounded by residential development to the west and south, and commercial development associated with riverfront development (marinas, restaurants, etc.) across the Sacramento River to the north and east. The development of the former golf course resulted in the removal of the original habitat originally present within the boundaries of the project envelope. It is unlikely that wildlife species presently utilizing the proposed residential development would be significantly impacted by the removal of the ruderal and ornamental landscapes currently present. There are no proposed impacts to the existing riparian woodland bench above the Sacramento River, which would allow birds and other mobile species to use the riparian woodland as a migratory corridor. Impacts would be less than significant for Delta smelt, Central Valley steelhead, Central Valley fall-run Chinook salmon, and Central Valley winter-run Chinook salmon fish species that would continue to use the river as a migratory corridor.

The implementation of the proposed project would not substantially disrupt wildlife migratory corridors and therefore is this impact is ***less than significant.***

Mitigation Measure

4.4-7 (A & B) *None required.*

4.4-8 Development of the proposed project could result in the loss of potential habitat for the valley elderberry longhorn beetle.

Scenarios A and B

VELB is listed as a threatened species under the FESA and take of individuals or their habitat is prohibited.

In their preconstruction notification report to the Corps (dated October 21, 2004), Gibson & Skordal, LLC proposed transplanting four elderberry shrubs on the proposed residential development site to the *Katchituli Mitigation Site* – the mitigation site for the originally envisioned Lighthouse Marina development. The *Katchituli Mitigation Site* has been deemed a successful mitigation site by both the Corps and USFWS. A total of 921 elderberry shrubs (along with other appropriate riparian species) were planted at Katchituli, which represents a vast surplus of mitigation compared to impacts at the Lighthouse development. During an April 2004 field visit to Katchituli, USFWS preliminarily agreed with the concept of using Katchituli for additional elderberry plantings, and has since approved its use as a mitigation site. All elderberry shrubs identified during the original Lighthouse Marina surveys have been successfully transplanted to the *Katchituli Mitigation Site* during the winter of 2005 (per. comm. with Karen Shaffer; Gibson and Skordall). The USFWS approved this and found that with transplantation to the *Katchituli Mitigation Site* and riparian plantings, this project is not likely to adversely affect VELB (Appendix F).

One isolated elderberry shrub with one 4-inch DGL stem and a number of clonal sprouts of less than one inch DGL was found within the riparian woodland, approximately six feet back from the top of the bank, along the bank stabilization project site in March 2005 by EIP biologists. There was no evidence of VELB exit bore holes in this cluster. Construction of the proposed bank stabilization project would not require the removal of this shrub, but it could be impacted through root damage or trampling during construction-related activities, which would be considered a ***potentially significant impact.***

Mitigation Measure

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

4.4-8 (A & B) (a) *All elderberry shrubs to be avoided during construction of the bank stabilization project shall be encircled by high visibility exclusionary fencing, at a minimum distance of 20 feet from the dripline of the elderberry shrubs to be avoided.*

(b) *The project proponent shall conduct Worker Environmental Awareness Program (WEAP) training for construction crews (primarily crew and construction foreman) before construction activities begin. The WEAP shall include a brief review of the special status species and other sensitive resources that could occur in the proposed project site (including their life history and habitat requirements and what portions of the proposed project area they may be found in) and their legal status and protection. The program shall also cover all mitigation measures, environmental permits and proposed project plans, such as the SWPPP, BMPs, erosion control and sediment plan, and any other required plans. During WEAP training, construction personnel shall be informed of the importance of avoiding ground-disturbing activities outside of the designated work area. The designated biological monitor shall be responsible for ensuring that construction personnel adhere to the guidelines and restrictions. WEAP training sessions shall be conducted as needed for new personnel brought onto the job during the construction period.*

4.4-9 Development of the proposed residential development could result in the loss of potential foraging habitat for Swainson's hawk, white-tailed kite, Cooper's hawk, and other raptors (birds of prey).

Scenarios A and B

Swainson's hawk, white-tailed kite, Cooper's hawk, and other raptors may forage (search for food) over the open ruderal habitat, along the riparian woodland, and abandoned golf course present at the project site. Swainson's hawk forages up to 10 miles from their nests; the closest known CNDDB occurrence is approximately 0.3-mile north of the project site, and five Swainson's hawk were observed within the bank stabilization project boundaries in 2004. Sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*) were also observed onsite during the nesting raptor survey conducted by ECORP Consulting.[29] Projects that restrict

the range of these species (including foraging habitat) could be considered a ***potentially significant impact.***

Mitigation Measure

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

4.4-9 (A & B) *The developer shall participate in the Yolo County H/NCCP (Habitat/Natural Community Conservation Program) to satisfy the requirement to mitigate the loss of Swainson's hawk foraging habitat. Participation in the H/NCCP shall mean compliance with the mitigation strategies that are in effect prior to the issuance of a grading permit or recordation of the final map (whichever comes first) or implementation of another project specific mitigation plan which is deemed appropriate to the CDFG. In the event that the Final H/NCCP is adopted before development occurs, the developer shall participate in the Final H/NCCP to mitigate for the loss of Swainson's hawk habitat.*

While this mitigation measure only applies to Swainson's hawk foraging habitat, the foraging habitat preserved through participation in the Yolo County H/NCCP would also be used by other special-status raptors.

Cumulative Impacts and Mitigation Measures

The cumulative context for this analysis is the eastern Central Valley, generally the area ranging from Fairfield on the west, the foothills of the Sierra Nevada to the east, Yuba City/Marysville to the north and the City of Modesto to the south.

4.4-10 Implementation of the proposed residential development, in combination with other regional development, would convert open space to urban uses, leading to a continuing loss of habitat for native resident and migratory wildlife.

Scenarios A and B

Development over the past 150 years has encroached upon and displaced biological resources throughout the Sacramento Valley of California by replacing grassland, oak woodland, riparian woodland, wetland, riverine and other native habitats that support special-status species with urban and agricultural uses. Conversion of these remaining natural ecosystems has accelerated within the past few decades due to increased developmental pressures to accommodate California's rapidly growing human population within this portion of the state. The proposed residential development project area does support open space that can be used by special status species. While by no means pristine or undisturbed, this open space habitat is still used by special-status species because of its relative scarcity in the region and therefore development impacts to this habitat and the species it supports, particularly Swainson's hawk and other special status avian species, are considered significant.

Loss of open space reduces potential habitat types for many wildlife species. These impacts could also occur during construction of any additional proposed projects in the vicinity of this area. The City of West Sacramento alone has seven development projects in progress or under consideration. Many of these developments are in close proximity to the Sacramento River,

which is a highly desirable, yet extremely limited aesthetic environment in which to work and live.

Impacts to the open space habitat and the associated species can be fully mitigated at the project-specific level. Regardless, the cumulative loss of open space habitat and the impact on species it supports in the Sacramento Valley is considered significant and unavoidable. However, given the low quality habitat within the proposed residential development, relative to the loss of habitat throughout the region, the proposed project's contribution to this cumulative impact is not considerable. Therefore, this is considered a ***less-than-significant cumulative impact.***

Mitigation Measure

4.4-10 (A & B) *None required.*

4.4-11 Implementation of the proposed bank stabilization project, in combination with other regional development, could degrade riparian habitat along the Sacramento River, continuing the regional loss of habitat for native resident and migratory wildlife.

Scenarios A and B

The proposed bank stabilization project will impact riparian habitat along the Sacramento River and could impact the special status species associated with it. One elderberry plant may be impacted by the bank stabilization project, but its loss would be fully mitigated for under Mitigation Measure 4.4-8. Loss of fisheries habitat along this portion of the Sacramento River will be temporary and ultimately enhanced with large woody debris once the project is complete. The presence of a biological monitor during bank stabilization construction should ensure that no western pond turtles are impacted by the project. Finally, impacts to existing riparian habitat associated with the bank stabilization project are temporary, and that the proposed mitigation plantings (native woody and herbaceous species) would enhance existing habitat overall.

As discussed under Impact 4.4-10, seven projects are in progress or under consideration in the City of West Sacramento, many of which are in close proximity to the Sacramento River. Loss of riparian habitat is considered significant and unavoidable and the remaining habitat in the region is very important. However, since the impacts from the bank stabilization project would be temporary and ultimately enhance the riparian habitat, the project's contribution to the cumulative loss of riparian habitat is not considerable. Therefore, this is considered a ***less-than-significant cumulative impact.***

Mitigation Measure

4.4-11 (A & B) *None required.*

ENDNOTES

1. EDAW, Inc., *Lighthouse Marina EIR-EIS*. 1986.

2. Jones & Stokes, *Lighthouse Marina and Riverbend Development Bank Protection and Greenway EIR*. 1996.

3. California Department of Fish and Game, *California Natural Diversity Database*, March, 2005.

4. United States Fish and Wildlife Service, (http://www.fws.gov/pacific/sacramento/es/spp_lists/auto_list_form.cfm - electronic document #050317023820), accessed March 17, 2005

5. California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California, but more common elsewhere

6. California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California and elsewhere.

7. California Native Plant Society, *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (sixth edition)*, Sacramento, CA, 2001

8. Gibson and Skordal, LLC. *Pre-Construction Notification Report* submitted to the U.S. Army Corps of Engineers on behalf of Grupe Development Company; October 21, 2004.

9. Gibson and Skordal, LLC. *Pre-Construction Notification Report* submitted to the U.S. Army Corps of Engineers on behalf of Grupe Development Company; October 21, 2004.

10. Moyle, Peter B. 2002. *Inland Fishes of California*, University of California Press.

11. Moyle, Peter B. 2002. *Inland Fishes of California*, University of California Press.

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15. Moyle, Peter B. 2002. *Inland Fishes of California*, University of California Press.

16. ECORP Consulting, Inc., *The Rivers - Nesting Raptor Survey* submitted April 7, 2004 to Grupe Communities.

17. California Department of Fish and Game, *California Natural Diversity Database*, March 2005.

18. Jones & Stokes, *Lighthouse Marina and Riverbend Development Bank Protection and Greenway EIR*. 1996.

19. "Take" under the federal definition means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

20. California Native Plant Society, *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (sixth edition)*, Sacramento, CA., 2001

21. Gibson & Skordal, LLC. *Pre-Construction Notification Report* submitted to the U.S. Army Corps of Engineers on behalf of Grupe Development Company; October 21, 2004.

22. ECORP Consulting, Inc., *The Rivers – Nesting Raptor Survey* submitted to Grupe Communities; April 7, 2004.

23. MBK Engineers. *Requested Revisions and Clarifications* for Grupe's *The River Project Pre-Construction Notification* (submitted January 7, 2005).

24. Howard Brown, National Marine Fisheries Service, Personal Communication, November 4, 2005.

25. Howard Brown, National Marine Fisheries Service, Personal Communication, November 4, 2005.

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27. MBK Engineers. *Requested Revisions and Clarifications* for Grupe's *The Rivers Project Pre-Construction Notification* (submitted January 7, 2005).

28. Nolte. Electronic Tree Table produced for *The Rivers* Project. 2005.

29. ECORP Consulting, Inc., *The Rivers - Nesting Raptor Survey* submitted to Grupe Communities; April 7, 2004.

4.5 CULTURAL RESOURCES

4.5 CULTURAL RESOURCES

4.5.1 INTRODUCTION

This section of the *EIR* describes the prehistoric cultural resources known to be located within the Rivers Phase II project area (proposed project). Prehistoric resources are those sites and artifacts associated with the indigenous, non-Euroamerican population, generally prior to contact with people of European descent. The extent to which development of the proposed project could remove, damage, or destroy existing prehistoric resources is evaluated.

The *Cultural Resources Assessment of the Rivers II Project* prepared by Peak & Associates, Inc. in April 2005 was the primary source of information for this section. Information was also gathered from site visits and a review of applicable planning and policy documents that are cited, as appropriate.

Through the preparation of the IS it was determined that impacts to historic resources, paleontological resources, unique geologic features, and human remains were less than significant with mitigation incorporated (see Appendix A). These issues will not be discussed further in the EIR. Comment letters received in response to the NOP (see Appendix B) did not raise concerns with cultural resources.

4.5.2 ENVIRONMENTAL SETTING

Archeological Resources

The Central Valley region was among the first in the state to attract intensive fieldwork and research has continued to the present day. This has resulted in a substantial accumulation of data. In the early decades of the 1900s, E. J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W. E. Schenck. By 1933, the focus of work was directed to the Cosumnes locality, where survey and exploration were conducted by the Sacramento Junior College.

Excavation data, in particular, from the stratified Windmiller Site (CA-SAC-107) suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California enabled the investigators to identify a third cultural tradition intermediate between the previously postulated early and late horizons. The three-horizon sequence was based on discrete changes in ornamental artifacts and mortuary practices as well as an observed difference in soils within sites. This sequence was later refined by Beardsley (1954), with an expanded definition of artifacts diagnostic of each time period and was extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

More recently, alternative dating schemes have been presented for the Central California Archeological Sequence. The primary emphasis is a more elaborate division of the Horizons to reflect what is seen as cultural/temporal changes within the three horizons and a compression of the temporal span.

There have been other chronologies proposed for this general region. It has been proposed that periods of time associated heavily with economic modes, which provides a temporal term for comparing contemporary cultural entities.

Ethnological Background

The project area lies in the territory attributed to the Nisenan, a branch of the Maidu group of the Penutian language family. Tribes of this language family dominated the Central Valley, San Francisco Bay areas, and western Sierra Nevada foothills prior to European settlement. The Nisenan controlled the drainages of the Yuba, Bear, and American Rivers, along with the lower portion of the Feather River. The tribes of this whole region referred to themselves as Nisenan, meaning "people," in contrast to the surrounding tribes, in spite of close linguistic and cultural similarities. For this reason, they are usually named by this term rather than the more technical "Southern Maidu." In any event, the local main village was of more importance to the people than the tribal designation, and groups identified themselves by the name of the central village.

The Valley Maidu settlement pattern was basically oriented to major river drainages, with ancillary villages located on tributary streams and sloughs. Major villages often supported a population exceeding five hundred people. The flat grasslands between water courses were used for collecting vegetable foods and hunting, but these activities leave little, if any, archeological evidence.

Religion was in the form of the "Kuksu Cult," a widespread pattern among the California Indians. Ceremonies congregated in the semi-subterranean dancehouse located at the central village and "cry sites" where the annual mourning ceremony for the dead took place. Later, the religious revival of the ghost dance also affected this area.

In 1833, the great epidemic swept through the Sacramento Valley. This epidemic has been attributed to malaria, and is estimated to have killed 75% of the native population, leaving only a shadow of the original Maidu to face the growing numbers of miners and settlers. The Nisenan of the mountain areas felt little of the impact of European settlement in California as compared to the Valley Nisenan, who were subjected to some missionization. The Mountain Nisenan, remote from these early impacts, were overwhelmed by the gold rush. Native ways of life were almost totally abandoned, and today only a few families in Placer, Nevada, Yuba, and El Dorado Counties identify themselves as Nisenan and can speak the language.

Known Resources

Several previous surveys have been conducted in and around the project area. Within the residential development portion of the project, a survey was completed by Holman in 1984 with negative results. Peak & Associates completed a study of the entire project area in 1985. One prehistoric site, CA-YOL-25, was recorded in the area proposed for bank stabilization. An historic site, the Bell-Fourness ranch house, was test excavated in 1989 at the residential development portion of the project and was determined not to be significant. No evidence was discovered of prehistoric or historic cultural resources during the course of the 2005 survey performed by Peak & Associates.

The original recorder of CA-YOL-25 in 1934 reported that the site had been removed during the construction of the levee. Although previous surveys failed to locate the site, it was recommended that all construction in that area reported to be a site be monitored. It is not known whether this

occurred, but no report has been filed with the Information Center for the project. It is unknown whether any portion of the site was found during recent construction activities in the area.

4.5.3 REGULATORY SETTING

Federal

Federal regulations for cultural resources are primarily governed by Section 106 of the NHPA of 1966. The goal of the Section 106 review process is to offer a measure of protection to sites, which are determined eligible for listing on the NRHP. The criteria for determining National Register eligibility are found in 36 CFR Part 60. Section 106 of NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties and affords the Federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 Code of Federal Regulations (CFR) Part 800. The National Register of Historic Places criteria (contained in 36 CFR 60.4) are used to evaluate resources when complying with NHPA Section 106. Those criteria state that eligible resources comprise:

> …[D]istricts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that (a) are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction; or (d) that have yielded or may be likely to yield, information important to history or prehistory.

Archaeological site evaluation assesses the potential of each site to meet one or more of the criteria for NRHP eligibility based upon visual surface and subsurface evidence (if available) at each site location, information gathered during the literature and record searches, and the researcher's knowledge of and familiarity with the historic or prehistoric context associated with each site.

The NRHP was established to recognize resources associated with the country's history and heritage. Guidelines for nomination are based on significance in American history, architecture, archaeology, engineering, and culture that also possess integrity of location, design, setting, materials, workmanship, feeling, and association.

The American Indian Religious Freedom Act, Title 42 United States Code, Section 1996, protects Native American religious practices, ethnic heritage sites, and land uses. The Act states:

> On and after August 11, 1978, it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

State

State historic preservation regulations affecting this project include the statutes and guidelines contained in the CEQA (Public Resources Code Sections 21083.2 and 21084.1 and Section 15064.5 of the CEQA guidelines. CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. An "historical resource" includes, but is not

limited to, any object, building, structure, site, area, place, record, or manuscript, which is historically or archaeologically significant (Public Resources Code Section 5020.1). Section 15064.5 of the CEQA Guidelines specifies criteria for evaluating the importance of cultural resources, including:

- The resource is associated with events that have made a contribution to the broad patterns of California history;
- The resource is associated with the lives of important persons from our past;
- The resource embodies the distinctive characteristics of a type, period, region or method construction, or represents the work of an important individual or possesses high artistic values; or
- The resource has yielded, or may be likely to yield, important information in prehistory or history.

Advice on procedures to identify such resources, evaluate their importance and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to, museums, historical commissions, associations and societies, be solicited as part of the process of cultural resources inventory.

SB 18 requires that preparation of City and County General Plans include a requirement to consult with Native American tribes for the preservation of, or the mitigation of impacts to specified Native American places, features, and objects. SB 18 will also require that if an amendment to a general plan is proposed that Native American tribes be consulted prior to amending the city and/or county general plan, for the purpose of preserving specified places, features, or objects located within that jurisdiction.

California Register of Historical Resources

The State Historic Preservation Office (SHPO) also maintains the California Register of Historical Resources (CRHR). Properties that are listed on the NRHP are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

Local

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to Cultural Resources:

Scenarios A and B

Goal G: **To protect West Sacramento's Native American heritage.**

Policy 1: The City shall refer development proposals that may adversely affect archaeological sites to the California Archaeological Inventory, Northwest Information Center, at Sonoma State University.

Policy 2: The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without first consulting the California Archaeological Inventory, Northwest Information Center, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by Appendix K of the State CEQA Guidelines.

Policy 3: Archaeological sites shall be protected by means of requirements in development permits requiring on-site monitoring by qualified personnel of excavation work in areas identified as archaeologically-sensitive. Development work shall be required to cease in any place where artifacts or skeletal remains have been discovered until these have been examined and evaluated by a qualified archaeologist and arrangements have been made to avoid or otherwise protect valuable resources.

4.5.4 IMPACTS AND MITIGATION MEASURES

Method of Analysis

The analysis of impacts for this section was based on existing conditions and background information provide by Peak & Associates. As a part of Peak & Associates' research records of previously recorded cultural resources and cultural resource investigations were examined by the Northwest Information Center of the California Historical Resources Information System and the Native American Heritage Commission in relation to their Sacred Land files. The project site was inspected in March 2005 by Robert A. Gerry of Peak & Associates. The project area proposed for development was walked in parallel transects spaced not more than 10 meters apart. The area of bank stabilization was not walked due to the high level of the Sacramento River.

Standards of Significance

For the purpose of this EIR, cultural resource impacts are considered significant if the proposed project would:

- Disturb or destroy any prehistoric resources during construction of the proposed project pursuant to Section 15064.5 or the CEQA Guidelines.

Project Impacts and Mitigation Measures

4.5-1 Construction of the bank stabilization component of the project could disturb or destroy prehistoric site CA-YOL-25.

Scenarios A and B

Scenario A and B would both disturb the same area of land; therefore, both would have the same level of impact on archeological resources as the area of bank stabilization is included in both scenarios. While no evidence was discovered during the recent field survey of prehistoric or historic cultural resources due to thick vegetation cover, the bank stabilization portion of the proposed project includes a recorded prehistoric site (CA-YOL-25). Previous earth moving activities related to the levee or the homes constructed along the top of the levee have disturbed the proposed area of bank stabilization; however, no evidence of CA-YOL-25 was found during those activities. Therefore, earth moving activities associated with the bank stabilization could impact this site resulting in a ***significant impact.***

Mitigation Measure

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

4.5-1 (A & B) (a) *The project applicant shall retain a qualified archeologist, who are either certified by the Society of Professional Archaeologists (SOPA) or meet the federal standards as stated in the Code of Federal Regulations (36 C.F.R. 61,) to perform on-site monitoring during all construction activities related to the bank stabilization portion of the proposed project. If archeological resources are discovered during construction all work shall stop within a 100 foot radius. The appropriate Native American Group shall be notified of the construction dates and consulted concerning mitigation if any portion of the site is found during construction. The qualified archeologist shall complete a mitigation plan for all eligible resources, which is to be reviewed and approved by the City prior to implementation. Data recovery could be required as a part of this plan. This mitigation plan shall be implemented as specified by the plan.*

(b) *The project applicant shall assure that project personnel are informed that collecting significant historical or unique archaeological resources discovered during development of the project is prohibited by law. Prehistoric or Native American resources can include chert or obsidian flakes, projectile points, mortars, and pestles as well as dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources can include nails, bottles, or other items often found in refuse deposits.*

(c) *Any report prepared by a qualified archeologist pertaining to resources found at the project site shall be submitted to the Northwest Information Center and the City.*

4.5-2 Construction of the proposed residential uses, school and supporting infrastructure could disturb or destroy undiscovered archeological resources.

Scenarios A and B

Scenario A and B would both disturb the same area of land; therefore, both would have the same level of impact on archeological resources in the residential and/or school portion of the project site. No recorded sites and no evidence were discovered during the field survey of prehistoric or historic cultural resources on this portion of the site. An historic site, the Bell-Fourness ranch house, was test excavated in 1989 on this portion of the project site and was determined not to be significant. Therefore, this portion of the proposed project would have a ***less-than-significant impact*** to archeological resources.

Mitigation Measure

4.5-2 (A & B) *None required.*

<u>Cumulative Impacts and Mitigation Measures</u>

The cumulative analysis for impacts to cultural resources involves a discussion of current and future development projects within the vicinity of the proposed project that may add additional

impacts when combined with the impacts associated with buildout of the City. The cumulative context for the culture resources analysis for the proposed project includes buildout of the City of West Sacramento and the lower western half of the Sacramento Valley as resources are not generally contained within property lines or even City boundaries.

4.5-3 Cumulative development including the proposed project could result in the damage or destruction of previously unidentified prehistoric resources.

Scenarios A and B

Development in the region (grading, excavation and other earth disturbing activities), including the City of West Sacramento, could result in the damage or destruction of previously known or unidentified prehistoric resources. Based upon previous cultural resource surveys and research, communities in the vicinity of West Sacramento and throughout California have been inhabited by prehistoric and historic peoples for thousands of years.

Because all significant prehistoric resources are unique and non-renewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. The loss of any one site affects all others in a region because these resources are best understood in the context of the entirety of the cultural system of which they are a part. The boundaries of a site extend beyond the property boundaries. As a result, a meaningful approach to preserving and managing cultural resources must focus on the likely distribution of cultural resources, rather than on project or parcel boundaries. The cultural system is represented by the total inventory of all sites and other cultural remains. In this case, development within region could potentially disturb any known or unknown prehistoric resources. Upon buildout of the City's General Plan (1990, as revised in 2004) the City of West Sacramento is anticipating much of the land within its current boundaries will be developed contributing to the potential loss of resources.

The potential loss of finite, non-renewable resources, such as prehistoric resources, as discussed above, would contribute to a significant project-specific impact. The project's contribution to the potential loss of these resources in a cumulative context could be considered considerable; and therefore, a ***significant cumulative impact.***

Mitigation Measure

Implementation of the following mitigation measure would reduce the magnitude of this impact, but it would remain *significant and unavoidable.*

4.5-3 (A & B) *Implement Mitigation Measure 4.5-1 (a) through (c).*

However, proper planning and appropriate mitigation can help to capture and preserve knowledge of such resources and can provide opportunities for increasing our understanding of the past environmental conditions and cultures by recording data about sites discovered and preserving artifacts found. Federal, State and local laws are also in place, as discussed above, that protect these resources; in addition, compliance with Mitigation Measure 4.5-1 (a) through (c) would ensure the proper steps are taken in the event any resources are discovered for the proper handling and treatment. However, even with existing regulations and compliance with required mitigation the project's contribution to the potential loss of these resources would not be reduced to a level that would be considered less than considerable.

4.6 LAND USE

4.6 LAND USE

4.6.1 INTRODUCTION

This section of the EIR addresses land uses for the proposed project including a description of existing land uses, intensities, and patterns within the project area and in the vicinity; identification of current general plan designations and zoning for the project site and surrounding area; an analysis of the proposed project's consistency with applicable policies; a discussion of applicable land use plans and policies; and an evaluation of potential conflicts between proposed internal uses as well as potential conflicts between the proposed project and surrounding uses.

Information provided in this section was gathered from site visits and a review of applicable planning and policy documents that are cited, as appropriate.

No comments on the NOP were received by the City of West Sacramento regarding land use issues (see Appendix B).

4.6.2 ENVIRONMENTAL SETTING

The proposed project is located in the City of West Sacramento. The City of Sacramento lies to the east, just across the Sacramento River, and the City of San Francisco lies approximately 85 miles to the west. The project site is located at the northern boundary of West Sacramento and Yolo County adjacent to the Sacramento River. The proposed residential development is located within the boundaries of the former Lighthouse Marina and Riverbend Development and is bordered by the Sacramento River on the north. The bank stabilization portion of the project is located immediately adjacent to the west bank of the Sacramento River from approximately River Mile 60.5 to River Mile 61.3, just upstream of the confluence of the American and Sacramento Rivers (see Figure 3-2 in Chapter 3, Project Description).

Existing Land Uses

Approximately 60 percent of the residential development portion of the site is located within the boundaries of the former Lighthouse Golf Course (closed to the public since 2003). Approximately 40 percent of the project site is currently vacant and is not part of the former golf course. Structures, concrete paths, ponds, and landscaping associated with the former golf course currently exist on the site. The 3,000 linear foot bank stabilization site has vegetative cover consisting of young trees (mostly oak), poison oak, wild grape and blackberry.

Surrounding land uses include single-family residential to the north, the Sacramento River and levee to the east (vacant land does exist between the project site and the River), multi-family residential to the south, and single- and multi-family residential and active open space to the west. Beyond the single-family residential uses to the north lies the Sacramento River and levee. On the other side of the River are a variety of commercial and office uses along the Garden Highway that face the River.

Existing General Plan Designation and Zoning

The current General Plan designation for the project site is Riverfront Mixed Use (RMU), which provides for marinas, various commercial uses, offices, and multi-family housing oriented to the Sacramento River.

The current zoning for the project site is Waterfront (WF) PD-29 (see Figure 4.6-1). The WF and PD zoning designations are defined in the Regulatory Setting. The PD-29 zoning designation specifically allows for mixed use development consisting of low, medium, and high density residential uses, retail and commercial uses, office and marina and marina-related uses. PD-29 includes detailed development standards for 13 land-use sub-area including: six for residential development; a business professional sub-area for office uses; three sub-areas for tourist commercial, retail commercial, and marine commercial uses; and three sub-areas for a marina, golf course, and open space uses.

West Sacramento Redevelopment Area

The proposed project is located in the City's Redevelopment Project Area. The West Sacramento Redevelopment Project Area was originally adopted in 1986 by the Yolo County Board of Supervisors, before the City of West Sacramento was incorporated. Upon incorporation in 1987 the project area was transferred to the West Sacramento Redevelopment Agency, which is governed by the City Council. "The mission of the Redevelopment Agency is to stimulate positive change, build a vibrant retail sector, a prestigious office address, diverse, high-quality residential neighborhoods, and to provide quality employment opportunities for all residents." The Redevelopment Agency is responsible for carrying out a redevelopment plan and does this through a variety of actions including buying and selling of land, improving dilapidated facilities, and using tax increment financing.

4.6.3 REGULATORY SETTING

Federal

There are no federal regulations that pertain to land use issues related to the proposed project.

State

There are no State regulations that pertain to land use issues related to the proposed project.

Local

City of West Sacramento

General Plan

The following goals from the City of West Sacramento General Plan are relevant to land use:

Scenarios A and B

> **Goal A:** **To provide for orderly, well-planned, and balanced growth consistent with the limits imposed by the city's infrastructure and the city's ability to assimilate new growth.**

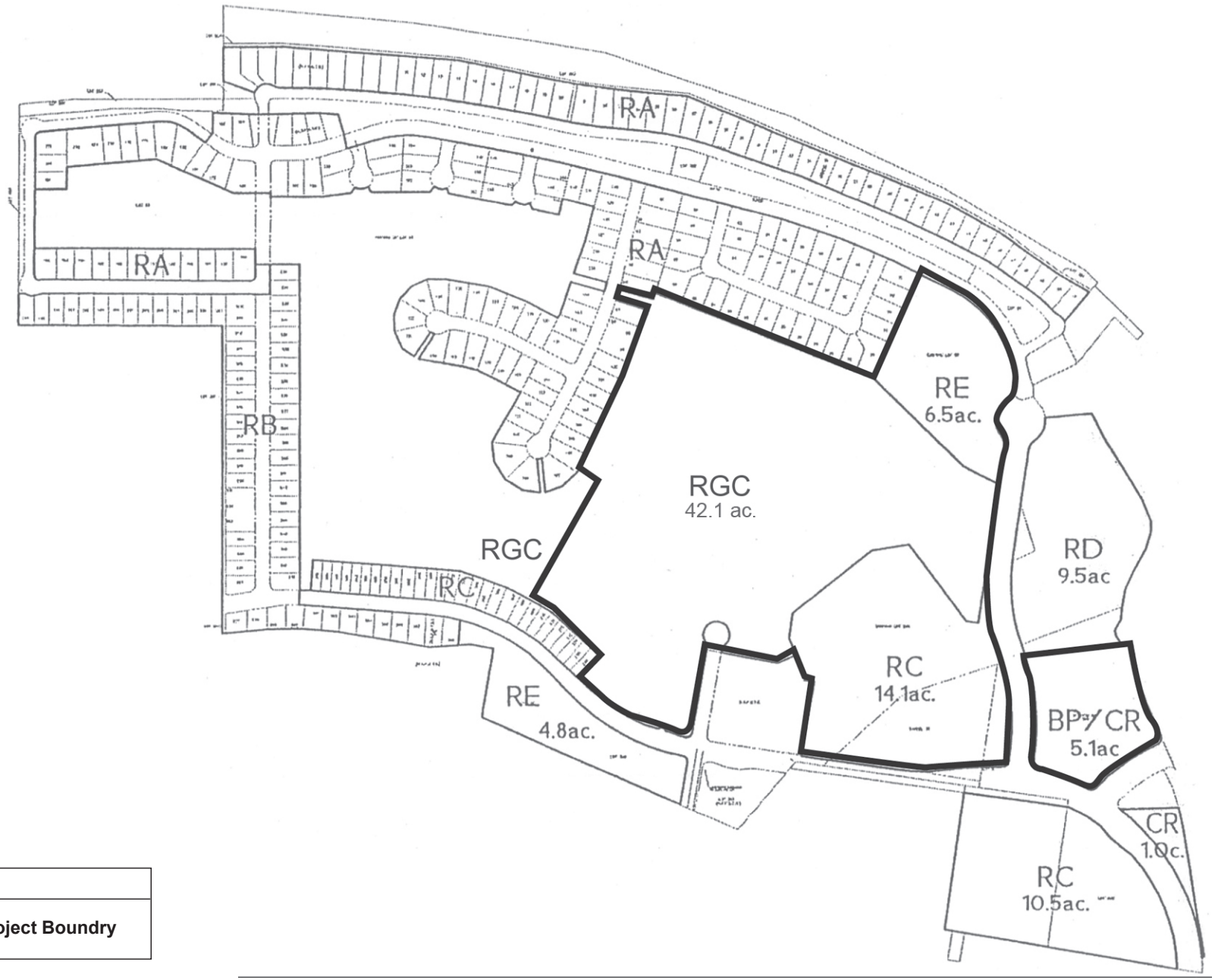

FIGURE **4.6-1**

Existing PD-29 Designations

***Source*:** NOLTE Engineering

Not to Scale

11006-00

EIP ASSOCIATES

Goal B: **To designate adequate land in a range of residential densities to meet the housing needs of all income groups expected to reside in West Sacramento.**

Goal F: **To designate adequate land for development of public and quasi-public uses to support existing and new residential, commercial, and industrial land uses.**

Zoning Ordinance

The project site is currently zoned WF PD-29.

> Waterfront (WF) Zone – General Plan reference – RMU Riverfront Mixed Use. This designation provides for marinas, restaurants, retail, amusement, hotel and motel uses, mid-rise and high-rise offices, multi-family residential units which are oriented principally to the river, public and quasi-public uses, and similar and compatible uses. All development under this designation shall be approved pursuant to an adopted master development plan (e.g., specific plan). Residential densities shall be in the range of 25.1 to 50.0 units per acre; the FAR for offices shall not exceed 10.00; and the FAR for all other uses shall not exceed 3.00. The RMU designation is assumed to have an average of 2.25 persons per dwelling unit. It is applied only to relatively large, vacant or under utilized areas adjacent to the Sacramento River and the Barge Canal.
>
> The purpose of this zone is to allow for high intensity mixed uses which capitalize on the City's river frontage. Much of this area will be redeveloped from prior industrial development. After completion of a master development plan, many properties will be rezoned to other specific use zones such as R-4 or C-W. Mixed use project may remain in this zone.
>
> Planned Development (PD) Overlay Zone – General Plan Reference – In order to achieve the General Plan goal "To promote the development of a cohesive and aesthetically pleasing urban structure for West Sacramento," the PD zone has been included within the scope of the Zoning Ordinance to allow for the maximum flexibility consistent with the minimum development standards within each zone category.
>
> Where a special design for land use makes it desirable to apply regulations more flexible than those contained elsewhere in this Ordinance, a Planned Development (PD) Overlay Zone may be established. The purpose of such overlay zone is to grant or require diversification in the location of structures and other site elements which would be appropriately compatible, while insuring adequate standards relating to the public health, safety, welfare, comfort, and convenience. Planned Development (PD) Overlay Zones may be established in any area suitable for and of sufficient size to contain a planned development, and may include residential, commercial, or industrial uses where appropriate in the judgment of the City. The Planned Development (PD) Overlay Zone may be applied to any base zone within the Ordinance. Uses not otherwise found in this Ordinance may be permitted within the Planned Development (PD) Overlay Zone regardless of what base zone it overlays.

PD-29

The City of West Sacramento Ordinance 681.120 created Planned Development 29 (PD-29) as amended by Ordinance 92-9 (May 13, 1992). The land use regulations of this ordinance were adopted for the former Lighthouse Marina and Riverbend project. Under the proposed PD amendment the following designations would apply to the proposed project; RB, RC-A, RD, and RE. These designations are outlined in Chapter 3, Project Description. The proposed project would amend PD-29 to accommodate the proposed project (see Figure 4.6-2). A discussion of the proposed PD-29 amendment is included in Impact 4.6-3. For a summary of the existing and proposed land use designations and acreage, refer to Table 4.6-1.

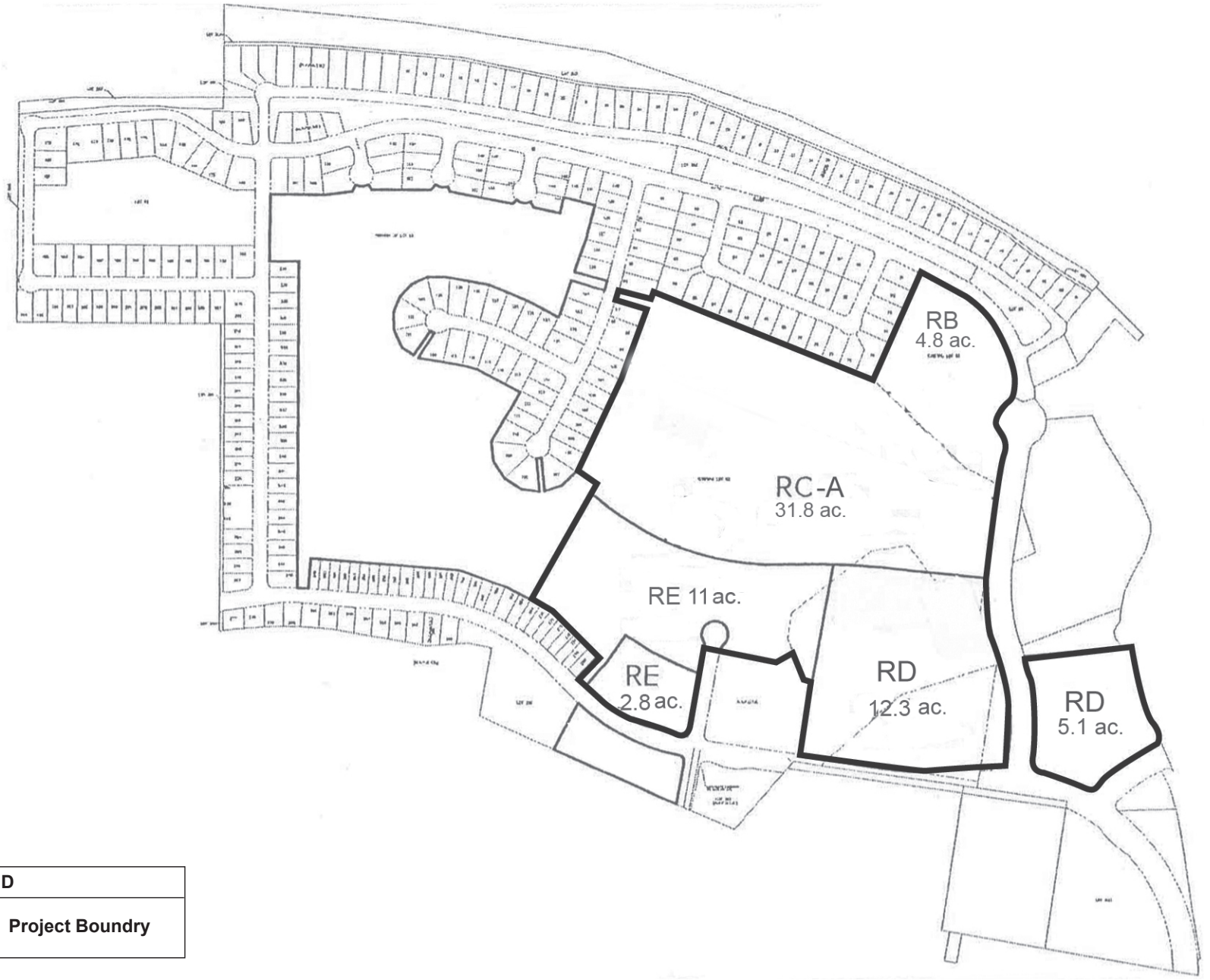

FIGURE **4.6-2**

Proposed PD-29 Designations

Not to Scale

***Source*:** NOLTE Engineering

11006-00

EIP ASSOCIATES

TABLE 4.6-1

EXISTING AND PROPOSED LAND USE DESIGNATION AND ACREAGE SUMMARY

Existing Land Use Designation	Existing Acreage	Proposed Land Use Designation	Proposed Acreage
RGC	42.1	RC-A	31.8
RE	6.5	RB	4.8
RC	14.1	RD	17.4
BP/CR	5.1	RE	13.8
Total	**67.8 acres**		**67.8 acres**

Source: EIP Associates, 2005

4.6.4 IMPACTS AND MITIGATION MEASURES

Method of Analysis

The analysis of impacts for this section was conducted qualitatively based on existing conditions. The proposed land uses for the proposed project were evaluated for consistency with applicable General Plan goals and policies, the City of West Sacramento Zoning Regulations, and applicable land use plans, policies, and regulations. The proposed land uses were also qualitatively evaluated for internal compatibility and for compatibility with surrounding uses.

Standards of Significance

For the purpose of this EIR, land use impacts are considered significant if the proposed project would:

- Result in land uses that are incompatible with internal existing and planned uses;
- Result in land uses that are incompatible with surrounding existing and planned uses;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental impact;

Land use conflicts can arise from two basic causes: (1) a new development or land use could cause impacts on persons or the physical environment in the vicinity of the project site or elsewhere; or (2) conditions on or near the project site could have impacts on the persons or development introduced onto the site by the new project. Both of these circumstances are aspects of land use compatibility. Incompatibility can arise from placing a particular development or land use at an inappropriate location, or from some aspect of the project design or scope. Depending on the nature of the impact and its severity, land use compatibility conflicts can range from minor irritations and nuisances to significant effects on human health or safety.[1]

Long-term incompatibilities arise when adjacent land uses result in activities that could conflict with each other. For example, in general, land uses that produce excessive noise, light, dust, odors, traffic, or hazardous emissions are undesirable when they intrude on places where people live and recreate (residences and parks). Therefore, some industrial or agricultural uses or busy roadways (which can produce noise, dust, odor and so on) are not considered

compatible with residential uses, unless buffers, landscaping or screening can be used to protect residents from health hazards and/or nuisances.

Impacts relating to population and housing could include inducement of substantial population growth and/or displacement of substantial numbers of existing housing or people necessitating construction of replacement housing elsewhere due to implementation of the proposed project. The physical environmental effects related to population and housing issues are discussed in the appropriate sections: such as 4.3 Air Quality, 4.4 Biological Resources, and 4.7 Noise. The potential growth-inducing impact of the proposed project is discussed in Chapter 5.

Project Impacts and Mitigation Measures

4.6-1 Development of the proposed project could result in land uses that are incompatible with internal existing and planned uses.

Scenarios A and B

As previously described, incompatibility can occur when uses are developed at inappropriate locations or as a result of some aspect of project design or scope. Long-term incompatibilities arise when adjacent activities could conflict with each other due to excessive noise levels, dust, light, odors, traffic or hazardous emissions.

The proposed project, under Scenario A includes development of residential uses, a K-8 school with play fields and a park. Under Scenario B the school site would be developed with residential uses and the park would still be included. Both scenarios include development of the bank stabilization component.

Schools and parks are common elements of residential development and are generally considered compatible uses. The physical environmental effects associated with operation of project elements (residential, school, park, infrastructure, bank stabilization) that could contribute to use incompatibility are evaluated in the technical sections of Chapter 4. Specifically: increased noise is evaluated in Section 4.7; air quality (dust) is evaluated in Section 4.3; and traffic and parking is evaluated in Section 4.10. Impacts associated with creation of odors, light and glare and hazardous emissions were determined not to be significant and were fully evaluated in the Initial Study contained in Appendix A.

Therefore, the proposed project, under either Scenario A or B, would not result in land uses that are incompatible with internal land uses and this impact is considered ***less than significant***.

Mitigation Measure

4.6-1 (A & B) *None required.*

4.6-2 Development of the proposed project could result in land uses that are incompatible with surrounding existing and planned uses.

Scenarios A and B

The proposed residential development site is surrounded with residential development to the south, west and north. Undeveloped land, including the Sacramento River levee is located to the east. The proposed project would include development of residential, school and park uses

under Scenario A and residential and park uses under Scenario B. Proposed residential uses would be developed adjacent to off-site residential uses to the north, south and west. The school would be developed (under Scenario A) adjacent to off-site residential use to the south and east. The proposed two-acre park is internal to the project site. As discussed under Impact 4.6-1, incompatibility can occur when uses are developed at inappropriate locations or as a result of some aspect of project design or scope. Long-term incompatibilities arise when adjacent activities could conflict with each other due to excessive noise levels, dust, light, odors, traffic or hazardous emissions.

Schools and parks are common elements of residential development and are generally considered compatible uses. Residential uses are compatible with other residential uses. The physical environmental effects associated with operation of project elements (residential, school, park, infrastructure, bank stabilization) that could contribute to use incompatibility are evaluated in the technical sections of Chapter 4. Specifically: increased noise is evaluated in Section 4.7; air quality (dust) is evaluated in Section 4.3; and traffic and parking is evaluated in Section 4.10. Impacts associated with creation of odors, light and glare and hazardous emissions were determined not to be significant and were fully evaluated in the Initial Study contained in Appendix A.

Therefore, the proposed project, under either Scenario A or B, would not result in land uses that are incompatible with surrounding land uses and this impact is considered ***less than significant***.

Mitigation Measure

4.6-2 (A & B) *None required.*

4.6-3 Development of the proposed project could result in a conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental impact.

Scenarios A and B

PD Overlay Zone

The PD Overlay Zone allows flexibility when applying regulations in an effort to implement the overall goal of developing a cohesive and aesthetically pleasing urban environment. PD-29 specifically allows for low, medium, and high density residential uses, retail and commercial uses, office and marina and marina-related uses. The proposed amendment would alter the PD-29 overlay zone to accommodate the proposed project but would not change the basic intent of allowed uses in the zone. The amendment primarily changes the allowed densities of residential development.

City of West Sacramento General Plan and Zoning Code

The three applicable goals in the General Plan relate to the provision of orderly growth, a range of residential densities, and public use areas. Goal A of the General Plan refers to providing balanced growth that is consistent with city infrastructure and ability to assimilate new growth. Part of the project area was formerly developed with a golf course, which is connected to the City's existing infrastructure. The remaining portion of the site was planned for development. Sections 4.9 Utilities and 4.10 Transportation of this EIR analyze the impact of the proposed

project on infrastructure. No significant and unavoidable impacts were identified under either scenario; therefore, it can be determined that the Proposed Project would be consistent with the city's infrastructure. The project site nearly entirely surrounded by existing and developing residential uses and it is within the City limits. Also, the General Plan assumes build out of land within the City limits as some point in time. Goal B of the General Plan refers to the designation of adequate land in a range of residential densities. Under either scenario the proposed project provides for two different densities of single-family homes as well as two multi-family home densities for a total of range of four densities on the 68 acre project site. Goal F of the General Plan refers to the designation of adequate land for the development of public and quasi-public uses. Scenario A includes 12 acres designated RD, which would allow for the construction of a school. The RC-A designation also allows for schools and parks. The two multi-family designations, RD and RE, also allow for park and recreation facilities as well as school facilities. Scenario B includes the RE designation. Under either scenario the proposed project would provide for both types of uses outlined in Goals B and F and would therefore be consistent with these policies. The use of the bank stabilization portion would not change as a result of the proposed project under either scenario.

The PD-29 is proposed for amendment to allow the uses proposed by the project and would therefore be consistent with PD-29. The proposed project would be consistent with the two applicable goals discussed in the above Regulatory Setting section as described above. The bank stabilization portion of the project would not result in a change of land use or zoning designation under either scenario. A ***less-than-significant impact*** would result.

Mitigation Measure

4.6-3 (A & B) *None required.*

Cumulative Impacts and Mitigation Measures

The Land Use Section generally does not address cumulative impacts separately, because for land use, there is no cumulative context to assess land use consistency and compatibility issues; land use effects are localized and would not combine with similar effects in other locations. Therefore, no cumulative impact is identified for the proposed project.

ENDNOTES

1. As used in this report, “nuisance” is defined to mean “annoying, unpleasant, or obnoxious” and is not to be confused with the legal use of the word.

4.7 NOISE

4.7 NOISE

4.7.1 INTRODUCTION

This section describes the existing noise environment in the area of the Rivers Phase II project (proposed project), and the potential of the proposed project to increase noise levels due to project construction and operation. Information included in this section came from a field investigation to measure existing noise levels, and references used for this section include the noise standards in the City of West Sacramento General Plan, the noise ordinance found in the West Sacramento Municipal Code and the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction model. Traffic inputs for the noise prediction model were provided by Fehr and Peers.

As discussed in the Initial Study (see Appendix A), the proposed project site is not located within an airport land use plan area or within two miles of an airport or private airstrip. Development of the project area would not expose people within the project area to excessive airport noise levels, and this issue is not discussed in the EIR. Groundborne vibration impacts from the proposed project were also found to be less than significant. Consequently, groundborne vibration is not discussed in the EIR.

No comments on the NOP were received regarding noise (see Appendix B).

4.7.2 ENVIRONMENTAL SETTING

Background Information on Noise

Fundamentals of Environmental Sound and Noise

Sound can be described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the intensity of the pressure vibrations that make up a sound. The pitch of the sound is correlated to the frequency of the sound's pressure vibration. Because humans are not equally sensitive to a given sound level at all frequencies, a special scale has been devised that specifically relates noise to human sensitivity. The A- weighted decibel scale (dBA) does this by placing more importance on frequencies that are more noticeable to the human ear.

Noise is typically defined as unwanted sound. Typically, noise in any environment consists of a base of steady "background" noise made up of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway. Table 4.7-1 lists representative environmental noise levels.

TABLE 4.7-1

REPRESENTATIVE ENVIRONMENTAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 100 feet		
	--100--	
Gas Lawnmower at 3 feet		
	--90--	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	--80--	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	--70--	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	--60--	
		Large Business Office
Quiet Urban Area during Daytime	--50--	Dishwasher in Next Room
Quiet Urban Area during Nighttime	--40--	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	--30--	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	--20--	
		Broadcast/Recording Studio
	--10--	
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: California Department of Transportation, 1998.

Several rating scales have been developed to analyze the adverse effect of noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the volume of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- L_{dn}, the Day Night Average Level, is a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the nighttime.
- L_{min}, the minimum instantaneous noise level experienced during a given period of time.
- L_{max}, the maximum instantaneous noise level experienced during a given period of time.

Noise caused by natural sources and human activities is usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the L_{eq} is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of settings with low daytime background noise levels are isolated, natural settings that can provide noise levels as low as 20 dBA and quiet, suburban,

residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise settings are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most people living or working in urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA) accept the higher noise levels commonly associated with these land uses.

When evaluating changes in 24-hour community noise levels, a difference of 3 dBA is a barely perceptible increase to most people. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness.

Noise levels from a particular source decline as distance to a receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce noise levels at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior- to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

Existing Conditions

Existing Noise Receptors

Some land uses are more sensitive to noise than others. These sensitive uses are commonly referred to as "sensitive receptors", and normally include residences, hospitals, churches, libraries, schools, and retirement homes. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Approximately 60 percent of the proposed residential development site is located within the boundaries of the former Lighthouse Golf Course, which was closed in December 2003. The former golf course includes several existing structures. Approximately 40 percent of the proposed development is located on vacant land. Residences located on land bordering the project site are the nearest sensitive noise receptors. The bank bordering the river that will be stabilized under the proposed project does not include any sensitive receptors. Once the bank stabilization occurs, no new sensitive receptors are expected.

Existing Ambient Daytime Noise Levels

The scientific instrument used to measure noise is a sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA.

Existing ambient daytime noise levels were measured at three selected locations on the proposed residential development site on March 31, 2005. These locations are identified in

Figure 4.7-1. The noise levels were measured using a Larson-Davis Model 814 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. The average noise levels and sources of noise measured at each location are identified in Table 4.7-2.

TABLE 4.7-2

EXISTING DAYTIME NOISE LEVELS AT SELECTED LOCATIONS

Noise Measurement Location	Primary Noise Sources	Noise Level Statistics		
		L_{eq}	L_{min}	L_{max}
#1 – Southern portion of Project site, near existing apartments adjacent to site.	Distant construction noise. Jet flying overhead (accounting for high L_{max} value).	57.3	44.5	78.9
#2 – Northeast portion of site, approximately 100 yards from road bordering site to the east.	Distant construction noise. Light traffic on road to east.	53.2	46.5	65.5
#3 – Center of site.	Construction noise to northwest.	63.6	49.6	77.7

Source: EIP Associates, 2005.

Little if any traffic noise affected readings at any of the monitoring locations. Construction noise from a residential development being built on land adjacent to the project site accounted for most of the noise at all three monitoring locations. Since construction noise is temporary, the site can be characterized as being normally a rather quiet environment, where noise levels would not exceed City standards for residential or school uses. At all three locations, monitoring was conducted over a 15 minute period.

Existing Roadway Noise Levels

The proposed residential development site is not in close proximity to any freeways. Main roads experiencing heavy traffic volumes are separated from the project site by existing development. These intervening structures have the effect of attenuating roadway noise so that it is not very noticeable. Roads nearer to the site are local roads that currently experience only light traffic flows.

Existing roadway noise levels were also calculated for the roadway links in the vicinity of the proposed residential development project site that have noise sensitive uses fronting the roadways. This task was accomplished using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the project traffic analysis (please refer to Section 4.10 Transportation and Circulation). The model calculates the average noise levels at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. Average daily noise levels along these roadway segments are presented in the impact discussion.

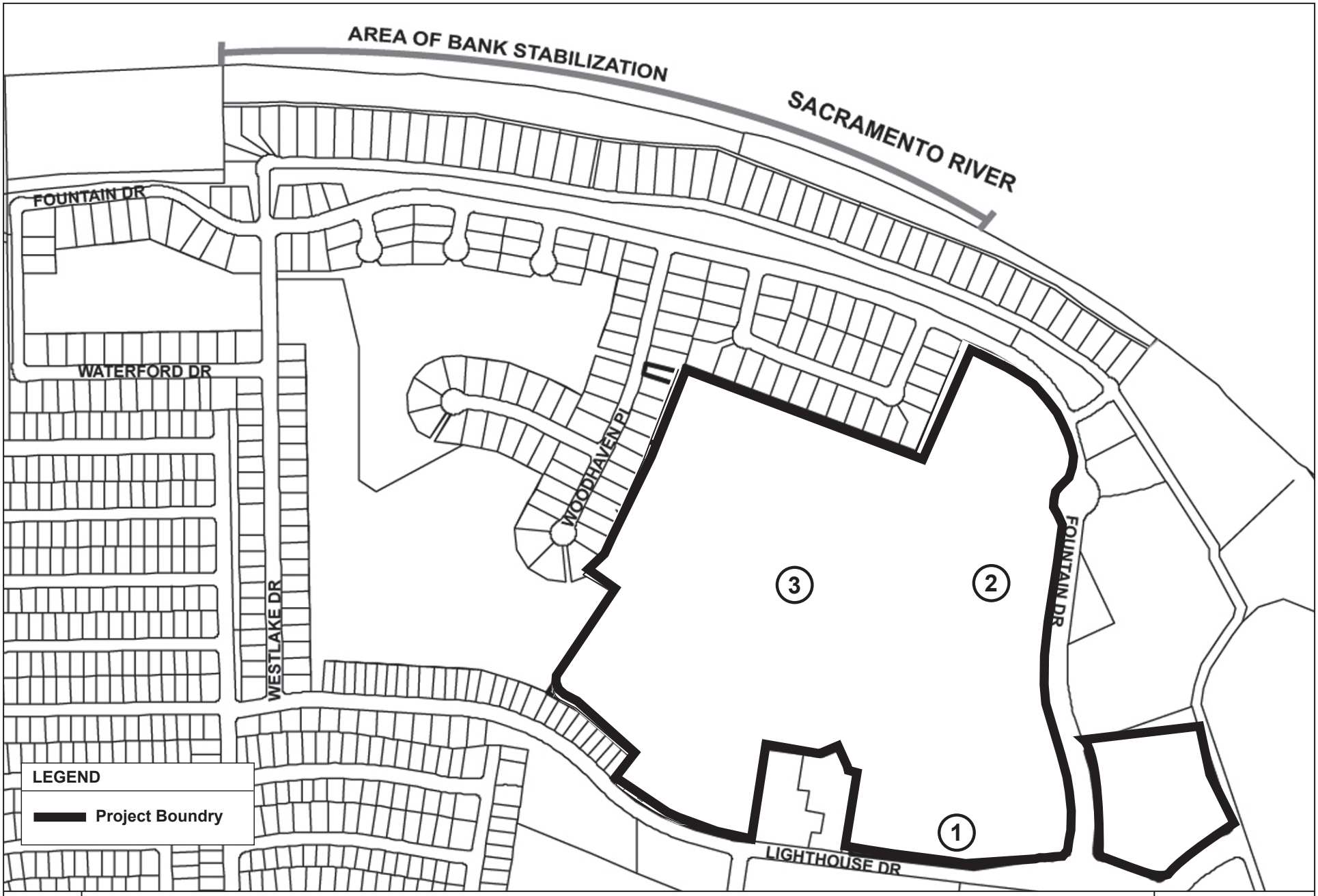

FIGURE **4.7-1**

Noise Monitoring Locations

Not to Scale

11006-00

***Source*:** EIP Associates, 2005

EIP ASSOCIATES

4.7.3 REGULATORY SETTING

Federal

There are no federal regulations related to noise that apply to the proposed project.

State

There are no State regulations that apply to the proposed project.

Local

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to noise. Table II-4, Table II-6, and Figure II-1, as referenced in the General Plan, are shown in this document as Tables 4.7-3, 4.7-4, and 4.7-5, respectively.

TABLE 4.7-3

NOISE LEVEL PERFORMANCE STANDARDS FOR NEW PROJECTS AFFECTED BY OR INCLUDING NON-TRANSPORTATION NOISE SOURCES

Land Use	Noise Level Descriptor	Exterior Noise Levels		Interior Noise Levels	
		Daytime (7 am to 10 pm)	Nighttime (10 pm to 7 am)	Daytime (7 am to 10 pm)	Nighttime (10 pm to 7 am)
Residential	Hourly L_{eq}, dBA Maximum Level, dBA	50 70	45 65	45 --	35 --
Transient Lodging	Hourly L_{eq}, dBA	--	--	45	35
Hospitals, Nursing Homes	Hourly L_{eq}, dBA	--	--	45	35
Theatres, Auditoriums, Music Halls	Hourly L_{eq}, dBA	--	--	35	35
Churches, Meeting Halls	Hourly L_{eq}, dBA	--	--	40	40
Office Buildings	Hourly L_{eq}, dBA	--	--	45	45
Schools, Libraries, Museums	Hourly L_{eq}, dBA	--	--	45	45

Notes:
Each of the noise levels specified above all shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).
Source: EIP Associates, 2005.

TABLE 4.7-4

MAXIMUM ALLOWABLE NOISE EXPOSURE TRANSPORTATION NOISE SOURCES

Land Use	Outdoor activity Areas[1] L_{dn}/CNEL, dB	Interior Spaces	
		L_{dn}/CNEL, dB	L_{eq}, dB[2]
Residential	60[3]	45	--
Transient Lodging	60[3]	45	--
Hospitals, Nursing Homes	60[3]	45	--
Theatres, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60[3]	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

Notes:
1. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
2. As determined for a typical worst-case hour during periods of use.
3. Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed, provided that practical exterior noise level reduction measures have been implemented and that interior noise levels are in compliance with this table. An exterior noise level of 70 dB L_{dn}/CNEL shall be allowed in the Triangle Specific Plan Area.

Source: EIP Associates, 2005.

TABLE 4.7-5

FEASIBILITY OF DEVELOPMENT WITH RESPECT TO NOISE

Land Use Category	Community Noise Exposure Ldn or CNEL, dB						
	55	60	65	70	75	80	85
Residential, Theatres, Auditoriums, Music Halls, Meeting Halls, Churches							
Transient Lodging, Motels, Hotels							
Schools, Libraries, Museums, Hospitals, Nursing Homes, Child Care							
Playgrounds, Neighborhood Parks							
Office Buildings, Retail Commercial							
Industrial, Manufacturing, Utilities							
Golf Courses, Outdoor Spectator Sports							

Notes:

Feasible	Specified land use is satisfactory. No noise mitigation measures are required.
Probably Feasible	Use should be permitted only after careful study and inclusion of protective measures as needed to satisfy the policies of the Noise element.
Usually Not Feasible	Development is usually not feasible in accordance with the goals of the Noise Element.

Scenarios A and B

Goal E: **To protect city residents from the harmful effects of excessive noise.**

Policy 1: New development of uses contained in Table II-4 shall not be allowed where the noise level due to non-transportation noise sources will exceed the noise level standards of Table II-4 as measured immediately within the property line of the new development. Where the land uses contained in Table II-4 are proposed in areas exposed to existing or projected exterior non-transportation noise levels exceeding the performance standards in Table II-4, an acoustical analysis shall be required, and appropriate noise mitigation shall be included in the project design.

Policy 2: Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table II-4 at existing or planned uses shown in Table II-4, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design. The requirements for the content of an acoustical analysis are given by Table II-5.

Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table II-4 as measured immediately within the property line of land uses designated for in Table II-4.

Policy 3: The feasibility of proposed projects with respect to existing and future transportation noise levels shall be evaluated by comparison to Figure II-1.

Policy 4: New development of land uses contained in Table II-6 will not be permitted in areas exposed to existing or projected levels of noise from transportation noise sources which exceed the levels specified in Table II-6. Where the land uses contained in Table II-6 are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table II-6, an acoustical analysis shall be required and appropriate mitigation shall be included in the project design.

Policy 5: Noise created by new transportation noise sources (other than roadway improvement projects) shall be mitigated so as not to exceed the levels specified in Table II-6 at outdoor activity areas or interior spaces of the existing uses specified in Table II-6.

Policy 7: Where noise mitigation measures are required to achieve the standards of Tables II-4 and II-6, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.

Note: New single-family dwellings constructed on existing lots are not subject to City review with respect to satisfaction of the standards of the Noise Element. As a consequence, such dwellings may be constructed in areas where exterior noise levels exceed the standards of the Noise Element. It is not the responsibility of the City to ensure that such dwellings meet the noise standards of the Noise Element, or the noise standards imposed by lending agencies such as HUD, FHA and Cal Vet. If homes are located and constructed in accordance with the Noise Element, it is expected that the resulting exterior and interior noise levels will conform to the HUD/FHA/Cal Vet noise standards.

City of West Sacramento Municipal Code

Section 17.32.030 of the West Sacramento Zoning Ordinance sets noise level performance standards.

4.7.4 IMPACTS AND MITIGATION MEASURES

Method of Analysis

Traffic Noise Impact Assessment Methodology

The analysis of the existing and future noise environments presented in this analysis is based on noise level monitoring, noise prediction modeling, and empirical observations. Existing noise levels were monitored by EIP Associates at selected locations within the project vicinity using a Larson-Davis Model 814 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation.

Noise modeling focuses on the noise resulting from traffic on roadways in the vicinity of a project. Modeling procedures involve the calculation of existing and future vehicular noise levels along individual roadway segments in the project vicinity. This task was accomplished using the Federal Highway Administration (FHWA) Highway Noise Prediction Model (FHWA-RD-77-108). The FHWA Model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. Traffic volumes utilized as data inputs in the noise prediction model were provided by the project traffic engineer.

Construction Noise Impact Methodology

Construction noise was analyzed using data compiled by the US Environmental Protection Agency that lists typical noise levels at 50 feet for construction equipment and various construction activities.

Standards of Significance

For the purpose of this EIR, noise impacts are considered significant if the proposed project would:

- Create transportation noise levels at land uses specified in Table II-6 of the West Sacramento General Plan that would exceed the levels specified for these uses in Table II-6.
- Create non-transportation noise levels at land uses specified in Table II-4 of the West Sacramento General Plan that would exceed the levels specified for these uses in Table II-4.
- At locations where ambient noise levels are already above City standards; increase noise levels at sensitive receptors above existing ambient levels by 5 dBA or more. A 5 dBA increase is the threshold at which a noise increase becomes readily noticeable to the human ear.

Project Impacts and Mitigation Measures

4.7-1 Construction of the proposed project would temporarily increase noise levels at nearby sensitive noise receptors.

Scenarios A and B

During construction of the proposed project, including the bank stabilization component, noise levels would be produced by the operation of heavy-duty equipment and various other construction activities. This construction noise would affect surrounding uses, but would be temporary, lasting only until the proposed project is completely built. The receptors in the area would experience different amounts of construction noise at different times during the construction period, as equipment moves from one area of the site to another, and building occurs on different portions of the site, including the bank stabilization portion of the project. As discussed in the environmental setting, existing residences are located to the north, west, and southwest of the project site. These residences would be considered sensitive receptors. Construction activities could occur in relatively close proximity to the closest existing residences as the edges of project site are graded, and as new homes are erected near the northern and western borders of the site. Also, since the construction of homes could occur over a three-year time frame, some homes could be occupied before the end of the construction period. These residents would be exposed to construction noise.

Table 4.7-6 shows typical noise levels produced by various pieces of construction equipment at a distance of 50 feet. As shown in Table 4.7-6, the highest levels of construction noise are produced by heavy-duty impact equipment such as pile drivers and jackhammers. Because the project site is undeveloped, and because no tall buildings are proposed as components of the project, it is unlikely that impact equipment would be used for any substantial period of time. Other construction equipment that can produce high noise levels, however, would most likely be used. Heavy-duty trucks, tractors, and backhoes would all probably be used at some point during the construction of the proposed project. It can also be assumed that this equipment would be used on all portions of the site, including the borders that are adjacent to existing residences. As shown in Table 4.7-6, equipment of this type could produce peak noise levels in the 95-98 dBA range.

High levels of construction noise are of greatest concern to existing residences. During construction, these residences could be exposed to noise levels above the standards found in the Municipal Code. PD-29 limits construction activities to the hours between 7:00 A.M. and 6:00 P.M. . Project construction activities would be required to comply with this requirement.

The proposed school is expected to be built and occupied before construction of the residential units is completed. Consequently, construction would occur during school hours when the proposed school would be in session. This could potentially expose students to interior noise levels in excess of the limits in Table II-6 of the Municipal Code. Construction noise experienced by students at the school would be reduced through the use of construction techniques and materials that are associated with current new development practices. The rule of thumb is that new construction usually attenuates noise by 30 dBA or more. This would reduce construction noise levels on the interior of the school. Even though construction noise would be intermittent and temporary, this would be a ***significant impact***.

TABLE 4.7-6

NOISE RANGES OF TYPICAL CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Levels in dBA Leq at 50 feet[1]
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-95
Pile Driving (peaks)	95-107
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88

Notes:
1. Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.

Source: U.S. EPA, 1971.

Impacts under Scenario B would be identical to those under Scenario A with respect to construction noise. However, since Scenario B does not include a school, noise impacts to students during construction would not occur.

Mitigation Measure

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

4.7-1 (A & B) (a) *Construction activities shall be restricted to occur between the hours of 7:00 A.M. and 6:00 P.M. All internal combustion engines shall be adequately muffled and maintained.*

In addition, the following mitigation measure is recommended for Scenario A only:

(b) *Construction of the school shall include noise attenuation techniques and materials to ensure acceptable interior noise levels.*

4.7-2 Proposed project would create non-transportation noise.

Introducing new residential and school uses into the area would result in new non-transportation noise sources associated with residential development heating and air conditioning units. Noise would also be produced by the typical daily outdoor activity of the residents of the proposed project. None of these noise sources would be considered atypical for residential development. The bank stabilization, once construction was completed, would not contribute any noise.

Scenario A

Residential uses developed under Scenario A would result in new non-transportation noise sources such as heating and air conditioning units. Scenario A also includes development of residential and school uses that would generate non-transportation noise. School activities and the sound of children playing would be noise sources associated with the school. Maximum noise levels from 40-80 children playing at school playgrounds have been measured in the 75-78 dB range at 50 feet. Depending on where the school playground is located, and its proximity to residential uses, noise from playground activity could exceed maximum allowable noise levels at residential uses. These noise levels could impact residents, especially since as evidenced by the noise monitoring data collected at the project site shown in Table 4.7-2, rather quiet conditions predominate at the site. Hourly or 24-hour noise levels would not be exceeded because recess activity would only last for portions of any hour.

Scenario B

Residential uses developed under Scenario B would result in new non-transportation noise sources such as heating and air conditioning units. Noise would also be produced by the typical daily outdoor activity of the residents of the proposed project.

Analysis

Under Scenarios A and B, non-mobile noise sources associated with residential uses would be typical to a residential environment, and no existing stationary noise sources exist in the project vicinity that could impact new receptors. This would result in a ***less-than-significant impact*** for Scenario B. Under Scenario A, the proposed school could subject residents to maximum noise levels in excess of those allowed. This would be a ***significant impact*** for Scenario A.

Playground noise can be mitigated through constructing barriers between the noise source and the nearest receptors, or by creating appropriate distance between noise sources and receptors. Creating barriers is not feasible for the proposed project.

Mitigation Measures

Implementation of the following mitigation measure would reduce this impact for Scenario A to a *less-than-significant level*. No mitigation is required for Scenario B.

4.7-2 (A) *School playgrounds shall be sited at least 100 feet from the nearest residence.*

4.7-3 The proposed project would create transportation noise that could affect new and existing sensitive receptors.

Introducing new residential and school uses into the area would result in new noise sources associated with increased vehicle traffic. The bank stabilization, once construction was completed, would not contribute any noise.

Scenario A

The proposed project would increase ambient noise levels by increasing traffic on local roads. The traffic increase would be mostly the result of the residential component of the project. Table 4.7-7 shows both existing and existing plus project noise levels for various roadways in

TABLE 4.7-7

EXISTING AND EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

Roadway	Segment	Roadway Noise Levels at 30 Feet (L_{dn})		
		Existing No Project	Existing Plus Project (Scenario A)	Change (dB L_{dn})
Kegle	Lighthouse/Cummins	62.5	64.6	+2.1
Kegle	Cummins/Sacramento	64.2	65.1	+0.9
Douglas	Lighthouse/Cummins	56.8	59.1	+2.3
Douglas	Cummins/Sacramento	57.9	59.4	+1.5
5th Street	Fountain/C Street	61.6	64.7	+3.1
Lighthouse	Kegle/Douglas	58.0	59.8	+1.8
Lighthouse	Douglas/Fountain	57.2	60.6	+3.4
Cummins	Kegle/Douglas	55.9	55.9	0
Cummins	Douglas/6th Street	55.8	55.8	0
Sacramento	Kegle/Douglas	66.7	66.9	+0.2
Sacramento	Douglas/5th Street	66.4	66.4	0
Roadway	**Segment**	**Roadway Noise Levels at 30 Feet (L_{dn})**		
		Existing No Project	**Existing Plus Project (Scenario B)**	**Change (dB L_{dn})**
Kegle	Lighthouse/Cummins	62.5	63.8	+1.3
Kegle	Cummins/Sacramento	64.2	65.1	+0.9
Douglas	Lighthouse/Cummins	56.8	58.2	+1.4
Douglas	Cummins/Sacramento	57.9	59.1	+1.2
5th Street	Fountain/C Street	61.6	64.7	+3.1
Lighthouse	Kegle/Douglas	58.0	59.8	+1.8
Lighthouse	Douglas/Fountain	57.2	60.5	+3.3
Cummins	Kegle/Douglas	55.9	56.8	+0.9
Cummins	Douglas/6th Street	55.8	56.1	+0.3
Sacramento	Kegle/Douglas	66.7	66.9	+0.2
Sacramento	Douglas/5th Street	66.4	66.4	0

Source: EIP Associates, 2005.

the vicinity of the proposed project under Scenario A. The highest existing noise levels are over 66 dBA L_{dn} at 30 feet from the center of the roadway along Sacramento Street between Kegle and 5th Street. Residential uses currently exist along all of the roadways evaluated in the traffic report prepared for this project. Consequently, noise impacts were evaluated for all of these road segments. Because exterior to interior noise decreases are about 30 dBA, no residential uses would exceed the City's 45 dBA interior noise standard for residential uses.

As shown in Table 4.7-7, the proposed project would not increase roadway noise by more than 5 dBA L_{dn} along any of the roadways. However, increases in traffic as a result of Scenario A would cause noise levels along Lighthouse Drive between Douglas Street and Fountain Drive to exceed the City's 60 dBA L_{dn} exterior noise standards for residential uses, raising it from 57.2 dBA Ldn to 60.6 dBA Ldn.

Scenario B

Scenario B would also generate noise associated with project-related traffic. Table 4.7-7 shows existing and existing plus project noise levels for various roadways in the vicinity of the proposed project under Scenario B. As discussed above, the highest existing noise levels are

along Sacramento Street. As with Scenario A, no roadway segments would experience noise increases in excess of 5 dBA L_{dn}. However, noise levels would be raised above the City's 60 dBA L_{dn} exterior noise standard on Lighthouse Drive between Douglas Street and Fountain Drive, resulting in new noise levels of 60.5 dBA L_{dn}.

Analysis

As discussed in the regulatory section, the City of West Sacramento has developed noise standards for residential uses. Typically, a 3 dBA increase in ambient noise levels is considered barely perceptible, and a 5 dBA increase is considered readily noticeable. Consequently, if any existing sensitive noise receptors are subject to ambient noise levels already in excess of applicable standards, significance would be determined by whether the receptors would be exposed to an ambient increase of 5 dBA or more. Under both Scenarios A and B, noise levels that are currently below 60 dBA L_{dn} would be raised above the City's 60 dBA L_{dn} exterior noise standard on Lighthouse Drive between Douglas Street and Fountain Drive; therefore exposing existing residences located along this roadway segment to noise levels of 60.6 and 60.5 dBA L_{dn}, and resulting in a ***significant impact.***

No roadways along which new residences are proposed would be exposed to noise levels in excess of the 60 dBA L_{dn} standard.

Mitigation Measures

No feasible mitigation measures exist to mitigate the proposed project's impact to existing residences on this section of Lighthouse Drive. Consequently, this impact would remain *significant and unavoidable* for Scenarios A and B.

4.7-3 (A & B) *None available.*

Cumulative Impacts and Mitigation Measures

The cumulative context for this project is defined as the buildout of development projects in the City of West Sacramento as described in Section 5.3, Cumulative Impacts.

4.7-4 The proposed project would influence cumulative noise levels in future years.

The proposed project would contribute traffic that would increase noise levels along local roadways in 2025. These predicted future traffic noise levels are shown in Table 4.7-8.

Scenario A

As shown in Table 4.7-8, under Scenario A no roadway segments in the project vicinity with "cumulative no project" noise levels in excess of 60 dBA L_{dn} would experience traffic noise increases of 5.0 dBA L_{dn} or greater. However, existing residences along one roadway segment, Douglas Street between Lighthouse Drive and Cummins Way, which has "cumulative no project" traffic noise levels of less than 60 Dba L_{dn}, would have their exterior noise levels raised above the City 60 dBA L_{dn} standard in 2025. While this only represents a 0.8 dBA L_{dn} overall increase, it would still cause residential uses to have their noise levels raised above the applicable standard.

TABLE 4.7-8

CUMULATIVE TRAFFIC NOISE LEVELS (2025)

Roadway	Segment	Roadway Noise Levels at 30 Feet (L_{dn}) 2025 No Project	2025 Scenario A	Change (dB L_{dn})
Kegle	Lighthouse/Cummins	64.2	65.1	+0.9
Kegle	Cummins/Sacramento	65.3	66.1	+0.8
Douglas	Lighthouse/Cummins	59.4	60.2	+0.8
Douglas	Cummins/Sacramento	63.5	61.3	-2.2
5th Street	Fountain/C Street	65.7	66.9	+1.2
Lighthouse	Kegle/Douglas	60.3	61.4	+1.1
Lighthouse	Douglas/Fountain	60.0	62.1	+2.1
Cummins	Kegle/Douglas	57.1	58.0	+0.9
Cummins	Douglas/6th Street	57.3	56.9	-0.4
Sacramento	Kegle/Douglas	68.7	68.8	+0.1
Sacramento	Douglas/5th Street	68.4	68.4	0
Roadway	**Segment**	**Roadway Noise Levels at 30 Feet (L_{dn}) 2025 No Project**	**2025 Scenario B**	**Change (dB L_{dn})**
Kegle	Lighthouse/Cummins	64.2	65.1	+0.9
Kegle	Cummins/Sacramento	65.3	66.1	+0.8
Douglas	Lighthouse/Cummins	59.4	59.4	0
Douglas	Cummins/Sacramento	63.5	61.3	-2.2
5th Street	Fountain/C Street	65.7	66.7	+1
Lighthouse	Kegle/Douglas	60.3	61.4	+1.1
Lighthouse	Douglas/Fountain	60.0	62.1	+2.1
Cummins	Kegle/Douglas	57.1	57.1	0
Cummins	Douglas/6th Street	57.3	57.3	0
Sacramento	Kegle/Douglas	68.7	68.8	+0.1
Sacramento	Douglas/5th Street	68.4	68.4	0

Source: EIP Associates, 2005.

Scenario B

As shown in Table 4.7-8, Under Scenario B no increases in roadway noise over 5.0 dBA L_{dn} would occur at road segments with "cumulative no project" traffic noise levels over 60 dBA L_{dn} as a result of the proposed project. Also, the proposed project would not raise cumulative noise levels along any roadways above acceptable City exterior standards for residential development. Consequently, the proposed project would not expose either existing or new receptors to unacceptable traffic noise in 2025.

Analysis

Under Scenario A, roadway segments experiencing "cumulative no project" noise levels greater than 60 dBA L_{dn} in the project vicinity would not experience traffic noise increases of 5.0 dBA L_{dn} or greater under cumulative plus project conditions. However, existing residences along one roadway segment, Douglas Street between Lighthouse Drive and Cummins Way, which would have "cumulative no project" noise levels below City standards, would have exterior noise levels raised above City standards in 2025.

The fact that under Scenario A traffic generated in 2025 would expose existing residences along one roadway segment to exterior noise levels above the City's standard indicates that the project would contribute to a significant cumulative increase in vehicle noise. Also, the proposed project's exceedance of the City's standard by itself indicates that its contribution would be considerable. Consequently, increases in noise levels contributed by traffic under Scenario A would be considerable, resulting in a ***significant cumulative impact***.

Noise levels contributed by the project under Scenario B to cumulative noise levels would not expose either existing or new receptors to unacceptable traffic noise; and therefore, the cumulative impact would be ***less than significant***.

Mitigation Measures

There are no realistic mitigation measures available to reduce the traffic impact of the proposed project to existing residences along this roadway segment. Noise levels contributed by the project under Scenario A to cumulative noise levels would expose existing receptors to unacceptable traffic noise; and therefore, the cumulative impact would remain *significant and unavoidable*. No mitigation is required for Scenario B.

4.7-4 (A) *None available.*

4.8 PUBLIC SERVICES

4.8 PUBLIC SERVICES

4.8.1 INTRODUCTION

This section of the EIR describes public services provided in the City of West Sacramento, including police protection, fire protection, solid waste, schools, and parks and recreation. The section describes the existing services and facilities and evaluates potential increases in service demands resulting from future development of the proposed project.

Information in this section is based on a review of existing documentation, including the City of West Sacramento General Plan Background Document, City of West Sacramento General Plan Policy Document, the City of West Sacramento General Plan Environmental Impact Report, the City of West Sacramento Parks Master Plan, the City of West Sacramento Fire Department Master Plan to the 21st Century, and a site visit in March 2005.

Issues raised in NOP (see Appendix A) comment letters (see Appendix B) relevant to public services include: concerns for potential impacts related to police and fire protection services, and the potential for the proposed project to compromise the Police Department's ability to maintain performance objectives for acceptable response times, as well as the potential social, educational and other public service demands placed on the Police Department as a result of project development. Comments were also received that addressed the adequate fulfillment of environmental review requirements for the construction of the school facility proposed under Scenario A. These issues have been considered in this section of the EIR.

4.8.2 FIRE PROTECTION SERVICES

4.8.2a ENVIRONMENTAL SETTING

The City of West Sacramento Fire Department (Fire Department) provides fire protection and emergency services within the City limits in addition to the unincorporated area south of the City of West Sacramento boundary to Babel Slough Road and across to the Old Arcade Station on Jefferson Blvd. Additional responsibilities include Automatic Aid agreements with Yolo County and a Mutual Aid Agreement with the City of Sacramento Fire Department.[1] The West Sacramento Fire Department is the designated first responder to medical emergencies within West Sacramento.

The Fire Department currently operates four fire stations. The project area would be served by Station 44, with stations 41 and 43 providing backup service if call stacking occurs. Station 41 is located at 132-15th Street, Station 43 is located at 1561 Harbor Blvd and Station 44 is located at 905 Fremont Blvd. Future plans include the construction of a single station at Jefferson Boulevard and Lake Washington Boulevard as well as the construction of a station located on Sacramento Street to replace Station 44.[2] Response equipment includes: six pumpers, two brush vehicles (four-wheel drive), one rescue squad, one 3,000 gallon tanker, a rescue boat, one truck company that is capable of reaching as high as 100 feet, and one air truck.[3]

The Fire Department currently maintains 15 personnel 24 hours a day between the four stations. The Emergency Services Division has 45 full-time employees. The Fire Department's

standard performance goal is within five minutes after receiving an alarm 95 percent of the time. Average response times vary but are typically characterized by three minute response times.

Station #44 is located approximately 1.25 miles away from the southeast corner of the project site and approximately 1.88 miles away from the northwest corner of the project site.[4] This station is equipped with one engine and a brush rig (pickup). Staffing includes one captain and one firefighter. The City has purchased property located near the corner of Sacramento Street and Kegle Drive for the purpose of building a replacement for the existing Station #44, but funding is not currently available for construction of the new facility.

The bank stabilization site is located adjacent to the west bank of the Sacramento River, just upstream of the confluence of the American and Sacramento Rivers. The project proposes to construct a protective dike, enhanced by the construction of a berm, reinforced by rocks and native vegetation along the riverbanks for erosion control. The Fire Department currently responds to calls for fires related to transient activity in the general vicinity of the bank stabilization project and would continue to respond to calls following installation of the stabilization project.

4.8.2b REGULATORY SETTING

Federal

There are no federal regulations that pertain to the provision of fire protection services relevant to this project.

State

There are no State regulations that pertain to the provision of fire protection services relevant to this project.

Local

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to Fire Protection Services:

Scenarios A and B

Goal F: **To ensure that an adequate level of fire service is maintained as new development occurs.**

Policy F.1: The City shall endeavor to achieve and maintain a fire insurance (ISO) rating of 3 or better in the developed portion of the City. The goal for average response times for Priority 1 (emergency) calls shall be five minutes for 95 percent of the calls.

Policy F.3: The City shall attempt to offset the need for new fire department staff and equipment and to improve fire safety by requiring installation of built-in fire suppression equipment in all new development of buildings exceeding 4,000 SF.

4.8.2c FIRE PROTECTION SERVICES IMPACTS AND MITIGATION MEASURES

Method of Analysis

Project impacts were assessed using relevant General Plan policies as well as population data and generation factor assumptions based on land use density as defined by the City's General Plan. In order to maintain an acceptable response time of five minutes for 95 percent of emergency calls, the City has established a level of service ratio of 1.4 firefighters for every 1,000 residents.[5] Under Scenario A, the applicant proposes 406 high density residential units, 202 medium density residential units, 18 low density residential units, a school, and a park. Under Scenario B, the applicant proposes 582 high density residential units, 202 medium density residential units, 18 low density residential units, and a park.

The City of West Sacramento General Plan assumes a ratio of 2.25 persons for high-density residential units, 2.50 persons for medium-density residential units, and 3.00 persons for low density residential units. Based on these factors, Table 4.8-1 presents the number of residents estimated to be generated by development of the proposed project. As shown in Table 4.8-1, a population of approximately 1,473 residents would be generated under Scenario A and approximately 1,869 residents would be generated under Scenario B.

TABLE 4.8-1

PROJECT POPULATION ASSUMPTIONS

Land Use	Residential Units Scenario A	Residential Units Scenario B	Assumed Population Scenario A	Assumed Population Scenario B
HR High-Density Residential	406	582	914	1310
MR Medium-Density Residential	202	202	505	505
LR Low-Density Residential	18	18	54	54
Total	**626**	**802**	**1473**	**1869**

Source and Data:
City of West Sacramento General Plan EIR, City of West Sacramento Zoning Ordinance and City of West Sacramento Ordinance 89-9.
High-density Residential assumes 2.25 persons per dwelling unit, Medium-density Residential assumes 2.50 persons per dwelling unit, and Low-density Residential assumes 3.00 persons per dwelling unit.

Standards of Significance

For the purposes of this EIR, fire protection services impacts are considered significant if the proposed project would:

- Result in degradation of fire protection response times below the level acceptable to the City; or
- Result in the construction or modification of fire protection facilities in order to maintain acceptable levels of service ratios, response times, or other performance objectives, the construction or modification of which could result in substantial adverse environmental effects.

Project Impacts and Mitigation Measures

4.8-1 Development of the project could generate the need for additional firefighters, resulting in the need to construct additional fire protection facilities in order to maintain acceptable levels of service.

Project development includes residential development under scenarios A and B and a school (under Scenario A) resulting in an increase in population generating the need for additional firefighters in order to meet the City's standard of maintaining 1.4 firefighters per 1,000 people. The project would also involve the construction of a two-acre park and bank stabilization work along the Sacramento River consisting of rock placement and revegetation.

Scenario A

As shown in Table 4.8-2, under Scenario A, project development would generate 1,473 residents which would result in the need for an additional 2 firefighters in order to maintain acceptable service levels.

TABLE 4.8-2

ESTIMATED NEED FOR ADDITIONAL FIREFIGHTERS RESULTING FROM PROJECT DEVELOPMENT

Development Scenario	Standard[1] (Firefighters/Residents)	Number of Residents Generated from Project Development	Additional Firefighters Needed
Scenario A	1.4/1000	1473	2
Scenario B	1.4/1000	1869	2.6

Notes:
1. A Standard ratio of 1.4 Firefighters per 1,000 residents is the threshold established by the City of West Sacramento in order to maintain adequate response times.

Source and Data: EIP Associates, 2005.

Scenario B

As shown in Table 4.8-2, under Scenario B, project development would generate 1,869 residents which would result in the need for an additional 2.6 firefighters in order to maintain acceptable service levels.

Analysis

The City has defined a response time of five minutes for 95 percent of priority 1 (emergency) calls as the desirable level of Fire Protection Service. The Fire Department currently maintains a response time of five minutes for approximately 80 percent of the emergency calls due to call stacking and residential street design within the area.[6] Call stacking occurs when an engine is on call and the station receives another emergency call, thereby requiring assistance from another station to respond to the emergency. Residential development rates and increased housing densities are resulting in increased call stacking events in the project area.[7] Development of the proposed project would result in an increase in the local population, resulting in a decrease in the ratio of firefighters per capita for the City of West Sacramento Fire Department. Stations #41 and #43 currently assist with emergency calls as needed. Distance to these stations is greater and therefore, response times are greater.

An additional obstacle to maintaining desired response times is residential street design within area neighborhoods, including the area located at the northeastern corner of the project. The proposed project would be required to design all proposed streets in compliance with existing adopted standards for street design as specified by the City's Standard Specifications.

The Fire Department currently has the capacity to house additional firefighters.[8] Funding for additional fire department personnel would not be the responsibility of the project applicant. Sufficient funding for ongoing operations, including the cost of additional fire department personnel associated with the proposed project, would be generated from property taxes collected from areas that are outside the City's Redevelopment Project Area; sales taxes generated within the City; and pass through payments from the City's Redevelopment Agency to the City's General Fund. Because project development would result in the need for additional firefighters in order to maintain adequate levels of service at Station #44 and elsewhere, impacts on fire protection services are considered ***potentially significant***.

Mitigation Measure

The following mitigation measure would reduce the project's contribution to the above-mentioned impact to a *less-than-significant level*.

4.8-1 (A & B) *The City shall collect sufficient funding for ongoing operations, including the cost of additional fire department personnel associated with the proposed project. The funds shall be generated from property taxes collected from areas that are outside the City's Redevelopment Project Area; sales taxes generated within the City; and pass through payments from the City's Redevelopment Agency to the City's General Fund.*

Cumulative Impacts and Mitigation Measures

The cumulative context for this project is defined as the buildout of development projects in the City of West Sacramento as described in Section 5.3, Cumulative Impacts.

4.8-2 Implementation of the proposed project, in combination with other development in the City of West Sacramento, could result in increased demands for fire protection services.

Scenarios A and B

Assuming that calls for fire protection services would rise proportionately with population increases in the City of West Sacramento as projected by the County's General Plan, incremental residential development would result in the need for additional firefighters, related equipment, and facilities. The proposed project would contribute to the increased demand, therefore, the impacts are considered ***potentially significant***.

Mitigation Measure

The following mitigation measure would reduce the project's contribution to the above-mentioned impact to a *less-than-significant level*.

4.8-2 (A & B) *Implement Mitigation Measure 4.8-1.*

Implementation of Mitigation Measure 4.8-1 requires the City to collect sufficient funds to provide adequate fire protection services.

4.8.3 POLICE PROTECTION SERVICES

4.8.3a ENVIRONMENTAL SETTING

The City of West Sacramento Police Department (Police Department) is responsible for providing a full range of services to the community including: patrolling city neighborhoods, responding to calls for service, investigating crime and arresting offenders, and working closely with the community to identify and solve problems of crime and neighborhood disorder. The Police Department employs two School Resource Officers that work in collaboration with the WUSD. The Police Department also provides education services to assist the community in keeping their homes and neighborhoods safe. Police units are still dispatched through the Yolo County Communications center in Woodland.[9]

The Police Department is divided into four divisions: Administration, Support Services/Research and Development, Investigations, and Operations and is responsible for patrolling 23.3 square miles. The Police Department is staffed by 67 sworn officers and 32 full-time employees and includes part-time police, parking enforcement officers, clerks, reserve police officers and senior volunteers as well. Statistics for 2004 totaled 2,327 incidents, a figure that was down by two percent from 2003 for the City of West Sacramento.[10]

The City of West Sacramento has defined the Police Department's performance goals based on response times. The goal for response times is an average of five minutes for emergency calls. In order to meet the desired goals, the City's General Plan requires that minimum feasible response times for police calls be maintained through adequate staffing and patrol arrangements and also requires annual monitoring and reporting of response times.

The West Sacramento Police Department is located at 550 Jefferson Blvd., approximately 1¼ miles from the southeast corner of the project site and approximately two miles from the northwest corner of the project site. The typical response time for Priority one calls is two to four minutes.[11] Staffing needs are based on the number of calls for service.[12]

4.8.3b REGULATORY SETTING

Federal

There are no federal regulations that pertain to the provision of police services relevant to this project.

State

There are no state regulations that pertain to the provision of police services relevant to this project.

Local

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to Police Services:

Scenarios A and B

Goal E: **To ensure that an adequate level of police service is maintained as new development occurs.**

Policy E.1: The City shall, through adequate staffing and patrol arrangements, endeavor to maintain the minimum feasible response times for police calls. The goal for average response time for Priority 1 (emergency) calls shall be five minutes.

Policy E.3: The City shall encourage the use of private patrols and security personnel in large residential and commercial developments to supplement police services.

4.8.3c POLICE PROTECTION SERVICES IMPACTS AND MITIGATION MEASURES

Method of Analysis

Project impacts were assessed using relevant General Plan policies as well as population data and generation factor assumptions based on land use density as defined by the City's General Plan. In order to maintain an acceptable response time of five minutes for emergency calls, the City has established a level of service ratio of two sworn officers per 1,000 residents and additional non-sworn staffing at a ratio of two non-sworn officers for every sworn officer.[13] Population assumptions based on project development are shown in Table 4.8-1.

Standards of Significance

For the purposes of this EIR, police protection services impacts are considered significant if the proposed project would:

- Result in degradation of police protection response times below the level acceptable to the City; or
- Result in the construction or modification of police protection facilities in order to maintain acceptable levels of service ratios, response times, or other performance objectives, the construction or modification of which could result in substantial adverse environmental effects.

Project Impacts and Mitigation Measures

4.8-3 Development of the project could generate the need for additional sworn and non-sworn officers resulting in the need to construct additional police protection facilities in order to maintain acceptable levels of service.

Project development would result in residential development generating the need for additional sworn and non-sworn officers. Project development would also involve the construction of a two-acre park and bank stabilization activities along the Sacramento River. The development would include a private security patrol funded by the Homeowner's Association.

Scenario A

As shown in Table 4.8-3, under Scenario A, project development would generate 1,473 residents which would result in the need for an additional 2.9 sworn officers and 5.9 non-sworn officers. This scenario also includes operation of an elementary school facility and a two-acre

park. School development would include parking lot lighting and building mounted exterior lighting for safety and security.[14]

TABLE 4.8-3

ESTIMATED NEED FOR ADDITIONAL SWORN AND NON-SWORN OFFICERS RESULTING FROM PROJECT DEVELOPMENT

Development Scenario	Standard[1] (Sworn Officers/Residents)	Number of Residents Generated from Project Development	Additional Sworn Officers Needed	Additional Non-Sworn Officers[2] Needed
Scenario A	2/1000	1473	2.9	5.9
Scenario B	2/1000	1869	3.7	7.5

Notes:
1. A Standard ratio of 2.0 Sworn Officers per 1,000 residents is the threshold established by the City of West Sacramento in order to maintain adequate response times.
2. For every sworn officer, the City of West Sacramento Police Department requires additional staffing at a ratio of 2:1 for non-sworn officers.

Source and Data: EIP Associates, 2005.

Scenario B

As shown in Table 4.8-3, development under Scenario B would generate the need for 3.7 sworn officers and 7.5 non-sworn officers.

Analysis

The City has a current population of 40,000 with 65 sworn officers serving in the Police Department.[15] Therefore, the Police Department is currently operating below the established staffing level by 15 sworn officers. [16] Additional staffing and/or staff time above the established standard would also be needed in order to continue providing supplemental community services and programs including: education and outreach, bike patrols, school officers, K-9 units, and code enforcement, etc., as the population grows.[17] Although the City's General Plan includes specific policies for maintaining Police Department staffing levels, staffing levels for sworn officers remain below City defined standards due to rapidly increasing residential development within the West Sacramento area.[18] Additionally, the Department experiences a substantial time lag between hiring new sworn officers and actually having those officers on the ground serving the community. Training in accordance with State and local regulations requires a minimum of 18 months.[19]

The City's General Plan has identified adequate staffing and patrol arrangements as implementations for meeting the goal response times for police protection services. Adequate Police Department staffing would be maintained through the implementation of the goals and policies of the General Plan. Section 12.40 of the City's Municipal Code requires the imposition of a development fee for police facilities. The Police Facilities Development Fee is required prior to issuance of all building permits. This fee, established by the City Council, is designed to provide funding for new facilities but does not cover personnel costs.[20] Funding for additional police department personnel would not be the responsibility of the project applicant. Sufficient funding for ongoing operations, including the cost of additional police department personnel associated with the proposed project, would be generated from property taxes collected from areas that are outside the City's Redevelopment Project Area; sales taxes generated within the

City; and pass through payments from the City's Redevelopment Agency to the City's General Fund. However, because project development would result in the need for additional sworn and non-sworn police officers and may result in the need to construct additional facilities to accommodate these additional officers, impacts on police protection services are considered ***potentially significant***.

Mitigation Measure

The following mitigation measure would reduce the project's contribution to the above-mentioned impact to a *less-than-significant level*.

4.8-3 (A & B) (a) *The City shall collect sufficient funding for ongoing operations, including the cost of additional police department personnel associated with the proposed project. Personnel funding shall be generated from property taxes collected from areas that are outside the City's Redevelopment Project Area; sales taxes generated within the City; and pass through payments from the City's Redevelopment Agency to the City's General Fund. Facility funding shall be generated through payment of the Police Facilities Development Fee. This fee is required prior to issuance of building permits.*

(b) The Police Facility Development Fee shall be collected by the City from the applicant prior to the issuance of building permits.

Cumulative Impacts and Mitigation Measures

The cumulative context for this project is defined as the buildout of development projects in the City of West Sacramento as described in Section 5.3, Cumulative Impacts.

4.8-4 Implementation of the proposed project, in combination with other development in the City of West Sacramento, could result in increased demands for police services.

Scenarios A and B

Assuming that calls for police protection services would rise proportionately with population increases in the City of West Sacramento, as projected by the County's General Plan, this would result in the need for an additional sworn police officers as well as support staff and related equipment. The proposed project would contribute to the increased demand and impacts are therefore, considered ***potentially significant***.

Mitigation Measure

The following mitigation measure would reduce the project's contribution to the above-mentioned impact to a *less-than-significant level*.

4.8-4 (A & B) *Implement Mitigation Measure 4.8-3*.

Implementation of Mitigation Measure 4.8-3 requires the City to collect sufficient funds to provide adequate police protection services.

4.8.4 SOLID WASTE

4.8.4a ENVIRONMENTAL SETTING

Solid waste within the project area is disposed of at the Yolo County Central Landfill. The Yolo County Central Landfill is a Class II and III disposal site, located on a 724-acre site with permitted disposal acreage of 473 acres. The facility accepts agricultural, construction/demolition, mixed municipal, sludge (biosolids), and tires. The facility is currently permitted through 2045.[21]

The landfill is currently permitted to receive up to 1800[22] tons per day, with an estimated remaining capacity of 14,816,000[23] cubic yards. The City of West Sacramento landfilled 45,685 tons of solid waste in 2000. The City's diversion rate was 57 percent in 2002 and the residential daily disposal was one pound per resident per day.[24] The total estimated annual solid waste disposal for WUSD was 240 pounds per student annually between 1995 and 1999.[25]

The City provides curbside recycling for mixed recycling and green waste. Containers are provided for mixed recycling. The City does not provide a container for green waste but will pick up a maximum of two 40-gallon trash bags of green waste at curbside, where it is taken to the Yolo County Central Landfill.

4.8.4b REGULATORY SETTING

Federal

Title 40 of the Code of Federal regulations (CFR), Part 258 (Resource Conservation and Recovery Act RCRA, Subtitle D) contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design, groundwater monitoring, and closure of landfills.

State

Assembly Bill 939

The federal regulations are enacted by the California Public Resources Code Sections 40000 et seq. (California Integrated Waste Management Act). The state agency charged with the permitting of solid waste facilities is the California Integrated Waste Management Board.

Assembly Bill 939 (AB 939) (Public Resources Code 41780) is designed to increase landfill life and conserve other resources through increased source reduction and recycling. AB 939 requires cities and counties to prepare Solid Waste Management Plans to implement AB 939's goals, particularly to divert approximately 50 percent of solid waste from landfills. AB 939 also requires cities and counties to prepare Source Reduction and Recycling Elements. These elements are designed to develop programs to achieve diversion goals, stimulate local recycling in manufacturing and stimulate the purchase of recycled products.

Local

There are no goals or policies within the City of West Sacramento General Plan related to solid waste that are relevant to the project.

4.8.4c SOLID WASTE IMPACTS AND MITIGATION MEASURES

Method of Analysis

The analysis of solid waste service impacts is based upon consideration of the estimated amount of solid waste anticipated to be generated by the project and information from the California Integrated Waste Management Board.

- Residential: 1.0 lbs/resident/day
- School: 240 lbs/student/year

Population assumptions based on project development are shown in Table 4.8-1.The amount of waste is then compared to the annual or daily tonnage intake of the landfill.

The volume of all structures proposed for demolition was calculated. The volume of solid waste generated from structure demolition was calculated in cubic yards and converted to tons for consistency with the landfill capacity units. Green waste generation rates were obtained from the CIWMB at the rate of 300 to 400 pounds per 1,000 square feet annually. A conservative estimate for project greenwaste was calculated using the maximum generation rate of 400 pounds per 1,000 square feet.

Standards of Significance

For the purposes of this EIR, impacts associated with solid waste are considered significant if the proposed project would:

- Generate enough solid waste to exceed landfill capacity or substantially shorten life of the landfill.

Project Impacts and Mitigation Measures

4.8-5 Development of the project could result in increased production of solid waste in excess of available landfill capacity.

Project development would increase the production of solid waste within the project area. Both project scenarios would result in the demolition of three existing structures, resulting in the need for a one-time disposal of demolition-related solid waste. As shown in Table 4.8-4, disposal of materials resulting from demolition of existing structures would result in 35,000 tons of waste.

TABLE 4.8-4

ESTIMATED DEMOLITION SOLID WASTE GENERATION

Dimension of Existing Structure	Volume[1] Cubic Yards	Tons
75'X25' (Existing Golf Maintenance Building)	6,250	8,750
100'X50' (Existing Golf Maintenance Building)	16,667	23,334
25'X25' (Existing Snack and Restroom Building)	2,083	2,916
Project Total:		**35,000 Tons**

Notes:
1. Volume was calculated based on an estimated structure height of ten feet.
Source and Data: The Rivers Phase II, Large Lot Tentative Subdivision Map 4732, December 2004, 1-inch = 100-feet.

Bank stabilization activities along the Sacramento River would also occur under either scenario. Stabilization activities would involve the placement of rock and bank vegetation planting, and would not likely result in the generation of significant solid waste.

Scenario A

As shown in Table 4.8-5, under Scenario A, the project would generate 334.82 tons of solid waste associated with residential and school uses and 17.42 tons of green waste associated with park maintenance on an annual basis for a total of 352 tons per year.

TABLE 4.8-5

ESTIMATED SOLID WASTE GENERATION

		Scenario A (with School)		Scenario B	
Land Use	**Generation Rate**	**Number of Residents/Students**	**Tons tons/year**	**Number of Residents/Students**	**Tons tons/year**
Residential	1 lb/Resident/Day	1473	268.82	1869	341.1
School	240 lbs/Student/Year	550	66		
		Total:	**334.82**	**Total:**	**341.1**

Source and Data:
1. California Integrated Waste Management Board (www.ciwmb.ca.gov).

ESTIMATED GREEN WASTE GENERATION

Land Use	**Generation Rate Lbs/1,000 ft^2**	**Park Square Footage**	**Tons (tons/year)**
Two-acre Park	300 to 400	87,120	13.06 to 17.42
Total:			**13.06 to 17.42 Tons[1]**

Notes:
1. Actual green waste generation could be significantly less if park maintenance practices include mulching or recycling mowing.

Source and Data: California Integrated Waste Management Board (www.ciwmb.ca.gov).

	Scenario A	**Scenario B**
***Total Solid Waste:**	**352 Tons**	**359 Tons**

* Total solid waste generation equals the sum of Estimated Solid Waste added to a conservative estimate of 17.42 tons of green waste annually.

Scenario B

As shown in Table 4.8-5, under Scenario B, the project would generate 341.1 tons of solid waste associated with residential uses and 17.42 tons of green waste associated with park maintenance on an annual basis for a total of 359 tons per year.

Analysis

The Yolo County Central Landfill has a permitted area of 473 acres through 2045. The facility is currently permitted to receive 1800[26] tons per day of solid waste, with an estimated remaining capacity of 14,816,000 cubic yards[27] or 20,742,400 tons. Based on an estimate of 352 tons of solid waste (under Scenario A) and 359 tons of solid waste (under Scenario B) generated annually, one year of waste from the project (under either scenario) would require approximately 0.0054 percent of the landfill's permitted capacity (657,000 tons per year). If park greens maintenance practices incorporate mulching or recycling mowing, then green waste

generation rates would be reduced and the total volume of solid waste would also be reduced. The demolition of existing on-site structures would result in an additional, one-time solid waste generation of 35,000 tons, requiring an additional 0.168 percent of the remaining landfill capacity. Assuming continued compliance with waste reduction and diversion requirements, solid waste generation from the proposed project would represent a small fractional portion of the total amount of remaining capacity, and is not expected to substantially reduce the lifespan of the landfill. Therefore this impact is considered ***less than significant***.

Mitigation Measure

4.8-5 (A & B) *None required.*

Cumulative Impacts and Mitigation Measures

The cumulative context for this project is defined as the buildout of development projects in the City of West Sacramento as described in Section 5.3, Cumulative Impacts.

4.8-6 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in increased population could result in increased generation of solid waste in excess of available landfill capacity.

Scenarios A and B

As previously discussed, the Yolo County landfill is permitted through 2045, therefore providing sufficient capacity for solid waste generated through the buildout of the General Plan. State regulations require source reduction and recycling in order to maximize waste diversion from landfills. The proposed project would make an annual contribution of approximately 0.002 percent of the landfill's total permitted capacity; therefore, impacts are considered ***less than significant***.

Mitigation Measure

4.8-6 (A & B) *None required.*

4.8.5 SCHOOLS

4.8.5a ENVIRONMENTAL SETTING

Public school facilities in the City of West Sacramento are provided by the WUSD. The District currently serves 6,902[28] students, in 11 schools and with 355 teachers.[29] The District offers an educational program for K-12 students as well as additional educational opportunities including: a preschool program, Children's Center, latchkey program, English as a second language, bilingual education, special education, gifted and talented education, vocal and instrumental music, opportunity classes and independent study. The District is attempting to maintain smaller class sizes, at approximately 20:1, in preschool, kindergarten and grades one through three, and is examining ways to reduce class sizes in middle and high school classrooms as well. The District is also exploring the concept of developing schools within schools to maximize personalization, which the District believes is key to providing maximum instruction and is also exploring the concept of magnet elementary schools.

There are eight public elementary schools, one middle school and two high schools offering classes for grades 1-12, within the WUSD area. Elementary schools serving the project area include: Alyce Norman, Bryte and Elkhorn. Golden State Middle School is the middle school serving the project area and River City High School is the area high school. As shown in Table 4.8-6, Alyce Norman Elementary has a remaining capacity of 95 students, Bryte Elementary School has a remaining capacity of 12 students, and Elkhorn Elementary has a remaining capacity of 40 students. Golden State Middle School has a remaining capacity of 171 students, and River City High School has a remaining capacity of 128 students.[30]

TABLE 4.8-6

WASHINGTON UNIFIED SCHOOL DISTRICT ENROLLMENT AND CAPACITY FOR 2004-2005 IN SCHOOLS SERVING THE PROJECT AREA

School	Current Enrollment[1]	Total School Capacity	Available Capacity
Alyce Norman Elementary	445	540	95
Bryte Elementary	408	420	12
Elkhorn Elementary	485	525	40
Golden State Middle School	990	1161	171
River City High School	1573	1701	128

Notes:
1. Denny Jones, Planning Facilities and Construction Director, written communication, April 22, 2005.

The District is planning construction of a new High School located at the Southeast corner of Jefferson Boulevard and Linden Road to replace River City High School. Construction for the new "state of the art" school facility is scheduled to begin in 2006 with a target occupancy date of August 2008. The new facility will have an estimated initial capacity for 2000 students with expansion possibilities to accommodate approximately 2400 students and will include recreational opportunities for West Sacramento residents as well. The District is exploring the potential development of an additional middle school at the River City High location following construction of the new high school.

State standards and Class size reduction require the District to maintain class sizes of 20 students or fewer for grades K-3. Elementary school capacities fluctuate as a result of numbers of classes offered for grades K-3 and 4-6.[31] Projections for the 2005-06 school year show that

enrollment will remain approximately the same for the 2004-05 school year.[32] The WUSD assesses a fee of $2.54 per square foot for new residential development, paid prior to issuance of building permits, to provide funding for additional school facilities.

4.8.5b REGULATORY SETTING

Federal

There are no specific federal regulations pertaining to school facilities relevant to this project.

State

Funding for new school construction is provided through State and local revenue sources. However, due to the passage of proposition 1A in November 1998, Senate Bill (SB) 50 (Chapter 407, Statutes of 1998) was enacted to change the way school districts can levy developer fees. SB 50 enables the district to collect additional fees in an amount that would approximate 50 percent of the cost of additional facilities. The collection of the 50 percent mitigation fees is based on the assumption that the State School Facility funding program remains intact and that State funds are still available for partial funding of new school facilities. If the funds are not available, Districts may collect up to 100 percent mitigation fees under certain circumstances. Also, a statewide formula determines the required 20 percent local contribution or "match" to State funds for the renovation of older schools.

In addition to the use of developer fees that are applicable citywide, school districts may acquire funds to provide school services in specific areas through the creation of a Community Facilities District. The Mello-Roos Community Facilities Act of 1982 allows the City Council to create such a district with a two-thirds vote by area landowners, and may authorize a special tax and sell bonds to meet service costs. School districts may also initiate formation of a Community Facilities District.

California Environmental Quality Act

Under CEQA, the WUSD is required to determine if the property on which school construction is proposed includes any of the following circumstances:

- The site of a current or former hazardous waste disposal site or solid waste disposal site and, if so, whether the wastes have been removed;
- The location of a hazardous substance release site identified by the Department of Toxic Substances Control in a current list adopted pursuant to Section 25356 of the Health and Safety Code for removal or remedial action pursuant to Chapter 6.8 (commencing with section 25300) of Division 20 of the Health and safety Code;
- Site that contains one or more pipelines, situated underground or aboveground, that carries hazardous substances, acutely hazardous materials, or hazardous wastes, unless the pipeline is a natural gas line that is used only to supply natural gas to that school or neighborhood, or other nearby schools; or
- A site that is within 500 feet of the edge of the closest traffic lane of a freeway or other busy traffic corridor.

California Education Code

Section 17251 of the California Education code establishes the powers and duties of the State Department of Education.

California Department of Education (CDE)

The CDE establishes standards for school sites pursuant to Section 17251 of the California Education Code and adopts school site regulations which are contained in Section 14001 et seq. of the California Code of Regulations. The CDE and the State Superintendent of Public Instruction are responsible for enforcing education law and regulations. The proposed school site would require approval from CDE prior to purchase if State funds would be used for property acquisition and facility construction.

California Code of Regulations (CCR)

Section 14010 of the CCR establishes standards for school site selection. These standards include provisions for proximity to power lines and railroad tracks, geologic and flood hazards, traffic hazards, and hazardous materials, as well as general provisions for the safety and welfare of students.

Department of Toxic Substance Control (DTSC)

DTSC reviews the environmental evaluations of school properties to identify the presence of hazardous materials at the site. Hazardous materials may include chemicals remaining from previous land uses, such as pesticides that may be found at former agricultural properties. If these substances are found through sampling, DTSC uses a “Risk Assessment” approach to determine if there may be a possible human health threat or environmental threat from exposure to toxic chemicals or hazardous materials at the potential school. To evaluate whether or not a school site is safe, DTSC must determine whether or not harmful chemicals or hazardous materials are present at concentrations high enough to cause health problems to people or damage to the environment.

Office of Public School Construction (OPSC)

As staff to the State Allocation Board (SAB), OPSC implements and administers the School Facility Program and other programs of the SAB. The OPSC is also charged with the responsibility of verifying that all applicant school districts meet specific criteria based on the type of funding which is being requested. OPSC site approval would be required for the proposed school site.

Local

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to School Services:

Scenarios A and B

Goal IV.G: **To provide for the educational needs of West Sacramento residents.**

Policy IV.G.1: The City shall assist the Washington Unified School District and others in locating and reserving appropriate sites for new schools.

Policy IV.G.3: New elementary schools shall be located on collector streets *within* residential areas. Elementary schools should be sited to avoid barriers such as railroad tracks and arterial streets that would separate them from the surrounding residential areas.

4.8.5c SCHOOL IMPACTS AND MITIGATION MEASURES

Method of Analysis

Project impacts were assessed by comparing existing WUSD school capacities to student demand created by development of the proposed project. Additionally, this analysis includes the development of an additional K-8 school that would accommodate 275 students from the Rivers development as well as 275 students from the WUSD, under Scenario A. Existing school capacities and demand factors were provided by the WUSD. As shown in Table 4.8-6 and described in the environmental setting for this section, district facilities in the project area have remaining capacity for 147 elementary students, 171 middle school students and 128 high school students.

Standards of Significance

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

- Exceed the existing capacity for schools that would serve the project area, resulting in the need for construction or modification of facilities in order to maintain acceptable service ratios.

Project Impacts and Mitigation Measures

4.8-7 Development of the project could generate students exceeding the capacity of existing schools, resulting in the need to construct additional school facilities.

Scenarios A and B

The impact of increased enrollment on school districts, in and of itself, is not an impact under CEQA. CEQA does, however, apply to the physical effects that may result from the generation of students above existing school capacities, necessitating the need for the construction of additional facilities. Under Scenario A, project development would include the construction of a K-8 school on an 12.3-acre site. The school would have a capacity of approximately 550 students[33] and would be developed as a fundamental academy that would serve both the project development and surrounding community (approximately 275 students from the project and 275 students from elsewhere in the district). As described in Chapter 3, Project Description, facilities to be constructed as part of school site development include: an administration area, a library/media center, a multi-use building with serving kitchen and community room, two kindergarten classrooms, 19 standard classrooms, a science classroom

and Special Day Class classroom, and a learning lab. The facility would be approximately 48,600 square feet. School grounds would include playing fields and landscaped areas.[34] No school facility is proposed for operation under Scenario B.

Prior to acquiring a school site or engaging in a construction project, school districts must contract for the preparation of a Phase I ESA, which must be reviewed by DTSC according to established timelines. The Phase I ESA, which must be prepared by a qualified professional, can be used to support a conclusion that no recognized environmental conditions are present, or a Preliminary Endangerment Assessment (PEA) is necessary. If the Phase I concludes, or DTSC determines, that a PEA be conducted, the school district can either proceed with the PEA or drop the school site from further consideration. If the district chooses to proceed with a PEA, it will be required to enter into an Environmental Oversight Agreement with DTSC to oversee preparation of the PEA, which must be submitted to DTSC for review and approval. If the approved PEA concludes the property would not pose a threat, DTSC will issue a "No Further Action" determination and will not require additional investigation or cleanup. If the PEA concludes the property is contaminated, the district must clean up the site or it can choose not to proceed with development of the school project. When all necessary cleanup activities are completed according to DTSC-approved plans, DTSC will certify the site cleanup is complete.

As discussed in the Initial Study prepared for the project, two Phase I ESAs and a supplement have been competed for the project site. Although the existing golf course structures may include asbestos-containing building materials, no other hazardous materials releases or wastes were identified within the project boundaries. The physical impacts of school construction are addressed within the appropriate sections of this EIR. Additional analysis related to school facility construction can be found in air quality, noise, cultural resources, traffic, and public services.

The previously prepared ESAs were prepared two years ago and would not meet the requirements of the California Educational Code. WUSD would be required to conduct an additional environmental site investigation, therefore impacts are considered ***potentially significant***.

Mitigation Measure

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

4.8-7 (A & B) *Prior to initiation of property acquisition or development of any school facilities, WUSD shall prepare an Environmental Site Assessment consistent with the requirements and contents specified by California Education Code.*

4.8-8 Development of the project could generate students exceeding the capacity of existing schools.

Project development would result in residential development that would result in increased numbers of school-aged children and the associated increased demand on remaining school capacity in the WUSD.

Scenario A

As shown in Table 4.8-7, residential development under this scenario would result in 626 single-family residences and generate approximately 243 K-12 students. By grade level, the project would result in the generation of approximately 164 elementary students, 35 middle school students and 44 high school students.

TABLE 4.8-7

STUDENT GENERATION RATES[1]
SCENARIO A

	Single Family Detached Residential Units			Single Family Attached Residential Units		
Grade Level	**Generation Rate**	**Units**	**Number of Students**	**Generation Rate**	**Units**	**Number of Students**
Elementary School – K-6	0.309	220	67.98	0.236	406	95.82
Middle School – 7 - 8	0.057	220	12.54	0.056	406	22.74
High School – 9- 12	0.098	220	21.56	0.056	406	22.74
Total			**102.08**			**141.30**
Total Students Generated Under Scenario A: 243						

Notes:
1. Denny Jones, Facilities Planning and Construction Director, Washington Unified School District, written communication, April 22, 2005.

Under Scenario A, as described under Impact 4.8-7, project development would include the construction of a K-8 school with a capacity of approximately 550 students. It is proposed that the school would provide space for approximately 275 students from the Rivers development and 275 students from elsewhere in the district. The proposed project would generate a demand of approximately 199 K-8 students. However, the previously approved Phase I of the Rivers development will result in additional generation of students that would be included as part of the 275 students that could be accommodated by the development of the proposed new school. Phase I development will result in approximately 151 elementary students, 30 middle school students and 44 high school students as shown in Table 4.8-8. K-8 Students generated from development of the Rivers project in its entirety would exceed the number of students designated to attend the proposed new school by 105 students and would result in increased capacity in other district schools. As shown in Table 4.8-6, existing WUSD elementary schools in the project area have an approximate remaining capacity of 147 students and the middle school in the project area has a remaining capacity of approximately 171 students.

As previously stated under Scenario A, the project would result in a demand of approximately 44 high school students. As shown in Table 4.8-6, high school students generated by project development could be accommodated by the existing River City High School. In addition, the future construction of the new high school would provide enrollment capacity exceeding that of River City High School. Sufficient existing elementary and middle school capacity exists within district school facilities in the project area to accommodate the additional number of students generated from development of the Rivers project beyond the number of students that would attend the proposed new school. Therefore, impacts are considered ***less than significant***.

TABLE 4.8-8

STUDENT GENERATION RATES[1]
RIVERS PHASE I DEVELOPMENT

	Single Family Detached Residential Units			Single Family Attached Residential Units		
Grade Level	**Generation Rate**	**Units**	**Number of Students**	**Generation Rate**	**Units**	**Number of Students**
Elementary School – K-6	0.309	334	103	0.236	204	48
Middle School – 7 - 8	0.057	334	19	0.056	204	11
High School – 9- 12	0.098	334	33	0.056	204	11
Total			**155**			**70**
Total Students Generated Under Phase I: 225 Students						

Notes:
1. Denny Jones, Facilities Planning and Construction Director, Washington Unified School District, written communication, April 22, 2005.

Scenario B

As shown in Table 4.8-9, project development under Scenario B would result in the development of 802 single-family residences and would generate approximately 305 K-12 students. By grade level, the project would result in the generation of approximately 205 elementary students, 45 middle school students and 54 high school students. All students generated from project development would rely on currently existing and proposed future schools within WUSD.

TABLE 4.8-9

STUDENT GENERATION RATES[1]
SCENARIO B

	Single Family Detached Residential Units			Single Family Attached Residential Units		
Grade Level	**Generation Rate**	**Units**	**Number of Students**	**Generation Rate**	**Units**	**Number of Students**
Elementary School – K-6	0.309	220	67.98	0.236	582	137.35
Middle School – 7 - 8	0.057	220	12.54	0.056	582	32.59
High School – 9- 12	0.098	220	21.56	0.056	582	32.59
Total			**102.08**			**202.53**
Total Students Generated Under Scenario B: 305						

Notes:
1. Denny Jones, Facilities Planning and Construction Director, Washington Unified School District, written communication, April 22, 2005.

Middle and high school students generated by project development could be accommodated within the existing Golden State Middle School and River City High School facilities (see Table 4.8-6). Furthermore, construction of the new high school would provide additional capacity for high school students in the future. As shown in Table 4.8-9, the proposed project would generate 205 elementary school students. Existing facilities have a combined available capacity of 147 students. Under Scenario B, elementary school student generation resulting from project development would exceed the current combined available total capacity of the three elementary schools serving the project area. This would result in a ***significant impact***.

Mitigation Measure

Implementation of the following mitigation measure would reduce this impact to a less-than-significant level. Even though adequate capacity exists under Scenario A, the developer will still be required to pay school impact fees.

4.8-8 (A & B) *Prior to issuance of building permits, the developer shall pay the necessary school impact fees for the standard capital improvements fund as mandated by State law and established by the Washington Unified School District.*

Adherence to State law would reduce the significant impact to a less than-significant level. The physical environmental impacts of increased enrollment, the construction of the proposed school, including increased traffic, and associated air quality and noise impacts, is evaluated in the appropriate sections of the initial study prepared for the project as well as this EIR. Bank stabilization work and park development would not result in residential development and are not included in the analysis within this section.

Cumulative Impacts and Mitigation Measures

The cumulative context for this project is defined as the buildout of development projects in the City of West Sacramento as described in Section 5.3, Cumulative Impacts.

4.8-9 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in increased numbers of students.

Scenarios A and B

The proposed project would result in increased numbers of student within the WUSD. The project as well as other future residential development projects would contribute funding for new and expanded school facilities through the payment of school impact fees. Under Scenario A, project development would result in the dedication of land for a school. However, increased numbers of students may result in the need for new or expanded facilities within WUSD. Therefore, this is considered a ***significant cumulative impact*** and the project's contribution would be considerable.

Mitigation Measure

The following mitigation measure would reduce the project's contribution to the above-mentioned impact to a *less-than-significant level*.

4.8-9 (A & B) *Implement Mitigation Measure 4.8-8.*

Through the payment of school impact fees by the project applicant, the WUSD would receive funding for school facility expansion and/or construction to accommodate additional students generated from residential development within the City.

4.8.6 PARKS

4.8.6a ENVIRONMENTAL SETTING

The City of West Sacramento Parks and Recreation District provides a variety of recreational opportunities including: parks, river frontage, pools, community centers and an assortment of recreational programs. The City adopted a Parks Master Plan in September 1993 to implement the goals as defined in the General Plan. The Master Plan update was approved in 2003. The Master Plan is intended to provide short-term solutions for existing shortcomings of the City's park system as well as long range planning to accommodate future anticipated growth. The City's park system includes the following park classifications:

- Mini Parks
- Playfields
- Neighborhood Parks
- Community Parks
- Regional Parks
- Linear Parks

The City's Parks and Recreation department oversees approximately 145 acres of parks. Elkhorn Park, Alyce Norman Bryte Playfields and Bryte Park are located within close proximity to the project site.[35] The City maintains a "Parks Development Project Status" database that currently includes the status of 20 additional parks in various stages of development as well as a couple of ongoing improvement projects.[36]

4.8.5b REGULATORY SETTING

Federal

There are no specific federal regulations pertaining to the provision of local parks and recreation facilities relevant to the project.

State

Quimby Act

California Government Code Section 66477, Subdivision Map Act, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees soley for park and recreation purposes. The required dedication and/or fee are based upon the residential density, parkland cost and other factors. Land dedicated and fees collected pursuant to the Quimby Act may only be used for developing new, or rehabilitating existing, park or recreational facilities. The maximum dedication and/or fee allowed under current State law is equivalent to providing three acres of park land per 1,000 persons, unless the park acreage of a municipality exceeds that standard, in which case the maximum dedication is five acres per 1,000 residents. The City's requirement of five acres of parkland per 1,000 residents falls within the parameters set forth by the Quimby Act.

Local

City of West Sacramento

City of West Sacramento General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to Parks and Recreation:

Scenarios A and B

Policy 3: New development shall be required to assist in meeting the City's park acreage standards as established in an adopted parkland dedication ordinance. To this end, the City shall require of all new development the dedication of land, dedication of improvements, payment of in-lieu fees, or any combination of these determined acceptable by the City, to the maximum extent authorized by law.

Policy 5: Park facilities shall be located within convenient walking distance of all residents.

Policy 6: Neighborhood parks shall be integrated into, and become focal points of, new residential neighborhoods. Non-automobile access shall be facilitated.

Goal B: To promote the provision of private facilities and opportunities

Policy 1: The City shall promote the inclusion of private outdoor and indoor recreation facilities in large-scale residential developments in order to meet a portion of the open space and recreation needs that will be generated by the development.

Policy A.8: The City shall optimize, especially for after-school activities, joint-use of school facilities as a high priority for the development of new park and recreational facilities and shall support significant improvement of existing cafeterias and auditoriums.

City of West Sacramento Parks Master Plan (1993)

The City has identified a goal of becoming the "premier city in the Sacramento Valley." Opportunities for recreational activities are identified as major factors in determining the quality of life within the community and the provision of recreational opportunities is considered a municipal responsibility. The preparation of the Parks Master Plan was required by the City's 1990 General Plan. The Parks Master Plan sets out to define a set of achievable steps to implement long-range planning strategies and implementations, as well as short term goals.[37]

The following goals and policies from the City of West Sacramento Parks Master Plan are relevant to the project:

Scenarios A and B

Goal 1: Develop a high-quality public park system with adequate space and facilities to provide an appropriate mix of recreation activities for the City's residents and workforce.

Policy 4.6: Park and recreation facilities developed in conjunction with new residential developments shall be eligible for satisfaction of land dedication and park impacts fees required by City Ordinance 90-7 and 90-9, provided that such facilities are in accordance with the locations and standards contained within this Parks Master Plan. Such privately-developed facilities shall be subject to the review and approval of the Director of parks and Community Services.

4.8.5c PARK IMPACTS AND MITIGATION MEASURES

Method of Analysis

The amount and type of park acreage proposed within the design of the proposed project has been compared to the standards established by the City of West Sacramento General Plan and the Parks Master Plan. The standards as defined within these documents are:

- 5 acres of parkland per 1,000 residents.

  Parkland distribution:

  - 3 acres of community park.
  - 2 acres of neighborhood park.

The two-acre private park does not qualify as parkland under the City's standard because it would be private and is less than five acres in size. The park will be owned and maintained by a Homeowner's Association (HOA), with HOA dues applied towards park operations, including security.

Standards of Significance

For the purposes of this EIR, impacts to parks and Recreation are considered significant if the proposed project would:

- Include recreational facilities or require the construction or expansion of existing recreational facilities, which might have an adverse physical effect on the environment;

  or

- Increase use of existing park facilities such that substantial physical deterioration of the facility could occur or be accelerated.

Project Impacts and Mitigation Measures

4.8-10 Proposed Project would create additional demand necessitating the construction or expansion of existing recreational facilities, which could have an adverse physical effect on the environment.

The proposed project would result in approximately 1,473 new residents under Scenario A and approximately 1,869 residents under Scenario B (see Table 4.8-1). The increase in population would result in an increased demand for parks and recreational facilities. The previously approved Lighthouse Marina project anticipated a demographic makeup of few families with young children, and, therefore; did not propose any neighborhood parkland development.[38] The 2003 Parks Master Plan identifies the Broderick and Bryte areas as having a parkland deficiency of 18.8 acres as of 2000.[39] As required by City standards, the developer would be required to provide five acres of parkland for every 1,000 residents, pay in-lieu fees, or provide a combination of land dedication and fees in order to maintain the City's defined parkland standards. The bank stabilization component would not generate additional residents and therefore would not create a demand for additional recreational facilities.

Scenario A

Under Scenario A, the proposed project would result in an increased population of approximately 1,473 residents resulting in the need for 7.36 acres of parkland. The proposed project includes the construction of a two-acre park and a K-8 school that would include play fields. The two-acre park does not qualify as parkland under the City's standard because it would be private and is less than five acres in size. The City and the school district have successfully integrated public recreational opportunities within school sites and have a commitment to continue working together to provide recreational opportunities within the community.[40] Recreational opportunities resulting from school development could potentially decrease the demand on existing facilities.

Scenario B

Under Scenario B, the proposed project would result in an increased population of approximately 1,869 residents, resulting in the need for 9.3 acres of parkland. Development under this scenario includes construction of a two-acre park. The two-acre park does not qualify as parkland under the City's standard because it would be private and is less than five acres in size. An increased population would result in increased demands on existing park and recreational facilities.

Analysis

The City of West Sacramento has an ongoing program to develop parks and recreational facilities as allowed by site conditions, legal requirements and funding availability[41] as specified in the 2003 Parks Master Plan, which includes an action plan for improving existing park facilities as well as developing future additional facilities totaling 98.6 acres of neighborhood parks and 185 acres of community parks to accommodate an estimated population of 77,000 at General Plan buildout.[42]

The proposed project would be required to provide parkland dedication or in lieu fees, as established by City standards, for the provision of park and recreation facilities within the community consistent with the City's Parks Master Plan. Since project development would result in increased population within the City of West Sacramento and an increased demand for additional parkland as specified by the General Plan and the City's Parks Master Plan, impacts are considered ***potentially significant***.

Mitigation Measure

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

4.8-10 (A & B) *Prior to issuance of any building permit, the project developer shall pay in lieu fees or provide a combination of land dedication and fees in order to maintain the City's defined parkland standards.*

4.8-11 Proposed project could increase use of existing park facilities such that substantial physical deterioration of the facility could occur or be accelerated.

Scenarios A and B

The proposed project would result in approximately 1,473 new residents under Scenario A and approximately 1,869 residents under Scenario B (see Table 4.8-1). The increase in population would result in an increased demand for parks and recreational facilities that could accelerate the physical deterioration of existing facilities. The bank stabilization component of the project would not generate additional residents and therefore would not contribute to the deterioration of existing park facilities.

The Parks Master Plan provides implementation measures for an expanded park system as well as long-term operation and maintenance responsibilities funded by a combination of sources. The developer would be required to dedicate land and/or pay fees associated with providing parklands consistent with the City's new development standards which specify that developers shall provide five acres of parkland for every 1,000 residents, therefore; the project would either directly provide additional parklands or provide fees for acquisition and development of additional parklands consistent with the priorities and directives of the City's Parks Master Plan, creating additional or expanded parks within the community. The operation and maintenance provisions defined within the City's Parks Master Plan provide funding mechanisms for existing facilities as well as development of future facilities as discussed in the Plan.

However, development of the proposed project would result in increased population and increased use and potential deterioration of existing park facilities, which may result in the need for improvements and/or expansion of these facilities or the development of new facilities. As required under Mitigation Measure 4.8-10, the developer would be responsible for the payment of in lieu fees, the dedication of land or a combination of both in order to meet the City's standards for parkland. Payment of fees or dedication of land would provide financial or physical resources for continued parkland development, as well as financing for maintenance and expansion of existing facilities in order to accommodate continued growth within the City, therefore, impacts are considered ***less than significant***.

Mitigation Measure

4.8-11 (A&B) *None required*.

Cumulative Impacts and Mitigation Measures

The cumulative context for this project is defined as the buildout of development projects in the City of West Sacramento as described in Section 5.3, Cumulative Impacts.

4.8-12 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in increased population and demands for parkland.

Scenarios A and B

The City of West Sacramento General Plan requires dedication of land, improvements or the payment of in-lieu fees, or any combination of these mechanisms to facilitate development of park facilities. In addition, the General Plan requires the preparation of a Parks Master Plan to define a set of achievable steps to implement long range planning strategies and implementations for park development within the City. The Master Plan provides for long-term

as well as short term park planning and development and as such, residential development within the City continues to contribute, directly through the dedication of land or indirectly through the payment of in-lieu fees, to the long- and short- term goals for parkland development. However, development of the proposed project would result in increased population and demands for parkland as specified under the City's General Plan and within the City's parks master Plan, therefore cumulative impacts are considered ***potentially significant***.

Mitigation Measure

4.8-12 (A & B) *Implement Mitigation Measure 4.8-10.*

Through the implementation of Mitigation Measure 4.8-10, development of the proposed project would expand recreational opportunities within the community through parkland dedication or in-lieu fees as established by the City and the City's Parks Master Plan and fees paid would contribute towards current and future park operation and maintenance activities, therefore; cumulative impacts are therefore, considered *less than significant*.

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4.9 PUBLIC UTILITIES

4.9 PUBLIC UTILITIES

4.9.1 INTRODUCTION

This section evaluates impacts of the proposed project to the existing public utilities provided by the City and other service providers. Specific utilities discussed include: wastewater, stormwater, electricity and natural gas. The section describes existing services and infrastructure distribution and collection capacity and evaluates potential increases in demands based on criteria provided by the service providers and commonly accepted professional standards.

Information contained in this section is based on a review of existing documentation, including the City of West Sacramento General Plan Background Document, City of West Sacramento General Plan, the City of West Sacramento General Plan Environmental Impact Report, and a site visit in March 2005.

Issues raised in NOP comment letters relevant to public utilities include concerns regarding capacity calculations for wastewater and storm drainage and whether or not the existing system can adequately accommodate project development (see Appendix B).

4.9.2 WASTEWATER

4.9.2a ENVIRONMENTAL SETTING

Wastewater collection and treatment services in the project area are currently provided by the Department of Public Works for the City of West Sacramento.[1] The City's wastewater collection and treatment system consists of a network of pipelines, lift stations, and a wastewater treatment plant that provides secondary treatment. Following treatment, effluent is discharged into the Sacramento River upstream of Clarksburg.

Wastewater Collection System

The current collection system provided by the City consists of vitrified clay collector lines ranging from 6 to 8 inches in size, concrete main interceptor lines typically 10 inches in diameter, sewage lift stations and force main lines. Collector lines convey wastewater via gravity flow to the main interceptor lines, where wastewater continues to flow via gravity to the lift stations. At the lift stations, wastewater is pumped to the treatment plan through 6 to 27 inch diameter force main lines. Force main lines are constructed from a variety of materials including: asbestos, cement, steel, and cast iron. There are currently 10 sewer lift stations. Problems associated with the existing system are related to inflow and infiltration resulting from aged, cracked and corroded pipes and pipe connections and occasional high water levels.[2]

Wastewater Treatment Facilities

Wastewater from the proposed project would be treated at the City of West Sacramento Wastewater Treatment Plant located at 400 North Harbor Blvd. The City's treatment plant has a current treatment capacity of 7.5 million gallons per day (mgd), with possible expansion to 16 mgd, although the existing facility is expected to reach capacity by 2006.[3] The plant processes

an average daily demand of 5.4 mgd and a peak demand of 5.7 mgd.[4] Monthly average dry flow is equivalent to 5.08 mgd. Daily peak wet weather flows are 9.78 mgd.[5] Secondary wastewater treatment occurs at the wastewater treatment plant located on South River Road facility.[6] Treated effluent is conveyed via a 30-inch pipeline to the Sacramento River, where it is discharged downstream of Clarksburg. Sludge is off-hauled by private contractors to Merced and Solano counties where it is processed for soil amendments and fertilizer.

The City of West Sacramento plans to expand its current service area and grow within the City limits. In order to accommodate the proposed growth, the City plans to discontinue wastewater treatment at the existing wastewater treatment plant and has entered into an agreement with SRCSD to treat and dispose of the City's wastewater. In January 2001, the City of West Sacramento City Council adopted a resolution concluding that obtaining wastewater conveyance and treatment services from the Sacramento Regional County Sanitation District (SRCSD) was in the City's best interest. In December 2003, the SRCSD proposed a sphere of influence amendment to include the City of West Sacramento and to adopt a Waste Water Treatment Services Agreement.[7] A connection to the SRCSD will increase sanitary sewer service capacity by 47 mgd.[8]

Sacramento Regional County Sanitation District (SRCSD)

The SRCSD was formed by the combination of many individual sewer districts and multiple treatment plants within Sacramento County. The District currently provides interceptor and treatment services to the City of Folsom, City of Citrus Heights, City of Elk Grove, City of Rancho Cordova and the City and County of Sacramento. The District receives wastewater from three agencies, County sanitation District I, the City of Sacramento and the City of Folsom. The District consists of 80 miles of interceptors that currently convey 10 mgd or more. An additional 90 miles of interceptor are scheduled to built by 2014. Wastewater is conveyed to the Sacramento Regional Wastewater Treatment Plant (SRWTP), located at 8521 Laguna Station Road, in Elk Grove.[9] The SRWTP is a secondary treatment plant and treats an average of 165 mgd. The Plant has a maximum design flow of 392 mgd,[10] with a capacity of 400 mgd during peak wet-weather flow.[11]

The Lower Northwest Interceptor (LNWI) is the proposed wastewater conveyance pipeline from North Natomas and the City of West Sacramento to the SRWTP.[12] Construction of this wastewater interceptor is proposed to be completed by 2006 with hookup expected by 2007.[13] The Lower Northwest Interceptor would serve the project area and would include over 100,000 feet of pipe, ranging in size from 60" to 120" in diameter within the greater West Sacramento area.

Existing Project Site Infrastructure

The existing wastewater collection system on the proposed residential development site includes a series of 6 to 12 inch-mains connecting to a 15-inch discharge main in Hardy Drive, located south of the project site.

4.9.2b REGULATORY SETTING

Federal

Federal Clean Water Act requirements governing wastewater collection, treatment and discharge are implemented under the national Pollutant Discharge Elimination System

(NPDES). In California the NPDES program is administered through the State Water Resources Control Board (CVRWQCB). Within the project area, the Central Valley Regional Water Quality Control Board has regulatory authority.

The U.S. Environmental Protection Agency (USEPA) adopted the *National Toxics Rule* (NTR) in February 1993 and the California Toxics Rule (CTR) in May 2000. These Rules contain water quality standards applicable to the discharge of wastewater from treatment plants.

State

The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins*, which establishes water quality objectives, designates beneficial uses, and contains implementation programs and policies to achieve water quality objectives for all waters within the basin.

The State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Plan). This Plan contains guidance on implementing the NTR and the CTR.

National Pollutant Discharge Elimination System Permit

The City of West Sacramento Wastewater Treatment Plant operates under NPDES Permit Number CA0079171, administered by the CVRWQCB under Waste Discharge Order Number R5-2003-0087.

The SRWTP operates under NPDES Permit Number CA0077682, administered by the Central Valley Regional Water Quality Control Board under Waste Discharge Order Number 94-006.

Local

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to wastewater facilities:

Scenarios A and B

Goal IV.B: **To maintain an adequate level of service in the City's sewage collection and disposal system to meet the needs of existing and future development.**

Policy IV.B.2: The City shall ensure the provision of adequate sewer service to all new development in the city and support the extension of sewer service to existing developed areas where this service is lacking.

Policy IV.B.3: The City shall expand and develop new wastewater treatment and disposal facilities to accommodate the needs of existing and planned development.

Policy IV.B.4: The City shall, through a combination of sewer development fees and other funding mechanisms, ensure that new development pays its fair share of the costs of sewer system improvements.

4.9.2c WASTEWATER IMPACTS AND MITIGATION MEASURES

Method of Analysis

Wastewater generation from the proposed project has been estimated using sanitary sewer design values from the City of West Sacramento.

The City's Standard Specifications relating to sanitary sewer design specify a standard of 3.0 persons per single family dwelling unit and 100 gallons per person per day.[14] The City's standards specify 4.25 gallons per day per student for schools.

Standards of Significance

For the purpose of this EIR, impacts to wastewater collection and treatment facilities are considered significant if the proposed project would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Result in a determination by a wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments; or
- Result in wastewater flows which would exceed the existing capacity of wastewater collection facilities.

Direct environmental impacts from construction of on-site public utilities and services for the proposed project are analyzed in Chapter 4.3, Air Quality, Chapter 4.4, Biological Resources, Chapter 4.5, Cultural Resources, Chapter 4.6, Land Use, and Chapter 4.7, Noise.

Project Impacts and Mitigation Measures

4.9-1 The proposed project could increase flow to regional wastewater treatment plants beyond the plants treatment capacity necessitating the expansion of existing or construction of additional wastewater treatment facilities.

Scenario A

Projected wastewater generation estimates from project development under Scenario A are shown in Table 4.9-1. Project development would result in the generation of 337,950 gallons per day (gpd) of wastewater to the City's wastewater plant as a result of residential and school construction.

Scenario B

Projected wastewater generation from project development under Scenario B is shown in Table 4.9-2. Project development would result in the generation of 380,000 gallons per day (gpd) of wastewater to the City's wastewater plant as a result of residential construction.

TABLE 4.9-1

RIVERS PHASE II WASTEWATER GENERATION SCENARIO A

Land Use	Generation Rate (gpd) per unit or acre	Number of Units or Acres	Average (gpd)	Peak (gpd)	Infiltration (gpd)	Design (gpd)
Phase II Single Family	300	220	66,000	198,000	61,216	259,216
Phase II Multi Family	250	406	101,500	304,500	26,062	330,562
Regatta lot 500/299	250	194	48,500	145,500	27,275	172,775
Existing Single Family	300	338	101,400	304,200	78,661	382,861
Existing Multi Family	250	54	13,500	40,500	6,061	46,561
School	4.25	600	2,550	7,650	3,031	10,681
Village Club	1500	2.0	3,000	9,000	1,212	10,212
Aqua center	1500	1.0	1,500	4,500	2,424	6,924
Total			**337,950**	**1,013,850**	**205,943**	**1,219,793**

Source: Nolte 2005

TABLE 4.9-2

RIVERS PHASE II WASTEWATER GENERATION SCENARIO B

Land Use	Generation Rate (gpd) per unit or acre	Number of Units or Acres	Average (gpd)	Peak (gpd)	Infiltration (gpd)	Design (gpd)
Phase II Single Family	300	220	66,000	198,000	61,216	259,216
Phase II Multi Family	250	582	145,500	436,500	53,208	489,708
Regatta lot 500/299	250	194	48,500	145,500	27,275	172,775
Existing Single Family	300	338	101,400	304,200	78,661	382,861
Existing Multi Family	250	54	13,500	40,500	6,061	46,561
Village Club	1500	2.4	3,600	10,800	1,212	12,012
Aqua center	1500	1.0	1,500	4,500	2,424	6,924
Total			**380,000**	**1,140,000**	**230,057**	**1,370,057**

Source: Nolte 2005

Analysis

Project development would result in increased flows to the City of West Sacramento Wastewater Treatment Plant. The plant has a current capacity of 7.5 mgd with possible expansion to 16 mgd. The City of West Sacramento has entered into an agreement with the SRCSD for wastewater conveyance and treatment and anticipates connection by 2006.[15] The estimated construction schedule for project development is 2006 through 2009; therefore project development would likely coincide with the City's proposed connection to SRCSD. School

construction as proposed under Scenario A, would occur in 2007 and would therefore, also coincide with the City's proposed connection. The SRWTP has a maximum design flow of 392 mgd.[16]

The proposed wastewater conveyance to the SCRSD has been planned for within the SRCSD Interceptor System Master Plan. The proposed LNWI has been designed to provide adequate conveyance for the greater West Sacramento area, including the project site. The SRWTP has adequate capacity to treat wastewater resulting from the project site, once construction of the LNWI is complete. Timing of project development would likely coincide with the proposed SCRSD connection; however, the City's treatment plant is expected to reach capacity by 2006 and if the proposed SCRSD connection does not coincide with the timing of project development, wastewater flows resulting from project development could exceed the capacity of the City's existing facility and expansion would be required. Payment of sewer impact fees will not adequately fund expansion of the treatment facility in a timely manner should development of the project not coincide with City connection to the LNWI. Therefore, impacts are considered ***potentially significant***.

Mitigation Measure

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

4.9-1 (A&B) *Wastewater from the initial phases of the project shall be accommodated at the existing wastewater treatment plant until such time as the total treatment requirements reach 90 percent of capacity. Thereafter, development shall not occur until the construction and connection to the Sacramento Regional County Sanitation District (SRCSD) interceptor is completed.*

4.9-2 Development of the proposed project could generate wastewater that could exceed the capacity of the existing infrastructure system.

Scenario A

As presented in Table 4.9-1, the proposed project development under Scenario A would result in an average daily waste water flow rate of 0.34 million gallons per day (mgd).

Scenario B

As presented in Table 4.9-2, the proposed project development under Scenario B would result in an average daily waste water flow rate of 0.38 mgd to be conveyed through the existing City infrastructure.

Analysis

The existing wastewater collection system existing at the project site includes a series of 6 to 12 inch-mains connecting to a 15-inch discharge main in Hardy Drive, located south of the project site. The applicant proposes to install new collection lines within the project site, consistent with City standards,[17] and discharge to the existing system. A draft sanitary sewer master plan is currently under study, but sufficient calculations have been made to indicate that the existing off-site infrastructure has sufficient capacity to convey the wastewater flows of the proposed project in addition to the existing flows. The original master sewer plan for the Lighthouse

Marina project, prepared by the Spink Company in July of 1991, calculated an average daily flow rate of 0.68 mgd, much higher than that proposed under scenario A or B. The existing capacity of the 15-inch discharge pipe at Hardy Drive is 1.62 mgd. Under scenario A, the proposed project will convey a design flow rate (which is defined by multiplying the average flow rate by a peaking factor and adding additional flow due to inflow and infiltration) of 1.22 mgd to the Hardy Drive discharge pipe, as presented in table 4.9-1. Under scenario B, the proposed project will convey a design flow rate of 1.37 mgd, as presented in table 4.9-2.

Sanitary sewer design would be required to conform to the General Plan and the Master Sewerage Plan. Chapter 13.08 of the City's Municipal Code includes Sanitary Sewer provisions. Wastewater conveyance system configuration design and engineering calculations must be submitted to the City Engineer for review and approval. Sanitary Sewer provisions defined in the Municipal Code require all development to pay fees as assessed by the City Council to connect to the City's sanitary sewer system. City required sewer impact fees in the form of development fees as assessed by the City Council for sanitary sewer system connections, as well as a monthly sewage use fees, are designed to cover wastewater treatment system improvements for existing facilities and construction of future facilities[18] and new development must design proposed infrastructure consistent with City standards. However, project development would result in increased wastewater flows through an existing system of aged infrastructure leading to the new LNWI and may result in the need for upgrades to the existing wastewater conveyance infrastructure, therefore; impacts are considered ***potentially significant***.

Mitigation Measure

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

4.9-2 (A&B) (a) *Prior to tentative map approval, the developer shall submit engineering calculations and wastewater conveyance system design specifications to the City Engineer for review and approval.*

(b) *Implementation of Mitigation Measure 4.9-1.*

Cumulative Impacts and Mitigation Measures

The cumulative context for this project is defined as the buildout of development projects in the City of West Sacramento as described in Section 5.3, Cumulative Impacts.

4.9-3 Implementation of the proposed project, in combination with other development in the City of West Sacramento, could result in increased quantities of wastewater that would exceed existing regional collection, treatment and disposal capabilities.

Scenarios A and B

Project development would contribute increased quantities of wastewater to regional wastewater collection, treatment and disposal facilities. The City's General Plan provides for the construction and financing of expanded treatment and distribution facilities to serve new development. The existing City wastewater treatment plant is expected to reach capacity by 2006. The City plans to connect to SRCSD by 2007. The SRCSD has developed plans for and

is constructing regional wastewater conveyance and treatment facilities in conjunction with the SRCSD Interceptor Master Plan, which was adopted to accommodate increased wastewater generation resulting from widespread regional growth in and surrounding Sacramento County.

Timing of the proposed SRCSD connection would likely coincide with project development. However, if construction of the proposed connection was delayed, increased wastewater flows resulting from project development could exceed the capacity of the City's existing conveyance and treatment facilities, resulting in the need for expansion; therefore, impacts are considered ***potentially significant***.

Mitigation Measure

4.9-3 (A&B) *Implementation of Mitigation Measure 4.9-1.*

City required sewer impact fees in the form of development fees as assessed by the City Council for sanitary sewer system connections, in combination with monthly sewage use fees, are designed to cover wastewater treatment system improvements for existing facilities and construction of future facilities.[19] Implementation of Mitigation Measures 4.9-1 and 4.9-2(a) would require the developer to design and construct the wastewater conveyance system for the proposed project in compliance with City standards and would require the developer to pay the required fees to provide for any potential upgrades necessary for existing infrastructure as well as future wastewater system maintenance and/or expansion and would reduce cumulative impacts to *less-than-significant levels*.

4.9.3 ENERGY

4.9.3a ENVIRONMENTAL SETTING

Electricity and natural gas services for the City of West Sacramento are provided by Pacific Gas and Electric Company (PG&E). PG&E provides these services to the City through underground and above-ground transmission and distribution facilities. This EIR evaluates potential impacts resulting from project development as related to PG&E as the service provider.

Power to meet demands resulting from the proposed project would come from California as well as the Pacific Northwest and the United States Southwest.[20] Existing facilities within the project area include a 12 kilovolt (kV) distribution circuit and a 60 pounds per square inch gauge (psig) natural gas distribution line.[21]

The City of West Sacramento is exploring the potential for annexation into the Sacramento Municipal Utility District (SMUD). On March 16, 2005, the City Council voted unanimously to join the cities of Davis and Woodland in formally requesting annexation in an effort to explore the potential for lower rates, increased service reliability and local control. Transmission lines and substations within the City of West Sacramento would be purchased in order to attain separation from PG&E.[22] SMUD would be required to obtain rights-of-way and all required permits for new lines in order to annex.[23]

The SMUD Board voted to proceed with annexation of the City of West Sacramento, Davis, Woodland and unincorporated areas in between these cities on May 19, 2005. The next step is for SMUD to submit an annexation application to the Sacramento County Local Agency Formation Commission (LAFCo). LAFCo will then review the application and hold public

hearings, prior to voting on the proposed annexation. The earliest possible date for placing the proposed annexation on the ballot would be November 2006.

4.9.3b REGULATORY SETTING

Federal

The Federal Energy Regulatory Commission regulates the transmission and sale of electricity in interstate commerce, licensing of hydroelectric projects and oversight of related environmental issues.

The Federal Energy Regulatory Commission duties include the regulation of the transmission and sale of electricity in interstate commerce, licensing of hydroelectric projects, and oversight of related environmental matters.

State

In 1996, State legislation was enacted which restructured California's electricity market. In accordance with Assembly Bill (AB) 1890, the generation of electricity is open to competition, but the transmission and distribution remain a regulated monopoly. Utilities are required to purchase their electricity needs for the wholesale market. The goal of the legislation was to open the State's energy market to competition, with the expectation that competition would drive down the cost of electricity. Basically, the legislation gave the customers of investor-owned utilities, such as PG&E, the ability to choose the source of electric energy, similar to selecting a long-distance service from telephone companies.

Although market competition, in theory, can serve to drive down prices, not all markets are the same. Electricity is a necessity and people usually do not have a choice of whether to purchase it or not, unlike consumer goods such as televisions. As a result of deregulation, electricity rates were now a product of market forces that employed the basic principles of supply and demand. The smaller the supply, the higher the price of electricity would be. Conversely, as demand declined, the price would fall until supply and demand reached a natural equilibrium. The perceived electricity problems began in the winter months of 2000 during a time when there were no heat problems. The problem continued into the summer of 2001, a time when California receives part of its electricity from the Bonneville Power Administration's hydroelectric facilities in Oregon. As widely reported, there were drought conditions in the Pacific Northwest during this time; however, Bonneville met its firm contract requirements (they delivered the electricity that was required of them by contract). Contrary to public belief, summer 2001 was actually cooler than previous years and demand was actually lower. Strangely enough, although demand fell by 6,359 megawatts, electricity prices skyrocketed.

It is well-documented during this time that privately owned companies routinely took their generators down for maintenance, resulting in a 10,000 to 15,000 MW reduction in available supplies. Since electricity prices were driven by the amount of electricity available in the market, this action resulted in an increase in price. This practice of supply reduction, coupled with the way in which electricity procurement worked, provided the perfect market mechanisms that drove prices and profits to previously unseen levels.

Public Utilities Commission

The California Public Utilities Commission (PUC) sets forth specific "tariffs" or rules that relate to the design, installation, and management of California's public utilities. Decision #77187 and #78500 state that the under grounding of utilities is mandatory if lot sizes are less than three acres. A formal waiver must be obtained from PUC for any exemption from these rules.

Title 20 and Title 24, California Code of Regulations (CCR)

New building constructed in California must comply with the standards contained in Title 20, Energy Building Regulations, and Title 24, Energy Conservation Standards, of the CCR. Title 20 contains statutes relating to power plant siting certification. Title 24 (AB 970) contains the energy efficiency standards for residential and non-residential buildings based on a state mandate to reduce California's energy demand.

Warren-Alquist Energy Resources Conservation and Development Act

The State Energy Commission regulates energy resources by encouraging, developing and coordinating research and development into energy supply and demand problems to reduce the rate of growth of energy consumption (Warren-Alquist Energy Resources Conservation and Development Act Government Code section 25000 et. seq.).

Local

City of West Sacramento

City of West Sacramento General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to energy services:

Scenarios A and B

Policy I.2: Utility company rights-of-way shall be considered for use as public or private open space, trails, parkland, or other compatible recreational uses.

Policy I.3: The City shall require that all new electrical and communication facilities are installed underground or, in the case of transformers, pad-mounted. The City shall actively promote the undergrounding of existing overhead facilities.

Pacific Gas and Electric

Gas Rule 16 applies to PG&E's service facilities that extend from PG&E's distribution main facilities to service delivery points, and the service-related equipment required of project on the project site to receive gas service. It discusses metering facilities, distribution main extensions, service connections, and responsibilities for new service extensions.

4.9.3c ENERGY IMPACTS AND MITIGATION MEASURES

Method of Analysis

The assessment of electricity and natural gas service is a qualitative review of services offered by PG&E available to the project site and a determination of whether they are adequate to serve the needs of the proposed project.

Standards of Significance

For the purpose of this EIR, impacts associated with increased demand for electricity or natural gas are considered significant if the proposed project would:

- Generate a demand for electricity or natural gas that exceeds the existing or planned natural gas supply or transmission facilities.

Direct environmental impacts from construction of on-site public utilities and services for the proposed project are analyzed in Chapter 4.3, Air Quality, Chapter 4.4, Biological Resources, Chapter 4.5, Cultural Resources, Chapter 4.6, Land Use, and Chapter 4.7, Noise.

Project Impacts and Mitigation Measures

4.9-4 Development of the project would increase the demand for electricity and could result in the need for additional supply and/or distribution infrastructure.

Scenarios A and B

There is an existing 12 kV electrical transmission line to provide power to the proposed project. PG&E has indicated that there are no service restrictions within the project area.[24]

Developers are required to obtain approval from PG&E for the construction of the needed infrastructure. The applicant would work with PG&E to locate transmission line corridors for electrical energy distribution from the existing 12 kV transmission line. Consistent with General Plan Policy I.3, the transmission lines would be constructed underground.

PG&E has indicated that there are no constraints to obtaining reliable electrical supply to serve the project and would not require the construction of new, or expansion of existing substations.[25] Because adequate capacity exists to meet project demands and because the siting and construction of on-site distribution utility infrastructure would be consistent with PG&E requirements, the extension of infrastructure to meet the anticipated electricity demand for the proposed project would be considered ***less than significant***.

Mitigation Measure

4.9-4 (A&B) *None required.*

4.9-5 Development of the proposed project would increase the demand for natural gas, and could result in the need for additional distribution infrastructure.

Scenarios A and B

The project area has existing gas infrastructure. Service to the project area would come from an existing 60 pounds per square inch at gauge (psig) natural gas distribution line.[26]

PG&E has indicated that adequate natural gas service is available to serve the proposed project and the construction of new natural gas generation facilities would not be necessary.[27] Because adequate capacity exists to meet project demands and because the siting and construction of on-site distribution utility infrastructure would be consistent with PG&E requirements, the extension of infrastructure to meet anticipated natural gas demand for the proposed project would be considered ***less than significant***.

Mitigation Measure

4.9-5 (A&B) *None required.*

Cumulative Impacts and Mitigation Measures

The cumulative context for this project is defined as the buildout of development projects in the City of West Sacramento as described in Section 5.3, Cumulative Impacts.

4.9-6 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in an increased demand for electrical and natural gas supplies and distribution infrastructure.

Scenarios A and B

The ability of PG&E to provide its services concurrently with each project is evaluated during the development review process. The input facilitates a detailed review of all projects by service purveyors to assess the potential demands for utility services on a project-by-project basis. Developers are required to obtain approval from PG&E for the construction of the needed infrastructure. Consistent with PG& E requirements, the City and project applicants are required to work with PG&E to locate utility line corridors to distribute electricity and natural gas to proposed development from distribution mains. Consistent with General Plan Policy 5.1-I 11, utility distribution lines would be constructed underground adjacent to new residential and/or commercial development projects as a condition of approval.

Because the provision of adequate electricity and natural gas would be required prior to project approval, and because distribution infrastructure would be constructed consistent with PG&E requirements and City General Plan policies, cumulative impacts attributed to electricity and natural gas demand would be considered ***less than significant***.

Mitigation Measure

4.9-6 (A&B) *None required.*

4.9.4 DRAINAGE

4.9.4.a ENVIRONMENTAL SETTING

Stormwater in the City is collected in natural drainage features, gutters, buried pipelines, roadside ditches, large capacity channels and pipelines, stormwater detention basins, and pump stations. These conveyance structures are operated and maintained by the City and the Reclamation District Nos. 537, 811, and 900. The State and the Reclamation Districts are responsible for maintaining the levee system surrounding the city, which provides protection from extreme flood event. The proposed project is located in the area served by Reclamation District No. 811 (RD 811). The RD 811 facilities that serve the project site include a large capacity drainage channel aligned along Sacramento Avenue and a single pump located near 2nd and B Streets. This pump and pipeline serves only The Rivers development area (formerly known as the Lighthouse Marina and Riverbend Development Project). Stormwater runoff from this pump is discharged directly to the Sacramento River.[28] Currently, the capacity of this pump is limited to existing and approved development.[29]

4.9.4.b REGULATORY SETTING

Federal

There are no federal regulations pertaining to stormwater drainage infrastructure capacity.

State

Reclamation District No. 811

Reclamation districts are under the purview of the State Reclamation Board and have evolved into special districts established and operated under California Water Code Section 50000. The purpose of these districts is to reclaim and protect any body of wetlands, salt marsh, tidelands, or other lands subject to overflow, and to irrigate lands inside or outside of these districts. Reclamation districts can provide drainage, levee maintenance, or irrigation services. Reclamation District No. 811 is responsible for the maintenance of onsite drainage from The Rivers development area and the areas of Bryte and Broderick and has the ultimate responsibility for levee maintenance under the State Reclamation Board for its service area.

Local

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to stormwater drainage facilities and capacities:

Scenarios A and B

Goal C: **To maintain an adequate level of service in the City's storm drainage system to accommodate runoff from existing and future development and to prevent property damage due to flooding.**

Policy 1: Where practical and economical, the City shall upgrade existing drainage facilities as necessary to correct localized flooding problems.

Policy 2: The City shall continue to expand and develop storm drainage facilities to accommodate the needs of existing and planned development.

Policy 3: The City shall form storm drainage districts as needed to ensure that needed storm drainage facilities are properly constructed, operated, and maintained.

Policy 4: The City shall, through a combination of drainage improvement fees and other funding mechanisms, ensure that new development pays its fair share of the costs of drainage system improvements.

Policy 5: The City shall investigate the possibility of consolidating existing reclamation districts as a means of providing better levee maintenance and flood protection.

IMPLEMENTATION PROGRAMS

4. The City shall continue to identify and correct problems of localized flooding within the city.

5. The City shall review, and periodically update a *Drainage Master Plan* consistent with the land use patterns and densities/intensities provided for in the *General Plan*.

10. The City shall prepare, adopt, and periodically update a long-term *Major Projects Financing Plan*, including sewer, water, drainage and other facility improvements, which identifies:

    - Service standards
    - Specific project descriptions, including cost estimates
    - Schedule of improvements
    - Financing responsibility, including techniques to be employed

Municipal Codes

15.08.280 Runoff control.

The City Manager or his/her designee may require a surface water runoff control plan. The runoff control plan shall calculate runoff from the site under natural conditions, and shall estimate runoff after development using city drainage design standards. The runoff control plan shall demonstrate that such peak runoff from the site will not increase after development, and shall include all necessary measures to ensure this result to the satisfaction of the city manager or his/her designee.

City Standards Specifications & Details

The City Standards Specification & Details Division I, Section 4 and Division II, Section 1 provide minimum requirements for the design of storm drainage and related infrastructure. The purpose of these City standards is to ensure that minimum standards of construction are maintained to protect the health, safety, and general welfare of the public from damage caused by flooding. The design of improvements not included in the City standards are subject to approval of the City Engineer. The standards included in Division I and II include detailed requirements for modeling and measuring surface runoff from impervious surfaces and capacity of existing and proposed storm drainage infrastructure.

4.9.4.c DRAINAGE IMPACTS AND MITIGATION MEASURES

Method of Analysis

The qualitative evaluation of impacts associated with the construction of new stormwater drainage facilities are based on existing information from the City and the applicant. Potential for the exposure of persons and structures to flooding due to increased flows entering the storm water drainage system was based on information from the City and the applicant. The effectiveness of federal, State, and local requirements for minimizing water quality impacts were considered in the analysis.

Standards of Significance

For the purpose of this EIR, impacts related to stormwater drainage utilities are considered significant if the proposed project would:

- Increase the rate and amount of surface water runoff over pre-development conditions such that existing drainage capacity is exceeded.

Direct environmental impacts from construction of on-site public utilities and services for the proposed project are analyzed in Chapter 4.3, Air Quality, Chapter 4.4, Biological Resources, Chapter 4.5, Cultural Resources, Chapter 4.6, Land Use, and Chapter 4.7, Noise.

Project Impacts and Mitigation Measures

4.9-7 The proposed project would result in increased storm water runoff that could exceed the capacity of the existing drainage infrastructure.

Scenarios A and B

The PD-29 area, including the project site, is served by the RD 811 storm water conveyance system and the pump station located on 2nd and B Streets. The RD 811 storm water drainage infrastructure is at capacity with existing and approved developments in The Rivers development area. A portion of the site was formerly a golf course with man-made lakes that contain and percolate storm water runoff. Approximately 40 percent of the project site was planned for development and is currently vacant. The proposed project would result in an approximately 90 percent increase of impervious surfaces from the construction of roads, sidewalks, structures, and other impervious surfaces. An increase in impervious surfaces would result in an increase in storm water runoff flows and volumes. Development of the proposed project would increase the rate and volume of storm water runoff entering the RD 811 drainage infrastructure beyond what had been originally planned for. The proposed project would construct new storm water drainage infrastructure in the form of gutters, swales, buried pipelines, roadside ditches, and large capacity pipelines to collect and discharge storm water runoff. The new infrastructure would be designed to contain runoff volumes and flow from a 100-year storm event in compliance with the City Standards Specifications & Details Divisions I and II.

In addition, the proposed project would expand the capacity of the RD 811 pump station so that it can accept and discharge the additional storm water volumes and flows delivered from the project site during a 100-year storm event. Construction of new stormwater improvements would occur on the project site and in existing roads upon approval from the City Engineer and

in compliance with local ordinances and standards. Since there is no preliminary stormwater drainage model to ensure the capacity of the system, this is considered a ***significant impact***.

Mitigation Measure

The following mitigation measure would ensure that the capacity of the new stormwater drainage infrastructure was sized to convey flows from a 100-year storm event to prevent on- or off-site flooding and reduce impacts to *less-than-significant levels*.

4.9-7 (A & B) *The project applicant shall hire a State registered engineer to model 100-year storm event flows and design the stormwater drainage infrastructure to convey the flows from the 100-year storm event prior to improvement plan approval.*

Cumulative Impacts and Mitigation Measures

The cumulative context for the following analysis is defined as the buildout of The Rivers development area served by the RD 811, including the proposed project.

4.9-8 The proposed project, in combination with buildout of The Rivers development area served by the RD 811, would result in an increase in stormwater runoff that could exceed the capacity of existing drainage infrastructure.

Scenario A and B

The cumulative setting for storm water drainage is the buildout of The Rivers development area served by RD 811, including the proposed project. Buildout of the entire Rivers development area would be at completion with the proposed project. Development projects in the City are required to design drainage infrastructure so that it contains runoff volumes and flow from a 100-year storm event in compliance with the City Standards Specifications & Details Divisions I and II. Construction of new storm water improvements are required to be submitted to and approved by the City Engineer. Thus, all previously approved projects in The Rivers development area have sufficient drainage capacity. Because there is no preliminary stormwater drainage model to ensure the capacity of the drainage infrastructure for the proposed project portion of The Rivers project, the proposed project's contribution to this impact would be considerable. Therefore, this would be a ***significant cumulative impact.***

Mitigation Measure

The following mitigation measure would ensure that the capacity of the new stormwater drainage infrastructure would be sized to convey flows from a 100-year storm event to prevent on- or off-site flooding and reduce proposed project contribution to a *less-than-significant level*.

4.9-8 (A & B) *Implement Mitigation Measure 4.9-7.*

ENDNOTES

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3. Sacramento Local Agency Formation Commission, Memo from Peter Brundage, Executive Officer, regarding the Negative Declaration for the Proposed Sphere of Influence Amendment for the inclusion of the City of West Sacramento, December 2003, page 8.

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6. City of West Sacramento, Utilities and Services, City of West Sacramento website (http://www.ci.west-sacramento.ca.us/cityhall/departments/redev/ed/Util_serv.cfm), accessed April 5, 2005.

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14. City of West Sacramento, Accessed October 31, 2005, http://www.ci.west-sacramento.ca.us/cityhall/departments/comdev/documents/ss2002/

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17 City of West Sacramento, Departments, Community Development Department, Documents Sanitary Sewer 2002, City of West Sacramento Website, (www.ci.west-sac.ca.us), accessed April 14, 2005.

18. City of West Sacramento, Book of City Imposts, Sewer Impact Fees (Connection Fees) – Citywide, Resolution No. 03-125, February 23, 2004.

19. City of West Sacramento, Book of City Imposts, Sewer Impact Fees (Connection Fees) – Citywide, Resolution No. 03-125, February 23, 2004.

20. California Energy Commission, California's Major Sources of Energy, California Energy Commission website, (www.energy.ca.gov), accessed April, 11 2005.

21. Kris Matulich, Pacific Gas and Electric, written communication, April 7, 2005.

22. R.W. Beck, Sacramento Municipal Utility District Annexation Feasibility Study, January 2005, page ES-4.

23. R.W. Beck, Sacramento Municipal Utility District Annexation Feasibility Study, January 2005, page ES-3.

24. Kris Matulich, Pacific Gas and Electric, written communication, April 7, 2005.

25. Kris Matulich, Pacific Gas and Electric, written communication, April 6, 2005.

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4.10 TRANSPORTATION AND CIRCULATION

4.10 TRANSPORTATION AND CIRCULATION

4.10.1 INTRODUCTION

The transportation and circulation section of this DEIR describes the existing traffic and circulation conditions in the vicinity of the proposed Rivers Phase II project and evaluates the impacts to intersections resulting from implementation of the proposed project. This section summarizes the results of the *Transportation Study – The Rivers Phase II* (November 2005) prepared by Fehr & Peers Transportation Consultants (Fehr & Peers). The full text and appendices of the *Transportation Study – The Rivers Phase II* is found in Appendix I.

The proposed project would include construction of on-site roads to accommodate internal circulation in the residential portion of the proposed project. Compliance with City standards would ensure that the project would not substantially increase hazards due to design standards and would not result in inadequate emergency access. These impacts were determined to be less than significant in the Initial Study (see Appendix A) and they will not be further evaluated in this section.

Comments received in response to the NOP (see Appendix B) raised concerns about the need for an evaluation of impacts due to any off-site traffic improvements, made a recommendation that the project design encourage and facilitate the use of alternative transportation, and raised concerns that the proposed project's incremental traffic effects to State roads could be considerable when viewed in the cumulative context. These issues are discussed in this section.

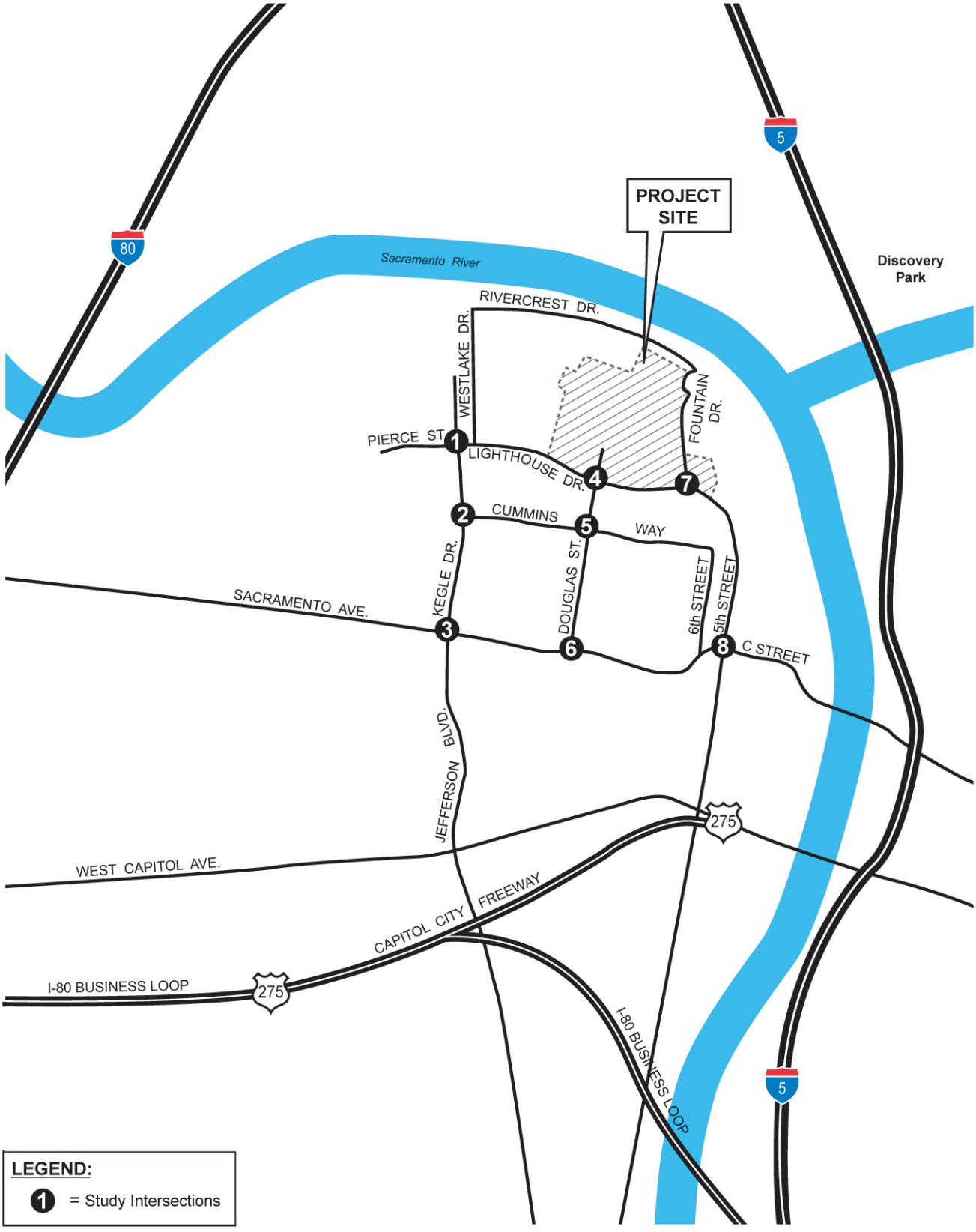
4.10.2 STUDY INTERSECTIONS AND FORECAST SCENARIOS

The following eight study intersections (see Figure 4.10-1) were selected in consultation with the City of West Sacramento staff as the intersections most likely to be impacted by the proposed project.

1. Kegle Drive/Lighthouse Drive/Pierce Street (unsignalized) (2-way stop)
2. Kegle Drive/Cummins Way (unsignalized)
3. Kegle Drive/Jefferson Boulevard/Sacramento Avenue (signalized)
4. Douglas Street/Lighthouse Avenue (unsignalized)
5. Douglas Street/Cummins Way (unsignalized)
6. Douglas Street/Sacramento Avenue (unsignalized) (1-way stop)
7. Fountain Drive/Lighthouse Drive (signalized)
8. 5th Street/C Street (signalized)

The following scenarios were evaluated:

- ***Existing*** – represents existing (2005) conditions from recent traffic counts.
- ***Existing Plus Project (Scenario A)*** – represents near-term conditions based on existing traffic volumes plus residential and school project related traffic (i.e., 626 residential units and 600-student school).



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11006-00

FIGURE **4.10-1**

Study Intersections

Sources: Fehr & Peers, 2005

Not to Scale

EIP ASSOCIATES

- ***Existing Plus Project (Scenario B)*** – represents near-term conditions based on existing traffic volumes plus residential only project related traffic (i.e., 802 residential units).
- ***Cumulative No Project*** – represents future forecasted conditions based on build-out of the City of West Sacramento General Plan and completion of funded roadway improvements.
- ***Cumulative Plus Proposed Project (Scenario A)*** – represents future forecasted conditions plus proposed residential and school project related traffic.
- ***Cumulative Plus Proposed Project (Scenario B)*** – represents future forecasted conditions plus proposed residential project related traffic.

4.10.3 ANALYSIS METHODOLOGIES

The methodology applied in the following traffic analysis, and summarized below, is based on the City of West Sacramento Traffic Impact Analysis Guidelines (April 2005). Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported qualitatively on a scale from A to F, with A representing the best performance and F the worst. Tables 4.10-1 and 4.10-2 relate the operational characteristics associated with each level of service category for signalized and unsignalized intersections, respectively.

TABLE 4.10-1

SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	V/C Ratio
A	Stable flow - Very slight or no delay. Conditions are such that no approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.	0.00-0.60
B	Stable flow - Slight delay. An occasional approach phase is fully utilized.	0.61-0.70
C	Stable flow - Acceptable delay. A few drivers arriving at the end of a queue may have to wait through one signal cycle.	0.71-0.80
D	Approaching unstable flow - Tolerable delay. Delay may be substantial during short periods, but excessive back ups do not occur.	0.81-0.90
E	Unstable flow - Intolerable delay. Delay may be great - up to several signal cycles. Long queues form upstream of intersection.	0.91-1.00
F	Forced flow - Excessive delay. Volumes vary widely, depending on downstream queue conditions.	>1.00

Source: *Circular 212*, Transportation Research Board, January 1980.

TABLE 4.10-2

MAXIMUM INTERSECTION CRITICAL VOLUMES

Number of Phases	Transportation Research Board	Study Critical Volumes
2	1,500	1,650
3	1,425	1,550
≥ 4	1,375	1,500

Source: Fehr & Peers, 2005.

The analysis methods presented in the Transportation Research Board's *Circular 212* (February 1980) and *Highway Capacity Manual* (HCM, 2000) were used to calculate LOS for signalized and unsignalized intersections, respectively.

Signalized intersections

As required by the City of West Sacramento Traffic Impact Analysis Guidelines, the Circular 212 planning method was used to determine LOS rating at signalized intersections. This method is based on the volume-to-capacity (V/C) ratio that relates the total traffic volume for critical opposing movements to the theoretical capacity for those movements. Table 4.10-1 summarizes the relationship between V/C ratio and LOS for signalized intersections.

As required by the City of West Sacramento Traffic Impact Analysis Guidelines, the critical volumes shown in Table 4.10-2 are used for the analysis and a peak hour factor of 1.00 is assumed for all conditions. TRAFFIX for Windows (version 7.7, 2004) software program was used to determine the intersection operations.

Unsignalized Intersections

As required by the City of Sacramento Traffic Impact Analysis Guidelines, the 2000 HCM method is utilized for unsignalized (all-way stop-controlled) intersections. With this method, operations are defined by average control delay per vehicle (measured in seconds) for each stop-controlled movement. This incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, delay for the worst movement is reported. Table 4.10-3 summarizes the relationship between delay and LOS for unsignalized intersections. A peak hour factor of 1.00 was assumed for all conditions.

TABLE 4.10-3

UNSIGNALIZED INTERSECTION CRITERIA

Level of Service	Description	Average Control Per Vehicle (Seconds)[1]
A	Little or no delays	< 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: *Highway Capacity Manual* (Transportation Research Board, 2000).

4.10.4 ENVIRONMENTAL SETTING

Existing Road Facilities

The proposed project site is located in the City of West Sacramento in Yolo County between Interstate 80 (I-80), Interstate 5 (I-5), and U.S. Highway 50 (U.S. 50) (also known as the Capitol City Freeway or Business Loop 80) (see Figure 3-1 in Chapter 3, Project Description).

The proposed project site is located in the northeast corner of the City and, therefore, the Sacramento River restricts traffic circulation north and east of the site. The proposed 68-acre

residential development site is bordered by Fountain Drive on the east, Lighthouse Drive on the south, and Fountain Drive and Westlake Drive on the west (see Figure 3-2 in Chapter 3, Project Description).

The study area includes intersections along Lighthouse Drive and major roadways south of the project site (see Figure 4.10-1). The area selected for the study is most likely to experience traffic impacts from the proposed project. The following discusses the roadways in the study area that would provide access to the residential development site. The existing lane configurations and traffic control at each study intersection are shown on Figure 4.10-2.

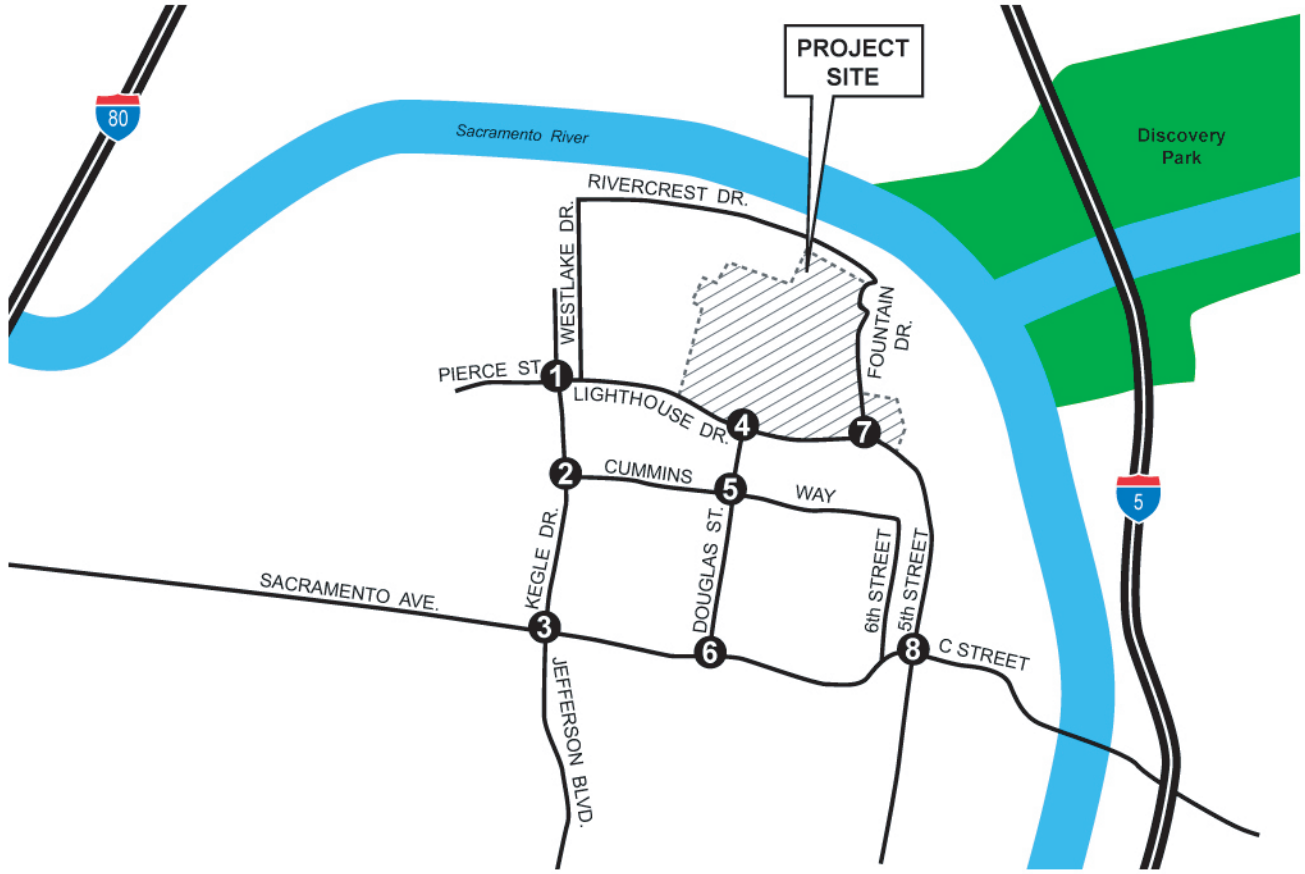
US-50 is a major regional freeway extending from I-80 in West Sacramento through the Sacramento metropolitan area into the Sierra Nevada Mountains and the State of Nevada. In the study area, US-50 (also known as the Capitol City Freeway or Business Loop 80) is an eight-lane freeway with an interchange at Jefferson Boulevard. It has an average daily traffic (ADT) volume of about 105,000 vehicles east of Jefferson Boulevard.[1]

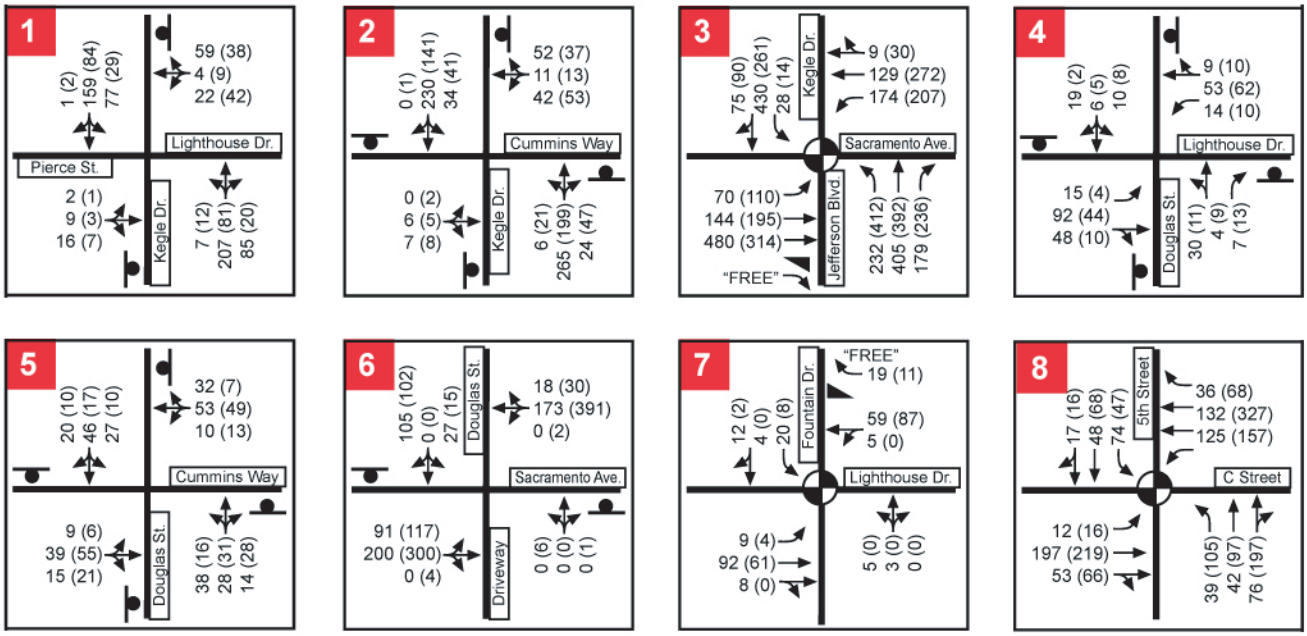
I-5 is a major north-south freeway that traverses the western United States, originating in southern California and continuing north to Sacramento and beyond. It runs through the City of Sacramento east of West Sacramento and over the Sacramento River. Access to the project site from I-5 is provided via the I-Street Bridge and State Route 275 (SR 275). Three mixed-flow lanes are provided in each direction in the vicinity of the project. I-5 has an ADT volume of about 170,000 vehicles north of I-Street.[2]

SR 275 (Tower Bridge Gateway) connects the study area to the I-80 Business Loop and provides access to the City of Sacramento via the Tower Bridge. The West Capitol Avenue and Jefferson Boulevard interchanges provide access to SR 275. Two mix-flow lanes are provided in each direction. SR 275 has an ADT volume of about 7,000 vehicles east of Fifth Street.[3]

Sacramento Avenue is a major arterial that extends from C Street west to the Yolo Shortline Railroad. West of the Yolo Shortline Railroad this roadway becomes Reed Avenue. East of 6th Street Sacramento Avenue becomes C Street and provides access to the I Street Bridge. Posted speed limits range from 35 miles per hour (mph) east of Jefferson Boulevard to 40 mph west of Jefferson Boulevard. It is a four-lane road and a truck route for the City.

Jefferson Boulevard/Kegle Drive is a four-lane major arterial and truck route that extends from Sacramento Avenue to south of I-80/SR 275. The posted speed limit on this roadway is 40 mph. North of Sacramento Avenue Jefferson Boulevard becomes Kegle Drive. Kegle Drive is a two-lane minor arterial providing access to residential uses. It has a posted speed limit of 25 mph. The daily traffic volume on Kegle Drive south of Hobson Avenue is about 7,100 vehicles.[4]





LEGEND:

XX (YY) = AM (PM) Peak Hour Traffic Volume

= Stop Sign

"FREE" = Free Right Turn

= Study Intersections

= Traffic Signal

11006-00

FIGURE **4.10-2**

Existing Traffic Volumes, Lane Configurations and Traffic Controls

Not to Scale

Sources: Fehr & Peers, 2005

EIP ASSOCIATES

Fifth Street is a four-lane arterial that runs north-south from A Street to West Capitol Avenue. The posted speed on this roadway is 35 mph. From 8:00 AM to 5:00 PM on-street parking for Fifth Street is limited to one-hour except for vehicles with permits. North of A Street, Fifth Street becomes Lighthouse Drive. Two to four-lanes are provided on Lighthouse Drive. No parking is allowed on Lighthouse Drive. The daily traffic volume on Fifth Street south of A Street is about 2,600 vehicles.[5]

Cummins Way, Douglas Street, and Fountain Drive are local collector streets that provide access to residential uses. The daily traffic volume on Douglas Street south of Andrew Street is about 2,200 vehicles.[6]

Transit System

The Yolo County Transportation District (YCTD), through Yolobus Transit Service, operates 32 busses and 10 Paratransit vehicles. Service is provided within the City of West Sacramento to the surrounding communities including Davis, West Sacramento, Winters, Woodland, downtown Sacramento, Sacramento International Airport, Cache Creek Casino, Esparto, Madison and Knights Landing. The Yolo County Transportation District also provides connections to other public transportation systems including Unitrans, Citylink Amtrak in Davis, and Regional Transit and Light Rail in Sacramento.

Yolobus Route 40/41 operates on West Capitol Avenue, Jefferson Boulevard, Kegle Drive, Fifth Street, and Cummins Way. Within the project vicinity, there are stops on Fifth Street at C Street, Kegle Drive at Cummins Way, and Cummins Way at Douglas Street. The service operates from about 6:00 AM to 10:15 PM on weekdays, 7:00 AM to 9:00 PM on Saturdays, and 8:30 AM to 7:00 PM on Sundays. Headways range from 40 to 60 minutes.

Bicycle and Pedestrian Facilities

Class II and III bicycle lanes exist within the study area. Bicycle lanes are provided on portions of Lighthouse Drive and bicycle route signage is provided on those areas without bicycle lanes. Sacramento Avenue has Class II bike lanes between Kegle Drive and 8th Street. Bicycle lanes are also provided on Jefferson Boulevard between Sacramento Avenue and West Capitol Avenue. Sidewalks are provided in the project vicinity on all the study roadways.

Future planned facilities within the project vicinity include bicycle lanes on Fifth Street and a recreational trail along the Sacramento River. The *West Sacramento Bicycle and Pedestrian Path Master Plan* (1995 Addendum) shows bicycle lanes along Cummins Way and Kegle Drive.

Traffic Counts

Turning movement counts were conducted at these eight study intersections in February 2005 during the evening peak period (4:00 to 6:00 PM) and in March 2005 during the morning peak period (7:00 to 9:00 AM). The hour with the highest traffic volume was identified as the “peak hour” for the traffic analysis. The PM peak hour generally occurred from 5:00 to 6:00 PM and the AM. peak hour generally occurred from 7:15 to 8:15 AM. See Figure 4.10-2 for the existing peak hour turning movement volumes, lane configurations, and traffic controls for the eight study intersections.

Intersection Operations

As required by the City of West Sacramento Traffic Impact Analysis Guidelines, the Circular 212 planning and HCM 2000 methods were applied to determine the study intersection operations.

Level of Service

Existing intersection operations were evaluated for the weekday AM and PM peak hours. Table 4.10-4 summarizes the intersection analysis results, and detailed LOS calculation worksheets are presented in Appendix B. As shown in the table, all intersections operate at acceptable levels during both the AM and PM peak hours except the Douglas Street/Sacramento Avenue intersection which operates at LOS E during the PM peak hour. This intersection operates at a deficient level due to the heavy eastbound and westbound through movements and lack of available gaps for the side-street traffic. The northbound approach serves about 10 vehicles and operates at LOS E. The southbound approach operates at LOS C and the overall intersection operations are LOS A.

TABLE 4.10-4

EXISTING CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE

		AM Peak Hour		PM Peak Hour	
Intersections	**Traffic Control**	**V/C Ratio or Delay**	**LOS**	**V/C Ratio or Delay**	**LOS**
1. Kegle Drive/Lighthouse Drive/Pierce Street[1]	Side-Street Stop	12	B	10	B
2. Kegle Drive/Cummins Way[2]	All-Way Stop	10	A	9	A
3. Kegle Drive/Jefferson Boulevard/Sacramento Avenue[3]	Signal	0.66	B	0.71	C
4. Douglas Street/Lighthouse Avenue[2]	All-Way Stop	8	A	8	A
5. Douglas Street/Cummins Way[2]	All-Way Stop	8	A	8	A
6. Douglas Street/Sacramento Avenue[1]	Side-Street Stop	12	B	**38**	**E**
7. Fountain Drive/Lighthouse Drive[3]	Signal	0.10	A	0.09	A
8. 5th Street/C Street[3]	Signal	0.27	A	0.36	A

Notes: V/C=Volume-to-capacity ratio. Delay is shown in seconds per vehicle. **Bold** indicates unacceptable operations.
1. Side-street stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual - Special Report 209* (Transportation Research Board, 2000). Worst case movement delays are presented.
2. All-way stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity manual - Special Report 209* (Transportation Research Board, 2000).
3. Signalized intersection level of service is based on V/C ratio according to *Circular 212 Interim Materials on Highway Capacity* (Transportation Research Board, 1980).

Source: Fehr & Peers, 2005.

Traffic Signal Warrant Analysis

A peak hour volume traffic signal warrant analysis was conducted for the Kegle Drive/Lighthouse Drive/Pierce Street, Kegle Drive/Cummins Way, Douglas Street/Lighthouse Avenue, Douglas Street/Cummins Way, Douglas Street/Sacramento Avenue, and Fountain Drive/Lighthouse Drive intersections using the criteria described in the Federal Highway Administration's *Manual of Uniform Traffic Control Devices* (MUTCD). The MUTCD contains eight warrants. The peak-hour volume warrant analysis was conducted due to the available data. The results of the peak hour volume warrant analysis indicate that none of the intersections meet signal warrant criteria. Appendix C of Appendix I of this EIR contains the peak hour volume warrant calculation worksheets.

The analysis of unsignalized intersections is intended to examine the general correlation existing conditions and the need to install new traffic signals. The existing traffic conditions are compared against a sub-set of the standard traffic signal warrants recommended in the MUTCD and associated Caltrans guidelines. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. In addition, factors such as congestion, approach conditions, and driver confusion should be considered since the installation of signals can lead to certain types of collisions. The City of West Sacramento should undertake regular monitoring of actual traffic conditions and accident data and should conduct a timely re-evaluation of the full set of warrants in order to prioritize and program intersections for signalization.

4.10.5 REGULATORY SETTING

Federal

There are no federal regulations that pertain to transportation and circulation issues related to the proposed project.

State

There are no State regulations pertaining to the issues of transportation and circulation related to this project.

Local

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to the analysis of the potential impacts due to the construction and implementation of the proposed project on transportation facilities and circulation within the project area.

Scenarios A and B

Goal A: **To create and maintain a roadway network which will ensure the safe and efficient movement of people and goods throughout the city.**

Policy 2: The City shall endeavor to maintain a Level of Service " C " on all streets within the city**,** except at intersections and on roadway segments within one-quarter mile of a freeway interchange or bridge crossing of the Deep Water Ship Channel, barge canal, or Sacramento River, where a Level of Service "D" shall be deemed acceptable.

Policy 3: Streets shall be dedicated, widened, extended, and constructed according to the street cross section standards shown in Figure I-2 or as may be established by the City through a Specific Plan, Standard Specifications or similar mechanism for a particular planning area of the City. Dedication and improvements of full rights-of-way as shown in Figure I-2 shall not be required in existing developed areas where the City determines that such improvements are either infeasible or undesirable. Other deviations from these standards shall be permitted upon a determination by the City

Engineer that safe and adequate public access and circulation are preserved by such deviations.

Policy 4: Land uses which generate high traffic volumes shall be located near major transportation corridors and public transit facilities to minimize vehicle use, congestion, and delay.

Policy 5: Neighborhood streets shall be designed to discourage through-traffic and unsafe traffic speeds.

Policy 8: On-street truck parking shall be prohibited where such parking restricts adequate sight distances or otherwise poses a potentially hazardous situation.

Policy 14: The City shall ensure through a combination of traffic impact fees and other funding mechanisms that new development pays its fair share of the costs of circulation improvements.

Goal B: To promote and maintain public and private transit systems that are responsive to the needs of all West Sacramento residents.

Policy 9: New development shall be required to install indented curbs for bus pullouts, bus shelters, and other transit-related public improvements where appropriate.

Goal F: To ensure the adequate provision of both on- and off-street parking.

Policy 1: If future growth in traffic volumes necessitates removal of on-street parking places to provide additional traffic lanes, the City shall ensure that the lost on-street spaces are replaced with an equal number of off-street spaces within the same vicinity, when feasible.

Policy 2: The City shall require provision of adequate off-street parking in conjunction with all new developments. The adequacy and appropriateness of parking requirements in the *Zoning Ordinance* shall be periodically reevaluated and may be revised for a particular planning area by adoption of a Planned Development Zone pursuant to the Zoning Ordinance.

Goal G: To promote pedestrian and bicycle travel as alternatives to automobile use.

Policy 1: The City shall create and maintain a safe and convenient system of pedestrian and bicycle pathways which encourages walking or bicycling as an alternative to driving. New development shall be required to pay its fair share of the costs for development of this pathway system.

Policy 3: Bicycle routes shall emphasize paths separated from vehicle traffic to the maximum extent possible, but shall also include bicycle lanes within public streets; bikeways may, however, be combined with pedestrian and vehicle routes, where appropriate.

Policy 6: Bicycle safety shall be considered when implementing improvements for automobile traffic operations.

West Sacramento Traffic Impact Analysis Guidelines

The Guidelines relevant to the transportation and circulation analysis for the proposed project were incorporated into the Standards of Significance used for the impact analyses.

West Sacramento Bicycle and Pedestrian Path Master Plan (1995 Addendum)

The *City of West Sacramento Bicycle and Pedestrian Path Master Plan* provides the objectives and policies related to the development of a system of public bicycle and pedestrian paths within the City. Virtually all of the policies would affect the development of the project; however the following policies would be particularly appropriate to this proposed project:

- Develop and maintain a safe, continuous, and convenient system of bicycle and pedestrian paths that connects residential areas to major destinations within the City, including the central business district, shopping areas, employment areas, and public facilities.
- Coordinate with Yolo Transit to integrate bicycle and pedestrian facilities with bus service.
- Adopt Caltrans standards, as required by state law, for bike paths (Class I), bike lanes (Class II), and bike routes (Class III).
- Provide bike paths and sidewalks, separated from each other and vehicle traffic, at all new arterial and collector streets.

The City is initiating a process to update the Master Plan. The revised plan will identify ways to enhance and expand the existing network of pedestrian and bike paths and recreational trails, connect gaps in the system and improve problem areas.

4.10.6 IMPACTS AND MITIGATION MEASURES

Method of Analysis

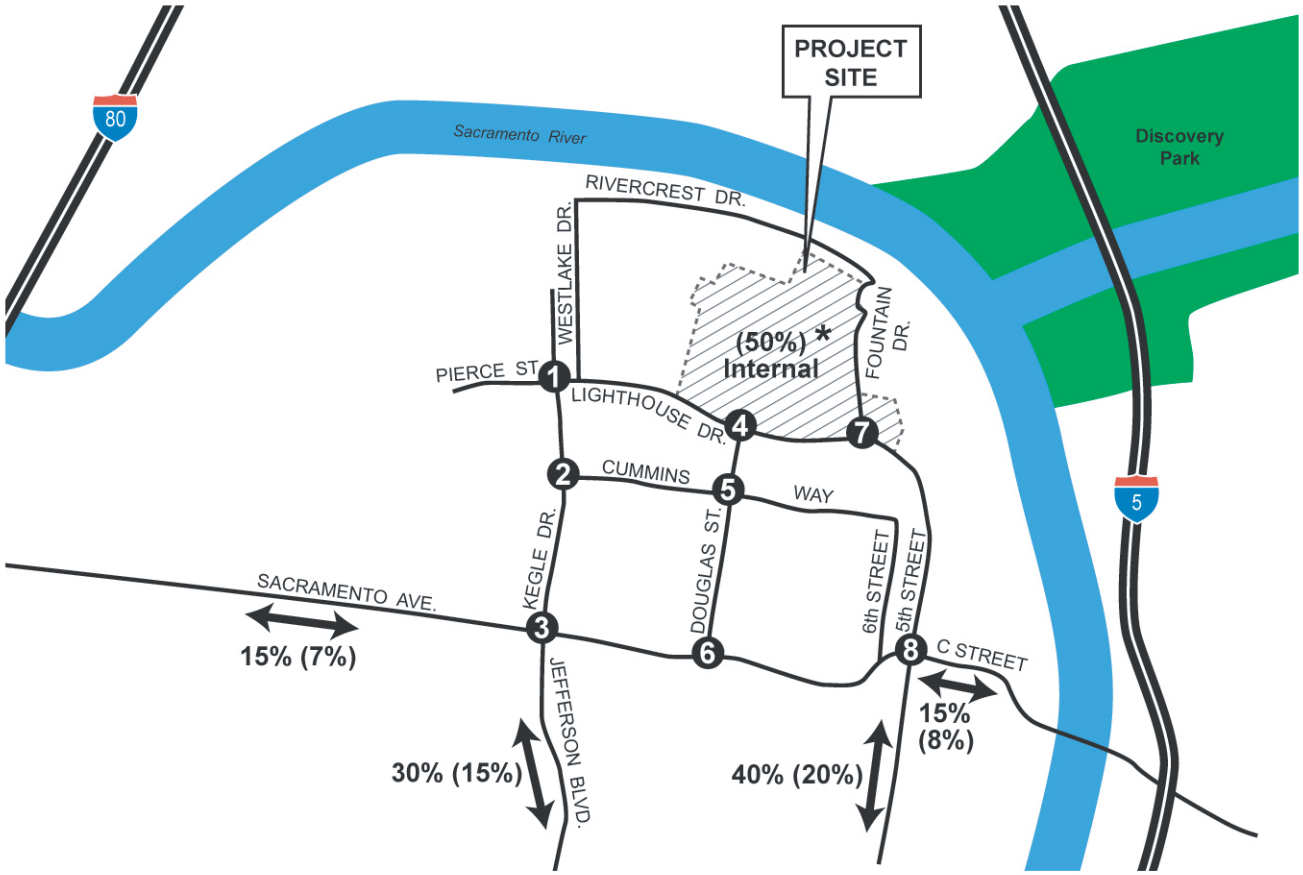
Trip Generation

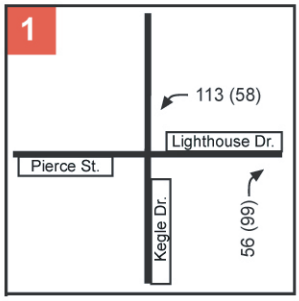
Standard Institute of Transportation Engineers (ITE) trip generation rates, as presented in *Trip Generation* (7th Edition), were utilized to estimate project trips for all uses. Based on the *Fundamental Academy Initial Planning Phase Report* (Washington Unified School District, March 3, 2005), 50 percent of the students enrolled in the school are expected to come from within the development; therefore, only 50 percent of the trips generated by the school would impact the surrounding roadway system. The students living in the proposed project development would likely bike or walk to school; therefore, it was assumed 80 percent of the students from within the development would bike or walk and the remaining 20 percent would be dropped off and picked up. Table 4.10-5 summarizes the project trip generation for Scenario A. As shown in the table, Scenario A is expected to generate 4,841 daily trips, 511 morning (AM) peak hour trips, and 462 evening (PM) peak hour trips.

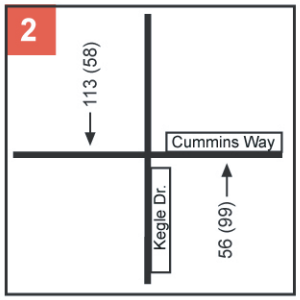
Table 4.10-6 shows the trip generation for the Scenario B. As shown in the table, Scenario B is expected to generate 5,016 daily trips, 373 morning AM peak hour trips, and 473 PM peak hour trips. Scenario B would generate more daily and PM peak hour trips (i.e., 175 more daily trips and 11 more PM peak hour trips) than Scenario A. During the AM peak hour, Scenario A would generate about 138 more trips than Scenario B.

Trip Distribution

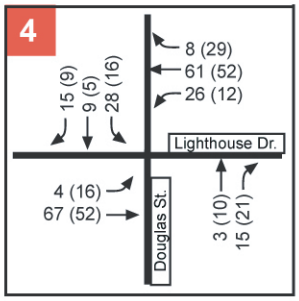
The project trip distribution is based on existing peak hour traffic counts, knowledge of the surrounding roadway network and consultation with City staff. In addition, the proposed school would give priority to residents living within the proposed development; therefore, 50 percent of the trips for the school are assumed to come from within the development. Eighty percent of the school trips from within the proposed development are assumed to walk to the school and 20 percent are assumed to drive. Figure 4.10-3 presents the project trip distribution and assignment for project Scenario A and Figure 4.10-4 shows assignment and distribution for project Scenario B.





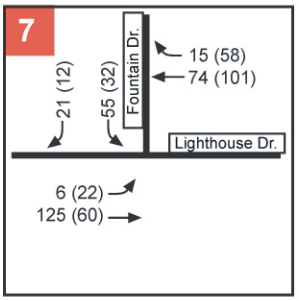


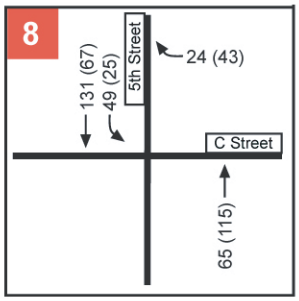












NOTE: * 80 Percent of the school internal trips are assumed to be walking.

LEGEND:

1 = Study Intersections

XX (YY) = AM (PM) Peak Hour Project Trips

XX% (YY%) = Residential (School) Trip Distribution

FIGURE **4.10-3**

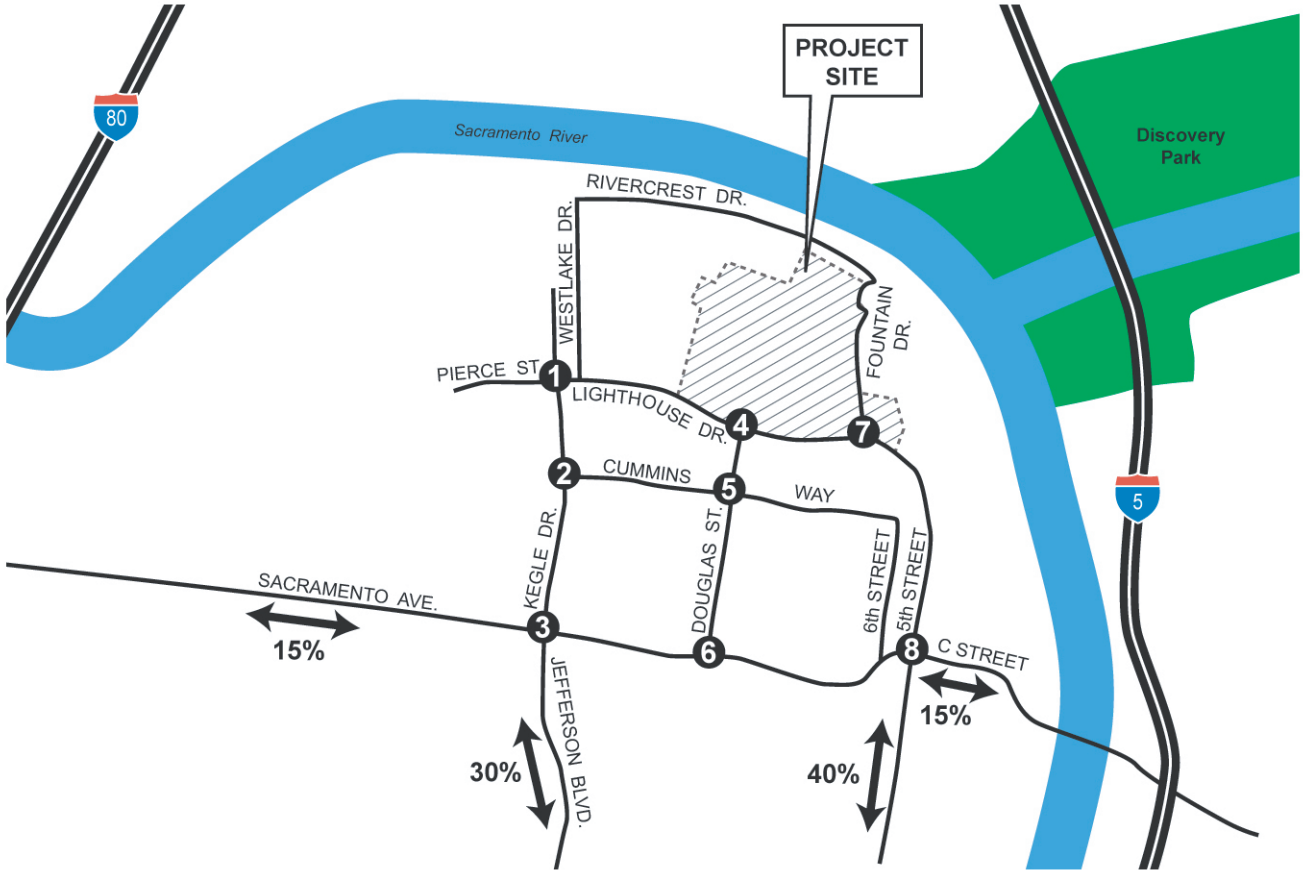
Project Trip Distribution and Assignment (Scenario A)

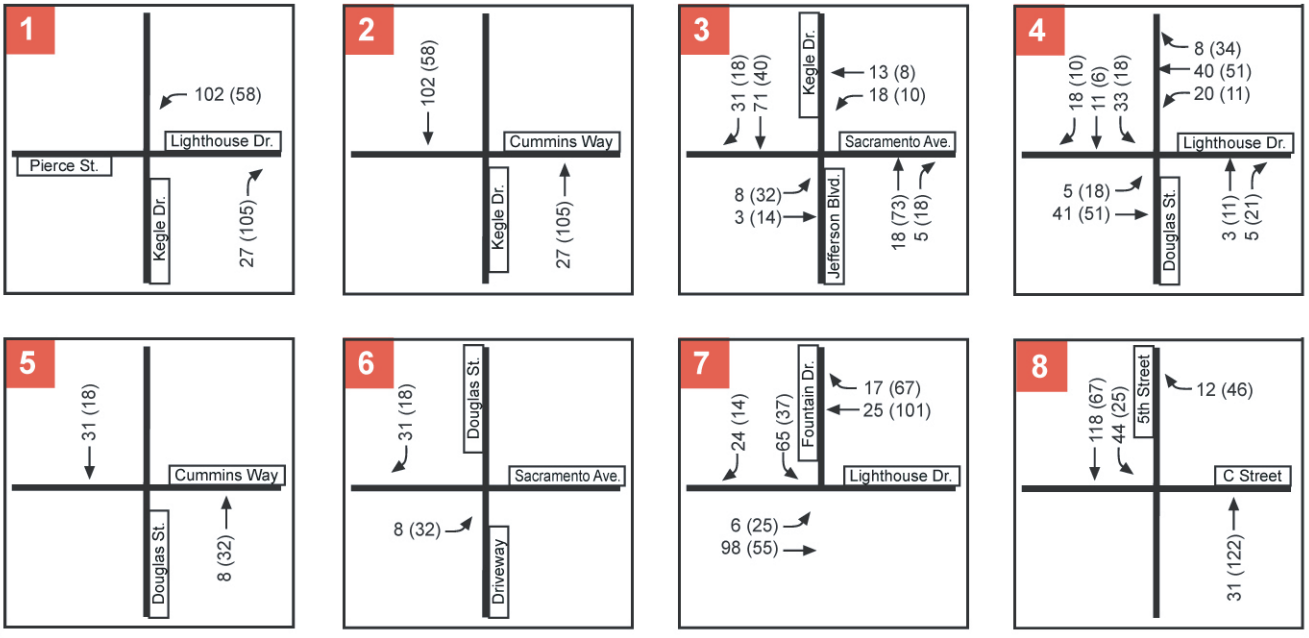
Not to Scale

11006-00

Sources: Fehr & Peers, 2005

EIP ASSOCIATES





LEGEND:

1 = Study Intersections XX (YY) = AM (PM) Peak Hour Project Trips XX% = Residential Trip Distribution

11006-00

FIGURE **4.10-4**

Project Trip Distribution and Assignment (Scenario B)

Not to Scale

Sources: Fehr & Peers, 2005

EIP ASSOCIATES

TABLE 4.10-5

PROPOSED PROJECT SCENARIO A TRIP GENERATION

Land Use	Size	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Single Family[1]	220 d.u.	2,147	42	121	163	136	81	217
Condominium[2]	406 d.u.	2,111	28	130	158	126	65	191
School[3]	600 students	972	174	144	318	48	42	90
Subtotal		*5,230*	*244*	*395*	*639*	*310*	*188*	*498*
Reduction of School Trips for Students Biking or Walking to the Site[4]		*-389*	*-70*	*-58*	*-128*	*-19*	*-17*	*-36*
Total		***4,841***	***174***	***337***	***511***	***291***	***171***	***462***

Notes:
d.u. = dwelling units
1. Trip generation determined from regression equation for Single Family Detached Housing (Land Use 210) in the Institute of Transportation Engineers (ITE) *Trip Generation* (7th Edition), as presented below. Daily Equation: Ln(T) = 0.92 Ln(X) + 2.71 AM Equation: T = 0.70(X) +9.43 (inbound = 25 percent, outbound = 75 percent) PM Equation: Ln(T) = 0.90 Ln(X) +0.53 (inbound = 63 percent, outbound = 37 percent)
2. Trip generation determined from regression equation for Residential Condominium/Townhouse (Land Use 230) in the ITE *Trip Generation* (7th Edition), as presented below. Daily Equation: Ln(T) = 0.85 Ln(X) + 2.55 AM Equation: Ln(T) = 0.80 Ln(X) + 0.26 (inbound = 17 percent, outbound = 83 percent) PM Equation: Ln(T) = 0.82 Ln(X) +0.32 (inbound = 67 percent, outbound = 33 percent)
3. Trip generation determined from average rate (Land Use 522) in the ITE *Trip Generation* (7th Edition), as presented below. Daily Equation: 1.62 trips per student AM Equation: 0.53 trip per student (inbound = 55 percent, outbound = 45 percent) PM Equation: 0.15 trips per student (inbound = 52 percent, outbound = 48 percent)
4. Fifty percent of the students are from within the project site and 80 percent of those students bike or walk to the school (i.e., 240 students walk to school). Trip generation for the 240 students was determined from average rate (Land Use 522) in the ITE *Trip Generation* (7th Edition), as presented in note 3.

Where: T = trip ends, LN = logarithmic equation, and X = number of dwelling units or students
Source: ITE, Fehr & Peers, 2005

TABLE 4.10-6

PROPOSED PROJECT SCENARIO B TRIP GENERATION

Land Use	Size	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Single Family[1]	220 d.u.	2,147	42	121	163	136	81	217
Condominium[2]	582 d.u.	2,869	35	175	210	169	87	256
Total		***5,016***	***77***	***296***	***373***	***305***	***168***	***473***

Note: d.u. = dwelling units
1. Trip generation determined from regression equation for Single Family Detached Housing (Land Use 210) in the Institute of Transportation Engineers (ITE) *Trip Generation* (7th Edition), as presented below. Daily Equation: Ln(T) = 0.92 Ln(X) + 2.71 AM Equation: T = 0.70(X) +9.43 (inbound = 25 percent, outbound = 75 percent) PM Equation: Ln(T) = 0.90 Ln(X) +0.53 (inbound = 63 percent, outbound = 37 percent)
2. Trip generation determined from regression equation for Residential Condominium/Townhouse (Land Use 230) in the ITE *Trip Generation* (7th Edition), as presented below. Daily Equation: Ln(T) = 0.85 Ln(X) + 2.55 AM Equation: Ln(T) = 0.80 Ln(X) + 0.26 (inbound = 17 percent, outbound = 83 percent) PM Equation: Ln(T) = 0.82 Ln(X) +0.32 (inbound = 67 percent, outbound = 33 percent)

Where: T = trip ends, LN = logarithmic equation, and X = number of dwelling units or students
Source: ITE, Fehr & Peers, 2005

Standards of Significance

For the purpose of this EIR, impacts to transportation and circulation are considered significant if the proposed project would:

- Cause a signalized intersection to deteriorate from an acceptable LOS (i.e. LOS C) to an unacceptable LOS (i.e. LOS D or worse);
- Cause a signalized intersection V/C ratio to increase by more than 0.05 for a signalized intersection operating at an unacceptable LOS (i.e. LOS D or worse) without the project;
- Cause an unsignalized intersection to deteriorate from an acceptable LOS (i.e. LOS C) to an unacceptable LOS (i.e. LOS D or worse) and the project causes the intersection to meet traffic signal warrants;

- Increase a delay by more than five seconds for an approach operating at an unacceptable LOS (i.e., LOS D or worse) at an unsignalized intersection which meets signal warrants without the project;
- Result in a change in traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Adversely affect an existing bikeway or pedestrian facility such that access and/or usage of the facility is discouraged or conflicts are created;
- Impact or affect aspects defined in the City's *Bicycle and Pedestrian Path Master Plan* or conflict with adopted policies, plans, or programs supporting alternative transportation (i.e. bus turnouts); or
- Result in inadequate parking capacity.

Existing Plus Project Impacts and Mitigation Measures

Intersection Operations

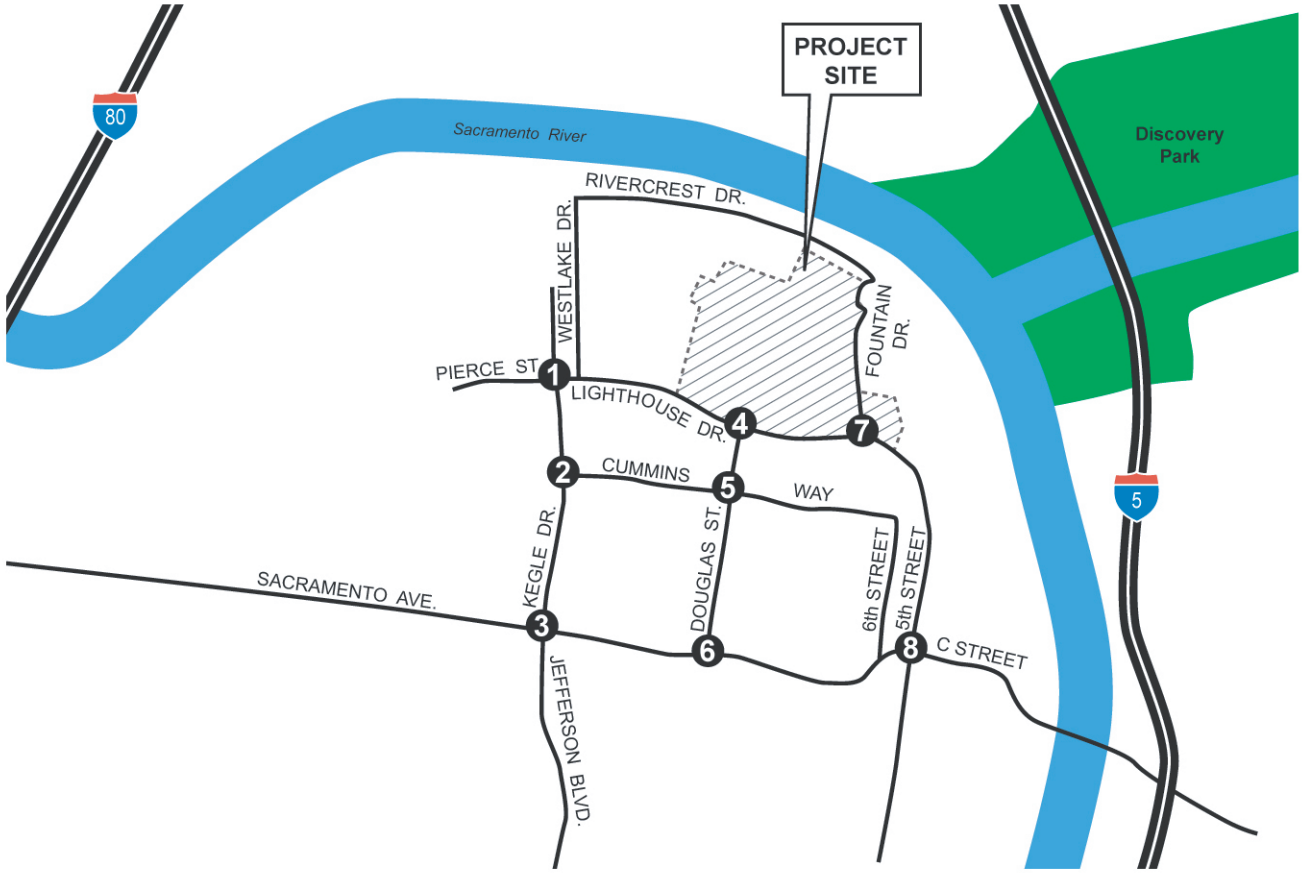
Project traffic for Scenarios A and B was added to existing traffic volumes at the eight study intersections, as shown on Figures 4.10-5 and 4.10-6, to form the basis for the Existing Plus Project analysis. Figures 4.10-5 and 4.10-6 show the lane configuration and traffic control for the with project conditions.

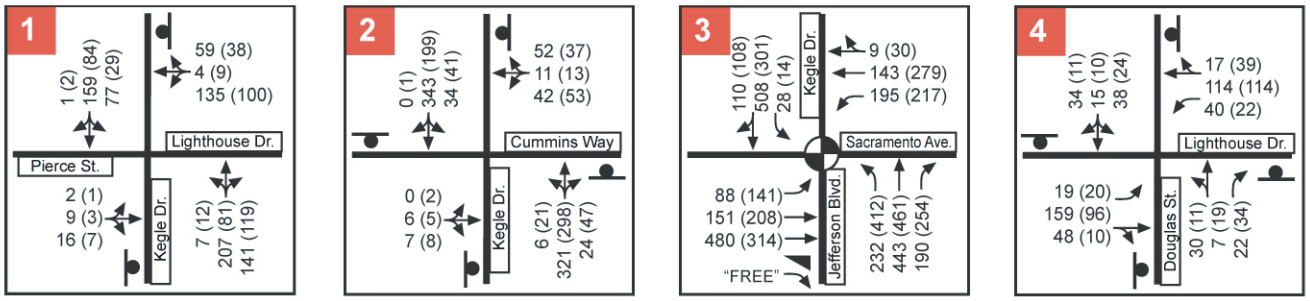
Level of Service

The AM and PM peak hour operations were evaluated at each study intersection, as shown in Table 4.10-7. The detailed peak hour intersection LOS calculations are presented in Appendix D of Appendix I included in this EIR. Under both project scenarios, the Douglas Street/Sacramento Avenue intersection would continue to operate at an unacceptable LOS E during the PM peak hours. This intersection operates at deficient level due to the heavy eastbound and westbound through movements and lack of available gaps for the side-street traffic. The northbound approach serves about 10 vehicles and would continue to operate at an unacceptable LOS E (Note: the project does not add traffic to the northbound or westbound approaches). With the project, the southbound approach would continue to operate at an acceptable LOS C and the overall intersection operations would be LOS A.

Traffic Signal Warrant

A peak hour volume traffic signal warrant analysis was conducted for the Kegle Drive/Lighthouse Drive/Pierce Street, Kegle Drive/Cummins Way, Douglas Street/Lighthouse Avenue, Douglas Street/Cummins Way, and Douglas Street/Sacramento Avenue intersections using the criteria described in the MUTCD. The results indicate that the intersections would not meet this signal warrant's criteria (see Appendix C of Appendix I). It should be noted that the peak hour signal warrant analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. In addition, factors such as congestion, approach conditions, and driver confusion should be considered before deciding to install signals.





LEGEND:

XX (YY) = AM (PM) Peak Hour Traffic Volume

1 = Study Intersections

= Stop Sign

= Traffic Signal

"FREE" = Free Right Turn

11006-00

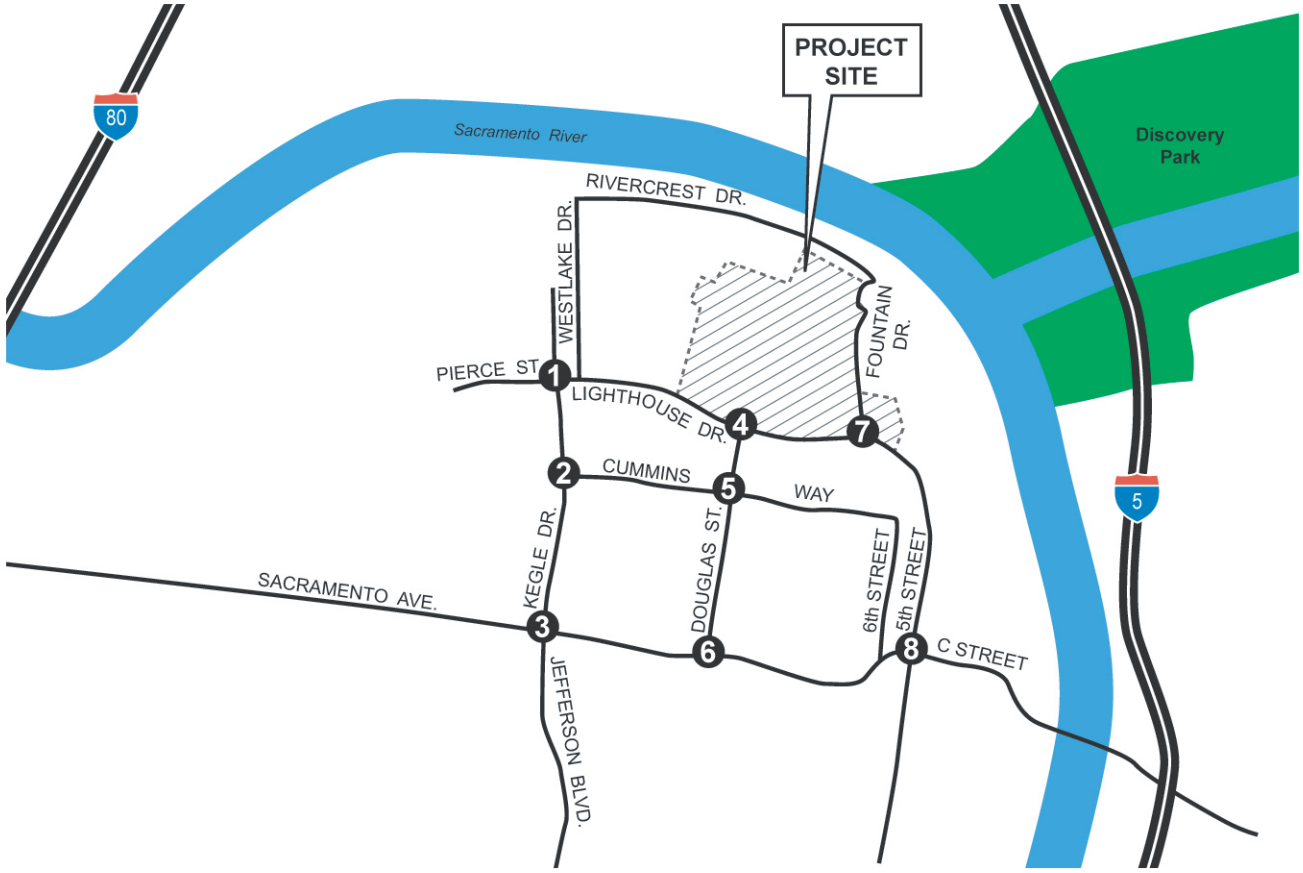
FIGURE **4.10-5**

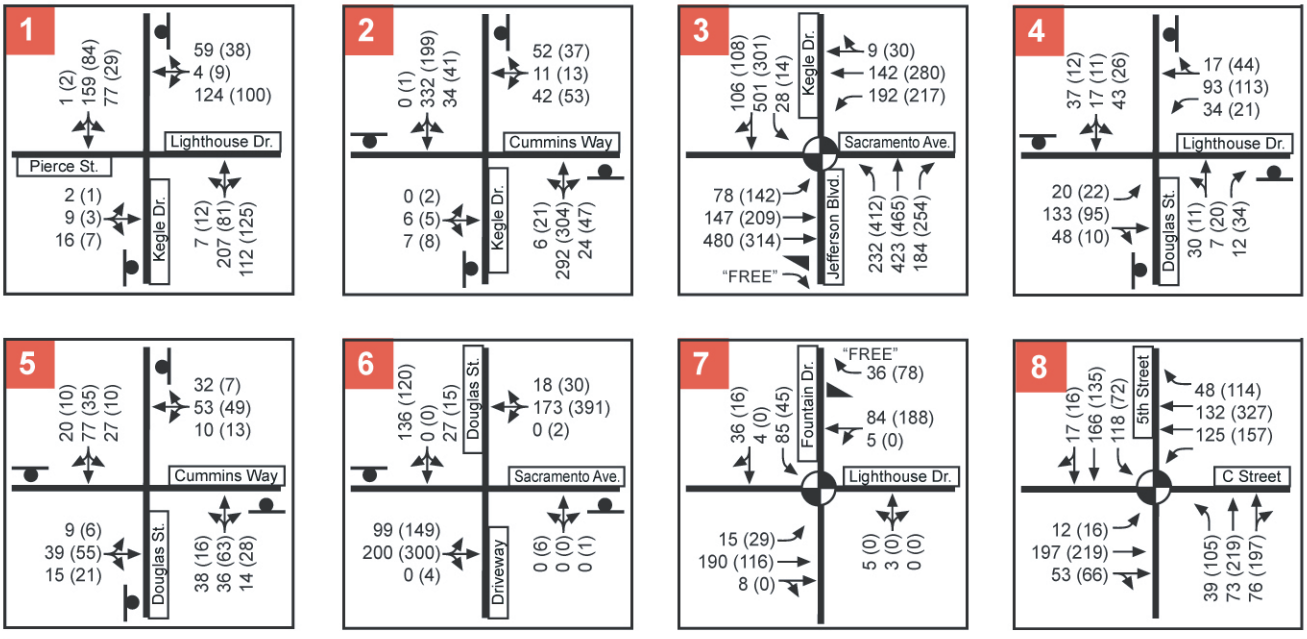
Existing Plus Project (Scenario A) Traffic Volumes, Lane Configurations and Traffic Controls

Sources: Fehr & Peers, 2005

Not to Scale

EIP ASSOCIATES





LEGEND:

XX (YY) = AM (PM) Peak Hour Traffic Volume

1 = Study Intersections

= Stop Sign

= Traffic Signal

"FREE" = Free Right Turn

N

11006-00

FIGURE **4.10-6**

Existing Plus Project (Scenario B) Traffic Volumes, Lane Configurations and Traffic Controls

Sources: Fehr & Peers, 2005

Not to Scale

EIP ASSOCIATES

TABLE 4.10-7

EXISTING WITH AND WITHOUT PROJECT CONDITIONS PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control	Peak Hour	Existing		Existing Plus Project (Scenario A)		Existing Plus Project (Scenario B)	
			V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
1. Kegle Drive/Lighthouse Drive/Pierce Street[1]	Side-Street Stop	AM PM	12 10	B B	20 12	C B	19 12	C B
2. Kegle Drive/ Cummins Way[2]	All-Way Stop	AM PM	10 9	A A	11 10	B B	11 10	B B
3. Kegle Drive/ Jefferson Boulevard/ Sacramento Avenue[3]	Signal	AM PM	0.66 0.71	B C	0.75 0.76	C C	0.74 0.77	C C
4. Douglas Street/ Lighthouse Avenue[2]	All-Way Stop	AM PM	8 8	A A	9 8	A A	9 8	A A
5. Douglas Street/ Cummins Way[2]	All-Way Stop	AM PM	8 8	A A	8 8	A A	8 8	A A
6. Douglas Street/ Sacramento Avenue[1]	Side-Street Stop	AM PM	12 36	B E	12 48	B E	12 48	B E
7. Fountain Drive/ Lighthouse Drive[2,3]	Signal	AM PM	8 8	A A	0.24 0.21	A A	0.20 0.21	A A
8. 5th Street/C Street[3]	Signal	AM PM	0.27 0.36	A A	0.31 0.38	A A	0.30 0.39	A A

Notes: V/C = volume-to-capacity ratio. Delay is shown in seconds per vehicle.
1. Side-street stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000). The worst case movement delays are presented.
2. All-way stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000).
3. Signalized intersection level of service is based on V/C ratio according to *Circular 212 Interim Materials on Highway Capacity* (Transportation Research Board, 1980).

Source: Fehr & Peers, 2005.

4.10-1 Under Existing Plus Project conditions, the Douglas Street/Sacramento Avenue intersection would continue to operate at an unacceptable LOS E during the PM peak hour.

Scenarios A and B

As shown in Table 4.10-7, with the addition of project traffic for both Scenario A and B, the Douglas Street/Sacramento Avenue intersection would continue to operate at unacceptable LOS E during the PM peak hours. The project would increase the intersection delay by more than five seconds; however, the forecasted AM and PM peak hour intersection volumes do not satisfy the MUTCD peak hour traffic signal warrant. Therefore, the project impact would be considered ***less than significant***.

All other intersections would continue to operate at an acceptable LOS.

Mitigation Measure

4.10-1 (A & B) *None required.*

4.10-2 Under Existing Plus Project conditions, the proposed project could adversely affect existing or planned features or programs that support alternative transportation.

Scenarios A and B

The YCTD plans to provide bus service to the proposed project. The YCTD, through Yolobus Transit Service, operates within the City of West Sacramento and provides bus access to the surrounding communities. Yolobus Route 40/41 operates on West Capitol Avenue, Jefferson Boulevard, Kegle Drive, Fifth Street, and Cummins Way. Within the project vicinity, there are stops on Fifth Street at C Street, Kegle Drive at Cummins Way, and Cummins Way at Douglas Street.

YCTD policy prefers a bus stop within one-quarter mile of a residence. According to YCTD, the southern edge of the proposed project site is just under one-quarter mile from the closest stop, with the northeast corner the property site over one-half mile away.

The City of West Sacramento General Plan includes policies that promote public and private transit. The City requires new development to install indented curbs for bus pullouts, bus shelters and other transit-related public improvements where appropriate. These improvements would be required as part of the City's approval of the proposed Rivers Phase II project development.[7]

Because transit-related improvements would be required to serve the proposed project this is considered a ***significant impact***.

Mitigation Measure

Implementation of the following mitigation measure would reduce this impact to a *less-than-significant level* by ensuring that the proposed Rivers Phase II project complies with City and YCTD policies regarding provisions for alternative transportation.

4.10-2 (A & B) *The applicant shall be required to provide public transit facilities including bus turnouts, bus shelters and adequate lighting as required by the City's Engineering Division and the Yolo Transit Authority. Construction of these facilities shall be phased consistent with the phased development of the project.*

4.10-3 Under Existing Plus Project conditions, the proposed project could adversely affect existing bikeway or pedestrian facilities and/or aspects of the City's Bicycle and Pedestrian Path Master Plan.

Scenarios A and B

Class II and III bicycle lanes exist within the study area. Bicycle lanes are provided on portions of Lighthouse Drive and bicycle route signage is provided on those areas without bicycle lanes. Sacramento Avenue has Class II bike lanes between Kegle Drive and 8th Street. Bicycle lanes are also provided on Jefferson Boulevard between Sacramento Avenue and West Capitol Avenue. Sidewalks are provided in the project vicinity on all the study roadways.

Planned facilities within the project vicinity, but not proposed as part of the Rivers Phase II project, include bicycle lanes on Fifth Street and a recreational trail along the Sacramento River.

The *West Sacramento Bicycle and Pedestrian Path Master Plan* (1995 Addendum) shows bicycle lanes along Cummings Way and Kegle Drive. The Master Plan does not indicate planned bicycle lanes/paths or pedestrian paths within the proposed project area.

The proposed project would not affect the access or usage of these or other bicycle and pedestrian facilities. Therefore, this impact would be ***less than significant***.

Mitigation Measure

4.10-3 (A & B) *None required.*

4.10-4 Under existing plus project conditions, the proposed project could result in inadequate parking capacity.

Scenarios A and B

The proposed project includes residential uses that would increase the demand for on- and off-site parking over that which currently exists. Under Scenario A, a school would be developed that would also contribute to an increased parking demand.

PD-29 and the Zoning Ordinance require off-street parking for the proposed residential development, with the intent to reduce on-street parking. On-street parking for single-family lots would be required pursuant to the City's Standard Specifications.

For Scenario A, the Washington Unified School District would use, as guidance, the site design standards prepared by the California Office of Public School Construction. Based on the anticipated number of teachers, support staff, and administrators at the school, the District would determine the amount of required parking for the proposed school. Because on-street parking would not be allowed on the west side of Fountain Drive and along Lighthouse Drive, all parking for the proposed school must be accommodated on-site.

The proposed project would increase the demand for parking to accommodate proposed uses; therefore, the proposed project would result in a ***significant impact***.

Mitigation Measure

Implementation of the following mitigation measures would reduce this impact to *a less-than-significant level* by ensuring that the proposed Rivers Phase II project complies with City standards and District parking requirements (Scenario A).

4.10-4 (A&B) (a) *All on-site and off-site parking shall be designed consistent with PD-29, the Zoning Ordinance and the City's Standard Specifications for residential development*.

In addition, the following mitigation measures are recommended for Scenario A only:

(b) *The school shall be designed to accommodate all parking on-site.*

Cumulative Plus Project Impacts and Mitigation Measures

The following discusses traffic conditions, both without and with the project. The analysis of future traffic conditions considered future development within the City of West Sacramento.

This discussion does not include the potential cumulative impacts to parking facilities or existing or future bicycle and pedestrian facilities. The proposed Rivers Phase II project would develop only residential and school (Scenario A) or only residential (Scenario B) uses. The PD-29, the Zoning Ordinance and the City's Standard Specifications require that sufficient residential parking be included within the proposed project site. The WUSD would require that the school site design include sufficient parking for employees at the school. Therefore, neither land use proposed as part of the project would contribute to off-site impacts and there would be no cumulative parking impact.

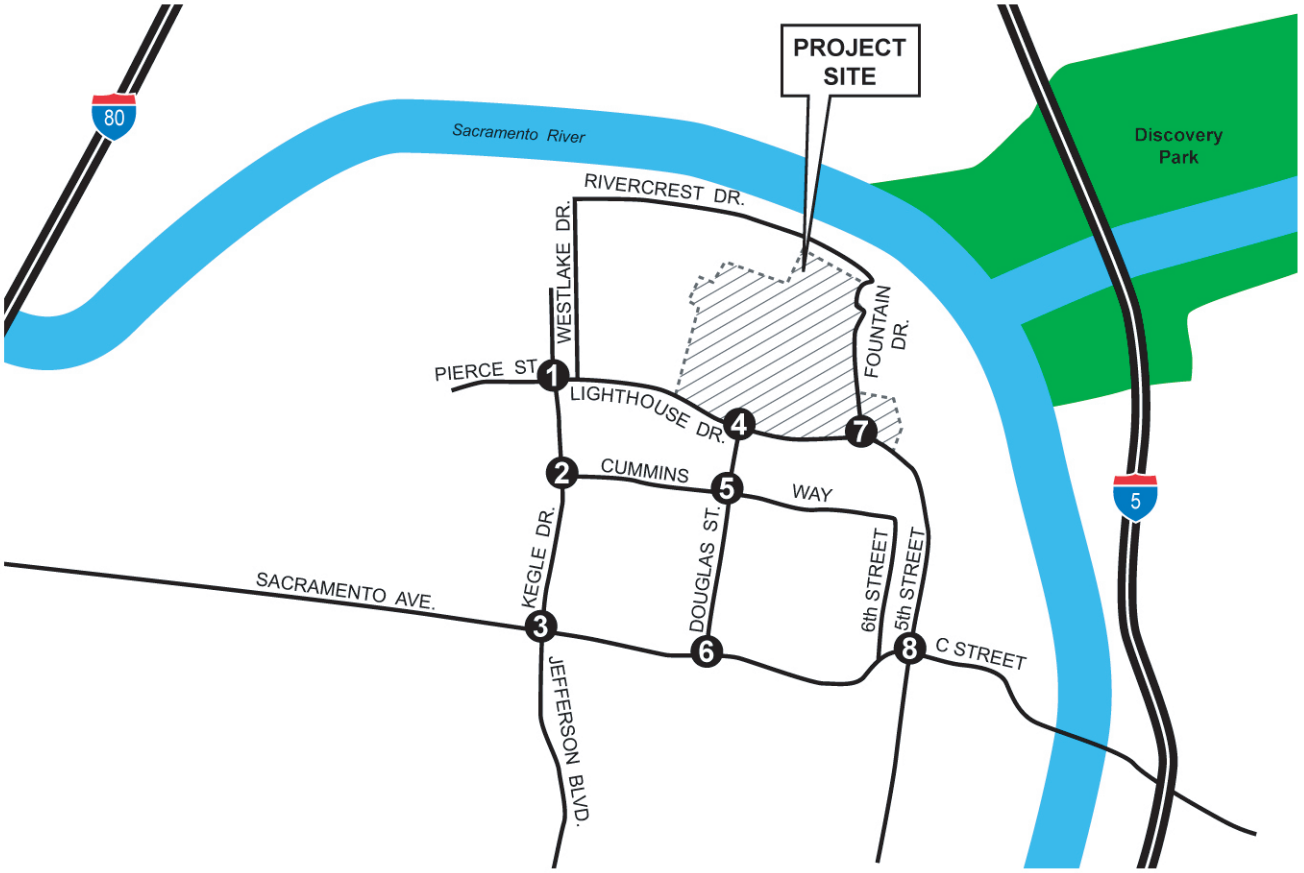
Similarly, the proposed project would be required to comply with the City of West Sacramento requirements for the provision of on-site bicycle and pedestrian facilities. As previously discussed, the proposed project would not affect the access or usage of offsite bicycle and/or pedestrian facilities. Therefore, the proposed Rivers Phase II project would not contribute to cumulative impacts to such facilities.

Planned Transportation Improvements

As with the Existing Plus Project conditions, the Fountain Drive/Lighthouse Drive intersection is signalized under cumulative conditions. There are no other planned improvements to the roadway network within the study area; therefore, the existing lane configuration and traffic control was assumed. The future lane configurations and traffic controls of the study intersections are shown in Figure 4.10-7.

Traffic Forecasts

The City of West Sacramento 2025 traffic model was used to develop intersection volumes for the Cumulative (year 2025) No Project conditions. The model generates year 2025 volumes based on cumulative land use data and roadway network assumptions. Figure 4.10-7 displays the anticipated year 2025 AM and PM peak hour turning movements and lane configurations at the study intersections. Project traffic was added to the year 2025 turning movements to form the basis of the Cumulative Plus Project analysis. Figures 4.10-8 and 4.10-9 show the Cumulative Plus Project traffic volumes for Scenarios A and B.



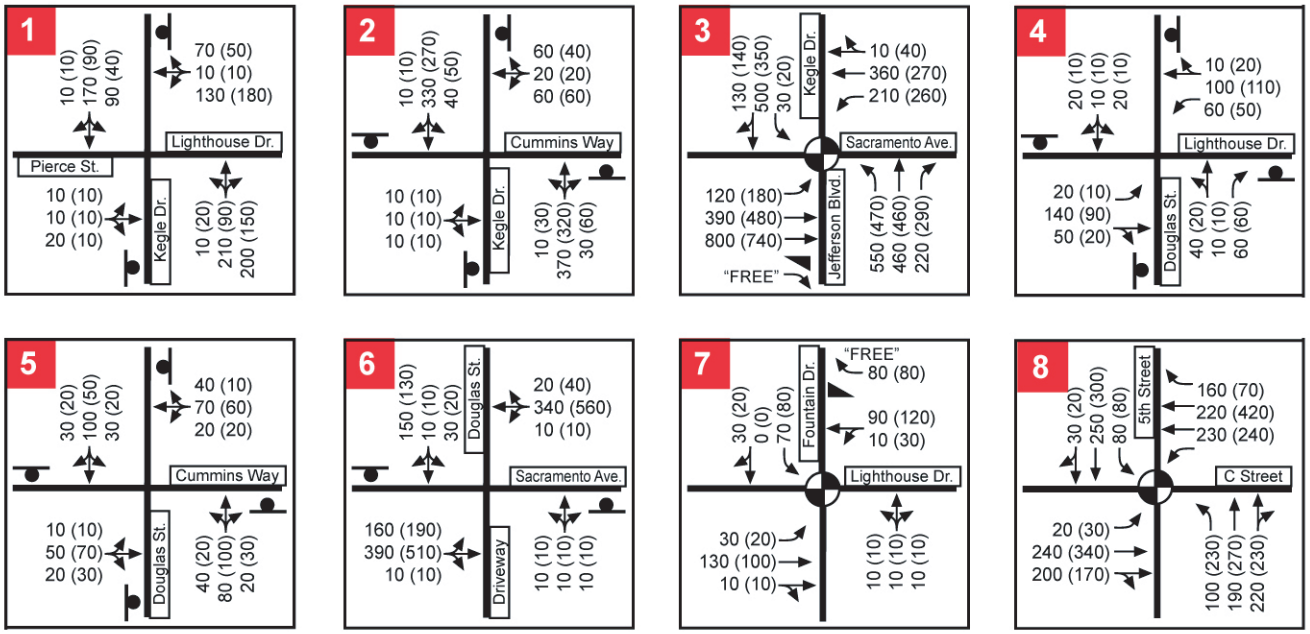


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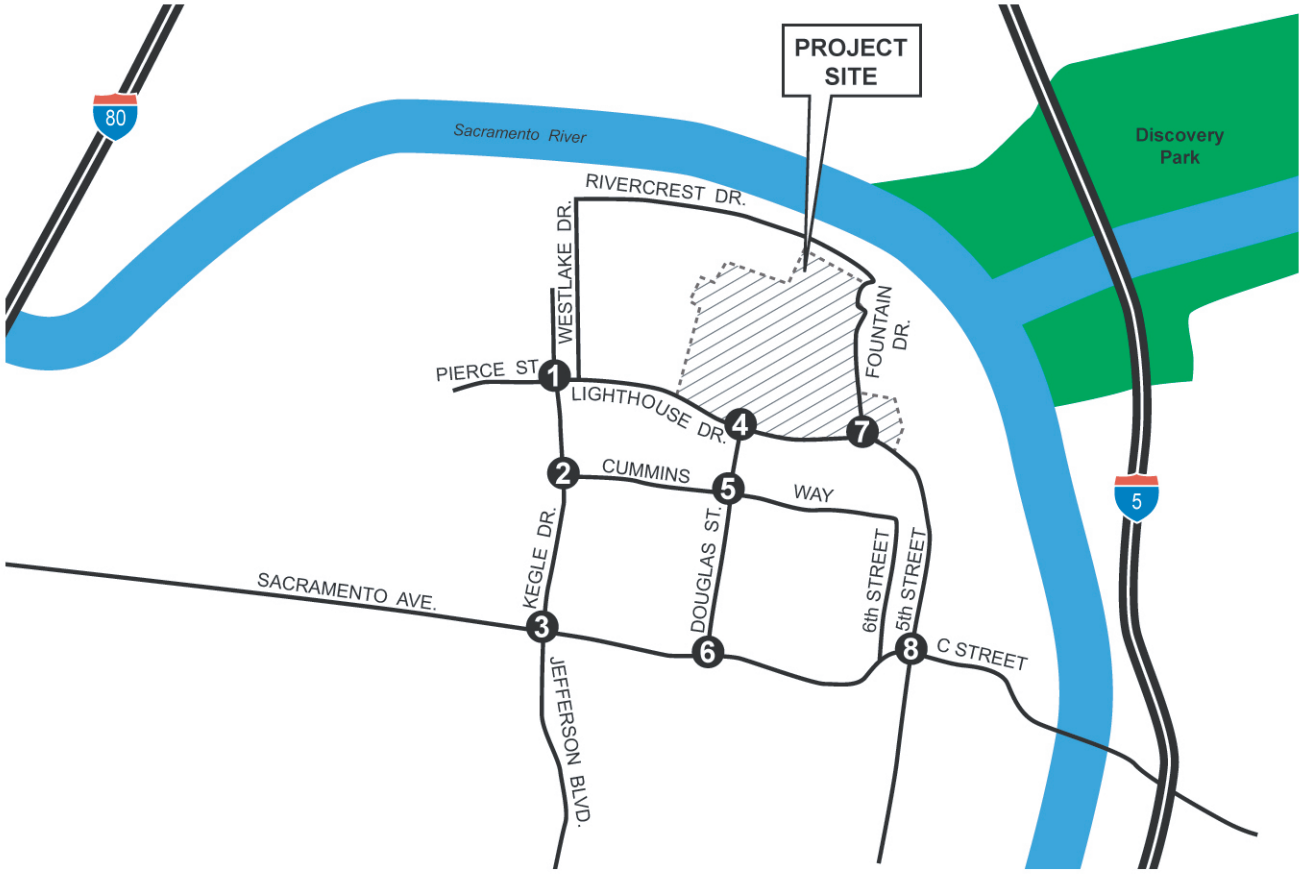
FIGURE **4.10-7**

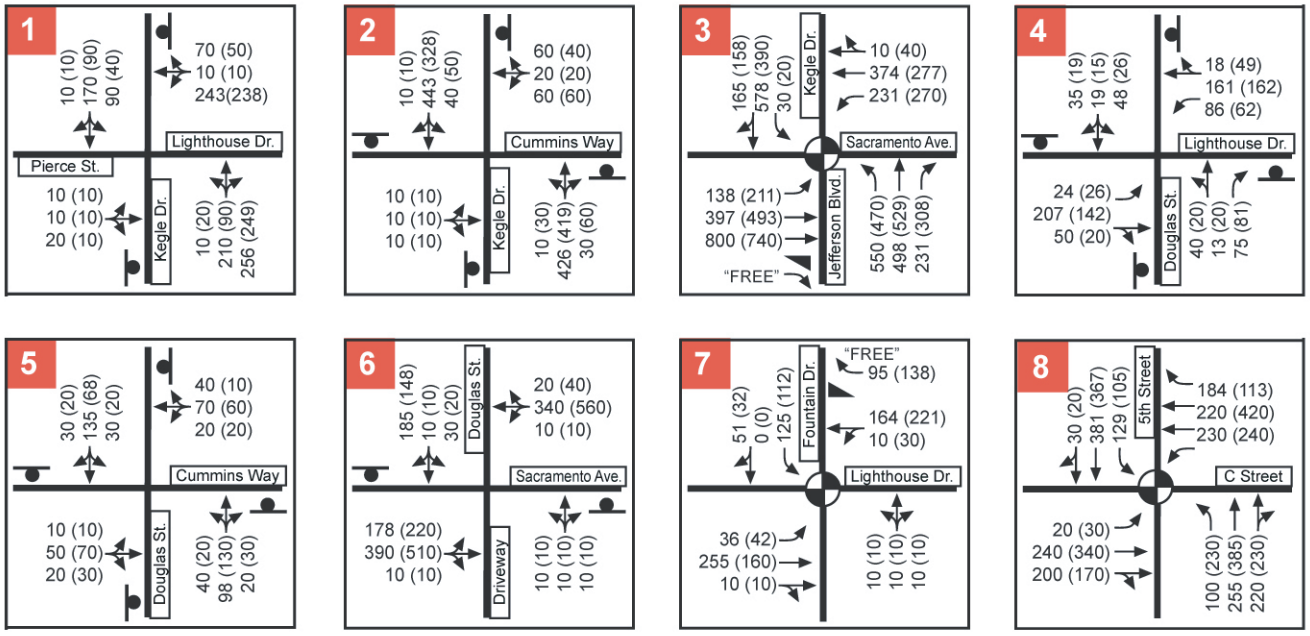
Cumulative No Project Traffic Volumes, Lane Configurations and Traffic Controls

Not to Scale

Sources: Fehr & Peers, 2005

EIP ASSOCIATES





LEGEND:

XX (YY) = AM (PM) Peak Hour Traffic Volume

1 = Study Intersections

= Stop Sign

= Traffic Signal

"FREE" = Free Right Turn

N

11006-00

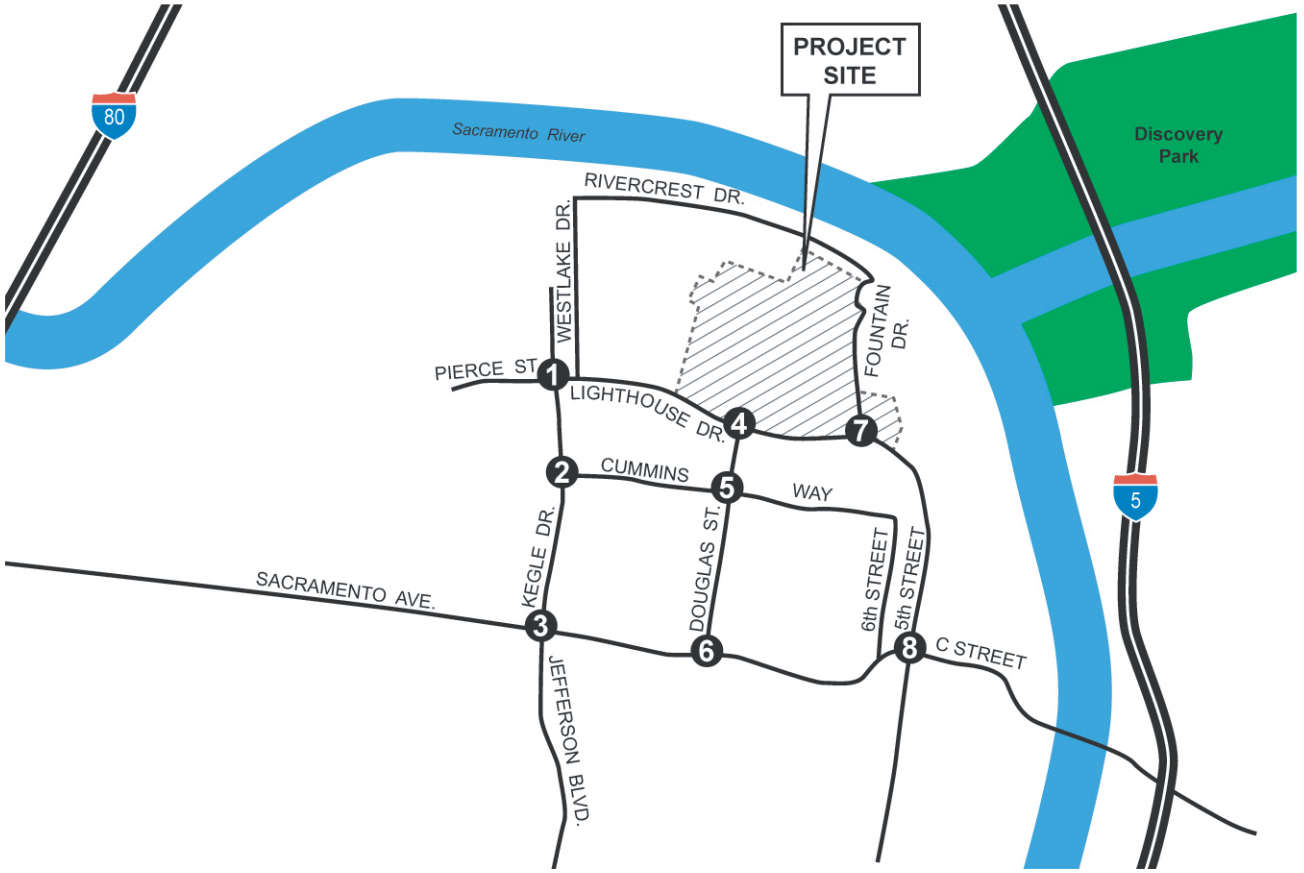
FIGURE **4.10-8**

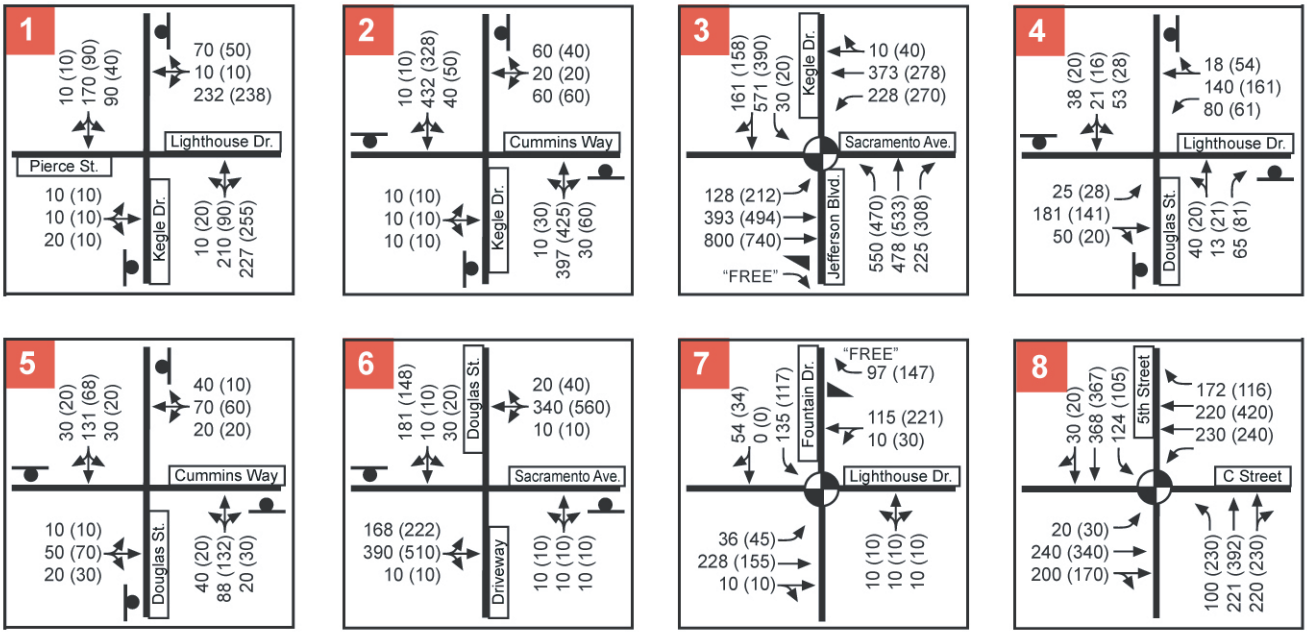
Cumulative Plus Project (Scenario A) Traffic Volumes, Lane Configurations and Traffic Controls

Sources: Fehr & Peers, 2005

Not to Scale

EIP ASSOCIATES





LEGEND:

XX (YY) = AM (PM) Peak Hour Traffic Volume

1 = Study Intersections

= Stop Sign

= Traffic Signal

"FREE" = Free Right Turn

11006-00

FIGURE **4.10-9**

Cumulative Plus Project (Scenario B) Traffic Volumes, Lane Configurations and Traffic Controls

Sources: Fehr & Peers, 2005

Not to Scale

EIP ASSOCIATES

Adjustments to Raw Model Forecasts

Using the existing traffic volumes and knowledge of the future roadway improvements, the raw model forecast volumes were compared to the existing traffic volumes to determine if existing and future travel patterns are reflected in the traffic model. The following adjustments were made:

- The project development was removed from traffic analysis zone (TAZ) 1146 to form the basis of the Cumulative No Project conditions (Note: TAZ 1146 has other development besides the project; therefore, only the project was removed).
- The model has traffic from TAZ 1146 loading at the Fountain Drive/Lighthouse Drive intersection; however, most of the non-project traffic would access Lighthouse Drive at a point east of Fountain Drive. Seventy-five percent of the traffic (i.e., non-project development) generated by TAZ 1146 was shifted to the driveway east of Fountain Drive.
- The growth between year 2002 (model baseline conditions) and year 2025 was interpolated to reflect the existing traffic count year 2005.

Intersection Operations

As required by the City of West Sacramento Traffic Impact Analysis Guidelines, the analysis of Cumulative conditions was performed using the Circular 212 planning and HCM 2000 methods.

Level of Service

The AM and PM peak hour operations were evaluated at each study intersection, as shown in Table 4.10-8. The detailed peak hour intersection LOS calculations are presented in Appendix E of Appendix I of this EIR. Under Cumulative No Project conditions, the Kegle Drive/Jefferson Boulevard/Sacramento Avenue and Douglas Street/Sacramento Avenue intersections would operate at an unacceptable service level during both the AM and PM peak hours. With the addition of project traffic, these intersections would continue to operate at an unacceptable LOS F. In addition, both project scenarios would cause the Kegle Drive/Lighthouse Drive/Pierce Street intersection to degrade from LOS C to LOS F during the AM peak hour.

Traffic Signal Warrant

A peak hour volume traffic signal warrant analysis was conducted for the Kegle Drive/Lighthouse Drive/Pierce Street, Kegle Drive/Cummins Way, Douglas Street/Lighthouse Avenue, Douglas Street/Cummins Way, and Douglas Street/Sacramento Avenue intersections using the criteria described in the MUTCD. The results indicate that under Cumulative No Project conditions, the intersection of Douglas Street/Sacramento Avenue would satisfy the peak hour signal warrant criteria. The remaining intersections would not meet the peak hour signal warrant criteria.

With the addition of project traffic, the Kegle Drive/Lighthouse Drive/Pierce Street and the Douglas Street/Sacramento Avenue intersections would satisfy peak hour signal warrant criteria. The remaining intersection would not meet the peak hour signal warrant criteria with the project.

TABLE 4.10-8

CUMULATIVE WITH AND WITHOUT PROJECT CONDITIONS PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project (Scenario A)		Cumulative Plus Project (Scenario B)	
			V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
1. Kegle Drive/Lighthouse Drive/Pierce Street[1]	Side-Street Stop	AM	24	C	**>50**	**F**	>50	F
		PM	15	C	20	C	20	C
2. Kegle Drive/ Cummins Way[2]	All-Way Stop	AM	13	B	17	C	15	C
		PM	12	B	15	B	15	C
3. Kegle Drive/ Jefferson Boulevard/ Sacramento Avenue[3]	Signal	AM	1.06	F	**1.15**	**F**	**1.14**	**F**
		PM	0.97	E	1.02	F	1.02	F
4. Douglas Street/ Lighthouse Avenue[2]	All-Way Stop	AM	9	A	10	B	10	B
		PM	8	A	9	A	9	A
5. Douglas Street/ Cummins Way[2]	All-Way Stop	AM	8	A	9	A	9	A
		PM	8	A	8	A	8	A
6. Douglas Street/ Sacramento Avenue[1]	Side-Street Stop	AM	>50	F	**>50**	**F**	**>50**	**F**
		PM	>50	F	**>50**	**F**	**>50**	**F**
7. Fountain Drive/ Lighthouse Drive[3]	Signal	AM	0.20	A	0.34	A	0.30	A
		PM	0.23	A	0.35	A	0.35	A
8. 5th Street/C Street[3]	Signal	AM	0.50	A	0.54	A	0.53	A
		PM	0.59	A	0.61	B	0.61	B

Notes: V/C = volume-to-capacity ratio. Delay is shown in seconds per vehicle. **Bold** indicates project significant impact.

1. Side-street stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000). The worst case movement delays are presented.
2. All-way stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000).
3. Signalized intersection level of service is based on V/C ratio according to *Circular 212 Interim Materials on Highway Capacity* (Transportation Research Board, 1980).

Source: Fehr & Peers, 2005.

It should be noted that the peak hour signal warrant analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. In addition, factors such as congestion, approach conditions, and driver confusion should be considered before deciding to install signals.

Appendix C of Appendix I in this EIR contains the traffic signal warrant calculation worksheets.

4.10-5 Under Cumulative Plus Project conditions, the Kegle Drive/Lighthouse Drive/Pierce Street intersection would operate at an unacceptable LOS F during the AM peak hour under Scenario A.

Scenario A

The Kegle Drive/Lighthouse Drive/Pierce Street intersection would degrade from LOS C to LOS F (more than 50 seconds of delay) during the AM peak hour under Scenario A. This intersection would operate at a deficient level due to the heavy northbound and southbound through movements and the lack of available gaps for the side-street traffic. Scenario A traffic would increase the westbound left-turn movement by over 100 vehicles causing this approach

to operate at LOS F. The addition of project traffic would cause the intersection to satisfy the MUTCD peak hour traffic warrant during the AM peak hour under Scenario A. Therefore, this is considered a ***significant cumulative impact*** and the project's contribution would be considerable.

Scenario B

The proposed project would not result in a significant impact under Scenario B because the peak hour signal warrant is not met.

Mitigation Measure

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

4.10-5 (A) *The applicant shall make a fair share contribution to funding the installation of a traffic signal at the intersection of Kegle Drive/Lighthouse Drive/Pierce Street*.

Under Scenario A, the Kegle Drive/Lighthouse Drive/Pierce Street intersection would operate at LOS D (V/C = 0.81) during the AM peak hour and LOS B (V/C = 0.60) during the PM peak hour with the installation of the traffic signal.

This improvement has been identified to be included in the City's Fiscal Year 06/07 Capital Improvement Plan with possible construction of the proposed improvement as early as 2007. Because Mitigation Measure 4.10-5 would require the applicant to contribute fair share funding towards installing a traffic signal at the Kegle Drive/Lighthouse Drive/Pierce Street intersection this impact would be reduced to a less-than-significant level.

4.10-6 Under Cumulative Plus Project conditions, the Kegle Drive/Jefferson Boulevard/Sacramento Avenue intersection would operate at an unacceptable LOS F during both the AM and PM peak hours and the V/C ratio would increase by more than .05 during the AM peak hour.

The Kegle Drive/Jefferson Boulevard/Sacramento Avenue intersection would operate at a deficient level due to the heavy northbound through, southbound through, and southbound right-turn movements. Therefore, this is considered a ***significant cumulative impact*** and the project's contribution would be considerable.

Scenario A

Under Scenario A, the intersection would operate at LOS F (V/C = 1.15) during the AM peak hour.

Scenario B

Under Scenario B, the intersection would operate at LOS F (V/C = 1.14) during the AM peak hour.

Mitigation Measure

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

4.10-6 (A&B) *The applicant shall make a fair share contribution to funding the addition of a southbound right-turn lane at the intersection of Kegle Drive/Jefferson Boulevard/Sacramento Avenue*.

The Kegle Drive/Jefferson Boulevard/Sacramento Avenue intersection would continue to operate at an unacceptable LOS with implementation of Mitigation Measure 4.10-6 because of projected future traffic volumes without the project at this intersection. However, Mitigation Measure 4.10-6 would mitigate the project's contribution to this cumulative impact. Under Scenario A, the intersection would operate at LOS F (V/C = 1.04) during the AM peak hour and LOS E (V/C = 0.92) during the PM peak hour with the addition of a southbound right-turn lane under Scenario A. Under Scenario B the intersection would operate at LOS F (V/C = 1.03) during the AM peak hour and LOS E (V/C = .92) during the PM peak hour.

This improvement has been identified to be included in the City's Fiscal Year 06/07 Capital Improvement Plan with possible construction of the proposed improvement as early as 2007. Because Mitigation Measure 4.10-6 would require the applicant to contribute fair share funding towards installing an additional right-turn lane at the Kegle Drive/Jefferson Boulevard/Sacramento Avenue intersection this impact would be reduced to a less-than-significant level.

4.10-7 Under Cumulative Plus Project conditions, the Douglas Street/Sacramento Avenue intersection would operate at an unacceptable LOS F during both the AM and PM peak hours.

Scenarios A and B

The Douglas Street/Sacramento Avenue intersection would operate at LOS F (more than 50 seconds of delay) during both the AM and PM peak hour. The intersection would operate at a deficient level due to the heavy eastbound and westbound through movements and the lack of available gaps for side-street traffic. The addition of project traffic would cause the intersection to satisfy the MUTCD peak hour traffic warrant. Therefore, this is considered a ***significant cumulative impact*** and the project's contribution would be considerable.

Mitigation Measure

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

4.10-7 (A&B) *The applicant shall make a fair share contribution to funding the installation of a traffic signal at the intersection of Douglas Street/Sacramento Avenue and an eastbound left-turn lane*.

Under Scenario A, the Douglas Street/Sacramento Avenue intersection would operate at LOS A (V/C = 0.56) during the AM peak hour and LOS C (V/C = 0.73) during the PM peak hour with the installation of the traffic signal and eastbound left-turn lane. Under Scenario B, the intersection

would operate at LOS A (V/C = 0.55) during the AM peak hour and LOS C (V/C = 0.73) during the PM peak hour.

This improvement has been identified to be included in the City's Fiscal Year 06/07 Capital Improvement Plan with possible construction of the proposed improvement as early as 2007. Because Mitigation Measure 4.10-7 would require the applicant to contribute fair share funding towards installing a traffic signal at the Douglas Street/Sacramento Avenue intersection this impact would be reduced to a less-than-significant level.

4.10-8 Under Cumulative Plus Project conditions, cumulative development could adversely affect existing or planned features or programs that support alternative transportation.

Scenarios A and B

The increased number of residences in the northeast area of the City, in addition to the residences proposed by the Rivers Phase II project, would result in the need for the YCTD to acquire an additional bus. The additional bus would not result in the need for the District to expand or construct new facilities. In addition, new development, consistent with City standards, would require the installation of indented curbs for bus pullouts, bus shelters and other transit-related public improvements. The need to provide additional transit-related public improvements would be considered a ***significant cumulative impact*** and the project's contribution would be considerable.

Mitigation Measure

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

4.10-8 (A&B) *Implement Mitigation Measure 4.10-2.*

ENDNOTES

1. Caltrans, Year 2003 counts, (http://www.dot.ca.gov/hq/trafficops/saferesr/trafdata).

2. Caltrans, Year 2003 counts, (http://www.dot.ca.gov/hq/trafficops/saferesr/trafdata).

3. Caltrans, Year 2003 counts, (http://www.dot.ca.gov/hq/trafficops/saferesr/trafdata).

4. 24-hour traffic counts conducted on February 2, 2005.

5. 24-hour traffic counts conducted on February 2, 2005.

6. 24-hour traffic counts conducted on February 2, 2005.

7. Erik Reitz, Assistant Transportation Planner, Yolo County Transportation District, personal communication, June 1, 2005.

4.11 WATER SUPPLY

4.11 WATER SUPPLY

4.11.1 INTRODUCTION

This section of the EIR describes the water supply that would serve the proposed project in relation to overall water supplies for the City of West Sacramento. This section does not discuss the use of groundwater because the City of West Sacramento no longer uses groundwater as a supply source.[1] In addition, this section assesses the expected water demand resulting from the proposed project, evaluates the effects of the proposed project on existing and necessary future water infrastructure, and recommends mitigation measures where appropriate.

Comments raised in letters received in response to the NOP (see Appendices A and B) include concerns about water demand and water supply infrastructure capacity.

Information in this section was obtained from the Draft Water Supply Assessment for the Proposed Rivers Phase II Project, EIP Associates (September 2005 included as Appendix J), the West Yost & Associates Technical Memorandum (March 2004), the 2000 Urban Water Management Plan, City of West Sacramento (revised 2002), and the Water Master Plan Update (May 2005). These documents are available for public review at the West Sacramento Community Development Department, 1110 West Capitol Avenue, West Sacramento, during normal business hours.

4.11.2 ENVIRONMENTAL SETTING

Existing Water Sources and Supplies

The City of West Sacramento delivers water to municipal and industrial users within its boundaries. The service area is divided into two distinct service areas. The City currently delivers water supplied by surface waters from the Sacramento River. The surface water supplies are treated at the Bryte Bend Water Treatment Plant (BBWTP) to meet drinking water quality standards prior to delivery to the City's customers.

The City relies solely on surface water diverted from the Sacramento River to meet customer demands. Surface waters from the Sacramento River are available through three different contracts. The first is an agreement between the North Delta Water Agency (NDWA) and the California Department of Water Resources (DWR). The second is a State Water Resources Control Board (SWRCB) appropriative water right entitlement (Permit 18150). The third is a contract with the U.S. Bureau of Reclamation (USBR) for Central Valley Project (CVP) water. The majority of the City is located within the boundaries of the NDWA service area. The northern boundary of the NDWA is the Southern Pacific Railroad which runs east and west from the I street bridge through the City. Water supplies for the area within the NDWA are guaranteed by the contract between the NDWA and DWR. The remainder of the City which would include the proposed project site receives surface water under the remaining two entitlements from Permit 18150 and the CVP contract with the USBR.

North Delta Water Agency

A large portion of the City's surface water supplies are guaranteed under the contract between the NDWA and the State of California, Department of Water Resources. This contract, which was negotiated in 1981, includes supplies from both the State Water Project (SWP) and CVP. This contract assures a dependable water supply of adequate quantity and quality; in addition, these deliveries have never been reduced under drought conditions. According to the City's current Urban Water Management Plan (UWMP), the area north of the railroad is served either by the City's appropriative rights or under contractual entitlements (i.e. Permit 18150 and CVP deliveries) as the NDWA supply is not available. Therefore, water supplies from the NDWA cannot be considered as a source for the proposed project.[2]

Permit 18150

The City holds appropriative rights for diversions from the Sacramento River under Permit 18150 issued by the SWRCB in 1981. Permit 18150 allows the City to divert up to 18,350 acre-feet per year (AFY) from the Sacramento River at the Bryte Bend Water Treatment Plant intake structure. This permit agreement limits the annual Sacramento River diversions to September 1 through June 30 each year and sets the maximum instantaneous rate of diversion for municipal use at 62 cubic feet per second (cfs), which is equivalent to approximately 40 million gallons per day (MGD). Furthermore, this permit is subject to reduction by the SWRCB in the event of drought conditions and/or to meet downstream water quality objectives. The City's appropriative rights under Permit 18150 were reduced 100 percent during the drought years of 1991 and 1992 between the months of June and October and did not result in shortages of water delivery for water demands.[3]

U.S. Bureau of Reclamation Contract No. 0-07-20-W0187

In 1980, the City entered into a 40-year agreement with the USBR authorizing diversion from the Sacramento River as part of the CVP in order to "obtain a firm surface water supply during the summer months". Under the terms of this contract (No. 0-07-20-W0187), the City is allowed to divert up to a combined 23,600 AFY from the Sacramento River under its appropriative rights (Permit 18150) and CVP water. The CVP contract does not limit the maximum rate or months of diversion. The contract requires the City to pay for specified percentages of diverted water during the months of June through September. Provisions in the contract allow for the renewal of the contract for successive periods and to decrease or increase the amount of water available to the City. Specifically, in 2020, approximately 9,680 AFY of water would be available through this agreement. The contract also states that the USBR will use all reasonable means to prevent shortages in the quantity of water available to the City. Under the drought conditions of 1992, CVP diversions were reduced by 75%, which is the maximum reduction the City has experienced. During this period, there were no shortages of water delivery for water demands.[4]

Water Supply Facilities, Storage and Distribution

Treatment Facilities

Surface water supplies are pumped from the Sacramento River directly to the BBWTP for treatment to meet drinking water standards. The BBWTP was expanded from 24 million gallons per day (MGD) output capacity to 40 MGD for the months of November through March and to 58 MGD for the months of April through October for any given year to serve existing and future planned development in the city.[5] The construction of the BBWTP started in July 2002 and was

completed in 2004.[6,7] The newly expanded BBWTP expansion plant incorporates treatment processes that ensure a safe water supply for current and future City residents.[8]

Storage Capacity

Storage facilities and the associated pump stations enhance the distribution system abilities to address fluctuations in flows. The reservoirs store water during the low demand periods and deliver water during the high demand periods. The pumps are required to boost the water into the system at the desired pressure as all reservoirs with the city are surface reservoirs.

Every reservoir contains three types or storage volumes, which are:

1. Operational Storage – based on 25 percent of maximum-daily demand.
2. Emergency Storage – based on 50 percent of maximum-daily demand.
3. Fire Storage – based on fire suppression demand of 8,000 gpm for five hours in the North Area.

The increased demand at buildout of the General Plan results in a storage deficit of 8.3 MGD in the northern area of the water distribution system. Of this total, storage capacity demand for The Rivers development (including the proposed project) is 1.9 MG. The Water Master Plan designates the 1.9 MG reservoir and pump station as improvement 01 (R&PS01) with an associated cost of $4,082,300 to be ultimately paid for by impact fees.

Distribution System

Domestic water supplies are provided by the City from the BBWTP through a series of water mains, pumps, storage, and booster facilities to maintain adequate flows system pressures. Transmission lines are the larger pipelines in the system, generally 12-inches and larger. The large pipelines are the backbone to the distribution system and the small pipelines are used to transmit water from the transmission lines to the customers.

The Water Master Plan Update 2005[9] identified two deficiencies in the Northern Area of the distribution system where the project is located. The proposed project would increase the impact of a low pressure along the Barge Canal. The low pressure could significantly impact the ability of the distribution system to deliver the desired fire flows. The Water Master Plan Update proposed a new 24-inch pipeline along Park/Maryland/Virginia to improve the transmission. The pipeline project (P07) at a cost of $1,409,100 will be paid for by the existing rate payers, since it is a deficiency in the existing system. As a result of required improvements to the existing system and increasing maintenance costs, rates will need to be increased.

4.11.3 REGULATORY SETTING

Federal

Drinking Water Safety

The US Environmental Protection Agency (US EPA) has developed minimum drinking water standards that are administered by the State. There are no federal regulations that control the supply of water under local jurisdictions.

Central Valley Project Water

USBR entered into a contract on July 1, 1980 with the East Yolo Community Services District, and adopted by the City of West Sacramento in 1989, for the diversion of water from the CVP. The CVP contract No. 0-07-20-20187 provide rules, regulations, and stipulations for the diversion and use of the CVP water, including pumping rates, time of year limitations, payment obligations, place of use restrictions, and water quality.

State

The California Department of Health Services (DHS), SWRCB, and the DWR would have input into the provision of water for the proposed project site. In compliance with State Water Code Sections 10910(a) and 10910(c)(1), the water supplier for the proposed project is required to prepare a WSA for the water service request as part of the CEQA EIR process. The WSA for this project is included as Appendix J.

Water Rights and Entitlements

The SWRCB is charged with coordinating the water rights and water quality functions of the state, as well as managing the state's Water Code. California water law typically applies only to surface water resources, although according to the SWRCB, "California law also recognizes and protects rights to extract and use waters percolating beneath the surface of the land."[10] The City holds an appropriative water right under State Water Board Permit No. 18150, which will be used to serve the proposed project.

Urban Water Management Plans (UMWP)

California Water Code Section 10610 (et seq.) requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 AFY, must prepare an UWMP. The DWR provides guidance to urban water suppliers in the preparation and implementation of UWMPs. This plan must be updated at least every five years on or before December 31, in years ending in five and zero. The City prepared an UWMP in 2000 and updated it in July 2002 to reflect new information on future water demand from the future planned development in the City presented in the General Plan.

SB 610 Water Supply Assessments

Senate Bill 610 was passed into law in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. Senate Bill 610 amends the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910 et. seq. The foundational document for compliance with SB 610 is the UWMP. This information is an important source for cities and counties as they update their General Plans. Likewise, planning documents such as General Plans and Specific Plans form the basis for the demand information contained in an UWMP, as well as WSAs required under SB 610.

Water Code Section 10910 (c)(4) states: "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year

projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

Water supply planning under SB 610 and SB 221 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand for the general region over the next 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. The SB 610 requires the identification of the public water supplier; the City has been identified in the WSA as the public water supplier.

In addition, SB 610 requires the preparation of a WSA if a project meets the definition of a "Project" under Water Code Section 10912 (a). Under Water Code Section 10912 (a), a "Project" is defined as meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (ft^2) of floor space;
- A commercial building employing more than 1,000 persons or having more than 250,000 ft^2 of floor space;
- A hotel or motel with more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 ft^2 of floor area;
- A mixed-use project that includes one or more of these elements; or
- A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system. The proposed project includes more than 500 hundred residential dwelling units, and, therefore, qualifies as a "Project" under Section 10912 (a) of the Water Code. The required WSA is included as Appendix J.

Water Code Section 10910 (d)(1) states: "The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights or water service contracts."

Section 10910 (d)(2) of the Water Code further defines requirements of WSAs, including: (A) documentation showing proof of water supply entitlements, water rights, or existing water service; (B) copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system; (C) copies of federal, state or local permits for construction of necessary infrastructure associated with delivery of the water supply; and (D) copies of any necessary regulatory approvals that are required to convey or deliver the water supply.

The WSA concluded that the project site is within the service area of the City, and the City would serve domestic water to all development in the City's General Plan. The existing water supply is sufficient to meet the foreseeable reductions. In the event supplies are cut beyond

historic levels, the City will be required to implement aggressive demand reduction, seek an emergency supply source, or more likely, use both measures simultaneously.

SB 221 Written Verification of Water Supply

Government Code Section 66473.7(a) (1), requires an affirmative written verification of sufficient water supply. Senate Bill 221 is designed as a "fail-safe" mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs early in the planning process. This verification must also include documentation of historical water deliveries for the previous 20 years, as well as a description of reasonably foreseeable impacts of the proposed subdivision on the availability of water resources of the region. Government Code section 66473.7 (b)(1) states, "The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request." In other words, as a result of the information contained in the written verification, the city or county may attach conditions to assure there is an adequate water supply available to serve the proposed project as part of the tentative map approval process.

Drinking Water Quality

The California DHS is responsible for implementing the federal Safe Drinking Water Act of 1974 and its updates, as well as California statutes and regulations related to drinking water. As part of their efforts, the DHS inspects and provides regulatory oversight for public water systems within California. In addition, in the Modesto sub-basin, the Central Valley RWQCB has the responsibility for protecting the beneficial uses of the State's waters, including groundwater, and these include municipal drinking water supply, as well as various other uses.

Public water system operators are required to regularly monitor their drinking water sources for microbiological, chemical and radiological contaminants to show that drinking water supplies meet the regulatory requirements listed in Title 22 of the California Code of Regulations as primary maximum contaminant levels or MCLs. Primary standards are developed to protect public health and are legally enforceable. Among these contaminants are approximately 80 specific inorganic and organic contaminants and six radiological contaminants that reflect the natural environment, as well as human activities. Examples of potential primary inorganic contaminants are aluminum and arsenic, while radiological contaminants can include Uranium and Radium.

Public water system operators are also required to monitor for a number of other contaminants and characteristics that deal with the aesthetic properties of drinking water. These are known as secondary MCLs. Secondary standards are generally associated with qualities such as taste, odor and appearance, as well as cosmetic qualities. These are generally non-enforceable guidelines. However, in California secondary standards are legally enforceable for all new drinking water systems and new sources developed by existing public water suppliers.[11] The public water system operators are also required to analyze samples for unregulated contaminants, and to report other contaminants that may be detected during sampling.

The California Department of Toxic Substances (DTSC) is the primary agency charged with protecting groundwater resources through their Hazardous Waste Management Program and Site Mitigation Programs. A critical element of both programs is maintaining environmental quality and economic vitality through the protection of groundwater resources. This is accomplished through: hazardous waste facility permitting and design; oversight of hazardous waste handling; removal and disposal; oversight of remediation of hazardous cleanup of illegal drug labs; cleanup of abandoned hazardous waste sites; oversight of the closure of military bases; and pollution prevention.

In addition, the Department of Pesticide Regulation (DPR) protects human health and the environment by regulating pesticide sales and use, and by promoting reduced-risk pest management. Pesticides are subject to permitting by local county agricultural commissioners and to use restrictions specified in various regulations.

Local

City of West Sacramento

General Plan

The following goals and policies from the City of West Sacramento General Plan are relevant to water supply:

Scenarios A and B

Section IV Public Facilities and Services

Goal A: **To maintain an adequate level of service in the City's water system to meet the needs of existing and future development.**

Policy 1: The City shall continue to use treated surface water from the Sacramento River as the principal source of domestic water for the city, relying on treated groundwater only to supply the port pressure zone and as an emergency backup to the surface water source. The City shall pursue as expeditiously as possible, acquisition of additional surface water rights necessary to accommodate projected water demand.

Policy 2: The City shall continue to expand and develop water treatment, distribution, and storage facilities to accommodate the needs of existing and planned development.

Policy 3: To minimize the need for the development of new water sources and facilities and to minimize sewer flows, the City shall promote water conservation both in City operations and in private development.

Policy 4: The City shall replace or repair old, leaking water lines as financially feasible.

Policy 5: The City shall ensure the provision of adequate fire-flow rates in all new development.

Policy 7: The City shall, through a combination of water development fees and other funding mechanisms, ensure that new development pays its fair share of the costs of water system improvements.

Implementation Programs:

1. The City shall continue to review and periodically update the City's Water Master Plan consistent with the land use patterns and densities/intensities provided for in the General Plan.

2. The City shall continue to implement a water meter repair and replacement program.

3. The City shall prepare, adopt, and periodically update a long-term Major Projects Financing Plan (MPFP), including sewer, water, drainage and other facility improvements, which identifies:

    - Service standards
    - Specific project descriptions, including cost estimates
    - Schedule of improvements
    - Financing responsibility, including techniques to be employed

   The MPFP shall be consistent with the General Plan.

Municipal Code

Chapter 13.04 Water Service System

The City Municipal Code, Chapter 13.04 is referred to by the City as the Water Code of the City of West Sacramento (City Water Code). The City Water Code regulates water supply and service in the city, and the design, construction, alteration, use and maintenance of public water infrastructure, including water mains, reservoirs, distribution systems, pumping equipment, and connections and services. The City Water Code regulates the issuance of permits and standards for construction of new water infrastructure and provides penalties for violations of any part of the City Water Code. The Water Code establishes the responsibility of the City to provide a reliable supply of water to the residents, and for the operation and maintenance of all portions of the distribution system owned by the City. Finally, the City Water Code includes conservation measures which are applicable to new development and approval by the City.

City Standards Specifications & Details

The City Standards Specification & Details Division I, Section 6 and Division IV, Section 15 provide minimum requirements for the design of water supply transmission facilities and related infrastructure. The purpose of these City standards is to ensure that minimum standards of construction are maintained to protect the health, safety, and general welfare of the public from damage caused by insufficient water pressure and water quality. The design of improvements not included in City standards are subject to approval of the City Engineer prior to implementation. The standards included in Division I, Section 6 and Division IV, Section 1 include detailed requirements for modeling and measuring water supply pressure for fire flows, back flow, location and access to infrastructure, and other technical standards for existing and proposed water supply infrastructure.

4.11.4 IMPACTS AND MITIGATION MEASURES

Method of Analysis

The analysis in this section focuses on the nature and magnitude of the change in levels of water use compared with existing and projected water use within the proposed project and the City's water service area outside of the NDWA service area. To determine potential impacts,

water demands were estimated for the proposed project along with existing land use, approved projects, and proposed development. Total water demands were then compared to existing and planned water supplies. The primary resources used for this analysis include the following technical documents: Draft Water Supply Assessment for the Proposed Rivers Phase II Project, EIP Associates (September 2005); Urban Water Management Plan Prepared for the City of West Sacramento, West Yost & Associates, (December 13, 2000 revised July 31, 2002); Treated Water Storage Analysis, West Yost & Associates, March 8, 2004, Water Master Plan Update, Carollo Engineers (May 2005), and California's Groundwater, Bulletin #118, DWR (2003). These documents can be reviewed during normal working hours at the City of West Sacramento Community Development Department, 1110 West Capitol Avenue, West Sacramento.

Water Service Reliability Analysis

The City receives surface water diversions from the Sacramento River for use in the proposed project area under Permit 18150 and the USBR Contract 0-07-20-W0187. The City's UWMP states, "Because water supply in the portions of the City lying within the NDWA is ensured in all years, diversions from the Sacramento River under the City's water right and CVP contract can be used to provide water supply to just the area of the City lying outside the NDWA boundary."[12] These entitlements provide the proposed project area with sufficient supplies to meet all demand, except during the period of June 1 through October 31, when the City's water right is restricted and the USBR contract supplies could be reduced. Therefore, this five-month period was the focus of the WSA, and will be used for the following impact analysis.

The City's UWMP states, "Based on historical restrictions, the worst case scenario for the City appears to be a 100% restriction in diversion under the City's water right from June 1 through October 31, with a simultaneous restriction in [USBR] delivery of 25% of contractual entitlement. Based on a [USBR] entitlement of 23,600 ac-ft/yr, and a City use during the months of no restriction (November through May) equal to about 42% of annual demand, the USBR contract water available to the City in the months of likely diversion restrictions would be equal to about 57% of the [USBR] entitlement, or about 13,452 ac-ft/yr."[13]

The City developed four drought supply scenarios based on this calculation (i.e., normal water year supply during the summer months equals 13,452 AFY in the area outside of the NDWA boundary). The first assumed a 100% restriction in diversion under the City's water rights from June 1 through October 31 and 25% restriction of CVP supplies for a total five-month supply of 10,089 AFY. The second scenario assumed a 100% restriction on the City's water rights and a 50 percent restriction in CVP supplies for a total five-month supply of 6,726 AFY. The third scenario assumed a 100% reduction to the City's water rights, and a 75% restriction on CVP supplies for a total five-month supply of 3,363 AFY. The fourth scenario assumed 100% restrictions on both the City's water rights and the CVP diversion.

These scenarios were further analyzed in a technical memorandum prepared for the City in March 2004. This memo stated, "At full build-out of the [City's] current General Plan, the City's diversion under its water right could be reduced to zero during the months of June through October, and the City would still have sufficient water to meet demands in the portion of the City lying outside the NDWA boundary [i.e., the proposed project area], unless the water diverted under the Bureau of Reclamation contract was reduced below 25% of its face value. This means that the City's diversion would have to be cut by 100%, and the diversion under the USBR contract would have to be cut by more than 75% during the months of June through October, before the City would experience a shortfall in water supply."[14]

According to the City's UWMP, "If both the [USBR] contract and water right diversion entitlements are reduced to zero, the City would have to pump groundwater from its wells to meet demand [during the summer months]."[15] However, as stated in a technical memorandum prepared for the City, "This severe a reduction in surface water diversion entitlements has never occurred on the Sacramento River, even during the severe droughts of 1976-1977 and 1989-1992. The most severe scenario outlined in the UWMP would reduce the City's diversions to one-third of the historic minimum level experienced during the worst droughts on record."[16] The four water supply scenarios shown in the City's UWMP are displayed in Table 4.11-1.

TABLE 4.11-1

DROUGHT SCENARIO ANALYSIS OUTSIDE NDWA WATER SUPPLIES AND DEMAND AT BUILDOUT DURING THE FIVE-MONTH CRITICAL PERIOD (AFY)

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Total City Supplies	10,089	6,726	3,363	0
Total Demand at Buildout	2,771	2,771	2,771	2,771
Surplus (Deficit)	7,318	3,995	592	(2,771)

Source: Source: EIP Associates, Water Supply Assessment for the Proposed Rivers Phase II Project, March 2005, Table 5.

Water Demand

Water Code Section 10910 (c)(3) states, "If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, dry and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses." Based on the projections included in the City's current UWMP, the demand for the portion of the City outside of the NDWA boundary including the proposed project area will increase from a historic demand of 2,417 AFY in 1999 to approximately 4,826 AFY in 2020. Upon reaching build-out in 2020, demand from June 1 through October 31, the five-month critical period when CVP water can be reduced, will average approximately 2,771 AFY. Table 4.11-1 compares the City total demand at buildout with total supplies under the four scenarios developed for the UWMP drought conditions analysis.

Accurate projections of demand can be developed using water demand factors based on land use sectors. This information is found in a series of tables on page 4-4 of the City's 2002 revised UWMP. For the purpose of this EIR total household water demand is estimated at 560 gallons per day per dwelling unit (gpd/du) for Single-Family Residential, while the demand factor for Multi-Family Residential is 290 gpd/du. Table 4.11-2 shows the projected water demand for the proposed project under scenarios A and B. Based on the unit demand factors presented in the City's current UWMP, the proposed project under Scenario A would be expected to add a demand of approximately 310.1 AFY, while Scenario B would add approximately 353.2 AFY, or a difference of roughly 43.1 AFY between the two scenarios. Based on the total estimates of future demand outside of the NDWA area, either scenario would only account for approximately 13% and 15%, respectively, of the total demand for the area at build out. The proposed project represents approximately 15% of the area for the major development projects outs the NDWA;

therefore, it can be concluded that the proposed UWMP projections accounted for the proposed project in the build-out demand projections.

TABLE 4.11-2

ESTIMATED RIVERS PHASE II DEMAND SCENARIO A VS. SCENARIO B

		Scenario A			Scenario B		
Land use	Unit Demand Factor	Unit	Demand (afa)	Percent demand increase Outside NDWA	Unit	Demand (afa)	Percent demand increase Outside NDWA
Single-Family Detached	560 gpd/du	220 du	138.0	33%	220 du	138.0	33%
Single-Family Attached	290 gpd/du	406 du	131.9	33%	586 du	190.4	48%
Commercial	2,950 gpd/ac	0	0.0	0%	0	0.0	0%
Industrial	2,950 gpd/ac	0	0.0	0%	0	0.0	0%
Schools	25 gpd/student	550 students	15.4	NC	0	0.0	NC
Parks/Other	1,800 gpd/ ac	2.0 ac	24.8	11%	2.0 ac	24.8	11%
Total			**310.1**	13%		**353.2**	15%

Unit Demand factors from City of West Sacramento's 2002 UWMP.
NC = not calculated because project growth is 0.

Standards of Significance

For the purpose of this EIR, impacts related to water supply are considered significant if the proposed project would:

- Not have sufficient water supplies available to serve the project from existing entitlements, resources, and new or expanded entitlements are needed.
- Increase demand for water treatment, storage and distribution facilities resulting in the need for new or expanded facilities, the construction of which could cause significant environmental effects.

Direct environmental impacts from construction of on-site public utilities and services for the proposed project are analyzed in Chapter 4.3, Air Quality, Chapter 4.4, Biological Resources, Chapter 4.5, Cultural Resources, Chapter 4.6, Land Use, and Chapter 4.7, Noise.

Project Impacts and Mitigation Measures

4.11-1 The proposed project's demand for water could exceed available sources of water supply sources.

The proposed project would include development of residential housing and a school under Scenario A and residential uses under Scenario B. These proposed land uses would require an increased demand for water over the current demand for the project site. The WSA prepared for the proposed project by the City (in compliance with SB 610) calculated the current and future water demands outside the NDWA service area (including the proposed project's water demand) based on the build-out conditions of the General Plan, which is expected to occur by 2020. The WSA assumed that the proposed project, and the remaining land uses in the City

outside the NDWA service area, would use water supplied from surface water rights and entitlements delivered through existing City water supply facilities and new water infrastructure constructed for delivery into the proposed project area.

Scenario A

The total water demand for the proposed project was based on residential, school, and park/other water demand rates. As shown in Table 4.11-2, the proposed project's water demand under Scenario A was calculated to be 310.1 AFY at full buildout.

Scenario B

The total water demand for the proposed project was based on residential and park/other water demand rates. As shown in Table 4.11-2, the proposed project's water demand under Scenario B was calculated to be to be 353.2 AFY at full buildout.

Analysis

This study finds there is an assured water supply for the proposed Rivers Phase II project based on the analysis contained in the City's current Urban Water Management Plan, as well as the WSA. Although the City would not have sufficient water to meet demand under Scenario 4 (100% reduction in the City's water rights and CVP contracts during the summer months), the City has never experienced the restrictions included in Scenario 4. This analysis concludes that the City will have sufficient supplies to meet demand under all conditions through 2025, except in the event of an extended drought during the period of June 1 through October 31 as presented in Scenario 4. In all other months and drought scenarios, the City will have sufficient surface water supplies to meet projected demand. Therefore, the proposed project would not exceed water supplies in the City, and this is considered a ***less-than-significant impact***.

Mitigation Measure

4.11-1 (A&B) *None required.*

4.11-2 The proposed project's demand for water could exceed the availability of treated water, citywide water storage and distribution facilities resulting in the need for new or expanded facilities.

Scenarios A and B

Under Scenario A the proposed project would require an increase of 310.1 AFY in water deliveries from the BBWTP, which represents an approximate increase of 13% over the current production amount. Under Scenario B the proposed project would require an increase of 353.2 AFY in water deliveries from the BBWTP, which represents an approximate increase of 15% over the current production amount. Water demand under Scenario A only accounts for 0.7% of the treated water available through BBWTP and water demand under Scenario B only accounts for 0.8% of treated water available through BBWTP.

The amount of water required for buildout of the project site was included in both the Water Master Plan and capital improvements program by the City to expand the capacity of the BBWTP from 24 MGD to 40 MGD during the months of November through March and to 58 MGD during the months of April through October. The current operational capacity of the

BBWTP ensures safe and reliable deliveries of water for the buildout of the General Plan, including the proposed project, and would not require additional expansion of the BBWTP.

The May 2005 Water Master Plan Update, requires an additional 1.9 MG reservoir and pump station as a result of The Rivers development. The total project cost of the proposed reservoir and pump station (R&PS01) is $4,082,300. The R&PS01 will be funded by the impact fees from the new developments. Funding will ultimately come from water impact fees; however, additional storage is needed at the time of the first occupancy within the site. Payment of the fees alone will not provide timely mitigation of impacts. Since the proposed project would exceed current storage capacity and necessitate construction of storage infrastructure prior to site occupancy, the impact is considered ***significant***.

Mitigation Measure

Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

4.11-2 (A&B) *In accordance with the 2005 Water Master Plan Update, the master planned water storage shall be constructed by the developer and functional prior to the first occupancy within the project site.*

Cumulative Impacts and Mitigation Measures

The project is located in the service area of the City's Water Master Plan and water distribution system. The cumulative context for this project is defined as the buildout of development projects in the City of West Sacramento as described in Section 5.3, Cumulative Impacts.

4.11-3 The proposed project, in combination with buildout of project's in the City of West Sacramento, would increase water demand throughout the City that could exceed water supplies.

Scenarios A and B

The City is projecting annual water demand for the Year 2020 of approximately 4,826 AFY (including the proposed project). The recent WSA concludes that there is sufficient water supply from the existing and planned sources to meet this increased water demand under a variety of delivery conditions. As shown in Table 4.11-1, even during drought conditions under Scenarios 1 through 3, where reductions in CVP water could occur, there would be ample water supplies to serve the buildout demands of the City. Scenario 4 presented in the WSA has never occurred in the City and is therefore discounted as a viable possibility. As previously stated, an analysis of City water supplies has shown that during past severe droughts, there has never been a reduction as severe as that presented in Scenario 4. Therefore, this is considered a ***less-than-significant impact***.

Mitigation Measure

4.11-3 (A&B) *None required.*

4.11-4 The proposed project, in combination with buildout of projects in the City of West Sacramento, would contribute to increased water demands throughout the City that could exceed BBWTP treatment capabilities, stifle the pumping facilities or deplete firm storage capacities within the City's service area.

Scenarios A and B

The proposed project would contribute to an increase in the city-wide water demand and associated treatment, storage and distribution infrastructure. The 2005 Water Master Plan Update requires and new reservoir and pump station (RR&PS01) to be ultimately paid for through impact fees.

The increased demand resulting from the project also contributes to an existing system pressure deficiency near the Barge Canal. The 2005 Water Master Plan recommends a parallel pipeline along Park/Maryland/Virginia (P07) to be constructed at a cost of $1,409,100 to be ultimately paid by the existing rate payers. Although the new transmission line is included in the approved Water Master Plan capital improvement projects, implementation of the project still requires rate increases as outlined in the Water Master Plan; therefore, the impact is considered as a potentially ***significant cumulative impact***.

Mitigation Measure

Implementation of the following mitigation measure would reduce the project's contribution to this impact to a *less-than-significant level*.

4.11-4 (A & B) *Based on the analysis and recommendations in the 2005 Water Master Plan Update, the City should proceed with project P07 and the recommended rate increases on the proposed timeline.*

ENDNOTES

1. Michael Bessette, City of West Sacramento, personal communication, March 15, 2005.

2. City of West Sacramento, 2000 *Urban Water Management Plan,* revised 2002, page 3-5.

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5. CEQA CONSIDERATIONS

5.1 GROWTH INDUCING IMPACTS

5.1 GROWTH INDUCING IMPACTS

5.1.1 INTRODUCTION

As required under the CEQA Guidelines, an EIR must discuss ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment (CEQA Guidelines Section 15126.2(d)). Also, an EIR must discuss the characteristics of the project that could encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Under CEQA, this growth is not to be considered necessarily detrimental, beneficial, or of significant consequence. Induced growth would be considered a significant impact if it can be demonstrated that the potential growth, directly or indirectly, significantly affects the environment.

Growth can be induced in a number of ways, including through the elimination of obstacles to growth, or through the stimulation of economic activity within the region. The discussion of the removal of obstacles to growth relates directly to the removal of infrastructure limitations (typically through the provision of additional capacity or supply) or the reduction or elimination of regulatory constraints on growth that could result in growth unforeseen at the time of project approval.

Elimination of Obstacles to Growth

This refers to the extent to which a proposed project removes infrastructure limitations or provides infrastructure capacity, or removes regulatory constraints that could result in growth unforeseen at the time of project approval. For example, an increase in the capacity of utility or road infrastructure that is installed as part of the proposed project could allow either new or additional development in the surrounding areas. Increases in the population may tax existing community service facilities, requiring new facilities, the construction of which could cause significant environmental impacts.

Economic Effects

This refers to the extent to which a proposed project could cause increased activity in the local or regional economy. In addition to the employment generated by a proposed project, additional local employment can be generated through what is commonly referred to as the “multiplier effect”. A “multiplier” is an economic term used to describe inter-relationships among various sectors of the economy. The multiplier effect provides a quantitative description of the direct employment effect of a project, as well as indirect and induced employment growth. The multiplier effect acknowledges that the on-site employment and population growth of each project is not the complete picture of growth caused by the project.

5.1.2 ANALYSIS OF GROWTH INDUCING IMPACTS

Elimination of Obstacles to Growth

The elimination of physical obstacles to growth is considered a growth-inducing effect. The proposed project would be developed in a primarily urbanized area of the City of West Sacramento surrounded by existing residential development. The proposed 68-acre Rivers Phase II project is to be developed within the former Lighthouse Marina project area. The Lighthouse Marina project was originally approved in 1986 and envisioned development of 1,881 residential units, a hotel/convention center, hotel-related uses, office uses, commercial uses, a marina and related uses and an 18-hole golf course. The City of West Sacramento revised the Lighthouse Marina Project in 1989 and 1991 (see Chapter 1, Introduction). PD-29 was created as part of the 1989 revision. The intent of this zone overlay was to implement the Lighthouse Marina project. In 1991, the City approved Tentative Map #3953 that included 308 acres (including the proposed project site). Unit A of TM #3953, which included most of the lots located west of Fountain Drive, was recorded in 1992 and included 285 single-family lots and four multi-family lots. The golf course was closed in 2003. Prior to 2003, one residential unit had been constructed. As of September 2005, 260 homes have either been constructed or are under construction, and 119 homes have been occupied.

While the project would be developed in a part of the City where primarily residential development and supporting infrastructure (roads, water distribution, wastewater and drainage collection, and energy distribution) already exists, some physical constraints to growth currently exist in the vicinity of the project site. The primary growth obstacles include:

- Limited storm drainage collection capacity; and
- Limited water storage and distribution capacity.

The storm drainage collection infrastructure that serves the project site is at capacity. The project includes construction of new storm water drainage infrastructure and an expansion of the RD 811 pump station to accommodate the increased storm water volumes and flows delivered from the project site during a 100-year storm event.

The increased demand at buildout of the General Plan would result in a deficit of water storage capacity (i.e., operational, emergency and fire) of 8.3 MG in the northern area of the water distribution system. The Rivers development (including the proposed project) would contribute to the demand for additional treated water storage (1.9 MG) and distribution infrastructure capacity. The proposed project also contributes to the need to construct a parallel pipeline to alleviate existing system water pressure deficiencies near the Barge Canal.

Economic Effects

Limited employment would be generated by the proposed project. There would be employment generated during construction phases (both the residential development component and the bank stabilization component). In addition, under Scenario A, operation of the K-8 school would provide employment opportunities.

Two types of employment can be tracked through the multiplier effect (described above). *Indirect* employment includes those additional jobs that would be generated through the expenditure patterns of direct employment associated with the project. For example, construction workers and school employees (under Scenario A) would spend money in the local

economy, and the expenditure of that money would result in additional jobs. Indirect jobs tend to be in relatively close proximity of the places of employment and residence.

The multiplier effect also calculates induced employment. Induced employment follows the economic effect of employment beyond the expenditures of the employees within the project area to include jobs created by the stream of goods and services necessary to support businesses within the proposed project. For example, when a manufacturer buys or sells products, the employment associated with those inputs or outputs are considered induced employment.

When a construction or school employee goes out to lunch, the person who serves the project employee lunch holds a job that was *indirectly* caused by the proposed project. When the server then goes out and spends money in the economy, the jobs generated by this third-tier effect are also considered *induced* employment.

Increased future employment generated by residents and employee spending ultimately results in physical development of space to accommodate those employees. It is the characteristics of this physical space and its specific location that will determine the type and magnitude of associated environmental impacts of this additional economic activity. Although the economic effect can be predicted, the actual environmental implications of this type of economic growth are too speculative to predict or evaluate since they can be spread throughout the greater Sacramento Metropolitan region (including the City of West Sacramento).

Impacts of Induced Growth

The proposed project would increase the housing stock in the City of West Sacramento by developing 626 residential units under Scenario A and 802 residential units under Scenario B. The associated increase in population would be approximately 1,473 under Scenario A and 1,869 residents under Scenario B. As discussed above, while the proposed project would be developed in an already urbanized part of the City where supporting infrastructure (roads, water distribution, wastewater and drainage collection, and energy distribution) already exists, some physical constraints to growth in the vicinity would be removed as a result of project development. Specifically, existing storm drainage collection and water storage and distribution capacity would be increased to accommodate project development. Storm drainage collection infrastructure improvements necessary to accommodate the proposed project would not provide capacity for other development.

The City has identified the additional storage and distribution infrastructure needs as part of the 2005 Water Master Plan Update. These improvements would be necessary with or without the project. The 1.9 MG storage facility identified to accommodate the whole of The Rivers project (including the proposed project) is sized to accommodate only The Rivers development. The City has mandated fee mechanisms for new developments to ensure that funding is provided for operation, maintenance and improvements to the City's water distribution system.

Limited employment would be generated by the proposed project. There would be employment generated during construction phases (both the residential development component and the bank stabilization component). In addition, under Scenario A, operation of the K-8 school would provide employment opportunities. Specifically, the school would provide for an additional approximately 35 employees. Construction employees would be generated over an approximately three-year period. Because the time period is short-term, it is not anticipated that

the construction employees would result in long-term economic effects. The 35 employees generated by operation of the school could result in economic effects.

While growth in the City of West Sacramento is an intended consequence of the proposed project, growth induced directly or indirectly by the proposed project could affect the City of West Sacramento and the greater Sacramento Metropolitan area. Potential impacts associated with induced growth in the area could include: traffic congestion, air quality deterioration, loss of agricultural land and open space, loss of habitat and wildlife, impacts on utilities and services and increased demand for housing. The construction of additional housing and indirect and induced employment would further contribute to the stated potential environmental effects.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

Under CEQA, an EIR must analyze the extent to which a project's primary and secondary effects would commit resources to uses that future generations will probably be unable to reverse [CEQA Guidelines Section 15126.2(c); 15127].

Generally, a project would result in significant irreversible environmental changes if:

- The primary and secondary impacts would generally commit future generations to similar uses;
- The project would involve a large commitment of nonrenewable resources;
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project; and/or
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

The proposed project would likely result in, or contribute to, the following irreversible environmental changes:

- Increased ambient noise associated with increased traffic.
- Conversion of existing habitat and irreversible loss of wildlife.
- Irreversible consumption of goods and services associated with the future population.
- Degradation of air quality associated with project construction and operation.
- Irreversible consumption of energy and natural resources associated with the future population.

Development of the proposed project would result in the continued commitment of the project site to urban development (a portion of the site was previously developed with a golf course, including supporting infrastructure), thereby precluding any other uses for the lifespan of the project. Restoration of the site to pre-developed conditions would not be feasible given the degree of disturbance and urbanization that has already occurred.

Resources that would be permanently and continually consumed by project implementation include water, electricity and natural gas and fossil fuels; however, the amount and rate of consumption of these resources would not result in unnecessary, efficient or wasteful use. Project construction and operation would be accomplished in compliance with all applicable building codes, mitigation measures, planning policies, and standard conservation features so that natural resources are conserved to the maximum extent possible. It is also possible that new technologies or systems would emerge, or would become more cost-effective or user-friendly, to further reduce the reliance on nonrenewable natural resources. Nonetheless, construction activities would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels for construction vehicles and equipment.

The proposed project would include the transport, storage and use of disposal of hazardous materials that could result in the potential for irreversible environmental damage caused by an accidental project-related release. However, as stated in the Initial Study, under Item VIIb, all activities would comply with applicable State and federal laws that would reduce the likelihood

and severity of accidents that could result in irreversible environmental damage (see Appendix A).

Implementation of the proposed project would result in the long-term commitment of resources. The most notable significant irreversible impacts are a reduction in natural vegetation and wildlife communities, increased generation of air pollutants, short-term (construction phase) commitment of non-renewable and/or slowly renewable natural and energy resources, such as lumber and other forest products, mineral resources and water resources. Operations associated with future uses would also consume natural gas and electricity, fossil fuels and water. These irreversible impacts, which are an unavoidable consequence of urban growth, are described in detail in the technical issue sections of Chapter 4.

5.3 CUMULATIVE IMPACTS

5.3 CUMULATIVE IMPACTS

CEQA requires that an EIR discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable (CEQA Guidelines Section 15130). Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current and probable future projects (CEQA Guidelines Section 15065(c)). As defined in CEQA Guidelines Section 15355, a cumulative impact is an impact that is created as a result of the combination of the project evaluated together with other projects causing related impacts.

PROJECTS CONSIDERED IN CUMULATIVE IMPACT ANALYSIS

The following elements are necessary to an adequate discussion of significant cumulative impacts (CEQA Guidelines Section 15130(b)(1):

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

For the purpose of the Rivers Phase II EIR analysis, the cumulative impacts analysis assumes buildout of the following currently proposed projects as shown in Table 5.3-1.

While the cumulative analysis takes into consideration the impacts of the project in combination with the projects listed above, the context of the cumulative analysis varies by technical area. For example, air quality impacts are evaluated against conditions in the Sacramento Valley Air Basin. The cumulative context for public services would be the local service provider. Other cumulative analyses, such as biology, consider the potential loss of resources in a broader, more regional context. The following summarizes the cumulative impacts identified for the proposed Rivers Phase II project. The detailed analysis is included in each technical section contained in Chapter 4.

4.2-2 Development of the proposed project would contribute to a cumulative alteration of the visual character of the project site viewshed by increasing urban development.

4.3-6 The proposed project would add to the cumulative amount of ozone precursors in the Sacramento Ozone Nonattainment Area.

4.3-7 Traffic generated by the proposed project would contribute to cumulative CO levels at nearby intersections.

4.4-10 Implementation of the proposed residential development, in combination with other regional development, would convert open space to urban uses, leading to a continuing loss of habitat for native resident and migratory wildlife.

TABLE 5.3-1

CITY OF WEST SACRAMENTO DEVELOPMENT PROJECTS

Project	Acres	Residential Units	Retail (sf)	Office (sf)	Commercial (sf)	Industrial
Yarbrough	710	3,004	150,000	25,000	40,000	0
Harbor Pointe	406	2,050	91,650	0	0	0
Parks at Southport	279	2,050	287,496	252,648	0	0
River Park	446	2,485	87,120	0	0	0
University Park	587	2,358	109,771	58,806	167,270	0
Fulcrum Capital Properties	50	1,750	20,000	1,100,000	0	0
Raley's Landing	18	850/900[1]	0	845,000	102,000	0
Rivers Phase II	68	626/802[2]	0	0	0	0
Southport Business Park	670	0	0	0	0	0
Villages at Southport	270	1,300	0	0	0	0
Riva Condominiums	16.4	252	0	0	0	0
Parella I and Parella II	80	252	0	0	0	0
Newport Estates	270	866	0	0	0	0
Linden South	17.2	100	0	0	0	0
Parlin Ranch	76	311	0	0	0	0
Marshall Crossing	20	37	0	0	0	0
Bridgeway Lakes 2	125	487	0	0	0	0
Brideway Lakes	217	610	0	0	0	0
Riverside Center	60	0	0	400,000	0	114,000
IKEA	20	0	0	0	265,000	0
Harriet Lane	1.5	34	0	0	0	0
One Riverfront Plaza	7.24	170	50,000	530,000	0	0
Triangle Specific Plan	180	5,000	0	7,000,000[3]	0	0
Ironworks at the Triangle	16	196	0	0	0	0
TOTAL	**4610.34**	**24,788/25,014**	**796,037**	**10,211,454**	**574,270**	**114,000**

Notes:
1 The Raley's Landing project also includes the possible construction and operation of a 100 to 300-room hotel and a 7,000 to 15,000 sf conference center. If the hotel and conference center is constructed the total number of residential units developed would be 850. If the hotel and conference center is not developed the total number of residential units would be 900.
2 Under Scenario A, the Rivers Phase II project would include development of 626 residential units and an approximately 48,600 sf K-8 school. Under Scenario B, the project would include development of 802 residential units and no school use.
3 Includes office and commercial uses.

4.4-11 Implementation of the proposed bank stabilization project, in combination with other regional development, could degrade riparian habitat along the Sacramento River, continuing the regional loss of habitat for native resident and migratory wildlife.

4.5-3 Cumulative development including the proposed project could result in the damage or destruction of previously unidentified prehistoric resources.

4.7-4 The proposed project would influence cumulative noise levels in future years.

4.8-2 Implementation of the proposed project, in combination with other development in the City of West Sacramento, could result in increased demands for fire protection services.

4.8-4 Implementation of the proposed project, in combination with other development in the City of West Sacramento, could result in increased demands for police services.

4.8-6 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in increased population that could result in increased generation of solid waste in excess of available landfill capacity.

4.8-9 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in increased numbers of students.

4.8-12 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in increased population and demands

4.9-3 Implementation of the proposed project, in combination with other development in the City of West Sacramento, could result in increased quantities of wastewater

4.9-6 Implementation of the proposed project, in combination with other development in the City of West Sacramento, would result in an increased demand for electrical and natural gas supplies and distribution infrastructure.

4.9-8 The proposed project, in combination with buildout of The Rivers development area served by the RD 811, would result an increase in stormwater runoff that could exceed the capacity of existing drainage infrastructure.

4.10-5 Under Cumulative Plus Project conditions, the Kegle Drive/Lighthouse Drive/Pierce Street intersection would operate at an unacceptable LOS F during the AM peak hour under Scenario A.

4.10-6 Under Cumulative Plus Project conditions, the Kegle Drive/Jefferson Boulevard/Sacramento Avenue intersection would operate at an unacceptable LOS F during both the AM and PM peak hours and the V/C ratio would increase by more than 0.5 during the AM peak hours.

4.10-7 Under Cumulative Plus Project conditions, the Douglas Street/Sacramento Avenue intersection would operate at an unacceptable LOS F during both the AM and PM peak hours.

4.10-8 Under Cumulative Plus Project conditions, cumulative development could adversely effect existing or planned features or programs that support alternative transportation.

4.11-3 The proposed project, in combination with buildout of project's in the City of West Sacramento, would increase water demand throughout the City that could exceed water supplies.

4.11-4 The proposed project, in combination with buildout of project's in the City of West Sacramento, would contribute to increased water demands throughout the City that could exceed BBWTP treatment capabilities, stifle the pumping facilities or deplete firm storage capacities within the City's service area.

5.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

5.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

The following is a summary of significant and unavoidable impacts identified in the technical sections of this EIR. For a complete discussion of each impact, please refer to Sections 4.3, 4.5, and 4.7. All of the following significant and unavoidable impacts apply to both Scenarios A and B.

- 4.3-2 Construction of the proposed project would generate the ozone precursors ROG and NO_x.
- 4.5-3 Cumulative development including the proposed project could result in the damage or destruction of previously unidentified prehistoric resources.
- 4.7-3 The proposed project would create transportation noise that could affect new and existing sensitive receptors.
- 4.7-4 The proposed project would influence cumulative noise levels in future years.

6. ALTERNATIVES

6. ALTERNATIVES

6.1 INTRODUCTION

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6 (c) of the State CEQA Guidelines, is to ensure that "the range of potential alternatives to the Proposed Project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." CEQA Guidelines Section 15162.6(b) states that the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." The feasibility of an alternative may be determined based on a variety of factors including, but not limited to, site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and site accessibility and control (CEQA Guidelines Section 15126.6(f)(1)).

The choice of alternatives is guided primarily by the need both to reduce or eliminate project impacts and to achieve project objectives. The objectives of the project were used to identify appropriate alternatives. As stated in Chapter 3, Project Description, the City's objectives are to:

- Create an unique and attractive community with a strong sense of place.
- Provide opportunities for innovative community design.
- Enhance and preserve a residential environment adjacent to the Sacramento River.
- Develop land uses that are consistent with the City's land use policies for the site and that are compatible with surrounding neighborhoods.
- Enhance the City's supply of quality housing that provides a range of housing opportunities available to residents from a wide range of economic levels.
- Increase the City's housing supply in close proximity to existing infrastructure, transportation corridors, and employment centers.
- Provide and maintain services and infrastructure in accordance with City standards and policies.
- Provide for the development of adequate school facilities for residents of the community.
- Develop land uses that are economically viable and financially feasible.
- Prevent the loss of property and the risk of hazards associated with damage to the Sacramento River levee.

Equally important to attaining the project objectives when selecting alternatives is the reduction of some or all significant impacts, particularly those that could not be mitigated to a level below the threshold of significance. The project-specific and cumulative significant and unavoidable impacts of the proposed project, after mitigation, are:

Project-Specific Significant and Unavoidable Impacts

4.3-2 Construction of the proposed project would generate the ozone precursors ROG and NO_x.

4.7-3 The proposed project would create transportation noise that could affect new and existing sensitive receptors.

Cumulative Significant and Unavoidable Impacts

4.5-3 Cumulative development including the proposed project could result in the damage or destruction of previously unidentified prehistoric resources.

4.7-4 The proposed project would influence cumulative noise levels in future years.

6.2 ALTERNATIVES ANALYZED

This section provides a description of the alternatives to the proposed project analyzed in this EIR and presents how specific impacts differ in severity from those associated with the project. For the most part, potentially significant impacts of the alternatives can be mitigated by measures identified in Chapter 4, which contains the environmental analysis of the proposed project.

The City of West Sacramento may adopt an alternative in lieu of the proposed project, and this chapter is intended to assist decision-makers in their assessment of the appropriate use of the project area. As such, the three alternatives to the proposed project that are analyzed in this EIR, in addition to fulfilling the requirements of CEQA, provide policy options for development of the project site. Alternatives evaluated in this EIR are:

- **Alternative 1: No Project/No Development Alternative:** assumes the site would remain under its current condition (vacant land and former golf course use with associated landscaping, hardscape and existing structures). Residential, school, park and associated infrastructure associated with the proposed project would not be developed. The bank stabilization project would not be installed.
- **Alternative 2: Existing Zoning/No Project Alternative:** assumes that the proposed project site would be developed consistent with the land uses, zoning, and development intensities currently identified in PD-29. The bank stabilization would be installed as part of this alternative.
- **Alternative 3: Estate Parcel/Reduced Density Alternative:** assumes that approximately 486 residential units, an 11.5-acre estate parcel with a heliport, supporting infrastructure, park and the bank stabilization component would be developed. Construction and operation of a K-8 school by the WUSD is assumed under this alternative.

Development by land use designation for each of the alternatives is shown in Table 6-1 (because Alternative 1 does not include any development, it is not shown in this table). Each of the alternatives is described in more detail below followed by an assessment of the alternative's impacts relative to the proposed project. The focus of this analysis is the difference between the alternative and the proposed project, with an emphasis on addressing the significant impacts identified under the proposed project. For each issue area, the analysis indicates which mitigation measures would be required of the alternative and which significant and unavoidable impacts would be avoided. In some cases, the analysis indicates what additional mitigation measures, if any, would be required for the alternative being discussed, and what significant and unavoidable impacts would be more (or less) severe. Unless otherwise indicated, the level

TABLE 6-1

SUMMARY COMPARISON OF PROPOSED LAND USES BY ALTERNATIVE

	Proposed Project						Existing Zoning/ No Project Alternative			Estate Parcel/ Reduced Density Alternative		
	Scenario A			Scenario B								
	Acres	Units	sf	Acres	Units	sf	Acres	Units	sf	Acres	Units	sf
Residential	55.4	626		66.9	802		20.6	416		54.9	487	
Office/Commercial							5.1		200,000			
Golf Course							42.2					
School	11.5									11.5		
Park	1.0			1.0						1.5		
Total	**67.9**	**626**		**67.9**	**802**		**67.9**	**416**	**200,000**	**67.9**	**487**	

of significance and required mitigation would be the same for the alternatives as for the proposed project and no further statement of the level of significance is made. Table 6-2 provides a summary comparison of the severity of impacts for each alternative by topic.

TABLE 6-2

ALTERNATIVE IMPACT COMPARISON

Issue Area	Proposed Project	No Project/No Development Alternative	Existing Zoning/No Action Alternative	Estate Parcel/ Reduced Density Alternative
4.2 Aesthetics	LS	NI	LS	LS
4.3 Air Quality	S	NI	Greater	Greater
4.4 Biological Resources	S	NI	Equal	Equal
4.5 Cultural Resources	SU	NI	Equal	Equal
4.6 Land Use	LS	NI	LS	LS
4.7 Noise	SU	NI	Greater	Greater
4.8 Public Services	S	NI	Reduced	Reduced
4.9 Public Utilities	S	NI	Reduced	Reduced
4.10 Transportation and Circulation	S	NI	Greater	Reduced
4.11 Water Supply	S	NI	Reduced	Reduced

Notes:
SU = Significant and Unavoidable – if any impact was identified as significant and unavoidable in the technical analysis.
S = Significant before mitigation – if any impact was identified as significant in the technical analysis.
LS =Less than Significant – if all impacts were identified as less than significant in the technical analysis.
NI = No impact would occur when compared to the proposed project.
Equal = Level of significance is equal to the proposed project.
Greater = Level of significance is greater compared to the proposed project.
Reduced = Level of significance is reduced compared to the proposed project, but not necessarily to a less-than-significant level.

No Project/No Development Alternative

Under CEQA, the No Project Alternative must consider the effects of forgoing the project. The purpose of analyzing the No Project Alternative is to allow decision-makers to compare the impacts of the proposed project versus no project. The No Project Alternative describes the environmental conditions that exist at the time that the environmental analysis is commenced (CEQA Guidelines, section 15126.6(e)(2)).

Under the No Project/No Development Alternative, the 68-acre residential site would remain in its current condition. Currently, 60 percent of the site is located within the boundaries of the former Lighthouse Golf Course (that was opened to the public until its closure in December 2003). The former golf course portion of the site includes several existing structures (including maintenance buildings and a snack bar and restroom building), concrete paths, ponds and landscaping. Existing underground utilities also currently exist within and adjacent to the boundaries of the site. Forty percent of the site was designated from development and is not a part of the former golf course.

No additional residential units would be developed, and the construction and operation of a K-8 school by the WUSD would not occur. The existing former golf course landscaping and structures would remain. Vegetation that currently exists on the 3,000 linear feet of bank where the stabilization features were to be installed includes some young trees (mostly oak), poison oak, wild grape, and blackberry.

Because no residential, school uses or bank stabilization would be constructed, impacts associated with construction air emissions, construction noise levels and destruction or disturbance of buried archeological resources would not occur. Because operation activities associated with these activities would also not occur, implementation of the No Project/No Development Alternative would not result in an increase in residential units and associated population. None of the significant impacts identified for the proposed project would occur under the No Project/No Development Alternative. Specifically, there would be no change in the visual character of the site and its surroundings; no increase in vehicle trips and associated traffic-generated air emissions and noise levels; no operational air emissions and noise levels associated with the residential and school uses; no impact to biological habitat and species either on the 68-acre development site or the Sacramento River; and no increased demand on public services and utilities.

Mitigation That Would No Longer be Required

None of the mitigation measures identified in this EIR for the proposed project would be required under the No Project/No Development Alternative.

Significant and Unavoidable Impacts That Would No Longer Occur

None of the significant and unavoidable project-specific and cumulative impacts identified in this EIR for the proposed project would occur under the No Project/No Development Alternative.

Relationship of the No Project/No Development Alternative to the Project Objectives

The No Project/No Development Alternative would not achieve any of the project objectives. Residential housing and supporting infrastructure would not be constructed so this alternative would not create a community with a sense of place, increase the housing supply, enhance the City's supply of quality housing, provide for housing covering a range of economic levels, or enhance and preserve a residential environment adjacent to the River. This alternative would not meet the objective for developing adequate school facilities. Because the bank stabilization component would not be installed, this alternative would not meet the stated objective of preventing the loss of property and risk of hazard associated with damage to the Sacramento River levee.

Existing Zoning/No Project Alternative

The Existing Zoning/No Project Alternative assumes that the 68-acre development site would build out consistent with the land uses and development intensities identified in PD-29. As shown on Tables 6-1 and 6-3, this alternative would result in the development of 416 residential units, 200,000 square feet of office/commercial uses, and supporting infrastructure. The construction and operation of a K-8 school by the WUSD would not occur under this alternative. The zoning would be WF PD 29. The land use designations under PD 29 would be RC, RE, RGC, BP/CR. Each of these land use designations is described below.

RC: The intent of this land use area is to develop medium density single family residential neighborhoods with a maximum density of 12 dwelling units per gross acre. Only one dwelling unit would be allowed per lot. Second floors are allowed with a maximum building height of 31 feet.

TABLE 6-3

EXISTING ZONING/ NO PROJECT ALTERNATIVE

PD-29 Use Area Designation	Acres	Density[1]	Number of Residential Units	Square Footage of Development
RC	14.1	Maximum of 12du/ac[2]	169	
RE	6.5	Maximum of 38 du/ac	247	
RGC (Golf Course)	42.2			
BP Business/Professional Offices & CR Retail Commercial	5.1			200,000 (190,000 business/ professional) (10,000 commercial)
Total	**67.9**		**416**	**200,000**

Notes:
1. The maximum allowable number of dwellings per acre allowed under the PD-29 Zoning District is used to calculate the number of units for this Alternative.
2. du/ac = dwelling units per acre.

Source: City of West Sacramento Ordinance 89-9, Personal communication with Sandra White, Senior Planner, City of West Sacramento, May 13, 2005, and correspondence from Alberto Esquivel, Project Manager, The Grupe Company to EIP, May 13, 2005.

RE: Condominiums and apartments up to 38 dwelling units per gross acre are the intent of the RE land use area, the purpose of which is to provide for high density residential development. PD-29 also allows other uses within this designation, such as day care centers, public or neighborhood day-use areas, or concessionaire stands for the use of Lighthouse Marina Association members. Development of such uses would require approval of a Conditional Use Permit. The maximum allowable height would be 32 feet measured from the roof of ground-floor parking to the structure eave line.

RGC: The former golf course was developed on the proposed project site in accordance with this land use designation. Because the facility was closed in December 2003, this alternative assumes that the golf course would not be in operation.

BP Business/Professional Offices & CR Retail Commercial: This approximately 5-acre area would be developed with uses such as offices; restaurants, cafes, and bars; commercial; hotels; and/or residential uses as allowed by PD-29. It is assumed for the purposes of this alternative

that the site would be developed with 190,000 square feet of business and professional uses and 10,000 square feet of commercial uses.

The bank stabilization component of the project would be installed as described for the proposed project.

Implementation of the Existing Zoning/No Project Alternative would result in the construction of 416 residential units (approximately 210 to 386 fewer units when compared to the proposed project under Scenarios A and B, respectively). In addition, approximately 200,000 square feet of office/commercial use would be developed. Construction of this alternative would be anticipated to generate less ROG and NO_x emissions, but like the project these emissions would likely exceed YSAQMD thresholds and mitigation measures would not be able to reduce this impact to a less-than-significant level. Similar to the proposed project, the Existing Zoning/No Project Alternative construction activities would generate increased short-term noise levels. Construction under this alternative would occur over a period of time; therefore, residents of completed and occupied homes would be exposed to construction noise. Because fewer homes are being constructed, this impact would be less in magnitude. In addition, the same on- and off-site sensitive receptors would be affected by temporary increases in noise levels. Identical to the proposed project, exposure to increases in temporary noise levels would be less than significant due to compliance with PD-29 requirements. However, because fewer residential units would be constructed, the impact would be less in magnitude when compared to the proposed project.

Identical to the proposed project, the 68-acre site would be disturbed to accommodate project construction. When compared to the proposed project, this alternative would have the same potential to generate construction air-emissions and to contribute to the cumulative damage or destruction of buried prehistoric resources. Similarly, because the same area would be disturbed, including existing trees on site, impacts associated with direct loss or disturbance of nesting birds and loss of Swainson's hawk and other birds-of-prey foraging habitat would be identical when compared to the proposed project.

Because the bank stabilization component would also be constructed, there would be the same potential to damage or destroy prehistoric site CA-YOL-25. Similarly, impacts associated with the fill of wetlands; fisheries; loss of western pond turtles and their habitat; loss of rare plant and riparian habitat; and valley elderberry longhorn beetle habitat would be identical when compared to the proposed project.

The Existing Zoning/No Project Alternative would generate more daily vehicle trips when compared to the proposed project (see Table 6-4). Therefore, significant cumulative impacts identified for the intersections of Kegle Drive/Lighthouse Drive/Pierce Street, Kegle Drive/Jefferson Boulevard/Sacramento Avenue, and Douglas Street/Sacramento Avenue would operate at an unacceptable LOS similar to the proposed project, but this impact would be greater in magnitude.

Significant and unavoidable noise impacts associated with increased vehicle trips would be greater under this alternative when compared to the proposed project due to the increase in vehicle trips. As a result, identical to the proposed project, existing residences along Lighthouse Drive between Kegle Drive and Douglas Street would experience noise levels above 60 dBA L_{dn}. Similarly, increased vehicle trips would generate increased air emissions when compared to the proposed project.

TABLE 6-4

COMPARISON TRIP GENERATION FOR PROJECT AND PROJECT ALTERNATIVES

Trip Generation	Project Scenario A	Project Scenario B	Existing Zoning/No Project Alternative	Estate Parcel/Density Alternative
Daily Trips	4,841	5,016	5,897	4,036
AM Peak Hour Trips	511	373	567	455
PM Peak Hour Trips	462	473	638	385

Note:
1. Trip generation determined using ITE Trip Generation (7th Edition) except for portions of the estate parcel alternative which are based assumptions which are based assumptions discussed in Chapter 6 of Transportation Study - The Rivers Phase II (Fehr & Peers, 2005).
Source: Fehr & Peers, 2005.

The Existing Zoning/No Project Alternative would result in an increase in total population of 1,349 (including residents and employees) which is less than that estimated for the proposed project under both Scenario A and Scenario B (1,473 and 1,869, respectively). Similar to the proposed project, development under the Existing Zoning/No Project Alternative would result in the need to install transit-related public improvements. Because there would be less population generated under this alternative when compared to the proposed project, impacts on existing transit facilities would be less in magnitude. Identical to the proposed project, development under the Existing Zoning/No Project Alternative would be required to provide on- and off-site parking consistent with City of West Sacramento standard specifications.

As stated above, this alternative would result in less population when compared to the proposed project. Therefore, the increased demand for fire and police protection would be less. In addition, because there would be fewer residential units, there would be fewer students associated with this alternative. Existing WUSD facilities would be able to accommodate the increase in students. Similar to the proposed project, this alternative would result in the need for additional park lands; however, the demand would be less because the population would be less.

The Existing Zoning/No Project Alternative would result in an increase in wastewater flows requiring collection and treatment. Wastewater flows would be less with this alternative when compared to the proposed project; therefore, impacts would be similar but less in magnitude. Similarly, this alternative would result in increased water demand that could exceed available treatment, storage and distribution capacity; however, because there would be less population, this impact would be less in magnitude.

Mitigation That Would No Longer be Required

All mitigation measures identified for project-specific and cumulative impacts would be required for the Existing Zoning/No Project Alternative.

Significant and Unavoidable Impacts That Would No Longer Occur

All of the significant and unavoidable project-specific and cumulative impacts would occur under the Existing Zoning/No Project Alternative. However, construction air emissions would be less in magnitude. Transportation related noise impacts would be greater in magnitude.

Relationship of the Existing Zoning/No Project Alternative to the Project Objectives

Implementation of the Existing Zoning/No Project Alternative would achieve the majority of the objectives established for the proposed project. Development of this alternative would include residential and office/commercial uses and supporting infrastructure that could create a unique community with a sense of place. Because residential units would be developed, this alternative would increase the City's housing supply (although not as much when compared to the project), enhance the City's supply of quality housing, provide for housing covering a range of economic levels, and enhance and preserve a residential environment adjacent to the River. The school would not be developed under the Existing Zoning/No Project Alternative; therefore, this alternative would not meet the objective for developing adequate school facilities. Because the bank stabilization component would be installed, this alternative would meet the stated objective of preventing the loss of property and risk of hazard associated with damage to the Sacramento River levee.

Estate Parcel/Reduced Density Alternative

The Estate Parcel/Reduced Density Alternative would include development of an approximately 11.5 acre estate parcel that would include a heliport. In addition, approximately 486 residential units would be constructed on approximately 43.4 acres. This alternative would also include construction of supporting infrastructure and landscaping similar to the project and a 2.0-acre park. Construction and operation of a K-8 school by the WUSD on 11.5 acres of the site is also assumed under this alternative. Tables 6-1 and 6-5 show the uses to be developed under this alternative. Identical to the proposed project, bank stabilization methods would be installed along 3,000 linear feet of Sacramento River.

Implementation of the Estate Parcel/Reduced Density Alternative would result in the construction of 487 residential units (approximately 139 to 315 fewer units when compared to the proposed project under Scenarios A and B, respectively). Construction of this alternative would be anticipated to generate less ROG and NO_x emissions, but like the project these emissions would likely exceed YSAQMD thresholds and mitigation measures would not be able to reduce this impact to a less-than-significant level. Similar to the proposed project, the Estate Parcel/Reduced Density Alternative construction activities would generate increased short-term noise levels. Construction under this alternative would occur over a period of time; therefore, residents of completed and occupied homes would be exposed to construction noise. Because fewer homes are being constructed, this impact would be less in magnitude. In addition, the same on- and off-site sensitive receptors would be affected by temporary increases in noise levels. Identical to the proposed project, exposure to increases in temporary noise levels would be less than significant due to compliance with PD-29 requirements. However, because fewer residential units would be constructed, the impact would be less in magnitude when compared to the proposed project.

Because the same amount of area would be disturbed to accommodate project construction when compared to the proposed project, this alternative would have the same potential to contribute to the cumulative damage or destruction of buried prehistoric resources. Similarly, because the same area would be disturbed, including existing trees on site, impacts associated with direct loss or disturbance of nesting birds and loss of Swainson's hawk and other birds-of-prey foraging habitat would be identical when compared to the proposed project.

TABLE 6-5

ESTATE PARCEL/REDUCED DENSITY
PROPOSED HOUSING TYPES AND DWELLING UNITS

Housing Type	Density	PD – 29 Use Area Designation	Sub-Areas	Number of Dwelling Units
SFD[1]	7,200-18,000-sf[2] lots	RB	Village A	19
SFD	5,000 sf lots	RC-A	Village 1	32
SFD	2,660 sf	RC-A	Village 1	97
SFA[3]	14 du/acre[4]	RD	Village 2	164
SFA	16 du/acre	RD	Village 4	62
SFA	25 du/acre	RE	Village 5B	112
SFR[5] (Estate parcel)	1 du	RG	N/A	1
School		RD		No DUs
Total Dwelling Units				**487**

Notes:
1. SFD=single family detached homes
2. sf=square foot
3. SFA=single family attached homes
4. du/acre=dwelling units per acre
5. SFR= single family residential

Because the bank stabilization component would also be constructed, there would be the same potential to damage or destroy prehistoric site CA-YOL-25. Similarly, impacts associated with the fill of wetlands; fisheries; loss of western pond turtles and their habitat; loss of rare plant and riparian habitat; and valley elderberry longhorn beetle habitat would be identical when compared to the proposed project.

The Estate Parcel/Reduced Density Alternative would generate fewer daily vehicle trips when compared to the proposed project (see Table 6-4). Significant cumulative impacts identified for the intersections of Kegle Drive/Lighthouse Drive/Pierce Street, Kegle Drive/Jefferson Boulevard/Sacramento Avenue, and Douglas Street/Sacramento Avenue would operate at an unacceptable LOS similar to the proposed project, but this impact would be less in magnitude.

Significant and unavoidable noise impacts associated with increased vehicle trips would be less under this alternative when compared to the proposed project due to fewer vehicle trips. Noise levels along Lighthouse Drive between Douglas Drive and Fountain Drive would be below the 60d BA Ldn threshold. Similarly, fewer vehicle trips would generate less air emissions when compared to the proposed project.

Under this alternative, a heliport would be constructed. This would result in increased operational non-traffic related noise levels that could expose on-site and adjacent sensitive receptors to noise associated with helicopter take-off and landings. However, increased air emissions and noise levels attributed to helicopter operations would only occur periodically. Surrounding on- and off-site uses would be exposed to potential safety hazards also associated with take-offs and landings that would not occur under the proposed project. Operation of the helicopter (including take-off and landing flight paths) would be required to comply with State Division of Aeronautics requirements. There would also be additional emissions associated with helicopter operations that would contribute to air quality.

The Estate Parcel/Reduced Density Alternative would result in an increase in total population of 1,144 (including residents and school employees) which is less than that estimated for the proposed project under both Scenario A and Scenario B (1,473 and 1,869, respectively).

Similar to the proposed project, development under the Estate Parcel/Reduced Density Alternative would result in the need to install transit-related public improvements. Because there would be less population generated under this alternative when compared to the proposed project, impacts on existing transit facilities would be less in magnitude. Identical to the proposed project, development under the Estate Parcel/Reduced Density Alternative would be required to provide on- and off-site parking consistent with City of West Sacramento standard specifications.

As stated above, this alternative would result in less population when compared to the proposed project. Therefore, the increased demand for fire and police protection would be less. In addition, because there would be fewer residential units, there would be fewer students associated with this alternative. Existing WUSD facilities would be able to accommodate the increase in students. Similar to the proposed project, this alternative would result in the need for additional park lands; however, the demand would be less because the population would be less.

The Existing Zoning/No Project Alternative would result in an increase in wastewater flows requiring collection and treatment. Wastewater flows would be less with this alternative when compared to the proposed project; therefore, impacts would be similar but less in magnitude. Similarly, this alternative would result in increased water demand that could exceed available treatment, storage and distribution capacity; however, because there would be less population, this impact would be less in magnitude.

Mitigation That Would No Longer be Required

All mitigation measures identified for project-specific and cumulative impacts would be required for the Estate Parcel/Reduced Density Alternative. Additional mitigation would be required to address increased noise levels and air emissions generated by operation of the heliport. In addition, helicopter operations would be required to comply with State Division of Aeronautics requirements.

Significant and Unavoidable Impacts That Would No Longer Occur

All of the significant and unavoidable project-specific and cumulative impacts would occur under the Estate Parcel/Reduced Density Alternative. However, construction air emissions would be less in magnitude. Transportation related noise impacts would also be less in magnitude.

Relationship of the Estate Parcel/Reduced Density Alternative to the Project Objectives

Implementation of the Estate Parcel/Reduced Density Alternative would achieve all of the objectives established for the proposed project. Development of this alternative would include residential uses and supporting infrastructure, including the park and school that could create a unique community with a sense of place. Because residential units would be developed, this alternative would increase the City's housing supply (although not as much when compared to the project), enhance the City's supply of quality housing, provide for housing covering a range of economic levels, and enhance and preserve a residential environment adjacent to the River. The school would be developed under the Estate Parcel/Reduced Density Alternative; therefore, this alternative would meet the objective for developing adequate school facilities. Because the bank stabilization component would be installed, this alternative would meet the stated objective of preventing the loss of property and risk of hazard associated with damage to the Sacramento River levee.

Environmentally Superior Alternative

The environmentally superior alternative would be the No Project/No Development Alternative because there would be no development under this alternative and the site would remain in its existing condition. None of the significant impacts would occur when compared to the proposed project. However, the No Project/No Development does not achieve any of the project objectives. CEQA Guidelines Section 15126.6(e)(2) states that when the No Project Alternative/No Development Alternative is identified as the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives. Therefore, the Estate Parcel/Reduced Density Alternative would be the environmentally superior alternative. With the exception of increased operational air quality and noise levels attributed to the heliport operations, significant impacts would be reduced when compared to the proposed project. In addition, this alternative would achieve all of the objectives established for the proposed project.

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7. REFERENCES

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8. REPORT PREPARATION

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This EIR has been prepared for:

City of West Sacramento
1110 West Capitol Avenue
West Sacramento, CA 95691

Project Manager	Sandra White
Deputy Project Manager	Micah Fuller

EIP ASSOCIATES

Project Manager	Catherine McEfee

EIR AUTHORS

Aesthetics	Amber Grady, EIP Associates
Air Quality	Matt Jones, EIP Associates
Biological Resources	Emily Keller, Chris Bronny, EIP Associates
Cultural Resources	Melinda Peak, Peak and Associates (Cultural Report)
	Amber Grady, EIP Associates
Land Use	Amber Grady, EIP Associates
Noise	Matt Jones, EIP Associates
Public Services	Micah Fuller, EIP Associates
Public Utilities	Micah Fuller, EIP Associates
	Erick Cooke, EIP Associates
Transportation and Circulation	Bob Grandy, Fehr & Peers (Traffic Report)
	Catherine McEfee, EIP Associates
Water Supply	John Moynier, EIP Associates
	Jordan Smith, EIP Associates
	Dave Beauchamp, EIP Associates

Report Production	Kris Olsen, Charisse Case, Jenny Johnston, Alta Cunningham,
Graphics	James Songco