MINUTE ITEM
This Calendar Item No. C28 was approved as Minute Item No. 28 by the California State Lands Commission by a vote of 2 to 0 at its 7-11-97 meeting.

CALENDAR ITEM
C28

A 8
S 4

PRC 7967
07/11/97
W 24921
D. Jones

TERMINATION OF GENERAL PERMIT - PROTECTIVE STRUCTURE USE PRC 7654.9 AND APPROVAL OF GENERAL LEASE - RECREATIONAL, PROTECTIVE STRUCTURE AND DREDGING USE

LESSEE:
Lighthouse Marina and Riverbend Development,
a California general partnership
495 Douglas Street
West Sacramento, California 95605

AREA, LAND TYPE, AND LOCATION:
26.2 acres, more or less, of tide and submerged lands in the Sacramento River, in the city of West Sacramento, Yolo County.

AUTHORIZED USE:
The construction and maintenance of a greenway, a 11.5 foot wide public access path in connection with the Sacramento River Greenway Plan, bank protection, and habitat restoration.

Dredging and Disposal:
The extraction of a maximum of 112,000 cubic yards of dredged material with disposal at a site approved by the Central Valley Regional Water Quality Control Board.

LEASE TERM:
25 years, beginning July 1, 1997.

CONSIDERATION:
Bank Protection, habitat restoration, and public access path in connection with the Sacramento River Greenway Plan:

The public use and benefit, with the State reserving the right at any time to set a monetary rental if the Commission finds it to be in the State's best interest.

Buoys:

$50.00 per year, with the State reserving the right to fix a different rental periodically during the lease term.

Dredging:

No royalty as the project will result in a public benefit or $.25 per cubic yard for any material used for private benefit or commercial sale purposes.

SPECIFIC LEASE PROVISIONS:

Insurance:

$1,000,000 Combined Single Limit.

Bond:

N/A.

Other:

N/A.

OTHER PERTINENT INFORMATION:

1. Applicant either owns or has a right to use uplands adjoining the lease premises.

2. In 1985, the 279.5-acre Lighthouse Development Project originally was proposed to Yolo County as a mixed-use project. The County of Yolo and the U.S. Army Corps of Engineers jointly prepared an EIR/EIS that analyzed total development of the project, which included among other things, an 800-berth marina. Yolo County approved the development in 1986. The city of West Sacramento subsequently revised the project in 1989 and 1991. In 1991, Lighthouse and the California State Lands Commission signed a Settlement Agreement (AD112) which, among other things, established an agreed boundary line and provided for public access. As of 1995, the marina was downsized to 225 slips. The marina, if built, will be constructed within a dredged out area and thus will not involve the State's sovereign lands.

   In 1992, Lighthouse recognized that portions of the bank were eroding and obtained approval from the Commission to stabilize a 500-foot section of the levee (PRC 7654.9). This Calendar Item will terminate PRC 7654.9 and incorporate the area into the proposed Lease.

In 1993, Lighthouse realized that additional erosion was occurring and again requested authorization from the various agencies; however, it was determined that an EIR was required to be prepared to analyze the entire riverbank portion of the site and evaluate alternative bank protection/habitat restoration methods. The California State Lands Commission became the Lead Agency under the California Environmental Quality Act (SCH 94123008)

The proposed project fulfills the terms of the Settlement Agreement, protects Lighthouse's portion of the riverbank and existing riparian vegetation from further erosion, and provides a greenway that incorporates features of habitat restoration and public access.

The bank protection project has been divided into Reaches A-E. This proposed lease only involves Reaches A-C.

The project will be constructed in phases. Portions of the eroding bank that are within the 20-foot zone required for geotechnical stability of the Lighthouse development project will be protected first, followed by portions of the bank that could potentially encroach on this 20-foot distance in the future. Additional bank protection will be installed as needed.

The bank protection will be bioengineered and involve constructing a high berm with riparian plantings and a low berm with riparian plantings, giving way to submerged benches, with a 2 to 3 foot wide band of rock to be placed at the midpoint of the low berm surface to minimize potential scour during high flows. The planted low berm, in conjunction with submerged benches constructed every 100 feet along the berm, is intended to replace the Shaded Riverine Aquatic Habitat cover damaged by bank stabilization and compensate for the loss of riparian vegetation on the eroding bank.

The fill required for the bank protection will be acquired from dredged river sediments in the Sacramento River adjacent to the site, natural levee sediments from excavations for other Lighthouse project site developments, or a combination of these materials.

Bank protection for Reaches A-C will be constructed from the water side; Reach A may not require bank protection for 20 years.

3. A mitigation monitoring program was developed. The monitoring program documents success criteria for the vegetation program, defines specific performance standards, and discusses measures for the long-term protection of fish and wildlife habitat along the Lighthouse reach of the Sacramento River. Each phase of project construction will be monitored for five years following implementation of migitation for that phase.

4. The status of the regulatory permits is as follows: After the Final EIR has been certified by the Commission, the Central Valley Regional Water Quality Control Board will issue the water quality certification or waiver for this project. When the U.S. Army Corps of Engineers receives the water quality certification or waiver, it will issue its permit. Since the State Department of Fish and Game only issues Streambed Alteration Agreements for one year, they are only willing to issue the Agreement for a discrete portion of the site that is most likely to require protection within one year.

5. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (Title 14, California Code of Regulations, section 15025), the staff has prepared an EIR identified as CSLC EIR No. 673, State Clearinghouse No. 94123008. Such EIR was prepared and circulated for public review pursuant to the provisions of the CEQA. A Mitigation Monitoring Program has been prepared in conformance with the provisions of the CEQA (Public Resources Code section 21081.6).

6. Findings made in conformance with the State CEQA Guidelines (Title 14, California Code of Regulations, section 15091) are contained in Exhibit C attached hereto.

7. This activity involves lands identified as possessing significant environmental values pursuant to Public Resources Code sections 6370, et seq. Based upon staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with its use classification.

APPROVALS OBTAINED:
City of West Sacramento.

FURTHER APPROVALS REQUIRED:
U.S. Army Corps of Engineers, State Department of Fish and Game, Central Valley Regional Water Quality Control Board.

EXHIBITS:
A. Site Map.
B. Location Map.
C. CEQA Findings.
D. Mitigation Monitoring Program.

PERMIT STREAMLINING ACT DEADLINE:
August 7, 1997.

RECOMMENDED ACTION:
IT IS RECOMMENDED THAT THE COMMISSION:

CEQA FINDING:
1. CERTIFY THAT AN EIR NO. 673, STATE CLEARINGHOUSE NO. 94123008, WAS PREPARED FOR THIS PROJECT PURSUANT TO THE PROVISIONS OF THE CEQA AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.

2. ADOPT THE FINDINGS, MADE IN CONFORMANCE WITH TITLE 14, CALIFORNIA CODE OF REGULATIONS, SECTION 15091, AS CONTAINED IN EXHIBIT C ATTACHED HERETO.

3. ADOPT THE MITIGATION MONITORING PROGRAM, AS CONTAINED IN EXHIBIT D ATTACHED HERETO.

4. DETERMINE THAT THE PROJECT, AS APPROVED, WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.

SIGNIFICANT LANDS INVENTORY FINDING:

1. FIND THAT THIS ACTIVITY IS CONSISTENT WITH THE USE CLASSIFICATION DESIGNATED BY THE COMMISSION FOR THE LAND PURSUANT TO PUBLIC RESOURCES CODE SECTIONS 6370, ET SEQ.

AUTHORIZATION:

1. AUTHORIZE TERMINATION OF GENERAL PERMIT - PROTECTIVE STRUCTURE USE PRC 7654.9 EFFECTIVE JULY 1, 1997.

2. AUTHORIZE ISSUANCE TO LIGHTHOUSE MARINA AND RIVERBEND DEVELOPMENT, A CALIFORNIA GENERAL PARTNERSHIP, OF A GENERAL LEASE -RECREATIONAL, PROTECTIVE STRUCTURE AND DREDGING USE, BEGINNING JULY 1, 1997, FOR A TERM OF 25 YEARS, FOR THE CONSTRUCTION AND MAINTENANCE OF BANK PROTECTION, HABITAT RESTORATION, PUBLIC ACCESS IN CONNECTION WITH THE SACRAMENTO RIVER GREENWAY PLAN, THE PLACEMENT OF CONSTRUCTION AND WARNING BUOYS, AND THE EXTRACTION OF A MAXIMUM OF 112,000 CUBIC YARDS OF DREDGED MATERIAL, ON THE LAND SHOWN ON EXHIBIT A ATTACHED AND BY THIS REFERENCE MADE A PART HEREOF;

CONSIDERATION:

BANK PROTECTION, HABITAT RESTORATION, AND PUBLIC ACCESS IN CONNECTION WITH THE SACRAMENTO RIVER GREENWAY PLAN:

THE PUBLIC USE AND BENEFIT, WITH THE STATE RESERVING THE RIGHT AT ANY TIME TO SET A MONETARY RENTAL IF THE COMMISSION FINDS IT TO BE IN THE STATE'S BEST INTEREST;

DREDGING:

NO ROYALTY AS THE PROJECT WILL RESULT IN A PUBLIC BENEFIT OR A MINIMUM OF $.25 PER CUBIC YARD FOR ANY MATERIAL USED FOR PRIVATE BENEFIT OR COMMERCIAL SALE PURPOSES;

BUOYS:

$50.00 PER YEAR, WITH THE STATE RESERVING THE RIGHT TO FIX A DIFFERENT RENTAL PERIODICALLY DURING THE LEASE TERM.

PUBLIC LIABILITY INSURANCE: $1,000,000 COMBINED SINGLE LIMIT.

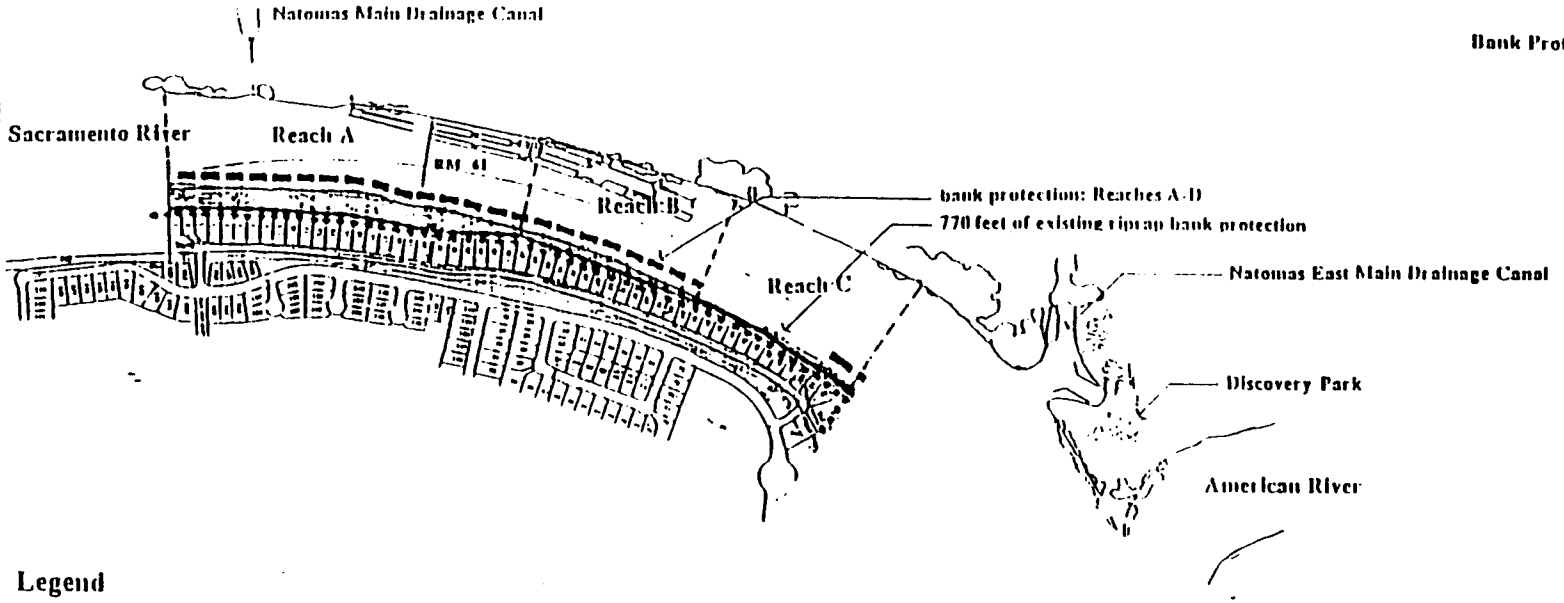

Figure 3-5
Bank Protection and Greenway: Locations and Design

Legend

- waterside edge of existing levee
- low berm and submerged benches (100 feet on center)
- 45-foot-wide decomposed granite pedestrian/bicycle/emergency access path– 8-foot-wide paved surface with 3.5-foot-wide decomposed granite shoulders
- onstreet bikeway with signs
- RM River Mile

APN'S 14-76-01 - ALL
14-76-02 - ALL
14-76-03 - PORTION

0 300 600 1200
Feet

This exhibit is solely for purposes of generally defining the lease premises, and is not intended to be, nor shall it be construed as, a waiver or limitation of State interest in the subject or any other property.

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Exhibit A
W 24021

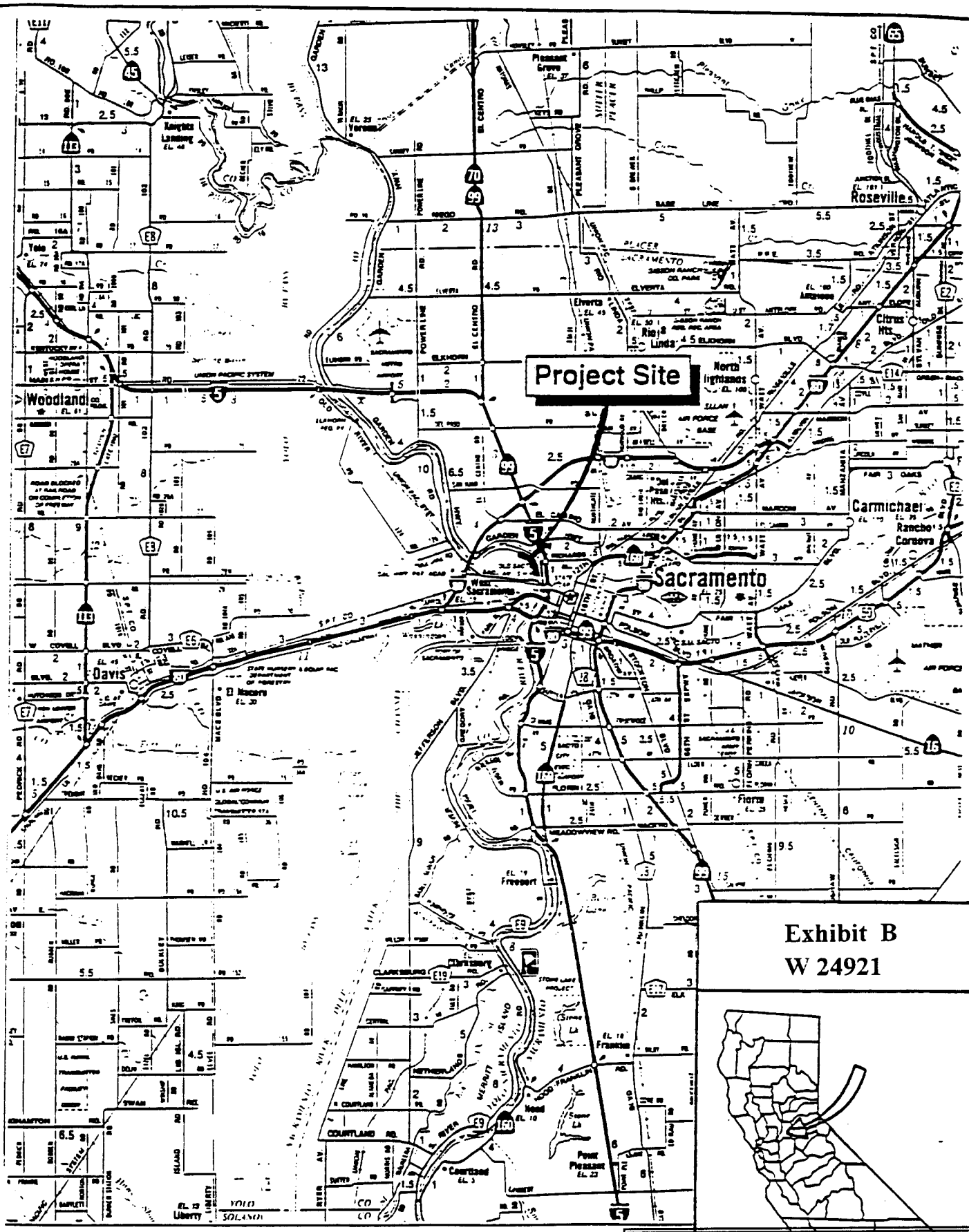

Exhibit B
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EXHIBIT C

FINDINGS
REGARDING THE ENVIRONMENTAL EFFECTS OF THE CONSIDERATION OF THE LIGHTHOUSE MARINA AND RIVERBEND DEVELOPMENT BANK PROTECTION AND GREENWAY

CITY OF WEST SACRAMENTO, YOLO COUNTY

Prepared by:

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FINDINGS
REGARDING THE ENVIRONMENTAL EFFECTS OF THE CONSIDERATION OF THE LIGHTHOUSE MARINA AND RIVERBEND DEVELOPMENT BANK PROTECTION AND GREENWAY CITY OF WEST SACRAMENTO, YOLO COUNTY

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FINDINGS
REGARDING THE ENVIRONMENTAL EFFECTS OF THE CONSIDERATION OF THE LIGHTHOUSE MARINA AND RIVERBEND DEVELOPMENT BANK PROTECTION AND GREENWAY CITY OF WEST SACRAMENTO, YOLO COUNTY

INTRODUCTION

The findings made by the State Lands Commission (SLC), under Section 15901, Title 14, California Administrative Code, on the proposed Lighthouse Marina and Riverbend Development Bank Protection and Greenway project in the City of West Sacramento, California, are presented below. All significant and potentially significant impacts of the project identified in the final environmental impact report (EIR) are included herein and organized according to the resource affected, e.g., flood control and water quality, fish resources, vegetation and wildlife resources, and so forth.

For each significant or potentially significant impact, a finding has been made as to one or more of the following as appropriate:

A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

B. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

C. Specific economic, social, and/or other considerations make the mitigation measures or project alternatives identified in the final EIR infeasible.

The findings are followed by a narrative of the facts supporting them. For the impacts discussed, two of the findings described above have been made. Finding (A) is made because all the mitigation measures identified in the final EIR are required to be implemented. Finding (B) is made because, although the SLC is the California Environmental Quality Act (CEQA) lead agency, it has the jurisdiction over only a portion of the project and thus has limited power to require or enforce mitigation without such jurisdiction. Whenever finding (B) has been made, agencies with jurisdiction have been specified. It is these agencies, within their respective spheres of influence, that would have the ultimate responsibilities to adopt, implement, and enforce the mitigation discussed within each type of potential impact that could result from project implementation. However, under adopted California statutory legislation (Assembly Bill 3180, Cortese), the CEQA lead agency is responsible for ensuring that mitigation measures contained in an EIR are effectively

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implemented. Finding (C) has not been made in this document because none of the impacts have been identified as unavoidable after mitigation. Therefore, these findings do not include a Statement of Overriding Considerations as specified in Sections 15902 and 15903, Title 14, California Administrative Code.

For identification and discussions of significant and potentially significant impacts in the EIR, the level of significance was classified according to the following definitions:

- Class I - A significant or potentially significant adverse impact that cannot be mitigated to a less-than-significant level.

- Class II - A significant or potentially significant adverse impact than can be mitigated to a less-than-significant level.

PROJECT BACKGROUND

In 1985, the 279.5-acre Lighthouse development project originally was proposed to Yolo County as a mixed-use project. Yolo County and the U.S. Army Corps of Engineers (Corps) prepared a draft EIR/environmental impact statement (EIS) that analyzed total development of the project, including 1,881 residential units, a hotel/convention center and hotel-related commercial uses, business/professional offices, a retail commercial center, an 800-slip marina, a yacht club, and an 18-hole golf course. Yolo County approved the development project in 1986, and the Corps approved an individual permit under Section 404 of the Clean Water Act in 1987. The City of West Sacramento subsequently revised the project in 1989 and 1991. In 1991, Lighthouse and the State Lands Commission signed a Settlement Agreement.

Impacts analyzed in the previous EIR and EIS include those then anticipated for the 800-slip marina, marina peninsula, and marina outlet. The biological impacts of that project were mitigated by Lighthouse through the purchase of 124.21 acres at Kachituli Oxbow and revegetation of 110 of those acres, and the purchase and planned revegetation of 124 acres at Mary Lake.

In 1992, Lighthouse recognized that portions of the western Sacramento River bank were eroding and requested permission under Section 404 Nationwide Permit Number 13 to stabilize the levee. Approval was obtained from the Corps, California Department of Fish and Game (DFG), SLC, and the State Reclamation Board. In 1993, Lighthouse recognized that additional erosion was occurring and again requested authorization from the various agencies; however, agency representatives determined that the entire riverbank portion of the site should be analyzed and alternative bank protection/habitat restoration methods evaluated.

The mitigation measures presented herein are derived from various sources and are considered a compendium of the available measures that have been included in previous projects, have been adopted as standard by local agencies, or are seen as new measures developed as a result of new and improving technologies and/or regulations. These measures together represent a model

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of conditions that, when applied to the project, will achieve a measure of protection for the unique environmental features of the project.

FLOOD CONTROL AND WATER QUALITY - Possible Damage to the Bank Protection Slopes and Marina during a Major Earthquake

Impact: The possible damage to bank protection slopes and marina due to slope failure and liquefaction during a major earthquake is considered a significant (Class II) impact.

Finding: B. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency. (City of West Sacramento)

Facts Supporting the Finding

Lighthouse had a geotechnical investigation prepared for the proposed off-river marina facility in 1994. The scope of the study was limited to the marina site identified on the approved tentative map for the project. The geotechnical investigation was limited to the effects and impacts related to the construction and maintenance of an off-river marine facility. Results of the geotechnical investigation indicate that the cut-and-fill slopes proposed for the facility possess adequate factors of safety for various static design conditions. Obtained factors of safety for the seismic design condition, however, were marginal to less than acceptable for the type of proposed construction. These marginal factors of safety indicate a potential for lateral spreading and slumping of proposed slopes in the event of a significant, nearby earthquake. Mitigation measures to address lateral slope spreading, such as vibro-replacement gravel columns, compaction grouting, or other methods, may be cost prohibitive. The minimum required action identified by in the geotechnical investigation would be to restrict development within the immediate vicinity of the planned slopes to improvements and uses less sensitive, or less critical, to anticipated slope deformations.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.1 ***Restrict marina uses near slopes to improvements less sensitive to anticipated slope deformations or liquefaction.*** *This problem is not amenable to an engineering solution. The results of the 1994 Brown and Mills geotechnical investigation indicate that mitigation measures to address slope failure such as gravel columns, compaction grouting, or other methods may be cost prohibitive in terms of development costs versus returns to the project developers. The practical mitigation approach to potential slope failure would be to restrict uses within the immediate vicinity of the slopes to uses less sensitive to anticipated slope deformations. Any permanent structural marina features and other improvements should not be located on or within 5 feet of constructed slopes.*

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Lighthouse has proposed various uses at the marina. Restricting marina uses near slopes will allow this development to occur while avoiding future possible problems related to slope failure in the event of an earthquake.

FLOOD CONTROL AND WATER QUALITY - Induced Bank Erosion between the Marina and the Existing Boat Launch

Impact: The induced bank erosion between the new marina and the existing public boat launch area downstream at the interface of the revetment and the natural bank is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Rock revetment at the project site has caused bank scouring immediately downstream, which has been widely observed in other riprap installations along the Sacramento River. The marina design proposes rock slope protection that could result in scouring downstream of the marina toward the Broderick Public Boat Launch area.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.2 ***Extend the bank protection in Reach E (Marina Reach) downstream to the Broderick Public Boat Launch.*** *At the time the marina is constructed or bank protection is provided at Reach E, the rock slope protection proposed on the riverbank downstream of the marina entrance will terminate at the Broderick Public Boat Launch ramp. This will protect the existing launching ramp from the potential erosion that typically occurs beyond the point where the riprap ends.*

Extending the bank protection to the Broderick Public Boat Launch would reduce the potential for the bank protection in Reach E (marina reach) to induce erosion at the Broderick Public Boat Launch.

FLOOD CONTROL AND WATER QUALITY - Erosion and Failure of Vegetation in Reach E

Impact: The substantial erosion and failure of vegetation in Reach E because the design does not provide full bank protection is considered a significant (Class II) impact.

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Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

The bank erosion section of the draft EIR presents a detailed discussion of the designs of Reaches A-D and the design of Reach E. Reach E will not have full-bank protection and may erode on the banks above the proposed riprap line. Protection extends only 2 feet above the elevation of the mean high-water stage during the low-flow season, or 5.5 feet below the stage of the 1.5-year flood. The fine sandy soils characteristic of the project site tend to erode easily. At and above the 8-foot elevation, the elevation above which the proposed rock protection would not extend, bank erosion at the site is widespread.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.3 ***Apply a persistent plant-permeable geotextile to the 3:1 slope from the top of the planned riprap to the high berm, and apply vegetation prescription proposed or as modified for geotextile compatibility; or extend riprap up the slope to the high berm, and apply the revegetation prescription proposed for Reaches A-D.*** *This measure would be a modification to the proposed design of constructing an unprotected 3:1 slope of embankment material for the riverbank in the marina reach and filling and regrading each summer as needed to prevent levee erosion. The measure will eliminate such frequent maintenance and allow vegetation to establish and persist on this bank. The first option would facilitate more vegetation than the second, but could require a higher level of future maintenance.*

The proposed design for bank protection in Reach E (marina reach) does not protect the bank to the same extent as the proposed design for bank protection in Reaches A-D. Reach E has fine sandy soils that tend to erode easily. Modifying the design as suggested would reduce the potential for ongoing erosion in this reach.

FLOOD CONTROL AND WATER QUALITY - Induced Erosion Upstream and Downstream of the Bank Protection Sites

Impact: The induced bank erosion and undercutting of the armorflex and revetment upstream and downstream of the existing and proposed bank protection sites is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

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Facts Supporting the Finding

As discussed earlier, rock revetment at the project site has caused bank scouring immediately downstream, which has been widely observed in other riprap installations along the Sacramento River. A scallop was scoured 50 feet downstream of the riprap installed in Reach C in 1992. In winter 1994-1995, it was filled with additional rock, but another scallop formed downstream for about 35 feet. This process will continue both upstream and downstream of the existing and proposed bank protection sites.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.4 ***Construct the proposed bank protection in Reaches C, D, and E at the same time.*** *The developer will be responsible for proceeding with the proposed bank protection in Reaches C, D, and E at the same time, including conversion of the existing riprap in Reach C to the project design.*

Constructing the bank protection in Reaches C, D, and E at the same time is intended to minimize the potential for small areas in these reaches to be protected 1 year and induce erosion upstream and downstream the next year. Installing the bank protection at one time would require a longer construction time; however, it would reduce the potential for construction on a regular basis.

FLOOD CONTROL AND WATER QUALITY - Temporary Increase in Stream Turbidity during Construction of the Bank Protection

Impact: The temporary increase in stream turbidity above normal standards during construction of the bank protection is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Project-related construction activities would disturb the riverbanks and high berm from grading and filling. Embankment material also would be placed below the low-water surface at the river's shoreline. Construction also would include excavating and grading a basin in existing ground for the marina and connecting the new basin to the river. These construction activities would temporarily increase stream turbidity.

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This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.5 ***Employ in-river silt screens and monitor turbidity downstream during construction and annual dredging of the marina and marina entrance channel.*** *The developer will be responsible for preparing and implementing an erosion and turbidity control plan during construction as part of obtaining the Section 401 water quality certification permit from the Central Valley Regional Water Quality Control Board (CVRWQCB). The developer will ensure that the following measures are implemented:*

a. In-river silt screens or curtains to limit turbidity during construction of bank protection. These screens will be anchored into the live water during construction and removed afterwards. The silt curtains could be constructed to completely enclose the area to be dredged, or a movable screen could be used that follows the dredger, bucket excavator, or other type of dredging machine.

b. Monitoring of turbidity downstream of the screens during construction. The CVRWQCB typically requires monitoring of turbidity downstream of the screens during construction and allows temporary turbidities up to 10-20% over background conditions. Silt screens, if implemented properly, are usually effective in meeting the CVRWQCB turbidity standards.

Based on these measures, the CVRWQCB may issue a temporary construction waiver allowing for temporary high turbidity (more than 20% increase). The periods of time that water quality objectives could be exceeded would be specified by the CVRWQCB. Construction timing requirements probably would be based on biological concerns; see Table 3-5 in the draft EIR.

These measures are designed to: 1) minimize turbidity during construction of the bank protection by the use of in-river silt screens or curtains and 2) monitor turbidity downstream to identify the effectiveness of the silt screens or curtains and rectify any deficiencies. The last measure would enable the contractor to recognize problems in the location of the silt screens or curtains and reduce the amount of turbidity that is occurring.

FLOOD CONTROL AND WATER QUALITY - Temporary Increase in Stream Turbidity as a Result of Dredging Activities for Construction of the Bank Protection

Impact: The short-term increase in stream turbidity and, possibly, organic pollutants and heavy metals as a result of dredging operations to obtain embankment material for construction of the bank protection is considered a potentially significant (Class II) impact.

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Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Two types of dredging are associated with the project: construction dredging to obtain embankment material for construction of the bank protection project and to open up the marina channel, and periodic dredging to maintain the marina. Either type of dredging could result in turbidity effects as well as release and uptake of any biostimulatory substances that may be present and release into the water column of any accumulated toxic contaminants. The presence and extent of absorbed or trapped pollutants in bottom sediments cannot be known without specific sediment sampling data.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.6 ***Prior to any dredging activities, develop and implement a sediment pollutant testing program with the CVRWQCB; if concentrations are significant, use terrestrial sources for construction materials.*** *The developer will be responsible for testing channel bottom sediments at the project site prior to dredging to determine the concentrations of pollutants suspected of occurring in the Sacramento River system. The developer will consult with the CVRWQCB to determine which pollutants should be measured and the sampling protocol. If pollutant levels are excessive by previously established RWQCB standards, the developer will use terrestrial sources for embankment material to construct the project.*

Testing the sediments in the river before they are used for bank protection would enable the State Lands Commission to confirm that the sediments are of adequate quality to allow their use for bank protection. If the concentrations of pollutants in the sediments are higher than anticipated, the developer would be allowed to use terrestrial sources for embankment material to construct the project.

FLOOD CONTROL AND WATER QUALITY - Temporary Increase in Stream Turbidity as a Result of Annual Dredging of the Marina

Impact: The short-term decrease in water quality as a result of annual dredging of freshly deposited sediments in the proposed marina is considered a significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Sedimentation analyses indicate that sediment deposition in the marina entrance could hinder the function of the marina. The marina entrance and interior probably will require dredging each spring after winter high-flow periods. Dredging could result in turbidity effects as well as release and uptake of biostimulatory substances that may be present.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.5 ***Employ in-river silt screens and monitor turbidity downstream during construction and annual dredging of the marina and marina entrance channel.*** *The developer will be responsible for preparing and implementing an erosion and turbidity control plan during construction as part of obtaining the Section 401 water quality certification permit from the CVRWQCB. The developer will ensure that the following measures are implemented:*

a. In-river silt screens or curtains to limit turbidity during construction of bank protection. These screens will be anchored into the live water during construction and removed afterwards. The silt curtains could be constructed to completely enclose the area to be dredged, or a movable screen could be used that follows the dredger, bucket excavator, or other type of dredging machine.

b. Monitoring of turbidity downstream of the screens during construction. The CVRWQCB typically requires monitoring of turbidity downstream of the screens during construction and allows temporary turbidities up to 10-20% over background conditions. Silt screens, if implemented properly, are usually effective in meeting the CVRWQCB turbidity standards.

Based on these measures, the CVRWQCB may issue a temporary construction waiver allowing for temporary high turbidity (more than 20% increase). The periods of time that water quality objectives could be exceeded would be specified by the CVRWQCB. Construction timing requirements would probably be based on biological concerns; see Table 3-5 in the draft EIR.

These measures are designed to: 1) minimize turbidity during construction of the bank protection by the use of in-river silt screens or curtains and 2) monitor turbidity downstream to identify the effectiveness of the silt screens or curtains and rectify any deficiencies. The last measure would enable the contractor to recognize problems in the location of the silt screens or curtains and reduce the amount of turbidity that is occurring.

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FLOOD CONTROL AND WATER QUALITY - Possible Contamination of the River Attributable to Land Disposal of Dredged Sediments

Impact: The possible contamination of the river, via surface runoff or groundwater infiltration, attributable to land disposal of dredged sediments is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Sediments of the Sacramento River in the project area have not been tested, but organic compounds from agricultural pesticides and heavy metals from mining could be present. The presence and extent of absorbed or trapped pollutants in bottom sediments cannot be known without specific sediment sampling data.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.7 ***Before any maintenance activities, sample sediments and test under the program established under Mitigation Measure 4.6.*** *The developer will dredge the entrance and interior of the marina in the low-flow season as needed for marina activities and dispose of the material on land. The release of formerly immobilized toxic contaminants in the material dredged from the marina and disposed of on land via surface runoff or groundwater infiltration into the river is a potentially significant impact of water quality degradation to the aquatic habitat adjacent to the dredged material disposal site.*

The disposal of dredged spoil material to land is regulated by the California Code of Regulations, Title 23, Division 3, Chapter 15 and is under the authority of the RWQCB. Wastes are separated into different categories with different disposal requirements. If the marina-dredged spoil is classified as inert waste, it does not have to be disposed of at a classified waste management unit. To be inert, the material would not contain soluble pollutants at concentrations expected to be in excess of applicable water quality objectives as stated in the regulations. In the case of river sediments annually deposited in the marina, inert material classification is expected.

Depending on the category that the dredged material is classified in, this material can be disposed of onsite or may only be disposed of in a classified landfill. Disposal of dredged materials in accordance with the California Code of Regulations, Title 23, Division 3, Chapter 15 will reduce the probability of water

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quality impact caused by leaching of toxic contaminants. Annual testing of dredged material should be suspended if contaminant levels are low, as expected.

Testing the sediments in the marina basin before dredging and disposal would enable the State Lands Commission to confirm that the concentrations of pollutants in the sediments are low, as expected, and that the sediments can be disposed of properly. If the concentrations of pollutants in the marina sediments are higher than anticipated, testing before dredging would allow the developer to arrange for disposal at a classified waste management unit.

FLOOD CONTROL AND WATER QUALITY - Possible Water Quality Problems in the Marina Attributable to Inadequate Circulation

Impact: The possible water quality problems (algal growth) in the marina during summer due to inadequate circulation is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Studies of sedimentation and algal growth potential in the marina indicate that if the marina is not designed properly, nuisance concentrations of algae could grow during summer. Poor water quality in the marina may cause odor nuisances or pose health risks.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.8 ***Include a 20-cubic-feet-per-second water circulation pump system in the marina design.*** *The developer will design and install a water circulation system for the marina. The construction and operation of a pump system to allow for flushing flows of the marina in the summer months would control algae and other water quality problems associated with poor circulation.*

Adequate marina flushing would require pumping river water into the northeast corner of the basin. The anticipated pump capacity needed to provide adequate circulation was estimated to be 20 cubic feet per second (cfs). The pump would be operated only during low water and warmwater periods. To prevent fish mortality, the intake will be screened. The design will be reviewed and approved by the DFG and National Marine Fisheries Service.

This measure is intended to improve water quality in the marina by pumping river water into the northeastern corner of the marina basin and flushing water into the river. This would reduce the potential for algae and other water quality problems associated with poor circulation.

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FISH RESOURCES - Water Quality Degradation Attributable to Construction and Marina Maintenance Activities

Impact: The temporary increase in turbidity and suspended sediment at and downstream of the project site is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Construction and marina maintenance activities would temporarily increase turbidity and suspended sediment at and downstream of the project site. Potential temporary fisheries impacts include avoidance by fish of important habitat and reduced feeding opportunities for sight-feeding fish.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.5 ***Employ in-river silt screens and monitor turbidity downstream during construction and annual dredging of the marina and marina entrance channel.*** *The developer will be responsible for preparing and implementing an erosion and turbidity control plan during construction as part of obtaining the Section 401 water quality certification permit from the CVRWQCB. The developer will ensure that the following measures are implemented:*

a. In-river silt screens or curtains to limit turbidity during construction of bank protection. These screens will be anchored into the live water during construction and removed afterwards. The silt curtains could be constructed to completely enclose the area to be dredged, or a movable screen could be used that follows the dredger, bucket excavator, or other type of dredging machine.

b. Monitoring of turbidity downstream of the screens during construction. The CVRWQCB typically requires monitoring of turbidity downstream of the screens during construction and allows temporary turbidities up to 10-20% over background conditions. Silt screens, if implemented properly, are usually effective in meeting the CVRWQCB turbidity standards.

Based on these measures, the CVRWQCB may issue a temporary construction waiver allowing for temporary high turbidity (more than 20% increase). The periods of time that water quality objectives could be exceeded would be specified by the CVRWQCB. Construction timing requirements would probably be based on biological concerns; see Table 3-5 in the draft EIR.

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These measures are designed to: 1) minimize turbidity during construction of the bank protection by the use of in-river silt screens or curtains and 2) monitor turbidity downstream to identify the effectiveness of the silt screens or curtains and rectify any deficiencies. The last measure would enable the contractor to recognize problems in the location of the silt screens or curtains and reduce the amount of turbidity that is occurring.

FISH RESOURCES - Net Loss of Critical Habitat for Winter-Run Chinook Salmon after 5 Years and Potentially a Net Gain

Impact: The net loss of 0.20 habitat unit of shaded riverine aquatic (SRA) habitat after 5 years and potentially a net gain if habitat structure functions as planned is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Construction of the bank protection requires the placement of fill material along the existing SRA habitat. If the entire length of the proposed project is constructed, 1.44 acres of riparian vegetation and 0.97 habitat unit of SRA cover would be affected. Given the proposed project design, a net reduction in habitat units will result after 5 years; however, the proposed design should substantially increase SRA habitat cover from levels present after 5 years. Whether full replacement, exceedance, or partial replacement of existing SRA cover occurs after 5 years depends on the success of planted vegetation, the rate of natural recolonization, and the extent of instream cover recruited locally or from upstream. If the proposed low berm provides a suitable growing environment as design and refugia retain instream cover, exceedance will occur.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measures:

5.1 ***Modify the recently installed stone revetment in Reach C to incorporate the bank protection design.*** *The developer will modify the recently installed stone revetment in the vicinity of Lot Nos. 38 through 51. Fill will be required to accomplish planned finished grades in the area of previously placed stone revetment material. The previously placed stone revetment material will be incorporated into the fill. Soil will be placed over the rock before placing any geotextile filter fabric to protect the fabric from rupture.*

5.2 ***Review SRA habitat mitigation and, if necessary, require the developer to deposit money into the Kapiloff Land Bank Fund.*** *If, at the end of the fifth year of monitoring for any reach of the river within the project area to which bank protection as described herein has been applied, it is determined by the SLC, in*

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consultation with the U.S. Fish and Wildlife Service and DFG, that a "net loss" of SRA habitat remains, the developer will deposit, into the Kapiloff Land Bank Fund administered by the SLC, monies equal to the number of indigenous seedlings required to replant the reach to its mitigated density multiplied by the lowest then-prevailing purchase price for such seedlings.

This measure would improve the habitat value of the recently installed stone revetment in Reach C to provide some SRA habitat. Also, if monitoring indicates that the SRA habitat mitigation is not reaching replacement levels, the deficiencies will be identified and money will be deposited into the Kapiloff Land Bank Fund to allow replacement mitigation at another site.

VEGETATION AND WILDLIFE RESOURCES - Possible Damage or Removal of Heritage Trees

Impact: The possible damage or removal of heritage trees during construction of the proposed greenway is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Construction of the Lighthouse greenway may damage heritage trees. Heritage trees are defined by the City of West Sacramento as "any native oak tree with a trunk circumference of 100 inches or more diameter at breast height [dbh] which is of good quality in terms of health, vigor of growth, and conformity to generally accepted horticultural standards of shape for its species."

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

6.1 ***Map location and exclusion zones associated with heritage trees to determine path location and avoid heritage trees during construction of the greenway.*** *Heritage trees will be mapped and avoided to the fullest extent possible when determining the final placement of the greenway path. The greenway path will be placed at least 1 foot outside the dripline of any heritage tree. During construction of the greenway path, no work will be performed within the dripline of any heritage tree. To avoid incidental construction-related impacts, nonheritage trees within 10 feet of the proposed path will be fenced temporarily at a minimum distance of 5 feet from the trunk.*

If it is not feasible to avoid heritage trees during pathway placement or construction, replacement planting will be included as a condition of the tree permit. Replacement trees will be planted onsite and be of the same species as the impacted tree. The

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replacement ratio will be 1 inch dbh of replacement tree for every inch dbh of impacted tree.

This measure would reduce the potential for heritage trees to be damaged during construction of the greenway. Protection of the heritage trees would reduce the visual impacts of the greenway.

VEGETATION AND WILDLIFE RESOURCES - Possible Loss or Disturbance of Swainson's Hawk Nests

Impact: The possible loss or disturbance of Swainson's hawk nests during construction is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

A pair of Swainson's hawks is known to nest at the project site. The pair has used two nesting locations over the last few years; however, both nest sites were on the project site. Because this or another pair of Swainson's hawks could nest in many locations throughout the project site, trees scheduled for removal or trees near construction areas could be selected as nest trees and could be removed during construction of the bank protection or greenway.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

6.2 ***Identify and protect active Swainson's hawk nests on the project site.*** *To avoid the loss of an active Swainson's hawk nest, a survey of the project site will be conducted during the breeding season (April 1 to August 15) to locate active nests. If active nests are found onsite, a Management Authorization (MA) will be obtained from DFG prior to construction activities. DFG mitigation guidelines for the Swainson's hawk recommend that construction activities be restricted within 1/4 mile of an active nest from March 1 to August 15. If a nest tree must be removed, an MA will be obtained from DFG that includes conditions to offset the loss of the nest tree and specifies the tree removal period (tree removal is usually recommended to between October 1 and February 1).*

This measure would reduce the potential for the project construction to result in loss of active Swainson's hawk nests on the project site.

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RECREATION - Possible Future Problems of Erosion around the Broderick Boat Ramp

Impact: The possible adverse effects on the Broderick Public Boat Launch are considered a significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

The proposed marina entrance would be constructed approximately 400 feet upstream from the Broderick Public Boat Launch. Bank protection activities would occur on the riverbank between the launching ramp and the marina entrance. Construction of the marina entrance and alteration of the riverbank could adversely affect the launching ramp and operation of a cable-guided float system. Alteration of the riverbank also could cause changes in the velocity and direction of the flow adjacent to the riverbank, which could cause increased scouring or deposition of silt, depending on the time of year and water conditions.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

4.2 ***Extend the bank protection in Reach E (marina reach) downstream to the Broderick Public Boat Launch.*** *At the time the marina is constructed or bank protection is provided at Reach E, the rock slope protection proposed on the riverbank downstream of the marina entrance will terminate at the Broderick Public Boat Launch ramp. This will protect the existing launching ramp from the potential erosion that typically occurs beyond the point where the riprap ends.*

Extending the bank protection to the Broderick Public Boat Launch would reduce the potential for the bank protection in Reach E (marina reach) to induce erosion at the Broderick Public Boat Launch.

RECREATION - Possible Temporary Navigational Hazards during Construction

Impact: The possible exposure of people and boats to short-term navigational hazards as a result of constructing low berms in the waterway is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

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Facts Supporting the Finding

Construction of the bank protection would require the presence of barges and possibly dredges in the river, which would add to the existing congestion of boat traffic in the project area, especially during summer peak-use periods. Safety concerns associated with existing onstream marinas include frequent stops, varying boat speeds, and cross-river transiting as boaters attempt to approach the docks. Because bank protection would be constructed from the water side, additional safety hazards would exist for boaters.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measures:

8.1 ***Provide buoys at the outer edge of riparian berms for 5 years after construction to warn boaters of the underwater obstacles during shallow over-berm flows.*** *Lighthouse will install and maintain buoys at the outer edges of riparian berms for at least 5 years after construction to warn boaters of the underwater obstacles and special flow conditions.*

8.3 ***Place waterway markers to warn or advise boaters of construction activities.*** *Lighthouse will place waterway markers (e.g., buoys, signs), to warn or advise boaters of construction activities. The markers will be placed in accordance with the requirements specified in Section 7000 et seq. of Title 14 of the California Code of Regulations.*

8.4 ***Notify the U.S. Coast Guard of construction activities.*** *The installation of buoys will require U.S. Coast Guard approval. Lighthouse will notify the U.S. Coast Guard before construction activities in the Sacramento River begin. Notification will include the following:*

- *name and telephone number of the project manager, project applicant, and barge operators;*
- *size and placement of any floating construction equipment;*
- *radio telephone frequencies and call signs of any marine equipment; and*
- *start and finish dates.*

The U.S. Coast Guard will publish the construction information in the Local Notice to Mariners and in a newspaper or bulletin of general circulation.

These measures are designed to: 1) identify the location of the bank protection for boaters to reduce the potential for accidents, 2) minimize accidents during construction of the bank protection, and 3) inform the U.S. Coast Guard and boaters of the bank protection construction activities.

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RECREATION - Temporary Increased Congestion of Boat Traffic during Construction

Impact: The temporary increased congestion of boat traffic upstream and downstream on the Sacramento River and possibly the American River, especially during summer peak-use periods, is considered a significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Construction of the bank protection would result in temporary construction impacts, such as noise, boating congestion, and general disturbances as recreationists relocate temporarily to avoid ongoing disturbance in the project area.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

8.2 ***Inform boaters of construction activities.*** *The developer will post signs and provide handouts at the following marinas in the project area that contain the construction schedule, areas of anticipated congestion, alternate recreation destinations, and locations open for skiing and jet skiing:*

- *Broderick Boat Launch,*
- *Elkhorn - Sacramento,*
- *Elkhorn - Yolo,*
- *Discovery Park,*
- *Miller Park, and*
- *Garcia Bend.*

This information will be distributed annually no later than May 1 for the upcoming construction period until construction activity in the river is complete.

This measure is intended to inform local boaters of the construction activities and minimize the potential for conflicts. This measure would also enable local boaters to avoid the area of construction, if desired.

LAW ENFORCEMENT AND FIRE PROTECTION - Increased Potential for Crime along the Lighthouse Greenway

Impact: The increased potential for crime along the Lighthouse greenway because of increased levels of human activity is considered a potentially significant (Class II) impact.

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Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Construction of the Lighthouse greenway would not increase the number of residents in the City of West Sacramento; however, it would encourage more people to visit the area. One of the goals of the greenway is to increase recreational use of the area; however, the project could add more transients in addition to the recreationists. The amount of crime that occurs along the riverfront will depend on the user group. As more development occurs within the project area, the riparian riverfront area may become less attractive to transients.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

10.1 ***Submit the Lighthouse greenway design to the West Sacramento Police Department for review and comment.*** *Lighthouse will submit the greenway design to the West Sacramento Police Department for review and comment. The department will determine the need for security lighting and emergency vehicle access at the upstream end of the project (Reach A).*

This measure is intended to identify the potential design features that could contribute to safety problems and to change such design features before construction.

CULTURAL RESOURCES - Possible Damage to Previously Unidentified, Buried Cultural Resources

Impact: The possible demolition of or damage to previously unidentified buried cultural resources is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

The results of a cultural resources records search for the project vicinity indicate that two archaeological sites have been recorded in or adjacent to the project area. Although no cultural resources were identified on the project site during a field investigation, unidentified cultural resources may exist on the site.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

11.1 ***Stop work if cultural resources are discovered during ground-disturbing activities.*** *If cultural resources (chipped or ground stone, historic debris, building foundations, or human bone) are unearthed during ground-disturbing activities, the contractor immediately will stop all work within 100 feet of the find and notify the SLC. Upon notification, the SLC will secure the site and coordinate with a qualified archaeologist for an immediate evaluation of the find. If the find is determined to be an important archaeological resource, contingency funding and a time allotment sufficient to allow recovering an archaeological sample or to implement one of the avoidance measures will be made available by the developer. Construction work could continue on other parts of the project while archaeological mitigation takes place.*

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, excavation and disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains will cease until:

a. The coroner of Yolo County has been informed and has determined that no investigation of the cause of death is required, and

b. If remains are of Native American origin,

- *The descendants from the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98 or*

- *The Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.*

It is not recommended that a Native American or an archaeological monitor be present during construction because no clear evidence indicates that archaeological or cultural sites exist in the project area. Native American contacts did not identify cultural sites in the project area and did not request that a Native American monitor be present during construction.

This measure is designed to: 1) identify the potential existence of cultural resources during construction and 2) protect such resources, if found. This measure would enable the contractor to recognize the resources and shut down construction activities at the specific location of the find and allow other construction activities to continue.

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CULTURAL RESOURCES - Possible Damage to Underwater Shipwrecks or Other Cultural Properties If Dredging Is Required for Construction of the Bank Protection

Impact: The possible damage to underwater shipwrecks or other cultural properties is considered a potentially significant (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR.

Facts Supporting the Finding

Little documentation exists regarding underwater cultural resources in the Sacramento River north of the I Street Bridge. Cultural resources could include shipwrecks and the remains of docks, landings, or wharves. Three shipwrecks are said to be located in the project area, and numerous other ships are noted to have sunk in the general project vicinity.

This potential impact can be mitigated to a less-than-significant level by implementing the following mitigation measure:

11.2 ***Stop work if underwater cultural resources are identified during dredging.*** *Because the exact location of underwater cultural properties is not known, planned avoidance of the resources is not feasible. Efforts to identify additional underwater resources through direct observation also are not feasible or involve prohibitive costs. Shipwrecks can be identified if large quantities of wood planks, iron, rigging, or chains are exposed. Other underwater cultural features may be identified if large amounts of concrete, wood, and other building materials are exposed. If underwater cultural resources, such as shipwrecks, docks, or other built features, are identified during construction or dredging, the contractor immediately will stop all work within 100 feet of the find and notify the SLC. Upon notification, the SLC will secure the site and coordinate with a qualified archaeologist for an immediate evaluation of the find. If the find is determined to be an important archaeological resource, contingency funding and a time allotment sufficient to allow recovering an archaeological sample or to implement one of the avoidance measures will be made available by the developer. Construction work could continue on other parts of the project while archaeological mitigation takes place.*

This measure is designed to: 1) identify the potential existence of underwater cultural resources and 2) protect such resources, if found. This measure would enable the contractor to recognize the resources and shut down construction activities at the specific location of the find and allow other construction activities to continue.

Chapter 12. Mitigation Monitoring Plan

CEQA requires that when a lead agency makes findings on significant effects identified in an EIR, it must also adopt a program for reporting or monitoring mitigation measures that were adopted or made conditions of project approval. The objectives of the monitoring are:

- to ensure implementation of mitigation measures during project implementation,
- to provide feedback to agency staff and decision makers about the effectiveness of their actions,
- to provide learning opportunities for improving mitigation measures on future projects, and
- to identify the need for enforcement action before irreversible environmental damage occurs.

This mitigation monitoring plan (MMP) is designed to ensure that the mitigation measures identified in the EIR are fully implemented. The MMP contains each mitigation measure found in the EIR and is organized in the same order as the contents of the EIR, by topic.

Because the project also includes a Section 404 permit that requires monitoring, this chapter includes the monitoring plan that was submitted to the Corps for review in December 1994.

MITIGATION MEASURES IDENTIFIED IN THE DRAFT EIR

Chapter 4. Flood Control and Water Quality

4.1 Restrict Marina Uses Near Slopes to Improvements Less Sensitive to Anticipated Slope Deformations or Liquefaction

This problem is not amenable to an engineering solution. The results of the 1994 Brown and Mills geotechnical investigation indicate that mitigation measures to address slope failure such as gravel columns, compaction grouting, or other methods may be cost prohibitive in terms of development costs versus returns to the project developers. The practical mitigation approach to

potential slope failure would be to restrict uses within the immediate vicinity of the slopes to uses less sensitive to anticipated slope deformations (Brown and Mills 1994). Any permanent structural marina features and other improvements should not be located on or within 5 feet of constructed slopes.

Monitoring: This measure will be incorporated into the improvement plans for the project to be approved by the City of West Sacramento.

4.2 Extend the Bank Protection in Reach E (Marina Reach) Downstream to the Broderick Public Boat Launch

At the time the marina is constructed or bank protection is provided at Reach E, the rock slope protection proposed on the riverbank downstream of the marina entrance will terminate at the Broderick Public Boat Launch ramp. This will protect the existing launching ramp from the potential erosion that typically occurs beyond the point where the riprap ends.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated.

4.3 Apply a Persistent Plant-Permeable Geotextile to the 3:1 Slope from the Top of the Planned Riprap to the High Berm, and Apply Vegetation Prescription Proposed (Figure 3-10) or as Modified for Geotextile Compatibility; or Extend Riprap up the Slope to the High Berm, and Apply the Revegetation Prescription Proposed for Reaches A-D

This measure would be a modification to the proposed design of constructing an unprotected 3:1 slope of embankment material for the riverbank in the marina reach and filling and regrading each summer as needed to prevent levee erosion. The measure will eliminate such frequent maintenance and allow vegetation to establish and persist on this bank. The first option would facilitate more vegetation than the second, but could require a higher level of future maintenance.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated.

4.4 Construct the Proposed Bank Protection in Reaches C, D, and E at the Same Time

The developer will be responsible for proceeding with the proposed bank protection in Reaches C, D, and E at the same time, including conversion of the existing riprap in Reach C to the project design.

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Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that this measure has been incorporated.

4.5 Employ In-River Silt Screens and Monitor Turbidity Downstream during Construction and Annual Dredging of the Marina and Marina Entrance Channel

The developer will be responsible for preparing and implementing an erosion and turbidity control plan during construction as part of obtaining the Section 401 water quality certification permit from the CVRWQCB. The developer will ensure that the following measures are implemented:

a. In-river silt screens or curtains to limit turbidity during construction of bank protection. These screens will be anchored into the live water during construction and removed afterwards. The silt curtains could be constructed to completely enclose the area to be dredged, or a movable screen could be used that follows the dredger, bucket excavator, or other type of dredging machine.

b. Monitoring of turbidity downstream of the screens during construction. The CVRWQCB typically requires monitoring of turbidity downstream of the screens during construction and allows temporary turbidities up to 10-20% over background conditions. Silt screens, if implemented properly, are usually effective in meeting the CVRWQCB turbidity standards (Croyle pers. comm.).

Based on these measures, the CVRWQCB may issue a temporary construction waiver allowing for temporary high turbidity (more than 20% increase). The periods of time that water quality objectives could be exceeded would be specified by the CVRWQCB. Construction timing requirements would probably be based on biological concerns; see Table 3-5.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The project proponent will provide turbidity monitoring data to the CVRWQCB during construction. The CVRWQCB will review the information and may consider additional restrictions or a temporary waiver if water quality standards are not met.

4.6 Prior to Any Dredging Activities, Develop and Implement a Sediment Pollutant Testing Program with the CVRWQCB; If Concentrations Are Significant, Use Terrestrial Sources for Construction Materials

The developer will be responsible for testing channel bottom sediments at the project site prior to dredging to determine the concentrations of pollutants suspected of occurring in the Sacramento River system. The developer will consult with the CVRWQCB to determine which

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pollutants should be measured and the sampling protocol. If pollutant levels are excessive by previously established RWQCB standards, the developer will use terrestrial sources for embankment material to construct the project.

Monitoring: The project proponent will sample the channel bottom sediments at the project site and submit the information to the CVRWQCB and the State Lands Commission prior to dredging. The CVRWQCB will review the sediment pollutant tests and verify whether the material is suitable for use for the project. In the event that the material is not suitable, the project proponent will use terrestrial sources for construction material.

4.7 Before Any Maintenance Activities, Sample Sediments and Test under the Program Established under 4.6

The developer will dredge the entrance and interior of the marina in the low-flow season as needed for marina activities and dispose of the material on land. The release of formerly immobilized toxic contaminants in the material dredged from the marina and disposed of on land via surface runoff or groundwater infiltration into the river is a potentially significant impact of water quality degradation to the aquatic habitat adjacent to the dredged material disposal site.

The disposal of dredged spoil material to land is regulated by the California Code of Regulations, Title 23, Division 3, Chapter 15 and is under the authority of the RWQCB. Wastes are separated into different categories with different disposal requirements. If the marina-dredged spoil is classified as inert waste, it does not have to be disposed of at a classified waste management unit. To be inert, the material would not contain soluble pollutants at concentrations expected to be in excess of applicable water quality objectives as stated in the regulations. In the case of river sediments annually deposited in the marina, inert material classification is expected.

Depending on the category that the dredged material is classified in, this material can be disposed of onsite or may only be disposed of in a classified landfill. Disposal of dredged materials in accordance with the California Code of Regulations, Title 23, Division 3, Chapter 15 will reduce the probability of water quality impact caused by leaching of toxic contaminants. Annual testing of dredged material should be suspended if contaminant levels are low, as expected.

Monitoring: The project proponent is responsible for dredging and the disposal of dredge spoil material. The project proponent will submit the sediment pollutant tests to the CVRWQCB and the State Lands Commission prior to disposal. The CVRWQCB will review the information to ensure that the material is disposed of properly in accordance with its guidelines.

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4.8 Include a 20-cfs Water Circulation Pump System in the Marina Design

The developer will design and install a water circulation system for the marina. The construction and operation of a pump system to allow for flushing flows of the marina in the summer months would control algae and other water quality problems associated with poor circulation.

Adequate marina flushing would require pumping river water into the northeast corner of the basin. The anticipated pump capacity needed to provide adequate circulation was estimated to be 20 cfs. The pump would be operated only during low water and warm water periods. To prevent fish mortality, the intake will be screened. The design will be reviewed and approved by the DFG and NMFS.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections.

Chapter 5. Fish Resources

5.1 Modify the Recently Installed Stone Revetment in Reach C to Incorporate the Bank Protection Design

The developer will modify the recently installed stone revetment in the vicinity of Lot Nos. 38 through 51. Fill will be required to accomplish planned finished grades in the area of previously placed stone revetment material. The previously placed stone revetment material will be incorporated into the fill. Soil will be placed over the rock before placing any geotextile filter fabric to protect the fabric from rupture.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated.

5.2 Review SRA Habitat Mitigation and, If Necessary, Require the Developer to Deposit Money into the Kapiloff Land Bank Fund

If, at the end of the fifth year of monitoring for any reach of the river within the project area to which bank protection as described herein has been applied, it is determined by the State Lands Commission, in consultation with USFWS and DFG, that a "net loss" of SRA habitat remains, the developer will deposit, into the Kapiloff Land Bank Fund administered by the Commission, monies equal to the number of indigenous seedlings required to replant the reach to its mitigated density multiplied by the lowest then-prevailing purchase price for such seedlings.

Monitoring: This measure will be incorporated into the land use lease with the State Lands Commission.

Chapter 6. Vegetation and Wildlife Resources

6.1 Map Location and Exclusion Zones Associated with Heritage Trees to Determine Path Location and Avoid Heritage Trees during Construction of the Greenway

Heritage trees will be mapped and avoided to the fullest extent possible when determining the final placement of the greenway path. The greenway path will be placed at least 1 foot outside the dripline of any heritage tree. During construction of the greenway path, no work will be performed within the dripline of any heritage tree. To avoid incidental construction-related impacts, nonheritage trees within 10 feet of the proposed path will be fenced temporarily at a minimum distance of 5 feet from the trunk.

If it is not feasible to avoid heritage trees during pathway placement or construction, replacement planting will be included as a condition of the tree permit. Replacement trees will be planted onsite and be of the same species as the impacted tree. The replacement ratio will be 1 inch dbh of replacement tree for every inch dbh of impacted tree.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections.

6.2 Identify and Protect Active Swainson's Hawk Nests at the Project Site

To avoid the loss of an active Swainson's hawk nest, a survey of the project site will be conducted during the breeding season (April 1 to August 15) to locate active nests. If active nests are found onsite, a Management Authorization (MA) will be obtained from DFG prior to construction activities. DFG mitigation guidelines for the Swainson's hawk recommend that construction activities be restricted within 1/4 mile of an active nest from March 1 to August 15. If a nest tree must be removed, an MA will be obtained from DFG that includes conditions to offset the loss of the nest tree and specifies the tree removal period (tree removal is usually recommended to between October 1 and February 1) (California Department of Fish and Game 1994).

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections.

Chapter 7. Land Use

7.1 Design the Greenway and All Access Points from Developed Areas to Provide Access for Wheelchairs

The State Lands Commission will require that the Lighthouse greenway be designed to provide access for wheelchairs at all access points. Review of ADA ramp requirements indicates that, based on a 20:1 ramp slope and a 12.5-foot elevation difference between the elevation of the residential lots and the elevation of the pedestrian path, the total length required for a ramp at Node 4 would be approximately 300 feet. Because of the design and construction demands of a ramp at Node 4, the Commission may wish, in conjunction with the applicant and the City of West Sacramento, to establish an access node at a different location within the northerly extent of the proposed greenway.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections.

Chapter 8. Recreation

8.1 Provide Buoys at the Outer Edge of Riparian Berms for 5 Years after Construction to Warn Boaters of the Underwater Obstacles during Shallow Over-Berm Flows

Lighthouse will install and and maintain buoys at the outer edges of riparian berms for at least 5 years after construction to warn boaters of the underwater obstacles and special flow conditions.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections.

8.2 Inform Boaters of Construction Activities

The developer will post signs and provide handouts at the following marinas in the project area that contain the construction schedule, areas of anticipated congestion, alternate recreation destinations, and locations open for skiing and jet skiing:

- Broderick Boat Launch,
- Elkhorn - Sacramento,

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- Elkhorn - Yolo,
- Discovery Park,
- Miller Park, and
- Garcia Bend.

This information will be distributed annually no later than May 1 for the upcoming construction period until construction activity in the river is complete.

Monitoring: This measure will be incorporated into improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections at marinas in the project area.

Chapter 9. Aesthetics

No mitigation is required.

Chapter 10. Law Enforcement and Fire Protection

10.1 Submit the Lighthouse Greenway Design to the West Sacramento Police Department for Review and Comment

Lighthouse will submit the greenway design to the West Sacramento Police Department for review and comment. The department will determine the need for security lighting and emergency vehicle access at the upstream end of the project (Reach A).

Monitoring: This measure will be incorporated into improvement plans for the project. The State Lands Commission will verify that the greenway design was reviewed by the police department.

Chapter 11. Cultural Resources

11.1 Stop Work If Cultural Resources Are Discovered during Ground-Disturbing Activities

If cultural resources (chipped or ground stone, historic debris, building foundations, or human bone) are unearthed during ground-disturbing activities, the contractor immediately will stop all work within 100 feet of the find and notify the State Lands Commission. Upon notification, the State Lands Commission will secure the site and coordinate with a qualified archaeologist for an

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immediate evaluation of the find. If the find is determined to be an important archaeological resource, contingency funding and a time allotment sufficient to allow recovering an archaeological sample or to implement one of the avoidance measures will be made available by the developer. Construction work could continue on other parts of the project while archaeological mitigation takes place.

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, excavation and disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains will cease until:

a. The coroner of Yolo County has been informed and has determined that no investigation of the cause of death is required, and

b. If remains are of Native American origin,

- The descendants from the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98 or

- The Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.

It is not recommended that a Native American or an archaeological monitor be present during construction because no clear evidence indicates that archaeological or cultural sites exist in the project area. Native American contacts did not identify cultural sites in the project area and did not request that a Native American monitor be present during construction.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that this measure has been incorporated. The State Lands Commission will verify the proper implementation of the mitigation measure through periodic site inspections.

11.2 Stop Work If Underwater Cultural Resources Are Identified during Dredging

Because the exact location of underwater cultural properties is not known, planned avoidance of the resources is not feasible. Efforts to identify additional underwater resources through direct observation also are not feasible or involve prohibitive costs. Shipwrecks can be identified if large quantities of wood planks, iron, rigging, or chains are exposed. Other underwater cultural features may be identified if large amounts of concrete, wood, and other building materials are exposed. If underwater cultural resources, such as shipwrecks, docks, or other built features, are identified

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during construction or dredging, the contractor immediately will stop all work within 100 feet of the find and notify the State Lands Commission. Upon notification, the State Lands Commission will secure the site and coordinate with a qualified archaeologist for an immediate evaluation of the find. If the find is determined to be an important archaeological resource, contingency funding and a time allotment sufficient to allow recovering an archaeological sample or to implement one of the avoidance measures will be made available by the developer. Construction work could continue on other parts of the project while archaeological mitigation takes place.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that this measure has been incorporated. The State Lands Commission will verify the proper implementation of the mitigation measure through periodic site inspections.

MONITORING PLAN IDENTIFIED IN THE SECTION 404 PERMIT APPLICATION

The following monitoring plan has been pulled verbatim from the Section 404 permit application submitted to the Corps on December 9, 1994.

Purpose of Monitoring Plan

This monitoring plan documents successful criteria for the revegetation program, defines specific performance standards, and discusses the long-term protection of fish and wildlife habitat along the Lighthouse reach of the Sacramento River. Vegetation monitoring methodologies are described in detail to facilitate evaluation by the regulatory agencies and to document techniques for future monitors. Performance standards are defined so that revegetation success may be evaluated and remedial actions taken if necessary.

Monitoring Methodology

Mitigation areas have been divided into four monitoring units to distinguish the performance of different habitat types. The four habitat types and their respective monitoring units include high-terrace riparian forest on the high berm, riparian scrub in riprap revetment, willow-cottonwood riparian forest on the low berm, and SRA cover in nearshore aquatic areas. Habitat types, monitoring units, performance criteria, and methodology are summarized in Table 8.

Each phase of the project would be monitored for the first 5 years following installation of mitigation features. Vegetation would be monitored using one of two quantitative methods,

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Table 8. Summary of Performance Criteria

Monitoring Unit	Habitat Type	Performance Criteria[a] Year 3	Year 5	Methodology
High berm	High terrace riparian forest	--[b]	80% survival	Field surveys of individual plant mortality
Willow-reinforced riprap revetment	Riparian scrub	54% canopy coverage	80% canopy coverage	Field measurements and aerial photographic interpretation of the percentage of canopy coverage
Low berm	Willow/cottonwood riparian forest	54% canopy coverage	80% canopy coverage	Field measurements and aerial photographic interpretation of the percentage of canopy coverage
Nearshore aquatic areas	SRA cover	0.63 HU[c]	0.65 HU[c]	Field measurements of SRA cover

[a] Percent canopy overage of riparian scrub and willow-cottonwood riparian forest is based on a growth rate of 2 feet per year in canopy diameter.

[b] Performance standards for revegetation of the high berm have not been established for the third year monitoring period because remedial actions will be taken, if necessary, to meet 80% survival at the end of the fifth year monitoring period.

[c] HU = habitat unit.

Source: Jones & Stokes Associates 1994.

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depending on the habitat: percent cover estimated from aerial photographs or percent survival calculated from individual plant counts conducted in the field. SRA cover would be surveyed at the onset of the monitoring period to determine initial habitat values and once each year to ensure that performance criteria are being met. Monitoring results would be summarized in annual reports during the 5-year monitoring period.

Percent Canopy Coverage

Performance standards for riparian scrub and riparian forest would be based on percent tree and shrub canopy cover because of the rapid growth expected in these habitat types. A high percent cover is the ultimate goal in these habitat types.

Percent cover would be measured from aerial photographs and qualitatively verified in the field. For this purpose, small-scale (1 inch equals 50 feet) aerial photographs would be used to distinguish individual plants. Color aerial photographs at a scale of 1:50 would be taken during May of the first-, third-, and fifth-year monitoring periods. The time of year and scale were based on plant phenology, monitoring methodology, and performance standard criteria. Registration marks would be established in the first year and maintained throughout the 5-year monitoring period to facilitate ground truthing. For the first 2 years, low-percent cover may prevent accurate measurement and require the use of cover classes (e.g., 1-5% cover) in the annual report.

Percent Survival and Individual Counts

Surviving plants would be counted to monitor revegetation success in the high-terrace riparian forest plantings on the high berm. The field biologist conducting the individual count would mark each plant. Aerial photographs would be used as a guide in the field for counting high-berm areas.

SRA Monitoring Methods

Annual field surveys would be conducted to monitor SRA cover values (in HUs) during the monitoring period. Sampling methods would be similar to those used to assess existing conditions (see Appendix E, "Habitat Evaluation Methods for Winter-Run Chinook Salmon").

Qualitative Data Collection

In addition to quantitative sampling, data from aerial photographs, surface photographic documentation, and direct observation would be collected on the following:

- native woody species that are observed colonizing the site and their relative abundance,

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- cover crop success,
- weed problems,
- persistence of anchored or buried snags on the submerged bench, and
- extent of bank retreat and low berm surface erosion.

Surface photographic documentation stations would be established during the first year and sampled annually. These photographs would be used to qualitatively assess vegetation cover, structure, and vigor.

Performance Criteria

Minimum acceptable performance standards are summarized by habitat type in Table 8.

Riparian Scrub and Willow-Cottonwood Riparian Forest

Performance standards for the riparian scrub and willow-cottonwood riparian forest areas are based on percent canopy coverage. Native riparian plants that colonize the area naturally and contribute to the percent cover would be included in the cover estimates. Performance standards were derived from regional growth rates of willow and cottonwood of 2 feet per year in canopy diameter (Jones & Stokes Associates 1991). This growth rate estimate was combined with the specified planting density of 10 feet on-center to create models of percent cover for years 3 and 5.

Riparian scrub and riparian forest would have an overall average percent canopy coverage of 54% by the end of the third growing season and 80% by the end of the fifth growing season. Canopy is estimated to close by year 6, assuming 80% survival through the first 5 years, and no further mortality is expected after year 5. This closure estimate is conservative. Closure, defined as 90% cover, is expected to be achieved sooner because of natural regeneration and vegetative reproduction of willow species.

High-Terrace Riparian Forest

Performance standards for high-terrace riparian forest plantings on the high berm are based on percent survival measured annually in the field. The success criterion at the end of 5 years is 80% overall survival. Natural regeneration is expected to supplement revegetation efforts and would be monitored qualitatively.

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Shaded Riverine Aquatic Cover

Performance standards for SRA cover values, measured in habitat units, were projected for years 3 and 5 based on initial densities, growth rates, and projected percent canopy closure of riparian plantings on the low berm and adjacent riprap revetment. The performance standard for SRA cover includes no net loss of instream cover value provided by large woody debris within the submerged bench during the 5-year monitoring period.

Remedial Actions

Remedial action may be necessary if the performance standards are not achieved. If mitigation areas do not meet performance standards, additional cuttings or container plants would be installed so that standards are met the next year. Enough cuttings or container plants, plus a 15% buffer to account for mortality of newly planted stock, may be planted to meet the standard the following May. The density of replacement in riparian scrub and willow-cottonwood riparian forest areas would be based on the observed growth rate during annual monitoring. Plant material that does not survive on the high berm would be replaced at a ratio of 1:1 for overall losses exceeding 20%. During the 5-year monitoring period, compensation rates for plant mortality caused by natural calamity, such as severe flooding, would be determined by the Corps and DFG on occurrence of such an event.

Remedial actions to meet performance standards for riparian vegetation would assist in meeting performance standards for SRA cover. Remedial action also may be necessary to maintain SRA cover values associated with large woody material in the submerged benches. Woody material lost from the submerged benches or no longer providing initial habitat values would be replaced, to the extent feasible, to maintain initial SRA cover values during the monitoring period.

Long-Term Habitat Protection

After the 5-year maintenance and monitoring period, the State Lands Commission would manage and maintain the property as wildlife habitat and public greenway in perpetuity through conditions, covenants, and restrictions recorded in the January 1991 settlement agreement.

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Chapter 3. Revised Mitigation Monitoring Plan

CEQA requires that when a lead agency makes findings on significant effects identified in an EIR, it must also adopt a program for reporting or monitoring mitigation measures that were adopted or made conditions of project approval. The objectives of the monitoring are:

- to ensure implementation of mitigation measures during project implementation,
- to provide feedback to agency staff and decision makers about the effectiveness of their actions,
- to provide learning opportunities for improving mitigation measures on future projects, and
- to identify the need for enforcement action before irreversible environmental damage occurs.

This mitigation monitoring plan (MMP) is designed to ensure that the mitigation measures identified in the EIR are fully implemented. The MMP contains each mitigation measure found in the EIR and is organized in the same order as the contents of the EIR, by topic.

Because the project also includes a Section 404 permit that requires monitoring, this chapter includes the monitoring plan that was submitted to the Corps for review in December 1994.

MITIGATION MEASURES IDENTIFIED IN THE DRAFT EIR

Chapter 4. Flood Control and Water Quality

4.1 Restrict Marina Uses Near Slopes to Improvements Less Sensitive to Anticipated Slope Deformations or Liquefaction

This problem is not amenable to an engineering solution. The results of the 1994 Brown and Mills geotechnical investigation indicate that mitigation measures to address slope failure such as gravel columns, compaction grouting, or other methods may be cost prohibitive in terms of development costs versus returns to the project developers. The practical mitigation approach to

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potential slope failure would be to restrict uses within the immediate vicinity of the slopes to uses less sensitive to anticipated slope deformations (Brown and Mills 1994). Any permanent structural marina features and other improvements should not be located on or within 5 feet of constructed slopes.

Monitoring: This measure will be incorporated into the improvement plans for the project to be approved by the City of West Sacramento.

4.2 Extend the Bank Protection in Reach E (Marina Reach) Downstream to the Broderick Public Boat Launch

At the time the marina is constructed or bank protection is provided at Reach E, the rock slope protection proposed on the riverbank downstream of the marina entrance will terminate at the Broderick Public Boat Launch ramp. This will protect the existing launching ramp from the potential erosion that typically occurs beyond the point where the riprap ends.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated.

4.3 Apply a Persistent Plant-Permeable Geotextile to the 3:1 Slope from the Top of the Planned Riprap to the High Berm, and Apply Vegetation Prescription Proposed (Figure 3-10) or as Modified for Geotextile Compatibility; or Extend Riprap up the Slope to the High Berm, and Apply the Revegetation Prescription Proposed for Reaches A-D

This measure would be a modification to the proposed design of constructing an unprotected 3:1 slope of embankment material for the riverbank in the marina reach and filling and regrading each summer as needed to prevent levee erosion. The measure will eliminate such frequent maintenance and allow vegetation to establish and persist on this bank. The first option would facilitate more vegetation than the second, but could require a higher level of future maintenance.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated.

4.4 Construct the Proposed Bank Protection in Reaches C, D, and E at the Same Time

The developer will be responsible for proceeding with the proposed bank protection in Reaches C, D, and E at the same time, including conversion of the existing riprap in Reach C to the project design.

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Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that this measure has been incorporated.

4.5 Employ In-River Silt Screens and Monitor Turbidity Downstream during Construction and Annual Dredging of the Marina and Marina Entrance Channel

The developer will be responsible for preparing and implementing an erosion and turbidity control plan during construction as part of obtaining the Section 401 water quality certification permit from the CVRWQCB. The developer will ensure that the following measures are implemented:

a. In-river silt screens or curtains to limit turbidity during construction of bank protection. These screens will be anchored into the live water during construction and removed afterwards. The silt curtains could be constructed to completely enclose the area to be dredged, or a movable screen could be used that follows the dredger, bucket excavator, or other type of dredging machine.

b. Monitoring of turbidity downstream of the screens during construction. The CVRWQCB typically requires monitoring of turbidity downstream of the screens during construction and allows temporary turbidities up to 10-20% over background conditions. Silt screens, if implemented properly, are usually effective in meeting the CVRWQCB turbidity standards (Croyle pers. comm.).

Based on these measures, the CVRWQCB may issue a temporary construction waiver allowing for temporary high turbidity (more than 20% increase). The periods of time that water quality objectives could be exceeded would be specified by the CVRWQCB. Construction timing requirements would probably be based on biological concerns; see Table 3-5.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The project proponent will provide turbidity monitoring data to the CVRWQCB during construction. The CVRWQCB will review the information and may consider additional restrictions or a temporary waiver if water quality standards are not met.

4.6 Prior to Any Dredging Activities, Develop and Implement a Sediment Pollutant Testing Program with the CVRWQCB; If Concentrations Are Significant, Use Terrestrial Sources for Construction Materials

The developer will be responsible for testing channel bottom sediments at the project site prior to dredging to determine the concentrations of pollutants suspected of occurring in the Sacramento River system. The developer will consult with the CVRWQCB to determine which

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pollutants should be measured and the sampling protocol. If pollutant levels are excessive by previously established RWQCB standards, the developer will use terrestrial sources for embankment material to construct the project.

Monitoring: The project proponent will sample the channel bottom sediments at the project site and submit the information to the CVRWQCB and the State Lands Commission prior to dredging. The CVRWQCB will review the sediment pollutant tests and verify whether the material is suitable for use for the project. In the event that the material is not suitable, the project proponent will use terrestrial sources for construction material.

4.7 Before Any Maintenance Activities, Sample Sediments and Test under the Program Established under 4.6

The developer will dredge the entrance and interior of the marina in the low-flow season as needed for marina activities and dispose of the material on land. The release of formerly immobilized toxic contaminants in the material dredged from the marina and disposed of on land via surface runoff or groundwater infiltration into the river is a potentially significant impact of water quality degradation to the aquatic habitat adjacent to the dredged material disposal site.

The disposal of dredged spoil material to land is regulated by the California Code of Regulations, Title 23, Division 3, Chapter 15 and is under the authority of the RWQCB. Wastes are separated into different categories with different disposal requirements. If the marina-dredged spoil is classified as inert waste, it does not have to be disposed of at a classified waste management unit. To be inert, the material would not contain soluble pollutants at concentrations expected to be in excess of applicable water quality objectives as stated in the regulations. In the case of river sediments annually deposited in the marina, inert material classification is expected.

Depending on the category that the dredged material is classified in, this material can be disposed of onsite or may only be disposed of in a classified landfill. Disposal of dredged materials in accordance with the California Code of Regulations, Title 23, Division 3, Chapter 15 will reduce the probability of water quality impact caused by leaching of toxic contaminants. Annual testing of dredged material should be suspended if contaminant levels are low, as expected.

Monitoring: The project proponent is responsible for dredging and the disposal of dredge spoil material. The project proponent will submit the sediment pollutant tests to the CVRWQCB and the State Lands Commission prior to disposal. The CVRWQCB will review the information to ensure that the material is disposed of properly in accordance with its guidelines.

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4.8 Include a 20-cfs Water Circulation Pump System in the Marina Design

The developer will design and install a water circulation system for the marina. The construction and operation of a pump system to allow for flushing flows of the marina in the summer months would control algae and other water quality problems associated with poor circulation.

Adequate marina flushing would require pumping river water into the northeast corner of the basin. The anticipated pump capacity needed to provide adequate circulation was estimated to be 20 cfs. The pump would be operated only during low water and warm water periods. To prevent fish mortality, the intake will be screened. The design will be reviewed and approved by the DFG and NMFS.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections.

Chapter 5. Fish Resources

5.1 Modify the Recently Installed Stone Revetment in Reach C to Incorporate the Bank Protection Design

The developer will modify the recently installed stone revetment in the vicinity of Lot Nos. 38 through 51. Fill will be required to accomplish planned finished grades in the area of previously placed stone revetment material. The previously placed stone revetment material will be incorporated into the fill. Soil will be placed over the rock before placing any geotextile filter fabric to protect the fabric from rupture.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated.

5.2 Review SRA Habitat Mitigation and, If Necessary, Require the Developer to Deposit Money into the Kapiloff Land Bank Fund

If, at the end of the fifth year of monitoring for any reach of the river within the project area to which bank protection as described herein has been applied, it is determined by the State Lands Commission, in consultation with USFWS and DFG, that a "net loss" of SRA habitat remains, the developer will deposit, into the Kapiloff Land Bank Fund administered by the Commission, monies equal to the number of indigenous seedlings required to replant the reach to its mitigated density multiplied by the lowest then-prevailing purchase price for such seedlings.

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Monitoring: This measure will be incorporated into the land use lease with the State Lands Commission.

Chapter 6. Vegetation and Wildlife Resources

6.1 Map Location and Exclusion Zones Associated with Heritage Trees to Determine Path Location and Avoid Heritage Trees during Construction of the Greenway

Heritage trees will be mapped and avoided to the fullest extent possible when determining the final placement of the greenway path. The greenway path will be placed at least 1 foot outside the dripline of any heritage tree. During construction of the greenway path, no work will be performed within the dripline of any heritage tree. To avoid incidental construction-related impacts, nonheritage trees within 10 feet of the proposed path will be fenced temporarily at a minimum distance of 5 feet from the trunk.

If it is not feasible to avoid heritage trees during pathway placement or construction, replacement planting will be included as a condition of the tree permit. Replacement trees will be planted onsite and be of the same species as the impacted tree. The replacement ratio will be 1 inch dbh of replacement tree for every inch dbh of impacted tree.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections.

6.2 Identify and Protect Active Swainson's Hawk Nests at the Project Site

To avoid the loss of an active Swainson's hawk nest, a survey of the project site will be conducted during the breeding season (April 1 to August 15) to locate active nests. If active nests are found onsite, a Management Authorization (MA) will be obtained from DFG prior to construction activities. DFG mitigation guidelines for the Swainson's hawk recommend that construction activities be restricted within 1/4 mile of an active nest from March 1 to August 15. If a nest tree must be removed, an MA will be obtained from DFG that includes conditions to offset the loss of the nest tree and specifies the tree removal period (tree removal is usually recommended to between October 1 and February 1) (California Department of Fish and Game 1994).

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections.

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~~7.1 Design the Greenway and All Access Points from Developed Areas to Provide Access for Wheelchairs~~

~~The State Lands Commission will require that the Lighthouse greenway be designed to provide access for wheelchairs at all access points. Review of ADA ramp requirements indicates that, based on a 20:1 ramp slope and a 12.5-foot elevation difference between the elevation of the residential lots and the elevation of the pedestrian path, the total length required for a ramp at Node 4 would be approximately 300 feet. Because of the design and construction demands of a ramp at Node 4, the Commission may wish, in conjunction with the applicant and the City of West Sacramento, to establish an access node at a different location within the northerly extent of the proposed greenway.~~

~~Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections.~~

No mitigation is required.

Chapter 8. Recreation

8.1 Provide Buoys at the Outer Edge of Riparian Berms for 5 Years after Construction to Warn Boaters of the Underwater Obstacles during Shallow Over-Berm Flows

Lighthouse will install and and maintain buoys at the outer edges of riparian berms for at least 5 years after construction to warn boaters of the underwater obstacles and special flow conditions.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections.

8.2 Inform Boaters of Construction Activities

The developer will post signs and provide handouts at the following marinas in the project area that contain the construction schedule, areas of anticipated congestion, alternate recreation destinations, and locations open for skiing and jet skiing:

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- Broderick Boat Launch,
- Elkhorn - Sacramento,
- Elkhorn - Yolo,
- Discovery Park,
- Miller Park, and
- Garcia Bend.

This information will be distributed annually no later than May 1 for the upcoming construction period until construction activity in the river is complete.

Monitoring: This measure will be incorporated into improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by periodic site inspections at marinas in the project area.

8.3 Place Waterway Markers to Warn or Advise Boaters of Construction Activities

Lighthouse will place waterway markers (e.g., buoys, signs) to warn or advise boaters of construction activities. The markers will be placed in accordance with the requirements specified in Section 7000 et seq. of Title 14 of the California Code of Regulations.

Monitoring: This measure will be incorporated into improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly through periodic site inspections during construction.

8.4 Notify the U.S. Coast Guard of Construction Activities

The installation of buoys will require U.S. Coast Guard approval. Lighthouse will notify the U.S. Coast Guard before construction activities in the Sacramento River begin. Notification will include the following:

- name and telephone number of the project manager, project applicant, and barge operators;
- size and placement of any floating construction equipment;
- radio telephone frequencies and call signs of any marine equipment; and
- start and finish dates.

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The U.S. Coast Guard will publish the construction information in the Local Notice to Mariners and in a newspaper or bulletin of general circulation.

Monitoring: This measure will be incorporated into improvement plans for the project. The State Lands Commission will review the improvement plans to verify that the measure has been incorporated. The State Lands Commission will verify that the measure is being implemented properly by requesting the U.S. Coast Guard to submit copies of the Local Notice to Mariners and newspaper notices to the State Lands Commission.

Chapter 9. Aesthetics

No mitigation is required.

Chapter 10. Law Enforcement and Fire Protection

10.1 Submit the Lighthouse Greenway Design to the West Sacramento Police Department for Review and Comment

Lighthouse will submit the greenway design to the West Sacramento Police Department for review and comment. The department will determine the need for security lighting and emergency vehicle access at the upstream end of the project (Reach A).

Monitoring: This measure will be incorporated into improvement plans for the project. The State Lands Commission will verify that the greenway design was reviewed by the police department.

Chapter 11. Cultural Resources

11.1 Stop Work If Cultural Resources Are Discovered during Ground-Disturbing Activities

If cultural resources (chipped or ground stone, historic debris, building foundations, or human bone) are unearthed during ground-disturbing activities, the contractor immediately will stop all work within 100 feet of the find and notify the State Lands Commission. Upon notification, the State Lands Commission will secure the site and coordinate with a qualified archaeologist for an immediate evaluation of the find. If the find is determined to be an important archaeological resource, contingency funding and a time allotment sufficient to allow recovering an archaeological sample or to implement one of the avoidance measures will be made available by the developer.

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Construction work could continue on other parts of the project while archaeological mitigation takes place.

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, excavation and disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains will cease until:

a. The coroner of Yolo County has been informed and has determined that no investigation of the cause of death is required, and

b. If remains are of Native American origin,

- The descendants from the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98 or

- The Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.

It is not recommended that a Native American or an archaeological monitor be present during construction because no clear evidence indicates that archaeological or cultural sites exist in the project area. Native American contacts did not identify cultural sites in the project area and did not request that a Native American monitor be present during construction.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that this measure has been incorporated. The State Lands Commission will verify the proper implementation of the mitigation measure through periodic site inspections.

11.2 Stop Work If Underwater Cultural Resources Are Identified during Dredging

Because the exact location of underwater cultural properties is not known, planned avoidance of the resources is not feasible. Efforts to identify additional underwater resources through direct observation also are not feasible or involve prohibitive costs. Shipwrecks can be identified if large quantities of wood planks, iron, rigging, or chains are exposed. Other underwater cultural features may be identified if large amounts of concrete, wood, and other building materials are exposed. If underwater cultural resources, such as shipwrecks, docks, or other built features, are identified during construction or dredging, the contractor immediately will stop all work within 100 feet of the find and notify the State Lands Commission. Upon notification, the State Lands Commission will secure the site and coordinate with a qualified archaeologist for an immediate evaluation of the find.

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If the find is determined to be an important archaeological resource, contingency funding and a time allotment sufficient to allow recovering an archaeological sample or to implement one of the avoidance measures will be made available by the developer. Construction work could continue on other parts of the project while archaeological mitigation takes place.

Monitoring: This measure will be incorporated into the improvement plans for the project. The State Lands Commission will review the improvement plans to verify that this measure has been incorporated. The State Lands Commission will verify the proper implementation of the mitigation measure through periodic site inspections.

MONITORING PLAN IDENTIFIED IN THE SECTION 404 PERMIT APPLICATION

The following monitoring plan has been pulled verbatim from the Section 404 permit application submitted to the Corps on December 9, 1994.

Purpose of Monitoring Plan

This monitoring plan documents successful criteria for the revegetation program, defines specific performance standards, and discusses the long-term protection of fish and wildlife habitat along the Lighthouse reach of the Sacramento River. Vegetation monitoring methodologies are described in detail to facilitate evaluation by the regulatory agencies and to document techniques for future monitors. Performance standards are defined so that revegetation success may be evaluated and remedial actions taken if necessary.

Monitoring Methodology

Mitigation areas have been divided into four monitoring units to distinguish the performance of different habitat types. The four habitat types and their respective monitoring units include high-terrace riparian forest on the high berm, riparian scrub in riprap revetment, willow-cottonwood riparian forest on the low berm, and SRA cover in nearshore aquatic areas. Habitat types, monitoring units, performance criteria, and methodology are summarized in Table 8.

Each phase of the project would be monitored for the first 5 years following installation of mitigation features. Vegetation would be monitored using one of two quantitative methods, depending on the habitat: percent cover estimated from aerial photographs or percent survival calculated from individual plant counts conducted in the field. SRA cover would be surveyed at the onset of the monitoring period to determine initial habitat values and once each year to ensure that

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Table 8. Summary of Performance Criteria

Monitoring Unit	Habitat Type	Performance Criteria[a] Year 3	Year 5	Methodology
High berm	High terrace riparian forest	--[b]	80% survival	Field surveys of individual plant mortality
Willow-reinforced riprap revetment	Riparian scrub	54% canopy coverage	80% canopy coverage	Field measurements and aerial photographic interpretation of the percentage of canopy coverage
Low berm	Willow/cottonwood riparian forest	54% canopy coverage	80% canopy coverage	Field measurements and aerial photographic interpretation of the percentage of canopy coverage
Nearshore aquatic areas	SRA cover	0.63 HU[c]	0.65 HU[c]	Field measurements of SRA cover

[a] Percent canopy overage of riparian scrub and willow-cottonwood riparian forest is based on a growth rate of 2 feet per year in canopy diameter.

[b] Performance standards for revegetation of the high berm have not been established for the third year monitoring period because remedial actions will be taken, if necessary, to meet 80% survival at the end of the fifth year monitoring period.

[c] HU = habitat unit.

Source: Jones & Stokes Associates 1994.

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performance criteria are being met. Monitoring results would be summarized in annual reports during the 5-year monitoring period.

Percent Canopy Coverage

Performance standards for riparian scrub and riparian forest would be based on percent tree and shrub canopy cover because of the rapid growth expected in these habitat types. A high percent cover is the ultimate goal in these habitat types.

Percent cover would be measured from aerial photographs and qualitatively verified in the field. For this purpose, small-scale (1 inch equals 50 feet) aerial photographs would be used to distinguish individual plants. Color aerial photographs at a scale of 1:50 would be taken during May of the first-, third-, and fifth-year monitoring periods. The time of year and scale were based on plant phenology, monitoring methodology, and performance standard criteria. Registration marks would be established in the first year and maintained throughout the 5-year monitoring period to facilitate ground truthing. For the first 2 years, low-percent cover may prevent accurate measurement and require the use of cover classes (e.g., 1-5% cover) in the annual report.

Percent Survival and Individual Counts

Surviving plants would be counted to monitor revegetation success in the high-terrace riparian forest plantings on the high berm. The field biologist conducting the individual count would mark each plant. Aerial photographs would be used as a guide in the field for counting high-berm areas.

SRA Monitoring Methods

Annual field surveys would be conducted to monitor SRA cover values (in HUs) during the monitoring period. Sampling methods would be similar to those used to assess existing conditions (see Appendix E, "Habitat Evaluation Methods for Winter-Run Chinook Salmon").

Qualitative Data Collection

In addition to quantitative sampling, data from aerial photographs, surface photographic documentation, and direct observation would be collected on the following:

- native woody species that are observed colonizing the site and their relative abundance,
- cover crop success,

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- weed problems,
- persistence of anchored or buried snags on the submerged bench, and
- extent of bank retreat and low berm surface erosion.

Surface photographic documentation stations would be established during the first year and sampled annually. These photographs would be used to qualitatively assess vegetation cover, structure, and vigor.

Performance Criteria

Minimum acceptable performance standards are summarized by habitat type in Table 8.

Riparian Scrub and Willow-Cottonwood Riparian Forest

Performance standards for the riparian scrub and willow-cottonwood riparian forest areas are based on percent canopy coverage. Native riparian plants that colonize the area naturally and contribute to the percent cover would be included in the cover estimates. Performance standards were derived from regional growth rates of willow and cottonwood of 2 feet per year in canopy diameter (Jones & Stokes Associates 1991). This growth rate estimate was combined with the specified planting density of 10 feet on-center to create models of percent cover for years 3 and 5.

Riparian scrub and riparian forest would have an overall average percent canopy coverage of 54% by the end of the third growing season and 80% by the end of the fifth growing season. Canopy is estimated to close by year 6, assuming 80% survival through the first 5 years, and no further mortality is expected after year 5. This closure estimate is conservative. Closure, defined as 90% cover, is expected to be achieved sooner because of natural regeneration and vegetative reproduction of willow species.

High-Terrace Riparian Forest

Performance standards for high-terrace riparian forest plantings on the high berm are based on percent survival measured annually in the field. The success criterion at the end of 5 years is 80% overall survival. Natural regeneration is expected to supplement revegetation efforts and would be monitored qualitatively.

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Shaded Riverine Aquatic Cover

Performance standards for SRA cover values, measured in habitat units, were projected for years 3 and 5 based on initial densities, growth rates, and projected percent canopy closure of riparian plantings on the low berm and adjacent riprap revetment. The performance standard for SRA cover includes no net loss of instream cover value provided by large woody debris within the submerged bench during the 5-year monitoring period.

Remedial Actions

Remedial action may be necessary if the performance standards are not achieved. If mitigation areas do not meet performance standards, additional cuttings or container plants would be installed so that standards are met the next year. Enough cuttings or container plants, plus a 15% buffer to account for mortality of newly planted stock, may be planted to meet the standard the following May. The density of replacement in riparian scrub and willow-cottonwood riparian forest areas would be based on the observed growth rate during annual monitoring. Plant material that does not survive on the high berm would be replaced at a ratio of 1:1 for overall losses exceeding 20%. During the 5-year monitoring period, compensation rates for plant mortality caused by natural calamity, such as severe flooding, would be determined by the Corps and DFG on occurrence of such an event.

Remedial actions to meet performance standards for riparian vegetation would assist in meeting performance standards for SRA cover. Remedial action also may be necessary to maintain SRA cover values associated with large woody material in the submerged benches. Woody material lost from the submerged benches or no longer providing initial habitat values would be replaced, to the extent feasible, to maintain initial SRA cover values during the monitoring period.

Long-Term Habitat Protection

After the 5-year maintenance and monitoring period, the State Lands Commission would manage and maintain the property as wildlife habitat and public greenway in perpetuity through conditions, covenants, and restrictions recorded in the January 1991 settlement agreement.

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