CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 99-074

WASTE DISCHARGE REQUIREMENTS FOR:

THE U.S. ARMY CORPS OF ENGINEERS AND THE NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, NAPA RIVER/ NAPA CREEK FLOOD PROTECTION PROJECT, NAPA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter the Board, finds that:

General Findings

1. The U.S. Army Corps of Engineers (Corps) and the Napa County Flood Control and Water Conservation District (NCFCWCD), hereinafter the Dischargers, propose to implement the Napa River/Napa Creek Flood Protection Project (Project) along 6.9 miles of the Napa River and 0.67 miles of Napa Creek in Napa County (see Figures 1 and 2). The Dischargers applied for Waste Discharge Requirements on July 22, 1999. The primary purpose of the Project is to provide an economically feasible and environmentally sensitive method to protect the City of Napa from the computed 100-year storm event.

   The Project will achieve flood protection and habitat enhancement by using environmentally beneficial methods such as the creation of wetlands, marshplain and floodplain terraces, selective removal of existing levees and use of open space as the floodway, setback levees, bypass channels and biotechnical bank stabilization. Environmentally damaging measures such as deepening the River by excessive dredging will be avoided.

   Approximately 1.7 million cubic yards of material will be excavated to create the marshplain and floodplain terraces. The majority of this material (1.14 million cubic yards) will be dry soil, excavated from above tidal action elevations. 0.56 million cubic yards is assumed to be wet, with varying degrees of moisture content, from low to saturated.

2. The Project was developed by a two year community-wide coalition process. This process was coordinated by the NCFCWCD. The Community Coalition has been a cooperative process among a wide ranging group of stakeholders with diverse interests. This Community Coalition, with the assistance of the Corps, resource agencies[1] staff, and outside consultants, developed the major concepts in the Project to meet the dual objectives of reducing flood damage and maintaining and enhancing environmental quality. The resource agencies unanimously commented favorably on the Supplemental Environmental Impact Statement/Environmental Impact Report (SEIS/EIR) for the Project. The Project is described

[1] Board, California Department of Fish and Game (CDF&G), US Environmental Protection Agency (US EPA), Natural Resource Conservation Service (NRCS), National Marine Fisheries Service (NMFS), US Fish and Wildlife Service (USFWS), Coastal Conservancy, and State Lands Commission

in detail in the Supplemental General Design Memorandum (SGDM) dated October 1998, which is incorporated into this Order by reference.

3. The Water Quality/Habitat workgroup within the Community Coalition created the "Living River Guidelines". These guidelines contain geomorphic, habitat, and water quality objectives which were used to guide and evaluate design decisions for the Project. These guidelines will continue to be used by the Board staff to evaluate future design change requests.

4. Napa County residents approved "Measure A" which imposed a 1/2 cent local sales tax to help fund the Project. Measure A additionally created a Technical Advisory Panel (TAP) comprised of local citizens. The TAP meets monthly with the Corps and NCFCWCD to review implementation plans for the Project, and ensure they are consistent with the SGDM.

5. To protect the water quality in the Project area, to adequately address disposal of excavated material, to meet the objectives of California Wetland Conservation Policy, and to alleviate local flooding problems in an environmentally responsible way, the Board has determined to regulate the proposed activities by issuance of Waste Discharge Requirements (WDRs).

6. The Board, on June 21, 1995, adopted, in accordance with Section 13244 et. seq. of the California Water Code, a revised Water Quality Control Plan, San Francisco Bay Basin (Basin Plan). This updated and consolidated revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters. This Order is in compliance with the Basin Plan.

7. The existing beneficial uses of the waters of the Napa River as set forth in the Basin Plan are as follows:

    a. Agricultural Supply

    b. Cold and Warm Freshwater Habitat

    c. Fish Migration and Spawning

    d. Navigation

    e. Preservation of Rare and Endangered Species

    f. Water Contact Recreation

    g. Noncontact Water Recreation

    h. Wildlife Habitat

8. This Order allows construction and implementation of the Project as described in the SGDM, and evaluated in the March 1999 SEIS/EIR. It is anticipated that this Project will require

approximately 7 years to complete. Construction will occur in five phases. The first phase is anticipated to begin in March/April 2000.

9. The SGDM has been completed in sufficient detail to evaluate the environmental impacts of the Project. Detailed design plans for individual phases of the Project will be completed over the next seven years. This Order requires submission of the final design plans for each phase and a summary of changes with justifications.

   The elements which are critical to ensuring that the Project protects water quality and habitat have been specified in this Order (e.g., elevation of the marshplain terraces). Flexibility to change these or other elements during any phase of the design process is provided by permitting minor design changes with the written authorization of the Executive Officer, and major changes with Board approval. Criteria for determining major and minor changes are specified in Provision C. 5.

10. Final design plans (95% complete) will be submitted to the TAP and Board staff to be reviewed for consistency with the SGDM and previously approved design changes. A summary report of changes, if any, will accompany the design plans submitted by the Dischargers. If there are no changes, then no further Executive Officer or Board action is required. Minor and major changes will require authorization as discussed in Finding 11.

11. A design review process is specified in this Order. The Dischargers will submit significant design changes from the SGDM to the TAP. If these changes are approved by the TAP, they will then be evaluated by Board and resource agencies staff, in consultation with the Dischargers. The changes will be evaluated to determine if they potentially affect water quality, wetland/riparian habitat, river geomorphology, or other areas of Board jurisdiction. Any changes which may potentially affect areas of Board jurisdiction will be submitted for Executive Officer (minor changes) or Board (major changes) approval. While Board staff will consult with the TAP, the Executive Officer or the Board will independently approve any changes.

Wetland Impacts and Mitigation Findings

12. The Dischargers have prepared a Wetland Mitigation Plan and a draft Wetland Maintenance and Monitoring Plan which are divided into components regarding funding, implementation and monitoring, as follows:

    a. The Corps is responsible for the creation and/or restoration and monitoring of seasonal wetlands and emergent tidal marsh located in the marshplain and floodplain terraces, as mitigation for any existing wetlands which are adversely impacted by the Project. This monitoring shall occur for a minimum of three years (a longer timeframe shall be required if specified success criteria are not achieved);

    b. The NCFCWCD is responsible for the monitoring of the wetlands referenced in Finding 12. a. above beginning in the fourth (4th) year, for a minimum of 5 years from the

completion of construction at the mitigation site(s) (this time period may be increased based on the performance of the mitigation). Riparian vegetation shall be monitored for 10 years, or until performance criteria have been satisfied (this may require longer than 10 years on Napa Creek); and,

c. The NCFCWCD is responsible for the creation, restoration and monitoring of seasonal wetlands, emergent tidal marsh and associated uplands in the portion of the area known as the South Wetlands Opportunity Area (SWOA) (see Figures 3 and 4) that are not already included in the areas referenced in Finding 12. a. above. The design for the SWOA is detailed in the document, "Conceptual Plan for Enhancement of the Alluvial Floodplains and Tidal Marshlands of the Upper Napa River Estuary", and the SEIS/EIR.

13. Wetland impacts and mitigations are discussed in Findings 14-18 below. Wetland impacts due to the construction of the marshplain and floodplain terraces, bank stabilization, levee placement and soil disposal are as follows:

- 7.32 acres of tidal wetlands;
- 44 acres of diked, grazed, and farmed seasonal wetlands;
- 0.3 acres of tidal mudflats; and,
- 8.40 acres of riparian forest, riparian scrub-shrub, and shaded riverine aquatic cover.

The Basin Plan Wetland Fill Policy establishes that there is to be no net loss of wetland acreage and no net loss of wetland value when a project and any proposed mitigation are evaluated together, and that mitigation for wetland fill projects is to be located in the same area of the Region, wherever possible, as the project. The Policy further establishes that wetland disturbances should be avoided whenever possible, and if not possible, should be minimized, and only after avoidance and minimization of impacts should mitigation for lost wetlands be considered. The Dischargers have submitted documentation to show that appropriate effort was made to avoid and then to minimize wetland disturbance, as required by the Basin Plan.

14. The Dischargers' mitigation and enhancement for the impacts summarized in Finding 13 are described in the Wetland Mitigation Plan and are summarized as follows:

- Creation of 160.7 acres of emergent tidal marsh (56 acres marshplain terraces/ 104 acres SWOA);
- Creation of 56.2 acres of seasonal wetland (45 acres floodplain terrace/ 11.2 acres SWOA);
- Creation of 2.5 acres of tidal mudflat (riprap removal, marshplain terraces);
- Creation of 30.95 acres of riparian habitat (throughout the Project);
- Conversion and enhancement of 262 acres of diked and grazed seasonal wetlands to high value emergent tidal wetlands (SWOA);
- Enhancement of 136 acres of diked and grazed seasonal wetland (Stanley Ranch). This land will be maintained and managed for seasonal wetland values (55 acres Corps/ 81 acres SWOA);
- Creation of 11 acres of woodlands; and,

- Enhancement of 72 acres of uplands adjacent to wetlands.

In summary, this Project will impact 51.32 acres of emergent tidal marsh and seasonal wetland. This Project will create 217 acres of tidal and seasonal wetlands, and enhance 398 acres of wetlands and 72 acres of uplands contiguous to wetlands.

The existing seasonal wetlands are diked, grazed, and hay cropped. They exist as a mosaic of seasonal wetlands and uplands. They are isolated from the River except during very high flow flood events. The existing emergent tidal marsh is predominantly fragmented without a linear connection along the River. The created and enhanced wetlands will be high value emergent tidal, seasonal and riparian wetlands. There will be a high degree of connectivity between the River, emergent tidal wetlands, seasonal wetlands, riparian forest and upland areas. Wetland and riparian forest/scrub-shrub will be created in four main areas: 1) marshplain terraces; 2) floodplain terraces; 3) transition zones between marshplain and floodplain terraces; and 4) the SWOA. These are described in Findings 15-17 below.

15. The Dischargers propose to improve flood flow conveyance through the creation of marshplain and floodplain terraces (see Appendix C for detailed channel cross section). The marshplain terrace will be constructed by lowering the existing river banks to an elevation approximately equal to mean tide. The terrace will be sloped towards the River to provide varying hydrologic regimes for tidal wetland plants. This terrace will create 56 acres of emergent tidal marsh wetlands and 2.5 acres of tidal mudflats. Emergent tidal marsh will be created in a continuous linear band on the eastside of the River for approximately 2.6 miles, with a width ranging from 100 to 150 feet.

16. A transition zone between the marshplain and floodplain terrace will be constructed and vegetated with riparian species. Where it is not feasible to establish riparian species due to soil salinity, shrub and grassland will be established. The floodplain terrace starting elevation will vary from downstream to upstream (See Appendix A). 45 acres of seasonal wetlands will be established on the floodplain terrace. Construction will be done in coordination with the Mosquito Abatement District, CDF&G, NMFS, and USFWS to minimize mosquito breeding problems and fish stranding problems.

17. The SWOA extends south of the Newport North Marina to the Highway 29 Bridge. Currently, the main use of this land is grazing and hay cropping, with a small amount of vineyard development. Approximately 615 acres of wetlands will be created or enhanced within the SWOA. The emergent tidal wetlands will be created through lowering levees and breaching existing dikes. The SWOA will consist of an interconnected mosaic of emergent tidal wetlands, seasonal wetlands, riparian and upland areas which will be managed for wetland and upland habitat values. The River will be directly connected to the SWOA through overland flow (over low levees) and through existing and created channels. The wetlands in the SWOA will have a continuum of habitats beginning with the open water of the River that will flow into the tidal channels and onto the emergent tidal wetlands. Grasslands and woodlands will provide upland habitat contiguous to both the tidal emergent and seasonal wetlands (see Figure 3).

The wildlife benefits of the habitat continuum created on the SWOA are significant because of the association of the upland with wetlands, a rare habitat in this area of the North Bay. The upland provides refuge for wetland species during tidal and flooding events. This physical connection also provides upland species with access to the water. The primary expected benefit of this habitat for fish is to increase aquatic productivity and provide additional areas of feeding and rearing habitat. The tidal sloughs will serve as refuge for fish from high flood flows. They will provide an additional habitat type and potentially increase the number of fish species and life stages that could use the area.

The northwest 100 acres of this area currently is farmed, grazed and hay cropped, or planted in vineyard. The existing vineyard will remain, protected by a levee. Additionally, 80 acres on the periphery of the SWOA will be used for soil disposal and turned into vineyard (see Figure 3).

18. The Dischargers' draft Wetland Maintenance and Monitoring Plan contains provisions for the elimination and future control of invasive exotic vegetation on the marshplain and floodplain terraces, and within other habitat mitigation areas. The Corps is responsible for the elimination and monitoring of invasive species located in the marshplain and floodplain terraces, and Napa Creek. The NCFCWCD is responsible for elimination and monitoring of invasive species located within the SWOA and not already included in the Corps areas of responsibility (floodplain and marshplain terraces). Additionally, the NCFCWCD is responsible for all mitigation areas after the Corps' three-year monitoring agreement expires.

    The final Wetland Maintenance and Monitoring Plan will be submitted for Executive Officer approval. A workgroup has been formed to review this Plan including representatives from the Board, CDF&G, NRCS, USFWS, USEPA and the TAP. While Board staff will consult with this workgroup, the Executive Officer will independently approve the Plan.

Design Findings

Napa River

19. The Dischargers propose to increase flood flow conveyance through the use of levees setback from the main River channel. Additionally, the lowering of existing dikes in the southern reach of the Project will improve flow conditions and allow flooding in the River's natural floodplain. The locations and setbacks of these levees and the lowering of the dikes are identified in the SGDM. The locations, setbacks, and degree of lowering are critical to the proper functioning of the environmental features of the Project through direct and indirect affects.

20. The Dischargers propose to construct a "dry" bypass channel for the River through the Oxbow in the northern reach of the Project (see Figure 1). The crest of the bypass controls the amount of flow through the bypass. To provide flood relief, the crest would allow only flood flows of a certain magnitude to be diverted through the bypass. The remainder of the

time, the bypass would be dry, and flows would be conveyed in the River's natural channel through the Oxbow. This would maintain the circulation and oxygen dynamics in the Oxbow channel, with only a predicted minor decrease in sediment transport capacity[2]. This would lead to minor dredging approximately every eight years in the vicinity of the bypass entrance. A detailed geomorphic study was conducted to determine the proper height of this crest[3]. The height of the crest is important in insuring that the bypass functions as a "dry" bypass and only transports flows during high flow periods.

21. The Dischargers propose to remove, reconstruct, or replace numerous vehicular and pedestrian bridges in downtown Napa. Currently, these bridges obstruct the River's flow and increase flood level elevations. The plan for bridge removal and replacement is described in the SGDM. Final plans will be submitted for Executive Officer written approval. The plans will be reviewed to insure that the extent of rip rap and concrete used for bank stabilization and river bed stabilization have been minimized.

22. The Dischargers propose to maintain existing boat access structures at Fourth Street, the Sea Scouts Building, and the Napa Yacht Club. No additional structures are proposed.

23. The SGDM describes installation of three pump stations to pump flood water and stormwater which has become trapped behind the River's floodwalls. The Dischargers are re-analyzing this interior drainage system to determine if this design will efficiently convey interior drainage during flood events. The pump station designs do not incorporate pollution reduction measures. The technical and economic feasibility of installing such measures is not known. The Dischargers will evaluate the feasibility of incorporating stormwater pollutant removal measures into the interior drainage system. A report, acceptable to the Executive Officer, will be submitted discussing the findings of their study.

24. The Dischargers have developed a plan to stabilize the banks of both the Napa River and Napa Creek that uses nine different bank treatment methods. These treatment methods were developed through significant input from the Community Coalition and the resource agencies. The Corps' design regulations require bank treatment with adequate strength to protect river banks and associated structures such as levees from water's erosive forces. The most commonly used methods involve rock rip rap, keyed into the river bottom and placed high up on the bank. However, this method also has the most adverse impact on aquatic, wetland and riparian habitat. Therefore, the Corps has identified habitat enhancing bioengineering options which could be used in the majority of the Project reaches. In some cases, only vegetation will be used (Treatment Method 1), designed and installed specifically to provide strength to the banks. In other cases, a mixture of rip rap and vegetation will be used (Treatment Method 2). In cases where the highest erosive forces are present and important structures are located close to the River or Creek, rip rap will be used in conjunction with habitat enhancing elements, such as root wads and lunkers (Treatment Method 3).

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[2] A detailed sediment transport study was conducted by Phillip Williams and Associates to predict sedimentation rates and dredging frequency throughout the Project.

[3] set at the dominant discharge elevation

Treatment Method 2 will include placing rock rip rap at the toe of the bank, so that it would be submerged most of the time of day except at low tides. Treatment Method 3 incorporates the use of rock rip rap to a maximum elevation of mean tide level. Vegetation would be planted above this elevation. The elevations of the rip rap and locations of these bank treatments were carefully determined to provide the necessary river bank strength while maintaining or enhancing habitat (see Appendix B).

25. The Dischargers' proposed bank stabilization plan would place 4000 lineal feet of rock rip rap in areas where currently there is no rip rap. This would be mitigated by the removal of 8400 lineal feet of existing rip rap. The location of the rip rap to be removed is specified in Appendix B.

26. Implementation of the SGDM involves construction of the marshplain terrace and removal of rip rap which may elevate turbidities above background locally for short periods of time (less than 24 hours). These project features are environmental components of the Project which are essential to improving the wetland and aquatic habitat of the River. To mitigate any potential impact on migrating and spawning fish, USFWS, CDF&G and NMFS have prohibited in-water construction activities between October 15 and June 1. Provision has been made by the above mentioned agencies, to allow the Dischargers to petition to conduct construction for an extended timeframe, depending on the weather or other special circumstances.

    Additionally, the Dischargers will prepare and implement a Best Management Plan to minimize any increases in turbidity. This will be done in consultation with Board staff and other resource agency staff.

Napa Creek

27. The Dischargers have submitted a design for 0.67 miles of Napa Creek which is included in the SGDM. The Dischargers propose to alleviate flooding in the vicinity of the Creek through the use of two bypass culverts and a floodplain terrace (see attached Figure 5). Elevations of the bypass culvert weirs and floodplain terrace heights are critical to the proper functioning of the Creek and were determined through consultation with the Community Coalition, resource agencies, and private hydrology consultants. The bypass culverts will allow the existing stream geometry and existing vegetation to remain intact. This is significant as these sections of the Creek contain numerous mature native trees, good shade and are a steelhead rearing area. The floodplain terrace has been designed to minimize the removal of existing trees. Vegetation would be replanted on the terrace after its construction. Construction of the terrace requires the purchase and removal of 10 homes and 5 garages. Only minor work will be done within the active channel.

28. The Dischargers propose to install grade control structures upstream of the Creek's flood conveyance improvements. Design plans for the grade control structure(s) will be submitted

to the Executive Officer for written approval. The Dischargers have been notified that appropriate permits must be obtained from CDF&G and NMFS.

29. The Dischargers propose to monitor bank stability in the Creek's project area on a yearly basis. The Dischargers will work with the City of Napa to develop a local permitting program for bank stabilization. In the event bank stabilization is needed, biotechnical bank stabilization will be used unless shown to be infeasible. The conceptual designs prepared by the Corps (see Appendix B) will be the basis for stream bank repair work in this area. This Order does not permit bank stabilization projects which are not included in this Project. Bank stabilization projects implemented by private landowners or the City, not in conjunction with this Project, will require separate Water Quality Certification or WDRs.

Soil Disposal Findings

30. The Dischargers have submitted a proposal for managing 1.7 million cubic yards of excavated soil depending upon the soil characteristics and locations of the excavation. This proposal will be modified to be consistent with Title 27, Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations (Title 27). Final design plans for the soil disposal activities discussed in Findings 31-44 below, have not been completed in sufficient detail, with the exception of the west side disposal plan. Modifications to the westside disposal plan will be submitted to the Executive Officer for written approval. This Order requires submission of the final design plans for the remaining disposal sites and Board approval of these plans.

31. Excavated soil will be classified as inert, nonhazardous solid waste, designated waste and hazardous waste, consistent with Title 27. Inert waste is defined in Section 20230, Title 27, as, "that subset of solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste."

32. Designated waste is defined in Section 13173, Porter-Cologne Water Quality Control Act, Division 7, California Water Code.

33. Hazardous Waste is defined in Title 27 as follows: "means any waste which under Article 1, Chapter 11, Division 4.5 (Sect. 66261.3 et seq.) of Title 22, is required to be managed according to Division 4.5 of Title 22."

34. Nonhazardous Solid Waste is defined in Section 20220, Title 22, of the California Code of Regulations.

35. The Dischargers will develop criteria, in accordance with Title 27, which will be used to classify the excavated material as inert, nonhazardous solid waste, designated waste or hazardous waste.

36. Soil excavated below mean high tide elevation may be saturated. Soil disposal plans at each disposal site will include provisions for reducing the moisture content of saturated soil. The Dischargers will develop site specific criteria for the allowable moisture content of inert soil prior to placement in a final disposal site.

37. The Dischargers propose to dispose of the soil classified as inert at five sites as discussed in Findings 38 and 39 below (see Figure 6). An economic, technical feasibility and environmental analysis was conducted of different soil disposal options for inert soil. It was determined that the best option was to dispose of inert soil on the same side of the River (east or west) from which it was excavated. Transporting inert soil across the River by barge or slurry, or hauling it by truck across the Highway 29 or Imola Bridges was cost prohibitive, technically unfeasible (slurry), or had potentially significant environmental impacts. Additional factors such as land availability and the existence of willing land sellers (versus land condemnation) were taken into account.

38. The Dischargers propose to dispose of approximately 450,000 cubic yards of inert soil excavated on the west side of the Napa River at two sites (W-1 and W-2), where it will be used for levee construction and vineyard fill (see Figure 3). These sites are located in the northwest corner and on the periphery of the SWOA. Although these sites will impact 31.4 acres of diked, grazed seasonal wetlands, these sites were selected based on a Soil Disposal Alternatives Analysis with the goal to minimize the fill of wetlands and maximize the functions and values of the mitigation and enhancement wetlands (detailed in Findings 14-18).

    The Dischargers propose to dispose of approximately 1,030,000 cubic yards of inert soil excavated on the east side of the River at the nearby Syar Quarry, where it will be used as fill to reclaim the quarry landscape. This is an upland site. Additionally, approximately 220,000 cubic yards of inert soil excavated on the east side of the River will be deposited in two upland areas (sites E-7 and E-8) identified as suitable for soil disposal on the east side. The inert soil will be hauled a short distance by truck to all three sites.

39. The Dischargers propose to create a temporary treatment and storage site for material not classified as hazardous. This material will be treated to levels suitable for disposal as inert soil, or transported to a suitable disposal site (Class III landfill or a Class I hazardous waste landfill), consistent with Title 27. The Dischargers will submit a plan acceptable to the Executive Officer for the creation and operation of the temporary soil treatment and storage site. At that time, this Order will be amended to permit such operation.

40. The Dischargers have conducted a review of site histories within the Project area to identify sites which may contain nonhazardous solid waste, designated waste or hazardous waste. Based on the results, site inspections and soil analyses (where deemed necessary), were conducted. Nine sites were identified which require remediation (discussed in Finding 43 below). These site histories and follow-up inspections/soil analyses, are adequate to identify major areas of contamination. However, they may not be sufficiently detailed to adequately identify appropriate soil disposal locations. Therefore, for each construction phase (I-V), the

Dischargers will conduct a review of the site histories, and soil and groundwater data which have already been collected, and identify data gaps. The necessary data will then be collected to adequately characterize the soil for disposal as required under Title 27.

41. Analysis of the site histories within the Project area indicated that numerous sites had no history of spills or industrial activities which might contaminate the soil or groundwater. The Dischargers have assumed that these sites are underlain by inert soil. However, the Dischargers will develop a sampling and analysis plan with appropriate sampling frequencies to confirm that soil from these sites meets the inert criteria for disposal purposes.

42. The Dischargers propose to develop a contingency plan for construction and excavation activities which will occur in known areas of contaminated material. An onsite contractor certified in OSHA and RCRA Guidelines will observe excavated materials at all times during excavation and grading of sites which may contain hazardous or petroleum contaminated waste. Soil which is suspected of containing contamination will be segregated and analyzed as described in the contingency plan.

43. Nine sites contaminated with petroleum hydrocarbons from bulk oil storage facilities are located within the Project's boundaries adjacent to the River. The Board has identified the parties responsible for cleaning up these sites, or is working to identify the parties. The Board has adopted five Site Cleanup Requirements. In the event additional cleanup work is necessary, the Board shall modify these Site Cleanup Requirements, or adopt new Site Cleanup Requirements.

Operations, Maintenance and Monitoring Findings

44. The Dischargers have submitted draft Operations and Maintenance (O&M) Manual sections which apply to environmental concerns such as: maintenance dredging; bank stabilization; vegetation removal; and hydraulic, sediment and vegetation monitoring. The Dischargers are investigating potential hydraulic models to incorporate into the monitoring program.

    The final O&M Manual (environmental sections) will be submitted for Executive Officer approval. A workgroup has been formed to review this Manual including representatives from the Board, CDF&G, NRCS, USEPA and the TAP. While the Board staff will consult with this workgroup, the Executive Officer will independently approve the Manual.

45. This Order permits maintenance to be conducted in all reaches of the Project during the life of this Order or a maximum of 10 years. Maintenance will be conducted in conformance with the O&M Manual described in Finding 44. The Dischargers will submit an annual report of planned maintenance activities for written approval by the Executive Officer. The annual report for year ten shall include a Report of Waste Discharge for long-term maintenance activities necessary in all reaches of the Project after the initial ten years.

46. On May 4, 1999, the Dischargers adopted a Final SEIS/EIR for the Project. This Order includes mitigation measures that will mitigate or avoid any potential impacts to water

quality identified in the Final SEIS/EIR. The most significant mitigation measures are identified below:

Impact	Mitigation Measures
Excess siltation Alteration of River's salinity regime Loss of River habitat complexity Fish migration barriers	• The geomorphically based design incorporating marshplain and floodplain terraces, setback levees, and use of the floodway, has been designed to maintain the River's sediment transport capacity and thus minimize sedimentation; • The geomorphically based design minimizes alteration of the active channel and thereby minimizes alteration of the River's salinity regime; • The use of floodplain and marshplain terraces, and biotechnical bank stabilization measures, improve the River's habitat complexity and provides adequate cover for fish migration.
Decrease in oxygen levels in the Oxbow Decrease in sediment transport capacity in the Oxbow	A dry bypass has been designed which allows the flow to remain totally in the Oxbow the majority of the time. The flows will be divided between the Oxbow and bypass structure only during high flood flow events. This will maintain the oxygen dynamics and sediment transport capacity of the Oxbow. Minor dredging is predicted (by sediment transport modeling) to be necessary in the Oxbow.
Loss of wetland and contiguous upland habitat	The Wetland Mitigation Plan is discussed in detail in Findings 12-18. This mitigation plan meets the Basin Plan requirements of no net loss of wetland acreage and no net loss of wetland value.
Loss of steelhead rearing habitat	The design of Napa Creek incorporates two bypass channels and a floodplain terrace. This design maintains the active channel intact and allows preservation of the majority of the mature trees. Trees which are removed will be replaced as part of the Wetland Mitigation Plan.

47. The Board has notified the Dischargers and interested agencies and persons of its intent to prescribe WDRs for this Project.

48. The Board, in a public meeting, heard and considered all comments pertaining to the Project.

IT IS HEREBY ORDERED that the Dischargers, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. The discharge of wastes from soil removal sites or construction areas, to surface waters or surface water drainage courses is prohibited.

2. The discharge of fill as defined under Section 401 of the Federal Clean Water Act, except as identified in the SGDM/SEIS/EIR or Provisions of this Order, is prohibited.

3. Project activities subject to these requirements shall not cause a nuisance as defined in Section 13050(m) of the California Water Code.

4. The discharge of decant water from saturated soil drying sites, to surface waters or surface water drainage areas is prohibited.

5. The discharge of silt, sand, soil, clay, or other earthen materials from excavation or construction activities in quantities sufficient to cause deleterious bottom deposits, deleterious turbidity or deleterious discoloration in surface waters is prohibited.

B. Receiving Water Limitations

1. Soil removal or disposal, or construction activities shall not cause:

   a. Floating, suspended or deposited macroscopic particulate matter or foam in waters of the State.

   b. Alteration of apparent color beyond present natural background levels in waters of the State. For in-stream construction activities, this shall apply at any point beyond 1000 feet downstream of the point of the activity.

   c. Visible floating, suspended, or deposited oil or other products of petroleum origin in waters of the State.

   d. The Project activities shall not cause Waters of the State to exceed the following quality limits at any place:

i. Dissolved Oxygen: 5.0 mg/l minimum. When natural factors cause lesser concentrations, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.

ii. pH: A variation of natural ambient pH by more than 0.5 pH units.

iii. Toxic or other deleterious substances: None shall be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

2. Turbidity of the waters of the State, as measured in NTUs, shall not increase above background levels by more than the levels identified below. For in-stream construction activities, this shall apply at any point beyond 1000 feet downstream of the point of the activity.

Receiving Waters Background	Incremental Increase
<50 units	5 units, maximum
50-100 units	10 units maximum
≥ 100 units	10% of background

3. The groundwater shall not be degraded as a result of the soil disposal and handling operation or any other activities permitted by this Order.

C. Provisions

1. The Dischargers shall comply with all the Prohibitions, Receiving Water Limitations, and Provisions of this Order immediately upon adoption of this Order or as provided below.

Soil Excavation and Disposal

2. The Dischargers shall prepare, submit, and implement soil characterization and disposal plans of material to be excavated, which will be submitted for Board approval. These plans shall be consistent with Title 27, Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations. Upon Board approval, this Order shall be amended or a separate Order adopted, to incorporate these plans. These plans shall include provisions for:

a. Development of Soil Classification Criteria:
Develop criteria, in accordance with Title 27, which will be used to classify the excavated material as inert, nonhazardous solid waste, designated waste and hazardous waste for the purposes of determining appropriate soil disposal locations.

b. Site Evaluations to Characterize Waste (Inert, nonhazardous solid waste, designated waste or hazardous waste):
This plan is to be done for each phase of the Project and shall include at a minimum the following activities:

i. Review site histories and previously collected soil and groundwater data within the specified Project reach to identify data gaps;
ii. Conduct field investigations of sites with known histories or suspected contamination to fill in data gaps;
iii. Collect and analyze soil samples for appropriate constituents where necessary to fill in data gaps. Spatial distribution and frequency of samples shall be sufficient to adequately determine the lateral and vertical extent of contamination. The results will be used to predict volumes of inert versus contaminated material, and to insure that appropriate soil excavation and transport methods are used. In areas where excavation will occur to groundwater level, groundwater samples may be necessary; and,
iv. Collect and analyze soil samples for appropriate constituents to confirm the assumption that soil excavated in areas with no known history of spills or industrial pollution, satisfy the criteria for inert waste.

The analyses in iii. and iv. above, may be conducted prior to excavation or during excavation, as specified in the plan.

c. Contingency Plan for Construction at Sites with Suspected or Known Designated or Hazardous Waste:

The Dischargers shall develop a contingency plan for construction and excavation activities which will occur in known areas of contaminated material. An onsite contractor certified in OSHA and RCRA Guidelines will observe excavated materials at all times during excavation and grading of sites which may contain hazardous or petroleum contaminated waste. Soil which is suspected of contamination will be segregated and analyzed as described in the contingency plan.

d. Best Management Practices to maintain water quality during in-water construction activities:

Prepare a Best Management Practices Plan to be implemented for each phase of the Project to minimize any increases in turbidity from in-water construction activities. This Plan will be prepared in consultation with Board staff and other resource agency staff.

e. Detailed plans for inert soil disposal on the east side of the River: (Syar Quarry, E-7 & E-8):

i. Identify and map proposed soil disposal areas and existing wetland and drainage areas. Soil disposal areas shall be located to avoid impacts to groundwater, surface water and wetlands;
ii. Discuss site evaluation, waste characterization, and management measures consistent with Title 27; and,
iii. Identify site specific criteria for determining the allowable moisture content of inert soil prior to placement in the final disposal site and provisions for reducing the moisture content of saturated soil.

f. Detailed plans for the construction and operation of a temporary treatment and storage site for material classified as nonhazardous solid waste, designated waste or hazardous waste:

i. Identify and map proposed soil treatment and storage areas and existing wetland and drainage areas. Soil treatment and storage areas shall be located to avoid impacts to groundwater, surface water and wetlands; and,

ii. Discuss site selection and design, waste characterization, and management measures consistent with Title 27.

Due Date: March 15, 2000

3. The Dischargers shall submit by March 15, 2000, detailed final plans for inert soil disposal on the westside of the River (W-1& W-2):

   Submit final plans for written approval of the Executive Officer for disposal of soil on the westside of the Napa River. This shall include: 1) site specific criteria for determining the allowable moisture content of inert soil prior to placement in the final disposal site; 2) provisions for reducing the moisture content of saturated soil; 3) detailed plans for modification of the existing drainageway; and 4) discussion of waste characterization and site management measures consistent with Title 27.

4. The Dischargers shall file with the Board a report of any material change or proposed change in the character, location, or quantity of this waste discharge (soil disposal). For the purpose of these requirements, this includes any proposed change in the boundaries of the disposal sites.

Design Provisions

5. The Dischargers shall submit design changes from the SGDM to the TAP. If these changes are approved by the TAP, they will then be evaluated by Board and resource agencies staff, in consultation with the Dischargers to determine if they potentially affect water quality, wetland/riparian habitat, river geomorphology, or other areas of Board jurisdiction. Any changes which may potentially affect areas of Board jurisdiction will be submitted for Executive Officer (minor changes) or Board (major changes) approval.

   The criteria which will be used to determine whether a change is minor or major are as follows[4]:

[4]note: These criteria do not mean that Nationwide and Individual Corps Permits are required for these activities. Rather, the purpose here is to use existing Federal criteria, which is consistent with existing Board policy, to determine levels of potential environmental impact and thereby identify the proper mechanism (Executive Officer or Board) for approving minor and major design changes. The 404 CWA criteria for Nationwide and Individual permits will be applicable to the majority of design changes which may arise during final project design. Therefore, these criteria are well suited for determining whether a Project design change is minor or major.

- Minor Design Change: Any change which meets the CWA Section 404 criteria for a Nationwide Permit or impacts less than two acres of wetlands (e.g., addition of a new culvert); or,
  A type of design change which is specified in Provision C. 6-8. below (e.g., minor change in elevation of marshplain terrace).

- Major Design Change: Any change which meets the CWA Section 404 criteria for an Individual Permit, and impacts two acres or more of jurisdictional wetlands.

- Design changes which do not meet the above criteria, but have been determined to have a potential affect on water quality or other areas of Board jurisdiction, will be evaluated by Board staff using appropriate Board policies to determine the level of significance (minor or major).

6. The Dischargers shall submit final design plans (95% complete) to the TAP and Board staff to be reviewed for consistency with the SGDM/SEIS/EIR, and previously approved design changes. A summary report of changes, if any, will accompany the design plans. If there are no changes, then no further Executive Officer or Board action is required.

7. The Dischargers shall construct all features, including the marshplain and floodplain terraces, the Napa River dry bypass, Napa Creek bypasses, and the Napa Creek floodplain terrace, as described in the SGDM/SEIS/EIR and identified in Appendix A. Minor design changes include changes in feature elevation.

8. The Dischargers shall construct the floodplain terrace in such a manner as to avoid fish stranding. This shall be done in consultation with CDF&G and NMFS.

9. The Dischargers shall construct and locate setback levees, floodwalls, and remove and lower dikes as described in the SGDM/SEIS/EIR. Minor design changes include changes in levee location or elevation which do not impact two acres or more of jurisdictional wetlands.

10. The Dischargers shall implement the bank stabilization designs as described in the SGDM/SEIS/EIR and Appendix B. Appendix B identifies critical features of each treatment method and the locations for each bank treatment method and rip rap removal.

11. The Dischargers shall submit bridge final design plans for Executive Officer approval. The Dischargers shall minimize the use of rock rip rap and streambed alteration. The plans shall include a discussion of the location and extent (lineal feet, width and depth) of rip rap. Wherever possible, the rip rap shall be planted with appropriate vegetation. Silt curtains and other measures identified in the Storm Water Pollution Prevention Plan (Provision C. 18.) shall be installed to prevent suspended sediment from dispersing during bridge removal and construction.

12. The Dischargers shall submit final grade control design plans for Napa Creek for written approval by the Executive Officer. These plans shall be submitted to CDF&G and NMFS for comment and any applicable permits.

13. The Dischargers shall evaluate the technical and economic feasibility, and pollution reduction benefits of installing pollution reduction measures in the interior drainage system. A report describing the findings of this evaluation and proposed implementation plans for all feasible measures, acceptable to the Executive Officer, shall be submitted by September 30, 2000.

Mitigation, Monitoring and O&M Provisions

14. The Dischargers' mitigation and enhancement included in the Project and as described in the Wetland Mitigation Plan, is summarized as follows:

- Creation of 160.7 acres of emergent marsh (56 acres marshplain terraces/ 104 acres SWOA);
- Creation of 56.2 acres of seasonal wetland (45 acres floodplain terrace/ 11.2 acres SWOA);
- Creation of 2.5 acres of tidal mudflat (rip rap removal, marshplain terraces);
- Creation of 30.95 acres of riparian habitat (throughout the Project);
- Conversion and enhancement of 262 acres of diked and grazed seasonal wetlands to high value emergent tidal wetlands (SWOA);
- Enhancement of 136 acres of diked and grazed seasonal wetland (Stanley Ranch). This land will be maintained and managed for seasonal wetland values (55 acres Corps/ 81 acres SWOA);
- Creation of 11 acres of woodlands; and,
- Enhancement of 72 acres of uplands adjacent to wetlands.

15. The Dischargers have submitted an acceptable Wetland Mitigation Plan as outlined in Provision C. 14. This Plan shall be implemented. The Dischargers shall submit and implement a final Wetland Maintenance and Monitoring Plan, including an invasive species eradication component, by June 15, 2000, for written approval of the Executive Officer.

16. The Dischargers shall divide the responsibilities regarding the funding, implementation and monitoring described in the Wetland Mitigation Plan and draft Wetland Maintenance and Monitoring Plan, into components as follows:

a. The Corps is responsible for the creation and/or restoration and monitoring of seasonal wetlands and emergent tidal marsh located in the marshplain and floodplain terraces, as mitigation for any existing wetlands which are adversely impacted by the Project. This monitoring shall occur for a minimum of three years (a longer timeframe is required if specified success criteria are not achieved);

b. The NCFCWCD is responsible for the monitoring of the wetlands referenced in Provision C. 16. a. above beginning in the fourth (4th) year, for a minimum of 5 years from the completion of construction at the mitigation site(s) (this time period may be increased

based on the performance of the mitigation). Riparian vegetation shall be monitored for 10 years, or until performance criteria have been satisfied (this may require longer than 10 years on Napa Creek); and,

c. The NCFCWCD is responsible for the creation, restoration and monitoring of seasonal wetlands and emergent tidal marsh in the SWOA (see Figures 3 and 4) that are not already included in the areas referenced in Provision C. 16. a. above.

17. The Dischargers shall submit by June 15, 2000, for written approval of the Executive Officer, final Operations and Maintenance (O&M) Manual sections, which apply to environmental concerns such as maintenance dredging; bank stabilization; vegetation removal; and hydraulic, sediment and vegetation monitoring. The extent and location of vegetation and sediment removal shall be determined through the use of hydraulic modeling. O&M shall be conducted according to the Manual. The O&M Manual may be amended with written approval of the Executive Officer.

General Provisions

18. The Dischargers shall obtain coverage for all construction activities under the State Board's NPDES General Permit for Storm Water Discharges Associated With Construction Activities. The General Permit requires, in part, the development of a Storm Water Pollution Prevention Plan (SWPPP) for all construction activities, prior to commencement of construction, to insure that there is no discharge of waste or wastewater into Waters of the State. The Dischargers shall submit the SWPPP to Board staff prior to commencement of construction.

19. The Dischargers shall remove and relocate any wastes which are discharged at any sites in violation of this Order.

20. Soil removal, transport or disposal operations shall cease immediately whenever violations of requirements are detected through implementation of the Self-Monitoring Program (SMP), and operations shall not resume until alternate methods of compliance are provided. The Dischargers shall notify the Board immediately whenever violations are detected.

21. The Dischargers are considered to have full responsibility for correcting any and all problems which arise in the event of a failure which results in an unauthorized release of waste or wastewater during soil removal, transport or disposal, or general construction operations.

22. The discharge of any hazardous, designated or non-hazardous waste as defined in Title 27, Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations shall be conducted in accordance with applicable state and federal regulations.

23. During Project construction, included but not limited to construction and monitoring of wetlands, the Dischargers shall permit the Board or its authorized representative, upon presentation of credentials:

a. Entry on to the premises on which wastes are located or in which records are kept.

b. Access to copy any records required to be kept under the terms and conditions of this Order.

c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order.

d. Sampling of any discharge or surface water covered by this Order.

Monitoring Report Provisions

24. All reports pursuant to these Provisions shall be prepared under the supervision of a suitable professional registered in the State of California.

25. The Dischargers shall comply with all applicable items of the SMP (Appendix E).

26. The Dischargers shall submit the following monitoring and maintenance reports:

    a. Quarterly self-monitoring reports performed according to the SMP appended to this Order or as amended by the Executive Officer.

    b. Wetland mitigation monitoring reports by November 15th of each year for a minimum of 5 years from the completion of construction at the mitigation site(s) (this time period may be increased based on the performance of the mitigation). Riparian vegetation shall be monitored for 10 years, or until performance criteria have been satisfied (this may require longer than 10 years on Napa Creek). Upon successful completion of the Wetland Mitigation and Monitoring Plan, the Dischargers shall submit a notice of mitigation completion to the Executive Officer. The notice of mitigation completion shall include a plan for long-term maintenance and management, acceptable to the Executive Officer, for the mitigation sites. After submittal of the acceptable notice of mitigation completion, submittal of annual mitigation monitoring reports is no longer required.

    c. Annual O&M reports by April 15th of each year which describes the previous year's maintenance activities, monitoring activities required in the O&M manual, and the planned maintenance activities for the following year. The annual O&M report for year ten shall also include a Report of Waste Discharge for long-term maintenance activities necessary in all reaches of the Project after the initial ten years. This report shall include at a minimum, a description of all activities proposed to maintain long-term performance of all elements of the Project, the alternatives considered to those activities proposed, and the basis for the need of the activities proposed.

27. The Dischargers shall maintain one copy of as-built plans and submit one copy to the Board 90 days after the completion of each Project phase. These plans will be based on a re-survey of the channel and associated Project features after construction completion. These surveys

and plans will be done in adequate detail such that they can be used to evaluate the performance of the Project (e.g., degradation/aggradation rates, bank stability, etc.).

28. These Requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws, regulations or rules of other programs and agencies nor do these Requirements authorize the discharge of wastes without appropriate permits from other agencies or organizations.

29. The Dischargers shall submit to the Board copies of all necessary approvals and/or permits for the Project from the applicable government agencies, including CDF&G, and USFWS.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, complete and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 15, 1999.

Loretta K. Barsamian
Executive Officer

Attachments:

Figures 1-6
Appendices A-E

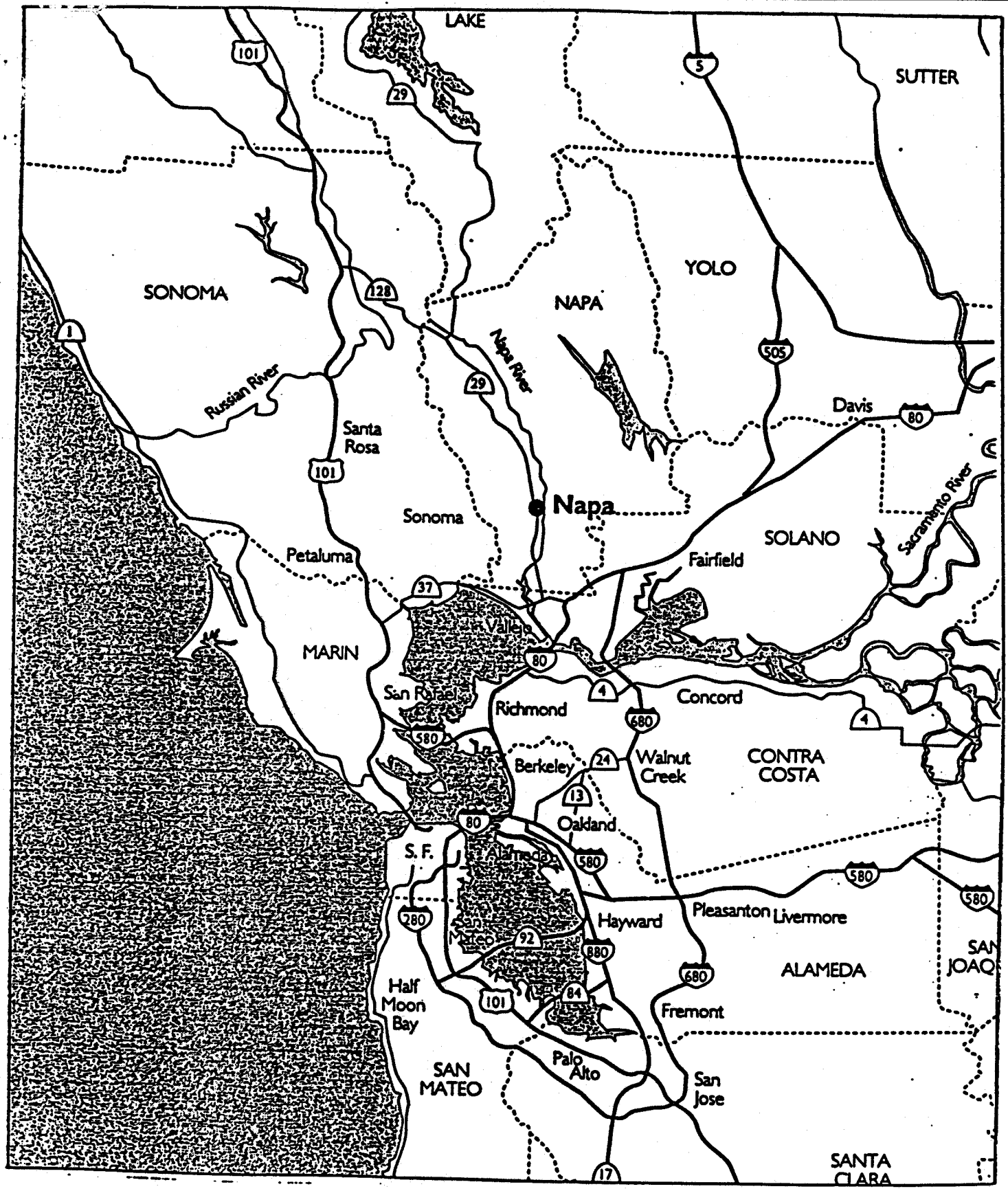


Figure 1. Regional location map for the Napa River Flood Damage Reduction Project area (source: DCE 1996).

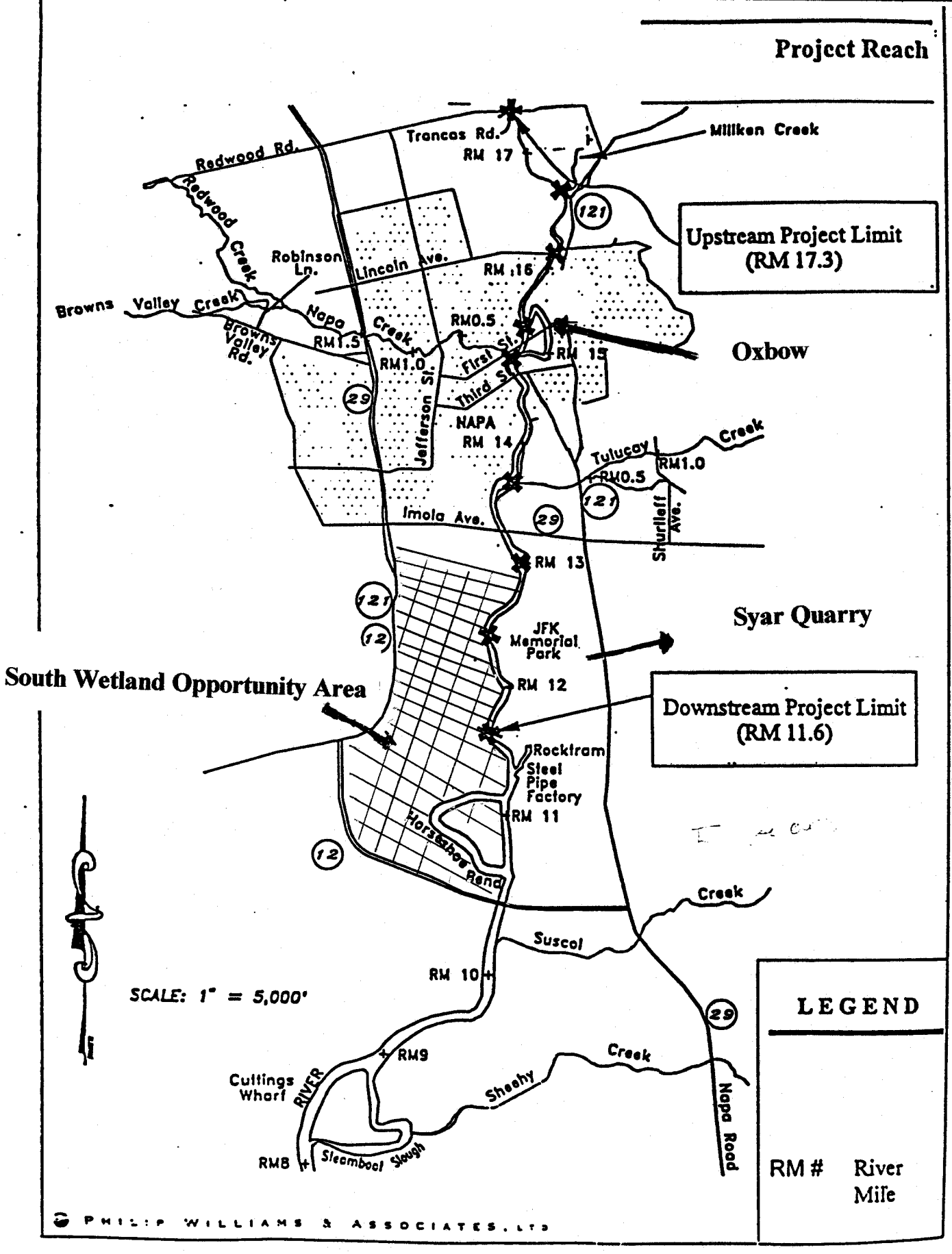


Figure 2. Napa River Project vicinity (source: PWA 1996).

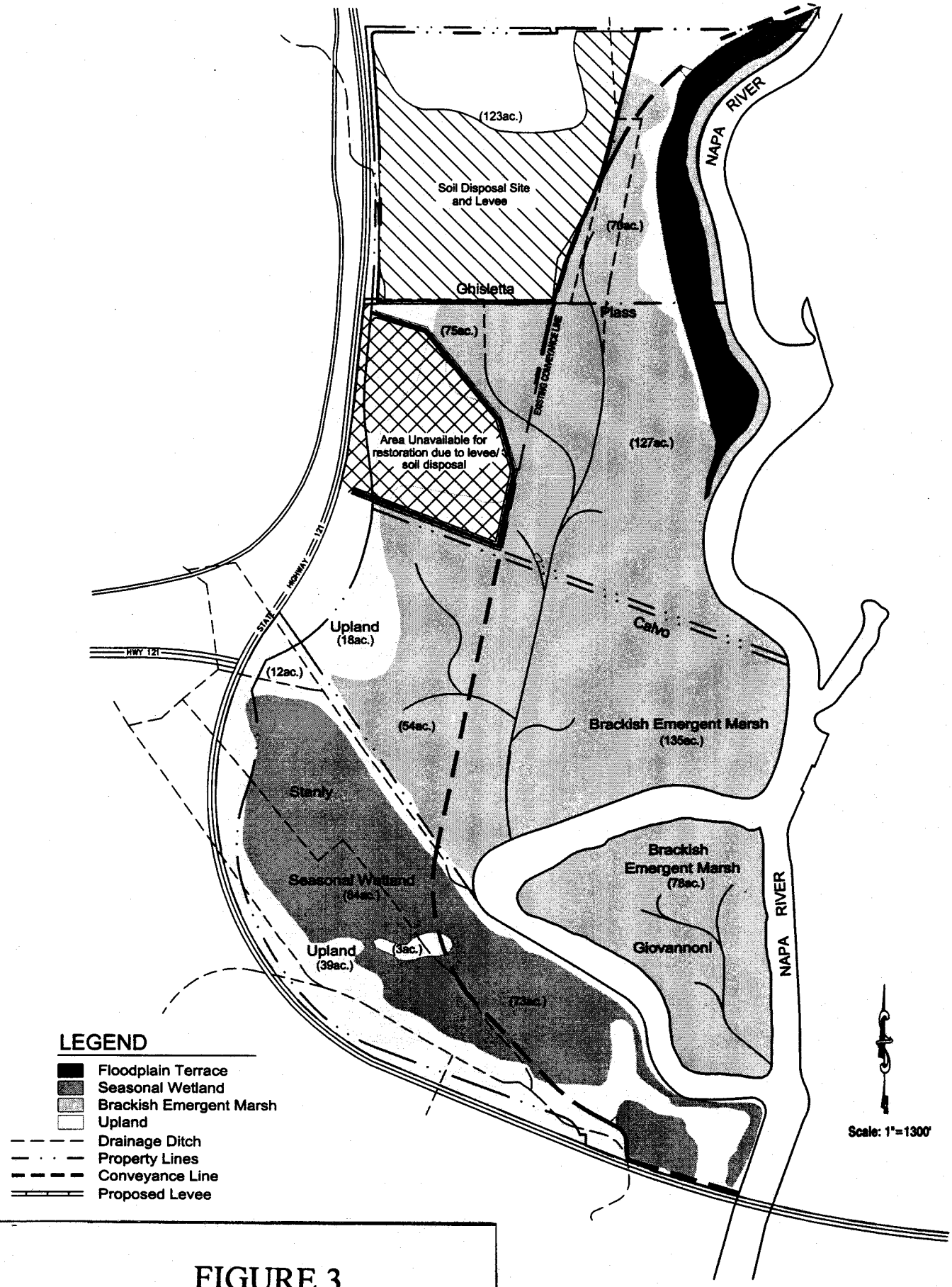


FIGURE 3

South Wetlands Opportunity Area
Post-enhancement conditions for the CEP

Figure 3.4-5

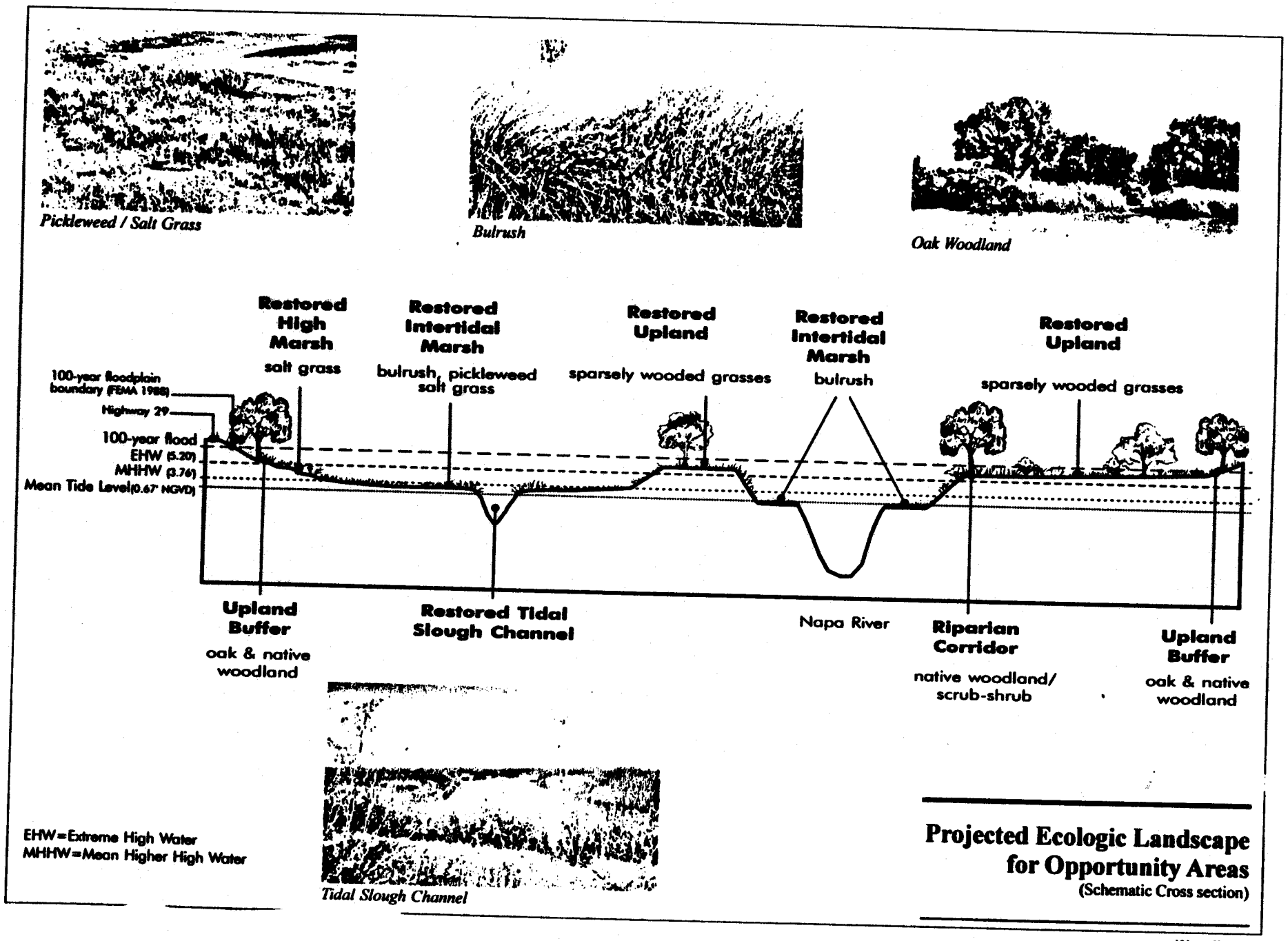
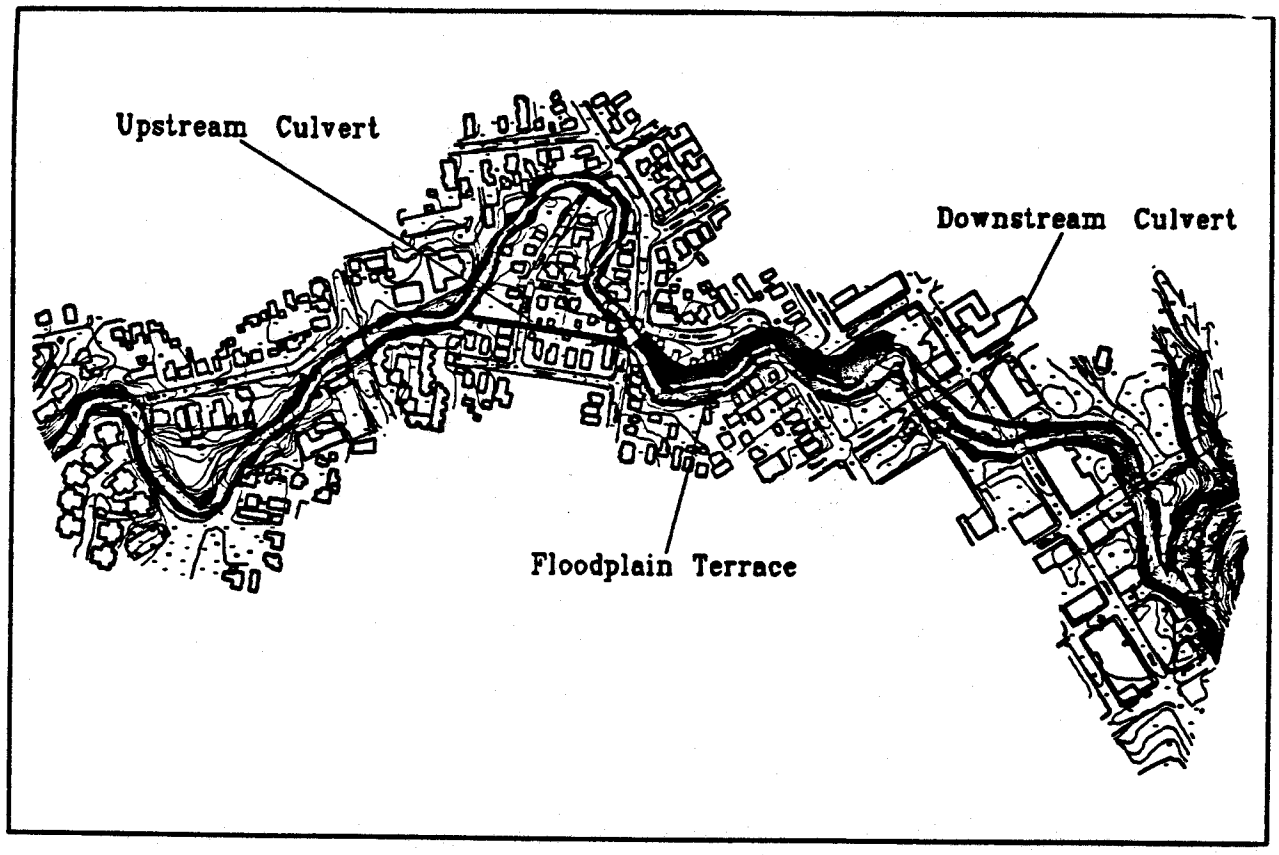

Pickleweed / Salt Grass
Bulrush
Oak Woodland
Restored High Marsh
salt grass
Restored Intertidal Marsh
bulrush, pickleweed salt grass
Restored Upland
sparsely wooded grasses
Restored Intertidal Marsh
bulrush
Restored Upland
sparsely wooded grasses
100-year floodplain boundary (FEMA 1988)
Highway 29
100-year flood
EHW (5.20)
MHHW (3.76)
Mean Tide Level (0.67' NGVD)
Upland Buffer
oak & native woodland
Restored Tidal Slough Channel
Napa River
Riparian Corridor
native woodland/ scrub-shrub
Upland Buffer
oak & native woodland
Tidal Slough Channel
EHW=Extreme High Water
MHHW=Mean Higher High Water
Projected Ecologic Landscape for Opportunity Areas
(Schematic Cross section)
1214profile5.cdr

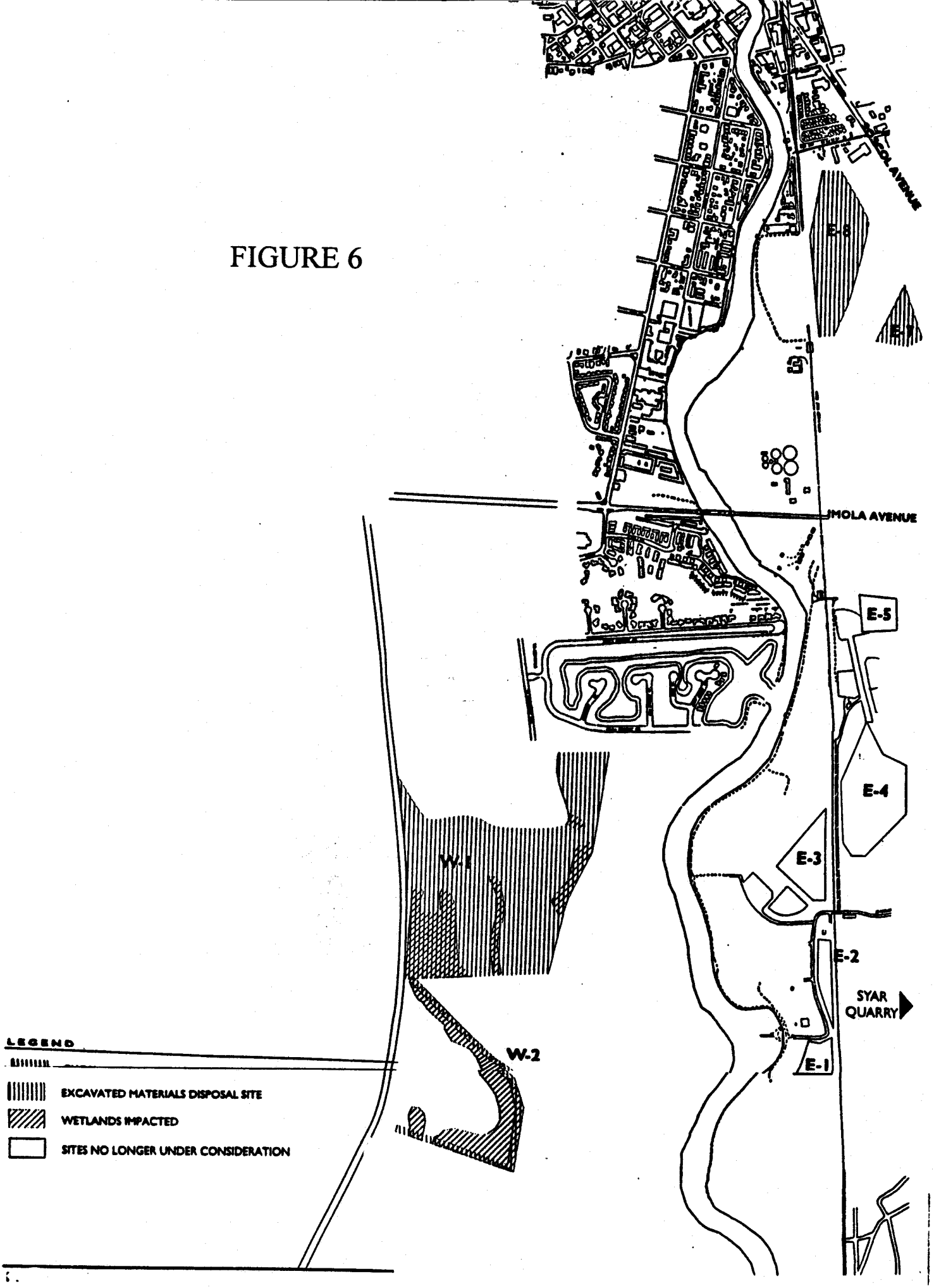
FIGURE 4



Napa Creek

FIGURE 5

FIGURE 6



PROPOSED EXCAVATED MATERIALS DISPOSAL SITES

APPENDIX A

Design Elevations (minimum elevations)

Design Element	**Design Elevation**
Marshplain Terrace	0.0 -1.5 NGVD (Average 0.7 NGVD) Elevation shall not go below 0.0 NGVD
Floodplain Terrace	see table below
Napa River dry bypass	Min. invert elevation = 4.8 ft. NGVD, Maximum invert elevation (flow control) = 11.5 NGVD
Napa Creek - Main to Pearl bypass culvert- Flow control elevation at upstream end (Sta. 14+50)	Invert elevation at STA 14+50 = 11 NGVD
Napa Creek- Behrens St. bypass Culvert- Flow control at upstream end (STA 38+00)	Invert elevation at STA 38+00 = 20.8 NGVD

Floodplain Terrace Elevations (minimum)[5]

Floodplain Terrace station (STA)	**Approximate Floodplain Terrace Elevation (+/ - .5 ft.)**
WEST BANK TERRACE	
620+00	3.7
637+00	4.0
650+00	4.3
675+00	5.2
677+00 end west bank terrace	5.3
EAST BANK TERRACE	
637+00	4.0
650+00	4.3
675+00	5.2
677+00	5.3
700+00	5.9
725+00	6.5
750+00	7.0
760+00 end east bank terrace	7.7

[5] Some areas may be lower to provide drainage off the terrace. These elevations will be determined through consolation with Mosquito Abatement District, CDF&G, NMFS, USEPA, NRCS and Board staff.

APPENDIX B

Critical Bank Treatment Features

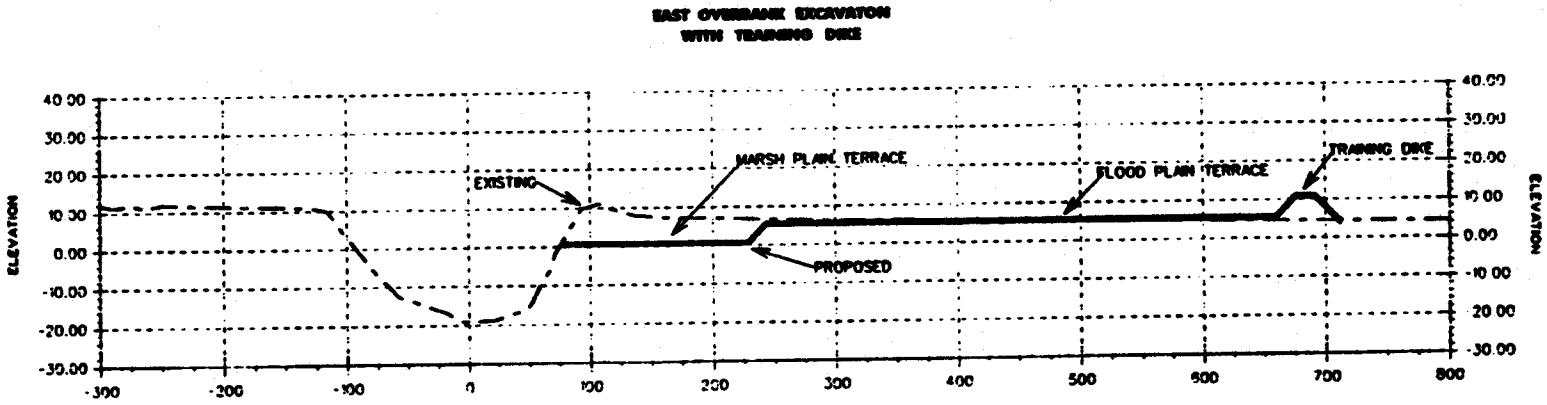
Treatment	Elevations (NGVD)	Special Features
Treatment 1A-E	None	see SGDM design
Treatment 2	Maximum elevation of rip rap: -1.5 (+/- 1 ft.) (construction flexibility) Beginning pole cuttings or veg. : +2.0 (+/- 1 ft)	see SGDM design
Treatment 3	Maximum elevation of rip rap: 3.7 ft. Beginning pole cuttings or vegetation installed in rock. : +2.0 (+/- 1 ft)	3A: Rootwads min. 1per 50 ft. 3B: Lunkers min. 1 per 25 ft. 3C: Rootwads min 1 per 50 ft.

Locations of Bank Treatments and Rip Rap Removal

Station	Treatment
Right Bank	
620+00 to 664+00	1B
698+00 to 702+00	2
716+00 to 718+00	2
718+00 to 731+00	1A
731+00 to 760+00	2
760+00 to 774+00	vertical wall
782+00 to 789+00	3A
819+00 to 826+00	3A
826+00 to 844+00	1D
850+00 to 854+00	2
854+00 to 860+00	3A
887+00 to 992+00	3A
LEFT BANK (looking downstream)	
638+00 to 765+00	1C
659+00 to 710+00	1A
710+00 to 719+00	1B
719+00 to 724+00	1A
724+00 to 728+00	1B
728+00 to 737+00	1A
737+00 to 765+00	1B
765+00 to 774+00	1A
781+00 to 789+00	3A
789+00 to 792+00	2
792+00 to 805+00	3A
805+00 to 860+00	1E
659+00 to 743+00	Rip rap removal

APPENDIX C

TYPICAL CROSS SECTION FROM 635+00 TO 677+00



APPENDIX D

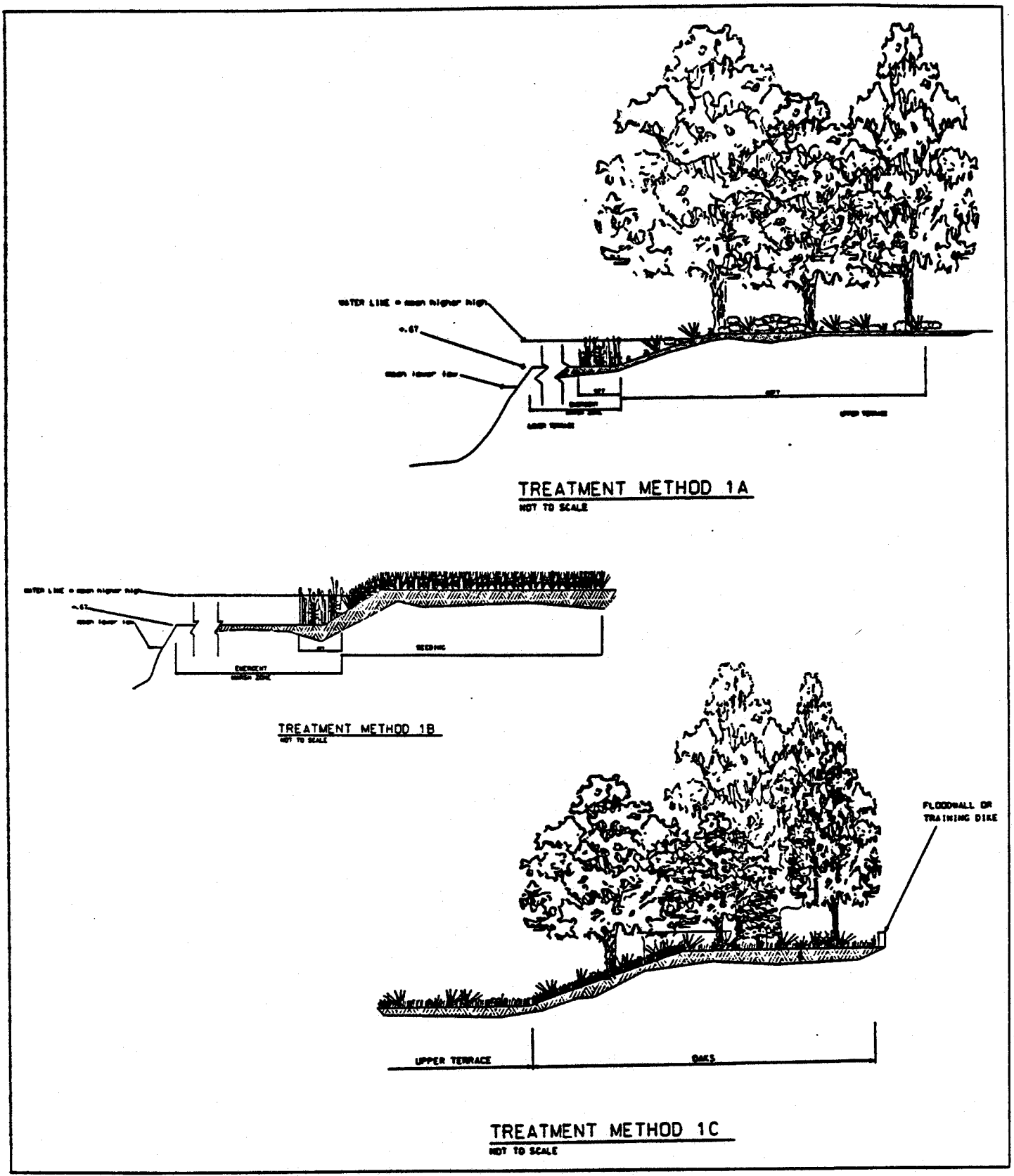
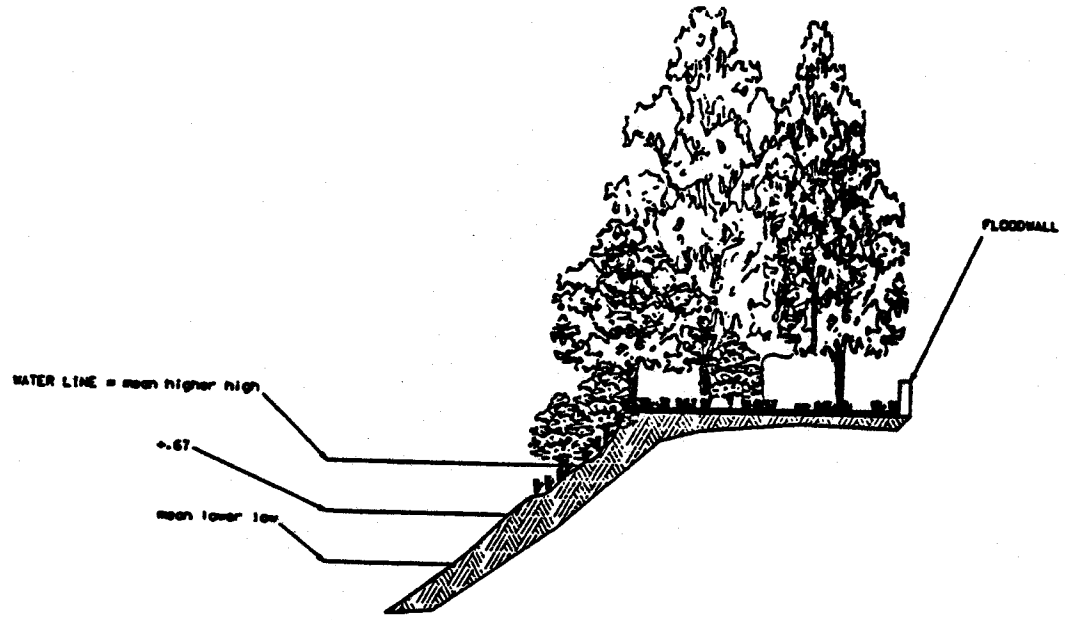


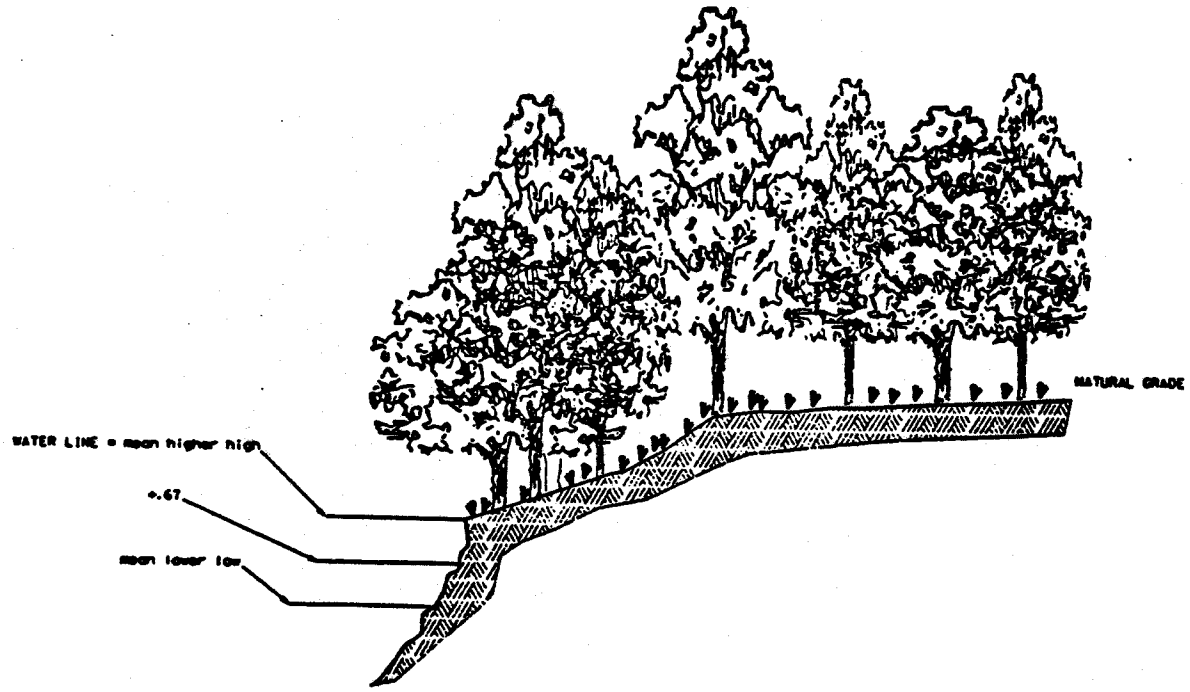
FIGURE 2-13

BANK STABILIZATION TREATMENT METHODS

NAPA RIVER/NAPA CREEK FLOOD PROTECTION PROJECT
SEIS/EIR



TREATMENT METHOD 1D
NOT TO SCALE

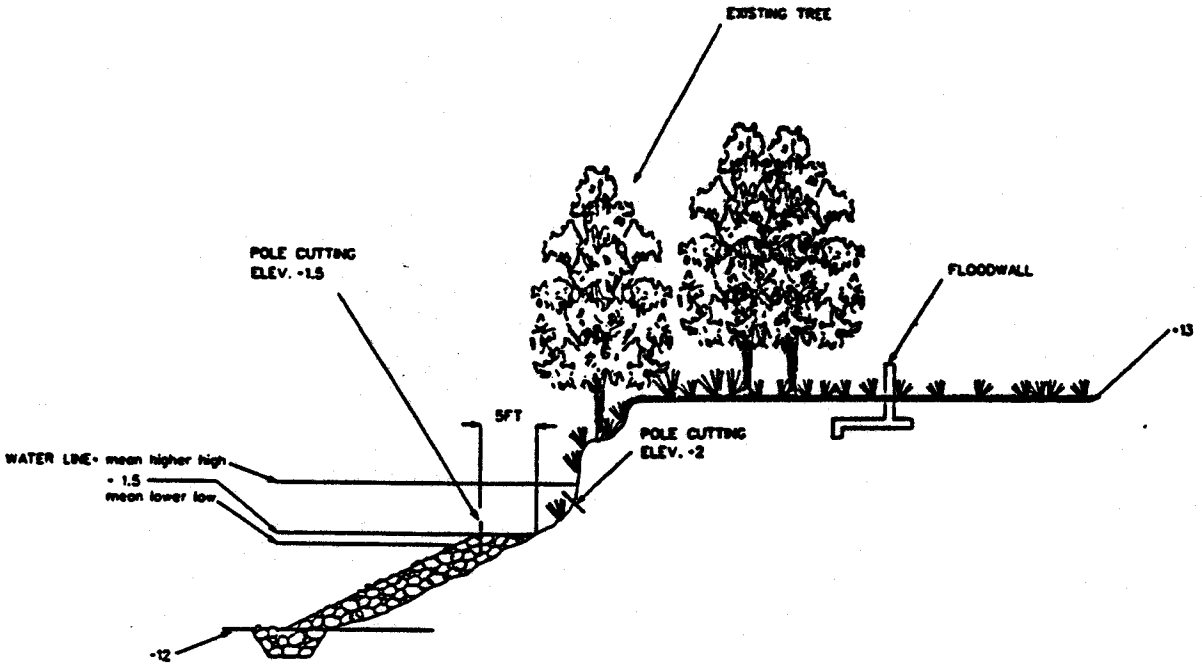


TREATMENT METHOD 1E
NOT TO SCALE

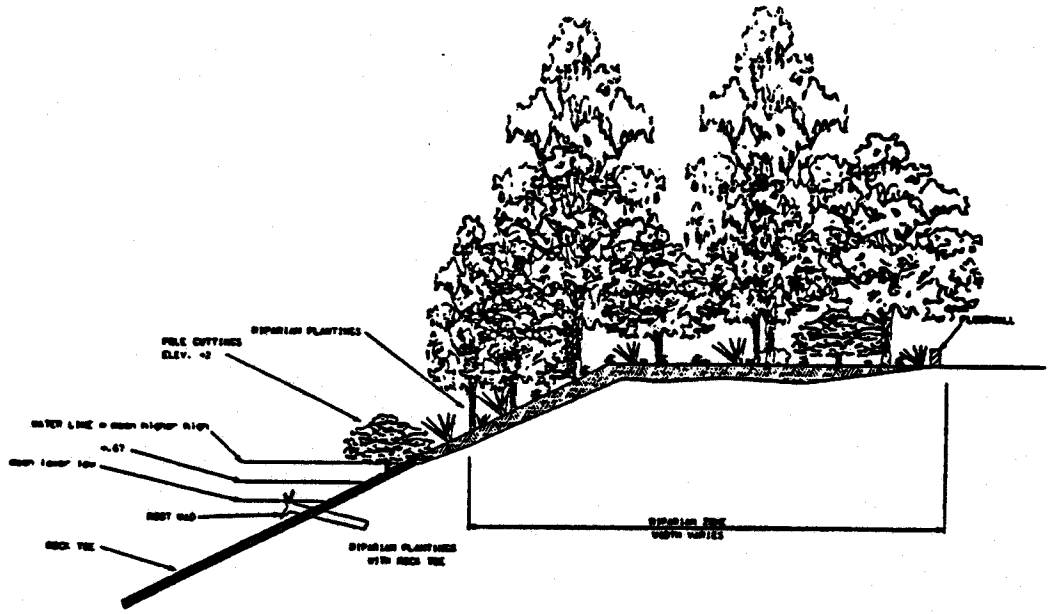
FIGURE 2-14

BANK STABILIZATION TREATMENT METHODS

NAPA RIVER/NAPA CREEK FLOOD PROTECTION PROJECT
SEIS/EIR



TREATMENT METHOD 2

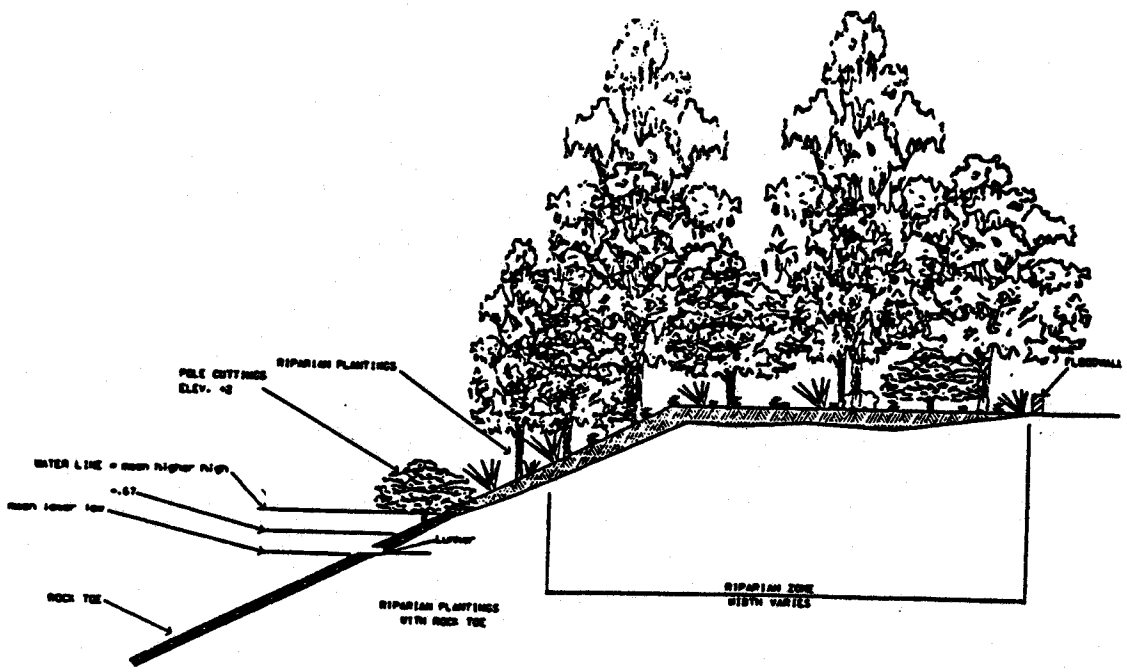


TREATMENT METHOD 3A

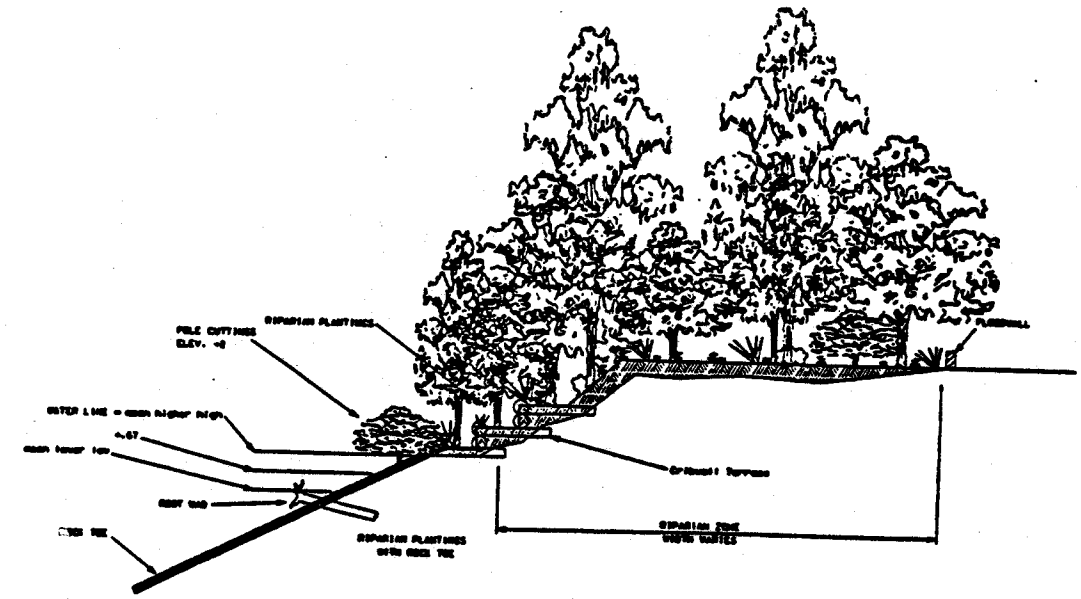
NOT TO SCALE

FIGURE 2-15

BANK STABILIZATION TREATMENT METHODS



TREATMENT METHOD 3B



TREATMENT METHOD 3C

FIGURE 2-16

BANK STABILIZATION TREATMENT METHODS

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

U.S. Army Corps Of Engineers And The Napa County Flood Control And Water Conservation District
Napa River/ Napa Creek Flood Protection Project, Napa County

ORDER NO. 99-074

CONSISTS OF

PART A

[Modified Standard Provisions]

and

PART B

[Site Specific Provisions]

NOTE: This SMP is not a substitute for the Stormwater Pollution Prevention Plan (SWPPP) for construction activities, which includes a monitoring component. This SWPPP shall be developed and implemented as specified in Provision C.18.

PART A.

I. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principle purposes of a monitoring program by a waste discharger, also referred to as a self-monitoring program, are:

1. To document compliance with waste discharge requirements and prohibitions established by this Regional Board; and

2. To facilitate self-policing by the discharger in the prevention and abatement of pollution arising from waste discharge.

II. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to Code of Federal Regulations Title 40, Section 136 (40 CFR S136), or other methods approved and specified by the Executive Officer of this Regional Board.

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DHS), or a laboratory waived by the Executive Officer from obtaining a DHS certification for these analyses.

The director of the laboratory whose name appears on the certification, or his/her laboratory supervisor who is directly responsible for the analytical work performed shall supervise all analytical work including appropriate quality assurance / quality control procedures in his / her laboratory and shall sign all reports of such work submitted to the Regional Board.

Field monitoring for pH, temperature and dissolved oxygen shall be conducted with monitoring instruments and equipment properly calibrated and maintained to ensure accuracy of measurements.

III. DEFINITION OF TERMS

A. A grab sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the sample is collected.

B. A flow sample is defined as the accurate measurement of the flow volume over a given period of time using a properly calibrated and maintained flow measuring device. Flows calculated from properly maintained pump usage records for an accurately calibrated pump are acceptable.

C. Standard Observations

Standard Observations are visual observations. Standard Observations shall be conducted from land from a location(s) which enables the observer to make the observations described in Part B accurately for each area where work is occurring. If necessary, the observer shall make observations from several locations to ensure accuracy.

PART B.

I. DESCRIPTION OF SAMPLING AND OBSERVATION STATIONS

A. Receiving Waters (Napa River)

Station	Description
A-1	A point shall be located immediately adjacent to construction activity.
A-D	The sampling point shall be within 1000 feet of the construction activity. Sample shall be taken at mid-depth of water column and at slack tide or ebb tide. If a plume of suspended sediment is obvious, the sample shall be taken within the plume.
A-U	Sampling point shall be at least 75 feet upstream of the construction activity. Sample to be taken at mid-depth of water column and taken at ebb tide. This is a background sample. If additional construction activities are occurring which may affect this sample, then this sample shall be located upstream above these activities, and location noted.

B. Land Observations

Station	Description
L1-Lx	Standard Observations shall be conducted from land from a location(s) which enables the observer to make the required observations accurately for each area where work is occurring. If necessary, the observer shall make observations from several locations to ensure accuracy.

II. SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

A. The Dischargers are required to perform observations, sampling, measurements and analyses according to the schedule given in Table 1, below.

Table 1.
Schedule for Sampling, Measurements and Analyses

	Stations A1, AD, AU	Stations L1-Lx
Type of Sample	Grab	Observations
Parameter:		
Total Suspended Solids	Weekly/per episode[1]	
pH	Weekly/per episode	
Dissolved Oxygen	Weekly/per episode	
Temperature (C)	Weekly/per episode	
Turbidity (NTU)	Weekly/per episode	
Standard Observations		Daily/per episode[2]

B. Standard Observations

[1] "Episode" is defined as during construction activities which occur below High water (Higher High Water during timeframe of construction) and are not protected from tidal inundation by berm or other method. "Episode" also includes during any construction activity which the Discharger determines, in consultation with Board staff, may result in a discharge of sediment to the River.

[2] A record of Standard Observations shall be maintained on-site and available for Board inspection. Reports submitted to the Board shall only include a summary of Standard Observations as they pertain to compliance with this Order.

1. Equipment Observation: Observation of location and operation of equipment to ensure that equipment operation and location minimize sediment and habitat disturbance, and there are no discharges of pollutants to Waters of the State.

2. Manual Laborer Observation: Observation of manual laborers to ensure that activities minimize sediment and habitat disturbance, and there are no discharges of pollutants to Waters of the State.

3. Best Management Practices (BMPs) Observations: Observation of the BMPs installed in accordance with Provision C.2.d. of attached Order, to ensure that they are functioning properly and maintained.

4. Biological Resources and Habitat Observations:

a. Note any dead or obviously distressed aquatic life (e.g., fish, crabs) that may be associated with Project impacts.

b. Note any dead or obviously distressed wildlife that may be associated with Project impacts.

c. Observation of vegetation or other habitat features which have been specified not to be disturbed by Project construction, to ensure that this feature is properly identified and remains identified.

III. REPORTS TO BE FILED WITH THE REGIONAL BOARD

A. Self-Monitoring Reports

Written reports shall be filed regularly for each quarter of Project activity (ending July, October, January, and April). Reports shall be submitted to this Regional Board's office no later than the fifteenth day of the month following the end of each quarter. The reports shall consist of the following:

1. Letter of Transmittal

A letter transmitting the self-monitoring reports should accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for

implementing the corrective actions, reference to the previous correspondence will be satisfactory.

The transmittal letter shall contain a statement by the Discharger, or the Discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete.

2. Results of Analyses and Observations

Tabulations of the results from all required analyses specified in Table 1 by date, time, type of sample, and sample station. Standard Observations shall be summarized to discuss compliance with relevant conditons of the attached Order (Data sheets need not be included).

B. Spill Reports

A report shall be made of any spill of oil or other hazardous material. Spills shall be reported immediately to this Regional Board, at (510) 622-2300 during business hours, and during non-business hours, Office of Emergency Services (OES) at 1-800-852-7550. Any after hours spill which is reported to OES, shall be reported to the Board the following day by phone. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to:

a. Nature of waste or pollutant
b. Quantity involved
c. Duration of incident
d. Cause of spill
e. SPCC Spill Prevention and Containment Plan in effect, if any
f. Estimated size of affected area
g. Nature of effects (i.e., fishkill, discoloration of receiving waters, etc.)
h. Corrective measures that have been taken or planned, and a schedule of these activities
i. Persons notified.

C. Report of Permit Violation

In the event the Discharger violates, or threatens to violate the conditions of the waste discharge requirements and prohibitions due to:

a. Maintenance work, power failure, or equipment breakdown;

b. Accidents caused by human error or negligence; or

c. Other causes such as acts of nature,

The **Discharger shall notify the Regional Board office and California Department of Fish and Game (CDF&G), by telephone as soon as the Discharger or the Discharger's agents have knowledge of the incident. Written confirmation of this notification shall be submitted within two weeks of the telephone notification to the Regional Board.** The written notification shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to correct the problem and the dates thereof, and what steps are being taken to prevent the problem from recurring.

D. Additional Notifications

In the event dead or distressed aquatic life or wildlife are observed, which may be the result of Project impacts, the Board (510)622-2300 and CDF&G (707) 944-5512, shall be notified immediately.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No.99-074

2. Is effective on the date shown below.

3. May be revised at any time after the effective date by the Executive Officer.

Loretta K. Barsamian

LORETTA K. BARSAMIAN
Executive Officer

Effective Date September 15, 1999