

# APPENDIX B

## DELTA LEVEE BASE LEVEL PROTECTION PLAN

### DELTA LEVEE SYSTEM INTEGRITY PROGRAM

CALFED  
Bay-Delta Program

DRAFT  
October, 1997  
B - 1

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D-031590

## **Delta Levee Base Level Protection Plan - Levee Reconstruction to a Delta Wide Standard**

One of the primary goals of the CALFED Delta Levee System Integrity Program is to reconstruct all Delta levees to a particular levee standard. This goal is being developed through the Delta Levee Base Level Protection Plan. Figure B-1 shows several established levee standards. The Program has tentatively selected the U.S. Army Corps of Engineers PL 84-99 standard. However, the selection of any levee standard must be congruent with available funding. Cost sharing partners for this reconstruction would most likely include Federal, State and local agencies. It is important that each of these cost sharing partners be able to pay its share of costs for reconstruction to the selected levee standard. If the selected levee standard is too low then many of the benefits which the levees provide will be lost. If the levee standard is too high then reconstruction becomes too expensive for most local agencies and implementation is not uniform.

Preliminary costs to reconstruct levees to PL 84-99 are shown in Appendix G. CALFED staff is planning to refine these costs.

### **Integration of Levee Reconstruction and Ecosystem Restoration**

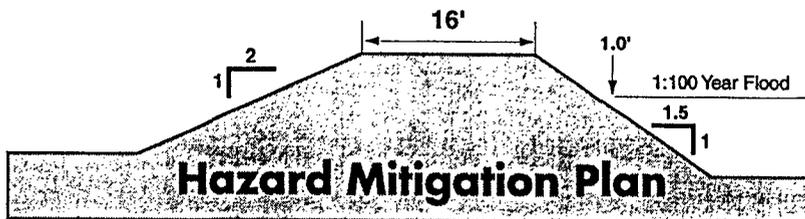
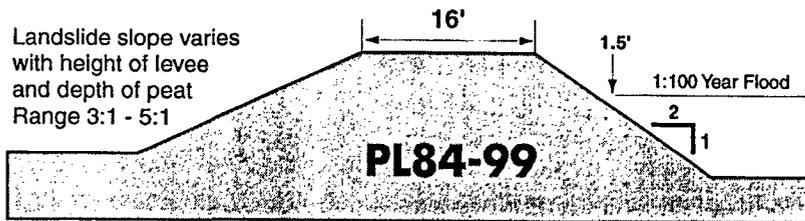
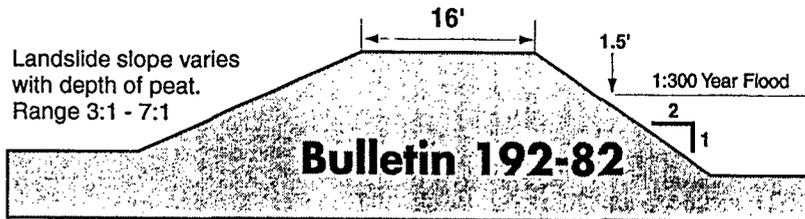
Another goal of the Delta Levee System Integrity Program is to integrate levee reconstruction with ecosystem restoration. Figures B-2 through B-4 illustrate various methods to integrate levee reconstruction with direct ecosystem restoration features. Figure B-5 illustrates levee reconstruction with indirect ecosystem restoration features. This indirect method doesn't create new habitat, but protects existing habitat. These four methods were selected from a larger list of methods shown in Appendix G. Figures B-6 through B-8 illustrate where these integration methods are to be located. These methods and locations are strictly preliminary and subject to technical review. About 160 miles of levee reconstruction and ecosystem restoration integration is being planned. This represents about 10 percent of historic habitat levels. These figures only show a portion of the 160 miles that are being planned. CALFED and the Corps of Engineers are planning to implement the balance the 160 miles in various locations on the Sacramento River from Sacramento to Collinsville. Site specific details are not yet available.

Costs to integrate levee reconstruction with ecosystem restoration are outlined in Appendix G. CALFED staff is planning to refine these costs.

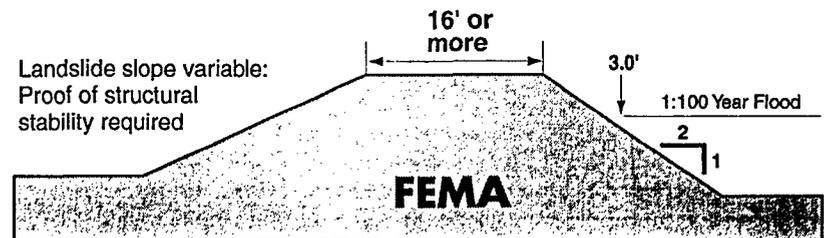
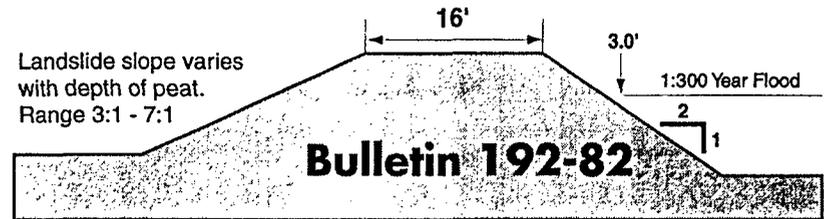
Figure B -1

# Levee Standards

## Agricultural

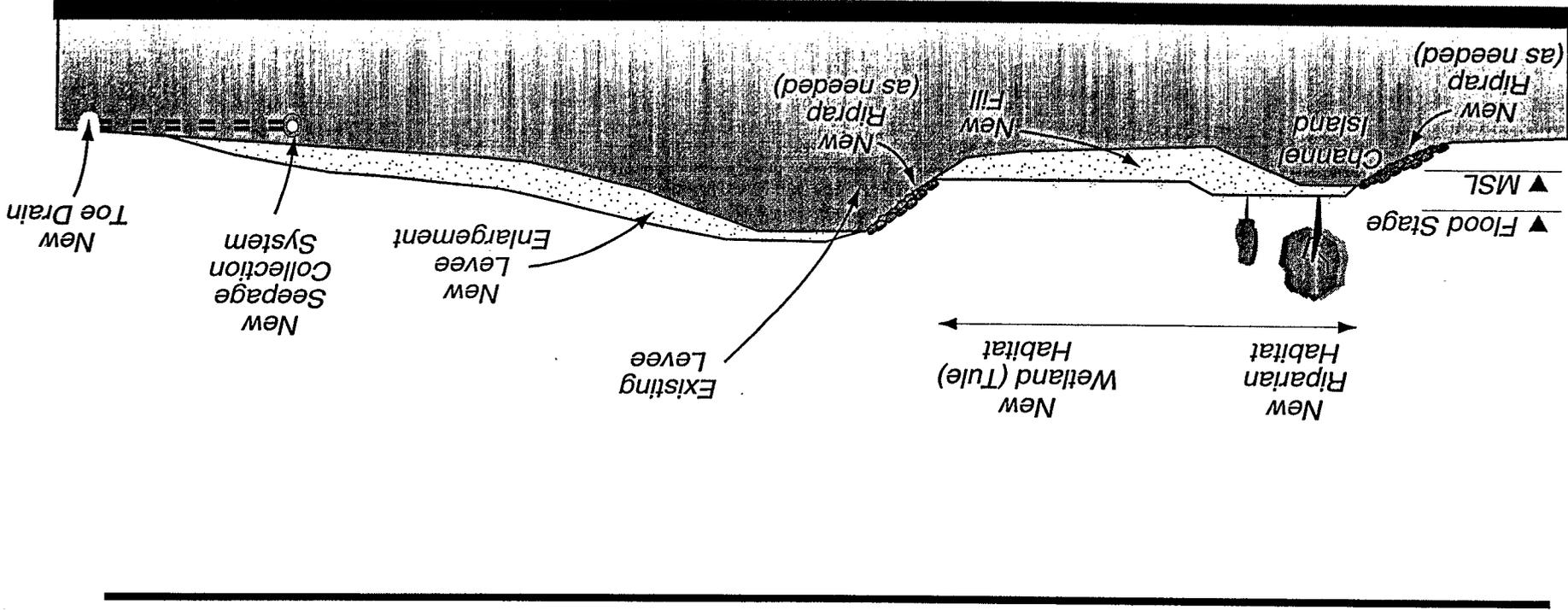


## Urban



# Examples of Levee and Habitat Improvements

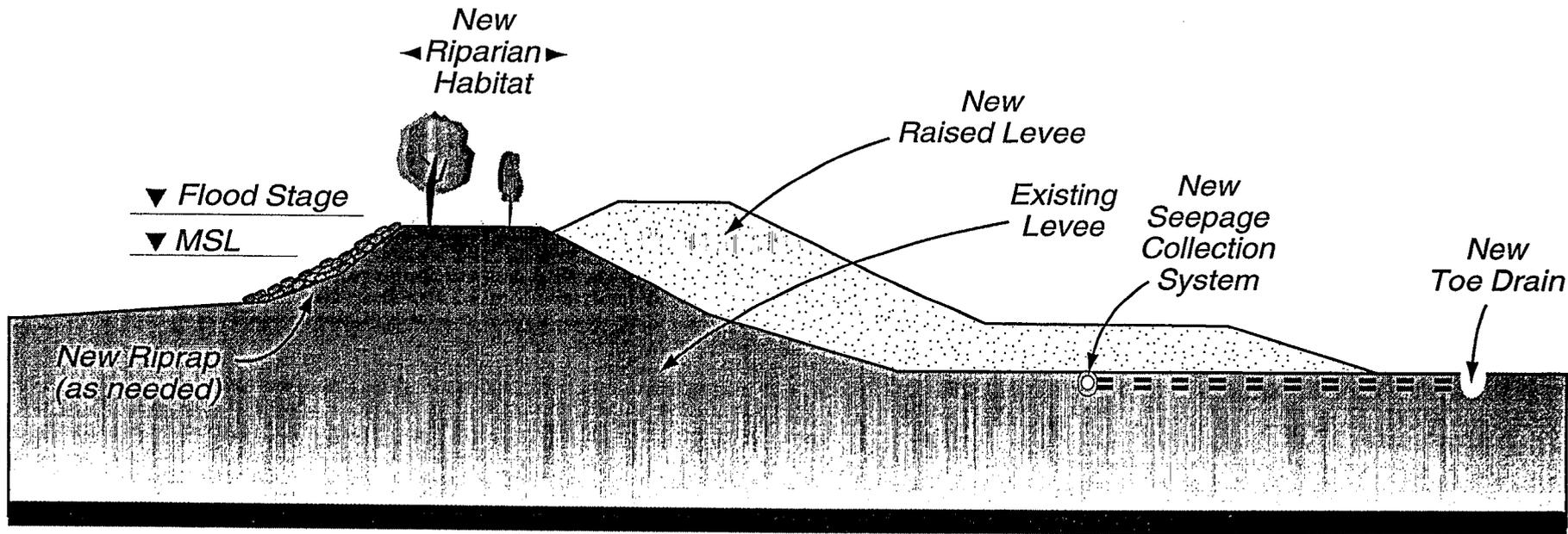
Figure B - 2



Levee Enlargement, Waterside Berm with New Riparian Habitat

Figure B - 3

# Examples of Levee and Habitat Improvements

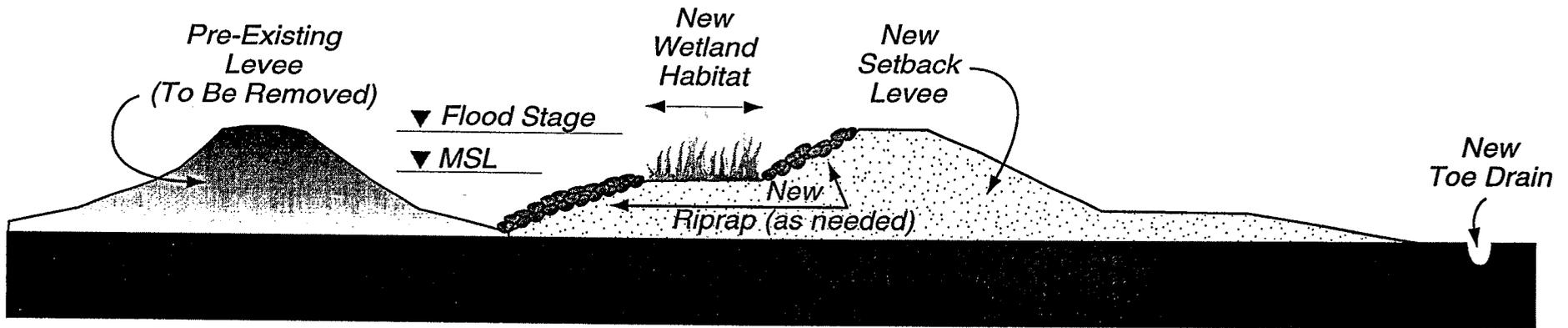


D-031594

*Raised Levee with New Riparian Habitat*

Figure B - 4

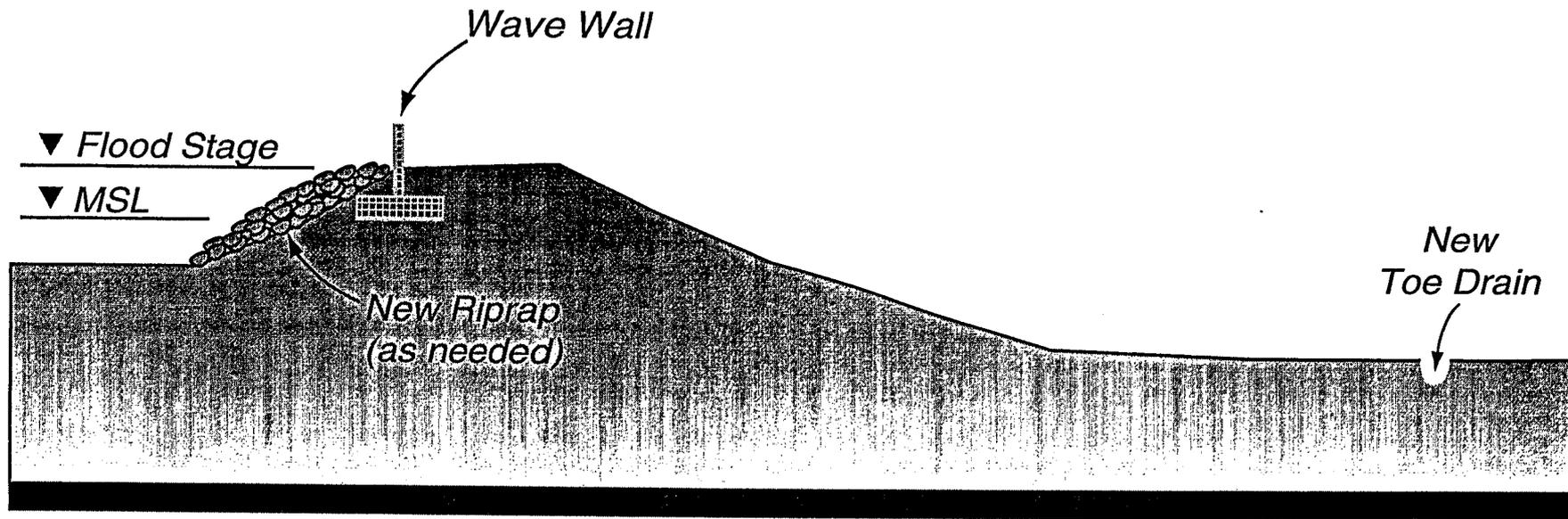
# Examples of Levee and Habitat Improvements



Setback Levee with Habitat Improvements

Figure B - 5

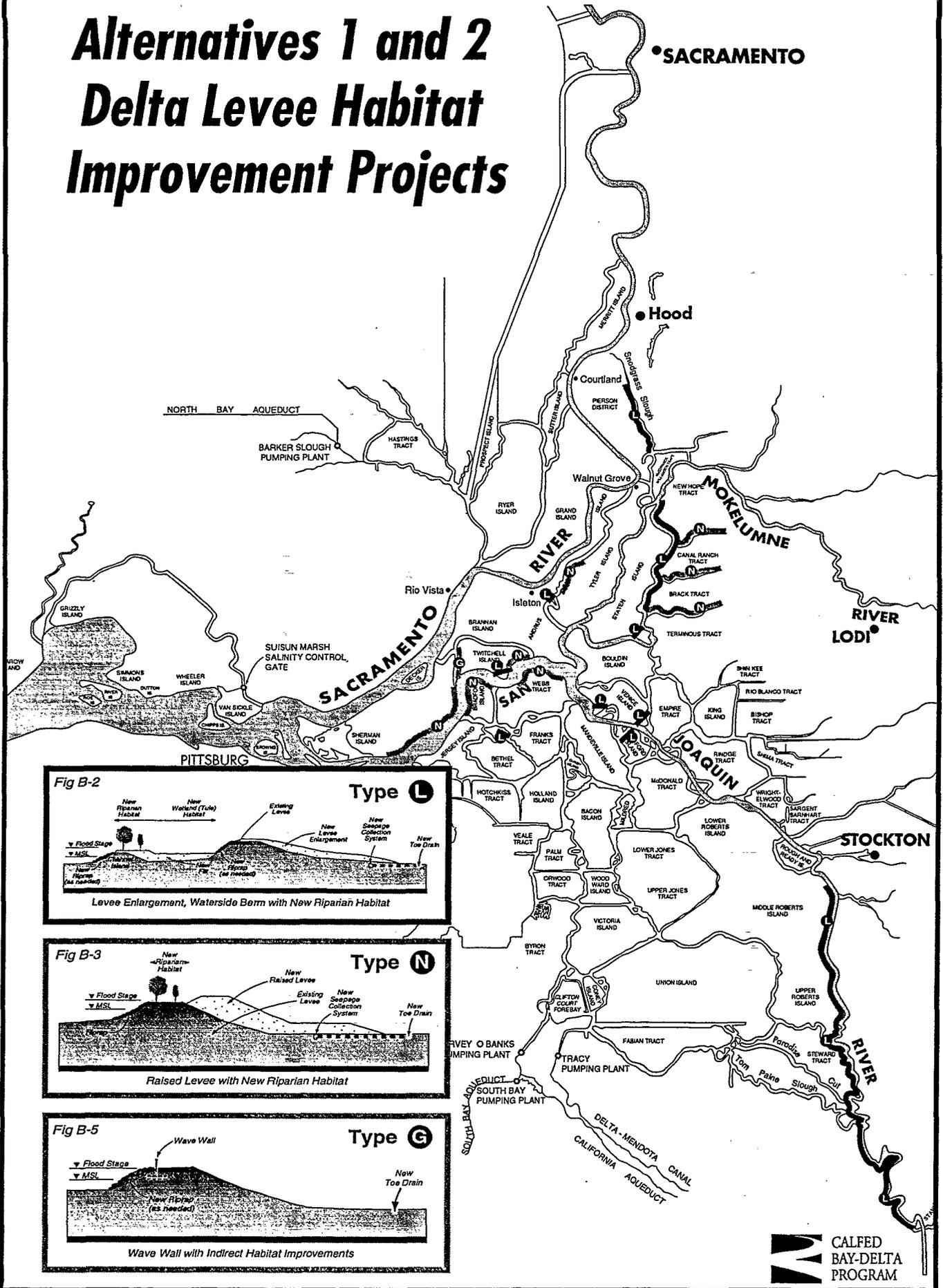
# Examples of Levee and Habitat Improvements



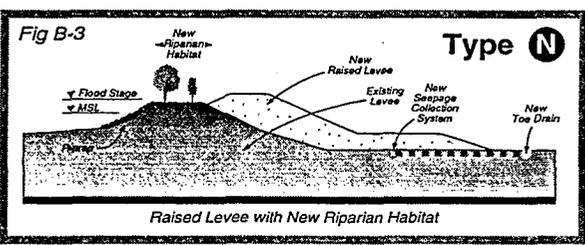
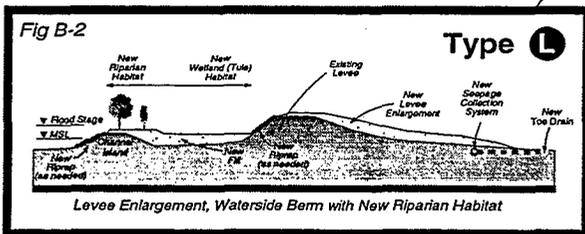
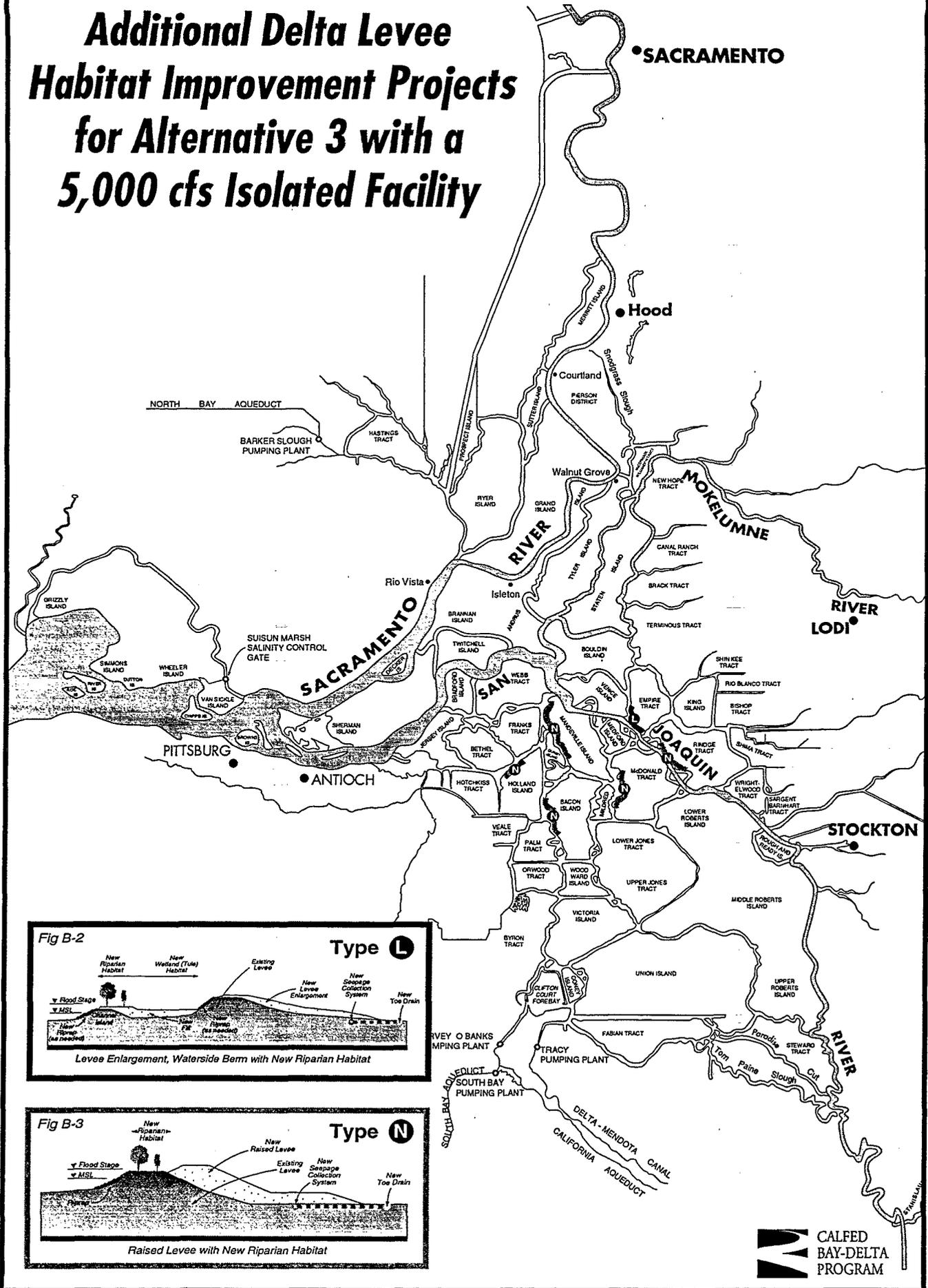
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*Wave Wall with Indirect Habitat Improvements*

# Alternatives 1 and 2 Delta Levee Habitat Improvement Projects



# Additional Delta Levee Habitat Improvement Projects for Alternative 3 with a 5,000 cfs Isolated Facility



# Additional Delta Levee Habitat Improvement Projects for Alternative 3 with a 15,000 cfs Isolated Facility

