

CALIFORNIA COASTAL COMMISSION

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**RECORD PACKET COPY****W 7c****STAFF RECOMMENDATION****ON CONSISTENCY DETERMINATION**

Consistency Determination No.	CD-72-00
Staff:	MPD-SF
File Date:	7/3//2000
45th Day:	8/17/2000
60th Day:	9/1/2000
Commission Meeting:	8/9/2000

FEDERAL AGENCY: **U.S. Army Corps of Engineers****PROJECT**
LOCATION:

Upper Newport Bay, Newport Beach, Orange County (Exhibits 1-4)

PROJECT
DESCRIPTION:

Restoration of Upper Newport Bay through various dredging and habitat modification activities (Exhibits 8-13)

SUBSTANTIVE FILE
DOCUMENTS:

1. Draft EIS, Upper Newport Bay Ecosystem Restoration Feasibility Study, Public Draft Report, May 2000.

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers ("Corps") has submitted a consistency determination for a restoration project designed to address the issues related to the continued sedimentation problems within Upper Newport Bay. The 752-acre Upper Newport Bay Ecological Reserve is one of the last remaining southern California coastal wetlands that continues to play a significant role in providing critical habitat for a variety of migratory water fowl and shorebirds, as well as several endangered species of animals and plants. For this reason, Upper Newport Bay is an ecological resource of national significance.

The ecological diversity and functionality of Upper Newport Bay has been threatened by sedimentation from the surrounding watershed. To address this problem the Corps proposes restoration efforts which include increasing the tidal prism and reducing sedimentation damage by expanding and deepening the two in-Bay basins, including relocating a least tern island from the upper basin to the lower basin. Restoration measures also include wetlands creation along Northstar Beach, Shellmaker Island and a section of the northwestern edge of the upper basin (Bullnose). Side channels would be restored around the least tern island in the upper basin, New Island, Middle Island and Shellmaker Island. The total volume of material to be dredged from the Upper Bay is approximately 2.1 million cubic yards. The dredged material would be disposed of at the LA-3 offshore disposal site, located approximately 4 miles southwest of the Newport Bay Harbor entrance. Initial construction would take approximately 2 years to complete. Maintenance dredging for the recommended plan is expected to occur once every 21 years, on average.

The Corps has designed the project within an inter-agency task force (Upper Newport Bay Environmental Restoration Technical Advisory Group (TAG)), which includes the Orange County Public Facilities and Resource Department, the City of Newport Beach, the California Department of Fish and Game, the California Regional Water Quality Control Board, the U.S. National Marine Fisheries Service, the U.S. Fish and Wildlife Service. This task force, as well as many local environmental groups, support the recommended plan.

The project would protect and restore, where feasible, environmentally sensitive habitat, water quality, wetlands, rare, threatened and endangered species, and marine resources. Public access and recreation improvements would also be incorporated into the plan. The project is an allowable use for wetland dredging and filling (as restoration), is the least environmentally damaging feasible alternative, would provide net habitat benefits, includes habitat avoidance, minimization, and monitoring efforts, and is consistent with the applicable wetland, marine resource, and environmentally sensitive habitat policies (Sections 30230-30233, and 30240) of the Coastal Act. The project also includes access and recreation benefits, both through habitat enhancement and the provision of additional interpretive features, and is consistent with the public access and recreation policies (Sections 30210-30214) of the Coastal Act.

STAFF SUMMARY AND RECOMMENDATION

I. Project Description. The U.S. Army Corps of Engineers ("Corps") has submitted a consistency determination for the restoration of Upper Newport Bay, to address issues related to continued sedimentation problems within Newport Bay and the direct effects of sedimentation on the habitats and species that make up the ecological reserve. The restoration efforts include increasing the tidal prism and reducing sedimentation damage by expanding and deepening the two in-Bay basins and relocating a least tern island. Under the plan: (1) Unit I/III and Unit II (Exhibits 2, 3 & 9) would be dredged to -20 ft. MSL (mean sea level); (2) an approach channel to Unit II would be dredged to -14 ft. MSL; (3) the least tern island would be

relocated from Unit I/III to Unit II; (4) side channels would be created to restore habitat around the small tern island adjacent to the Unit I/III basin, New, Middle, and Shellmaker Islands; (5) the small tern island would be capped with clean sand; (6) material removal and restoration of wetlands would occur along Northstar Beach, Shellmaker Island and a section of the northwestern edge of the upper basin (Bullnose); (7) a small channel on Shellmaker Island would be created; (8) the main dike would be segmented to decrease terrestrial disturbances; (9) eelgrass beds would be restored along the southwestern edge of Shellmaker Island; and (10) education kiosks would be added along Back Bay Drive and by the interpretive center.

The total volume of material to be dredged from the Upper Bay is approximately 2.1 million cubic yards. The dredged material would be disposed of at the LA-3 offshore disposal site (Exhibit 5), located approximately 4 miles southwest of the Newport Bay Harbor entrance. Initial construction would take approximately 2 years to complete. Maintenance dredging for the recommended plan is expected to occur once every 21 years, on average. Construction is expected to commence during Fall 2003. (Additional project details can be found in Exhibit 12.)

The Corps describes the project goal as follows:

To restore, enhance, maximize and maintain the overall intrinsic ecological values provided in the Upper Newport Bay coastal estuarine system for fish and wildlife including sensitive communities, to provide a diversity of use (i.e., fisheries, waterfowl, shorebirds, fish-eating birds, mammals, recreation, education, research etc.) and to promote a public awareness and appreciation of the unique habitat offered in this system now and in the future.

The Corps describes restoration objectives as follows:

Primary

- *Restore, enhance, maintain and manage a mix of native habitat types, which shall include pickleweed dominated flats, cordgrass dominated intertidal zone, unvegetated intertidal mudflat, and subtidal seawater volume with low residence times.*
- *Provide nesting habitat for migratory shorebirds and seabirds.*
- *Provide overwintering habitat for migratory shorebirds, seabirds, waterfowl and raptors.*
- *Improve the fisheries resource by increasing nurseries, forage, and spawning grounds.*
- *Protect and enhance habitat for a variety of water associated wildlife, including endangered, threatened and rare species.*
- *Control, reduce and manage sediment processes in the Upper Bay.*

Secondary

- *Maintain existing navigation opportunities in the lower portions of Upper Newport Bay and the Federal channels in Lower Newport Bay.*
- *Provide and allow public use and recreational opportunities compatible with major objectives, including passive and non-intrusive activities focused on peripheral areas, interpretive foci, and trails.*
- *Provide unique scientific and education use opportunities to study the restoration of the wetland community."*

The Corps states the following constraints were placed on the Restoration Project:

- *Disturbance of threatened or endangered species should be minimized.*
- *Sediment control measures should be confined to the Bay. Study efforts for this project will not formulate alternative measures to lessen the delivery of sediment from the San Diego Creek watershed. Other studies are being undertaken to investigate the watershed and will include a review of sediment control measures within the watershed.*
- *Restoration measures will not be pursued that advance one habitat at the cost of another. No substantial change from the relative distribution of habitats following the Unit III dredging project should occur. No net loss of saltmarsh should occur.*

II. Background. Concerns over sedimentation and the long-term health of the Upper Newport Bay estuarine environment have been growing for several decades. The most significant contributor to change in the Upper Newport Bay estuary is increased sedimentation from the 118 square mile San Diego Creek watershed (Exhibits 6 & 7). Intensive urban and agricultural development has resulted in the enlargement, creation or re-direction of channels in order to transport flows to Newport Bay that once drained into the Tustin Plain. The end result is a significant increase in storm water and sediment flows to Newport Bay. Early signs of trouble became evident during the particularly severe 1969 storm season when several storms deposited large volumes of sediment in the bay, breaching a large dike that enclosed defunct salt evaporation ponds in the upper portion of the bay. Since the 1970's, local citizens, government, academia and landowners formed groups and committees to address the Bay's water quality problems. Efforts focused on both Newport Bay and the watershed, and included the initiation of Best Management Practices (BMP's) for agricultural lands and construction sites and construction of a number of sediment catch basins in the watershed to reduce sediment flows to the Bay. Two sediment control basins were constructed in the Upper Bay by a coalition of State, local and private agencies in the mid-1980's to trap the fine sediments that were flushed to the Bay during winter storms. Trash booms were deployed in several locations around the Bay's freshwater inlets. Monitoring programs were implemented for testing watershed and bay water quality. These measures improved the general water quality of the bay and watershed, reducing the rate of degradation of the Upper Newport Bay habitats and the shoaling in the navigation channels. A Fish and Game draft management plan was developed for the long-term restoration and maintenance of the Upper Newport Bay in the late 1980's,

including the funding requirements for future dredging of the sediment basins. The draft management plan was never finalized and funding was not secured for maintenance dredging of the bay sediment basins, although constituents understood periodic maintenance dredging within Newport Bay would be required to preserve a healthy mix of estuarine habitats.

After more than a decade of storm seasons, the upper sediment control basin (Unit I/III) had filled beyond design capacity and was unable to effectively trap sediments. Little storage capacity remained in the second sediment basin (Unit II). Intertidal mudflats emerged in former open water areas and marsh areas expanded. Tidal circulation diminished with the continued loss of the tidal prism. Widespread sediment deposition shoaled in navigation channels resulting in vessels running aground and loss of slip access. Orange County initiated and completed a dredging project to increase the storage capacity in the upper basin (the 'Unit III' project). Coincidentally, the 1997-98 'El Nino' winter storm season deposited large volumes of sediment throughout Newport Bay, clearly showing the need for functional sediment basins and what could happen if basins were not maintained.

III. Phased Review. In its Feasibility study, the Corps is making the initial decision whether to proceed with the project. At this stage, the Corps has not made final design decisions and several project elements have not been finalized. Some of these elements are as follows: (1) final detailed habitat configurations have not been designed; (2) sediment testing to determine the dredged material's suitability for open ocean disposal at LA-3 has not been conducted; (3) the biological, water quality, and other monitoring plans have not been developed; and (4) access and recreation improvements have not been designed. After the project receives funding from Congress, the Corps will develop a Pre-Construction Engineering and Design (PED) document, which will address all of the final design issues and include information on the above issues. The Commission can review a consistency determination on this project even though it does not include sufficient design specificity, provided the Corps submits a second consistency determination before it finalizes its PED. The regulations implementing the CZMA provide for such a phased review. Specifically, Section 930.37(c) of the federal consistency regulations provides, in part, that:

...[I]n cases where major Federal decisions related to a proposed development project will be made in phases based upon developing information, with each subsequent phase subject to Federal agency discretion to implement alternative decisions based upon such information (e.g., planning, siting, and design decisions), a consistency determination will be required for each major decision. In cases of phased decisionmaking, Federal agencies shall ensure that the development project continues to be consistent to the maximum extent practicable with the State's management program.

In this case, the Corps has agreed to submit a consistency determination for next phase of this project before it approves its PED. That consistency determination will evaluate the PED and include the necessary specificity on those issues identified above. The Corps seeks this initial Commission concurrence in order to secure federal funding for the

project. In this phase, the Commission is reviewing the concept, goals and objectives of the proposed project. In essence, the Commission is reviewing the land or water use decision by the Corps at this time and deferring the design and engineering issues to the next phase. In this case, the Commission is evaluating the appropriateness of restoring Upper Newport Bay resources in a manner that includes the elements provided in the project description. The Commission's determination that the proposed project is consistent with the California Coastal Management Program (CCMP) is contingent on the Corps' agreement to submit a subsequent consistency determination before finalizing its PED, and on the Commission's ability to determine at that time whether the project remains consistent with the applicable resource protection policies of the CCMP described in the remainder of this document.

IV. Status of Local Coastal Program. The standard of review for federal consistency determinations is the policies of Chapter 3 of the Coastal Act, and not the Local Coastal Program (LCP) of the affected area. If the LCP has been certified by the Commission and incorporated into the California Coastal Management Program (CCMP), it can provide guidance in applying Chapter 3 policies in light of local circumstances. If the LCP has not been incorporated into the CCMP, it cannot be used to guide the Commission's decision, but it can be used as background information. The Newport Beach LCP has not been incorporated into the CCMP.

V. Federal Agency's Consistency Determination. The Corps of Engineers has determined the project consistent to the maximum extent practicable with the California Coastal Management Program.

VI. Staff Recommendation. The staff recommends that the Commission adopt the following motion:

MOTION: I move that the Commission agree with consistency determination CD-72-00 that the project described therein is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program (CCMP).

STAFF RECOMMENDATION:

*Staff recommends a **YES** vote on the motion. Passage of this motion will result in an agreement with the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.*

RESOLUTION TO AGREE WITH CONSISTENCY DETERMINATION:

The Commission hereby agrees with the consistency determination by the Corps of Engineers, on the grounds that the project described therein is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the CCMP.

VII. Findings and Declarations:

The Commission finds and declares as follows:

A. Marine Resources, Water Quality, Wetlands, and Environmentally Sensitive Habitat. The Coastal Act provides:

30230: Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

30231: The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

30233(a): The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to ... [eight specified uses, including]: ...

(7) Restoration purposes.

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

30240. (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

The 752-acre Upper Newport Bay Ecological Reserve, managed by the California Department of Fish and Game (CDFG), is one of the last remaining southern California coastal wetlands that continues to play a significant role in providing critical habitat for a variety of migratory water fowl and shorebirds, as well as several endangered species of animals and plants. For this reason, Upper Newport Bay is an ecological resource of national significance.

The ecological diversity and functionality of Upper Newport Bay has been threatened by sedimentation from the surrounding watershed (Exhibits 6-7). The primary source of freshwater and sediment loads to Upper Newport Bay is San Diego Creek, which drains approximately 85 percent of the 98,500 acre watershed. Of the 178,000 cubic yards (cy) (135,280 cubic meters [cu m]) of sediment that flows into the Upper Bay, approximately 129,000 cy (98,040 cu m) remains within the Upper Bay. The rest is deposited in the Lower Bay or discharged to the ocean.

Sedimentation has been identified as the biggest problem in Newport Bay. Sedimentation has filled open water areas, decreased the extent of tidal inundation, diminished water quality, degraded habitat for biological resources, including threatened and endangered species, and resulted in navigation problems in the Upper Bay marinas and navigation channels. Sediment not trapped in the Upper Bay passes under Pacific Coast Highway (PCH) Bridge, where it causes similar problems in the Lower Bay. If sediment deposition within Upper Newport Bay were allowed to continue, open water areas would evolve into mudflats and eventually marsh or upland habitat, resulting in a loss of ecological diversity. Additionally, the Unit II Basin is not in compliance with the Regional Water Quality Control Board's (RWQCB) sediment Total Maximum Daily Load (TMDL) objective.

To address these problems the Corps proposes restoration efforts including dredging 2.1 million cubic yards of material to increase the tidal prism and reduce sedimentation damage, by expanding and deepening the two in-Bay basins, including relocating a least tern island from the upper basin to the lower basin. Restoration measures also include wetland creation along Northstar Beach, Shellmaker Island and a section of the northwestern edge of the upper basin (Bullnose). Side channels would be restored around the least tern island in the upper basin, New Island, Middle Island and Shellmaker Island. These activities, as well as the associated disposal of the dredged material at the offshore disposal site LA-3, need to be examined for consistency with Section 30233 of the Coastal Act. Under Section 30233, dredging and disposal within wetlands, estuaries, and open coastal waters, is limited to those cases where the

proposed project is an allowable use, is the least damaging alternative, where mitigation measures have been provided to minimize environmental impacts, and where functional capacity is maintained.

The allowable use test is met because the dredging and disposal activities are being performed for habitat restoration purposes, rendering the project an allowable use under Section 30233(a)(7).

Concerning alternatives, the Corps analyzed the "no project" alternative, which would involve continued habitat degradation due to sedimentation in Newport Bay and, ultimately, despite historic efforts described on pages 4-5 above to limit sedimentation, conversion of intertidal habitat to less environmentally valuable upland habitat. In refining the alternatives for sediment controls, the Corps analyzed four alternatives on dredging and other modifications. These involved tradeoffs between various depths, construction and maintenance disturbance, and hydrological modifications. The draft EIS states:

Sediment Control Alternatives

Alternative 1 would restore previously-dredged basin configurations. With this alternative, the Unit III basin would be maintained at its current depth and configuration but channels would be added between the tern islands, and the Unit II basin and side channel east of New Island would be restored.

Alternative 4 features the largest and deepest basins. This alternative involves deepening the Unit III basin to -20 feet (6 m) below MSL and expanding its footprint, removing one least tern island from the uppermost basin, expanding the Unit II basin to the south and west, and constructing a new tern island along the western portion of the dike.

Alternative 5 would involve the removal of the northern "kidney shaped" tern island in the upper basin, expanding the footprint of the Unit III basin, and creating a new least tern island along the main dike in the middle segment of the Upper Bay. The Unit II basin would not be expanded.

Alternative 6 [the selected alternative] would expand and deepen the Unit III basin, remove the northern "kidney shaped" tern island and create a new least tern island at the main dike. The Unit II basin would be widened and deepened, but with a smaller footprint than Alternative 4.

The Corps compares these as follows:

Table 2.3-2 highlights the key differences among the four sediment control alternatives. Alternative 1, which maintains the footprint and depth of the recently completed Unit III basin, has the smallest footprint for the uppermost basin. Alternative 1 is the only

alternative that would not relocate the northern least tern island to the main dike. Alternatives 4 and 5 have the largest footprints for the uppermost basin. These alternatives would dredge all of the mudflats in the upper basin area with the exception of an approximately 100-ft. (30 m) band around the shore of the basin and the remaining least tern island. Although Alternatives 4 and 5 have the same upper basin footprint, they differ in basin depth. In Alternative 4, the uppermost basin would be deepened to -20 ft. (-6 m) MSL. In Alternative 5, the upper basin would be maintained at a depth of -14 ft. (-4.2 m) MSL. Alternative 6 would have a slightly smaller upper basin footprint than Alternatives 4 and 5. In Alternative 6, the mudflats in the northeast corner would be retained. Under Alternative 6, the upper basin would have a depth of -20 ft. (-6 m) MSL. All four alternatives would maintain the channel between the two basins at its current depth of -14 ft. (-4.2 m) MSL.

The four alternatives differ in the configuration of the Unit II basin. Alternative 1 restores the footprint and depth (-14 ft. MSL) of the Unit II basin created in the 1988 dredging project. Alternative 4 creates the largest footprint for the Unit II basin by expanding the 1988 footprint to the south and west. The basin in Alternative 4 would have a depth of -20 ft. (-6 m) MSL. Alternative 5 does not restore the Unit II basin at all but only maintains the current dredge/barge access channel through the basin. Alternative 6 expands the original Unit II basin footprint but not as extensively as Alternative 4. In Alternative 6, the footprint is expanded to the west but not to the south. In Alternative 6 the basin is deepened to -20 ft. (-6 m) MSL. Alternatives 4, 5 and 6 would relocate the northern tern island to the main dike.

**Table 2.3-2
Key Differences Among Sediment Control Alternatives**

Alternative	Uppermost Basin	Unit II Basin	Least Tern Islands
1	Unit III basin footprint and depth (-4 ft. MSL), creates channel between tern islands.	Original Unit II footprint (-14 ft. MSL), restores side channel around New Island.	unchanged
4	Expands basin footprint to include all but an approximately 100-ft. mudflat perimeter around shoreline and northern perimeter of "hot dog" island, basin -20 ft. MSL, creates channel between hot dog island and shore.	Expands Unit II basin to south and west, deepens basin to -20 ft. MSL, restores side channel around New Island.	Relocates northern least tern island to main dike.
5	Expands basin footprint to include all but approximately a 100-ft. mudflat perimeter around shoreline and northern perimeter of "hot dog" island, basin -14 ft. MSL, creates channel between hot dog island and shore.	No restoration or expansion of Unit II basin, only dredging in Unit II basin is -14 ft. MSL barge access channel through the basin and maintenance access channel to tern island.	Relocates northern least tern island to main dike.
6	Deepens basin to -20 ft. MSL, expands Unit III basin footprint but retains mudflats in northeast corner, creates channel between hot dog island and shore.	Expands Unit II basin to the west, deepens basin to -20 ft. MSL and restores side channel around New Island.	Relocates northern least tern island to main dike.

Additional charts comparing alternatives can be found in Exhibit 11. The Corps also examined alternatives concerning: (1) dredge equipment; (2) dredge volumes; (3) maintenance scheduling (e.g., frequency); (4) least tern island relocation; (5) ocean disposal; and (6) a variety of habitat restoration options. The Corps concluded:

Because it provides the greatest benefits relative to impacts and because it has the fewest number of unavoidable significant adverse impacts, Alternative 6 is the environmentally-preferred plan. Because the hydraulic dredge is generally less impacting than the clamshell dredge, the environmentally-preferred plan would be to implement Alternative 6 using the hydraulic dredging method.

The alternative that best addresses the problems and opportunities and objectives and constraints for this study is Alternative 6. Alternative 6 provides a balance between sediment control and environmental restoration, and has the fewest number of significant unavoidable adverse environmental impacts. National Ecosystem Restoration benefits are equal to the highest, maintenance intervals easily comply with the sediment TMDL objective, and the storage capacity of both basins ensure less deposition in habitat areas below the Unit II basin. [Emphasis added]

The Corps also proposes extensive monitoring: two-season (winter and summer) biological monitoring before, during, and after project implementation, including baseline surveys, aerial photography, GIS mapping, topographic and bathymetric surveys, and water quality monitoring. The details of the monitoring plan will be developed by the Orange County Public Facilities and Resource Department.

Concerning the mitigation test of Section 30233, even though the project constitutes restoration and thus an overall habitat improvement, and even though it would be less damaging than the "no project" alternative, it nonetheless involves habitat alteration between various types of intertidal habitat (Exhibit 10). The U.S. Fish and Wildlife Service has recommended several measures to minimize intertidal habitat disturbance (Exhibit 13), including that the Corps implement no greater than a 10% change to any one type of intertidal habitat in the Bay. The Corps has agreed to this restriction, stating in a letter to the Fish and Wildlife Service (Exhibit 14):

We are aware of your concern for losses of intertidal mudflats in excess of 10%. Due to time constraints given by the local sponsor's need to have this project included in the Water Resources Development Act (WRDA) of 2000, we are unable to rigorously model another alternative. However, we believe that further refinement during the post-authorization, Preconstruction, Engineering, and Design (PED) phase, prior to construction, will further reduce the permanent intertidal mudflat habitat loss to within agreed upon limits, while retaining the longest possible interval between maintenance dredging cycles. Therefore, the U.S. Army Corps of Engineers will continue to work throughout the project's design phase to further refine this alternative to reduce the initial loss of intertidal mudflats while continuing to meet all TMDL requirements. Our

intent will be to approach both a minimum 20-year dredging cycle and a maximum 10% loss of any habitat type.

...

Final details, including exact configuration modifications and identification of specific restoration areas, will be addressed in consultation with the Upper Newport Bay Ecosystem Restoration Habitat Evaluation Group during the final design phase.

Additional avoidance and mitigation measures the Corps has agreed to implement are described on Exhibit 13, page 2, including scheduling activities to avoid work during sensitive species' nesting seasons, and using turbidity curtains around the dredge operations.

Finally, in order to dispose of dredge sediments at LA-3, the Corps will need to evaluate its material according to the current Green Book¹ procedures, to establish that the dredged sediments proposed for disposal at LA-3 are uncontaminated and suitable for ocean disposal.

In conclusion, the project is clearly designed to provide overall habitat benefits consistent with Coastal Act goals and priorities. With the Corps' agreement with the Fish and Wildlife Service to refine the project as recommended by the Service, and with the Corps' commitment to the Commission for phased review to enable the Commission to review the subsequent project refinements, details, and monitoring plans, the Commission finds that the proposed project is consistent with the allowable use, alternatives, mitigation, and functional capacity tests contained in Sections 30233(a) and (b) of the Coastal Act, as well as with the other applicable Coastal Act policies addressing the protection and enhancement of marine, estuarine, and wetland resources, environmentally sensitive habitat, and water quality. The Commission therefore concludes that the project is consistent with Sections 30230, 30231, 30233, and 30240 of the Coastal Act.

B. Sand Supply. Section 30233(b) of the Coastal Act provides that:

Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

The Corps states:

Because many of the local beaches are in need of sand, beach nourishment either by placement of sand directly on the beach or into the nearshore zone, is a potential beneficial use for dredged material. However, EPA and the Corps require that sediment to be used for beach nourishment have particle sizes similar to sediment on

¹ 1991 EPA/Corps testing manual, Evaluation of Dredged Material Proposed for Ocean Disposal -- Testing Manual

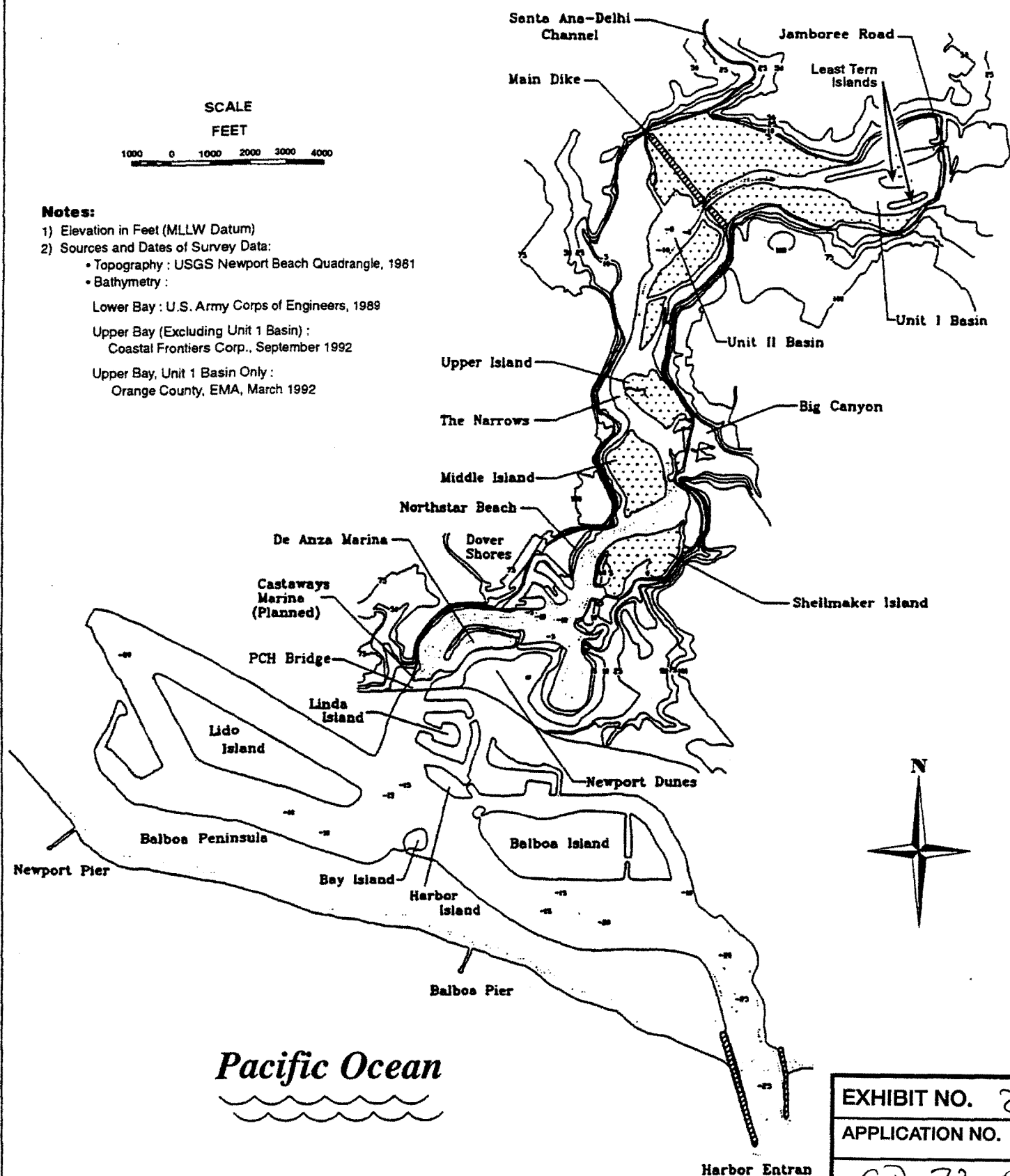
the proposed receiver beach. Based on sampling conducted for the recent Unit III dredging project, most of the material to be dredged in Upper Newport Bay has too fine a sediment grain size to be used for beach nourishment. If sediments with clean sand-sized particles are found within areas targeted for excavation, the sediments will be considered for beneficial uses including beach nourishment and construction of least tern islands. For example, sand-sized sediments may exist in the proposed wetlands restoration area on Northstar Beach. For the purpose of this document, however, it is assumed that most sediments within the Upper Bay will be too fine for beach nourishment. Beach nourishment is eliminated, therefore, as a practical alternative for disposal of the majority of the dredged material.

The Commission finds that, with the Corps' agreement to consider beach replenishment if appropriate, and for phased review including the submittal of further sediment testing results to enable the Commission to determine whether the material is feasible for beach disposal, the project is consistent with the sand supply policy (Section 30233(b)) of the Coastal Act.

C. Public Access and Recreation. Sections 30210-30212 of the Coastal Act provide for the maximization of public access and recreation opportunities, acknowledging that such access needs to be managed in a manner taking into account natural resource protection needs. Section 30213 provides for the protection of lower cost visitor and recreational facilities. Section 30214 provides that the public access policies of the Coastal Act need to be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case, including environmental sensitivity.

The Corps states that the project will include public access and recreation improvements, including construction of education kiosks along Back Bay Drive and by the interpretive center, and possible additional trail restoration and development, consistent with the Upper Newport Bay Regional Park plan. In addition, while the project will involve temporary access restrictions in the form of boating restrictions during construction, by enhancing habitat overall and increasing water depths, the recreational benefits will outweigh its temporary impacts and boating opportunities will be expanded. The Commission therefore concludes that, with the Corps' commitment to the Commission for phased review to enable the Commission to review the subsequent access features of the plan, the project is consistent with the public access and recreation policies (Sections 30210-30214) of the Coastal Act.





- 1 Jamboree Road Bridge
- 2 San Diego Creek
- 3 Unit I/III Basin
- 4 Tern Islands
- 5 Bullnose
- 6 Interpretive center
- 7 Santa Ana Delhi Channel
- 8 Main Dike
- 9 Unit II Basin
- 10 New Island
- 11 Upper Island
- 12 Big Canyon
- 13 Middle Island
- 14 Shellmaker Island
- 15 Northstar Beach
- 16 Dover Shores Marina
- 17 Newport Dunes Marina
- 18 Pacific Coast Highway Bridge
- 19 Lido Isle
- 20 Lower Newport Bay
- 21 Balboa Island

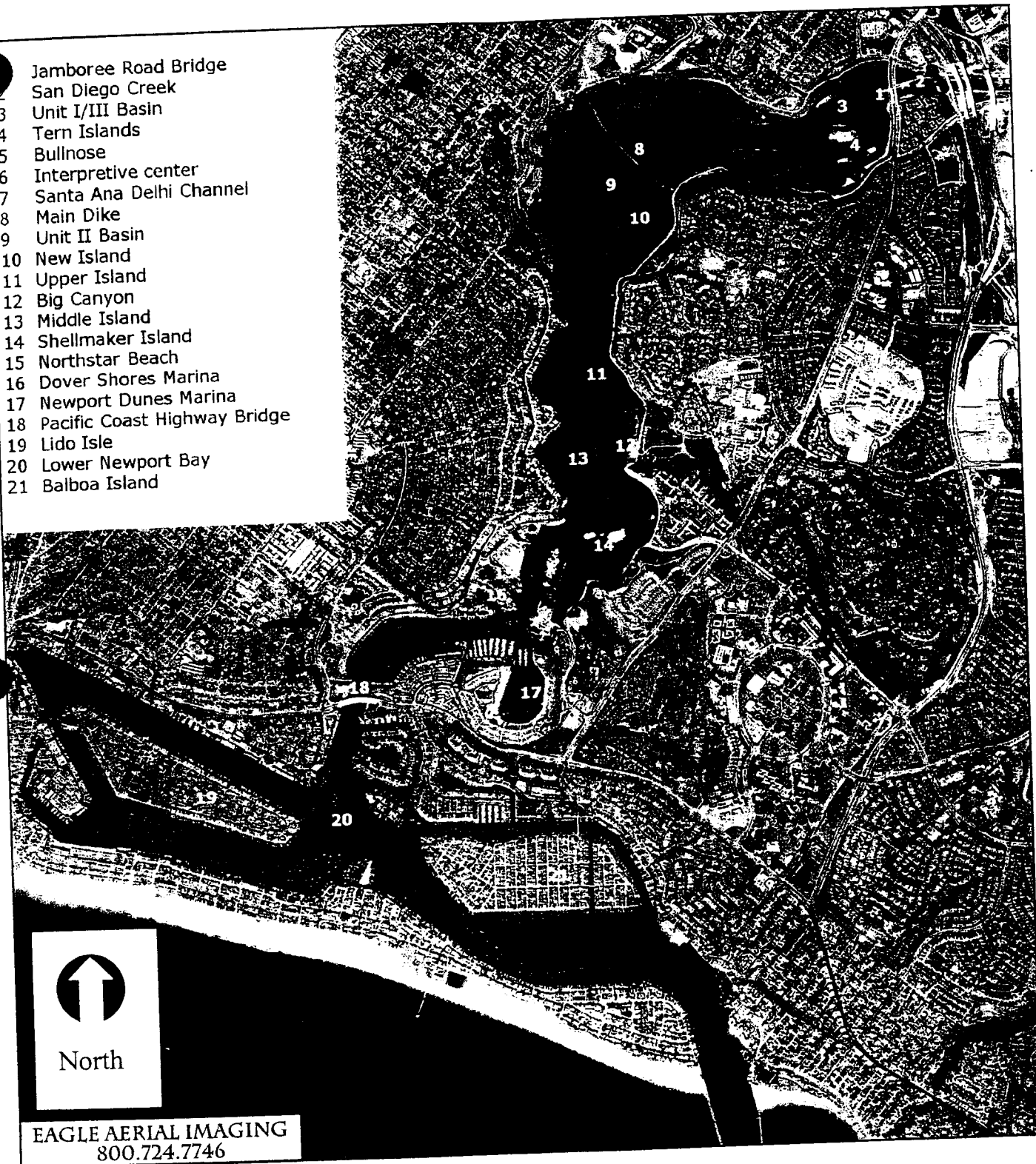


Figure 1.1 Upper and Lower Newport Bay

Scale: 1" = approx 3,000'

EXHIBIT NO. 3

APPLICATION NO.

CD-72-00



Habitat Classification*			
Developed	●	Middle Salt Marsh	●
Freshwater Marsh	●	Open Water	●
High Salt Marsh	●	Salt Pannes	●
Intertidal Mudflats	●	Upland	●
Low Salt Marsh	●	Water	●



Upper Newport Bay Vegetation

Figure S-1: Recommended Plan
County of Orange, California

DESIGNED AND PRODUCED BY:
Public Facilities and Resources Department
GIS Mapping Unit
Current Civil Division



EXHIBIT NO. 4
APPLICATION NO.

CD-72-00

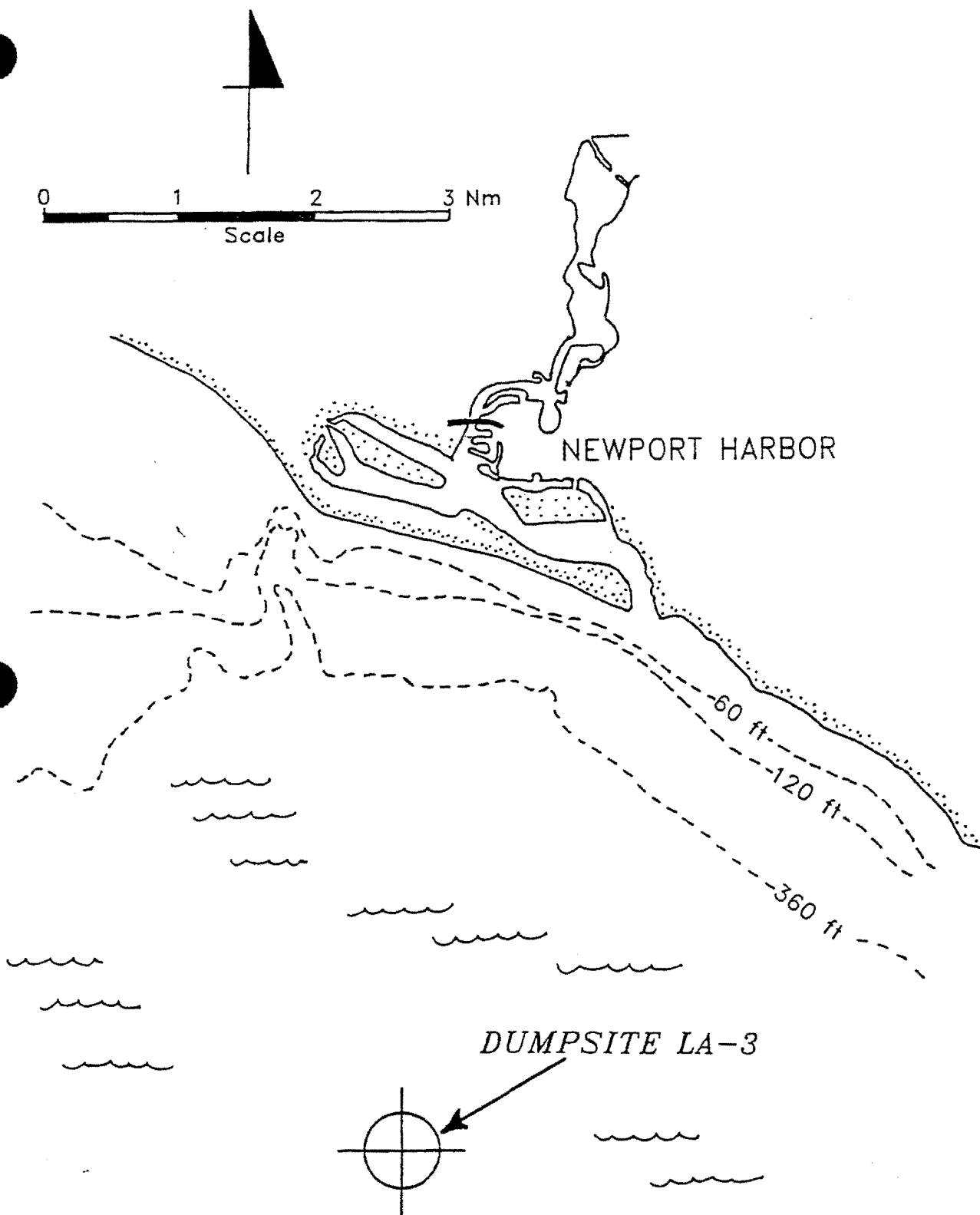
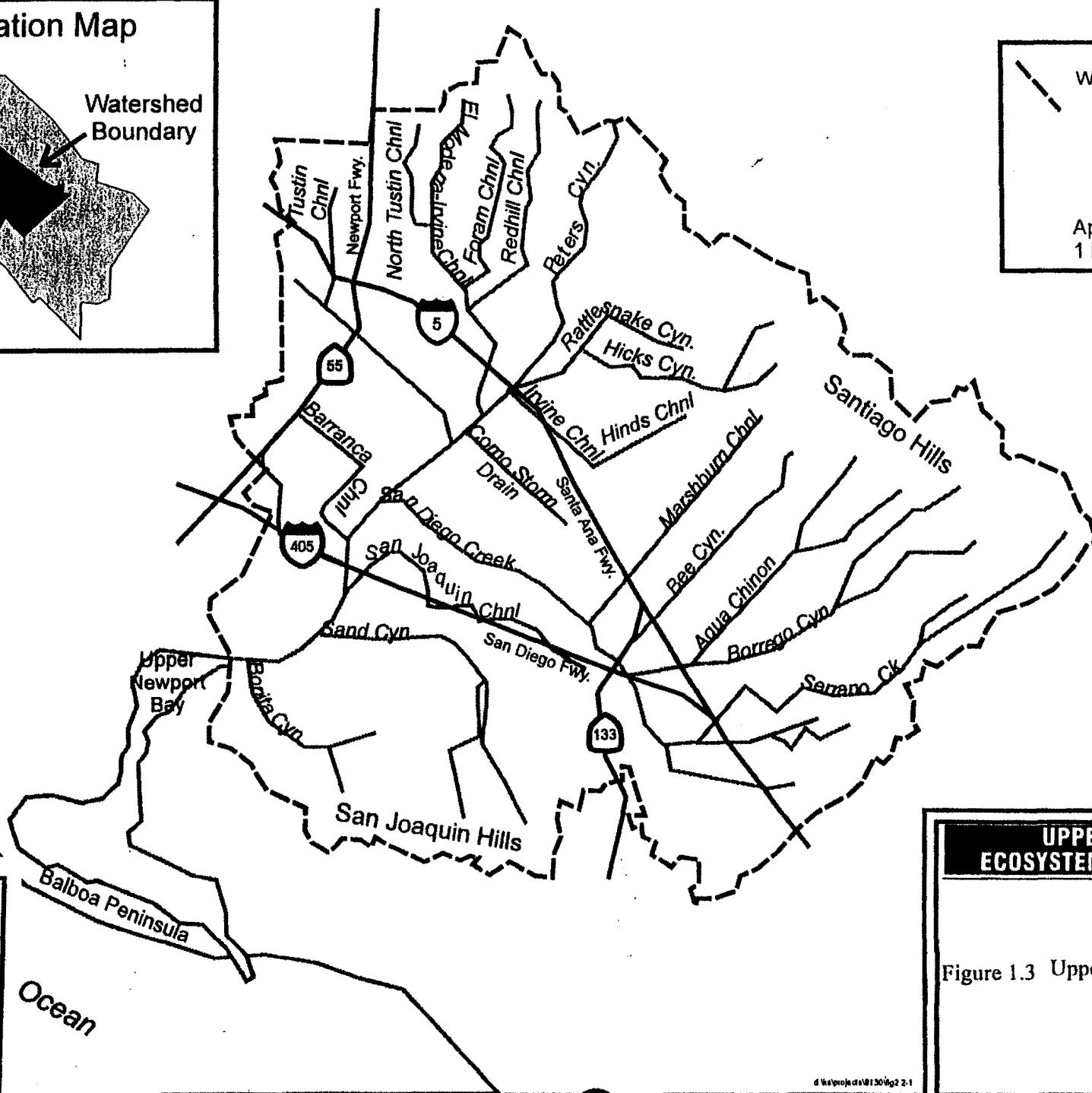
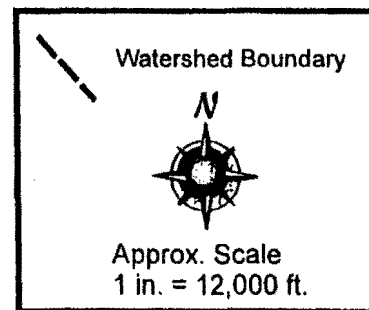
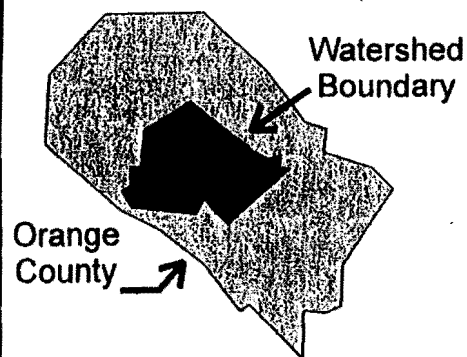


Figure 1.5 LA-3 Offshore Disposal Site

EXHIBIT NO. <i>S</i>
APPLICATION NO.
<i>CD-72-00</i>

Location Map



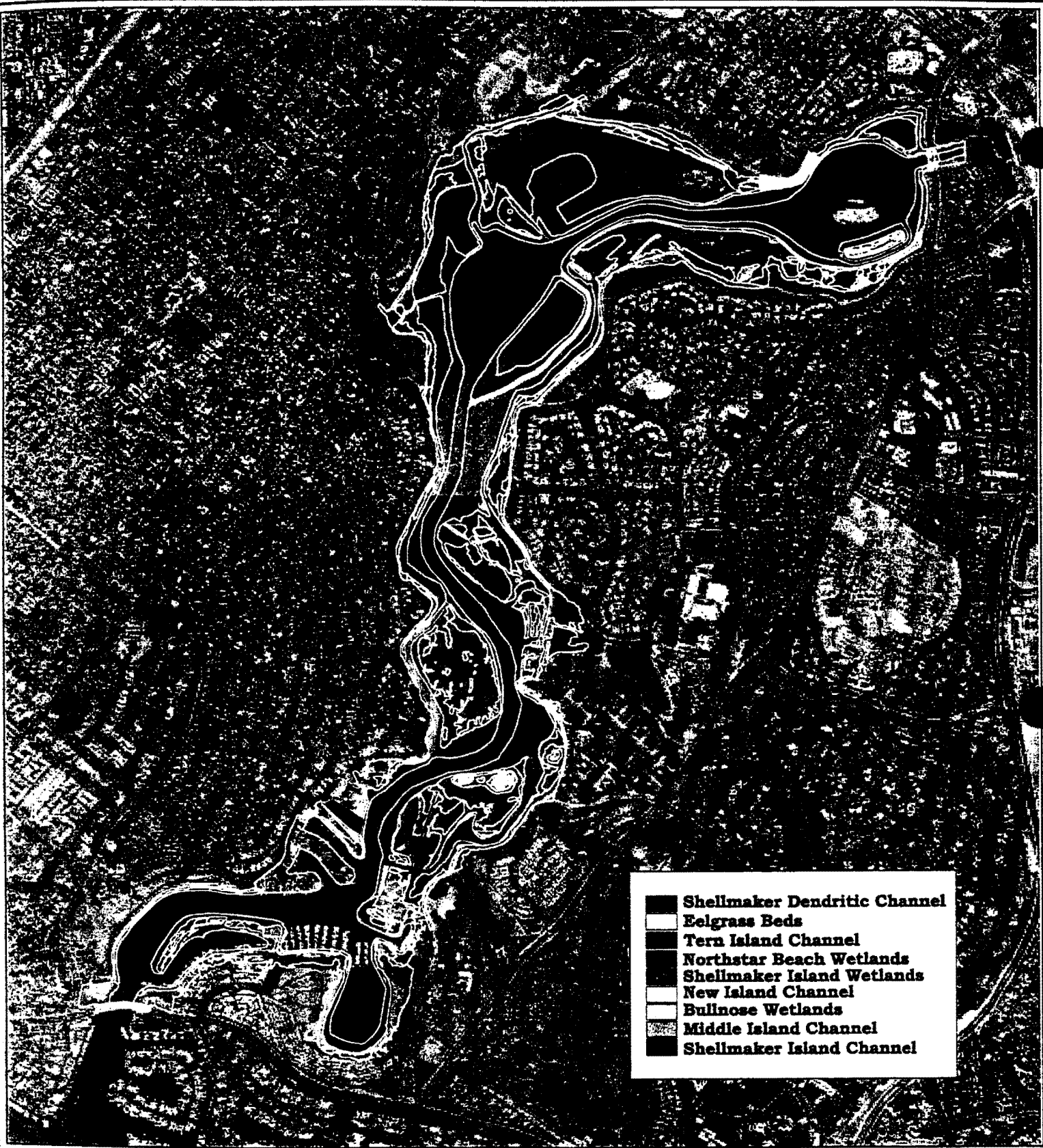
UPPER NEWPORT BAY ECOSYSTEM RESTORATION STUDY

Figure 1.3 Upper Newport Bay Watershed

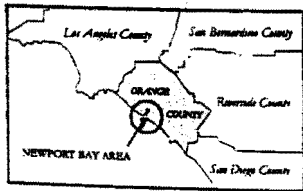
EXHIBIT NO. 6

APPLICATION NO.

CD-72-00



- Shellmaker Dendritic Channel
- Eelgrass Beds
- Tern Island Channel
- Northstar Beach Wetlands
- Shellmaker Island Wetlands
- New Island Channel
- Bullnose Wetlands
- Middle Island Channel
- Shellmaker Island Channel



Upper Newport Bay

Figure 5.3 Recommended Plan Restoration Measures

County of Orange, California

DESIGNED AND PRODUCED BY:
Public Facilities and Resources Department
GIS Mapping Unit
Cameron Goff Chinn



EXHIBIT NO. 8

APPLICATION NO.

CD-7200

Figure 5.1 Recommended Plan Sediment Basins

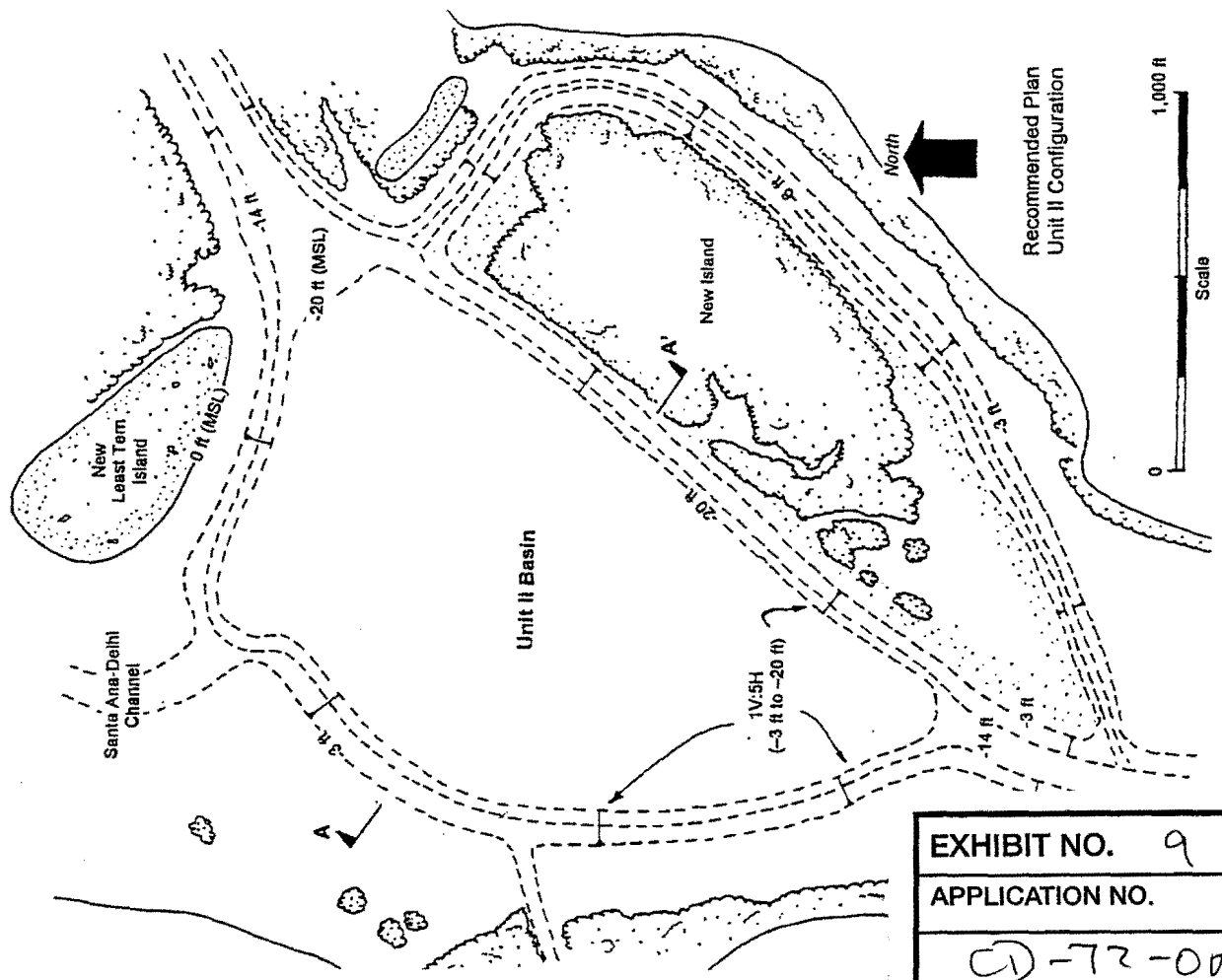
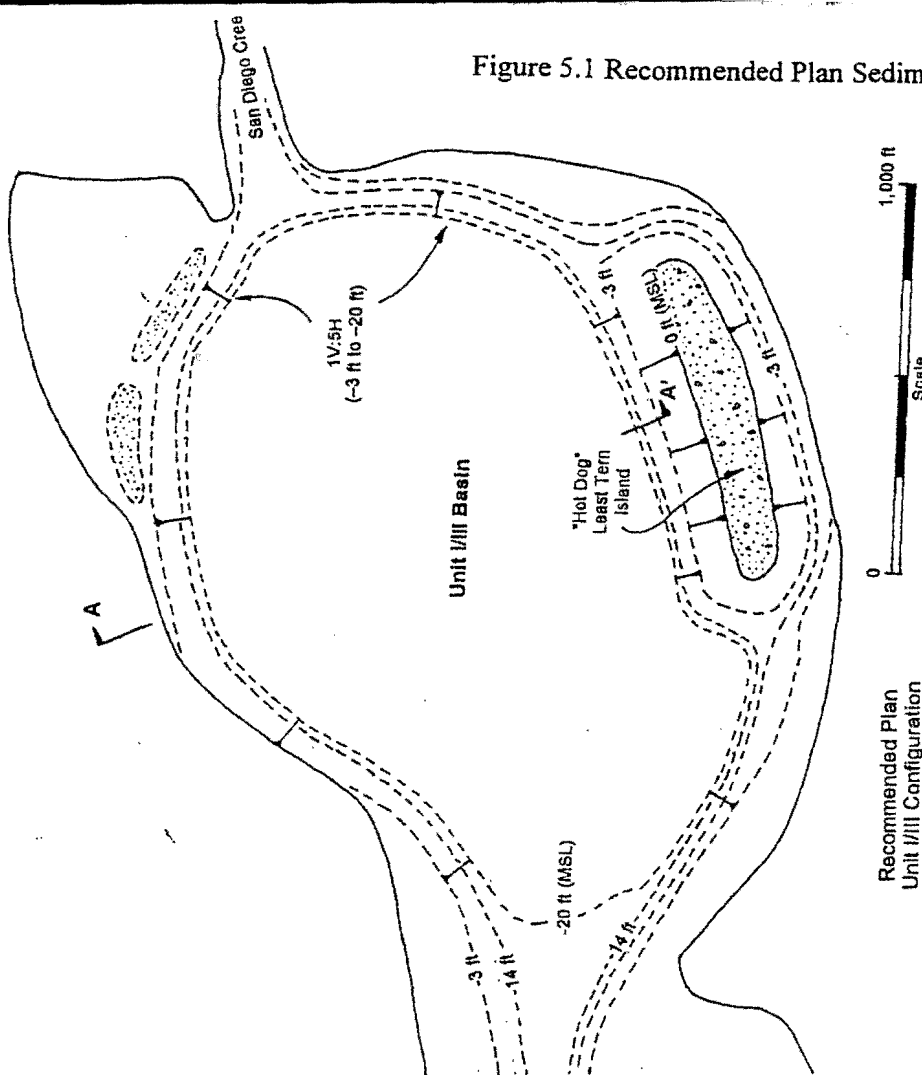


EXHIBIT NO. 9

APPLICATION NO.

CD-72-00

Figure 5.4 Recommended Plan Loss of Mudflat Habitat



number, the better the plan meets the overall objectives. Alternative 6 best meets the overall planning objectives with a total of 47 points, the lowest of the alternative plans. The recommended plan is presented in more detail in the following chapter and in the EIS/R and the Engineering Appendix.

Table 4.11 Summary Comparison of Alternative Plan Features					
	No Action	Alternative 1	Alternative 4	Alternative 5	Alternative 6
Initial Dredge Requirements					
Initial Dredge Volume: Clamshell Dredge (cy)	0	889,000	2,713,000	971,000	2,122,000
O&M Dredge Volume (cy)	0	797,000	2,732,000	1,031,000	2,163,000
Average O&M Intervals (yrs)	4	7	24	10	21
Unit I/III Basin Characteristics (Segment 1)					
Depth (ft MSL)	-14	-14	-20	-14	-20
Initial Dredging Volume (cy)	0	219,000	1,118,000	616,000	958,000
Storage Capacity below -3 MSL (cy)	449,000	459,000	1,431,000	965,000	1,307,000
Open Water Acres	48.9	47.9	71.6	71.2	67.8
Mudflat Acres	51.9	51.9	32.3	32.6	34.6
# of Tern Islands	Two	Two	One (hot dog)	One (hot dog)	One (hot dog)
Unit II Basin Characteristics (Segment 2)					
Depth (ft MSL)	(-5) Existing	-14	-20	(-5) Existing	-20
Initial Dredging Volume (cy)	0	382,000	1,297,000	77,000	866,000
Storage Capacity below -3 MSL (cy)	229,000	526,000	1,702,000	229,000	1,137,000
Open Water Acres	45.5	55.8	86.0	45.5	67.7
Mudflat Acres	89.0	79.4	51.3	90.2	69.7
# of Tern Islands	Zero	Zero	One	One	One

EXHIBIT NO. 11
APPLICATION NO.
CD - 72 - 00

Table 4.12 Summary Ranking of Alternative Plan Features					
FEATURES	RANK (1 being best, 5 being the worst)				
	No Action	Alt. 1	Alt. 4	Alt. 5	Alt. 6
Init. Dredge Volume (< is better)	N/A	1	4	2	3
Avg. Dredge Cycle (yrs) (> length of time is better)	5	4	1	3	2
Future Dredge Volumes (< is better)	N/A	1	4	2	3
Total # of Dredge Days (init. const. & O&M)	5	3	4	2	1
Habitat Change (intertidal mudflat change: < is better)	5	1	4	2	3
HEP Benefits (overall gain in AAHUs)	N/A	3	1	3	2
1 st Costs for Alternatives (< is better)	N/A	1	4	2	3
Average Annual Overall Costs (1 st Const. & O&M < is better)	5	1	4	2	3
Average Annual O&M Costs (< is better)	5	2	1	3	1
NER Avg. Annual \$/AAHU (< is better)	N/A	2	3	4	1
Sediment TMDL long-term maintenance (> interval is better)	5	4	1	3	2
ENVIRONMENTAL QUALITY					
Sediment Deposition (based on storage capacity: > is better)	5	4	1	3	2
Water Quality (ranking explained in EQ account)	4	2	1	3	1
Air Quality (based on total # of dredge days for project)	5	3	4	2	1
Noise (also based on total # of dredge days)	5	3	4	2	1
Benthic Habitat (< open water increase is better)	5	4	1	3	2
Mudflat Habitat (< 10% change is better)	5	1	4	2	3
Marsh Habitat (see EQ account for explanation)	3	1	1	2	1
Wildlife (see EQ account for explanation)	4	3	1	3	2
Terrestrial (no-action increases habitat – alts have no impact)	1	2	2	2	2
Endangered Species (see EQ account)	3	1	1	2	1
Cultural Resources (see EQ account)	1	2	2	2	2
Aesthetics (equal, except for no action)	2	1	1	1	1
RED/OSE					
Local Government Finance for Initial Maintenance	N/A	1	4	2	3
Local Government Finance for Future Maintenance	4	2	1	3	1
SUMMARY TOTAL:	77	53	59	60	47

EXHIBIT 11, p.2

RECOMMENDED PLAN

Plan Description

The recommended plan, Alternative 6, includes the expansion and deepening of the Unit I/III basin and the Unit II basin to -20 feet MSL, with an approach channel between the two basins dredged to -14 feet MSL; a 100-foot wide approach channel below the Unit II basin to PCH Bridge, dredged to -14 feet MSL; the removal of the existing 4-acre tern island from the Unit I/III basin and reconstruction of the tern island in the Unit II basin adjacent to the western segment of the salt dike; and habitat restoration measures that include side channels around the small tern island adjacent to the Unit I/III basin, New Island, Middle Island and Shellmaker Island; the capping of the small tern island with clean sand; the removal of old dredge spoil and restoration of the Bullnose area adjacent to the Unit I/III basin, Northstar Beach and Shellmaker Island; the creation of a small channel on Shellmaker Island adjacent to the eastern edge of the restoration area; the segmenting of the main dike to decrease potential terrestrial disturbances; the restoration of eelgrass beds along the southwestern edge of Shellmaker Island; and, the addition of education kiosks along Back Bay Drive and by the interpretive center.

More details of the restoration measures are presented in the previous chapter and in the EIS/R. The detailed design of the restoration measures, including quantity estimates, costs, and construction methods, is presented in the Engineering Appendix. The recommended plan will not affect existing recreation activities or allow for future recreation boating in the ecological reserve. There are no mitigation measures required for the recommended plan, with the exception of measures taken to minimize or avoid disturbance to sensitive habitat areas, such as scheduling construction activities to avoid work in sensitive areas during nesting seasons and using turbidity curtains around the dredge operations and monitoring before, during and after construction. Many of these proposed measures are based on the requirements imposed on the dredge operations during the Unit III dredging project.

Sediment Basin Designs

The sediment basins are designed to maximize the sediment storage capacity while minimizing disturbance to existing habitat areas. The expansion of the Unit I/III basin is largely possible due to the relocation of the 'kidney-shaped' least tern island to the Unit II basin. This allows the upper basin to be dredged to -20 feet MSL, increasing the storage capacity below -3 feet MSL from 449,000 cubic yards to 1,307,000 cubic yards. The basin will be surrounded by 100 feet of perimeter mudflats, ranging in elevation from 0 feet MSL to -3 feet MSL. From -3 feet MSL to -20 feet MSL, the basins will be dredged on a 5 horizontal-to-1 vertical slope (5:1). The total dredging volume required to construct the Unit I/III basin is 958,000 cubic yards. The existing grouted stone apron under the Jamboree Road Bridge will be extended from the existing -14 feet MSL to -20 feet MSL.

The footprint of the Unit II basin is slightly modified from the original late-80's design to compensate for the expansion of New Island, the addition of the new tern island in the northwestern corner and the expansion of the basin to the west. The Unit II basin is also dredged to -20 feet MSL, increasing the storage capacity below -3 feet MSL from 229,000 cubic yards to 1,137,000 cubic yards. The basin will be surrounded by 100 feet of perimeter mudflats, ranging in elevation from 0 feet MSL to -3 feet MSL. From -3 feet MSL to -20 feet MSL, the basins will be dredged on a 5 horizontal-to-1 vertical slope (5:1). The total dredging volume required to construct the Unit II basin is 866,000 cubic yards. The basin designs are shown in Figure 5.1. Details of the design of the basins are presented in the Engineering Appendix.

EXHIBIT NO.	12
APPLICATION NO.	
CD-72-00	

Recommended Plan Benefits

A summary of the recommended plan benefits is presented in the NER account. For Alternative 6 and the other alternatives, the HEP benefits associated with the design of the sediment control basins and approach channels were analyzed separately from the other restoration measures. The net increase in average annual habitat units (AAHUs) associated with the construction of the sediment basins is 32 AAHUs when compared to the without project condition. The net increase in AAHUs associated with the habitat restoration measures is 14 AAHUs when compared to the without project condition, for a total increase of 46 AAHUs. Details of the HEP analysis are presented in the HEP appendix to the EIS/R. A summary of the benefits is presented in the following sections.

Other project benefits that are not quantified in the HEP analysis include the improvement in tidal circulation throughout the Upper Bay, especially around some of the islands that support sensitive and endangered species. In general, Upper Bay water quality should improve throughout the year based on the expansion of the sediment control basins. The addition of open water areas may lessen the short-term drop in salinity levels in the Upper Bay after large storm events. Algae blooms may also decrease due to the improvements in tidal circulation throughout the Upper Bay, and the increase in the tidal prism.

The recommended plan also benefits the navigation channels and slips in the lower portion of the Upper Bay and Lower Newport Bay. The redesigned sediment basins will significantly reduce the amount of potential sediment deposition in the navigation channels, and will limit the widespread distribution of sediments during storm events. The direct benefit to navigation will be the reduction of shoals forming in the navigation channels and the less frequent need to dredge these areas. There could be potential shoaling problems in portions of the navigation channels approximately once every four years on average for existing conditions, based on average storm seasons delivering 164,000 cubic yards per year to the Bay. This condition would worsen in the future without project condition as the existing sediment basins became less efficient at trapping sediments until dredging in the channels would be necessary almost every other year. For the recommended plan, significant shoals should not develop in the navigation channels below the reserve. Some maintenance dredging may be required when the basins are maintained, once every 21 years on average, although this may not even be necessary. Detailed project modeling, performed during PED phase, may better address future navigation dredging needs. Navigation conditions and the future need to dredge Federal and local channels will certainly improve with the implementation of the recommended plan.

Sediment Control Benefits

Table 5.1 presents a comparison of the results of the HEP analysis for the no action (without project condition) plan and the recommended plan sediment control measures. The existing and future without project condition benefits are averaged over a 50-year project life. The comparison shows significant increases in the open water HUs for all segments of the Upper Bay for the recommended plan. The net total increase in HUs for open water is 76 Habitat Units. This increase in HUs is primarily due to the recommended plans future preservation of open water habitat for the project life when compared to the significant loss of marine open water habitat for the future without project condition. Intertidal mudflat habitat actually loses HUs when the recommended plan is compared to the without project condition. The main reason for the loss in intertidal mudflat HUs is because of the significant future without project condition expansion of this habitat, replacing the Bay's open water areas. The minor decreases in the low salt marsh habitat and high salt marsh HUs is due to the

water habitat. Overall, there is a gain in marine open water habitat HUs, a loss in intertidal mudflat HUs, and minor differences in HUs associated with marsh habitats for the recommended plan. The net increase in HUs for the sediment control measures of the recommended plan is 32 AAHUs. A summary comparison of the total HEP outputs for each habitat type are presented in Figure 5.2.

Table 5.1 Comparison of Recommended Plan Sediment Control Measures				
Without Project Average Benefits (HUs, 50-yr project life)				
	Segment 1	Segment 2	Segment 3	Total
Marine Open Water	8	9	45	62
Intertidal Mudflat	24	37	46	107
Low Salt Marsh	12	27	8	47
Mid Salt Marsh	30	10	16	56
High Salt Marsh	2	2	1	5
Total	76	85	116	277
Recommended Plan Benefits (HUs)				
	Segment 1	Segment 2	Segment 3	Total
Marine Open Water	34	36	68	138
Intertidal Mudflat	12	27	29	68
Low Salt Marsh	10	26	8	44
Mid Salt Marsh	30	10	16	56
High Salt Marsh	1	1	1	3
Total	87	100	122	309

Figure 5.2 Recommended Plan Sediment Control Benefits by Habitat

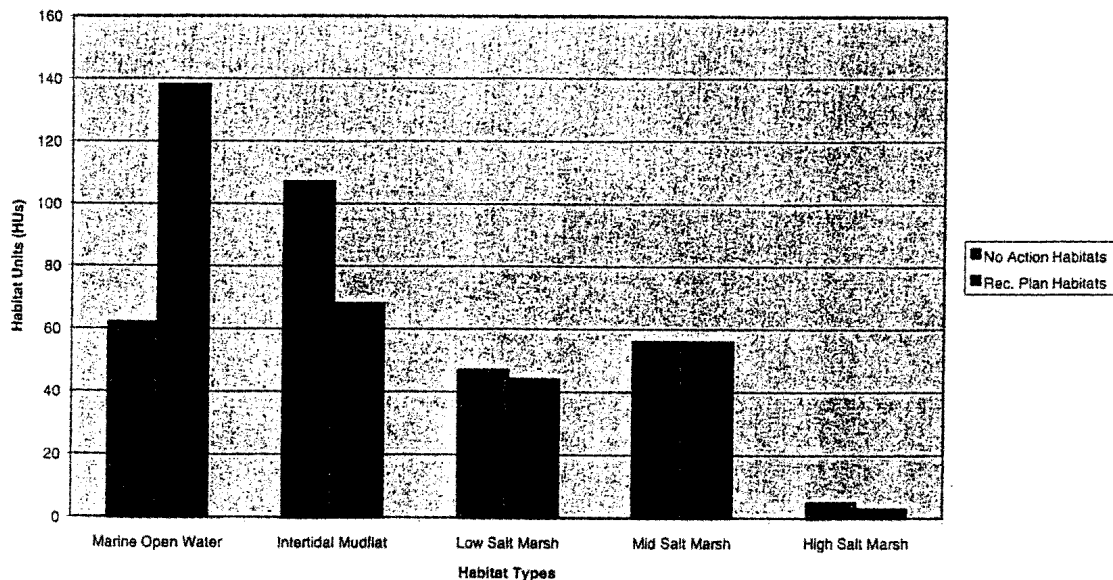


EXHIBIT 12, p.3

Restoration Benefits

The recommended plan restoration measures are designed to restore degraded habitat areas, restore tidal action around the islands, improve the protection of the species on the islands from current and future land-based disturbances and increase the forage base. Restoring tidal action and increasing the forage base are not included in the non-monetary benefit calculations of the HEP analysis.

The recommended plan increases the total amount of open water in the Upper Bay by 42 acres, from about 259 acres to 301 acres. This is a 19.5% increase in the amount of open water and includes the expansion of the sediment basins, the restoration of the side channels around the islands and the restoration of some open water habitat at Northstar Beach. The resource agencies do not object to this increase in open water area for the recommended plan.

Table 5.2 presents the list of restoration measures including the HEP incremental benefits and the annual costs of the measures over the life of the project. Measures are listed based on the least average annual cost per average annual habitat unit. Segmenting the dike is the best value, based on the amount of HEP benefits (HUs) associated with the measure. The side channel around the tern island is the most costly restoration measure for the small benefits gained. This result is somewhat misleading because the HEP analysis takes an ecosystem approach that describes the value of a measure based on impacts to nine indicator species. In the case of the restoration of the side channel around the tern island, only the least tern benefits from the measure, although this measure does improve tidal circulation and increase the forage base for other species.

Table 5.2 Recommended Plan Restoration Features Economics			
RESTORATION MEASURES	Annual Cost	Benefits HUs	Avg. \$/AAHU
Segment Main Dike	\$300	0.5	\$600
Shellmaker Island, East Side Channel	\$17,900	3.2	\$5,600
Middle Island, West Side Channel	\$14,900	2.3	\$6,400
New Island, East Side Channel	\$14,900	2.3	\$6,500
Plant Eelgrass Beds	\$2,400	0.3	\$7,700
Shellmaker Island, Small Dendritic Channel	\$6,700	0.5	\$13,400
Add Sand to Hotdog Tern Island	\$3,200	0.2	\$16,000
Northstar Beach Wetlands Creation	\$24,500	1.4	\$17,800
Bullnose Section of Land, Northwest corner of Unit I/III	\$27,800	1.3	\$21,600
Shellmaker Island, Remove Dredge Spoil/Create Wetland	\$25,300	1.2	\$21,600
Construct New Tern Island by Salt Dike (Unit II Basin)	\$20,900	0.4	\$52,300
Unit I/III Hotdog Tern Island, south side channel	\$7,300	0.1	\$73,000

The average annual costs associated with the restoration measures only reflect the initial investment in the restoration measures (first costs). Detailed numerical modeling of the recommended plan will be used to determine whether future maintenance will be required for any of the restoration areas, but this modeling will not be initiated until the PED phase. The measures have been located and designed to last for the life of the project without maintenance as requested by some of the resource agency representatives. The restoration measures locations in the Upper Bay are shown in Figure 5.3. More detailed discussions of the restoration measures are included in the EIS/R and Section 5.7 of the Engineering Appendix. The loss of intertidal mudflat habitat due to the expansion of the sediment basins is shown in Figure 5.4.

EXHIBIT 12/p. 4

The Shellmaker Island, Northstar Beach and Bullnose restoration measures are necessary to compensate for the loss of intertidal mudflat habitat. The expansion of the sediment basins remove existing intertidal mudflat habitat, as does the restoration of side channels around the islands. The total loss of intertidal mudflat habitat for the recommended plan is 39 acres at a total loss of 18 percent. This is shown in the second column of Table 5.3. The FWS prefers that the alternative be designed to limit the overall loss of intertidal mudflat habitat to 10%. To do so the loss of intertidal mudflat would have to be reduced from 39 acres to 22 acres, or an additional 17 acres.

Additional Restoration Measures

Some additional restoration measures that have not been included in the HEP analysis, but have been coordinated with the FWS and the Department of Fish and Game include a 1.7-acre parcel of disturbed upland habitat adjacent to Jamboree Road Bridge and the southeast corner of the Unit I/III basin, 2 acres of highly disturbed habitat at the 90-degree bend in the Santa Ana-Delhi channel to the west of the Unit II basin, and at the southwestern corner of the Unit II basin by the base of the bluffs where there is about 3.4 acres of degraded upland habitat. All of these areas could be restored to intertidal mudflat, reducing the overall loss of this habitat by 7 acres. The total loss of mudflat habitat would be 32 acres at a 14.7 percent loss. This is shown in the third column of Table 5.3

The fourth column in Table 5.3 shows what the total loss of mudflat would be if the restoration of the side channels around Middle Island, Shellmaker Island, New Island and the small tern island were eliminated from the 10% constraint. The fifth column shows the percent change without adding the loss of intertidal mudflat due to the side channel restoration measures and the addition of the other restoration measures.

Additional design modifications will be investigated during the PED phase to further reduce the loss of intertidal mudflat habitat. These investigations will include the possibility of reducing the size of the Unit II basin by restricting the expansion of the western edge of the basin. Any Unit II basin modification will be investigated by using the numerical model during the PED phase.

The Sponsor may use some of the dredge spoil material as fill material for the three eroding washes (barrancas) located to the west of the Unit II basin, and south of the interpretive center. Trails in this area are already used by quite a few people. The opening of the interpretive center will attract more people to this area. The eroding barrancas add sediments to the Upper Bay through the Santa Ana-Delhi channel, remove vegetation and create safety hazards along the surrounding trails. The Sponsor has proposed to use material dredged from the disturbed area around the Santa Ana-Delhi channel for fill material, or possibly use excess material from some of the other restoration measures at the Bullnose, Shellmaker Island and Northstar Beach. The Sponsor is interested in the restoration of trails in this area, as described in the Upper Newport Bay Regional Park plan.

Table 5.3 Recommended Plan Loss of Mudflat Habitat				
Existing Intertidal Mudflat Habitat = 217.2 Acres	Current Total Loss of Mudflat	With Add'l Restoration Measures	Without Mudflat Loss From Side Channel Rest.	No Side Chnls. & Add'l Rest. Measures
Total Initial Mudflat Acres	181.4	181.4	181.4	181.
Mudflat Acres Lost to Sed. Control Features	-35.8	-35.8	-35.8	-35.
Mudflats Lost to Channel Restoration (acres)				
Middle Island Channel	-3.0	-3.0		
Shellmaker Island Channel	-3.5	-3.5		
New Island Channel	-4.3	-4.3		
Hot Dog Side Channel	-1.6	-1.6		
Mudflats Gained by Restoration Measures (acres)				
Shellmaker Island	3.0	3.0	3.0	3.
Northstar Beach	2.5	2.5	2.5	2.
Bullnose	3.7	3.7	3.7	3.
Additional Possible Mudflat Restoration Measures (acres)				
Southeast Portion of the Unit I/III Basin		1.7		1.
Santa Ana-Delhi Channel Bend		2.0		2.
Southwest Portion of the Unit II Basin		3.4		3.
Net Change in Mudflat Acres	-39.0	-31.9	-26.6	-19.
% Change of Mudflat	-18.0	-14.7	-12.2	-9.

Disposal of Dredged Material

The majority of the dredged and excavated material will be disposed of at the LA-3 offshore disposal site. A small portion of the total material dredged and excavated will be used for the construction of the new tern island and the capping of the other tern island. The dredge, tugs and dump scows will use the approach channel in the Upper Bay and the existing Federal navigation channels in the Lower Bay. Dredged material will be taken by tug and dump scow to the offshore disposal site, located about 4 miles southwest of the harbor entrance. A final site designation study is underway for the LA-3 disposal site. The use of the LA-3 site for the initial construction and future O&M of this recommended plan is being evaluated as part of the site designation study.

Real Estate Requirements

Lands required for this project are almost entirely within the Upper Newport Bay Ecological Reserve (UNBER). The reserve is owned by the State of California and managed by the Department of Fish and Game (see "*Establishment of the Ecological Reserve*"). The ecological reserve generally extends from Shellmaker Island north to Jamboree Road Bridge, up to the 10-foot contour. Surrounding parcels along the bluff areas at Back Bay Drive, the northern side of Newport Bay by the new interpretive center and the western bluffs are part of the Upper Newport Bay Regional Park. These parcels are co-owned by the County of Orange or the City of Newport Beach. Private ownership of parcels is mostly within the lower portion of the Upper Bay within the three marinas. The navigation channel between the reserve and PCH Bridge is County tideland, and much of the current open water area in the UNBER is State tideland. There is one 5-acre parcel in the ecological reserve that is still under private ownership. This Irvine Company parcel is on the eastern side of the Unit I/III basin and

EXHIBIT 12 14.6

is currently a mix of open water, intertidal mudflat and some upland/disturbed habitat. The Sponsor, the Irvine Company and the Corps are currently discussing the necessary requirements to dredge within this parcel. Resolution on any actions required to address the access and ownership requirements for this parcel will be completed by the final report.

The total footprint of the recommended plan encompasses about 220 acres from Jamboree Road Bridge to PCH Bridge. The area required above the main dike is about 80 acres and includes the Unit I/III basin footprint, the least tern island and the channel around the island and the Bullnose restoration. About another 70 acres is required from the main dike to the upper end of Middle Island, and includes the Unit II basin, the channel around the New Island, the new tern island, the dike and the approach channel between the lower end of the basin and Middle Island. The remaining 70 acres is for the 100-foot wide approach channel from Middle Island to PCH Bridge, the channel restorations around Middle Island and Shellmaker Island, and the Shellmaker Island and Northstar Beach restoration areas. The ownership of the parcels required for the recommended plan, and the footprint of the recommended plan showing the sediment basins, the approach channels and the restoration measures, is shown in Figure 5.5. With the exception of the Irvine Company parcel and the County-owned Northstar Beach parcel, all necessary lands for the dredging/restoration features of the project are owned by the State. The County and the City own required access and staging areas.

Since the project Sponsor is the County of Orange and the owner of the ecological reserve is the State of California, a joint powers agreement will be required for the dredging and restoration activities. A joint powers agreement was prepared for the County to dredge last year's Unit III project in the Upper Bay. A new agreement will be drafted and included in the final feasibility report.

The cost estimate associated with real estate needs is currently \$50,000 with a 20% contingency factor (\$60,000) for processing rights of entry for access to dredging and restoration areas, and staging areas. Some of the restoration areas, such as the Bullnose and Northstar Beach may need to be accessed through the regional park parcels. This cost is shown in Table 5.5.

Staging Areas

The traditional staging area for dredging activities has been a 0.4-acre parcel of Shellmaker Island adjacent to the Department of Fish and Game management trailers. This staging area is within the ecological reserve and is owned by the State. The agreements establishing the ecological reserve allowed this area to be used in the future as a staging area for the mobilization and demobilization of dredges and support equipment. The Department of Fish and Game and the USFWS would like to see the staging operations moved to another location outside of the ecological reserve. For now, the traditional staging area is still considered the primary area of use for the recommended plan. Another location several hundred feet away may also be used for a staging area. This parcel, also about 0.4 acres, is located to the south of Coney Island, near the boat launch ramp. The area is part of a large parking lot for the Newport Dunes complex. Newport Dunes is co-owned by Orange County and private interests. Existing agreements also allow this area to be used as a staging area for dredging activities.

EXHIBIT 12 p. 7

PUBLIC AND AGENCY COORDINATION

Public Workshops and Meetings

Corps study participants have attended monthly meetings with the Upper Newport Bay Coordinating Council (UNBCC) to gather and disseminate information for the feasibility study. To facilitate the coordination of resource agencies and special interest groups required for the study, the UNB Environmental Restoration Technical Advisory Group (TAG) was formed. Meetings of this group and the HEP group have been held to provide a forum for the various agencies/groups with an interest in UNB to identify their concerns, goals, objectives, and potential restoration efforts for UNB.

A co-chaired public workshop was held in October 1998 to review the progress of the feasibility study and to discuss the California Department of Fish and Game's update of their management plan for the ecological reserve.

Agency Coordination

Extensive resource agency coordination was conducted during the feasibility study, particularly with the U.S. Fish and Wildlife Service (USFWS), the Department of Commerce National Marine Fisheries Service, the California Department of Fish and Game and the California Regional Water Quality Control Board. These interests were part of the technical team that determined acceptable methods for evaluating habitat values and the effectiveness of the alternative plans.

The USFWS prepared two Planning Aid Reports (PARs) and a draft Coordination Act Report (CAR) for the study. The PARs present the views of the USFWS during the early and mid-stages of the plan formulation process. The May 2000 draft CAR presents feedback on the selection and evaluation of the recommended plan, and includes recommendations from the USFWS coordinated with other agencies. The draft CAR is an appendix to the EIS/R. The USFWS has prepared the following recommendations:

1. The Corps investigate modifications to the Unit II basin design to reduce the loss of intertidal mudflat.
2. The Corps restore additional upland areas to intertidal mudflat to reduce the permanent loss this habitat to no greater than 10 percent (includes the consideration of the 1st recommendation).
3. The Corps avoid removing salt marsh during construction of side channels around New, Middle and Shellmaker Islands.
4. The Corps construct the new least tern nesting island outside the nesting season for the least tern and light-footed clapper rail, using materials from the old island with substrate having appropriate grain size, color, and shell fragments acceptable to the resource agencies.
5. The Corps dredge near marsh areas and remove dike segments during the non-breeding season.
6. The Corps conduct surveys for plants, invertebrates, fish, amphibians, reptiles, mammals, and birds over time, before, during and after project construction.

EXHIBIT NO. 13
APPLICATION NO.
CD-72-00

7. The local sponsor to retain appropriate access for dredging equipment and a staging area in the Newport Dunes vicinity that avoids the ecological reserve.
8. The Corps and the local sponsor ban vessels, including canoes and kayaks, upstream of Shellmaker Island.

The Los Angeles District responses to the Draft CAR recommendations are as follows:

1. Unit II basin design modifications will be investigated during PED phase in order to lessen the overall loss of intertidal mudflat habitat without diminishing sediment trapping capabilities. This effort will be combined with the possible addition of the restoration of other upland areas to intertidal mudflat habitat in the ecological reserve. These additional areas are mentioned in Chapter 5 (see *Additional Restoration Measures*). All of these measures will be pursued to better meet the 10% habitat change constraint for the loss of intertidal mudflat habitat.
2. The Corps will avoid removing marsh habitat during construction of the side channels around New, Middle and Shellmaker Islands.
3. Chapter 5 discusses the removal of the old tern island, the construction of the new tern island, the segmenting of the dike and dredging around marsh areas outside of the nesting season for the least terns and the clapper rail. Dredging activities will continue in the basins during nesting seasons, but will remain a reasonable distance away from sensitive habitat areas to avoid disturbances during nesting seasons.
4. Costs for field surveys, including aerial photography and GIS mapping are included in the cost estimates for the recommended plan. The surveys would be conducted during two seasons at the PED phase (pre-construction), two seasons during construction, and two seasons after construction.
5. The Sponsor has identified the possible use of a portion of the Newport Dunes parking lot for a staging area for dredging activities.
6. The Corps and the Sponsor do not have authority to ban vessels upstream of Shellmaker Island. The managers of the reserve, the CDFG, are aware of this concern and will address it in the update of the management plan for the reserve.

Review of the Draft Report and the Draft EIS/R

The draft feasibility report and draft EIS/R will be coordinated with Federal, State and local agencies in accordance with Corps of Engineers guidelines, and in compliance with NEPA and CEQA requirements. This will include further coordination with EPA, USFWS, NMFS, CDFG, the California Coastal Commission, the Federal Aviation Administration (FAA), RWQCB, South Coast Air Quality Management District, Orange County agencies, the City of Newport Beach, and all other interests. A formal public meeting will be held to present the study findings, proposed recommendations and to respond to questions and obtain views and comments of all interested parties. The responses received will be documented in the final report and considered in the final decision of the Los Angeles District Engineer and other decision levels of the Corps of Engineers, the Administration, and Congress.

EXHIBIT 13, P. 2

CONCLUSIONS

The major conclusions of the Upper Newport Bay Ecosystem Restoration Feasibility Study to date are:

a. The increased volumes of sediment transported to Newport Bay over the last several decades from the 118 square mile San Diego Creek watershed have been the most significant contributor to change in the Upper Newport Bay ecological reserve estuarine habitats. Future without project conditions will continue to see the loss of marine open water habitat while mudflat and marsh habitats expand. The ecosystem habitat types will continue to degrade with the lessening tidal influence and increased freshwater influence. Habitats will transition to a more upland and riparian mix of habitats. The endangered species, including the California least tern and the clapper rail will lose much of their forage base and will be much more vulnerable to terrestrial disturbances and predation. Frequent dredging will be necessary to maintain the navigation channels in the lower portion of the Upper Bay and Lower Newport Bay.

b. Alternative measures developed to address the study objectives and constraints include in-Bay sediment control basins to preserve open water areas and maintain a mix of open water, intertidal mudflat and marsh habitats. Restoration measures include the restoration of side channels around islands and the removal of old dredge spoils and restoration to intertidal mudflat habitat.

c. The recommended plan will result in a total increase of 46 average annual habitat units at a total average annual cost of \$3,037,000, an average annual cost of \$66,000 per average annual habitat unit. The total dredging volume for the recommended plan is 2,122,000 cubic yards.

d. The total first cost of implementing the plan is \$30,392,000 with a 65% Federal cost share and a 35% non-Federal cost share. Maintenance of the project will require dredging of the basins once every 21 years, on average. Maintenance costs, estimated to be about \$31,188,000 for each maintenance episode, are a 100% non-Federal responsibility.

e. The County of Orange is the Sponsor for the feasibility study and fully supports the recommended plan as the locally preferred plan. The Sponsor is willing and able to cost-share in the PED phase and is willing to participate in the cost sharing for the construction of the project.

f. The resource agencies and local interests also support this project.

EXHIBIT 13, p. 3

**DEPARTMENT OF THE ARMY**

LOS ANGELES DISTRICT, CORPS OF ENGINEERS

P.O. BOX 532711

LOS ANGELES, CALIFORNIA 90053-2255

May 9 2000

Office of the Chief
Environmental Resources Branch

Mr. Ken Berg
Field Supervisor
U. S. Fish and Wildlife Service
ATTN: Jack Fancher
2730 Loker Avenue West
Carlsbad, California 92008

Dear Mr. Berg:

The Los Angeles District of the U. S. Army Corps of Engineers has worked closely with members of your staff, other agencies, and the local sponsor on the development and evaluation of alternatives for the Upper Newport Bay Restoration Project Feasibility Study. We also received two Planning Aid Reports from you, the latest in March 2000. We have been working on an array of alternative plans that address the problems and needs within Newport Bay, and have selected Alternative 6 as the recommended plan.

This alternative, of those subjected to rigorous modeling up to this time, most closely meets the two objectives of improving the control of sediment deposition within the Bay, without significantly changing existing habitat types. Alternative 6 meets the Total Maximum Daily Load (TMDL) objective of maintenance dredging at intervals no more than once every 20-years on average, while narrowly exceeding the objective of causing no more than a maximum of 10% change in any one habitat type in the Bay. The TMDL Objective is a water quality goal set in accordance with the Clean Water Act. The 10% loss objective is an ecosystem restoration objective established by the Upper Newport Bay Ecosystem Restoration Habitat Evaluation Group.

We are aware of your concern for losses of intertidal mudflats in excess of 10%. Due to time constraints given by the local sponsor's need to have this project included in the Water Resources Development Act (WRDA) of 2000, we are unable to rigorously model another alternative. However, we believe that further refinement during the post-authorization, Pre-construction, Engineering, and Design (PED) phase, prior to construction, will further reduce the permanent intertidal mudflat habitat loss to within agreed upon limits, while retaining the longest possible interval between maintenance dredging cycles. Therefore, the U. S. Army Corps of Engineers will continue to work throughout the project's design phase to further refine this alternative to reduce the initial loss of intertidal mudflats while continuing to meet all TMDL

EXHIBIT NO. 14

APPLICATION NO.

CD-72-00

-2-

requirements. Our intent will be to approach both a minimum 20-year dredging cycle and a maximum 10% loss of any habitat type.

The U. S. Army Corps of Engineers will concurrently look into two methods to either reduce loss of intertidal mudflat or to create additional intertidal mudflat. The first method is to modify the lower basin (Unit II) configuration. Alternative 6 currently includes an enlarged basin designed to help meet the minimum maintenance-dredging interval. During the PED Phase, the Corps will assess basin depth and aerial extent requirements in order to reduce mudflat losses in the Unit II basin. Mudflat losses will be balanced against reductions in the maintenance-dredging interval. The latter requires extensive modeling to assess the impacts of this modification, which cannot be accomplished within the time remaining in the feasibility phase.

The second method is to continue to work with the California Department of Fish and Game to identify additional areas in the Upper Newport Bay Ecological Reserve for restoration to intertidal mudflat. We feel that additional areas might be found within the Ecological Reserve that are available and suitable for this purpose. Final details, including exact configuration modifications and identification of specific restoration areas, will be addressed in consultation with the HEG during the final design phase.

Final details, including exact configuration modifications and identification of specific restoration areas, will be addressed in consultation with the Upper Newport Bay Ecosystem Restoration Habitat Evaluation Group during the final design phase.

These methods to reduce the net loss of intertidal mudflat were addressed at the recent Alternatives Formulation Briefing (AFB) where the Los Angeles District was directed to proceed in this manner by our Headquarters personnel. The other members of the Upper Newport Bay Environmental Restoration Habitat Evaluation Group who were present at the AFB also agreed to this approach.

If you have any questions please call Mr. Larry Smith at (213) 452-3846. He may also be reached by e-mail at "lsmith@spl.usace.army.mil".

Sincerely,



Robert E. Koplin, P.E.
Chief, Planning Division.

cc: Upper Newport Bay Environmental Restoration Habitat Evaluation Group

EXHIBIT 14, P. 2