

Responses to GLDDC — Great Lakes Dredge and Dock Company, letter dated July 15, 1996

1. Statement noted.
2. The Final EIS/EIR includes an expanded discussion of the potential impacts associated with dredging (as distinct from disposal) (see the new section 3.1.1.3), and Chapter 5 includes policy-level mitigation measures to address these potential impacts. In addition, a new discussion of the transition to full implementation of Alternative 3 appears in Chapter 6 (section 6.5), and identifies initial disposal volume limits, as appropriate, for existing sites. The LTMS Management Plan will include more specific information about how the available disposal volumes will be managed and allocated. As is noted in other responses, individual project decisions will include evaluation of economic practicability.
3. Statement noted. Please see the response to City of Benicia comment 2. See also the responses to BDAC comment 2, GGPA comment 2, and CLC comment 2.
4. In response to the comment that the LTMS should identify the existing conditions of the in-Bay disposal sites, see the expanded description in Chapter 4 regarding conditions of each aquatic site. In response to the comment about the future demand for dredging, please see the response to Ruth Gravanis comment 9b.

In response to the comment that the existing disposal plan fails to recognize the economic impact of dredging, the LTMS agencies disagree. See the economic analysis and the underlying assumptions and basis of the EIS/EIR in Chapter 2 that the affected economy is \$7.5 billion per year.

The Alcatraz disposal site is not a federal project. COE participation is limited to direct participation in federal projects. Alcatraz is a multi-project disposal site receiving material from both federal and non-federal projects. Congressional legislation would be needed to allow COE participation in assessing fees for dredging Alcatraz. Please see the response to BPC comment 14.
5. We recognize that economic and scale issues, particularly for small projects, can affect whether a project may be practicable for ocean disposal. However, some coordination and consolidation between projects can help make ocean disposal more practicable in some circumstances. In addition, the Final EIS/EIR includes a "small dredger policy" as a policy-level mitigation measure (see Chapter 5).
6. Proximity to dredging projects is one of the many factors that would be considered in determining the feasibility of a site for upland reuse. Table 6.2-5 provides estimated unit costs for site preparation and management. See also the responses to BDAC comments 2 and 4, CMPHA comment 6, Oakland comment 11, and Lathrop comment 3, which discuss the issue of feasibility of upland disposal options.
7. Statement noted. Public input is welcome by the LTMS agencies. Please see the responses to BPC comments 7a and 19, and Oakland comment 10.



**NORTHERN
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MARINE
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20 June 1996

LTMS EIS/EIR Comments
c/o U.S. Environmental Protection Agency
Region 9 (W-3-3)
75 Hawthorne Street
San Francisco, CA 94105-3901

Dear Sir:

I am submitting these comments on the *Draft of the EIS/EIR for the Long Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region* on behalf of the Northern California Marine Association (NCMA), a non-profit trade association representing approximately 300 member companies in the recreational marine industry in Northern California. I am concerned that the EIR/EIS fails to clarify that the needs and the abilities of small quantity dredgers are significantly different from those of large dredgers. I am further troubled by the statement on page 1-8 of the Executive Summary that "the LTMS agencies will continue to work to reduce the need for dredging associated with other projects, such as recreational marinas." Such statements could be interpreted to argue that small dredging projects should be minimized or in fact eliminated. Such a conclusion would be devastating for many of our members.

Small harbors and recreational marinas require a guaranteed in-Bay disposal site. These dredgers have neither the equipment nor the financial resources to utilize the deep ocean site, nor are there any upland sites identified for their use. In chapter 6 there are several comments noting that small harbors and marinas have neither the borrowing capacity nor the ability to increase cash flow enjoyed by larger dredgers. However, these comments also assume that small quantity dredgers will be able to pass along any increased costs associated with the various dredging alternatives to their customers. I would like to point out that the recreational marine industry is dependent on a healthy economy and on consumers who have many choices on which to spend their discretionary income. The industry's sensitivity and vulnerability to increased costs was painfully documented during the early 1990's when a 10% federal luxury tax was placed on new boat sales. Sales plummeted by 30%, businesses closed, and hundreds of jobs were lost. The same scenario is likely to occur as a result of the adverse cost effects on small dredgers associated with the alternatives proposed. Guaranteed in-Bay disposal would preclude such an occurrence.

Under the interim management plan, the LTMS agencies have found that the capacity exists in-Bay to meet the needs, which average less than 150,000 cubic yards annually, of the small dredgers. Furthermore, no adverse environmental impacts have been documented resulting from the continued use of current in-Bay sites during the interim period. Given the

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- 3 ↑ relatively low volume of material generated and the fact that in-Bay disposal remains the only economically feasible option for small dredgers, the in-Bay option must be acknowledged and guaranteed in the final plan. Without such a guarantee, the potential exists to create a competitive situation pitting small dredgers against the larger entities for access to in-Bay sites. I do not believe that any of the Policy Review Committee participants intended to create such a situation. I urge you to insure that their intentions are reflected in the final document by specifically incorporating language in the final document guaranteeing options for in-Bay disposal for small quantity dredgers.

Thank you for your attention to these concerns. If you have any questions please feel free to contact me.

Sincerely,



(Ms) M'K Veloz
Administrative Director

Responses to NCMA — Northern California Marine Association, letter dated June 20, 1996

1. Statement noted. The economic analysis in the EIS/EIR does acknowledge that the needs and abilities of small quantity dredgers are significantly different from those of large dredgers, and this discussion has been expanded in the Final EIS/EIR (see section 6.5.7). See also the responses to CDBW comments 1 and 2, CMPHA comment 3, and NCMA comment 3.
2. See the response above to NCMA comment 1. In addition, a small dredger exemption has been added to section 5.1.1.5 of the Final EIS/EIR.
3. The Draft EIS/EIR notes in Chapter 6 (section 6.3.1) that a “small dredger” policy was needed. The Final EIS/EIR includes such a policy in Chapter 5, section 5.1.1.5 (policy-level mitigation measures); under this policy, a portion of the allowable in-Bay disposal volume at any time is reserved for “small dredger” projects. Please see also the responses above to CDBW comment 1 and City of Benicia comments 2 and 5.



PORT OF OAKLAND

July 17, 1996

Karen Mason
LTMS EIS/EIR Comments
c/o Environmental Protection Agency
Region 9 (W-3-3)
75 Hawthorne Street
San Francisco, CA 94947

Subject: Comments on the Long Term Management Strategy (LTMS) for the Placement of Dredged Material in the San Francisco Bay Region, Draft Policy Environmental Impact Statement/Programmatic Environmental Impact Report (DEIR/EIS)

Dear Ms. Mason:

The purpose of this letter is to offer comments on the Long Term Management Strategy (LTMS) for the Placement of Dredged Material in the San Francisco Bay Region, Draft Policy Environmental Impact Statement/Programmatic Environmental Impact Report (DEIR/EIS). The Port supports the direction of the LTMS policy to promote beneficial reuse, when practicable and when clearly environmentally superior. Port Authorities around the country understand that finding beneficial uses for their large capital projects is the most efficient and responsible means of completing their objectives. 1

There are a number of areas in which the existing DEIR/EIS is not sufficient to allow informed decisionmaking. We believe that many of our concerns can be resolved through developing a management plan, and believe that option to be superior to revising and recirculating the existing document. Therefore, we urge the LTMS parties to complete a draft Management Plan that responds to the attached detailed comments prior to finalizing the DEIR/EIS. Our concerns fall under the following general areas: 2

o The document appears to change the standard for considering upland reuse options from the existing standards which depend on the "practicability" of alternatives, to an administrative viewpoint that upland disposal and wetland reuse (UWR) is a lower risk alternative that should be pursued. This rationale is not clearly linked to either the underlying legal mandates of the LTMS member agencies, or to clearly identified impacts that must be mitigated. 3

- 4 o The document as currently drafted does not contain the essential elements mandated by the California Environmental Quality Act, even for a programmatic document. In particular, the discussion of impacts proceeds in a manner where the term of art "significant impact" has been replaced with the poorly defined term "risk." It is thus impossible to trace the agencies rationale to determine what significant impacts are anticipated, and whether mitigation measures or only alternative disposal measures would reduce those impacts to a less than significant level.
- 5 o The economic analysis in the document is not adequate to support decisionmaking because the analysis is inaccurate and incomplete, and because the analysis uses a very general macro-economic analysis to conclude that fairly dramatic micro-economic impacts are reasonable. It is of particular concern that the economic analysis does not respond to the information provided during many LTMS meetings and comment letters, which are incorporated here by reference.
- 6 o The document overstates the impacts of dredging by seriously overestimating the probable quantity of dredged material. Neither the impacts of closure of the various military bases, nor the impacts of price increases on the demand for dredging are considered in sufficient detail in the document.
- 7 o The conclusion that UWR is a lower risk alternative with greater regulatory certainty is not supported in the document. Indeed, the potential significant impacts and risks of UWR are not addressed.
- 8 o The document does not respond to various comments made by the Port over the past several years in that it does not consider non-dispersive in-Bay alternatives.
- 9 o The DEIR/EIS does not provide adequate analysis of the existing impacts of aquatic disposal, either at in-Bay sites or at the newly designated ocean site.

10 | **RECOMMENDATION**

Despite our concerns over the adequacy of the document to support decisionmaking, we continue to support the concept of beneficial reuse of dredged material, and we are proud of our role in construction of the Sonoma Baylands project. We continue to support measures such as changes to the Water Resources Development Act (WRDA) that would increase the practicability of beneficial reuse. We would urge the LTMS agencies to focus efforts on implementation measures that could develop a consensus about what habitat restoration goals should be pursued for the Bay area, and the proper role of dredged material disposal as a possible option for achieving those goals. EPA has established a leadership role through its North Bay Initiative, and must now make that effort and the LTMS consistent, and resolve the issues that have been

The document has not been drafted as EIR under CEQA, even at a programmatic level. The document fails to adequately establish significant impacts in either the aquatic or upland environments. The document substitutes the term of art "significant impact" with "risk". The document describes risk very generally, does not provide any direct evidence and is arguable in the generalized context in which the risks are outlined. One of the critical standards for an EIR was established in *Sutter Sensible Planning, Inc. vs. Board of Supervisors*. In that case the judge found that the public should not be denied:

...an opportunity to test, assess, and evaluate the data and make informed judgement as to the validity of the conclusions to be drawn therefrom.

We are concerned that the EIR concludes that upland disposal is environmentally superior without identifying significant impacts in either the aquatic or upland environments. A critical task in this respect is clearly establishing thresholds of significance and demonstrating whether mitigation measures or alternatives best reduce those impacts to a level of insignificance. Clearly, the document does not establish significant impacts as defined by CEQA, nor does it establish thresholds of significance or that alternatives are superior to mitigation measures.

LEGISLATIVE AUTHORITY AND MANDATE

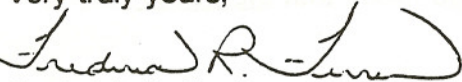
12 Although the EIR/EIS briefly mentions the possible actions that member agencies may take to implement the selected alternative, the existing statutory framework is not established. Further, the analysis in the document is not linked to either the existing legislative authority of the member agencies, proposed policy changes in legislative authority, or the impacts of alternatives. These are crucial shortcomings.

A number of different legislative mandates currently exist for environmentally sound disposal of dredged material. In particular, the legislative standards under Section 404 of the Clean Water Act (CWA) and Section 103 of the Marine Protection, Research and Sanctuaries Act (MPRSA) apply. The Guidelines for the CWA, which applies within the baseline, provide that no discharge of dredged material is allowed "if there is a practicable alternative ... which would have less ... impact." Practicable is defined as "... available and capable of being done

raised about alteration of seasonal wetlands. It is likely that some combination of public acquisition of privately held lands, UWR on diked lands, habitat enhancement with dredged material in deeper waters of the Bay, and mitigation banking could increase both the acreage and the value of the Bay areas wetlands. We are eager to play a part in increasing the practicability of reuse of dredged material. Both the current changes to WRDA, and the concept of mitigation banking could dramatically improve the practicability of reuse of dredged material. We urge the LTMS agencies to reconvene and revitalize the Implementation Committee and use a consensus-based approach to explore ways to improve the practicability of dredged material reuse rather than push to completion the current, fairly divisive, DEIR/EIS.

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Very truly yours,



Frederick R. Ferrin

Enclosures

cc: Corps of Engineers, San Francisco District; Regional Water Quality Control Board;
Bay Conservation and Development Commission; State Water Resources Control
Board

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[considering] cost, technology and logistics." A parallel set of standards is set up in the MPRSA, where disposal is only allowed if there are "no practicable alternative location and methods ... which have less adverse environmental impact or potential risk."

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The analysis in the EIR/EIS does not address either the issue of practicability, or the impacts of alternatives, in sufficient detail to support the conclusion that UWR is both practicable and environmentally superior. The document concludes that avoiding aquatic disposal would somehow reduce potential risk. This discussion addresses only part of the legislative mandate, and is conclusory in nature. The discussion does not bridge the analytical gap to show how the risks of upland disposal have been compared to the risks of aquatic disposal in a manner that supports the conclusion.

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There are similar shortcomings in addressing the mandates of the California Environmental Quality Act (CEQA). One of the clearer mandates of CEQA is found in Section 21002.1(a), which provides in relevant part:

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The purpose of an environmental impact report is to identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided.

CEQA practice, as it has evolved in response to the State's Guidelines and caselaw, generally is to establish the "thresholds" of significance that have been adopted, and then to identify the significant impacts of the project (or program) and of the alternatives. The present document shortcuts this process entirely, and proceeds to a conclusion that UWR somehow minimizes "risk", without clearly establishing what significant impacts UWR avoids, or the potential significant impacts of UWR. In particular, nowhere in the document is it clearly established what the significant impacts of in-Bay or ocean disposal might be, or how those impacts might be related to the volume (and perhaps timing) of disposal. Thus, there is no way to tell whether mitigation measures might reduce those impacts to below the level of significance, or whether only different alternatives might avoid or mitigate those impacts. In this respect, the document falls well short of the minimal standards mandated by CEQA for supporting decision making.

A similar problem exists with the constraints that have been put upon the possible array of UWR options. Presently, all UWR reuse options addressed in the EIR/EIS are located behind dikes, on land not now subject to BCDC jurisdiction. In previous communications, we suggested

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15 that the EIR/EIS needed to evaluate reuse options that used historic shipping channels that might be abandoned through the base closure process. A clear enunciation of the underlying legislative mandates would aid in the evaluation of the practicability of such alternatives. For example, Section 66605(a) of the MacAteer-Petris Act limits "... filling of San Francisco Bay ... to water-oriented uses (such as ports, ... wildlife refuges ...)", and further limits such fill to circumstances where "public benefits from fill clearly exceed public detriment from the loss of the water area." Under this legislative language, UWR reuse options that were located within the Bay might well be practicable if they created or enhanced wildlife refuges. We understand that the existing Bay Plan would need to be amended to designate such disposal areas, but the LTMS agencies made it clear that policy changes might be proposed as a result of the LTMS analysis. With this background in legislative authority and mandates, we find the lack of alternatives that would provide for non-dispersive in-Bay disposal and eventual UWR within the Bay to be a critical shortcoming.

ECONOMIC ANALYSIS

Macro Economics

- 16 1. Throughout the LTMS EIS/EIR, reference is made to the small percentage that cumulative costs for dredging and disposal under each of the three proposed alternatives are of the "... overall \$7.5 billion per year dredging-related economy in the Bay Area (in 1990 dollars)." Presumably these statements are made to justify the stated goal of transitioning from Alternative 1 to Alternative 3. These macro-economic comparisons are at best inappropriate to use in selecting preferred alternatives, and concluding economic impacts to the region or to major dredgers will be minor. Comparisons such as these are irrelevant to project specific feasibility analyses and ignore price elasticity of demand considerations. Justifying transitioning from Alternative 1 to Alternative 3 using this type of economic data will force substantial dredged material disposal cost increases onto local sponsors (even under Alternative 1) who, for competitive reasons, have very limited ability to pass these added costs onto customers or absorb them as an increased operating expense (see "Competitive Environment" section below). This problem is particularly acute with respect to berth-side dredging at the Port of Oakland for which the Port pays 100 percent of the cost. Financial implications could be severe and skew the competitive position of the Port if there are substantial cost increases for disposing of berth-side dredged material.
- 17 2. The EIS/EIR acknowledges that regional economic impacts of dredging

and disposal cost increases are keyed to the ability of individual dredgers to absorb or pass on these increased costs (last paragraph on page 6-45). However, this statement appears to be superseded two paragraphs later in the middle of the left column on page 6-49 where it is stated that "...the magnitude of regional effects potentially resulting from cost increases was evaluated by assessing the magnitude of dredging and disposal costs in relationship to total revenue generated by the maritime industry".

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3. It is not clear how economic impact figures for the "dredging-related maritime economy" were developed, or how local sponsor cost estimates were determined.

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Recommendation:

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Delete all references to the percentages that cumulative costs of dredging and is posander the three alternatives are of the dredging-related maritime economy in the Bay Area. These comparisons ignore price elasticity of demand considerations, and should not be used to justify one alternative over another. Relevant comparisons are the magnitude of dredging and disposal cost increases that result from each of the three alternatives compared to no action, the competitive impact of these potential increases, and the ability of dredgers such as the Port of Oakland to either pass along or absorb these increased costs. Redo the socioeconomic analyses of the three alternatives using cost increases to local sponsors as the criteria instead of macro-economic comparisons.

B. Competitive Environment

1. The competitiveness of the Port of Oakland is influenced by many factors. Chief among these is the need for deeper and wider channels and turning basins to allow unrestricted access for increasingly large container vessels. In addition, the trend toward the merging of ocean carrier services and assets into alliances of two or more carriers has created a demand for very large container terminals to handle these consolidated services. Oakland is the only major West Coast container port that has significant constraints in both of these areas - channel depths and waterfront land available for mega-terminal development. These constraints, combined with other factors such as container terminals that are relatively old (except for Berth 30) and less than optimum size and design, and rail intermodal facilities that are inferior to those in southern California and the Pacific Northwest, place Oakland at a competitive disadvantage. Carriers building new container ships with capacities in excess of 5,000 TEU's such as COSCO and APL are

deciding not to bring these ships into Oakland because of channel depth restrictions. Carriers have reluctantly tolerated lengthy delays in completing channel deepening projects. These delays in deepening channels have resulted in higher operating costs at Oakland compared to other West Coast ports for carriers with new generation, large container vessels. New services being offered by alliance partners are not emphasizing Oakland because of a variety of factors, including channel depths and terminal facilities that are below standards available at other West Coast ports. These factors combined with competitive disadvantages regarding intermodal rail rates and service, and the lack of on-dock rail capability available at Oakland are causing intermodal or discretionary cargo to be routed through other gateways.

2. The Port of Oakland market share has been declining steadily since the early 1980's, when approximately 25 percent of West Coast containerized cargo moved through the Port. Today, this figure has fallen to 14.9 percent which is the lowest market share for Oakland since the beginnings of containerization in the 1960's. This sharply contrasts with the leadership position asserted in the 1970's when Oakland was the second largest container port in the world. Additional costs for dredging and disposal at Oakland will contribute to further declines in Oakland's market share.
3. Additional dredging and disposal costs that are passed onto ocean carriers will add to already high operating costs experienced by these carriers. This would have a negative competitive affect on Oakland compared to other West Coast ports. Therefore, passing along increased dredging and disposal costs resulting from any of the three proposed alternatives in not an option if strengthening Oakland's competitive position is to be achieved.
4. Absorbing dredging/disposal cost increases resulting from the implementation of any of the three alternatives is also not a viable option for Oakland. Oakland is already the most highly leveraged port on the West Coast in terms of bond indebtedness. A \$675 million capital improvement program for new and expanded maritime and intermodal rail facilities at Oakland is planned over the next five years to enhance the competitive position of the Port. To help finance this future capital investment, operating expenses for all programs are being cut by about 10 percent, including Port-wide staff reductions of about the same magnitude. These reductions are necessary to convince financial markets that the Port will have the ability to pay for debt service required to finance planned capital expenditures. Operating cost increases that would result from implementation of any of the proposed dredging/disposal alternatives in the draft EIS/EIR would threaten the

ability of the Port to move forward with facility developments that are necessary for the Port to remain competitive. The draft EIS/EIR estimates that these cost increases would range from \$1.2 million per year on the low side for Alternative 1, to \$9.6 million per year on the high side for Alternative 3. These figures represent annual dredging and disposal cost increases that range from 29-135 percent.

C. New Work Versus Maintenance Dredging

Maintenance and new work dredging/disposal projects have different financial and competitive impacts on the Port of Oakland. Additionally, maintenance dredging/disposal costs vary in their impact depending on whether these projects are the responsibility of the Corps of Engineers under their mandate to maintain harbors and channels, or the responsibility of local sponsors such as the Port of Oakland to maintain berth-side depths to federal channel depths.

New work dredging/disposal project costs that are the responsibility of the Port of Oakland are built into the five year capital improvement program of the Port, and are financed either through the use of capital reserves or borrowing. The costs of these projects, including additional costs for required ocean and/or upland disposal are capitalized and appear on Port income statements as debt service operating expenses. The opportunity costs for capital reserves used do not appear on income statements, but are the cost to the Port of being unable to use funds dedicated to new work dredging/disposal for other facility development.

Increased costs for maintenance dredging/disposal, especially 100 percent Port share berth-side maintenance dredging/disposal, are operating expenses that are funded from operating revenues. Increases in these costs can have a pronounced negative affect on the competitive position of the Port and its ability to finance future expansion plans. As discussed under the section "Competitive Environment", increased costs for berth-side dredging/disposal at levels estimated for any of the three alternatives would likely result in negative financial and competitive impacts because of the inability of the Port to pass along these increased costs of operation to customers, or to absorb them. For example, an increase in operational costs for the Port of Oakland's berth-side dredging of \$1 million per year would translate into a loss of about \$10 million in capital-raising capacity.

Recommendation:

Treat berth-side maintenance dredging for which the Port is responsible for 100 percent of the cost the same as "Minor Dredger" projects. Recognize in

22 the EIS/EIR that these types of dredging and disposal projects fall in a category that is "... most susceptible to potentially significant economic consequences under any of the action alternatives ...", and reserve capacity at the least expensive disposal or reuse sites for dredged material from these projects. Include berth-side dredging and disposal projects for ports in the policy statement contained on page 6-63 under section 6.4.1 that proposes available capacity at the least expensive disposal or reuse site be reserved for smaller projects that are particularly vulnerable to negative economic impacts from proposed alternatives. See further discussion of this issue under "Regulatory Certainty."

D. Data and Impact Calculations

- 23 1. The EIS/EIR does not factor in the closure of Bay Area military bases, particularly the Oakland Naval Supply Center and the Oakland Army Base, and the resulting impact these base closures will have on reducing the demand for dredged material disposal. Additionally, the high range, 50 year dredging volume estimate for San Francisco Bay assumes no reduction in material disposal requirements from the closure of Alameda Naval Air Station. The reality is that the closure of all three of these bases will reduce the demand for dredged material disposal by over one million cubic yards per year based on statements in the EIS/EIR on page 4-164 that the Navy generates an average of 1.4 million cubic yards of dredged material per year to support its operations. This frees in-Bay disposal sites for dredged material from Port of Oakland berth-side maintenance dredging. See further discussion below under "Data Used for Analysis".
- 24 2. Much of the data used for analysis is old and outdated. Economic studies performed to assess the economic scale and impact of Bay Area maritime operations were conducted in 1990. Port data included on pages 4-166 to 4-169 under the section "Contribution of Dredging-Dependent Industries to the Regional Economy" is old and ranges from 1986 estimates of the value of San Francisco commercial fisheries to 1991 data for activity levels at the Port of Oakland.
- 25 3. Figure 4.6-1 on page 4-167 is misleading because while it shows a rising trend line for "shipping tonnage" for "Estuary Ports" (which it is assumed are Bay Area ports) from 1971 to 1989, it does not show a more pronounced, falling trend line that is the percent market share this "shipping tonnage" is of total West Coast volume. The Bay Area market share of West Coast containerized trade has been falling steadily for the same time period shown on the graph, and continues to decline today. (See Item 2 under "Competitive Environment".)

4. Chapter 6 contains numerous math errors beginning on page 6-52 where cost analyses are shown. A few examples are as follows. 26
- a.) Page 6-52, Alternative 1 under "Major Dredgers" - the upper range of local sponsor costs should be \$105 million not \$95 million.
 - b.) Page 6-54, Alternative 3, top right column - the local sponsor cost range should be \$166 million to \$478 million not \$165 million to \$468 million. This changes the high range annual amount and percent increase figures from \$9.3 million and 128 percent to \$9.6 million and 135 percent respectively.
 - c.) Similar errors occur throughout this section. The correct figures are difficult to verify because of the lack of documentation provided.
5. Throughout this same section, various percentage figures are used to calculate the local sponsor share of costs for each of the three alternatives. It is not possible to determine how these percentages were developed from data contained in the EIS/EIR. 27
6. The reference to Alternative 2 in the first line at the top of the right column on page 6-54 is incorrect and should be Alternative 3. 28
7. The availability of funding is a critical element to the practicability of UWR, and the lack of any detailed analysis of funding sources in the document seriously undermines the utility of the information contained in the DEIR/EIS. For example, the potential sources for funding maintenance dredging have been affected by two changes in national policy. Congress has adopted a series of restrictions to the Corps' maintenance budget, beginning with the well-known Gramm-Rudman Act, that restrict the rate of increase of the Corps of Engineers' maintenance budget. Recently, the Corps developed a "Cost Reduction Study" examining ways of reducing maintenance costs by 15%. Such cost saving mechanisms might include restrictions on funding navigational projects with a depth less than 14 feet. The limitations on funding could affect both the practicability of the UWR measures proposed, and the actual demand for dredging. A recent court case involving the Harbor Maintenance Trust Fund has the potential to have an even greater effect on the practicability of UWR. That case, presently on appeal, found the Trust Fund an unconstitutional restraint on trade. These two measures have a tremendous impact on the potential funding sources for UWR, and need to be analyzed in the document before the LTMS agencies can conclude that UWR is a practicable alternative. 29

DATA USED FOR ANALYSIS

- 30 | The LTMS overestimates the magnitude of the dredging needs in a number of very important ways that tend to overstate both the present and future potential impact of disposal of dredged material. First, the LTMS does not reflect actual disposal patterns since 1988. Second, the LTMS does not account for closure of military bases. Third, the LTMS does not consider price elasticity. These patterns of data selection, combined with a fifty year time horizon, dramatically overstate the volume of dredged material generation and impacts.
- 31 | The LTMS does include records of in-Bay disposal over the past years. Those records show that the average in-Bay disposal at the Alcatraz site has averaged about 2 million cubic yards per year (MCY) since 1988. In-Bay disposal at the San Pablo site has averaged about 250,000 cubic yards per year. Disposal at the Carquinez site has averaged about 1 MCY, but has been reduced to an average of about 0.5 MCY since 1987. Use of the Suisun site is negligible. Thus, since about 1988, in-Bay disposal has averaged about 2.8 MCY, far less than the assumptions used in the LTMS. One of the shortcomings in the LTMS analysis is that it includes disposal at the San Francisco Bar channel—about 650,000 cy/year of fine grained sand that is disposed of outside the Bay.
- 32 | The LTMS does acknowledge that the LTMS may reduce dredging needs. The magnitude of the military demand (and the relative inflexibility of that demand to price) is substantial. Mare Island, between the strait and the shipyard, averages nearly 2 MCY of dredging each year. Dredging for Alameda Naval Air Station and the Oakland Naval Supply Center, both bases on the closure list, average 670,000 and 126,000 cubic yards of annual maintenance dredging respectively. Thus, closure of military bases will directly affect nearly 2.8 MCY of annual dredging! Whether or not new shipping uses are developed in those areas is very heavily dependent on the price of dredging.
- 33a | Perhaps the most critical shortcoming of the LTMS document is its failure to account for price elasticity and how it will affect the demand for dredging. We believe that the current reduction in in-Bay disposal already reflects the effects of price elasticity on the demand for dredging. The reduction in the number of in-Bay sites, the increased hauling distance, the reduction in the number of dredgers who work in the Bay, and the high cost of testing, have all increased the cost of dredging substantially. The apparent demise of the Baldwin ship channel project, one of the more poorly kept secrets in the dredging community, appears to stem in part from the cost of dredging, and the desire of the refineries
- 33b |

who would use the channel to reduce their costs. We would expect that the very high cost of dredging channels relative to the potential shipping benefits would severely limit the utility of Mare Island, Alameda Naval Air Station, and the Oakland Naval Supply Station for reuse as shipping sites. As the designated redeveloper of the Oakland Naval Supply Station, we know that the maintenance dredging requirements are extraordinarily high for the shipping benefits accorded by Middle Harbor.

The dramatic cost increases that could occur from restrictions on in-Bay disposal means that ignoring price elasticity has resulted in an inadequate document. Maintenance dredging represents about 75% of the LTMS' 50 year total of 300 MCY. The analysis in Appendix P acknowledges that UWR would increase costs by about 100% (Table 6.) Although we believe that the increased cost of maintenance, at least for the Port of Oakland, would be closer to 300 or 400%, a doubling of cost virtually mandates a careful economic analysis of the impact of price elasticity on disposal needs. We believe that the cost of disposal represents a first order factor for the economic viability of the Redwood City, Richmond, Mare Island, Oakland, and possibly the Suisun Bay and New York channels as well. The selection of a fifty year term for the LTMS, without consideration of price elasticity, dramatically overstates the demand for dredging.

Micro-Economics and Construction Costs

There appears to be some miscomprehensions by the agencies regarding the cost of conducting a dredging project. The cost of dredging is related to the volume, depth, surface area and the ease or dredgability of the project. No matter what the volume, dredgers bid jobs based on how many passes and moves a dredge barge must make. For example, if a contractor must do two passes over a given area, they bid the job based on the time it takes to make both passes. They will further estimate the difficulty to conduct the dredging to get a total cost for the project. Finally, they divide the total cost (per berth or area) by the estimated volume to be removed for that area. Therefore, smaller volumes result in higher costs per unit volume. This is made clear in the attached table of bids for Port of Oakland maintenance dredging from July, 1994.

Maintenance dredging projects are a delicate balance of maintaining depths for safe navigation and cost effective dredging. Often the Port can not allow cost effective amounts of material to accumulate prior to conducting dredging. Other entities with less stringent requirements for navigable depths can allow greater volumes to accumulate prior to dredging. For this reason, we often see "small dredgers" with large but sporadic dredging projects.

Dredging is a market driven industry. For example, for this years maintenance dredging, the Port received only one bid (see attached May 1996 bid canvass). This has happened at least in part due to Dutra being the only contractor operating in the San Francisco Bay. Mobilization costs for dredgers are often exceedingly high. Implementation of the UWR policies in the LTMS document are virtually certain to increase mobilization costs. Dredging contractors who are not currently working in the Bay Area can not compete with dredgers who are currently working here. If there were a number of dredging contractors operating in the Bay Area, the pricing might be quite different. The point is that there is no set cost for dredging and it will continue to fluxuate on a project by project basis dependent on several complex factors including competition and project specifics.

34 | Again, one of our key issues is the difference between new work and maintenance dredging costs. The Port has conducted several upland disposal projects of various sizes and with various disposal options. We would like to make it clear that the proposal to reuse dredged material upland entails significantly higher costs than the document recognizes. The Port has pointed this out repeatedly during the preparation of the EIS.

The Port has learned and become more sophisticated in permitting upland disposal projects. It should be made clear that with the exception of one small project, all the Port's upland disposal has gone to reuse. We have implemented the proposed LTMS policies. We have reused material within the Port for construction, in landfills for daily cover, and in wetland creation. Even with final reuse, the cost of these projects has been extremely high, often 100% to 700% higher than in-bay disposal. For example, mildly contaminated material from Berth 23 was dredged and is currently drying at our Berth 10 rehandling facility. The material will be hauled to Redwood Landfill and reused as daily cover. The landfill has accepted the material with no tipping fee, but the cost for the project is \$55 per cubic yard! This is 7 to 20 times higher than in-bay disposal.

Even a more centrally located rehandling facility wouldn't help much. Trucking is an expensive activity. Being able to move material by barge should reduce costs. However, during the construction of our Berth 30 facility we accepted bids to take material directly to the Port of Sonoma for drying and final disposal at Redwood landfill. This should be cheaper since the material was to be moved by barge with only a short haul to Redwood. The bid for this was \$15.50 without reloading onto trucks at Port Sonoma or trucking to Redwood Landfill. Total costs for this project, even with economical barge hauling and a nominal fee charged by the Port of Sonoma, would still be three to four times higher than in-bay disposal (see attached bid canvass).

The material from this project was finally stockpiled at the Oakland Airport for

eventual reuse. The original bid was \$9.10 per yard, however the contractor could not complete the job for that price and needed to renegotiate a price. The stockpiled material eventually became a long term problem to the Port since it was not suitable for construction fill and required constant management to prevent dusting or wash out.

The best the Port has been able to do with upland reuse/disposal was during the construction of the Howard Terminal Expansion Project. This project was also a new work project which again highlights the differences between new work and maintenance. The project consisted of removing approximately 60,000 cubic yards of NUAD material to Redwood Landfill. The material was accepted for reuse rather than disposed as a waste. The unit cost for this project (not including the construction of the Berth 10 rehandling facility) was \$21 per cy. Again, three to four times higher than in-bay disposal. But the costs were manageable because it was a relatively small volume of material that was part of a new work project. Regular cost increases such as these would be unmanageable for regular maintenance dredging.

It should also be noted that the port spent over \$250,000 constructing the Berth 10 facility. This cost does not include cost for maintaining, permitting, management of discharge, preparation of a risk assessment, and the loss of maritime revenue for the site. Although the site has given the Port additional flexibility in relation to dredging, it has come at a high price.

We have also attached a copy of the bid canvass for the 42' Deepening Project. As is evident, large volumes command reduced costs. The price for ocean disposal or wetland creation were close to the cost for small projects disposed of in-bay (note that a \$2.00 per cubic yard mobilization charge needs to be added to the Dutra and Manson bids). You only get these volume discounts with new work projects since we would only dredge these volumes during construction. Further, the unit cost for Sonoma Baylands and Galbraith do not include site acquisition, permitting, monitoring or site preparation.

GRAIN SIZE ISSUES IN RELATION TO "RISK" AND PRACTICABILITY IN EACH PROPOSED DISPOSAL LOCATION

All dredged material is not equal in quality, quantity, or potential for impacts in the different disposal/reuse environments. A generic analysis of dredged material avoids discussion of the obvious differences between sandy new work material and the predominately silt/clay maintenance dredged material. In order to illustrate why grain size is an important component to analyze when describing dredged material disposal, reuse and risk, we would like to describe conditions in Southern California where dredged material reuse is common.

In contrast to the San Francisco Bay, beneficial reuse of dredged materials is common in Southern California for several reasons: 1) the material is largely sand which allows for a wider range of reuse options, including beach nourishment and construction and 2) beneficial reuse is cheaper or equal to the cost to the Southern California ocean disposal options. It should be noted that there are no equivalent permitted 404 jurisdictional disposal sites in Southern California, however the distance to their ocean disposal site is generally equivalent to our in-bay site at SF-11. San Francisco Bay is a completely different situation as far as disposal costs, types of material dredged, volumes dredged and reuse options available. In Southern California, municipalities fight to get dredged material for beach nourishment. In addition, there have been several Port projects which require large volumes of fill material. Dredged material is commonly reused by Ports in their own reuse projects to create new landfill areas for expansion.

The major reason that regular reuse is difficult in the San Francisco Bay is the types of material regularly dredged. In contrast to Southern California, most maintenance dredging projects in the Bay consist primarily of silts and clays. San Francisco Bay maintenance dredged materials range from about 60% to 99% silt and clay. Although there is a large volume of reuse in Southern California, no silt and clay range material is reused. USEPA guidelines for beach nourishment require a maximum of approximately 30% silt and clay range material.

Further, construction reuse of dredged materials is limited by the grain size. Although a small percentage of silt and clay can be tolerated in construction fill, depending on the purpose of the construction, maintenance material (with from 60% to 99% fine grain component) is in practicality, never suitable for structural fill. Fine grain material would only be suitable for structural fill after extensive compaction and amendments. This would drive up construction costs so much that it would make any project impractical. The only construction reuse options available for fine grain material are landfill levees, liners, and slurry walls. This is a very direct and limited market that should be explored, but should not be considered a panacea. Due to the need to dispose or reuse NUAD dredged material on a regular basis, reuse in landfills should be reserved for NUAD material to the extent possible.

Clean maintenance dredged material may be suitable for reuse in wetland creation projects based on its grain size and physical characteristics. However, the "risk" to the environment may in fact be greater in the upland environment than it is if placed in the aquatic environment. A discussion of the risk associated with upland reuse in wetlands is included in the section titled RISK.