



DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

25 APR 2005

CECW-PC

THE SECRETARY OF THE ARMY

SUBJECT: Miami Harbor, Miami-Dade County, Florida

1. I submit, for transmission to Congress my report on the navigation study for Miami Harbor in Miami-Dade County, Florida. It is accompanied by the report of the district and division engineers. These reports are in final response to a resolution from the Committee on Transportation and Infrastructure, United States House of Representatives, adopted October 29, 1997, provides the study authority as follows: "That the Secretary of the Army is requested to review the report of the Chief of Engineers on Miami Harbor published as Senate, Document 90-93, 90th Congress, 2nd Session, and other pertinent reports, with a view to determining the feasibility of providing channel improvements in Miami Harbor and channels." Preconstruction engineering and design activities for Miami Harbor, Miami-Dade County, Florida, will be continued under the authority cited above.

2. The reporting officers identified both a plan that maximizes net national economic development (NED) benefits and a locally preferred (LP) plan. Both of the plans consist of deepening and widening the existing Federal navigation channel from the entrance channel (Cuts 1-2) to Cut-3 and the Lummus Island Cut (Fisherman's Channel). The NED plan depth optimized at 51 feet mean lower low water (MLLW) for Cuts 1-2 and 49 feet MLLW for Cut-3 through the Lummus Island Cut. The LP plan includes a depth of 52 feet MLLW for Cuts 1-2 and 50 feet MLLW for Cut-3 through the Lummus Island Cut. Cut-4 (the main channel) includes a realignment of the west end of the channel near the cruise ship turning basin with no change in the existing project depth of 36 feet. The realignment of Cut-4 requires no dredging since existing project depths of 36 feet occur in the area of the proposed realignment. The Fisher Island Turning Basin in Cut-3 expands from a turning diameter of 1,200 to 1,500 feet with the northeast section truncated to minimize seagrass impacts. The Lummus Island Cut (Middle) Turning Basin would be reduced from a 1,600-foot to a 1,500-foot turning diameter. Widening of the entrance channel from 500 to 800 feet would occur at the seaward portion of Cut-1. A turn widener would be added to the southern intersection of Cut-3 with the Lummus Island Cut. The sponsor's berthing area from Gantry Crane Berths 99-140 would increase in width by 60 feet from 100 to 160 feet. An additional 40-foot increase to the existing 400-foot width of Lummus Island Cut would result in a 440-foot wide Federal channel. The 60-foot berthing area increase added to the 40-foot channel widening results in a new 100-foot dredging cut south of the existing Lummus Island Cut.

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3. Mitigation for channel widening includes construction of artificial reef areas and filling of existing borrow sites for seagrass restoration. Based upon the extent of impacts, restoration of approximately 24 acres of seagrass beds would occur as compensation for unavoidable impacts. Seagrass impacts include the permanent loss (removal) of 0.2 acre of mixed seagrass beds and the indirect loss of 7.7 acres of seagrass due to the natural equilibration of side slopes for a total of 7.9 acres. In order to replace local seagrass functions and values, restoration would be implemented within Biscayne Bay, preferably in areas where seagrass once occurred and is now absent due to past borrow site excavation for causeway construction. New impacts to low relief hardbottom/reef and high relief hardbottom/reef total 1.4 and 3.1 acres, respectively. Based on the habitat equivalency analyses calculations, direct impacts to hardbottom/reef habitats would require the construction of artificial reef habitat at an effective mitigation ration of 2:1 for high relief hardbottom/reef habitat and an effective mitigation ratio of 1.3:1 for low relief hardbottom/reef habitat. Construction of mitigation reefs would occur in two different designs to reflect the differences in the habitat structure of the two types of hardbottom/reefs impacted. For the high relief hardbottom/reef habitat development of a total of 6.2 acres would occur. For the low relief hardbottom/reef habitat development of a total of 1.82 acre would take place. Reef construction would occur at proposed artificial sites located south of the entrance channel. The sponsor would have responsibility for 5 years of post-construction monitoring of both the seagrass and reef mitigation sites.

4. NED Plan. Project costs are allocated to the commercial navigation project purpose. Federal participation in the cost of implementing the project proposal is limited to the Federal share of the cost of the NED plan. Based on October 2004 prices, the estimated cost of the general navigation features (GNF) of the NED plan is \$109,240,000 including all environmental mitigation costs. The cost of GNF includes channel dredging, dredged material disposal, rehabilitation of dredged material disposal facilities at Virginia Key, construction of mitigation sites for seagrass restoration and artificial reef development. In accordance with the cost sharing provisions of Section 101 of the Water Resources Development Act (WRDA) of 1986, as amended by Section 201 of WRDA 1996, the Federal and non-Federal shares of the GNF are estimated to be \$73,830,000 and \$35,410,000, respectively. The non-Federal interests would also be responsible for all the berthing areas and associated disposal area capacity. The utility relocations amount to \$4,970,000. In this case the project is for a deep-draft harbor (under Section 101 of WRDA 1986) one-half of the cost of each such relocation shall be borne by the owner of the facility being relocated and one half of the cost of each such relocation shall be borne by the non-Federal interests. Total estimated associated non-Federal costs are \$38,860,000 (\$38,360,000 local service facilities + \$500,000 environmental monitoring). Total costs for all features necessary to obtain the projected navigation benefits, including GNF (\$109,240,000); U.S. Coast Guard (USCG) aids to navigation (\$170,000); lands, easements, rights-of-way and relocations (LERR) (\$10,000 + \$4,970,000); and associated non-Federal costs (\$38,860,000) are estimated to be \$153,250,000. Of that amount \$65,580,000 would be Federal and \$85,190,000 would be non-Federal. The non-Federal portion includes a repayment of 10 percent of the cost to construct the GNF, less allowable credits for the values of LERR necessary for the Federal project. The 10 percent of the GNF is \$10,920,000; the LERR credit is estimated at \$2,500,000. The difference is \$8,420,000, which may be paid with interest over a period not to exceed 30 years. In addition, the utility owner would pay 50 percent of the utility relocation

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cost or \$2,480,000. There is an annual maintenance cost for USCG aids to navigation of \$20,000. Equivalent annual benefits and costs, based on a discount rate of 5.375 percent and a 50-year period of economic evaluation, are estimated at \$14,710,000 and \$10,010,000, respectively. Equivalent annual net benefits would be \$4,700,000. The benefit to cost ratio is 1.5 to 1.0.

5. Locally Preferred Plan. At the request of the Miami-Dade County Seaport Department, the non-Federal sponsor for the channel deepening and widening project, the LP plan is recommended for implementation. The Miami-Dade County Seaport Department believes that the 50-foot below MLLW channel yields a project of much greater value to the Port's future viability and the port intends to make the appropriate investment and pay the incremental project costs. A request to deviate from the NED plan received approval on 29 November 2004 from the Assistant Secretary of the Army (Civil Works) ASA (CW). ASA (CW) granted the exception to the requirement that the Army Corps of Engineers recommend the NED plan since the overall LPP is economically justified; does not require additional annual operation, maintenance, repair, or rehabilitation costs; provides the same type of benefits as the NED plan; and the Sponsor elected to pay the additional costs (estimated at \$8,730,000). The total initial cost of the 50-foot LP plan is estimated at \$161,980,000. The non-Federal share is \$60,010,000 for incremental cost sharing for deepening to 45 feet; the incremental cost sharing for depths greater than 45 feet to 49 feet is \$25,180,000; the costs associated with the LP plan which are in excess of the cost to implement the NED plan are \$8,730,000; and \$2,480,000 represents 50 percent of the costs for utility relocations. The total cost to the non-Federal project sponsor is \$96,400,000. The Federal share of the costs of the LP plan remains the same as the NED plan of \$65,580,000. The sum of the non-Federal share and the Federal share of the costs totals \$161,980,000 in initial costs. The non-Federal interests would also be responsible for all the berthing areas and associated disposal area capacity, as well as one-half the cost of utility relocations. The non-Federal cost includes total estimated associated costs of \$39,430,000. Total costs for all features necessary to obtain the projected navigation benefits, including GNF (\$117,400,000), USCG aids to navigation (\$170,000), LERR (\$10,000 + \$4,970,000), and associated non-Federal costs (\$39,430,000 = \$38,930,000 local service facilities + 500,000 environmental monitoring) are estimated to be \$161,980,000. Additionally, other Federal costs for USCG annual maintenance of navigation aids is \$20,000. Average annual benefits and costs, based on October 2004 price levels, a discount rate of 5.375 percent, and a 50-year period of economic evaluation, are estimated at \$14,740,000 and \$10,650,000, respectively. Equivalent annual net benefits would be \$4,090,000. The benefit to cost ratio is 1.4 to 1.0.

6. Washington level review indicates that the plan recommended by the reporting officers is technically sound, economically justified, and environmentally and socially acceptable. The proposed project complies with applicable Corps planning procedures and regulations. Also, the views of interested parties, including Federal, state and local agencies, have been considered.

7. I generally concur in the findings, conclusions, and recommendation of the reporting officers. Accordingly, I recommend that implementation of the proposed project be authorized in accordance with the reporting officers' recommended plan, with such modifications as in the discretion of the Chief of Engineers may be advisable in the future. My recommendation is

Total	Fed	NF	LSF
122,550,000	65,580,000	54,490,000	39,430,000
		2,480,000	
		<u>56,970,000</u>	
LSF			
39,430,000			
<u>122,550,000</u>			

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subject to cost sharing, financing, and other applicable requirements of Federal and State laws and policies, including Public Law 99-662 (WRDA 1986) as amended by Sections 201 of Public Law 104-303 (WRDA 1996). ~~This recommendation is subject to the non-Federal sponsor~~ agreeing to comply with all applicable Federal laws and policies, including the following requirements:

a. Enter into an agreement, which provides, prior to execution of the project cooperation agreement, 25 percent of design costs;

b. Provide, during construction, any additional funds needed to cover the non-federal share of design costs;

c. Provide, during the period of construction, a cash contribution equal to the following percentages of the total cost of construction of the general navigation features (which include the construction of land-based and aquatic dredged material disposal facilities that are necessary for the disposal of dredged material required for project construction, operation, or maintenance and for which a contract for the federal facility's construction or improvement was not awarded on or before October 12, 1996, or, a dredged material disposal facility designed, constructed, managed, or operated by a public or private entity, if consistent with economic and environmental considerations and said facility is the least-cost alternative:

(1) 10 percent of the costs attributable to dredging to a depth not in excess of 20 feet; plus

(2) 25 percent of the costs attributable to dredging to a depth in excess of 20 feet but not in excess of 45 feet; plus

(3) 50 percent of the costs attributable to dredging the NED plan to a depth in excess of 45 feet; plus

(4) 100 percent of the costs attributable to dredging to a depth that is in excess of the initial construction cost of construction of the NED plan;

d. Pay, during subsequent maintenance, 100 percent of any additional costs attributable to operation and maintenance of a depth that is in excess of the NED plan;

e. Pay with interest, over a period not to exceed 30 years following completion of the period of construction of the project, up to an additional 10 percent of the total cost of construction of general navigation features. The value of lands, easements, rights-of-way, and relocations provided by the non-Federal sponsor for the general navigation features, allocated to the NED plan, described below, may be credited toward this required payment. If the amount of credit exceeds 10 percent of the total cost of construction of the general navigation features, the non-Federal sponsor shall not be required to make any contribution under this paragraph, nor shall it be entitled to any refund for the value of lands, easements, rights-of-way, and relocations in excess of 10 percent of the total cost of construction of the general navigation features;

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f. Provide all lands, easements, and rights-of-way, and perform or ensure the performance of all relocations determined by the Federal Government to be necessary for the construction, operation, maintenance, repair, replacement, and rehabilitation of the general navigation features (including all lands, easements, and rights-of-way, and relocations necessary for dredged material disposal facilities).

g. Provide, operate, maintain, repair, replace, and rehabilitate, at its own expense, the local service facilities; in a manner compatible with the project's authorized purposes and in accordance with applicable Federal and State laws and regulations and any specific directions prescribed by the Federal Government; provide and maintain without cost to the United States depths in berthing areas serving the terminals commensurate with the depths provided to the project identified as the NED plan; these berthing areas are identified as Gantry Crane Berths 99-140;

h. Accomplish all removals determined necessary by the Federal Government other than those removals specifically assigned to the Federal Government;

i. Give the Federal Government a right to enter, at reasonable times and in a reasonable manner, upon property that the non-Federal sponsor owns or controls for access to the general navigation features for the purpose of inspection, and, if necessary, for the purpose of operating, maintaining, repairing, replacing, and rehabilitating the general navigation features;

j. Hold and save the United States free from all damages arising from the construction, operation, maintenance, repair, replacement, and rehabilitation of the project, any betterments, and the local service facilities, except for damages due to the fault or negligence of the United States or its contractors;

k. Keep, and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project, for a minimum of 3 years after completion of the accounting for which such books, records, documents, and other evidence is required, to the extent and in such detail as will properly reflect total cost of construction of the general navigation features, and in accordance with the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and local governments at 32 CFR, Section 33.20;

l. Perform, or cause to be performed, any investigations for hazardous substances as are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601-9675, that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be necessary for the construction, operation, maintenance, repair, replacement, or rehabilitation of the general navigation features. However, for lands that the Government determines to be subject to the navigation servitude, only the Government shall perform such investigation unless the Federal Government provides the non-Federal sponsor with prior specific written direction, in which case the non-Federal sponsor shall perform such investigations in accordance with such written direction;

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m. Assume complete financial responsibility, as between the Federal Government and the non-Federal sponsor, for all necessary cleanup and response costs of any CERCLA regulated materials located in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be necessary for the construction, operation, maintenance, repair, replacement, and rehabilitation of the general navigation features;

n. To the maximum extent practicable, perform its obligations in a manner that will not cause liability to arise under CERCLA;

o. Comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987, and the Uniform Regulations contained in 49 CFR Part 24, in acquiring lands, easements, and rights-of-way, required for construction, operation, maintenance, repair, replacement, and rehabilitation of the general navigation features, and inform all affected persons of applicable benefits, policies, and procedures in connection with said act;

p. Comply with all applicable Federal and State laws and regulations, including, but not limited to, Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d), and Department of Defense Directive 5500.11 issued pursuant thereto, as well as Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army;" and all applicable Federal labor standards and requirements, including but not limited to 40 U.S.C. 3141-3148 and U.S.C. 3708 (revising, codifying and enacting without substantial change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a et seq.), the Contract Work Hours and Safety Standards Act (formerly 40 U.S. C. 327 et seq.) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c));

q. Provide the non-Federal share of that portion of the costs of mitigation and data recovery activities associated with historic preservation, that are in excess of 1 percent of the total amount authorized to be appropriated for the project, in accordance with the cost sharing provisions of the agreement;

r. Do not use Federal funds to meet the non-Federal sponsor's share of total project costs unless the Federal granting agency verifies in writing that the expenditure of such funds is authorized.

s. Prepare and implement a harbor management plan to be coordinated with local interest. The harbor management plan shall incorporate best management practices to control water pollution at the project site.

8. The recommendation contained herein reflects the information available at this time and current departmental policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program or the perspective of higher review levels within the executive branch.

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Consequently, the recommendation may be modified before it is transmitted to the Congress as a proposal for authorization and implementation funding. However, prior to transmittal to the Congress, the sponsor, the State, interested Federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.



CARL A. STROCK
Lieutenant General, US Army
Commanding