



DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

29 DEC 2000

CECW-PM (10-1-7a)

SUBJECT: Monarch-Chesterfield, Missouri

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on flood damage reduction in the vicinity of Chesterfield, Missouri. It is accompanied by the report of the district and division engineers. These reports are an interim response to a resolution by the Committee on Public Works and Transportation of the House of Representatives adopted on 3 November 1993. The study resolution requested a review of the "report of the Chief of Engineers on the Mississippi River between Coon Rapids Dam, Minnesota, and the mouth of the Ohio River, published as House Document 669, Seventy-sixth Congress, Third Session, and other pertinent reports, to determine whether modifications of the recommendations contained therein are advisable at the present time in the interest of flood control, and related purposes along the Mississippi River and its Tributaries in the area of St. Louis, Missouri, including the Counties of St. Louis, Jefferson, and Ste. Genevieve."

2. Section 101(b)(18) of the Water Resources Development Act (WRDA) of 2000 authorized construction of the Monarch-Chesterfield, Missouri, flood damage reduction project at a total cost of \$58,090,000 substantially in accordance with the plans and subject to the conditions recommended in a favorable report of the Chief of Engineers completed not later than 31 December 2000. This report constitutes the final report of the Chief of Engineers in response to this legislation.

3. The authorized plan, described by the reporting officers as plan C, will reduce flood damages in the vicinity of Chesterfield, Missouri, by increasing the level of structural flood protection. The plan provides for raising 11.5 miles of levee along the Missouri River and Bonhomme Creek with attendant seepage control structures, including nine relief wells, a sheet pile cutoff, and seepage berms 150 to 300 feet wide and 4 to 15 feet thick. The plan would raise existing levees about 5 feet on average to an elevation 3 feet above the mean 500-year flood event. The plan includes constructing a railroad closure and gate well structure, a road raise at Centaur Road, a Howell Island borrow site and access road, an Eatherton Road Realignment, an Eatherton Road-Olive Road ramp crossing, an alternate alignment upstream and downstream of Daniel Boone Bridge, a Chesterfield Airport road closure structure with retaining walls, a Long Road roadway and railroad closure structure with retaining walls,

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levee ramps for various farm roads, four pumping stations, gravity drains, and various utility relocations. The plan also includes developing 6.82 acres of forested wetlands, 3.73 acres of open water, and 2.39 acres of emergent wetlands for environmental mitigation. All features are in Missouri. In response to public and agency concerns that this plan may induce measurable flood damages outside the area of protection, the U.S. Army Corps of Engineers will do the following during PED: (1) Develop more detailed surveys and mapping of flooded areas; (2) carefully analyze the probability of flooding being induced by the construction and operation of the recommended plan, as well as the nature and extent of such flooding; and (3) determine the need to acquire real property interests or to otherwise mitigate for damages that could be caused as a result of such flooding. Any warranted real estate acquisition or mitigation efforts are approved for implementation as part of the project.

4. The Monarch-Chesterfield Levee District (MCLD) is the non-Federal cost-sharing sponsor for all features of the plan. Based on October 2000 price levels, the total first cost of the plan is estimated at \$58,090,000, all for flood damage reduction (which is cost shared at 65 percent Federal and 35 percent non-Federal). The total first cost of the plan would be cost shared \$37,758,500 Federal and \$20,331,500 non-Federal. The average annual costs are \$4,502,000 and the average annual benefits are \$8,871,000, both based on an interest rate of 6.625 percent and a 50-year period of analysis. The equivalent average annual net benefits are \$4,369,000 and the benefit-to-cost ratio is approximately 2.0 to 1.0. The recommended plan is the national economic development plan.

5. Washington level review indicates that the plan recommended by the reporting officers is technically sound, economically justified, and environmentally and socially acceptable. The plan conforms with essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and complies with other administration and legislative policies and guidelines. Also, the views of interested parties, including Federal, State and local agencies, have been considered. The U.S. Environmental Protection Agency, the Department of Interior, and several environmental advocacy organizations expressed concerns about the selected plan. The reporting officers will continue to coordinate with the environmental resource agencies and environmental advocacy groups during the PED phase of the project to address their concerns.

6. I concur in the findings, conclusions, and recommendation of the reporting officers. Accordingly, I recommend implementation of the authorized project in accordance with the reporting officers' plan with such modifications as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing, financing, and other applicable requirements of Federal and State laws and policies, including WRDA 1986, as amended by Section 202 of WRDA 1996.

7. As provided in Section 104 of WRDA 1986, the reporting officers recommend that the non-Federal sponsor for flood control receive credit for work carried out which is compatible

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with the plan recommended for authorization. The MCLD made three requests for potential credit under section 104. The first MCLD request was for construction of three pump stations in the Chesterfield Valley area. This potential credit was approved in concept by the Assistant Secretary of the Army for Civil Works on 12 September 1996, subject to the feasibility study findings, the requirements of section 104, and project authorization. The second MCLD request was for construction of a levee raise between Centaur Road and the Daniel Boone Bridge at U.S. Highway 40/64 over the Missouri River. This potential credit was approved in concept by the Acting Assistant Secretary of the Army for Civil Works on 15 October 1997, subject to the feasibility study findings, the requirements of section 104, and project authorization. The third MCLD request was for construction of improvements to the Bonhomme Creek levee and to realign the Boone's Crossing levee. This potential credit was approved in concept by the Assistant Secretary of the Army for Civil Works on 29 June 1998, subject to the feasibility study findings, the requirements of section 104, and project authorization. In advance of the completion of the feasibility study, the MCLD constructed work which is fully consistent with the recommended plan and, therefore, would be eligible for credit against the non-Federal share of project costs. The total cost of the sponsor work was \$16,321,000, including relocations and other items which are a non-Federal cost share responsibility. The estimated section 104 credit is \$14,115,000 and is reflected in the cost sharing shown above for the recommended plan. The amount of credit will be the lesser of the actual cost of the work incurred by the sponsor or the cost had the Federal Government constructed the same portion of the project at the time the work was done, subject to audit for allowableness, accountability, and reasonableness.

8. Federal implementation of the authorized project would be subject to the non-Federal sponsor agreeing to comply with applicable Federal laws and policies, including the following requirements:

a. Provide a minimum of 35 percent, but not to exceed 50 percent of total project costs allocated to structural flood control, as further specified below:

(1) Enter into an agreement which provides, prior to execution of the project cooperation agreement, 25 percent of design costs;

(2) Provide, during construction, any additional funds needed to cover the non-Federal share of design costs;

(3) Provide, during construction, a cash contribution equal to 5 percent of total project structural flood control costs;

(4) Provide all lands, easements, and rights-of-way, including suitable borrow and dredged or excavated material disposal areas, and perform or assure the performance of all relocations determined by the Government to be necessary for the construction, operation, and maintenance of the project;

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(5) Provide or pay to the Government the cost of providing all retaining dikes, wasteweirs, bulkheads, and embankments, including all monitoring features and stilling basins, that may be required at any dredged or excavated material disposal areas required for the construction, operation, and maintenance of the project; and

(6) Provide, during construction, any additional costs as necessary to make its total contribution equal to 35 percent of total separable costs allocated to structural flood control.

b. Give the Government a right to enter, at reasonable times and in a reasonable manner, upon land which the local sponsor owns or controls for access to the project for the purpose of inspection, and, if necessary, for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the project.

c. Assume responsibility for operating, maintaining, replacing, repairing, and rehabilitating (OMRR&R) the project or completed functional portions of the project, including mitigation features without cost to the Government, in a manner compatible with the project's authorized purpose and in accordance with applicable Federal and State laws and specific directions prescribed by the Government in the OMRR&R manual and any subsequent amendments thereto.

d. Comply with Section 221 of Public Law 91-611, Flood Control Act of 1970, as amended, and Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof until the non-Federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element.

e. Hold and save the Government free from all damages arising from the construction, operation, maintenance, repair, replacement, and rehabilitation of the project and any project-related betterments, except for damages due to the fault or negligence of the Government or the Government's contractors.

f. Keep and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project to the extent and in such detail as will properly reflect total project costs.

g. Perform, or cause to be performed, any investigations for hazardous substances that 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 necessary for the construction, operation, and maintenance of the project; except that the non-Federal sponsor shall not perform such investigations on lands, easements,

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or rights-of-way that the Government determines to be subject to the navigation servitude without prior specific written direction by the Government.

h. Assume complete financial responsibility 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 Government determines necessary for the construction, operation, or maintenance of the project.

i. Agree that, as between the Federal Government and the non-Federal sponsor, the non-Federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and, to the maximum extent practicable, operate, maintain, repair, replace, and rehabilitate the project in a manner that will not cause liability to arise under CERCLA.

j. Prescribe and enforce regulations to prevent obstruction of or encroachment on the project that would reduce the level of protection it affords or that would hinder operation or maintenance of the project.

k. 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 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR part 24, in acquiring lands, easements, and rights-of-way, and performing relocations for construction, operation, and maintenance of the project, and inform all affected persons of applicable benefits, policies, and procedures in connection with said act.

l. Comply with all applicable Federal and State laws and regulations, including Section 601 of the Civil Rights Act of 1964, Public Law 88-352, 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 Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12), requiring non-Federal preparation and implementation of floodplain management plans.

m. 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.

n. Participate in and comply with applicable Federal floodplain management and flood insurance programs.

o. 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.

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p. Inform affected interests, at least annually, regarding the limitations of the protection afforded by the project.

q. Publicize floodplain information in the area concerned and provide this information to zoning and other regulatory agencies for their guidance and leadership in preventing unwise future development in the floodplain and in adopting such regulations as may be necessary to ensure compatibility between future development and protection levels provided by the project.



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