



**DEPARTMENT OF THE ARMY  
CHIEF OF ENGINEERS  
2600 ARMY PENTAGON  
WASHINGTON, DC 20310-2600**

**OCT 27 2020**

DAEN

**SUBJECT: Louisville Metropolitan Flood Protection System Reconstruction, Jefferson and Bullitt Counties, Kentucky**

**THE SECRETARY OF THE ARMY**

1. I submit for transmission to Congress my report on the feasibility of reconstruction of a portion of the existing federally constructed Louisville Metropolitan Flood Protection System (LMFPS). It is accompanied by the report of the Louisville District Commander. The feasibility study was conducted under the authority of Section 216 of the Flood Control Act of 1970 (33 U.S.C. 549a), which authorizes review of completed U.S. Army Corps of Engineers (USACE) flood risk management projects when significant changes in physical or economic conditions have occurred, and the submission of a report to Congress on the advisability of modifying the project in the overall public interest. The existing LMFPS was authorized for construction under the Flood Control Act of 1938 (Public Law (P.L.) 75-761) and the Flood Control Act of 1968 (P.L. 90-483). The main components of the existing LMFPS include approximately 22.2 miles of levee, 3.9 miles of floodwall and 15 federally constructed pump stations. Preconstruction engineering and design activities will continue under the study authority cited above.

2. The reporting officers recommend authorization of the National Economic Development Plan that reduces flood risks to the Louisville, Kentucky metropolitan area. The principal features of the plan include:

a. Reconstruction of the following 14 flood pump stations and their ancillary features in the LMFPS: Beargrass Creek, Robert J. Starkey, 5th Street, 10th Street, 17th Street, 27th Street, 34th Street, Shawnee Park, Western Parkway, Paddy's Run, Riverport, Lower Mill Creek, Upper Mill Creek, and Pond Creek;

b. Construction of a permanent closure at 27th Street and construction of an alternative access road to McAlpine Lock and Dam;

c. Modification of the 10th street closure to provide a swing gate;

d. Construction of approximately 530 linear feet of floodwall near the Louisville Gas and Electric Canal Station;

e. Reconstruction of the Johnstontown Road closure vault;

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f. Installation of new external water stops at approximately 26 locations along the floodwall;

g. Replacement of approximately 15 actuators and 13 gates and refurbishment of 10 gates; and

h. Replacement or buttressing of approximately 280 linear feet of I-wall in the Butchertown neighborhood.

3. The Louisville/Jefferson County Metropolitan Sewer District is the non-federal cost-sharing sponsor for all features. Based on October 2020 price levels, the estimated total first cost of the recommended plan is \$188,087,000. In accordance with the cost sharing provisions of Section 103 of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C. 2213), the non-federal sponsor must contribute a minimum of 35 percent of construction costs, up to a maximum of 50 percent of construction costs, with a minimum 5 percent cash contribution. The remaining portion of the non-federal share can be provided in lands, easements, rights-of-way, relocations and dredged or excavated material disposal areas; in-kind contributions; cash; or a combination. The federal share of the project first cost is estimated to be \$122,170,000 and the non-federal share is estimated to be \$65,917,000, which equates to 65 percent federal and 35 percent non-federal. The non-federal costs include the value of lands, easements, rights-of-way, relocations and dredged or excavated material disposal areas estimated to be \$133,000. The Louisville/Jefferson County Metropolitan Sewer District would be responsible for annual operation, maintenance, repair, replacement and rehabilitation (OMRR&R) project costs of approximately \$13,300,000.

4. Based on a 2.5 percent discount rate and a 50-year period of analysis, the total equivalent average annual costs of the project are estimated to be \$10,368,000, including incremental annual OMRR&R costs. All project costs are allocated to the purpose of flood risk management. The recommended plan will provide total annual benefits of \$109,481,000. The net benefits of the project are \$99,112,000 and the benefit to cost ratio is 11:1.

5. An environmental assessment was prepared in accordance with the National Environmental Policy Act (NEPA). The recommended plan has been designed to minimize environmental impacts while maximizing future safety and economic benefits to the community and would not have significant adverse cumulative impacts to the natural environment. The recommended plan would reduce risk to life safety and flood risk damages behind the LMFPS. The recommended plan was developed with consideration of public input as required by NEPA, as well as in coordination and consultation with federal, state, and local agencies. The recommended plan would have no long-term effects on environmental resources. The Corps' Louisville District,

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the Advisory Council on Historic Preservation and the Kentucky State Historic Preservation Officer have executed a Memorandum of Agreement (MOA) to account for impacts to historic properties. The recommended plan would implement the MOA and associated avoidance and minimization measures.

6. In accordance with the USACE guidance on review of decision documents, all technical, engineering and scientific work underwent an open, dynamic and rigorous review process to ensure technical quality. This included district quality control, agency technical review, and a headquarters policy and legal compliance review. All comments from the above referenced reviews have been addressed and incorporated into the final documents. A Type I Independent External Peer Review (IEPR) was not required. A safety assurance review (Type II IEPR) will be conducted during preconstruction engineering and design.

7. Washington-level review indicates that the project recommended by the reporting officers is technically sound, cost effective, environmentally and socially acceptable, and economically justified. The plan complies with all essential elements of the 1983 U.S. Water Resources Council's Economic and Environmental Principal and Guidelines for Water and Land Related Resources Implementation Studies. The recommended plan complies with other Administration and legislative policies and guidelines. The views of interested parties including federal, state, and local agencies have been considered.

8. I concur with the findings, conclusions, and recommendations of the reporting officers and advise that the recommended plan be authorized with such modifications thereof as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing and other applicable requirements of federal laws and policies. Federal implementation of the recommended plan would be subject to the non-federal sponsor agreeing to comply with applicable federal laws and policies, including but not limited to agreeing to:

a. Provide a minimum of 35 percent, up to a maximum of 50 percent, of construction costs allocated to structural flood risk management, as further specified below:

(1) Pay, during design, 35 percent of design costs in accordance with the terms of a design agreement entered into prior to commencement of design work for the project;

(2) Pay, during construction, funds equal to 5 percent of construction costs allocated to structural flood risk management;

(3) Provide all lands, easements, and rights-of-way, and perform or ensure the performance of any relocations determined by the Federal Government to be necessary for the construction or the operation and maintenance of the project, all in compliance with applicable provisions of the Uniform Relocation and Assistance and Real Property

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Acquisition Policies Act of 1970, as amended (42 U. S.C. 4601-4655) and the regulations contained in 49 C.F.R. Part 24 and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act;

(4) Pay, during construction, any additional funds necessary to make its total contribution equal to at least 35 percent of costs allocated to structural flood risk management;

b. Prevent obstructions or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on project lands, easements, and rights-of-way or the addition of facilities, which might reduce the level of flood risk management the project affords, hinder operation and maintenance of the project, or interfere with the project's proper function;

c. Inform affected interests, at least yearly, of the extent of flood risk management afforded by the project; participate in and comply with applicable federal floodplain management and flood insurance programs; comply with Section 402 of WRDA 1986, as amended (33 U.S.C. 701b-12); and publicize floodplain information in the area concerned and provide this information to zoning and other regulatory agencies for their use in adopting regulations, or taking other actions, to prevent unwise future development and to ensure compatibility with the flood risk management levels provided by the project;

d. Operate, maintain, repair, rehabilitate, and replace the project at no cost to the Federal Government, in a manner compatible with the project's authorized purposes and in accordance with applicable federal laws and regulations and any specific directions prescribed by the Federal Government;

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

f. Perform, or ensure performance of, 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 that the Federal Government determines to be necessary for the construction or operation and maintenance of the project;

g. Assume, as between the Federal Government and the non-federal sponsor, complete financial responsibility for all necessary cleanup and response costs of any

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hazardous substances regulated under CERCLA that are located in, on, or under lands, easements, or rights-of-way required for construction, operation, maintenance, repair, rehabilitation, or replacement of the project; and

h. Agree, as between the Federal Government and the non-federal sponsor, that 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, rehabilitate, and replace the project in a manner that will not cause liability to arise under CERCLA.

9. 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. 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 Congress, the sponsor, the State of Kentucky, interested federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.



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