



DEPARTMENT OF THE ARMY
CHIEF OF ENGINEERS
2600 ARMY PENTAGON
WASHINGTON, D.C. 20310-2600

Proposed Report

DAEN

SUBJECT: Westchester County Streams, Byram River Basin, Fairfield County, Connecticut and Westchester County, New York, Flood Risk Management Feasibility Study

THE SECRETARY OF THE ARMY

1. I submit, for transmission to Congress, my report on the study of flood risk management along the Byram River Basin in Fairfield County, Connecticut and Westchester County, New York. It is accompanied by the report of the District and Division Engineers. This report is a response to an authorization by the House of Representatives, Committee on Transportation and Infrastructure, Resolution, Docket Number 2779 (May 2007). The authorization requested that the Secretary of the Army review existing reports with a view to identify cost effective measures for storm damage reduction and reduce future flood risk in ways that will support the long-term sustainability of the communities and reduce the economic costs and risks associated with large-scale flood and storm events.
2. The reporting officers recommended authorizing a plan to reduce the risk of damages from fluvial flooding to the Town of Greenwich, Connecticut and Village of Port Chester, New York. The recommended plan is supported by the non-Federal sponsor for construction, the Town of Greenwich, Connecticut. The principal features of the plan include removing and replacing the two bridges that carry U.S. Route 1 over the Byram River in the Village of Port Chester, New York. Both these bridges are owned and operated by the New York Department of Transportation. The historic bridges have large central abutments and low roadway profiles that restrict the flow of the Byram River and induce flooding upstream in the Town of Greenwich, Connecticut. Removing the bridges will allow the Byram River to flow freely without backing up into the residential neighborhood upstream. The new bridges will be built within the same footprint at a higher elevation and without any piers that enter the floodway in order to reduce restrictions to river flow.
3. The recommended plan is the National Economic Development (NED) plan and is expected to reduce equivalent annual damages (EAD) by approximately \$931,000 or 29%, with a residual EAD of approximately \$2,250,000. Based on October 2019 price levels, the estimated total first cost of the NED Plan is \$29,405,000, with the federal and non-federal shares each estimated at \$14,703,000. The costs of lands, easements, rights-of-way, relocations, and disposal areas, which include removal and replacement of the bridges, are estimated at \$20,585,000. The non-federal sponsor would be responsible for the operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) of the project after construction. OMRR&R is currently estimated at \$25,000 per year.
4. Based on a 2.75 percent discount rate and a 50 year period of analysis, the total equivalent average annual costs of the project are estimated to be \$1,144,000 including OMRR&R. All

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project costs are allocated to the authorized purpose of flood risk management. The equivalent average annual benefits are estimated to be \$1,503,000. The net equivalent average annual benefits of the project are \$358,000 and the benefit to cost ratio is 1.3.

5. In accordance with the Corps guidance on the 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 Review, Agency Technical Review, policy and legal review, and a Type 1 Independent External Peer Review (IEPR) performed by Battelle Memorial Institute. All comments from the above referenced reviews have been addressed and incorporated into the final documents as appropriate.

6. Washington-level review indicated that the project recommended by the reporting officers is technically feasible, 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 Principles and Guidelines for Water and Land Related Resources Implementation Studies and complies with other administrative and legislative policies and guidelines. The views of interested parties, including federal, state, and local agencies have been considered.

7. I concur in the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan to reduce flood risks from the Byram River to the Town of Greenwich, Connecticut and the Village of Port Chester, New York be authorized in accordance with the reporting officers' recommended plan at an estimated project first cost of \$29,405,000, with such modifications thereof 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 laws and policies, including Sections 101 and 103 of the WRDA 1986, as amended by (33 U.S.C. 2211 and 2213). This recommendation is subject to the non-federal sponsor agreeing to comply with applicable federal laws and policies. Prior to implementation, the non-Federal sponsor shall agree to:

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

1. Provide, during design, 50 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, a contribution of funds equal to 5 percent of total structural flood damage reduction costs;

3. Provide all lands, easements, and rights-of-way, including those required for relocations, the borrowing of material, and the disposal of dredged or excavated material; perform or ensure the performance of all relocations; and construct all improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material as

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determined by the Federal government to be required or to be necessary for the construction, operation, and maintenance of the project, all in compliance with applicable provisions of the Uniform Relocation and Assistance and Real Property Acquisition Policies act of 1970, as amended (42 U.S.C. 4601-4655) and the regulations contained in 49 C.F.R. Part 24;

4. Pay, during construction, any additional funds necessary to make its total contribution equal to at least 35 percent, but not to exceed 50 percent, of total structural flood control costs;

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 outputs produced by the project, 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 protection afforded by the flood risk management features; participate in and comply with applicable Federal floodplain management and flood insurance programs; comply with Section 402 of the Water Resources Development Act of 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 protection levels provided by the flood risk management features;

d. Operate, maintain, repair, replace, and rehabilitate the completed project, or function portion of 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 and State 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 initial construction, periodic nourishment, operation, maintenance, repair, replacement, and rehabilitation 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 initial construction, periodic nourishment, 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 hazardous substances regulated under CERCLA that are located in, on, or under lands, easements, or rights-of-way

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required for the initial construction, periodic nourishment, or operation and maintenance of the project;

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, replace, and rehabilitate the project in a manner that will not cause liability to arise under CERCLA.

8. The recommendations contained herein reflect the information available at this time and current departmental policies governing formulation of individual projects. These recommendations do 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 Congress as a proposal for authorization and implementation funding. However, prior to transmittal to Congress, the non-federal sponsor, the states, interested federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.

TODD T. SEMONITE
Lieutenant General, USA
Chief of Engineers