



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

APR 29 2020

DAEN

SUBJECT: Peckman River Basin, New Jersey Flood Risk Management Feasibility Study Report

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on the study of flood risk management for the Peckman River Basin, Essex and Passaic Counties, New Jersey. It is accompanied by the report of the New York District Commander. These reports are an interim response to a resolution of the U.S. House of Representatives, Committee on Transportation and Infrastructure Resolution Docket 2644 adopted on June 21, 2000. The resolution requested a review of "the report of the Chief of Engineers on the Passaic River Mainstem project, New Jersey and New York, published as House Document 163, 101<sup>st</sup> Congress, 1<sup>st</sup> Session, and other pertinent reports to determine whether modifications of the recommendations contained therein are advisable at the present time, in the interest of water resources development, including flood control, environmental restoration and protection, stream bank restoration and other allied purposes for the Peckman River and tributaries, New Jersey." The New Jersey State Department of Environmental Protection (NJDEP), the non-federal sponsor for the study, is supportive of the Recommended Plan. Preconstruction, engineering, and design activities, if funded, for the Peckman River Basin, New Jersey Flood Risk Management Project will continue under the authority cited above.

2. The reporting officers recommend authorization of the National Economic Development (NED) Plan that consists of a diversion culvert connecting the Peckman and Passaic Rivers; associated weirs; levees and floodwalls; channel modifications; and nonstructural measures within the ten percent floodplain upstream of Route 46, which will reduce the risk of flood damage to flood-prone areas of Little Falls and Woodland Park, New Jersey. The principal features of the plan include:

a. Upstream of Route 46, floodwaters would be diverted from the Peckman River to the Passaic River through a 1,500-foot long culvert located approximately 550 feet upstream of the Route 46 bridge. The 40-foot wide double box diversion culvert would be constructed using a "cut-and-cover" approach. The culvert requires two weirs. The first weir would restrict the flow moving downstream on the Peckman River and the second weir would divert the flow from the Peckman River into the culvert. The diversion culvert would significantly reduce downstream peak discharges and subsequently, downstream flood elevations and flood damages. Nearly all flood risk management benefits from the diversion culvert would be in Woodland Park.

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The culvert would provide risk reduction for the two percent annual exceedance probability flood event. The culvert would not reduce backwater or overbank flooding from the Passaic River.

b. Approximately 2,170 linear feet of levees and/or floodwalls would be built upstream and downstream of the ponding weir. Additionally, 1,207 linear feet of levees and/or floodwalls would be constructed in the vicinity of Little Falls High School, between the track and baseball fields.

c. Streambank erosion mitigation measures are required due to the unstable banks and high velocities along the Peckman River. Channel modification is expected along 1,848 linear feet of shoreline to accommodate riprap. Large diameter riprap would eliminate the erosion and possible undermining of the proposed levees and floodwalls.

d. Up to 58 structures in Little Falls located in the ten percent floodplain near the Peckman River would be elevated or floodproofed. The main objective of the nonstructural measures is to reduce flood damages through modifications of the existing structures. Structure elevations involve lifting structures so that their first floor elevation is above the base flood elevation. The wet floodproofing measures for the subject structures include elevating air conditioning and heating units, and filling basements so that they are not subject to damages caused by flooding. Dry floodproofing measures would include making structures watertight by sealing walls and openings with permanent or temporary shields.

2. Based on October 2019 price levels, the estimated total first cost of the recommended plan is \$146,188,000. The non-federal sponsor for implementation would be responsible for the operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) as the project, or functional portions of the project, are completed; with an average annual cost currently estimated at \$575,000 over the 50-year period of analysis. 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 \$6,184,000 including monitoring and OMRR&R. All project costs are allocated to the purpose of flood risk management. The recommended plan will provide \$9,440,000 in equivalent average annual NED benefits. The net benefits of the project are \$3,256,000 and the benefit to cost ratio is 1.5.

3. In accordance with the cost share provisions of Section 103 of the Water Resources Development Act of 1986, as amended (33 U.S. Code 2213), the federal share of the project first cost is estimated to be \$95,022,000 and the non-federal share is estimated to be \$51,166,000, which equates to 65 percent federal and 35 percent non-federal. The non-federal share includes the value of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas estimated to be \$5,273,000.

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4. An environmental assessment was prepared in accordance with the National Environmental Policy Act. 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. Mitigation is required due to unavoidable temporary or permanent environmental impacts to forested wetland, riparian habitat, and freshwater riverine habitat. To compensate for the permanent direct impacts, approximately 1.7 acres of open water habitat and 0.85 acres of native streambank vegetation will be restored along 1,848 linear feet of river. Included in the compensatory mitigation is 0.77 acres of riparian zone restoration.

5. The study report fully describes flood risks associated with the Peckman River and describes residual risk. Flood damages from fluvial flooding will not be totally prevented, only reduced. The recommended plan reduces expected annual damages by 50 percent relative to the without project conditions. The residual risks have been communicated to the non-federal sponsor, and they understand and agree with the analysis. The feasibility study team and NJDEP organized and participated in several public information meetings to discuss the study and gain feedback.

6. In accordance with U.S. Army Corps of Engineers policy 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, an Independent External Peer Review, and policy and legal review. All comments from the above referenced reviews have been addressed and incorporated into the final documents. Overall, the reviews have resulted in improvements to the quality of the feasibility analyses supporting the recommended plan and expanded narratives. Recommended improvements better support the decision-making in the plan selection process.

7. 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. Also, the views of interested parties, including federal, state, and local agencies have been considered.

8. I concur in the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan to reduce flood risks from the Peckman River Basin in Essex and Passaic Counties, New Jersey be authorized for implementation as a federal project with such modifications thereof as in the discretion of the Chief of Engineers may be advisable.

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My recommendation is subject to cost sharing, financing, and other applicable requirements of federal laws and policies. In addition, it is subject to the non-federal sponsor agreeing to comply with applicable federal laws and policies, including but not limited to, that it will:

a. Contribute a minimum of 35 percent, up to a maximum of 50 percent, of costs allocated to structural flood risk management and 35 percent of costs allocated to nonstructural flood risk management, as follows:

(1) Provide, during design, 35 percent of design costs allocated to nonstructural flood risk management or structural flood risk management in accordance with the terms of a design agreement entered into prior to commencement of design 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, 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 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 35 percent of costs allocated to nonstructural flood risk management and 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 reduction the project affords, hinder operation and maintenance of the project, or interfere with the project's proper function;

c. Inform affected interests, at least annually, 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

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

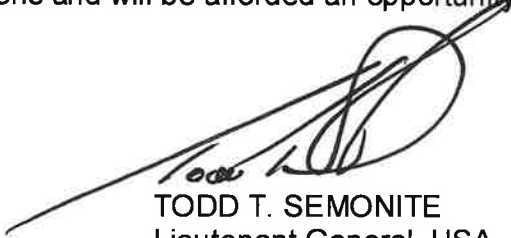
h. Agree, as between the Federal Government and the non-federal sponsor, that the non-federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and, to the maximum extent practicable, operate, maintain, repair, replace, and rehabilitate the project in a manner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

9. 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

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implementation funding. However, prior to transmittal to Congress, the non-federal sponsor, the State of New Jersey, interested federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.

*PROVING TO BE  
ABLE TO APPROVE  
THIS - CRITICAL PROJECT  
THAT REDUCES FLOOD DAMAGES  
AND LIFE SAFETY RISKS  
IN A DENSELY POPULATED  
AREA.*



TODD T. SEMONITE  
Lieutenant General, USA  
Chief of Engineers