



**US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT**



**NEW JERSEY
DEPARTMENT OF
ENVIRONMENTAL
PROTECTION**

**UPPER PASSAIC RIVER AND TRIBUTARIES
AT LONG HILL TOWNSHIP, NJ
FLOOD DAMAGE REDUCTION
AND
ECOSYSTEM RESTORATION**

**DRAFT DETAILED PROJECT REPORT &
ENVIRONMENTAL ASSESSMENT**

Volume 1



February 2004

**Upper Passaic River and Tributaries
At Long Hill Township, NJ**

**Flood Damage Reduction
And
Ecosystem Restoration**

**Draft Detailed Project Report &
Environmental Assessment**



**New York District
U.S. Army Corps of Engineers**

February 2004

SYLLABUS

This report presents the results of an investigation to determine the feasibility of flood damage reduction and ecosystem restoration along the Upper Passaic River at Long Hill Township. The Upper Passaic River Flood Damage Reduction Feasibility Study has been conducted by U.S. Army Corps of Engineers (Corps) with the non-Federal project partner, the New Jersey Department of Environmental Protection (NJDEP).

The study area includes all of Long Hill Township, which is located in Morris County, New Jersey. The Passaic River forms the southern boundary of Long Hill Township. The Township is located approximately 76 miles upstream of the mouth of the Passaic River. The study area is characterized by low-density residential land use with commercial and light-industrial development in the communities of Gillette, Meyersville, Millington, and Stirling.

Periodic storms have caused severe flooding along the Upper Passaic River at Long Hill Township. Flooding problems continue to threaten areas of Long Hill Township, and it is anticipated these problems will be exacerbated in the future by additional development in the study area and in upstream portions of the Passaic River Basin. Early in the feasibility phase, scoping and public meetings and site visits were held with NJDEP, local government, and area residents to determine the extent of flooding problems in the study area. As anticipated during the reconnaissance investigation, it was determined from this coordination and initial evaluation that there are pockets of flooding problems in the study area, and damages are comprised of residential structures and their contents, industrial facilities and their contents, commercial facilities and their contents, and public facilities and their contents. One public facility, the Long Hill Township Police Station, is subject to recurrent flooding at high frequency events. Because the Police Station is also the Township's Emergency Operations Center, flooding at this facility provides an additional challenge to the already difficult task of providing emergency services during flood events.

The recommended flood damage reduction plan is the Locally Preferred Plan (LPP). The LPP will provide flood damage reduction for events with an exceedance probability of approximately 1 percent (to elevation +216.2 NGVD). The plan consists of one levee/floodwall construction with two sluice gate closure structures on the western side of the Township and a sluice gate closure structure and a limited road raising on the eastern side of Township. The alignment of the line of protection was refined based on physical, environmental, and economic criteria. The LPP has a total average annual cost of \$319,560, total average annual benefits of \$576,600, a benefit-cost ratio of 1.8 to 1, and average annual net benefits of \$ 257,040.

Plan formulation for ecosystem restoration along the Upper Passaic River at Long Hill Township considered a wide variety of restoration measures and sites to address problems of ecosystem degradation and opportunities associated with ecosystem restoration. Seven potential restoration sites were identified during the reconnaissance phase of this study. These sites were carried forward into this feasibility study. Early in the feasibility phase, additional coordination was conducted with local stakeholders and with the non-Federal project partner (NJDEP). This coordination in conjunction with additional field investigation confirmed that these seven sites represent the sites of greatest restoration potential within the study area. The sites range in size from four acres to 60 acres. They contain a variety of aquatic, wetland, and upland habitats that have been degraded by development. Degradation can be traced to physical disturbance (e.g.,

grading), hydrologic modification, or infestation with undesirable plant species (e.g., Common Reed - *Phragmites australis*).

The full spectrum of ecosystem restoration measures were evaluated for their applicability to the seven potential restoration sites. Restoration opportunities were identified for each site, consisting of combinations of restoration measures that appear to be most appropriate to the existing conditions and restoration potential of each site. The sites were then subjected to an initial screening to evaluate the technical, institutional, and economic feasibility of restoration. They were evaluated using the following parameters: potential ecological benefits, potential costs, methods of implementation, requirements for success, real estate considerations, and support of local stakeholders and the non-Federal project partner (NJDEP). None of the seven sites survived this initial screening. A variety of site-specific technical and institutional considerations led to the elimination of the sites from further investigation. Although the seven potential restoration sites did not survive the initial screening, there may be opportunities in the future to restore some of the sites identified in this study. The recently initiated Passaic River, New Jersey Environmental Restoration investigations may develop initiatives to include some of these sites.

The costs of project implementation for the LPP will be shared by the Federal government and the non-Federal project partner (NJDEP) on a 65 percent / 35 percent basis. All operations and maintenance costs will be borne by the non-Federal project partner. Project implementation costs (\$5,437,250) will be shared as follows: \$3,534,213 Federal and \$1,903,037 non-Federal with annual O&M costs of \$20,000 (non-Federal), less any applicable credits.

The non-Federal project partner, NJDEP, has indicated its support for the recommended plan and is willing to enter into a Project Cooperation Agreement with the Federal Government for the implementation of the plan. At this time, there are no known major areas of controversy or unresolved issues regarding the study and selected plan among agencies or the public interest.

The magnitude and complexity of the project is of a scale within a Section 205, Flood Control, Continuing Authorities Program (CAP) project. The costs, including the study and the expected construction cost are well within the limits of the ceiling under Section 205. These two factors were evaluated and it was recommended to transition this General Investigation Study to a CAP Section 205. This is detailed in the recommendations section of the report.

PERTINENT DATA

DESCRIPTION

The identified plan provides for flood damage reduction along the Upper Passaic River at Long Hill Township, New Jersey.

LOCATION

Morris County, New Jersey

FLOOD DAMAGE REDUCTION FACILITIES

Level of Protection (storm with probability of exceedance) 0.01 (100-year event)

Levee/ Floodwall

Levee Length	61 feet
Floodwall Length	3,996 feet
Top Elevation	216.2 feet NGVD
Average Height Above Existing Ground	4 to 5 feet
Levee Crest Width	12 feet
Levee Slopes	3H:1V

REAL ESTATE REQUIREMENTS

Permanent Easement	1.55 Acres
Temporary Easement (for construction)	2.93 Acres
Fee Simple Purchase (for mitigation)	13.14 Acres
Total	17.92 Acres

ENVIRONMENTAL MITIGATION

Impacts:

Acres of Forested Wetlands	0.59
Acres of Scrub-shrub Wetlands	0.02
Acres of Open Water	0.03

Acres of Disturbed Floodplain Forest	0.29
Acres Emergent Wetlands	0.17

Conversions:

Upland Disturbed to:	0.53 acres Forested Wetlands
	Total: 0.53 acres

ECONOMICS

Initial Project Cost (May 2003 price level, includes Interest During Construction)	\$4,980,280
Annualized Initial Cost (discounted at 5.625 % over a 50-year period)	\$299,560
Operations and Maintenance (O&M) Costs	\$20,000
Total Annual Cost (discounted at 5.625 % over a 50-year period)	\$319,560
Average Annual Benefits	\$576,600
Average Annual Net Benefits	\$257,040
Benefit-to-Cost Ratio	1.8

COST APPORTIONMENT

Federal Project Cost (65%)	\$ 3,534,213
Non-Federal Project Cost (35%)	
5% Cash	\$ 271,863
LERRD	\$ 674,661
Cash Balance	\$ 956,513
Non-Federal Project Cost Total	\$ 1,903,037
Non-Federal Compensatory Mitigation Cost	\$358,950
Total Cost	\$ 5,796,200

Unsigned Finding of No Significant Impact (FONSI)

I. NAME OF ACTION

Upper Passaic River and Tributaries at Long Hill Township (Morris County), New Jersey, Flood Damage Reduction Project, Long Hill Township.

II. DESCRIPTION OF ACTION

a. Proposed Action: The proposed action includes the construction of 3,996± linear feet of floodwall and 61± feet of earthen levee south of residences and businesses located along the south side of Valley Road. The structures would begin 100 feet west of Poplar Drive and end 300 feet west of Passaic Avenue. The floodwall/levee would provide 100-year flood protection to the businesses and residences south of Valley Road using the least environmentally damaging alignment.

b. Alternatives: The four alternatives to the proposed project included: (1) No action, (2) Flood gate construction on Passaic River tributaries, (3) Raising Valley Road 3 to 4 feet between combined with closure structures to prevent Passaic River backwater flow along the raised section of road, and (4) Levee construction along the Passaic River.

III. ANTICIPATED ENVIRONMENTAL IMPACTS

No long-term, adverse impacts are anticipated as a result of implementing the proposed plan. The proposed plan will result in the acquisition of the project corridor in fee or easement by Long Hill Township, which is fully supported by the Township Planning and Zoning Board.

No negative impacts to surface water resources are anticipated, as no fill or excavation would take place below the ordinary high water mark of surface waters within the project corridor. Implementation of the recommended plan will result in a permanent loss of relatively degraded wetlands (1.10 acres) and upland vegetation within the project corridor to construct the floodwall and maintained right-of-way. This impact will be mitigated through a combination of restoration of degraded wetlands and creation of wetlands from uplands totaling 0.53-acres of Federal compensatory mitigation. The New Jersey Department of Environmental Protection will add 12.61 acres of mitigation in a combination of preservation, restoration and enhancement to meet the States requirements pursuant to the New Jersey Freshwater Wetlands Protection Act.

Construction of the proposed flood damage reduction measures will temporarily displace resident and transient wildlife, which will seek refuge in adjacent and nearby habitats until construction is completed. Following construction, wildlife species are expected to resume their normal habits in and around the project area. Minor and temporary construction impacts may occur to threatened and endangered species habitat (barred owl, red shouldered hawk). Construction activities would lead to the temporary displacement of these species until construction is completed. Trained biologists qualified in the identification of threatened and endangered species would inspect the project corridor prior to construction and would be on-site, as needed, during construction to ensure that no threatened and endangered species are harmed and that impacts to habitat are minimized to the greatest extent possible. Clearing, grubbing, excavation and grading activities could result in the temporary and permanent loss of habitat and possible mortality of less mobile, burrowing, and/or denning species of common wildlife.

Impacts to wildlife habitat would be compensated for through implementation of the selected mitigation plan.

During construction, there will be temporary but minor adverse impacts to the aesthetic and scenic resources due to the presence of construction equipment and the earthwork. No documented prehistoric or historical archaeological resources were noted within the project corridor; therefore, no negative impacts on cultural resources are anticipated. No adverse impacts to parks or recreation facilities are anticipated as a result of the proposed project.

Temporary interruptions to existing traffic patterns could occur during construction due to the closure of roadways. However, neither local nor regional transportation would be affected by the proposed flood damage reduction project. Minor, yet temporary impacts to air quality are projected to occur in areas immediately adjacent to the project corridor resulting from the operation of construction equipment. There will be a minor and temporary increase in noise levels in the immediate project area during construction due an increase construction related vehicular use and the operation of construction equipment. A slight change in existing topography would result from the installation of a stormwater drainage ditch and the levee/floodwall system.

IV. CONCLUSION

Given that there are minimal short term impacts and no anticipated long-term, adverse impacts associated with the implementation of the selected plan, a finding of no significant impact (FONSI) has been determined for this action. Furthermore, as the recommended plan will have no negative impacts on the quality of the environment, an environmental impact statement is not required.

Date: _____

John B. O'Dowd
Colonel, Corps of Engineers
District Engineer

Note: This unsigned FONSI is anticipated to be signed pending agency and public review and comment to the Draft Integrated DPR/EA.

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GLOSSARY OF TERMS, ACRONYMS, AND ABBREVIATIONS

CW	Civil Works Program
CEQ	Council On Environmental Quality
CFR	Code Of Federal Regulations
CMSA	Consolidated Metropolitan Statistical Area
Corps	United States Army Corps Of Engineers
dBA	Decibels
DEP	Department Of Environmental Protection (New Jersey)
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EM	Engineering Manual
EPA	United States Environmental Protection Agency
EPW	Evaluation Of Planned Wetlands
ER	Engineering Regulation
FCU	Functional Capacity Units
FCI	Functional Capacity Index
FEMA	Federal Emergency Management Agency
DPR	Detailed Project Report
DPR/EA	Detailed Project Report/Environmental Assessment
FWCA	Fish and Wildlife Coordination Act
HTRW	Hazardous, Toxic, And Radiological Wastes
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NGVD	National Geodetic Vertical Datum
NHP	Natural Heritage Program
NHPA	National Historic Preservation Act
N.J.A.C.	New Jersey Administrative Code
NJDEP	New Jersey Department Of Environmental Protection
NJDOT	New Jersey Department Of Transportation
NJHPO	New Jersey Historic Preservation Office
O&M	Operations And Maintenance
OMRR&R	Operations, Maintenance, Replacement, Repair, and Rehabilitation
P&G	Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies
PED	Preconstruction Engineering And Design
PMP	Project Management Plan
S&A	Supervision And Administration
USACE	United States Army Corps Of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish And Wildlife Service
USGS	United States Geological Survey
WES	Waterways Experiment Station
WRDA	Water Resources Development Act
WSEL	Water Surface Elevation