

# Mamaroneck and Sheldrake Rivers Basin Flood Risk Management General Reevaluation Study

## Public Kickoff and NEPA Scoping Meeting

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John Beldin-Quinones

Project Manager

US Army Corps of Engineers,  
New York District



US Army Corps of Engineers  
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Photos courtesy Peggy Jackson

# Mamaroneck and Sheldrake Rivers Basin General Reevaluation Study

- Cost-Sharing Study Partners

- ▶ NYSDEC
- ▶ Westchester County

- Other Partners

- ▶ Village of Mamaroneck
- ▶ Town of Mamaroneck
- ▶ Town of Harrison

- Meeting Purpose

- ▶ Explanation of Study Process
- ▶ National Environmental Policy Act (NEPA) Scoping  
input/comments?



Westchester  
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# Mamaroneck and Sheldrake Rivers Basin General Reevaluation Study

- Background and History of Corps of Engineers involvement in Mamaroneck
  - 1977: Feasibility Study completed
  - 1986: Project Authorized for Construction in the Water Resources Development Act (WRDA) of 1986
  - 1989: General Design Memorandum (detailed design) Finalized
  - 2007: March Spring Floods and April Nor'easter brought flooding problems back into focus.
  - 2010: Initiation of General Reevaluation Study, current action – revival of plan and detailed alternatives analysis
- The authorized plan included channel work, retaining walls, bridge removal and replacement on the Mamaroneck River as well as a diversion tunnel, channel work, and retaining walls on the Sheldrake River.



# What is Flood Risk Management?

- It saves lives and reduces economic losses.
- It does not eliminate the risk of flooding and it is not a guarantee.
  - ▶ Given enough time (decades or centuries) any project design will be exceeded.
- It is a joint effort:
  - ▶ Town & Village - Police & Fire (warning, evacuation, security)
  - ▶ State & County - Emergency Management Services (preparedness, evacuation)
  - ▶ Red Cross – (shelter & support)
  - ▶ National Weather Service – (forecasting, warning)
  - ▶ US Army Corps of Engineers – (engineering, design & construction)
  - ▶ FEMA – (flood insurance, preparedness, recovery)
  - ▶ Individual Residents – Take the appropriate action to protect themselves, family and property.



# Mamaroneck and Sheldrake Rivers Basin Study Plan

Plan features on this map are from the 1989 GDM, except the alternative tunnel alignment. Features are not to scale.

Photo Locations

**Sheldrake River**

Channel re-graded for positive drainage

Existing Flood walls to remain

**Mamaroneck River**

Proposed Tunnel alignment

Possible alternative tunnel alignment

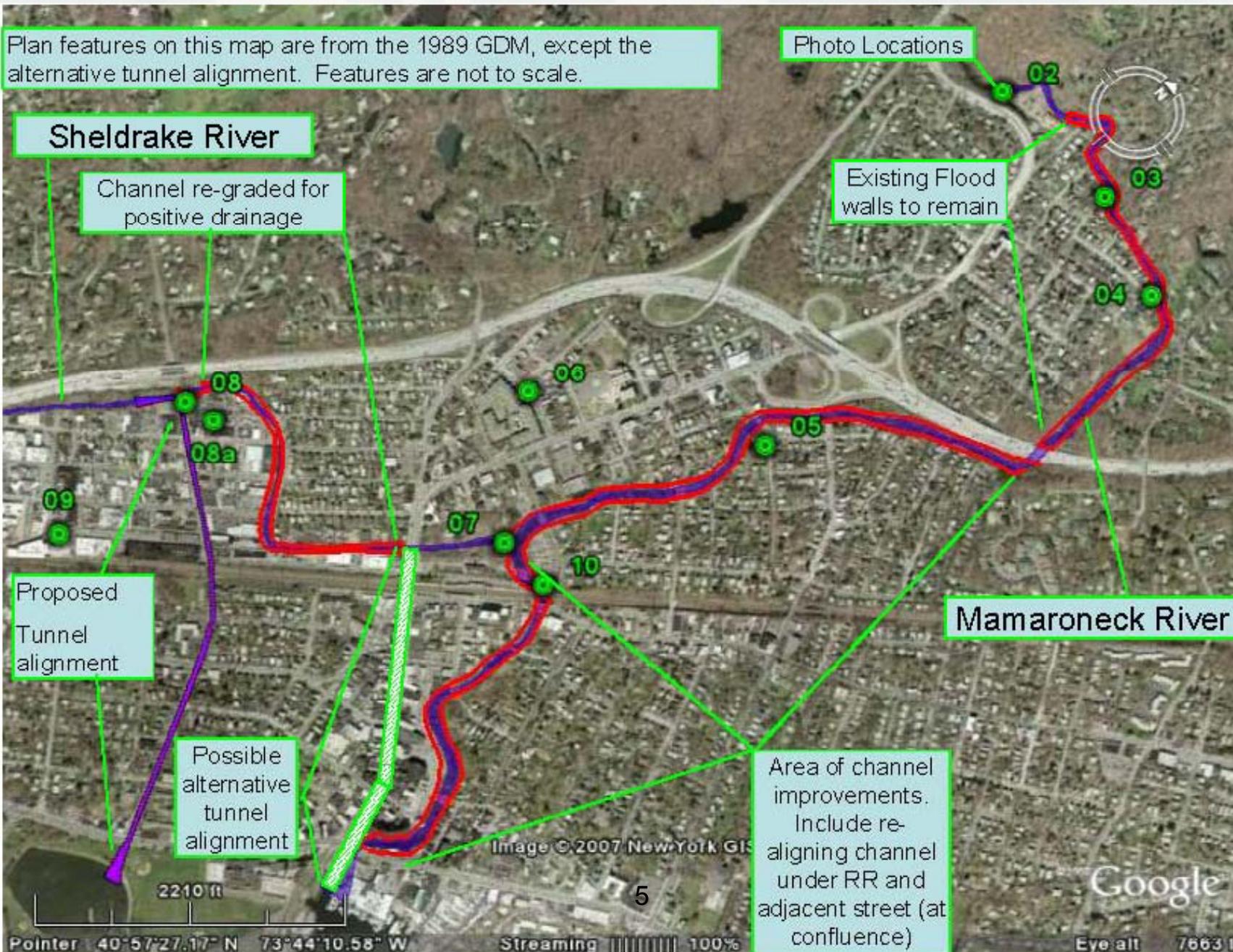
Area of channel improvements. Include re-aligning channel under RR and adjacent street (at confluence)

2210 ft  
Pointer 40°57'27.17" N 73°44'10.58" W

Image © 2007 New York GIS

Streaming 100%

Google  
Eye alt 7663 ft

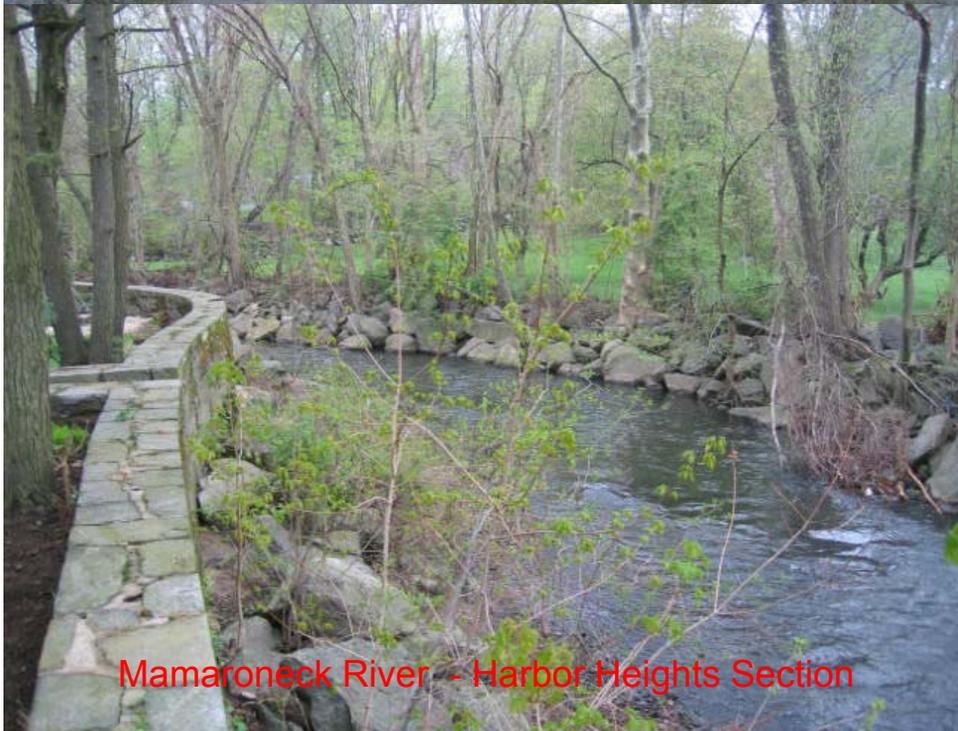




Mamaroneck/Sheldrake River Confluence



Mamaroneck River downstream of I-95



Mamaroneck River - Harbor Heights Section



6

Mamaroneck River looking towards MNRR



Mamaroneck/Sheldrake River Confluence



Fenimore Road



Mamaroneck River downstream of Winfield Ave.



7

Ralph Avenue and New Street



1<sup>st</sup> Street and Meadow Street



Firehouse on Mamaroneck Avenue



Residential debris post-flood



8

Harbor Heights damage

# Why Re-Evaluate this Plan?

- While the tunnel was the jointly preferred alternative it may not be the most cost effective solution today.
- Environmental requirements have changed and need to be re-evaluated.
- The information in the earlier study and the regulations used to develop the previous report are >20 years old and some items are no longer accurate or applicable.
- An “up-to-date” and accurate document is needed to obtain congressional Authorization and Appropriation (funding) for a Project to be constructed.



# Mamaroneck and Sheldrake Rivers Basin GRR

## ➤ Corps of Engineers Study Process

- Engineering Studies and Analysis
- Environmental Studies and Analysis
- Economic Studies and Analysis

## Leads to...

- Evaluation of measures and alternatives to reduce flood risks in the study area
  - ▶ Detailed analysis of benefits, costs, and environmental impacts
- Selection of Plan that maximizes net benefits **(gives the tax payers the most efficient use of their money)**
- Preparation of General Reevaluation Report and Environmental Impact Statement
- Agency Technical Review and External Peer Review of Draft Report

## Ultimately....

- Corps of Engineers Head Quarters (HQUSACE) approval of report
- Congressional Authorization for Construction of Recommended Plan



# Mamaroneck and Sheldrake Rivers Basin Study

- National Environmental Policy Act (NEPA)
  - Requires completion of an Environmental Impact Statement (EIS)
  - Potential Studies:
    - Review of previous data and data collection
    - Water quality and water column sampling
    - Sediment sampling
    - Fish and Wildlife surveys particularly Indiana Bat, an endangered species
    - Wetland Delineation
    - Potential Mitigation site identification
    - Vegetation surveys
  - Effects of the proposed alternative on the human environment
  - Comparison to the No Action Alternative



# Mamaroneck and Sheldrake Rivers Basin Study

## ➤ Potential Flood Risk Management Measures

### ▶ Channel Improvements

### ▶ Diversion Tunnel(s)

### ▶ Non-Structural Plan

- Flood proofing
- Structure raising
- Buyouts

### ▶ Combination Plans

- Channel + Tunnel
- Channel + Non-Structural
- Channel + Tunnel + Non-Structural

### ▶ No-Action evaluation (Required by NEPA)



# Mamaroneck and Sheldrake Rivers Basin Study

Non-Structural: Example of  
Flood Proofing (House Raising)



# Mamaroneck and Sheldrake Rivers Basin Study

Channel Improvements Under Construction – Oakland, NJ



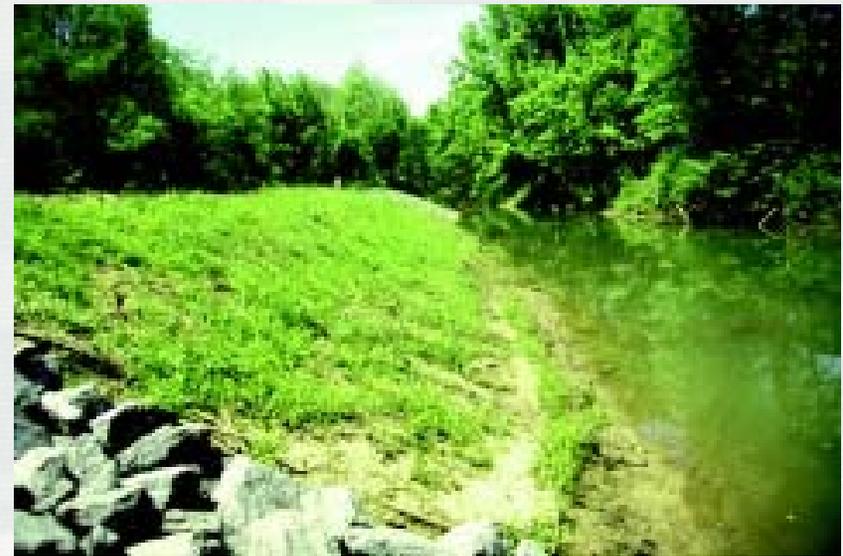
# Mamaroneck and Sheldrake Rivers Basin Study

Channel Improvements Completed –  
Molly Ann's Brook, Haledon, NJ



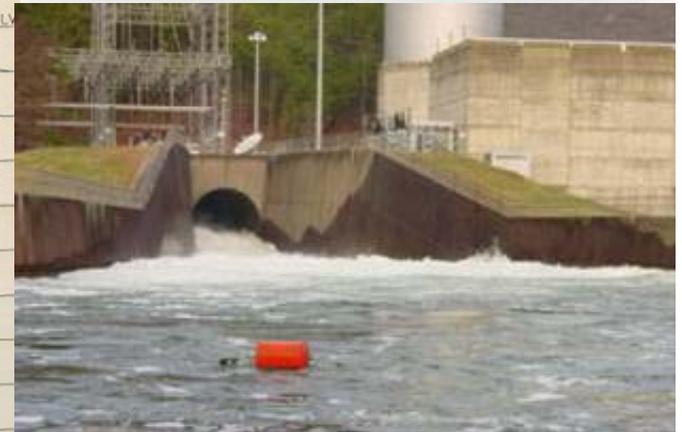
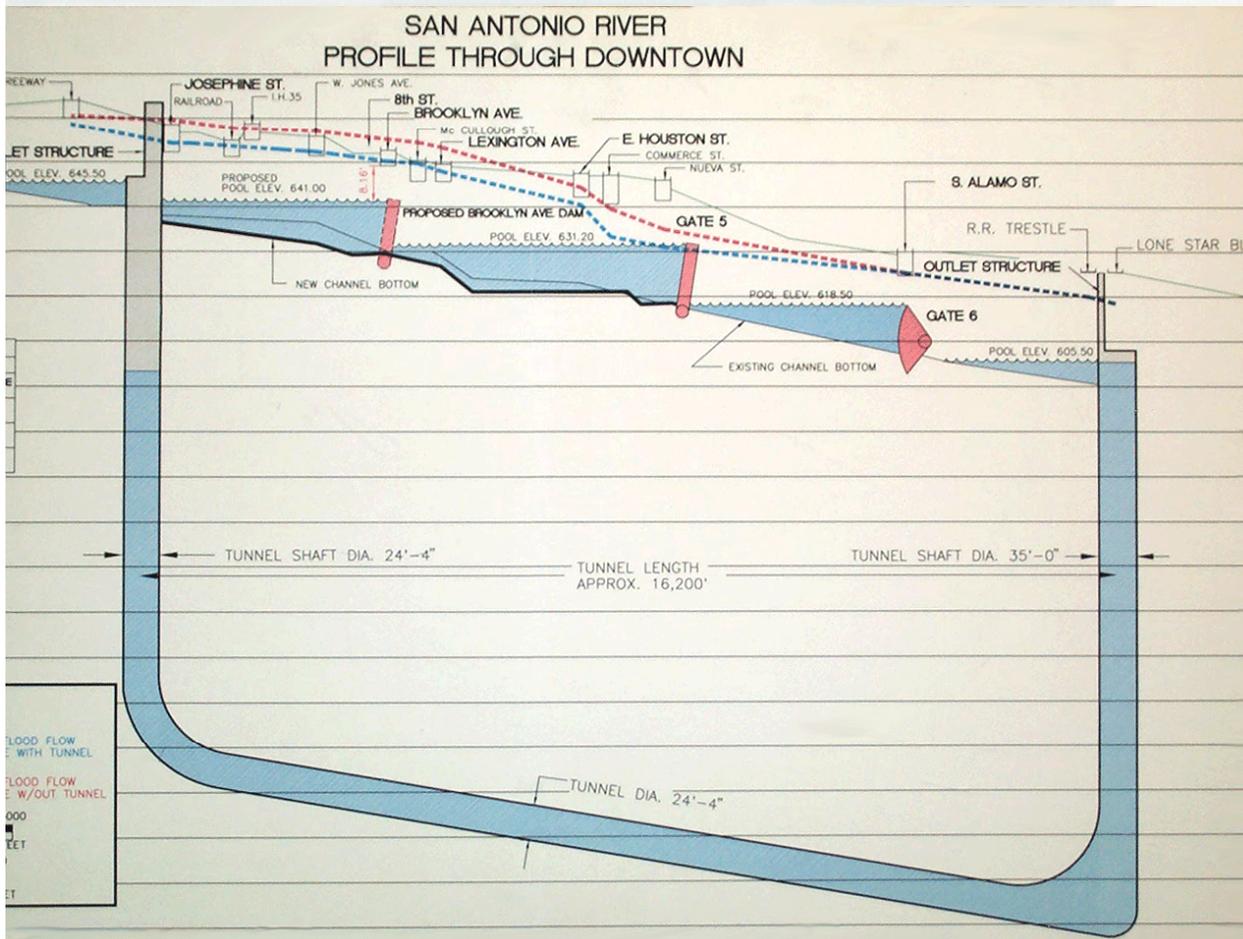
Vegetated Bank Stabilization

Photo Courtesy NRCS Engineering Field Handbook, 1996



# Mamaroneck and Sheldrake Rivers Basin Study

Example Tunnel Profile and Outlet structure – San Antonio, TX



# Mamaroneck and Sheldrake Rivers Basin Study

## ➤ Study Time Frames and Milestones

- Preliminary Alternative Analysis Complete: December 2010
- Detailed Alternative Analysis Complete: December 2011
- Identification and optimization of National Economic Development (NED) Plan: May 2012
- Draft Report and Environmental Impact Statement (EIS) complete: June 2013
- Final Report and EIS complete: December 2014
- HQUSACE (Washington DC) Approval of the Recommended Plan: March 2015
- Initiate Construction – Subject to Congressional Authorization, execution of a Project Partnership Agreement, and Federal and Non-Federal appropriations.



# Mamaroneck and Sheldrake Rivers Basin Study

- Comments or Questions?
- Contact information:
  - John Beldin-Quinones, Project Manager, 917-790-8242, [John.A.Beldin-Quinones@usace.army.mil](mailto:John.A.Beldin-Quinones@usace.army.mil)
- District Website:  
[www.nan.usace.army.mil](http://www.nan.usace.army.mil)

