FINDING OF NO SIGNIFICANT IMPACT
Merrimack River Bank Stabilization
Chelmsford, Middlesex, MA
FEMA-4028-DR-MA

BACKGROUND

Tropical Storm Irene caused storm damage from August 27-29, 2011 to several areas across the Commonwealth of Massachusetts. On September 3, 2011, President Obama declared Tropical Storm Irene a major disaster. The declaration authorized the Federal Emergency Management Agency (FEMA) to provide assistance to the state per federal disaster declaration DR-4028–MA and in accordance with Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974 (42 U.S.S. 5172). The Town of Chelmsford (Town) subsequently applied to the FEMA Hazard Mitigation Grant Program (HMGP) for financial assistance to stabilize approximately 3900 linear feet (LF) of river bank along the Merrimack River at Wellman Avenue for the purpose of protecting a sewer line from further erosion. The Massachusetts Emergency Management Agency (MEMA) is the grant recipient partner for the proposed action.

This Environmental Assessment (EA) is prepared in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969, as amended, and the Regulations for Implementation of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] Parts 1500 to 1508). The purpose of the EA is to analyze the potential environmental impacts of the proposed project and alternatives, including a no action alternative, and to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). In accordance with above referenced regulations, FEMA Directive 108-1 and FEMA Instruction 108-1-1, FEMA is required, during decision making, to fully evaluate and consider the environmental consequences of major federal actions it plans to fund or undertake.

PROJECT DESCRIPTION

The proposed Bioengineering Bank Stabilization Alternative would stabilize the river bank using a mixture of structural components, such as a stone toe, and natural components such as timber, coir rolls (organic material that provides erosion control and facilitates establishment of vegetation), and living vegetation. There are three stabilization techniques proposed for each edge type described in section 3.0 of the EA with sub-designs that vary due to slope conditions. The general slope designs for each edge type include:

Bank Support for Edge Type A: Work would involve installation of timber toe protection and vegetation management, including tree limb removal. The approximate height of this treatment would be 3 - 4 feet. Bank Support is proposed for approximately 250 LF.

Bank Repair for Edge Type B: Work would involve installation of stone sill along the toe of the slope to 0.5 feet above ordinary high water and placement of soil behind the sill to establish a shallow slope. One or more coir log(s) would be placed on top of the stone sill to hold the soil in place to establish a 3 foot horizontal to 1 foot vertical-rise (3H:1V) slope. Stabilization would be achieved through seeding, erosion control blankets, and native shrubs. Typical offset from the toe of slope to the centerline of the stone sill would be approximately 7.5 feet and the offset to the outboard limit of the stone sill would be approximately 14 feet. Bank Repair is proposed for approximately 450 LF.

Bank Reconstruction for Edge Type C: Work would involve installation of a stone sill along the toe of slope to approximately 0.5 feet above ordinary high water mark and restoring the entire slope cross-section with the installation of several rows of coir fiber rolls and fabric wrapped soil cells in a step-wise manner to establish a 2H:1V slope. Revegetation with native trees and shrubs would provide soil stabilization. The offset from the toe of the slope to the centerline of the stone sill would be approximately 7.5 feet and vary from 1 to 12 feet. The out board offset of the stone sill is approximately 14 feet and vary from 7.5. To 18.5 feet. Bank Reconstruction is proposed for approximately 3,250 LF.

In all edge type zones, trees on the slope and along the top of the slope in imminent danger of toppling would be removed. Installation of a turbidity barrier (a temporary silt curtain that traps turbid water to prevent the transport of suspended sediment outside the work area) off the river edge would contain turbid water to the project side of the barrier. The silt barrier would be installed first and then the remaining work would be done landward from the barrier thereby eliminating the need for water egress points and anchoring locations during construction.

Work would occur on approximately 3,950 linear feet of inland bank and approximately 145,250 square feet of riverfront area and bordering land. 59,250 square feet of the 145,205 square feet would occur in waters of the US including the turbidity shield and an excavation approximately 13 feet wide by 2 feet deep by 3,700 feet long. Approximately 3,600 cubic yards of soil would be dredged. Excavated soils would be reused on-site and augmented by off-site material as needed. Staging of equipment and materials would be located on a small open field on the eastern edge of Wellman Ave.

FINDING OF NO SIGNIFICANT IMPACT

After considering the context and intensity of environmental impacts described in the EA, I have determined that the proposed project would not have no significant impact on the quality of the human environment (40 CFR 1508.27). I base my finding, which is not biased by the potential beneficial impacts of the action, on the following:

There would be no significant impact on public health and safety.

There would be no significant impact on unique characteristics of the area; no impact to prime farmlands or designated wild and scenic areas.

Bioengineering construction techniques are commonly used in the Commonwealth as a generally preferred method of slope stabilization. Thus, no impact from the project would likely be highly controversial.

The resource impact analysis showed that no impact involves a unique or unknown risk.

The action is not likely to establish a precedent for future actions.

Cumulative impacts would not be significant.

Consultation with the State Historic Preservation Officer concluded with a finding of no adverse impact on districts, sites, structures or objects listed in or eligible for listing in the National Register of Historic Places.

The action would not adversely affect any endangered or threatened species or habitat that has been determined to be critical under the Endangered Species Act.

The project would not violate Federal, State and local laws or requirements for the protection of the environment.

PERMITS & PROJECT CONDITIONS

The Town is responsible for obtaining all applicable Federal, State, and local permits and other authorizations in advance and adhering to them throughout project implementation, including any project completion reporting requirements. Any substantive change to the approved scope of work will require re-evaluation by FEMA for compliance with NEPA, other laws and Executive Orders. Failure to comply with grant conditions may jeopardize Federal funds. At minimum, the Town must adhere to the following conditions:

Submit a Notice of Intent to the USEPA regarding the National Pollution Discharge Elimination System Construction General Permit and Stormwater Pollution Prevention Plan.

Adhere to all conditions within the USACE Individual Permit to be issued for the Project.

Adhere to all requirements under the Massachusetts Department of Environmental Protection for Water Quality Certification per Section 401 of the Clean Water Act; requirements include Major Dredge Project Certification (BRP WW 07), Major Fill/Excavation Project Certification (BRP WW10).

Adhere to time-of-year restrictions for work in the river and any further conditions from MADMF and NOAA regarding diadromous species and Atlantic salmon.

Dispose of woody debris produced on-site in compliance with all local, state, and federal regulations, polices and guidelines for transportation and disposal of potentially contaminated debris (e.g. Asian Long-horned beetle, Emerald Ash Borer) as identified by the Massachusetts DCR, DAR, APHIS, and USFS.

Stop work to consult with FEMA and USFWS if a Bald Eagle nest is discovered within 660 feet of the project site. All conditions within the USFW National Bald Eagle Management Guidelines shall be followed.

Avoid any inadvertent ground disturbance (e.g., equipment access along the top of the embankment, tree removal) within the vicinity of any known archaeological site.

An archaeological monitor is required during all ground disturbing activities in the vicinity of a known archaeological site

Updated Design Plans showing the areas of avoidance shall be completed and submitted to FEMA for review prior to the start of any ground disturbing activity

In the event of the discovery of archaeological deposits (e.g. Indian pottery, stone tools, shell, old house foundations, old bottles) the Town and their contractor shall immediately stop all work in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. The Town and their contractor shall secure all archaeological discoveries and restrict access to discovery sites. The Town shall immediately report the archaeological discovery to MEMA (David Woodbury, 508-820-2034) and the FEMA Regional Environmental Officer (David E. Robbins, 978-914-0378); FEMA will determine the next steps.

In the event of the discovery of human remains, the Town and their contractor shall immediately stop all work in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. The Town and their contractor shall secure all human remains discoveries and restrict access to discovery sites. The Town and their contractor shall follow the provisions of applicable state laws, including Massachusetts General Laws Chapter 38, section 6 (Discovery of skeletal remains likely to be Native American); Chapter 9, sections 26A (State archaeologist; duties; reservation of lands from sale; cooperation of governmental agencies) & 27C (Projects; notice; adverse effect; review); and Chapter 7, section 38A (Skeletal remains; preservation; excavation; analysis), or any amendments or supplanting laws and regulations. Violation of state law will jeopardize FEMA funding for this project. The Town will inform the Office of the Chief Medical Examiner (Henry Nields, 617-267-6767), the State Archaeologist (Brona Simon, 617-727-8470), MEMA (David Woodbury, 508-820-2034), and the FEMA Regional Environmental Officer (David E. Robbins, 978-914-0378). FEMA will consult with the SHPO and Tribes, if remains are of tribal origin. Work in sensitive areas may not resume until consultation is completed and appropriate measures have been taken to ensure that the project is in compliance with the National Historic Preservation Act.

Solid and hazardous waste produced or removed, including dumped waste, from the site shall be managed by MADEP permitted haulers and facilities. If dumped waste cannot be removed, burial must be done in accordance to 310 CMR 30.

Note that an "8-step" floodplain review required under EO 11988 was published along with the EA. This FONSI is considered the final posting for as per requirements of 44 CFR 9.12.

CONCLUSION

In accordance with NEPA, DHS Directive 108.1, and prescribed conditions for the proposed project, FEMA has determined that the proposed action will have no significant impact on the quality of the human environment. An Environmental Impact Statement will not be prepared; FEMA's Environmental Assessment completes the environmental and historic preservation review.

EHP APPROVAL AUTHORITY:

DAVID E ROBBINS Digitally signed by DAVID E ROBBINS
Date: 2018.02.26 09:58:59 -05'00'

David E. Robbins, FEMA Region 1 Regional Environmental Officer

PROGRAM EHP ENDORSEMENT:

RICHARD H VERVILLE Digitally signed by RICHARD H VERVILLE
Date: 2018.02.26 10:10:24 -05'00'

Richard Verville, FEMA Region 1 Hazard Mitigation Branch Chief