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October 26, 2018

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME : Long Beach Seawall Stabilization Improvements Project
PROJECT MUNICIPALITY : Rockport
PROJECT WATERSHED : North Coastal
EEA NUMBER : 15917
PROJECT PROPONENT : Town of Rockport
DATE NOTICED IN MONITOR : September 26, 2018

Pursuant to the Massachusetts Environmental Policy Act (MEPA) (M.G. L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **does not require** an Environmental Impact Report (EIR).

Project Description

As described in the Environmental Notification Form (ENF), the project consists of the placement of approximately 8,000 cubic yards (cy) of beach nourishment along portions of a 3,354-linear feet (lf) seawall and on top of a stone revetment at Long Beach in Rockport. In March 2018 a series of nor'easters caused extensive erosion and additional damage to Long Beach and the seawall. Sections of the 1931 and 1959 seawall were undermined and evidence of wall movement and failure were observed. Interim stabilization of the seawall will occur in two phases which are intended to mitigate short-term undermining of the seawall, buffer storm waves and supplement the sediment supply at the site. Improvements will protect public infrastructure and sensitive resource areas, and improve the resiliency of existing structures.

Phase 1 includes emergency stabilization of portions of the seawall that were undermined and damaged following the March 2018 nor'easters. The Town of Rockport (Town) repaired the south end of the seawall, buttressed sections of the 1931 seawall with stone on the seaward side within the existing footprint, and replaced portions of the sidewalk along the top of the seawall. Phase 1 was approved by

the Rockport Conservation Commission (RCC) through an Emergency Certification issued on March 19, 2018 and the Massachusetts Department of Environmental Protection (MassDEP) through a Minor Modification of an existing Chapter 91 (c. 91) License on September 11, 2018. Remaining elements of Phase 1, which are permitted through the emergency authorizations, will include additional placement of 2,500 tons of revetment stone within the existing footprint and is proposed to commence before the 2018-2019 winter storm season begins. Phase 1 activities were not subject to MEPA review because they did not require any State Agency Action, as defined pursuant to 301 CMR 11.00.

Phase 2 (the project) will include beach nourishment activities. Beach nourishment is proposed in the spring of 2019.

Prior to the 2018 nor'easters, the Long Beach seawall was assigned a Condition Rating of C (Fair) and a Priority Rating of IV (High Priority) by the Massachusetts Coastal Infrastructure and Assessment Project report (July 2013). Other assessments have been performed at the site including a detailed assessment in May 2011 which determined that portions of the 1931 and 1959 seawall were in poor and fair condition, respectively.

At the MEPA site visit on October 15, 2018, the Town indicated that it is evaluating more comprehensive alternatives to address long-term erosion and provide storm damage protection, including partial and full reconstruction of the seawall. Evaluation of comprehensive alternatives is proposed to respond to the effects of climate change, such as sea level rise and more powerful storms. The Town is participating in the Municipal Vulnerability Preparedness (MVP) Program which provides support for cities and towns to begin the process of planning for climate change resiliency and implementing priority projects.

Project Area

Long Beach is a Barrier Beach that includes a 3,354-lf concrete seawall, associated stone revetment and sandy beach along the shoreline of the Atlantic Ocean. The shoreline extends northeast from Brier Neck in Gloucester to Cape Hedge in Rockport. Long Beach is a pocket beach which does not have an active sediment source to the littoral system due to the headlands at each end of the beach. The majority of the 29-acre project area is located in Rockport. The seawall protects approximately 154 houses, Old County and Long Beach Roads, approximately 30 acres of Coastal Dune, tidal Salt Marsh, and Saratoga Creek which opens up to the ocean at the easterly end of the seawall. It also protects Town infrastructure including sidewalk, leased lots, water and sewer utilities and private infrastructure including electric and gas utilities.

The concrete seawall includes a wave return face. The top of the seawall is three feet wide. It is fronted by a stone revetment (one-stone thick) that extends approximately 22 feet seaward. The seawall and revetment are fronted by a sandy beach. A concrete walkway along the top of the seawall provides public access. Observed deficiencies include sinkholes behind the seawall and settling/heaving of the walkway. The seawall was originally constructed by the Commonwealth in 1931. Sections of the seawall that were damaged by storms in 1958 were reconstructed in 1959 and include the 22-foot stone apron along the base of the wall. Subsequent storms damaged the seawall and eroded fill behind it.

Wetland resource areas in the project area include Barrier Beach, Coastal Beach, Coastal Bank, Land Under Ocean (LUO), and Land Subject to Coastal Storm Flowage (LSCSF). According to the Federal Emergency Management Agency's (FEMA) National Flood Insurance Rate Map (FIRM) (Panel No. 25009C0476G effective July 16, 2014), portions of the project area are located within the VE Zone with a Base Flood Elevation (BFE) of 14 feet North American Vertical Datum of 1988 (NAVD88). The Mean High Water (MHW) line is located at 4.1 feet NAVD88.

Environmental Impacts and Mitigation

Environmental impacts associated with the project include alteration of 3,125 lf of Coastal Bank, and 3.5 acres of Barrier Beach which includes 2.0 acres of Coastal Beach and 1.5 acres of LSCSF. Measures to avoid, minimize and mitigate environmental impacts will include using construction period best management practices including sedimentation and erosion controls.

Jurisdiction and Permitting

The project is undergoing MEPA review and requires preparation of an ENF pursuant to 301 CMR 11.03(3)(b)(1)(a), 301 CMR 11.03(3)(b)(1)(e)¹, and 301 CMR 11.03(3)(b)(1)(f)¹ because it requires State Agency Actions and it will result in the alteration of Barrier Beach and Coastal Bank; new fill or structure or expansion of existing fill or structure, in a velocity zone; and alteration of one-half or more acres of wetlands (Barrier Beach, Coastal Beach, and LSCSF). The project will require a Chapter 91 (c. 91) License and a Section 401 Water Quality Certification (WQC) from the Massachusetts Department of Environmental Protection (MassDEP). The project is subject to Federal Consistency Review by the Massachusetts Office of Coastal Zone Management (CZM).

The project (Phase 2) will require an Order of Conditions from the Rockport Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from MassDEP) and a Pre-construction Notification under the General Permit from the U.S. Army Corps of Engineers (ACOE).

Because the Town is seeking State Financial Assistance in the form of funding through the Executive Office of Energy and Environmental Affairs (EEA) Dam and Seawall Program, MEPA jurisdiction is broad and extends to those aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

Review of the ENF

The ENF describes existing and proposed conditions and contains detailed site plans and cross-sections. The Town submitted supplemental information during the MEPA review period on September 25, 2018 and October 15, 2018.

Alternatives Analysis

The stabilization project is considered a short-term solution. The Town is developing a long-term solution which may include reconstruction of the seawall and a more extensive beach nourishment

¹ This threshold was not identified in the ENF.

program. Because Long Beach does not have an active sediment source, nourishment from an outside source is typically required to keep sand within the system.

The ENF includes an evaluation of several alternatives, including: No Action; Full Length Revetment Reconstruction; and Partial Revetment Reconstruction and Sand Nourishment (Preferred Alternative). The No Action Alternative would leave the coastal engineering structure in its current vulnerable condition which would likely continue to be undermined and eventually fail based on the sand loss experienced during past storm events. No additional stability would be provided to the seawall to afford protection from wave action or storm events. This alternative was dismissed because potential failure of the structure would result in environmental resource area impacts; increased costs; loss of protection to residents, infrastructure, utilities; and liability to the Town.

The Full Length Revetment Reconstruction Alternative within the existing footprint would provide increased stability and protection to the wall; however, it would not provide an additional sediment source and would include significant costs and a longer construction schedule. This alternative would temporarily impact Coastal Beach and LSCSF and permanently impact Coastal Bank (72,600 sf).

The Preferred Alternative includes partial revetment reconstruction and sand nourishment. A limited amount of supplemental stone will be placed within the limits of the existing revetment (Phase 1 – permitted separately under the Emergency Authorizations described herein) and approximately 8,000 cy of sand will be placed along the majority of the length of the seawall (Phase 2). While this option will not provide protection equivalent to the Full Length Revetment Reconstruction Alternative, it will provide added resiliency by reducing impacts from waves which are undermining the seawall. The ENF indicates that procurement and placement of sand is less expensive than stone and it will provide additional sediment to the littoral system.

The Preferred Alternative will temporarily impact Coastal Beach and LSCSF during construction and permanently impact Coastal Bank and Coastal Beach associated with placement of stone and sand nourishment. Sand nourishment will benefit Long Beach by raising its elevation adjacent to the seawall and providing additional material to the depleted littoral system. These changes will reduce undermining of the seawall and related damage from future storm events.

Wetland, Waterways, and Water Quality

The project will result in temporary impacts to wetland resource areas. The Rockport Conservation Commission will review the project to determine its consistency with the Wetlands Protection Act (WPA), the Wetlands Regulations (310 CMR 10.00), and associated performance standards, including stormwater management standards (SMS). MassDEP will also review the project to determine its consistency with the 401 WQC (314 CMR 9.00) and c. 91 regulations (310 CMR 9.00).

Comments from CZM reference the Long Beach Sediment Transport Study Final Report (2014) in which two nourishment scenarios were modeled: 50,000 cy (five to six year design life) and 100,000 cy (more than ten year design life). The Town is proposing 8,000 cy of nourishment as an interim measure to provide some additional protection while a longer-term solution is developed. CZM comments indicate that although the proposed volume of sediment will improve storm damage protection, it will likely be redistributed throughout the beach and nearshore profile quickly. To meet

project goals, CZM recommends the Town apply additional nourishment consistent with that recommended by the 2014 study as funding becomes available.

The ENF includes the results from a grain size distribution analysis. Nourishment material will be imported from an off-site source and will be compatible with existing beach sediments. CZM comments recommend that a grain size specification be developed for review as part of the permitting process to inform the selection of sand source alternatives.

Because Long Beach is designated as a Barrier Beach in the Massachusetts Barrier Beach Inventory Project and meets the definition of one pursuant to 310 CMR 10.00, CZM recommends that the delineation of seawall/revetment as Coastal Bank, as described in the ENF, be revised in permit applications. The Barrier Beach consists of Coastal Beach and Coastal Dune, with the seawall/revetment armoring the Coastal Dune. CZM comments indicate that the seawall and revetment are not considered Coastal Bank pursuant to 310 CMR 10.00.

Work in the intertidal zone will be dependent on the tide. Work will occur from the Coastal Beach. The ENF describes staging areas located within Barrier Beach on paved roadways. The Town should stage and store equipment and materials outside of resource areas.

Conclusion

The ENF has sufficiently defined the nature and general elements of the project for the purposes of MEPA review and demonstrated that the project's environmental impacts will be avoided, minimized and/or mitigated to the extent practicable. Based on the information in the ENF and after consultation with State Agencies, I find that no further MEPA review is required at this time. Remaining issues can be addressed through the local, State and federal permitting and review processes.

As noted previously, the Town is considering long-term alternatives to address erosion. A large-scale project may trigger the requirement for an EIR. The Town should consult with the MEPA Office regarding subsequent MEPA review, including whether the project would warrant the filing of a Notice of Project Change (NPC) or a new ENF, and how to address cumulative impacts.

October 26, 2018

Date



Matthew A. Beaton

Comments Received:

10/18/2018 Massachusetts Office of Coastal Zone Management (CZM)

MAB/PPP/ppp



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MEMORANDUM

TO: Matthew A. Beaton, Secretary, EEA
ATTN: Purvi Patel, MEPA Unit
FROM: Bruce Carlisle, Director, CZM
DATE: October 18, 2018
RE: EEA-15917, Long Beach Seawall Stabilization Improvement Project; Rockport



The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Environmental Notification Form (ENF), noticed in the *Environmental Monitor* dated September 26, 2018, and offers the following comments.

Project Description

The proposed project includes placement of approximately 8,000 cubic yards of sediment from an off-site source for beach nourishment purposes in front of approximately 3,125 linear feet of an existing seawall and rip-rap revetment, over an area of approximately two acres of coastal beach and lands subject to coastal storm flowage. A staging area for materials is also proposed on the barrier beach, which brings the total area impacted by the project to 3.5 acres. The Town has previously performed emergency repairs to the wall and revetment in response to damage from storms in March, 2018, including repair of the south end of the wall and stairs and addition of stone in front of other sections of the damaged wall, under emergency authorization. A previously permitted project to place 2,500 tons of new revetment stone within the same footprint of the existing revetment in front of the seawall is expected to be constructed before the winter storm season begins. The nourishment is proposed for the spring of 2019.

Project Comments

The Town contracted Applied Coastal Research and Engineering (ACRE) to conduct a study regarding shore protection alternatives along Long Beach. As presented in the Applied Coastal Long Beach Final Report (October 24, 2014), ACRE modeled two nourishment scenarios for Long Beach: 50,000 cubic yards and 100,000 cubic yards, with a design life of five to six years and more than ten years, respectively. CZM understands that the Town is currently proposing 8,000 cubic yards of nourishment as an interim measure to provide some additional protection while a longer-term approach is developed, with the expectation that additional nourishment may be needed in the future. Although this volume of sediment will add to the beach system and somewhat improve the overall ability of the beach to provide some storm damage protection, the significantly reduced volume will likely be redistributed throughout the beach and nearshore profile quickly. While the ENF states that the nourishment will help to raise the elevation of the beach back to “pre-storm conditions,” the proposed volume is unlikely to result in an evident elevation change once the sand is redistributed. To ensure project goals are met, CZM recommends the Town apply additional nourishment to meet the amounts recommended by the ACRE study as funding becomes available.



The ENF states that compatible sediment will be used for the beach nourishment. CZM recommends that a grain size specification be developed for review as part of the permitting process to inform the review of potential alternatives.

The ENF identifies the seawall and revetment as coastal bank. Long Beach is designated as a barrier beach in the MA Barrier Beach Inventory Project, DEP Wetlands data layer, and it meets the definition of a barrier beach under the Wetlands Protection Act Regulations. The barrier beach consists of coastal beach and coastal dune, with the revetment and seawall armoring the coastal dune. As coastal bank is defined in the Wetlands Protection Act regulations as a landform, the seawall and revetment are not considered a coastal bank. CZM recommends that this delineation is revised in the permit applications.

Federal Consistency Review

The proposed project may be subject to CZM federal consistency review, in which case it must be found to be consistent with CZM's enforceable program policies. For further information on this process, please contact Robert Boeri, Project Review Coordinator, at 617-626-1050, or visit the CZM web site at www.mass.gov/czm.

BKC/kg

cc: Kathryn Glenn, CZM
Joseph Parisi, Rockport Director of Public Works
Geraldyn Falco, Rockport Conservation Agent
Ivan Morales, DEP Waterways