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July 21, 2017

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

PROJECT NAME : Reservoir Dam Water Storage and Fish Passage
Improvements
PROJECT MUNICIPALITY : Scituate
PROJECT WATERSHED : South Coastal
EEA NUMBER : 15711
PROJECT PROPONENT : Town of Scituate – Department of Public Works (DPW)
DATE NOTICED IN MONITOR : June 7, 2017

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62I) and Section 11.03 of the MEPA regulations (301 CMR 11.00), I have reviewed the Environmental Notification Form (ENF) and hereby determine that this project **requires** the preparation of a Mandatory Environmental Impact Report (EIR). The Proponent should submit a Draft EIR (DEIR) in accordance with the Scope below.

Project Description

As described in the ENF, the purpose of the project is to provide water storage for the Town of Scituate's public water supply and improve fish passage at the Reservoir Dam fishway and downstream locations. Specifically, the project proposes to raise the Reservoir Dam impoundment (also referred to as Reservoir Pond) and Tack Factory Pond by 1.5 feet (ft) above the existing maximum normal pool elevation (from El. 38.9 to El. 40.4).¹ The dam spillway will

¹ All elevations noted in this Certificate reference North American Vertical Datum 1988 (NAVD88) unless otherwise noted.

be modified to lower the crest (to El. 36.3) and to install a bottom hinged crest gate to maintain the impoundment level no higher than El. 40.4. The existing fishway at Reservoir Dam will also be modified to lower the fishway exit channel into the impoundment by 3.9-ft (to El. 35.0) and incorporate removable weirs to provide passage of anadromous fish species at all reservoir water levels during the spring and fall migration periods. The stream channel downstream of the fishway entrance will be reconfigured with channels and pools to attract fish. The project will also install stone riprap erosion protection along State Route 3A (Chief Justice Cushing Highway).

As a condition of its Water Management Act (WMA) Registration and Permit, the Town currently implements an Interim Operational Plan (IOP) which utilizes storage below the spillway crest (El. 38.9) to meet downstream water supply demands and environmental flow releases needed to maintain the habitat in First Herring Brook and to provide flows for upstream and downstream passage at a fishway located at downstream Old Oaken Bucket Dam. In accordance with the IOP, when the Reservoir Dam pool levels drop to El. 32, water is reserved for water supply and releases to support operation of the downstream Old Oaken Bucket Pond fish ladder flow are curtailed. As described in the ENF, the project will add approximately 108.8 ac-ft of storage to the reservoir, or the equivalent of 37 million gallons per day (MGD). This represents approximately 28 days of water supply at the Town's typical winter withdrawal rate. The ENF indicates that the project and reservoir operation could provide adequate fishway flow for successful passage 98% of the time during the spring outmigration and 85% of the time during the fall outmigration periods.

Project Site

The dam is owned by the Town of Scituate and impounds the First Herring Brook which flows through upstream Tack Factory Pond, beneath Route 3A causeway via a culvert and into Reservoir Pond. Route 3A acts as a causeway that separates Reservoir Pond and Tack Factory Pond. The ENF indicates that Tack Factory Pond is maintained at a higher elevation than Reservoir Pond. According to the ENF, Reservoir Dam was originally constructed as a storage reservoir for the Town of Scituate's public water supply. Specifically, the reservoir was created to supplement well water delivery to the water treatment plant at downstream Old Oaken Bucket Dam. The Reservoir Dam is an approximately 45-foot high earthen embankment with a concrete core wall, ogee spillway, low level outlet, and a pool and weir fishway. Normal pool levels in the Reservoir Dam impoundment are at the spillway crest, which is at El. 38.9-ft. The fishway is located east of the spillway and is comprised of 21 weirs to create pools that are approximately 3-ft wide and 3.5-ft long. The fishway exit channel is at the same elevation as the spillway crest and it currently functions only when impoundment levels are higher than the spillway crest.

Reservoir Pond and Tack Factory Pond are classified as Zone A Surface Water Supply Protection Areas and Outstanding Resource Waters (ORW) of the Commonwealth to protect the public drinking water supply. Wetland resource areas on-site include Bank, Bordering Vegetated Wetlands (BVW), Land under Waterbodies and Waterways (LUW), Bordering Land Subject to Flooding (BLSF), and Riverfront Areas (RFA) associated with upstream and downstream First Herring Brook and an unnamed perennial stream south of Tack Factory Pond. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM) for

Plymouth County (Map Nos. 25023C0117K and 25023C0109K, both revised November 4, 2016), Reservoir Pond and Tack Factory Ponds are located within a designated AE Zone (Areas subject to inundation by the 1-percent-annual-chance flood event) and the majority of these waterbodies contain designated regulatory floodway areas. The Base Flood Elevations (BFE) in Tack Factory Pond, Reservoir Pond, and in First Herring Brook (immediately downstream of the dam) is El. 44, El. 42, and El. 29, respectively.

The project site is not located in Priority and/or Estimated Habitat as mapped by the Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP) or an Area of Critical Environmental Concern (ACEC). The site does not contain any structures listed in the State Register of Historic Places or the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth.

Environmental Impacts and Mitigation

The project proposes to raise the water levels in the reservoir impoundment to provide additional water storage for the Town's public water supply while making downstream releases to maintain effective fish passage. Although it will provide fish passage and public water supply benefits, elevating the water surface of Tack Factory Pond and Reservoir Pond will inundate the existing BVWs and convert shrub swamps and forested bordered vegetated wetlands to open water or other wetland types. According to the ENF, the project will result in the following wetland resource impacts: elimination of 1,414 linear feet (lf) of Bank; elimination of 52,000 sf of Riverfront Area (RFA); creation of 8.7 acres of Land Under Water (LUW); creation of 17.31 acres of Bordering Land Subject to Flooding (BLSF); and will increase the duration of seasonal flooding of 13.07 acres of BVW.

The ENF indicates that the project will improve the sustainability of the Town's public water supply, restore the nonfunctioning fishway at Reservoir Pond, and improve downstream ecological conditions. Measures to avoid, minimize and mitigate impacts will be further refined in the DEIR and generally include installation of stone riprap erosion protection along Route 3A, installation of an oil/grit separator and bioswale in the catch basin on Sherman Drive to treat water entering the reservoir, and implementation of construction period Best Management Practices (BMPs) to control erosion and sedimentation.

Jurisdiction and Permitting

This project is subject to MEPA review and requires the preparation of a mandatory EIR because it requires State Agency Actions and exceeds the following EIR thresholds:

- Alteration of one or more acres of bordering vegetated wetlands (301 CMR 11.03(3)(a)(1)(a));
- Alteration of 10 or more acres of any other wetlands (301 CMR 11.03(3)(a)(1)(b));
- Alteration requiring a variance in accordance with the Wetlands Protection Act. (301 CMR 11.03(3)(a)(2)); and
- Structural alteration of an existing dam that causes an Expansion of 20% or any decrease in impoundment Capacity (301 CMR 11.03(3)(a)(4)).

The project will require a 401 Water Quality Certification (WQC), Water Management Act (WMA) Permit Addendum, a Variance from the provisions of the Wetlands Protection Act (WPA) and a Superseding Order of Conditions (SOC) from the Massachusetts Department of Environmental Protection (MassDEP). It requires a Fishway Construction Permit from the Division of Marine Fisheries (DMF), a Chapter 253 Dam Permit from the Department of Conservation and Recreation's Office of Dam Safety (DCR-ODS), and a Non-Vehicular Access Permit from the Massachusetts Department of Transportation (MassDOT). MassDEP's comments on the ENF also indicate that the project may require a Chapter 91 (c.91) License and/or Permit. The project will utilize State Financial Assistance in the form of one or more grants from the Sustainable Water Management Initiative (SWMI) program. The project is subject to review under the May 2010 MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol ("the Policy").

The project will require an Order of Conditions from the Scituate Conservation Commission (or in the case of an appeal, a SOC from MassDEP). The project requires authorization from the U.S. Army Corps of Engineers (ACOE) under the General Permits for Massachusetts in accordance with Section 404 of the Federal Clean Water Act. The project may require Section 106 review by the ACOE and Massachusetts Historical Commission (MHC). The project also requires review and approval from the National Oceanic and Atmospheric Administration (NOAA) – National Marine Fisheries (NMF) and the U.S. Fish and Wildlife Services (USFWS).

SCOPE

General

The DEIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this Scope.

Project Description and Permitting

The DEIR should include updated site plans for existing and proposed conditions, a detailed description of the proposed project (including improvements proposed at Tack Factory Pond), and describe any changes to the project since the filing of the ENF. The project description should include: a project history, a description of the overall project scope (including work at Tack Factory Pond), a discussion of key planning initiatives and reports completed to date regarding water supply planning and fish passage improvements, and identify project objectives and goals.

The DEIR should briefly describe each Federal, State, and local permit or agency action required or potentially required for the project, and should demonstrate that the project can meet applicable performance standards. The DEIR should contain sufficient information to allow the permitting agencies to understand the environmental consequences of their actions related to the project. In accordance with section 11.01(3)(a) of the MEPA regulations, the DEIR should discuss the consistency of the project with any applicable local or regional land use plans.

Alternatives Analysis

The ENF provided a link to the following studies: *Preliminary Assessment Report: First Herring Brook Fish Passage Improvements* (January 28, 2013), *Feasibility Report: Reservoir Dam Modifications for Higher Pond Levels: First Herring Brook Fish Passage Improvements* (June 26, 2013), and *Final Preliminary Design Memorandum for Reservoir Dam Fish Passage Project* (June 2014). These documents provide information regarding an expanded discussion of alternatives, hydraulic modeling results, and design flow constraints, which will support a comprehensive evaluation of alternatives. The presentation of the project in this Certificate, including its impacts, and potential mitigation measures, is informed and supported by the ENF and information provided in these studies. To provide a full and self-contained description and analysis of the project for the MEPA record, the DEIR should include a summary of each of these studies, provide electronic copies as appendices, and identify how review of hydraulic modeling results and the project alternatives evaluated in each study helped inform the design parameters and selection of the Preferred Alternative. It should provide additional narrative to explain and support the analysis of the project's impacts and mitigation, and extract relevant documentation and tables from these studies to supplement the narrative.

The ENF provided a summary of project alternatives to provide adequate storage capacity and fish passage improvements that were evaluated in greater detail in a 2013 study. The ENF indicated that the following five alternatives were considered: Alternative A- pond El. 40.9, Alternative B – pond El. 42.0, Alternative C – pond El.42.4, Alternative D – existing Pond El. 38.9, and Alternative E – pond El. 39.9. Alternatives A–C investigated fish passage viability with the existing fishway exit channel and a 6-inch deep, 18-inch wide notch in the exit channel. Options D-E modeled a lower fishway exit channel at El. 35.4. The ENF indicated that previous modeling considered various outdoor water ban trigger elevations and identified the potential impacts of higher water levels on private property, residences, and infrastructure. The ENF indicates a No-Build Alternative was not considered as it would not provide additional water storage needed to meet the Town's water supply demand, maintain aquatic habitat in First Herring Brook or provide fishway flow for effective fish passage. The ENF indicates that the Preferred Alternative (as described herein) is a combination of Alternatives A and E. As described in the ENF, this alternative was selected as it provides sufficient streamflow and water storage to meet the water supply demand while improving fish passage.

To provide context and support the selection of a Preferred Alternative, the DEIR should include an expanded alternatives analysis that summarizes the potential environmental impacts associated with Options A – E and compares these to the Preferred Alternative in a narrative and in a tabular format. The DEIR should identify each alternative's impacts on wetland resource areas and public and private infrastructure (Route 3A, private property shoreline, residences, sewer infrastructure, stormwater infrastructure, etc.).

The Alternatives Analysis should examine alternatives to balance the public water supply, flood control, storm damage prevention, wildlife habitat, and fish passage needs. The DEIR should include a narrative and modeling data to support the Proponent's adoption (or dismissal) of various operational scenarios as a feasible measure to avoid, minimize or mitigate

Damage to the Environment. Operating scenarios should evaluate the impacts of various target flow releases for fish passage and varying triggers for implementing the total water ban and curtailment of flow releases. The DEIR should identify the impact that each operating scenario will have on fish passage requirements, water storage capacity, the number of days a watering ban is enforced, and the number of days that releases are shut-off. The alternatives analysis should include a clear comparison, quantified to the extent possible, of the impacts of each alternative in a tabular format with supporting narrative. This analysis should be used to support identification of the Preferred Alternative (and operating scenario) that balances water demand with stream flow requirements and demonstrates that the project avoids, minimizes, and mitigates impacts to the maximum extent feasible.

The DEIR must expand upon the Preferred Alternative to identify how it can meet the regulatory criteria to be granted a 401 WQC, Variance, and WMA Permit amendment. The DEIR should also evaluate alternatives to mitigate the loss of BVW and other alteration due to increased inundation of wetlands. The DEIR should address this issue in detail, evaluate the consistency of the proposed project with 401 WQC and Variance criteria, and ensure that the Alternatives Analysis supports evaluation of project impacts by MassDEP. Demonstration that the project can satisfy associated regulatory requirements and meet criteria for a Variance is a primary focus for MEPA review and, in particular, the focus of the DEIR.

Additional recommendations provided in this Certificate may result in a modified design that enhances the project's ability to avoid, minimize, or mitigate Damage to the Environment. The DEIR should discuss steps the Proponent will take to further reduce the impacts of the project since the filing of the EENF, or, if certain measures are infeasible, the DEIR should discuss why these measures will not be adopted.

Water Management

To provide additional context for the project, the DEIR should describe groundwater and surface water conditions of the Town's water supply system and the reservoir's role in the Town's water supply system. It should include a summary of the water withdrawal permits, registrations, and emergency authorizations and identify any relevant permit conditions. The DEIR should clearly specify the present and projected future demands on the Town's water supply system that may be a factor in the development of this project. The benefits of this project may be diminished over time if new water demands are not offset with conservation measures. The DEIR should identify measures the Town has implemented or is exploring to stabilize the long term water demand. This should include, but not be limited to implementation of a Water Conservation Plan and/or implementation of a water banking program. The DEIR should also identify other methods that were evaluated to address the Town's water needs either through reducing demand or providing additional storage (i.e. implementation of water restrictions, leak detection and pipe replacement, zoning or bylaw controls limiting new connections, dredging the reservoir to provide additional storage, and/or utilizing alternative water sources or interconnections).

The DEIR should include a copy of the current IOP and describe how the reservoir is currently operated to meet the Town's water demands. The DEIR should identify the target flow

releases from the reservoir and any other changes to the operation of the reservoir (including but not limited to modifying the triggers for the total water ban on nonessential outdoor water use and/or curtailment of flow releases). It should clarify whether the IOP will be updated to reflect these changes, and if so, should include a draft updated IOP or identify the schedule for its development.

The project will require an amendment to the Town's Water Management Act (WMA) Permit. Comments from MassDEP identify concerns regarding how the proposed operating scenario may impact the firm yield² of the reservoir. The firm yield is used as the basis for establishing the maximum annual withdrawal that can be permitted from the reservoir. The DEIR should evaluate the firm yield of the reservoir based on the proposed operation of the Preferred Alternative. Based on the results of this analysis, the DEIR should discuss whether resulting changes to the firm yield for the reservoir system will impact the Town's ability to meet future water needs or anticipate peak seasonal or peak day demands. The Proponent should consult with MassDEP prior to preparing this analysis. The DEIR should estimate the percentage of time that flow releases will be shut off and the number of days and level of outdoor water use restrictions that will be implemented under the Preferred Alternative. I refer the Proponent to MassDEP's comment letter which provides guidance on the methodology for this analysis. Finally, the DEIR should discuss how the project's consistency with the goals of SWMI.

Wetlands/Waterways/Stormwater

The project is subject to the WPA, its implementing regulations (310 CMR 10.00) and associated performance standards. The project will impact Bank, RFA, LUW, BLSF, and BVW. Comments from MassDEP confirm that the project requires a Variance from the provisions of the WPA as it will alter greater than 5,000 sf of BVW (310 CMR 10.55(4)(b)), and there are no applicable Limited Project provisions (310 CMR 10.53). The DEIR should describe the process for seeking a Variance and address how the project meets the criteria for a Variance provided in 310 CMR 10.05(10), including:

- there are no reasonable conditions or alternatives that would allow the project to proceed in compliance with the regulations;
- mitigating measures are proposed that will allow the project to be conditioned so as to contribute to the protection of the interests identified in M.G.L. c. 131 § 40; and
- that the variance is necessary to accommodate an overriding community, regional, state or national public interest.

To address the overriding public interest, the DEIR should document the need to provide additional water storage in the Scituate reservoir to meet water supply needs. Specifically, it should document current use, projected demand, water conservation efforts, storage needed to comply with permit requirements, and the impact of the project on the firm yield of the Scituate Reservoir system. The DEIR should specifically identify and quantify the public water supply and environmental benefits expected from the project. I refer the Proponent to MassDEP's

² The firm yield of a reservoir is the maximum average daily withdrawal that can be guaranteed from a reservoir without risk of failure during an extended drought period.

comment letter which provides further guidance and identifies additional information that should be included in the DEIR to support the request for a Variance.

Increasing the elevation of the impoundment will inundate existing BVW and convert shrub swamps and forested bordered vegetated wetlands to open water or other wetland types. The DEIR should quantify the change in wetland type from forested wetland and shrub swamp to open water and other wetland types. The DEIR should confirm the presence of wetland resource areas, characterize them, and estimate potential impacts. Impact calculations should be provided in a tabular format with a supporting narrative. The evaluation should assume complete inundation by the proposed new normal pool elevation and compare that to the wetland types that currently exist with the current normal pool elevation. I refer the Proponent to MassDEP's comment letter which provides additional guidance on this analysis. The DEIR should demonstrate compliance with the 401 WQC regulations and identify measures to avoid, minimize, and then mitigate the project's direct, indirect, and cumulative impacts. The DEIR should include plans depicting and quantifying any compensatory flood storage and wetland replication areas and should describe how altered wetland functions will be restored.

The DEIR should evaluate potential flood level increases during the 100-year flood, provide supporting hydrogeological and hydraulic analyses, and propose measures to avoid minimize, and mitigate any identified impacts. I note the site plans provided with the ENF reference a FEMA map (Map No. 25023C0117J, dated July 17, 2012) that may be out of date. Site plans, impact analysis, and hydraulic modeling provided with the DEIR should reflect the revised FEMA mapping. Comments from the EPA note the gate at Tack Factory Pond may require modification to avoid upstream flooding impacts. The DEIR should address this concern and describe any work proposed at the Tack Factory Pond gate

The DEIR should identify work activities and associated impacts to wetland resource areas that will be subject to ACOE review. I refer the Proponent to comments from the ACOE which provide guidance on this issue. The DEIR should identify applicable ACOE performance standards and regulations to assist in determining the potential overlap or conflict with State wetland permitting requirements. The DEIR should include narrative and supporting data or graphics as necessary to demonstrate that the project can meet all applicable performance standards and regulations.

The project includes new fill within the FEMA designated floodway at the dam crest and along Route 3A. The DEIR should quantify and describe the proposed fill and its impact on the horizontal and vertical extent of the 100-year flood. I refer the Proponent to comments from MassDEP which indicate the project must submit a Conditional Letter of Map Revision (CLOMR) or a Letter of Map Revision (LOMR) to FEMA to address the increase in flooding. The DEIR should provide an update on this process. It should clarify whether the increase to the flood elevation will extend onto properties not owned or controlled by the Town of Scituate and identify whether flood easements will be required.

The Public Waterfront Act (M.G.L. c.91) and its regulations (310 CMR 9.00) regulate activities within waterways, including certain non-tidal rivers and streams. Comments from MassDEP indicate that First Herring Brook, Tack Factory Pond, and Reservoir Pond may be

subject to Chapter 91 jurisdiction pursuant to 310 CMR 9.04. The Proponent should file a Request for Determination of Applicability with MassDEP prior to submittal of the DEIR to determine the jurisdictional status of the waterways. If the waterways are subject to c.91 jurisdiction, the DEIR should include the information identified in MassDEP's comment letter to facilitate their determination as to whether the project requires a c.91 License or Permit.

Comments from MassDEP indicate that the project may qualify as a redevelopment project for purposes of applying the Stormwater Management Standards (SMS). The DEIR should describe the proposed stormwater management improvements, including connection points to off-site stormwater conveyance infrastructure and BMPs. It should provide supporting documentation or data to demonstrate that the stormwater management infrastructure will be designed in compliance with the SMS to the maximum extent practicable. This can include stormwater management system plans and calculations regarding the water quality volume, infiltration volume, total suspended solids (TSS) removal and peak rates of runoff for pre- and post- development conditions. I refer the Proponent to comments from MassDEP that identify concerns regarding stormwater discharges to the reservoir from the drainage system located on the Route 3A causeway. I recognize that Route 3A is controlled by MassDOT. I encourage MassDOT to work collaboratively with the Proponent to identify opportunities to improve the stormwater infrastructure on Route 3A because it discharges directly into the reservoir, which is an ORW and Zone A drinking water supply area.

Division of Marine Fisheries

First Herring Brook supports a variety of diadromous fish species, including: alewife (*Alosa pseudoharengus*), rainbow smelt (*Osmerus mordax*), and American eel (*Anguilla rostrata*). The project will require a Fishway Construction Permit from DMF. Comments from DMF request additional information on the construction schedule and in-water work to determine the project's potential impact on fall migrations. The DEIR should provide more information on proposed water control and silt containment measures that will be used during the summer and fall seasons. DMF recommends a time of year (TOY) restriction for any in-water work from March 1 to June 30 to avoid impacts to spring spawning migrations and glass eel immigrations. A TOY restriction from September 1 to November 14 may be required if construction activities cannot maintain adequate passage and containment of silt-producing work.

Climate Change

Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth (EO 569) was issued on September 16, 2016. EO 569 recognizes the serious threat presented by climate change and directs agencies within the administration to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The Order seeks to ensure that Massachusetts will meet GHG emissions reduction limits established under the Global Warming Solution Act of 2008 (GWSA).

Greenhouse Gas Emissions

The project is subject to the MEPA Greenhouse Gas Policy and Protocol (GHG Policy) because it exceeds thresholds for a mandatory EIR. The GHG Policy includes a de minimus exemption for projects that will produce minimal amounts of GHG emissions. This project is proposed to improve the sustainability of the Town's public water supply, restore the nonfunctioning fishway at Reservoir Pond, and improve downstream ecological conditions. The GHG emissions are associated with the construction period of the project. As such, this project falls under the de minimis exemption; therefore, the Proponent is not required to prepare a GHG analysis. However, the DEIR should identify measures to avoid and minimize GHG emissions (and other air pollutants) during the construction period such as limiting idling and using bio-fuels in off-road construction equipment.

Climate Change Adaptation and Resiliency

The DEIR should discuss potential effects of climate change on the project in the context of improving the resiliency of the public water supply and fishway system. The DEIR should identify any potential impacts associated with increased frequency and intensity of precipitation events and extreme heat events and address how the project will be designed to adapt and/or sustain such impacts. The Proponent should consider these impacts when designing stormwater management improvements and the riprap design along Route 3A and when evaluating flooding impacts to Route 3A and associated culvert (discussed in greater detail below). To assist in the evaluation of climate change resiliency and adaptation measures the Proponent should review EEA's *Climate Change Adaptation Report* (September 2011).³

Transportation

The project includes installation of riprap along portions of Route 3A to prevent erosion of the highway embankment. The Proponent must obtain a Non-Vehicular Access Permit from MassDOT for this proposed work. The DEIR should describe how riprap will be installed, potential impacts to the state jurisdictional roadway, and identify the need and duration for any lane closure or shutdown during construction.

The DEIR should evaluate whether the proposed increase in flood elevation will cause Route 3A to flood at a greater frequency and identify measures to avoid, minimize, and mitigate any adverse impacts. It should identify the diameter and existing condition of the existing culvert that conveys First Herring Brook beneath Route 3A from Tack Factory Pond to Reservoir Pond. The DEIR should include an analysis to determine if the capacity of the culvert is sufficient to accommodate the expected higher normal water levels during storm events without overtopping Route 3A or flooding adjacent properties. The Proponent should coordinate with MassDOT Highway Division District 5 Office prior to submitting the DEIR.

³ <http://www.mass.gov/eea/docs/eea/energy/cca/eea-climate-adaptation-report.pdf>

Construction Period Impacts

The DEIR should describe construction sequencing, methodology and staging activities and identify any special measures that may be necessary to prepare the project area (i.e. removal of trees, clearing of vegetation, abandonment of structures, etc.) prior to raising the maximum normal pool elevation. It should describe potential construction period impacts (including but not limited to traffic management, parking, air quality and noise impacts) and outline feasible measures that can be implemented to eliminate or minimize these impacts in a draft Construction Management Plan (CMP). The draft CMP should include appropriate erosion and sedimentation control BMPs. The Proponent should adopt erosion and sedimentation controls consistent with a Stormwater Pollution Prevention Plan prepared in accordance with the NPDES Construction General Permit requirements. The DEIR should elaborate on how quickly the reservoir impoundment will be increased to the proposed final elevation (El. 40.4). It should describe any pre-construction protocols to inform abutters of the increased water elevation in conjunction with the project.

I strongly encourage the Proponent to ensure contractors install emission control devices on all off-road vehicles in an effort to reduce emissions of volatile organic compounds (VOCs), carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD).

Mitigation and Draft Section 61 Findings

The DEIR should provide a separate chapter summarizing proposed mitigation measures including draft Section 61 Findings for each anticipated State Agency Action. The DEIR should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and include a schedule for implementation.

Response to Comments

The DEIR should contain a copy of this Certificate and a copy of each comment letter received. To ensure that the issues raised by commenters are addressed, the DEIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to enlarge the scope of the DEIR beyond what has been expressly identified in this Certificate. I recommend that the Proponent use either an indexed response to comments format, or a direct narrative response.

Circulation

The Proponent should circulate the DEIR to those parties who commented on the ENF, to any State Agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. A copy of the DEIR should be made available for review at the Scituate Public Library. The DEIR submitted to the MEPA office should include a digital copy (e.g., CD-ROM, USB drive) of the complete document.

July 21, 2017

Date



Matthew A. Beaton

Comments received:

06/27/2017 Department of Conservation and Recreation (DCR)
06/30/2017 Massachusetts Department of Transportation (MassDOT)
07/07/2017 U.S. Environmental Protection Agency (EPA)
07/11/2017 U.S. Army Corps of Engineers (ACOE)
07/11/2017 Division of Marine Fisheries (DMF)
07/11/2017 Massachusetts Department of Environmental Protection (MassDEP)
07/11/2017 North South River Watershed Alliance (NSRWA)

MAB/PRC/prc



Commonwealth of Massachusetts
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Charles D. Baker
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Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

July 11, 2017

Mathew A. Beaton,
Secretary of Environment and Energy
ATTN: MEPA Office
Executive Office of Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: ENF Review EOEEA #15711
SCITUATE. Reservoir Dam Water Storage
and Fish Passage Improvement at 430 Chief
Justice Cushing Highway

Dear Secretary Beaton,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Notice of Project Change (NPC) for the proposed Reservoir Dam Water Storage and Fish Passage Improvement, located at 430 Chief Justice Cushing Highway, Massachusetts for the proposed (EOEEA # 15711). The Project Proponent provides the following information for the Project:

The purpose of the Reservoir Dam Water Storage and Fish Passage Improvement Project is to provide water storage for the Town of Scituate's public water supply while providing BIOQ10 flows to maintain aquatic habitat downstream of Reservoir Dam and Old Oaken Bucket Pond and effective fish passage at the Reservoir Dam fishway. Since the dam is classified as a Class I high hazard dam, modifications to the spillway are included in this Project to increase the discharge capacity for the design flood equal to one-half the Probable Maximum Flood (1/2 PMF) in accordance with Massachusetts General Law c.253, Section 46 and 301 Code of Massachusetts Regulations (CMR) 10.07. Modifications to the dam, spillway, and fishway conform to the dam safety regulations and will be approved by the Department of Conservation and Recreation (DCR), Office of Dam Safety (ODS).

Bureau of Water Resources Comments

Water Management Program Comments: The Water Management Program has reviewed the Environmental Notification Form (ENF) submitted by the Tetra Tech on behalf of the Town of Scituate for the Reservoir Dam Water Storage and Fish Passage Improvement Project, and in accordance with the Water Management Act (WMA), M.G.L. c. 21G, offers the following comments.

The Town of Scituate is currently authorized to withdraw up to 1.80 million gallons of water per day (MGD) from ground and surface water supplies in the South Coastal Basin under its Water Management Act (WMA) Registration #421264.01 and Permit #9P4421264.02. In addition, the following permit conditions relate to the proposed Project:

- requires Scituate to work with the Scituate Water Study Committee and First Herring Brook Watershed Initiative to refine and implement the minimum flow targets contained in the First Herring Brook Interim Operational Plan; and
- caps maximum withdrawals from Scituate's reservoir system at an average annual daily withdrawal of 0.79 MGD, based on the Old Oaken Bucket Pond Firm Yield Study, dated June 2003, which determined the firm yield for the reservoir system during the drought of record (1960's drought) with no downstream releases.

According to the Annual Statistical Reports (ASRs), the Town of Scituate has been withdrawing water below its total authorized volume in recent years (1.35 MGD in 2016, 1.47 MGD in 2015 and 1.54 MGD in 2014), and around 21% of its water supply enters the distribution system from the Old Oaken Bucket Pond, which is a relatively small reservoir and is supplemented by the Main Reservoir and by water pumped from Well 17A. During the drought period in 2016, the Main Reservoir had been reportedly under 25% full. The Project Proponent proposes raising the water levels in the Main Reservoir to provide additional water storage for the Town of Scituate's public water supply while making downstream releases to provide enough flow in First Herring Brook to maintain effective fish passage at the Main Reservoir Dam fishway. The Water Management Program has concerns over how the proposed operating scenario may impact the firm yield of the Main Reservoir.

The firm yield of a reservoir is the maximum average daily withdrawal that can be guaranteed from a reservoir without risk of failure during an extended drought period. The report "Refinement and Evaluation of the Massachusetts Firm-Yield Estimator Model Version 2.0" (SIR 2011-5125) published by the U.S. Geological Survey in 2011, evaluated the firm yield for the Scituate's Main Reservoir under several scenarios:

- operating at 100 percent reliability, with no controlled releases, the firm yield of the Reservoir is 0.63 MGD;
- operating at 100 percent reliability, with 10th-percentile monthly flow releases, the firm yield for the Reservoir is 0.13 MGD.

In the ENF, the Proponent did not specify the target flow releases from the Reservoir which makes it unclear how the combined increase in storage and target flow releases for fisheries passage may affect the firm yield of the reservoir. Currently, under the First Herring Brook Interim Operational Plan and the Scituate's WMA permit, the Town of Scituate has authority to implement a total ban on nonessential outdoor water use when the Reservoir falls to El. 36 ft. and shutoff the flow releases when the Reservoir drops to El. 32.0 ft. It is not clear whether the Proponent expects to modify the triggers for the total water ban and the release shutoff. Therefore, the Water Management Program suggests the Proponent first clarify whether there will be changes to the triggers for implementing the nonessential outdoor water use and curtailing the water release. An update to the First Herring Brook Interim Operational Plan may be necessary should those triggers change. Then the Proponent should evaluate the firm yield of the Reservoir under each operating scenario comparable to the methodology of the USGS Firm-Yield Estimator Model Version 2.0. The Proponent should estimate the percentage of the time that the Town may have to shutoff the flow releases under each operating scenario. The Proponent should also specify how many days of outdoor water use restrictions and what levels of the outdoor water use restrictions will be implemented under each operating scenario.

This Project will likely require an amendment to the Town of Scituate's WMA permit, and the above data will help the Water Management Program to better evaluate how raising the Main Reservoir water levels and increasing downstream releases will affect the firm yield and benefit the Town's public water supply.

Wetlands Program Comments. The Scituate Reservoir Dam Water Supply Storage and Fish Passage Improvement Project proposes to alter 569,000 square feet (13 acres) of Bordering Vegetated Wetlands (BVW) to provide the Town of Scituate with a sustainable Public Water Supply as well as to restore the existing nonfunctional fishway. Because the amount of Bordering Vegetated Wetland (BVW) proposed to be altered is greater than 5,000 square feet (310 CMR 10.55(4)(b)), and there are no Limited Project provisions (310 CMR 10.53) applicable to this Project, a Variance will be required pursuant to 310 CMR 10.05(10). MassDEP notes that there may be exceedances of other regulatory standards as well. The Proponent has filed a Wetlands Notice of Intent (NOI) with the Scituate Conservation Commission (DEP File #68-2665). The Department's review indicates that the proposed Project does not appear to be a limited Ecological Restoration Project. Accordingly, it appears that the Conservation Commission must deny the Project pursuant to 310 CMR 10.05(6)(b) since the amount of BVW proposed to be altered exceeds 5,000 square feet. The procedures and standards to obtain a variance from the Wetlands Regulations are specified at 310 CMR 10.05(10)(a) and provide, in part, that:

The Commissioner may waive the application of certain portions of the [wetland] regulation(s) when [the Commissioner] finds, after opportunity for an adjudicatory hearing, that:

- (1) there are no reasonable conditions or alternatives that would allow the Project to proceed in compliance with the regulations;
- (2) mitigating measures are proposed that will allow the Project to be conditioned so as to contribute to the protection of the interests identified in the Wetlands Act; and
- (3) the variance is necessary to accommodate an overriding community, regional, state or national public interest.

In addition to the Variance, a 401 Water Quality Certificate is required from MassDEP pursuant to 314 CMR 9.04(1) and (2).

The Project requires a mandatory Environmental Impact Report to be prepared since more than 1-acre of BVW is proposed to be altered (301 CMR 11.03(3)(a)1.a.); more than 10-acres of other wetland resource area is proposed to be altered (301 CMR 11.03(3)(a)1.b. - Bordering Land Subject to Flooding); the Project requires a Variance to the Massachusetts Wetlands Protection Act (301 CMR 11.03(3)(a)2.); and the structural alteration to the existing dam will expand the impoundment capacity by at least 20% (301 CMR 11.03(3)(a)4.). In addition, the Project trips the MEPA Floodway threshold (301 CMR 11.03(3)(b)1.e.) since the dam crest is proposed to be raised and riprap is proposed to be placed along Rt. 3A within the FEMA designated Floodway. The Floodway is located within BLSF or other wetland resource areas.

The Project Proponent must address the three Variance criteria indicated above when filing for a Wetlands Protection Act Variance, and to the extent possible, these criteria should be addressed in the Environmental Impact Report. To address the overriding public interest, the Variance application must document the need to provide additional water storage in the Scituate reservoir to meet water supply needs, including documentation of current use, projected demand, water conservation efforts, storage needed to comply with Scituate's Water Management Permit Special Condition 6, Development of Minimum Streamflow Targets for Fish Passage, and the impact of the Project on the

firm yield of the Scituate Reservoir system. Additionally, the demonstration of need to restore the existing nonfunctional fishway should include comment from the Massachusetts Department of Fish and Game, as well as an analysis to examine alternatives to balance the Public Water Supply, flood control, storm damage prevention, wildlife habitat and fish passage needs. There was an insufficient amount of water released from the Scituate Reservoir to further fish passage in the First Herring Brook at least 20% of all days between October 2013 and the present (as recorded at the Massachusetts Riverways RIFLS stream gage located immediately downstream of the Scituate Reservoir). The alternatives analysis needs to examine issues with releasing sufficient water to the First Herring Brook year round from Tack Factory Pond, Scituate Reservoir, and Old Oaken Bucket reservoirs to provide streamflow depths to permit fish movement. Also, the alternatives analysis needs to examine the feasibility of enlarging the existing stream culverts that convey the First Herring Brook from Tack Factory Pond to the North River that currently appear to provide physical impediments to fish passage (including the New Driftway and Route 3A stream culverts). To be effective at providing fish passage, the restoration of the existing nonfunctional fish passageway needs to be partnered with stream flow restoration and enlarged stream culverts in the First Herring Brook.

The Project Proponent has estimated that 13 acres of BVW will be altered to increase the normal pool surface of the Scituate Reservoir and Tack Factory Pond by 1.5 feet over existing conditions. These wetlands are classified as Outstanding Resource Waters (ORW) of the Commonwealth to protect the Public Drinking Water supply. Elevating the water surface of the Scituate Reservoir and Tack Factory Pond will inundate the existing BVWs, converting shrub swamps and forested bordered vegetated wetlands to open water or other wetland types. For example, the existing woody trees and shrubs located in the BVWs will likely die due to the change in hydroperiod, and the shrub swamps and forested wetlands may transition to other wetland types such as open water or deep marsh. MassDEP recognizes that the water level in Scituate Reservoir and Tack Factory Pond fluctuates, especially during summer and autumn months due to demand. The Project Proponent should evaluate the alterations to wetland resource area types assuming complete inundation by the proposed new normal pool elevation and compare that to the wetland types that currently exist with the current normal pool elevation. The fluctuations that currently occur above and below the existing normal pool elevation would also be expected to occur with the proposed normal pool elevation. The change in wetland type from forested wetland and shrub swamp to open water and other wetland types (i.e. shrub swamp, marsh etc.) needs to be quantified. Converting BVW to land under water is considered a loss. The alternative analysis shall include measures to avoid, minimize, and then mitigate the proposed BVW loss. Alternatives to mitigate the loss and other alteration due to increased inundation of wetlands need to be analyzed in the Environmental Impact Report.

New fill is proposed within the FEMA designated Floodway of Bordering Land Subject to Flooding, Bank, or Land Under Water at the dam crest and along Route 3A. The Floodway is the portion of the FEMA designated flood prone area where no increase to the vertical and horizontal extent of flooding is allowed. This FEMA requirement coincides with 310 CMR 10.57 of the Wetland regulations which does not allow any increase to the vertical or horizontal extent of flooding, up to and including the 100-year flood. The proposed fill will increase the vertical and horizontal extent of the 100-year flood. The Proponent estimates that the proposed fill will increase the horizontal extent of flooding and the BLSF boundary by 17 acres. As no increase to the vertical and horizontal flooding is allowed by the FEMA floodway requirements and 310 CMR 10.57, the Proponent must either file a Conditional Letter of Map Revision (CLOMR) with FEMA, requesting a written opinion as to whether the Project as proposed complies with the FEMA floodway requirements or file a Letter of

Map Revision (LOMR) with FEMA requesting to increase the 100-year flood elevation. The Proponent should evaluate whether the increase to the flood elevation will extend onto properties not owned or controlled by the Town of Scituate, including whether the proposed increase will cause Route 3A to flood at a greater frequency. To mitigate flood increases, the Proponent is encouraged to obtain flood easements for any increased flooding on offsite properties as well as to increase the size of the stream culvert connecting Tack Factory Pond to the Scituate Reservoir.

The existing stormwater discharges directed from the causeway (Route 3A) impounding Tack Factory Pond do not appear to be specifically exempted from compliance with the stormwater standards pursuant to 310 CMR 10.05(6)(l) and 314 CMR 9.06(6)(b). As part of the Project, riprap is proposed to be placed in land under water and bank along the Route 3A. Provided no additional impervious area is proposed to be created, the Project would appear to be eligible to be considered a redevelopment for purposes of the stormwater standards. Redevelopment Projects are only required to demonstrate compliance with the stormwater standards to the maximum extent practicable in accordance with 310 CMR 10.05(6)(k)7 and 314 CMR 9.06(6)(a)7. Alternatives to address the Stormwater requirements specified at 310 CMR 10.05(6)(k) and 314 CMR 9.06(6)(a) should be evaluated to examine alternatives to improve the water quality of stormwater that is currently discharged directly to the Scituate Reservoir and Tack Factory Pond from the drainage system located on the causeway (Route 3A) between the Scituate Reservoir and Tack Factory Pond.

Waterways Program Comments. The Public Waterfront Act, M.G.L. c.91 and its regulations at 310 CMR 9.00 regulates activities within waterways, including certain non-tidal rivers and streams. Based on a review of the ENF, various maps and aerial photographs of the area, the Waterways Program has determined that First Herring Brook, including the reservoir and Tack Factory Pond which were created by damming a portion of the waterway, are likely subject to Chapter 91 jurisdiction pursuant the Waterways Regulations at 310 CMR 9.04. The Waterways Program has performed a cursory review of its data base and found no prior Chapter 91 authorization for the existing dam or culvert structures. In order to make a conclusive determination as to whether these waterways are jurisdictional, the Proponent may file a Request for Determination of Applicability pursuant to the Waterways Regulations at 9.06. Assuming that these waterways are subject to Chapter 91 jurisdiction, with the preparation of the EIR, the Proponent should conduct additional research to confirm that no licenses, contracts or legislative grants have been issued for the dam and the culvert structures at Route 3A. The EIR should also evaluate the different components of the Project to determine whether they may be exempt from licensing pursuant to 310 CMR 9.05 (3)(c) & (g). This information will be used by MassDEP to determine whether a License or Permit application will be required.

Bureau of Waste Site Cleanup Comments

The Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the proposed Project area. A disposal site is a location where there has been a release to the environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

There are no listed MCP disposal sites located at or in the vicinity of the site that might impact the proposed Project. Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer (Oliver) at: http://maps.massgis.state.ma.us/map_ol/oliver.php. Under “Available Data Layers” select Regulated Areas”, and then “DEP Tier Classified 21E Sites”. The

compliance status and report submittals for specific MCP disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at:

<http://public.dep.state.ma.us/SearchableSites2/Search.aspx>

The Project Proponent is advised that if oil and/or hazardous materials are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup.

Bureau of Air and Waste Comments

Air Quality. Construction and operation activities shall not cause or contribute to a condition of air pollution due to dust, odor or noise. To determine the appropriate requirements please refer to:

310 CMR 7.09 Dust, Odor, Construction, and Demolition

310 CMR 7.10 Noise

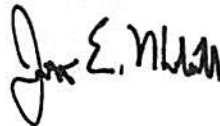
Massachusetts Idling Regulations. MassDEP requests that the Proponent state specifically in the subsequent environmental filing how it plans to prohibit the excessive idling during the construction period. Typical methods of reducing idling include driver training, periodic inspections by site supervisors, and posting signage. In addition, to ensure compliance with this regulation once the Project is occupied, MassDEP requests that the Proponent establish permanent signage limiting idling to five minutes or less at the completed Project.

Proposed s.61 Findings

The "Certificate of the Secretary of Energy and Environmental Affairs on the Environmental Notification Form" may indicate that this Project requires further MEPA review and the preparation of an Environmental Impact Report. Pursuant to MEPA Regulations 301 CMR 11.12(5)(d), the Proponent will prepare Proposed Section 61 Findings to be included in the EIR in a separate chapter updating and summarizing proposed mitigation measures. In accordance with 301 CMR 11.07(6)(k), this chapter should also include separate updated draft Section 61 Findings for each State agency that will issue permits for the Project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this proposed Project. If you have any questions regarding these comments, please contact George Zoto at (508) 946-2820.

Very truly yours,



Jonathan E. Hobill,
Regional Engineer,
Bureau of Water Resources

JH/GZ

Cc: DEP/SERO

ATTN: Millie Garcia-Serrano, Regional Director
David Johnston, Deputy Regional Director, BWR
Maria Pinaud, Deputy Regional Director, BAW
Gerard Martin, Deputy Regional Director, BWSC
Jennifer Viveiros, Deputy Regional Director, ADMIN
Allen Hemberger, Site Management/BWSC
Jim Mahala, Section Chief, Wetlands and Waterways, BWR
David Hill, Wetlands and Waterways, BWR
Lealdon Langley, Director, Wetlands and Waterways, BWR, Boston
Thomas Maguire, Wetland and Waterways, BWR, Boston
Michael Stroman, Wetlands and Waterways, BWR, Boston
Lisa Rhodes, Wetlands and Waterways, BWR, Boston
Duane LeVangie, Section Chief, Water Management Program, BWR, Boston
Elizabeth McCann, Water Management, BWR, Boston
Shi Chen, Water Management, BWR, Boston.



David E. Pierce
Director

Commonwealth of Massachusetts

Division of Marine Fisheries

251 Causeway Street, Suite 400

Boston, Massachusetts 02114

(617) 626-1520

fax (617) 626-1509



Charles D. Baker
Governor

Karyn E. Polito

Lieutenant Governor

Matthew A. Beaton

Secretary

George N. Peterson, Jr.

Commissioner

Mary-Lee King

Deputy Commissioner

July 11, 2017

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Page Czepiga, EEA No. 15711
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Beaton:

The Division of Marine Fisheries (*Marine Fisheries*) has reviewed the Environmental Notification Form by the Town of Scituate for the Reservoir Dam Water Storage and Fish Passage Improvement Project on First Herring Brook in the Town of Scituate. Proposed improvements described in the design plans include raising the Reservoir Dam impoundment and Tack Factory Pond 1.5 feet above the existing maximum normal pool elevation and modifying the spillway to lower the crest to 36.4 feet elevation. The overall storage capacity of the reservoir will be increased by 23%. The fishway exit channel would be lowered and a removable weir would also be incorporated into the new design to facilitate diadromous fish passage at all water levels. Existing marine fisheries resources and potential project impacts are outlined in the following paragraphs.

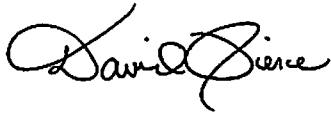
First Herring Brook currently supports a variety of diadromous fish species. Specifically, alewife (*Alosa pseudoharengus*), rainbow smelt (*Osmerus mordax*), and American eel (*Anguilla rostrata*) are all present in this system (Evans et al. 2011).

Marine Fisheries offers the following comments for your consideration:

- To protect existing diadromous fish resources, in-water construction activities should be sequenced to avoid spring spawning migrations (rainbow smelt and alewives) and glass eel immigrations from **March 1 to June 30**.
- More information is needed on the construction schedule and related in-water work to determine if construction activities should be sequenced to avoid fall migrations. Specifically, more information is required on proposed water control and silt containment measures during the summer and fall seasons to ensure that passage and downstream habitats are not impacted during this time period. An addition fall TOY restriction of **September 1 to November 15** may be required if construction activities cannot maintain adequate passage and containment of silt-producing work.
- This project will require a Fishway Construction Permit from *Marine Fisheries*. Our staff will work with the Town of Scituate during this process to prepare a final design plan and Operation and Maintenance (O&M) Plan for the diadromous fish passage facilities. The O&M plan will be essential for providing outflow to support river herring migrations.

Questions regarding this review may be directed to John Logan in our New Bedford office at (508) 990-2860 ext. 141.

Sincerely,



David E. Pierce, Ph.D.
Director

cc: Scituate Conservation Commission
Tom Cook, Tetra Tech, Inc.
Christopher Boelke & Alison Verkade, NMFS
Robert Boeri, CZM
Ed Reiner, EPA
Ken Chin, DEP
Richard Lehan, DFG
Kathryn Ford, Brad Chase, Pooja Potti, DMF

References

Evans NT, Ford KH, Chase BC, Sheppard J (2011) Recommended Time of Year Restrictions (TOYs) for Coastal Alteration Projects to Protect Marine Fisheries Resources in Massachusetts. Massachusetts Division of Marine Fisheries Technical Report, TR-47.

DP/JL/BC/sd



June 27, 2017

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, Page Czepiga
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

RE: EOEEA # 15711 Reservoir Dam Water Storage and Fish Passage Improvement

Dear Secretary Beaton:

The Department of Conservation and Recreation ("DCR") Office of Dam Safety ("ODS") has reviewed the Environmental Notification Form ("ENF") for the Reservoir Dam Water Storage and Fish Passage Improvement project located in the Town of Scituate submitted by the Town of Scituate, Department of Public Works (the "Proponent"). For clarification the Reservoir dam referred to in the ENF is defined in ODS records as First Herring Brook Reservoir dam, National ID: MA00478.

Background

ODS notes that First Herring Brook Reservoir dam is classified as "High Hazard Potential" dam in Good condition. Dams are deemed to be a High Hazard Potential where dam failure will likely cause loss of life and serious damage to home(s), industrial or commercial facilities, important public utilities, main highway(s), or railroad(s).

Project Description

As described in the ENF, the selected alternative for First Herring Brook Reservoir dam modification will include lowering of the spillway structure and spillway crest elevation and installation of a bottom hinged crest gate, lowering of the fishway exit channel and modification of the existing weirs within the fishway. These modifications are required to provide fish passage for anadromous species during reservoir operating levels during the spring and fall fish migration periods as well as providing additional water supply storage. ODS understand that the modifications will result in raising the normal reservoir level by 1.5 feet. Therefore, the Proponent will need to address spillway capacity and appropriate freeboard considerations in the final design.

A Dam Safety Chapter 253 permit will be processed and issued by ODS upon receipt of all required technical submittals that are in accordance with the dam safety regulations. As with any dam modification project, the Proponent will have to prepare a final design that will result in construction of a spillway that is compliant with the Spillway Design Flood ("SDF") requirements of the dam safety regulations. ODS is available to provide additional guidance through the permitting process.

DCR appreciates the opportunity to comment on this project. Please contact Mark Geib at (617) 626-1396 with any questions or to request additional information or coordination with the Office of Dam Safety.

COMMONWEALTH OF MASSACHUSETTS · EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS

Department of Conservation and Recreation
251 Causeway Street, Suite 600
Boston MA 02114-2119
617-626-1250 617-626-1351 Fax
www.mass.gov/dcr



Charles D. Baker
Governor

Karyn E. Polito
Lt. Governor

Matthew A. Beaton, Secretary, Executive
Office of Energy & Environmental Affairs

Leo Roy, Commissioner
Department of Conservation & Recreation

Sincerely,

A handwritten signature in blue ink, appearing to be 'Leo Roy', written in a cursive style.

Leo Roy
Commissioner

cc: Norman Orrall, DCR Chief Planning and Engineering
William Salomaa, Dam Safety Director
Nat Tipton, MEPA Review Coordinator



July 11, 2017

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Page Czepiga, EEA No. 15711
100 Cambridge Street, Suite 900
Boston MA 02114
Via email: page.czepiga@state.ma.us

RE: EEA# 15711 Scituate Reservoir Dam Storage and Fish Passage Improvement

Dear Ms. Czepiga:

The North and South Rivers Watershed Association (NSRWA) would like to offer the following comments and support of the Town of Scituate's proposal EEA #15711 Reservoir Dam Storage and Fish Passage Improvement project. The NSRWA has partnered with the Town of Scituate, Division of Ecological Restoration, Massachusetts Bays Program, and multiple other state, federal and nonprofit agencies and groups for a decade plus to restore more natural streamflow regimes in the First Herring Brook and aquatic habitat for migratory and resident fish populations in this system. This partnership approach has led to the current proposal under review – to raise the reservoir and make changes to infrastructure that are needed to allow for fish passage into the 80 plus acre town reservoir and provide the town with drought resiliency through additional storage.

The NSRWA has been a supportive and integral partner to the town of Scituate by providing technical support, and public outreach and education on the need for water conservation and the environmental impact the water supply has had on the First Herring Brook habitat. There have been multiple years of effort and projects that have helped the town to balance streamflow with water supply needs in the system. The town has implemented many of the conservation recommendations needed to balance demand with streamflow requirements including reducing their nonessential outdoor water use by over 300,000 gallons per day via irrigation system restrictions, banning new irrigation hook ups to the public water supply system and leak detection and pipe replacement efforts. In addition, they have undertaken infrastructure improvements to the Old Oaken Bucket fish ladder to make it passable for fish, implemented a streamflow release plan that maintains wetted habitat in between the Reservoir and Old Oaken Bucket pond and downstream of it. These efforts have allowed some limited returns of river herring to the lower portion of the system but the Reservoir remains unavailable for fish passage due to the design of the fish ladder exit and spillway elevation. The only remedy that will allow fish passage at this site will be to raise the dam and lower the fishway exit. These infrastructure improvements along with the increased storage that will provide the town more drought resiliency make this project in our

The North & South Rivers Watershed Association Inc.
P.O. Box 43, Norwell, Massachusetts 02061
(781) 659-8168 Fax (781) 659-7915
www.nsrwa.org



NSRWA

opinion a unique habitat restoration effort that benefits people and nature and ready the town for future climate change.



The MEPA process provides guidance to permitting authorities on impacts and mitigation to those impacts from development projects. This project is singularly unusual in that it is meeting the needs of both water supply improvements and habitat restoration for migratory fish passage. The raising of the reservoir will inundate bordering vegetated wetlands along the reservoir for longer periods than they currently experience. How much longer will depend upon water demands and precipitation patterns in any given year. The areas to be inundated currently experience flooded conditions, this project only lengthens and increases the frequency that these conditions would be experienced. We would hope that because of the net environmental benefit that this project will bring, for which there is no feasible alternative, would provide some relief from traditional wetland mitigation requirements as this is a nontraditional project.

One concern we have is that the town, while doing an exemplary job of conserving water, will be under continued pressure to increase their water demand through new development. Indeed today they have many new development projects that will need water and are already in the pipeline. In order to meet streamflow releases at the fish ladder the town will need to offset new demands with conservation in order to keep water demand flat at the 2011-2015 which is 1.5 MGD. The town's recently approved water conservation plan recommends that the town implement a water banking program that at a minimum requires 1:1 offset for new development – or if possible a 2:1 offset for new development that provides the town a mechanism for funding water conservation projects in the community and keeps the demand flat at current levels. The water conservation plan has been referenced in the town's Water Management Act Permit and the Water Resources Committee has it on their agenda for the future but in order to assure the environmental benefits of this project for the long term the demand must be stabilized at current levels.

We look forward to working with the town, state, and federal agencies to see this project through completion. We wish to reiterate our support for this project as a habitat restoration project that is unique and exemplary in the Commonwealth.

Sincerely,

Samantha Woods
Executive Director, NSRWA



Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO

massDOT
Massachusetts Department of Transportation

June 30, 2017

Matthew Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114-2150

RE: Scituate: Reservoir Dam Water Storage and Fish Passage Improvement – ENF
(EEA #15711)

ATTN: MEPA Unit
Page Czepiga

Dear Secretary Beaton:

On behalf of the Massachusetts Department of Transportation, I am submitting comments regarding the proposed Reservoir Dam Water Storage and Fish Passage Improvement in Scituate, as prepared by the Office of Transportation Planning. If you have any questions regarding these comments, please contact J. Lionel Lucien, P.E., Manager of the Public/Private Development Unit, at (857) 368-8862.

Sincerely,

David J. Mohler
Executive Director
Office of Transportation Planning

DJM/jll

cc: Jonathan Gulliver, Acting Administrator, Highway Division
Patricia Leavenworth, P.E., Chief Engineer, Highway Division
Mary-Joe Perry, District 5 Highway Director
Neil Boudreau, State Traffic Engineer
Town of Scituate, Planning Board
PPDU Files



Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO



MEMORANDUM

TO: David J. Mohler, Executive Director
Office of Transportation Planning

FROM: J. Lionel Lucien, P.E., Manager
Public/Private Development Unit

DATE: June 30, 2017

RE: Scituate: Reservoir Dam Water Storage and Fish Passage Improvement – ENF
(EEA #15711)

The Public/Private Development Unit (PPDU) has reviewed the Environmental Notification Form (ENF) for the Reservoir Dam Water Storage and Fish Passage Improvement project in Scituate. Reservoir Dam is a 4.3 square mile watershed located along both sides of Route 3A (Chief Justice Cushing Highway), midway between its intersections with First Parish Road and the Greenbush Rotary. The purpose of the project is to provide water storage for the Town of Scituate's public water supply and effective fish passage at the Reservoir Dam fishway. The proposed plans for the project are to raise the Reservoir Dam impoundment and Tack Factory Pound by about 1.5 feet above the existing maximum pool elevation. The dam spillway will be modified to lower the crest and install a bottom hinged crest gate. The existing fishway at Reservoir Dam will also be modified to lower the fishway exit channel into the impoundment and incorporate removable weirs to provide passage of anadromous species at all reservoir water levels during the spring and fall migration periods.

The Proponent has stated that the 1.5 foot increase in normal pond elevations will not impact the existing stormwater system on Route 3A; however, this roadway is already within the floodzone, and any increase in elevation may exacerbate conditions in a storm scenario. The Proponent should provide the MassDOT Highway Division District 5 Office with the appropriate analysis and/or mitigation plan to minimize flooding impacts on Route 3.

As part of the project, the Proponent proposes to install stone riprap along the northeast and southeast sides of Route 3A for erosion control. The Proponent has indicated that Best Management Practices (BMPs) will be utilized during construction and will include at a minimum erosion and sedimentation control, silt and turbidity curtains, and a storm retention pond for construction area runoffs. A MassDOT Non-Vehicular Access Permit will be required to armor the banks within the State Highway Layout.

MassDOT recommends that no further environmental review be required based on transportation issues. The details of the above and any other access-related issues can be addressed during the permitting process for the project. If you have any questions regarding these comments, please contact me at (857) 368-8862.

Czepiga, Page (EEA)

From: Wilkinson, Sarah A CIV USARMY CENAE (US) <Sarah.A.Wilkinson@usace.army.mil>
Sent: Tuesday, July 11, 2017 9:09 AM
To: Czepiga, Page (EEA)
Subject: EEA 15711 Reservoir Dam Water Storage and Fish Passage Improvement Scituate

Page,

Please consider the bellow as comment to Secretary Beaton on the proposed project: Reservoir Dam Water Storage and Fish Passage Improvement EEA 15711

From the project plans it is difficult to gleam if there are any proposed jurisdiction impacts; however, from discussing project with agent it sounds like there is some proposed fill in wetlands/below OHWL. It is possible the Corps Self-Verification process could suffice but this will depend on the degree of impact.

If the project does not meet Self Verification limits/conditions and a Corps application (PCN) needs to be filed, plan drawings need to reflect Corps jurisdictional boundaries: wetland line and OHWL (i.e. not "edge of water").

Flooding land is not considered a jurisdiction impact that the Corps directly authorizes, only placement of fill or mechanized clearing/re-grading. However, FEMA should be contacted about project if that hasn't been done already.

If/when Corps application is filed, the project description should be put in terms of impacts to Corps jurisdictional resources, separated into wetland fill vs. fill below OHWL, permanent vs. temporary fill. Example:

Place X square feet of rip rap below OWHL

Place X square feet of gravel below OHWL to raise elevation to entrance/exit of fish ladder

Place X square feet of fill in wetlands for construction access (if applicable)

Place X square feet of temporary fill below OHWL for coffer dam (if applicable)

Clear X square feet of wetland via mechanized clearing (if applicable)

Sincerely, Sarah Wilkinson

Czepiga, Page (EEA)

From: Reiner, Edward <reiner.ed@epa.gov>
Sent: Friday, July 07, 2017 11:31 AM
To: Czepiga, Page (EEA)
Cc: Langley, Lealdon (DEP); Freed, Rachel (DEP); Chase, Brad (FWE); Feeney, Eileen (FWE); Kevin R. Kotelly; LeClair, Jacqueline; Logan, John (FWE); Rhodes, Lisa (DEP)
Subject: EEA No. 15711 - Scituate Reservoir Dam water storage and fish passage project.

EPA has reviewed the Environmental Notification Form and attended the June 21, 2017 MEPA meeting for the Scituate Reservoir Dam water storage and fish passage project and offers the following comments. We commend the Town for their interest and actions over many years intended to improve anadromous fish passage at the Scituate Reservoir Dam. The project has the potential to improve conditions for fish passage by the intended construction and operation of new gates to control water levels, increase storage capacity, and control flow releases for the fish ladder and downstream fish passage.

Wetlands:

Further information on the extent of expected changes to wetlands vegetation should be provided in the Environmental Impact Report. Since normal pool levels will be increased for both Tack Factory Pond and Scituate Reservoir, forested, scrub/shrub, and emergent wetlands may be affected by the longer duration inundation patterns associated with the higher normal pool level reservoir management. Some wetlands may be converted to open water. Mitigation for wetland losses may be required to comply with Section 230.10(d) of the EPA 404(b)(1) Guidelines.

In this particular case, there has been an estimated potential impact to 13 acres of wetlands. EPA understands that these wetlands are already subject to fluctuating water levels. The proposed project would be expected to lessen the fluctuations and restore water to the wetlands around the reservoir and Tack Factory Pond. Some loss of wetlands to open water may also occur where the wetlands cannot tolerate the higher normal pool water levels. The majority of the potential wetland vegetation changes would be expected to occur on the Tack Factory Pond area.

The Tack Factory Pond area is already held at a higher normal pool level with gates that are closed all the time. Water runs over an outlet structure by the gates. During the June 21 site visit, the gate structure had water milfoil accumulating against the structure which actually caused water levels to be slightly higher at Tack Factory Pond as compared to a condition without the accumulating vegetation at the outlet.

Flooding concerns:

EPA understands that water levels at Tack Factory Pond are affected by back water conditions at Scituate Reservoir, as well as the water level control gates at the outlet of Tack Factory Pond. The new adjustable gate control at the Reservoir Dam is intended to be used to control potential flooding. The EIR should include an analysis to determine if the capacity of the culvert is sufficient to accommodate the expected higher normal water levels, during storms without flooding of Chief Justice Cushing Highway or other property around the pond. Since the gates at Tack Factory Pond are normally in a closed position, and weeds accumulate against the gate structure artificially raising water levels, the gates themselves may need to be modified to avoid flooding impacts to upstream properties.

Efficacy for fish passage:

Fish passage improvements may not result in increased fish populations in part due to the potential outflow inadequacy in low precipitation years. In addition, EPA understands there has been some concern expressed about the poor water quality conditions in the ponds not being favorable for the fish. Without addressing the poor water quality of the pond, there is some concern that even with a better fish passage facility, the pond would not support a population of anadromous fish.

The operation and maintenance plan should include specific requirements for maintaining suitable outflow conditions. These requirements should be included in permit conditions. Requirements for conservation of water and restrictions during drought should also be detailed in order to provide adequate flow for fish passage.

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