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April 2, 2021

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

PROJECT NAME	: Collins Pond Dam Rehabilitation
PROJECT MUNICIPALITY	: Andover
PROJECT WATERSHED	: Ipswich
EEA NUMBER	: 16329
PROJECT PROPONENT	: Massachusetts Department of Conservation and Recreation
DATE NOTICED IN MONITOR	: February 24, 2021

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 Massachusetts Department of Conservation and Recreation (DCR) proposes to rehabilitate the Collins Pond Dam (dam) in the Town of Andover (Town) to address structural deficiencies and to bring the dam into compliance with the DCR's Office of Dam Safety (ODS) regulations (302 CMR 10.00). According to the ENF, the dam is considered a Significant Hazard Potential dam because failure of the dam may cause loss of life and serious damage to property. The dam was inspected and determined to be in poor condition because of its inability to safely pass the spillway design flood without overtopping, as well as a deteriorated concrete core wall with a notable leak within a repaired section right of the low-level outlet, areas of seepage and leakage along the downstream toe, an inoperable low-level outlet due to corrosion, a partially collapsed portion of the top of the pipe, and overgrown trees and brush on the embankment.

The project will enhance the resilience of the dam to minimize the potential for failure under existing and future conditions and to maintain its impoundment; it will not change the dam's impoundment capacity or change its hydraulic functions, such as flood attenuation. DCR is proposing repairs at the dam to provide a long-term solution to the noted deficiencies. Parking lot and access improvements are also proposed. The proposed dam repair program includes the following components:

- Cutting, clearing, and grubbing all trees, vegetation, and roots systems from the dam;
- Raising the earthen dam crest to eliminate reliance on the deteriorated concrete core/parapet wall, limit potential overtopping, and provide adequate freeboard;
- Re-grading the downstream slope to a more uniform and maintainable slope and improve stability;
- Removing accumulated debris and sediment and installing armor stone protection along the upstream slope;
- Providing fishing platforms along the upstream slope, including an Americans with Disabilities Act (ADA) compliant platform at the low-level outlet;
- Installing a dense grade path along the crest to facilitate maintenance and improve public access;
- Improving the primary spillway structure to address concrete deterioration and stability concerns; and,
- Improving the low-level outlet structure to restore operability.

Site improvements include the following components:

- Expanding parking to the west of the dam in the location of an existing path;
- Improving the fire road and additional parking east of the dam; and,
- Installing an ADA accessible canoe launch and dock in the location of an existing pond access path from the parking area south of Harold Parker Road.

Project Site

The 1.97-acre project site contains the Collins Pond Dam which is located within the Harold Parker State Forest in the Town of Andover. The dam impounds water along an unnamed tributary to the Skug River to create Collins Pond. Flow from the dam discharges downstream to Field Pond. The dam is located on the north side of Harold Parker Road. The dam is currently owned by DCR and the Harold Parker State Forest is responsible for operation and maintenance of the dam. The dam was constructed by the Civilian Conservation Corps (CCC) in the 1930's to create public infrastructure and support fish hatcheries. The dam no longer supports a fish hatchery, instead, it supports recreational uses.

Collins Pond Dam is an approximately 13-foot (ft) high by 280-ft long earthen embankment dam with an upstream concrete core wall/parapet wall and a downstream stone masonry wall. The top of the embankment has a width varying between approximately 8 ft and 20 ft, and the downstream slope varies from about 2H:1V (horizontal to vertical) to about 3H:1V. The concrete core wall runs along the upstream side of the dam, and extends approximately 3 ft above the surface of the embankment to form a parapet wall. The primary spillway is located about 25 feet from the left abutment, and consists of a 30-foot long broad-crested weir with vertical concrete training walls. The primary spillway discharges to an earthen stream channel that connects to Field Pond. The auxiliary spillway is an approximately 50-foot long broad crested weir at the right abutment. The crest of the auxiliary spillway is a low section of

the upstream core wall/parapet wall. The auxiliary spillway discharges to a gravel parking lot and then into Field Pond. The low-level outlet is located near the middle of the dam, and consists of a slide gate mounted on the upstream face of the core wall/parapet wall. The low-level outlet conduit is an approximately 27-inch diameter corrugated metal pipe that passes through the embankment and discharges at a stone masonry headwall at the toe of the downstream slope. The upstream portion of Field Pond, located along the downstream toe of the dam, is divided from the main portion of the Field Pond by Harold Parker Road. A 36-inch diameter culvert passes under the road and hydraulically connects the two sections of Field Pond. An abandoned fish hatchery building is located within Field Pond just downstream of the Collins Pond Dam low-level outlet. The hatchery is flooded, likely from backwater associated with Field Pond.

Collins Pond Dam has a maximum structural height of approximately 13 ft. The dam is a Small Size, Significant Hazard Potential structure and was rated in Poor Condition during the most recent Phase I Inspection on August 3, 2020. Due to its current condition, DCR's ODS issued a "Certificate of Non-Compliance and Dam Safety Order" requiring improvements to the dam to repair existing deficiencies.

The project site contains several wetland resource areas regulated under the Massachusetts Wetlands Protection Act (WPA). Wetland resource areas within the vicinity of the project include: Land Under Water (LUW), Riverfront, Bank and Bordering Vegetated Wetlands (BVW). There is also a small Isolated Vegetated Wetland (IVW) area located immediately downslope of the dam's concrete wall near the right abutment. The area appears to have been created by leakage through the wall. The area does not meet the size or depth-of-flooding criteria of jurisdictional wetlands under the WPA Regulations or Town's Bylaw.

According to the Massachusetts Historical Commission (MHC) Massachusetts Cultural Resource Information System (MACRIS) interactive map, the dam is located within the Harold Parker State Forest which is included in the MHC's Inventory of Historic and Archaeological Assets of the Commonwealth (Inventory). The 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 project site is not located within a mapped Federal Emergency Management Agency (FEMA) floodplain.

Environmental Impacts and Mitigation

Potential environmental impacts associated with the project include permanent and temporary impacts to wetland resource areas including 733 square feet (sf) of BVW (530 sf temporary and 203 sf permanent), 208,767.6 sf (4.79 acres) of LUW (205,167.6 sf temporary and 3,600 sf permanent), and 526 linear feet (lf) of Bank (200 lf temporary and 326 lf permanent). The project will alter approximately 1.15 acres of land in existing wooded and otherwise unaltered areas associated with clearing or modifications for dam safety and public use improvements. The project will add 15 new parking spaces for a total of 24 spaces.

Measures to avoid, minimize, and mitigate Damage to the Environment include a gradual drawdown of no more than two feet per day to minimize wetland impacts, replication of permanent impacts to BVW at a ratio of greater than 2:1,, restoration of any temporarily disturbed areas to pre-

construction conditions, loaming and seeding of disturbed areas, use of a gravel stabilized construction entrance, and installation of erosion and sedimentation controls during construction.

Jurisdiction and Permitting

This project is subject to MEPA review and preparation of an ENF pursuant to 301 CMR 11.03(3)(b)(1)(c) and to 301 CMR 11.03(3)(b)(1)(f) of the MEPA regulations because it requires an Agency Action and will result in the alteration of 500 or more lf of bank along a fish run or inland bank and the alteration of one-half or more acres of wetlands. The project will require a 401 Water Quality Certification (WQC) from the Massachusetts Department of Environmental Protection (MassDEP) and a Chapter 253 Dam Safety Permit from the DCR ODS.

The project requires an Order of Conditions (OOC) from the Andover Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from MassDEP); a submittal of a Pre-Construction Notification to the U.S. Army Corps of Engineers (ACOE) seeking authorization under the General Permits for Massachusetts in accordance with Section 404 of the federal Clean Water Act; review by MHC acting as the State Historic Preservation Officer (SHPO) pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (36 CFR 800); and a National Pollutant Discharge Elimination System Construction General Permit (NPDES CGP) from the U.S. Environmental Protection Agency (EPA).

Because the project will be undertaken by a State Agency, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

Review of the ENF

The ENF provides a description of existing and proposed conditions, preliminary project plans, and wetland delineation report. It identifies project elements and describes alternatives that were considered by DCR. It identifies existing environmental conditions including a hydrologic and hydraulic analysis, assesses potential environmental impacts, and identifies measures to avoid, minimize and mitigate impacts. Comments from MassDEP do not request additional analysis in the form of an EIR but identify additional information that should be provided during the permitting process. This information is detailed below.

Alternatives Analysis

As described in the ENF, alternatives were evaluated based on their ability to meet the project purpose while minimizing environmental impacts. The ENF evaluated the following alternatives: No-Build Alternative; Breaching of the Dam Alternative; Lowering of the Reservoir to Elevation 99.6 ft Alternative; and Dam Repair and Rehabilitation Alternative (the Preferred Alternative).

The No-Build Alternative would not result in any environmental impacts; however, it was not considered to be a viable alternative, as the dam would continue to deteriorate. Scour and channelization of the spillway downstream of the dam would continue to worsen and potentially impact wetlands and waterbodies. The Breaching of the Dam Alternative would include breaching or removal of the existing

dam structure and involve the opening of the dam or removal in order to permanently address ongoing issues with scour and channelization. Breaching the dam would render it incapable of impounding water. According to the ENF, this alternative was dismissed as it would result in greater and permanent impacts to LUW due to the removal of the dam, as well as degradation of recreational opportunities and aesthetic values.

The Lowering of the Reservoir to Elevation 99.6 ft Alternative would permanently lower the dam crest and spillway so that the structure is no longer considered a jurisdictional structure based upon maximum storage capacity. It would also include repairing the low-level outlet system and lowering the spillway crest by 1.9 ft and stabilizing remaining components. DCR indicates that this alternative would decommission the dam and was not selected because it would not meet the project goal of preserving the recreational, aesthetic, and ecological resources provided by Collins Pond.

The Dam Repair and Rehabilitation Alternative (the Preferred Alternative) in the ENF evaluated the use of cofferdams and temporarily lowering the water level in the impoundment as a means of water control during construction for repairs and rehabilitation. According to the ENF, the temporary drawdown of the impoundment was selected as the safest option as it eliminates the possibility of an uncontrolled release of water during construction, which may occur if a cofferdam is utilized and large stormwater flows occur during project construction. The ENF provides a detailed project description, additional analysis of elements of the Preferred Alternative and addresses how it meets the criteria used for evaluation. The design intent for this alternative is to provide safe access and reduce hydrostatic pressures during completion of the dam rehabilitation.

Wetlands

The drawdown of Collins Pond will result in temporary impacts to wetland resource areas. The Andover Conservation Commission will review the project to determine its consistency with the limited project provisions of the WPA, the Wetlands Regulations (310 CMR 10.00), and associated performance standards, including stormwater management standards (SMS). MassDEP will review the project to determine its consistency with the 401 WQC regulations (314 CMR 9.00). The ENF includes a wetland delineation report that characterized wetland resource areas within the project area consistent with the Wetlands Regulations.

The ENF describes the proposed impacts to each type of wetland resource area. Permanent impact to Bank will result from repair and replacement of the spillway and improvements to the low-level outlet structure to restore operability, and repair of riprap along the upstream dam embankment slope. Temporary Bank impacts will also occur due to vegetation removal and installation of erosion and sedimentation controls. Permanent LUW impacts will be limited to areas within the pond for embankment improvements and replacement of the primary spillway and improvements to the low-level outlet structure to restore operability. Temporary impacts to LUW will occur as a result of the proposed reservoir drawdown; approximately 4.71 acres of the reservoir bottom will be exposed. Temporary impacts to LUW are also associated with the installation of erosion and sedimentation controls.

Proposed improvements to the low-level outlet structure to restore operability, and repair of riprap will impact BVW, while additional temporary BVW impacts will occur in conjunction with vegetation removal that is required to comply with dam safety regulations. DCR will be required to

replicate BVW to mitigate unavoidable and permanent alteration of BVW. The ENF identifies two potential replication areas on-site that could provide a ratio greater than 2:1. DCR should work with MassDEP and the Andover Conservation Commission to select a suitable location to comply with the replication requirements of the Wetlands Regulations. MassDEP comments indicate that DCR should submit a final wetland replication plan with details of the replication area, including existing and proposed grades, depth to seasonal high groundwater, a planting plan and monitoring plan with the Notice of Intent (NOI). In addition, the NOI should include a plan for restoring temporarily disturbed BVW. The proposed work also proposes permanent impacts to a non-jurisdictional IVW resulting from changes to its hydrology. MassDEP requests that DCR demonstrate that the IVW is not hydrologically connected to any other resource area and that it is not functioning as a vernal pool.

The project requires a 401 WQC from MassDEP. The ENF indicates that the project qualifies as a Limited Project in accordance with 310 CMR 10.53(3)(i). The ENF includes a sediment characterization study completed by DCR, which should be included in the 401 WQC application to MassDEP. Dredged material is anticipated to be disposed of at an approved location off-site to be selected by the contractor. During the remote MEPA site visit held on March 3, 2021, DCR discussed how they propose to develop a water quality monitoring program to monitor oxygen levels within the refuge pool during the drawdown and an invasive species management plan for the areas affected by the drawdown.

Dam Safety / Climate Change Adaptation and Resiliency

Governor Baker's Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth (EO 569; the Order) was issued on September 16, 2016. The Order recognizes the serious threat presented by climate change and directs Executive Branch agencies 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) and will work to prepare state government and cities and towns for the impacts of climate change. I note that the MEPA statute directs all State Agencies to consider reasonably foreseeable climate change impacts, including additional greenhouse gas emissions, and effects, such as predicted sea level rise, when issuing permits, licenses and other administrative approvals and decisions.

The ENF did not directly examine climate resiliency during the design process but did identify the useful life[1] of the dam and described how the dam would comply with 302 CMR 10.00 Dam Safety Regulations. In accordance with these regulations, the spillway has been designed to pass one-half the Probable Maximum Flood (PMF). The PMF represents the most severe flood that is considered reasonably possible at a site as a result of the most severe combination of critical meteorological and hydrologic conditions possible in the region. For comparison, the ½ PMF event represents greater precipitation and peak discharge rates than those anticipated during 100-year and 500-year events. Hydrologic and hydraulic analyses indicate the dam will not be overtopped through the 500-year event. Because the ½ PMF event represents a conservative precipitation scenario that exceeds the 500-year event, this analysis appears to show that the dam will be resilient to future climate conditions with

[1] For the purpose of this certificate, "useful life" is understood to be the estimated number of years an asset will be in use before needing reinvestment to continue performing its normal function(s). The anticipated useful life assumes regular and adequate maintenance is implemented; this differs from the design life (or service life), which is typically shorter.

attendant increases in the severity and frequency of large storm events. However, given the long useful life of the project and flood protection functions served by the project, I encourage DCR to consider the best available climate data applicable during the useful life of the project when finalizing project design. For instance, the rainfall data used to design the spillway capacity may be increased by a factor of safety to reflect future climate conditions during the useful life of the project.

Cultural Resources

According to the MHC'S MACRIS interactive map, the dam is located within the Harold Parker State Forest (MHC # ANV.X) which is included in the Inventory. Collins Pond Dam is included in the Inventory (ANV.920) and was reportedly constructed by the CCC. As indicated earlier, the project requires review pursuant to Section 106 of the NHPA of 1966 (36 CFR 800). The ACOE, in consultation with MHC acting as the SHPO, will review the project to determine whether it would result in an adverse effect. I encourage DCR to coordinate with the MHC, the Andover Historical Commission, the Massachusetts Board of Underwater Archaeological Resources (BUAR), and any affected Tribal Historic Preservation Officers to ensure that no known historical and archaeological resources are impacted by the project.

Construction Period

The ENF states construction is anticipated to commence in the fall of 2021. The contractor will be required to prepare a water control plan submittal for review and approval by DCR ODS prior to commencement of the project. The contractor will also be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) for managing erosion/sediment impacts during construction.

All construction and demolition (C&D) activities should be managed in accordance with applicable MassDEP's regulations regarding Air Pollution Control (310 CMR 7.01, 7.09-7.10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00, including the waste ban provision at 310 CMR 19.017). The project should include measures to reduce construction period impacts (e.g., noise, dust, odor, solid waste management) and emissions of air pollutants from equipment, including anti-idling measures in accordance with the Air Quality regulations (310 CMR 7.11). I encourage DCR to require that its contractors use construction equipment with engines manufactured to Tier 4 federal emission standards, or select project contractors that have installed retrofit emissions control devices or vehicles that use alternative fuels 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). If oil and/or hazardous materials are found during construction, the Town should notify MassDEP in accordance with the Massachusetts Contingency Plan (310 CMR 40.00). All construction activities should be undertaken in compliance with the conditions of all State and local permits. I encourage DCR to reuse or recycle C&D debris to the maximum extent.

Conclusion

The ENF has adequately described and analyzed the project and its alternatives, and assessed its potential environmental impacts and mitigation measures. Based on review of the ENF and comments received on it, and in consultation with State Agencies, I have determined that an EIR is not required.

K. Theoharides

April 2, 2021
Date

Kathleen A. Theoharides

Comments received:

03/23/2021 Massachusetts Department of Environmental Protection (MassDEP), Northeast Regional Office (NERO)

KAT/ACC/acc

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Charles D. Baker
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March 23, 2021

Kathleen A. Theoharides, Secretary
Executive Office of
Energy & Environmental Affairs
100 Cambridge Street
Boston MA, 02114

Attn: MEPA Unit

RE: Andover
Collins Pond Dam Improvements
EEA# 16329

Dear Secretary Theoharides:

The Massachusetts Department of Environmental Protection Northeast Regional Office (MassDEP-NERO) has reviewed the Environmental Notification Form (ENF) for the proposed Collins Pond Dam Improvements in Andover. MassDEP provides the following comments.

Wetlands

An Environmental Notification Form (ENF) has been filed with the Executive Office of Energy and Environmental Affairs by Pare Corporation on behalf of the Massachusetts Department of Conservation and Recreation (MassDCR) to rehabilitate the Collins Pond Dam located within the Harold Parker State Forest in Andover, MA. The Dam impounds water along an unnamed tributary to the Skug River on the north side of Harold Parker Road. The dam was reportedly constructed by the Civilian Conservation Corps (CCC) in the 1930's to create public infrastructure and support fish hatcheries. The Dam no longer supports a fish hatchery, and now supports recreational uses.
The dam was found to be in unsafe condition with the following deficiencies: a primary spillway with deteriorated and failed concrete training walls; a deteriorated concrete core wall with a notable leakage through a repaired section right of the low-level outlet; an inoperable low-level outlet with a deteriorated pipe; and growth of large trees and unwanted vegetation along the embankment. Therefore, MassDCR is proposing repairs at the Dam to provide a long-term solution to the noted deficiencies.

The project will include clearing of vegetation from the existing dam, raising the existing earthen embankment to limit potential overtopping, regarding the upstream and downstream slopes of the embankment, armoring the upstream embankment with riprap, among other activities.

Wetlands Impacts

The project proposes impacts to inland bank resulting from the installation of riprap, the installation of a canoe launch, drawdown during the work period, and clearing of vegetation. The Notice of Intent will need to include calculations for the proposed impacts to Bank and should distinguish between temporary and permanent impacts.

The project also proposes approximately 4.71 acres of impacts to Land Under Water, mainly from temporary drawdown as well as permanent impacts resulting from the installation of riprap and the grading and low-level outlet improvements.

Approximately 203 square feet of Bordering Vegetated Wetlands (BVW) are proposed to be permanently impacted by grading for the dam and there is approximately 530 sf of temporary impacts to BVW from vegetation clearing. The project proposes to provide 2:1 wetland replication for the impacts to BVW. A final wetland replication plan with details of the replication area, including existing and proposed grades, depth to seasonal high groundwater, a planting plan and monitoring plan should be submitted with the Notice of Intent. In addition, the NOI should include a plan for restoring temporarily disturbed BVW.

A timber bridge is proposed to replace an existing foot path which crosses BVW. The applicant will need to provide a plan showing how the proposed bridge will not impact wetlands, including a detail demonstrating that there will be no impacts from shading.

The proposed work also proposes permanent impacts to a non-jurisdictional Isolated Wetland (Wetland A) resulting from the removal of hydrology from the wetland. The applicant will need to demonstrate that the Isolated Wetland is not hydrologically connected to any other resource area and that it is not acting as a vernal pool.

The project will require an Order of Conditions from the Andover Conservation Commission and a 401 Water Quality Certification from MassDEP for combined impacts greater than 5,000 square feet to BVW, IVW and Land Under Water.

The MassDEP appreciates the opportunity to comment on this proposed project. Please contact Rachel.Freed@mass.gov at (978) 694-3258 for further information on wetland issues. If you have any general questions regarding these comments, please contact me at John.D.Viola@mass.gov or at (978) 694-3304.

Sincerely,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

John D. Viola
Deputy Regional Director

cc: Brona Simon, Massachusetts Historical Commission
Eric Worrall, Rachel Freed, MassDEP-NERO