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CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
SUPPLEMENTAL FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT NAME : Ponkapoag Golf Course Irrigation Improvements
PROJECT MUNICIPALITY : Washington Street - Canton
PROJECT WATERSHED : Neponset River
EOEA NUMBER : 10573
PROJECT PROPONENT : Department of Conservation and Recreation
DATE NOTICED IN MONITOR : January 7, 2009

As the Secretary of Energy and Environmental Affairs, I hereby determine that the Supplemental Final Environmental Impact Report (FEIR) submitted on this project **adequately and properly complies** with the Massachusetts Environmental Policy Act (G. L., c. 30, ss.61-621) and with its implementing regulations (301 CMR 11.00).

Project Description

As described in the Supplemental FEIR, the proposed project consists of the construction of drainage improvements to Course 1 (eighteen-hole course) at the Ponkapoag Golf Course. The drainage improvements consist of: the raising of currently flooded fairways with fill to promote the surface runoff of stormwater; the replacement of damaged culverts; and the installation of drains. Seven fairways (3, 7, 8, 10, 11, 12, and 13) on Course 1 are proposed for drainage improvements. Drainage maintenance activities include the removal of accumulated silts and organic debris from existing drainage channels and culverts. The proponent now is proposing the use of a low-bearing pressure excavator for the cleaning of drainage ditches. Course 1 contains about 35 acres of tees, greens, fairways, and rough. It is located within the 239.5-acre Department of Conservation and Recreation (DCR) property, which is located within the Fowl Meadow and

Ponkapoag Bog Area of Critical Environmental Concern (ACEC).

The new irrigation system will be constructed in phases, as funding becomes available. Phase 1 includes the construction of an irrigation well and irrigation pond on Course 1 and new irrigation lines on Holes 3, 7, 8, 11, 12, and 13 to tie these holes into the new irrigation well and pond. The remainder of Course 1 will continue to be irrigated by water withdrawn from Ponkapoag Brook until Phase 2 is completed. The construction is tentatively proposed for 2009 (pending permits). Phase 2 includes the installation of new irrigation lines and connections on the remainder of the Course 1 holes. Course 2 will continue to be irrigated by water withdrawn from Ponkapoag Brook. The new irrigation well will have a capacity of 316,800 gallons per day or 66.5 million gallons per year for the 210-day irrigation season. However, DCR does not plan to operate the well at its full capacity over the course of the 210-day irrigation season. DCR estimates that it would require only about 50 percent of the well's capacity.

On April 11, 2008, I approved a Notice of Project Change (NPC) on this project, which allowed the proponent to undertake its proposed rehabilitation of the Ponkapoag Pond Dam. In addition to this NPC, I granted a Phase 1 Waiver in a Final Record of Decision (FROD) for this portion of the project on May 9, 2008. The reconstruction of Ponkapoag Pond Dam incorporated a new outlet structure into the dam. The outlet structure included a wet well from which irrigation water for the golf course would be withdrawn, which eliminated the need for the previously proposed intake float in Ponkapoag Pond. The outlet is of sufficient size and configuration to accommodate the passage of the 100-year design flood while maintaining a freeboard of at least 0.5 feet to the crest of the dam. The new outlet structure included a stepped-notch weir, which allowed for the gradual and regular seasonal drawdown of water levels in the pond. This outlet was designed to be consistent with the objectives of the current water level management program, but it no longer requires the bi-weekly flashboard removal. The new design requires the removal of flashboards only once per year (June 1) and the replacement of boards once per year (September 20). The new outlet structure will provide for the efficient and controlled withdrawal of water for use in irrigating the golf courses.

Project Changes since the FEIR

In the FEIR, the proponent had proposed irrigation improvements to both Course 1 and Course 2. The proponent is now proposing irrigation improvements to only Course 1 because of limited funding. As described above, DCR is now also proposing irrigation well for Course 1. This groundwater well will supply water to a new two-acre two-million gallon surface-lined irrigation pond, which would be constructed within an area bordered by Holes 13 and 14 of Course 1. The irrigation improvements on Course 1 will include the installation of an automatic, centrally controlled irrigation system with a weather station. Pursuant to the NPC and the Phase 1 Waiver described above, the rehabilitation of the Ponkapoag Pond Dam is now underway, and is no longer a component of the future project plans.

Since the filing of the FEIR, DCR has also determined that surrounding up-gradient property development along Randolph Street over the last thirty years has been discharging increasing amounts of stormwater onto Course 1. This stormwater is one of the main reasons for the flooding of the fairways on Course 1. DCR is proposing an approximately 62,291 square foot (sf)/978,000 gallon detention basin between Holes 10 and 11 on Course 1 to store the increasing stormwater flow. It has reduced the amount of drainage ditch maintenance work from 940 linear feet (lf) in the FEIR to 529 lf. DCR will also modify the concrete weir and remove the masonry weir in Ponkapoag Brook.

Permitting and Jurisdiction

The project will require a modification to DCR's existing Water Management Act Permit and a Section 401 Water Quality Certificate from the Department of Environmental Protection (MassDEP). The proponent will also seek to amend its existing Water Withdrawal Permit from MassDEP. The project requires review through a direct filing with the Natural Heritage Endangered Species Program (NHESP) for compliance with the Massachusetts Endangered Species Act (MESA). The project will also require submission of a Project Notification Form to the Massachusetts Historical Commission (MHC). The project must comply with the National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges from a construction site from the U.S. Environmental Protection Agency and will require a Programmatic General Permit from the U.S. Army Corps of Engineers. The project requires an Order of Conditions from the Canton Conservation Commission, and on appeal only, it may also require a Superseding Order of Conditions from MassDEP. Because the project is being undertaken by a state agency, MEPA jurisdiction is broad and extends to all aspects of the project that may cause Damage to the Environment as defined in the MEPA regulations.

Review of the Supplemental FEIR

Project Description

All resource area boundaries, applicable buffer zones, and riverfront areas were delineated on plans in Appendix D. There is no FEMA flood data for the Ponkapoag Golf Course, and no 100-year flood elevation can be shown. Updated Notices of Intent will be filed with the Canton Conservation Commission (CCC) to determine all updated resource area boundaries. Proposed activities, including construction mitigation, erosion and sedimentation control, phased construction, and drainage discharges or overland flow into wetland areas, were evaluated. The locations of the detention basin and the irrigation pond were identified on plans.

Wetlands

The Supplemental FEIR has identified that project would impact the following wetland resource areas:

- 4,734 sf of Bordering Vegetated Wetlands (BVW) for drainage improvements to Hole 3;
- 10,783 sf of BVW for the cleaning of 529 lf of drainage ditches on Course #1¹;
- 1,799 sf of BVW for ditch maintenance (temporary);
- 49,666 sf of Riverfront Area (RA) for the detention basin;
- 3,960 sf of Land Under Water Bodies (LUWB) for ditch maintenance; and
- 529 linear feet of bank for ditch maintenance.

The Supplemental FEIR included complete plans that show each wetland area proposed for alteration. It related these specific plans to an overall plan of the golf courses. The project involves the removal of about 171 cubic yards of material from the 529 linear feet of drainage ditches.

The Supplemental FEIR indicated that the project will qualify as a "limited project under the Wetlands Protection Act. DCR will need to provide sufficient information to the Canton Conservation Commission and MassDEP that it has examined alternatives, minimized impacts and if impacts cannot be avoided and/or minimized, that mitigation has been provided that sufficiently contributes to the protection of the interests of the Wetlands Protection Act. Plans need to be of a sufficient size and scale so that opportunities to avoid and/or minimize can be clearly discerned during the regulatory review. For any replication areas, DCR needs to provide elevations, typical cross sections, test pits or soil borings, groundwater elevations, hydrology of the area to be altered or replicated, list of wetland plant species of the proposed altered areas and the proposed wetland species for the replication areas, a construction sequence, planting and monitoring plan.

The proponent has proposed to provide approximately 20,568 sf of BVW replication with: 5,884 sf at Hole 3; 7,770 sf at Hole 7; 1,919 sf at Hole 8; and 4,995 sf at Hole 12. A detailed replication plan was provided in the Supplemental FEIR. The proponent's proposed plan provides a ratio of greater than 1.21:1 for all permanent BVW alterations.

Several commenters have suggested that wetlands impacts may be understated by DCR. However, I have been assured by MassDEP and the Canton Conservation Commission that they will closely scrutinize DCR's submission in the permitting process to ensure that impacts to wetlands are minimized to the maximum extent feasible.

¹ Since the filing of the Supplemental FEIR, DCR has agreed to reduce the filing of 1,465 sf of BVW on Hole 12, which results in a reduction of overall impacts to BVW for a new total of 10,783 sf.

Stormwater and Drainage

The drainage analysis provided in the Supplemental FEIR indicates that on- and off-site wetlands are not impacted by changes in stormwater runoff patterns. The Supplemental FEIR outlined the proponent's drainage maintenance activities, frequency, and responsibility. It provided information on the proponent's stormwater management plan. In Ponkapoag Brook, the concrete weir will be modified and the masonry weir will be removed to facilitate the drainage of the golf course following storm events. The proposed detention basin will temporarily store stormwater and slowly release it to the brook to prevent an increase in flooding downstream. The existing drainage ditches and culverts will be repaired to restore their ability to convey stormwater.

Water Use

The current irrigation system for both Course 1 and 2 is estimated to distribute up to 45.2 million gallons over a 210-day average irrigation season. The maximum daily irrigation usage of the proposed system will be approximately 215,000 gallons per day (gpd). The new irrigation system will have independent head control, which allows for the fine-tuning of the watering system. Irrigation will be based on the soil moisture levels of the areas to be irrigated. The proponent is proposing a drought triggered Seasonal Demand Management Plan (SDMP) which will be implemented to reduce nonessential outdoor water use. According to the proponent, the implementation of the SDMP will ensure that irrigation activities properly reflect the need and conserve water during times of drought.

The Supplemental FEIR addressed the concerns raised by the Neponset River Watershed Association (NRWA) in comments on the FEIR regarding the DCR's proposed maintenance threshold of 0.48 cubic feet per second (cfs) of stream flow in Ponkapoag Brook in the FEIR. The NRWA recommended using a 0.5 cubic feet per square mile (cfsm) stream base flow rate as the appropriate standard for regulating nonessential outdoor water uses during drought conditions. Once all irrigation improvements are completed and Ponkapoag Brook is not relied upon as the sole source of irrigation water on either course, the proponent will utilize an aquatic base flow threshold of 0.28 cfsm/0.64 cfs for Ponkapoag Brook. The proponent has committed to stop withdrawals of irrigation water from Ponkapoag Brook whenever water flow in the brook falls below 0.64 cfs of stream flow. The SDMP indicated that the golf course superintendent would implement these measures in a drought situation. The aquatic base stream flow would be measured at the Washington Street stream gauge in Ponkapoag Brook. During drought conditions, DCR will also utilize MassDEP's Water Management Act Pumping Test Design Guidelines for Non-Potable Wells, which is based on a yield test performed pursuant to the Water Management Act Regulations (310 CMR 36.00).

Hazardous Materials

The Supplemental FEIR included an Environmental Fate/Risk Assessment of the Use of Pesticides and Fertilizers at the Ponkapoag Golf Course in Appendix E. Appendix E contained the pest control and fertilization protocols to be followed on the golf courses. Appendix I contained an Integrated Pest Management Plan (IPMP) for the Ponkapoag Golf Course. It recommended substitute pesticide compounds for existing pesticides used on the golf courses and spot treatments using other materials. The golf course superintendent has responsibility for the implementation of the IPMP.

Rare Species/ACEC

As part of DCR's MESA filing, NHESP will require the proponent to submit detailed information on the use of aerial pesticides on the golf course, including the time of year of application, application methods, and chemical components.

In 1998, a Resource Management Plan (RMP) (EOEA No. 10416) was completed for DCR properties within the Fowl Meadow and Ponkapoag Bog ACEC that included the Ponkapoag Golf Course. The Supplemental FEIR identified that this project complies with the RMP.

Supplemental FEIR Mitigation

The Supplemental FEIR included a separate chapter on mitigation measures including proposed Section 61 Findings for DCR and MassDEP. The Section 61 Findings contained clear commitments to mitigation. On February 4, 2009, the proponent provided additional estimates of the costs of the proposed mitigation.

In the Supplemental FEIR, the proponent committed to the following mitigation measures:

- Provide 4,840 cubic yards of new flood storage volume (new detention basin) as part of its drainage improvements to Holes 3, 7, 8, 10, 11, 12, and 13 of Course 1 (approximately \$75,000);
- Implement a Seasonal Demand Management Plan (SDMP) to reduce the nonessential outdoor water use during drought conditions (part of the overall construction costs);
- Install a stream gauge on Ponkapoag Brook at Washington Street and monitor in-stream flow in the Ponkapoag Brook to maintain minimum of 0.28 cfsm (approximately \$22,510);
- Maintain the long-term Ponkapoag Pond Water Level Monitoring Program to monitor the effects of existing and proposed water level management practices on state-listed

- rare wildlife habitats and populations (approximately \$20,000 per year);
- Incorporate an Integrated Pest Management Program (approximately \$20,000 for development and \$3,000 annually);
- Restore 1,799 sf of temporarily impacted BVW (approximately \$5,000);
- As a general practice and excluding emergencies, provide irrigation water outside of the hours of 9:00 am and 5:00 pm, when evapotranspiration is at its highest;
- Provide 20,568 sf of replicated BVW (approximately \$40,000); and
- Provide for soil erosion and sediment controls (approximately \$47,250).

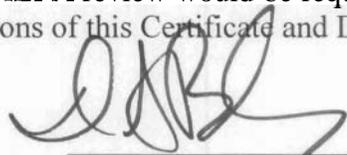
In its comment letter, the Massachusetts Historical Commission (MHC) has recommended that DCR develop an archaeological site protection plan for Site 19-NF-220, as part of its project construction documents. MHC also recommended that the Ponkapoag Golf Course be nominated for listing in the National Register of Historic Places as part of the Metropolitan Parks System of Greater Boston Multiple Property Submission.

The proponent must finalize its permitting requirements with MassDEP, and MassDEP must forward final Section 61 Findings to the MEPA Office. I find the Supplemental FEIR to be adequate and am allowing the project to proceed to MassDEP for permitting. The Supplemental FEIR and the additional information submitted on January 21st and February 4th in 2009, contained adequate information on the project impacts and mitigation, and provided MassDEP with sufficient information to understand the environmental consequences of its permit decisions.

No further MEPA review is required for the Course 1 Drainage and Irrigation Improvements or the Ponkapoag Pond Dam Rehabilitation. If the proponent should advance any future irrigation/drainage improvements for Course 2 at the Ponkapoag Golf Course, DCR should consult the MEPA Office to determine if further MEPA review would be required. Any future lessee of the golf course must adhere to the conditions of this Certificate and DCR's mitigation commitments.

February 13, 2009

Date



Ian A. Boyles

Comments received:

EA Engineering, 1/21/09
MassWildlife/NHESP, 2/2/09
MHC, 2/3/09
EA Engineering, 2/4/09
NRWA, 2/6/09