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July 25, 2008

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CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS  
ON THE  
NOTICE OF PROJECT CHANGE

PROJECT NAME : Reedy Meadow Flood Control Dredging Project  
PROJECT MUNICIPALITY : Lynnfield, Saugus, and Wakefield  
PROJECT WATERSHED : Saugus River  
EOEA NUMBER : 11167  
PROJECT PROPONENT : Town of Lynnfield  
DATE NOTICED IN MONITOR : May 21, 2008

Pursuant to the Massachusetts Environmental Policy Act (G. L., c. 30, ss. 61-62H) and Sections 11.10 of the MEPA regulations (301 CMR 11.00), I have reviewed the Notice of Project Change (NPC) submitted on this project and determine that it **requires** the preparation of a Supplemental Draft Environmental Impact Report (DEIR).

Previous MEPA Review

In 1997, an Environmental Notification Form (ENF) was submitted for the above project. The project required a mandatory EIR. The DEIR was submitted in 1999 and was found to be adequate. The project, as described in the DEIR, consisted of selective dredging, improved watershed management and enforcement of erosion control requirements to improve flow through the Reedy Meadow/Beaver Dam Brook wetlands system in Lynnfield and Wakefield. The Town is attempting to decrease the frequency and severity of flooding in upland areas adjacent to the Reedy Meadow by dredging the Beaver Dam Brook for 3,400 linear feet for a width of 10 feet and a depth of 5 feet and restoring the channel of the Saugus River by dredging approximately 10,600 linear feet to a width of 10 feet and depth of 5 feet. The channels would be dredged utilizing a low impact excavator that exerts low ground pressure and does not impact the surrounding wetlands. All vernal pools would be delineated prior to and avoided during dredging operations. Dredged spoils would be side-cast in thin layers (1 cm to 20 cm thick) in either standing water or saturated wetlands. The Town has estimated dredge volumes at 9,900 cubic yards (cy) to 10,400 cy. This dredging would result in the alteration of 3.2 acres due to dredging

and 19.4 acres of Bordering Vegetated Wetlands (BVW) as a result of side-casting dredge spoils.

Three 54-inch cast iron culverts exist beneath the existing Boston & Maine railroad tracks in Reedy Meadow. The culverts are located at the Beaver Dam Brook, the Saugus River and at a point between the two. At the time of the DEIR, the Beaver Dam Brook culvert was functional while the other two culverts were not. The Town will clear the two blocked culverts and dredge their approach and discharge channels. It will also install three new 54-inch culverts next to and at the same invert elevations as the existing culverts. The Town will install a fourth culvert in the triangle area north of Route 128. It will also seal two culverts under the railroad bed at the Route 128 crossing to reduce flooding from the Saugus River flowing back to the Fosters Lane/Paon Boulevard neighborhood. The Town will develop an Operations and Maintenance Plan to ensure that the culverts continue to be free flowing and will develop mechanisms to limit illegal encroachments into the floodplain, to enhance erosion control, and to provide catch basin maintenance.

#### NPC Project Change Description

The NPC was submitted due to a lapse of time (nine years since the DEIR). Since 1999, the areas adjacent to and upstream from the Reedy Meadow have become increasingly prone to flooding from the continued sedimentation of the Saugus River.

The project requires a mandatory EIR because it alters one or more acres of Bordering Vegetated Wetlands (BVW) and it requires a Variance from the Wetlands Protection Act. It will require a Permit from the Massachusetts Highway Department (MassHighway) to seal two culverts under Route 128. It may require a Conservation and Management Permit under the Massachusetts Endangered Species Act (MESA) from the Natural Heritage and Endangered Species Program (NHESP). In addition to a Variance from the Wetlands Protection Act, the project will require a Chapter 91 Waterways License and Permit, a Section 401 Water Quality Certificate, and a Superseding Order of Conditions from the Department of Environmental Protection (MassDEP). The project must comply with the National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges from a construction site. It will require a Section 404 Individual Permit from the U.S. Army Corps of Engineers. Orders of Conditions may be required from the Lynnfield and Wakefield Conservation Commissions for impacts to wetland resource areas. MEPA jurisdiction extends to wetlands, habitat, and stormwater issues that may have significant environmental impacts.

This project has the potential to result in environmental impacts in addition to those evaluated in earlier documents, in particular downstream flooding, additional wetlands and drainage impacts. A Supplemental DEIR will be required to address these impacts.

## SCOPE

The Supplemental DEIR should also follow Section 11.07 of the MEPA regulations for outline and content, as modified by this scope. It should include a copy of this Certificate and all comment letters.

### Project Description, History, & Regulatory Environment

The Supplemental DEIR should include a detailed description and history of the project. It should briefly list each state agency action required for the project. The Supplemental DEIR should clearly identify the project boundaries where work will be undertaken by the Town. It should include better maps displaying the project area and the various project components. The Supplemental DEIR should identify the parties responsible for the various work items that are beyond the authority of the Town, such as MassHighway, Wakefield, the Lynn Water and Sewer Commission, the U.S. Army Corps of Engineers (ACOE) and/or other parties. It should provide an inventory of culverts/bridges/dams/ canals in the study area and their condition. This inventory should also be displayed in a figure. The project should demonstrate how it is consistent with the applicable performance standards. It should contain sufficient information to allow the permitting agencies to understand the environmental consequences related to the project.

The Supplemental DEIR should identify and explain any project phasing. It should explain the time frame for each phase of the project. The Supplemental DEIR should discuss how this project is compatible with Executive Order 385 – Planning for Growth, by discussing its consistency with local zoning, and the Metropolitan Area Planning Council's (MAPC) Metro Plan.

### Alternatives Analysis

The DEIR considered the first five project alternatives that are listed below. The Supplemental DEIR should reevaluate and update the following alternatives:

- #1 - No-Build Alternative;
- #2 - The Structural Hydraulic Alternative;
- #3 - The Partial Channel Restoration;
- #4 - Full Channel Restoration (Preferred Alternative);
- #5 - Full Channel Restoration with off-site Dredged Material Disposal;

and evaluate the following three additional alternatives:

- #6 - an alternative that bridges the culverted areas rather than cleaning out and adding new culverts;
- #7 - a comprehensive alternative that provides restoration and flood protection to the Saugus River and Reedy Meadow (Start downstream and work upstream); and
- #8 –an alternative that combines the Lynnfield components of Alternative #7 and which can be accomplished as part of Alternative #7.

The Supplemental DEIR should identify the impacts of each of the alternatives on wetland resource areas, potential flooding downstream, and stormwater/drainage. It should provide a comparative analysis that clearly shows the differences between the environmental impacts associated with each of the alternatives.

#### Waterways Licensing/Permitting

The Supplemental DEIR should specify whether the existing culverts are licensed under the Chapter 91 Waterways Program. It should state whether any new Chapter 91 License would be required for existing or proposed structures. The Supplemental DEIR should provide the information required for the Chapter 91 Permit that would be required for the dredging portion of the project in the Saugus River and Beaver Dam Brook.

The Supplemental DEIR should provide the information necessary for a complete filing under the Chapter 91 Licensing Program. This should include an alternatives analysis; public purpose determination; provisions for open space, setbacks, and view facilities; description of flooding conditions, and facilities to encourage waterfront use; and a maintenance plan. The Supplemental DEIR should address historical licensing information.

#### Wetlands

The Wetland Section of the Supplemental DEIR should contain an alternatives analysis to ensure that impacts to wetland resource areas are avoided, and where unavoidable impacts occur, that impacts are minimized and mitigated. It should quantify the amount of temporary and permanent impacts to resource areas. A plan should accompany this discussion. The Supplemental DEIR should illustrate that impacts have been minimized and that the project will be accomplished in a manner that is consistent with the Performance Standards of the Wetlands Regulations (310 CMR 10.00).

The NPC has proposed to continue to develop the DEIR's Preferred Alternative, which would have significant impacts to wetlands and unknown flooding risks downstream. The Town should strive to reduce the areas of its proposed impacts to wetlands. In considering a variance request, wetland variances have been issued only in rare and unusual circumstances to protect public health, public safety, or environmental improvements.

The Supplemental DEIR should address the significance of the wetland resources and buffer zones on site, including public and private water supply; riverfront areas; flood control; storm damage prevention; fisheries; shellfish; and wildlife habitat. It should identify the location of nearby public water supplies and wells.

All resource area boundaries, riverfront areas, applicable buffer zones, and 100-year flood elevations should be clearly delineated on a plan. Bordering Vegetated Wetlands that have been delineated in the field should be surveyed, mapped, and located on the plans. Each wetland resource area and riverfront area should be characterized according to 310 CMR 10.00. The Saugus River, Beaver Dam Brook, and the Mill River flow through the Reedy Meadow project site. The text should explain whether the local conservation commissions have accepted the resource area boundaries, and any disputed boundary should be identified. The Supplemental DEIR should provide an accurate measurement of the wetland resource areas and buffer zones that will be affected by the project. The Reedy Meadow may contain potential vernal pools. The Supplemental DEIR should specify how this project will avoid impacting any potential vernal pools.

For any amount of wetlands alteration, replication will be required. A detailed wetlands replication plan should be provided in the Supplemental DEIR that, at a minimum, includes: replication location(s) delineated on plans, elevations, typical cross-sections, test pits or soil boring logs, groundwater elevations, the hydrology of areas to be altered and replicated, list of wetlands plant species in the areas to be altered and the proposed wetland replication species, planned construction sequence, and a discussion of the required performance standards and monitoring.

The Certificate on the DEIR asked the Town to conduct a study of the Mill River hydraulics in order to understand the potential downstream impacts before selecting a specific alternative and various components for the overall project. The Supplemental DEIR should supply this information and provide information on the lower end of the Saugus River. If this information is beyond the Town's project area, it should indicate the party(ies) having jurisdiction (e.g. Wakefield, Saugus, USACOE, MassHighway, and/or DCR). The Flood Control Operational Management Plan for Reedy Meadow should be updated to include the information from the major rainstorms in October 1996 and May 2006 which have provided new information about the Lynn Water and Sewer Commission's (LWSC) ability to manage flooding in the Reedy Meadow via control of the dam and gate located downstream. The Supplemental DEIR should provide an analysis of the changes in flood elevations and hydraulics that would result from the proposed channel dredging for Alternatives 3, 4, 5, 6, 7, and 8. By creating a more defined channel, the peak rate of runoff may change such that the duration of flooding potentially would be lessened, with or without side-casting. The impacts from flooding in the downstream areas of the Saugus and Mill Rivers should be evaluated in the Supplemental DEIR. Properties experiencing flooding should be shown on current floodplain maps, and the storm events causing

flooding should be identified for each property under existing and proposed conditions for Alternatives 3, 4, 5, 6, 7, and 8.

The Supplemental DEIR should include information from other recent reports such as An Evaluation of Saugus River Fish Passage and Hydrology (January 2006) and the Saugus River Water Budget and Instream Flow Study (June 2002). It should also include information from the Saugus River American Eel Monitoring and Restoration Program of 2007, from the identification of the Reedy Meadow as an Important Bird Area by the Massachusetts Audubon Society, and from the Meadow Walk project that explored the feasibility of raising water levels in order to improve rare bird habitat in the Reedy Meadow. The Supplemental DEIR should summarize the results of the pilot study that was done to gather information on the construction, channel width and depth, wetlands recovery/restoration, and future conditions of the stream channel and flooding conditions.

#### Wildlife Habitat & Conservation

The project site is mapped as Priority and Estimated Habitat for the American Bittern, the Common Moorhen, the King Rail, the Blue-Spotted Salamander, and the Under Shadowdragon. The Reedy Meadow is documented as habitat for these state-listed species. Alterations to the marsh hydrology and water quality can impact the habitats necessary for successful nesting and feeding and allow for the establishment of non-native invasive plant species. The proposed culvert improvements will require timing and construction conditions to avoid and reduce impacts to these species. The Natural Heritage and Endangered Species Program (NHESP) is concerned about the dredging aspects of the project as currently proposed. Channelization will facilitate the flow of water out of the wetland, while the placement of fill will raise the elevation of the surrounding area. Such hydrologic changes could temporally or permanently alter the habitat of state-listed rare species and may constitute a prohibited "take." In order to minimize impacts, the NHESP recommends revising the project to eliminate the dredging and filling within Reedy Meadow.

If NHESP determines that the proposed project would "take" a rare species, then it may be possible to redesign the project to avoid a "take." Projects resulting in a "take" may only be permitted if they meet performance standards for a Conservation and Management Permit. The proponent must demonstrate that the project has avoided, minimized and mitigated impacts to State-listed species in order to receive a Conservation and Management Permit. The Supplemental DEIR should describe the Town's efforts to address NHESP's concerns.

According to the Saugus River Watershed Council (SRWC), beaver activity within the Reedy Meadow area has significantly expanded since the DEIR. Beavers are constructing a very large dam within the lower Reedy Meadow Pond upstream of the Lynn Water and Sewer Commission (LWSC) dam, which could restrict all water flowing downstream in the Saugus

River once it's completed. The Supplemental DEIR should develop a management plan to address flooding, and water flow issues as they relate to beaver activities. It should discuss the implementation of beaver deceivers and/or regular removal of beaver dams before they are fully constructed. These issues should be considered as part of the management plan.

### Drainage

The Supplemental DEIR should determine whether the 1992 flood modeling in the DEIR is relevant, or whether new or updated flood modeling is appropriate. Baseline flooding conditions should be updated with additional information on flooding events, flooding costs, project improvement capital costs, and maintenance costs

The Supplemental DEIR should identify Low Impact Development (LID) techniques that could be implemented in Lynnfield and Wakefield, and demonstrate how the Town will reduce the need for stormwater detention basins and stormwater runoff flowing to buffer zones and eventually wetlands.

The Supplemental DEIR should address the performance standards of MassDEP's Stormwater Management Policy. It should address the groundwater recharge issues and demonstrate that the project will meet the Stormwater Management Policy. The Town should refer to the MassDEP Stormwater Management Handbook when addressing this issue.

The Supplemental DEIR should provide information on the dewatering and disposal of the dredged material to be removed.

A maintenance and operations program for the drainage system will be required to ensure its effectiveness. This maintenance program should outline the actual maintenance operations, sweeping schedule, responsible parties, and back-up systems. I recommend that the Town commit to using a non-sodium based de-icer on pavement surfaces.

If the project site is located within any Aquifer Protection Zone or Zone II for a municipal water supply, the Supplemental DEIR should discuss how this project will be constructed and maintained so that this water resource is not impacted by the above project. It should describe the measures that the proponent will undertake to protect this vital resource such as monitoring groundwater levels.

### Construction/Community Disruption

The Supplemental DEIR should present a discussion on potential construction period impacts (including but not limited to noise, vibration, dust, and traffic maintenance) and analyze feasible measures, which can avoid or eliminate these impacts. It should outline how the Town

will coordinate its construction program with other nearby projects. The Supplemental DEIR should estimate the amount of dredged material to be removed from the project site. It should identify the number of truck trips required to handle the removal operation and the truck routes for dredged material removal.

#### Hazardous Waste

The Supplemental DEIR should present a summary of the results of hazardous waste studies and remediation efforts undertaken at the project site by the Town and others to comply with the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000.

#### Mitigation

The Supplemental DEIR should include a separate chapter on mitigation measures. It should develop wetland and drainage measures to reduce impacts. This chapter on mitigation should include a draft Section 61 Finding for all state agencies issuing permits for the project. The draft Section 61 Findings should contain clear commitments to mitigation, an estimate of the individual costs of the proposed mitigation, and the identification of the parties responsible for implementing the mitigation. A schedule for the implementation of mitigation should also be included.

#### Response to Comments

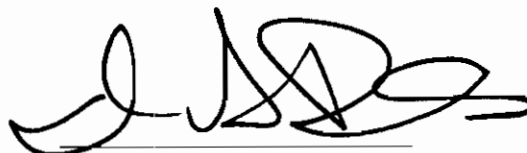
In order to ensure that the issues raised by commenters are addressed, the Supplemental DEIR should include responses to comments. This directive is not intended to and shall not be construed to enlarge the scope of the Supplemental DEIR beyond what has been expressly identified in this certificate.

#### Circulation

The Supplemental DEIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should also be sent to the list of "comments received" below and to local officials in Lynnfield, Saugus, and Wakefield. A copy of the DEIR should be made available for public review at the Lynnfield, Saugus, and Wakefield Public Libraries. The Town should provide a hard copy of the Supplemental DEIR to each state agency from which it will seek permits or approvals.

July 25, 2008

DATE



Ian A. Bowles



Comments received:

Lynnfield DPW, 6/9/08

MassWildlife, 6/9/08

Lynnfield DPW, 6/10/08

Saugus River Watershed Council, 6/10/08

Saugus River Watershed Council, 6/10/08

MassDEP/NERO, 6/10/08

Wakefield DPW, 7/10/08

Lynnfield DPW, 6/12/08

Lynnfield DPW, 6/13/08

Lynnfield DPW, 6/13/08

US Environmental Protection Agency, 7/16/08

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