



The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Deval L. Patrick
GOVERNOR

Timothy P. Murray
LIEUTENANT GOVERNOR

Ian A. Bowles
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
<http://www.mass.gov/envir>

March 20, 2009

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
SINGLE ENVIRONMENTAL IMPACT REPORT

PROJECT NAME: Route 2 Improvement Project¹
PROJECT MUNICIPALITY: Phillipston, Athol and Orange
PROJECT WATERSHED: Millers and Chicopee
EOEA NUMBER: 11870
PROJECT PROPONENT: Massachusetts Highway Department
DATE NOTICED IN MONITOR: February 11, 2009

As Secretary of Energy and Environmental Affairs, I hereby determine that the Single Environmental Impact Report (Single EIR) submitted on this project **adequately and properly complies** with the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62I) and with its implementing regulations (301 CMR 11.00).

Project Description

The project consists of safety improvements by the Massachusetts Highway Department (MassHighway) to an approximately 13-mile section of Route 2 in Orange, Athol and Phillipston. The improvements are designed to address critical safety issues, including the number and severity of crashes, within this section of Route 2. Planned improvements include the following: installation of Qwick Kurb[®] delineators separated from the traveled way by shoulders along 5.1 miles of the 7.5 mile corridor in Phillipston and Athol to prevent passing at inappropriate locations; the lengthening of substandard acceleration and deceleration lanes at

¹ Formerly the Route 2 Long Term/Interim Improvements Project.

Route 2 interchanges to meet current design standards and improve safety and traffic flow; the construction of a new eastbound truck climbing lane in Athol; the provision of a westbound truck weigh station; and the provision of two police pull-out locations. According to MassHighway, it has developed a project that addresses safety concerns along the corridor, improves travel efficiency by improving substandard ramps at interchanges, and improves stormwater quality to a degree that significantly exceeds existing conditions. Pursuant to a previously granted Waiver, improvements to the sections of Route 2 within Athol and Phillipston are complete. Improvements planned for the section in Orange are at 100% design.

Procedural History

As originally presented in the Environmental Notification Form (ENF) filed in 1999, the project consisted of Phase I “interim improvements” and Phase II “long-term improvements” to the corridor. Phase I was designed to address safety issues. Phase II was designed to provide additional capacity and included the expansion of the roadway from two lanes to four lanes.

The ENF was submitted at a very early stage of design, and anticipated environmental impacts were based on preliminary information about affected resources and probable project design. As part of the ENF, MassHighway requested permission to proceed with Phase I of the project in advance of preparing an EIR for the entire project. On May 7, 1999, the Secretary of Environmental Affairs issued a Final Record of Decision (FROD) granting a Phase I Waiver for the interim improvements project. In the FROD, the Secretary instructed MassHighway to make a supplemental information filing in a Notice of Project Change (NPC) once more information was known regarding the total area of land alteration, new impervious surfaces and amount of wetlands impact. On May 25, 1999 the Secretary issued a Certificate on the ENF that outlined a Scope for an EIR for both phases of the project.

The proponent filed an NPC on May 30, 2002 with the supplemental information about Phase I of the project and a request for an extension of the Phase I Waiver. In the NPC, the proponent outlined several major changes to Phase I of the project involving the roadway cross-section, knowledge of wetland locations and level of design. As a result of changes outlined in the 2002 NPC, the total amount of impervious area for Phase I increased from 9.8 acres to 19.8 acres and the amount of land alteration increased from 47.7 acres to 77.7 acres, which exceed mandatory EIR thresholds pursuant to Sections 11.03(1)(a)(1) and 11.03(1)(a)(2) of the MEPA regulations; and wetland alteration increased from less than 5,000 square feet (sf) of impacts to Bordering Vegetated Wetlands (BVW) to approximately 18,600 sf of impacts.

The Certificate issued on the 2002 NPC determined that the Phase I Waiver for the interim improvements would continue in effect, subject to several amended conditions. Specifically, the Secretary required MassHighway to continue its consultation with the Route 2 Task Force; to work with the Metropolitan District Commission (now the Department of Conservation and Recreation (DCR)) on the design of the roadway and drainage system in areas of the project subject to the Watershed Protection Act; and to submit the EIR for the entire project by June of 2003. The Certificate on the NPC directed MassHighway to submit a second NPC if the EIR was not submitted by this deadline.

A second NPC was submitted in April 2006 and a Certificate was issued on June 9, 2006. The NPC described a report entitled *Route 2 – Assessment of the Need for Double-Barreling*. A key finding of the report was that the Phase I interim improvements appeared to eliminate the need for additional capacity along the mainline of Route 2 through the year 2026 and likely, to at least 2035. In addition, it was noted that the expansion of the roadway would result in significant wetland impacts that would present a major permitting challenge, and that the long-term improvements could cost up to \$150 million to construct. As a result, MassHighway indicated that it no longer intended to construct the long-term improvements as outlined in the ENF, that it would withdraw the Phase II Long Term Improvements component from the Route 2 Project and requested a waiver from the requirement to prepare an EIR. The Phase I Interim Improvements portion of the project became the entire project which has since been referred to as the Route 2 Improvement Project. The NPC described significant reductions in environmental impacts associated with the project change, including the avoidance of upwards of 19 acres of impacts to BVW, avoidance of the creation of a substantial amount of new impervious surface and avoidance of the alteration of hundreds of acres of land.

The June 9, 2006 Certificate issued on the NPC indicated that the Secretary would not waive the requirement to prepare an EIR. It acknowledged that MEPA previously granted a Phase I Waiver for the work that now constitutes the entire scope of the project. However, that Waiver was granted on the assumption that an EIR would be prepared for the entire project that analyzed the cumulative impacts of the work proposed for both the interim and long-term improvements to Route 2. In addition, the anticipated environmental impacts of the Phase I project continued to expand since the filing of the ENF in 1999 and the first NPC in 2002. When the Phase I Waiver was initially granted, the interim improvements portion of the project did not meet EIR thresholds on its own. Because the project, as presented in 2006, exceeded two MEPA thresholds for the filing of a Mandatory EIR, an EIR was required.

The Certificate laid out a narrow Scope for the EIR that directed the proponent to compile information on the portion of the project that has been completed in Phillipston and Athol and to provide further analysis and consideration of alternatives on the section of the project in Orange. In addition, because the prior submissions and detailed information presented in the second NPC, particularly regarding stormwater, demonstrated consistency with 301 CMR 11.06(8), the Secretary allowed the proponent to prepare a Single EIR.

Jurisdiction

The complete project as described in the ENF was subject to the requirement to prepare a Mandatory EIR pursuant to several MEPA review thresholds, including: Section 11.03(1)(a)(1) and Section 11.03(1)(a)(2), because the project would have resulted in the direct alteration of more than 50 acres of land and the creation of more than 10 acres of impervious surface; Section 11.03(3)(a)(1)(a) and Section 11.03(3)(a)(2) because the project would have resulted in the alteration of more than one acre of BVW and because the project would have required a variance from the MA Wetlands Protection Act; and Section 11.03(6)(a)(1)(b) and Section 11.03(6)(a)(2) because the project involved the construction of a new roadway two or more miles in length and construction of a new interchange on a complete limited access highway.

Following the 2002 NPC, the Phase I portion of the project itself became subject to the preparation of a Mandatory EIR pursuant to Sections 11.03(1)(a)(1) and 11.03(1)(a)(2) of the MEPA regulations because it will result in the alteration of more than 50 acres of land and the creation of more than 10 acres of new impervious surfaces. The project also meets the following ENF review thresholds: Section 11.03(3)(b)(1)(d) because the project will alter more than 5,000 sf of BVW, and Section 11.03(3)(b)(1)(f) because the project will result in the alteration of more than ½ an acre of “any other wetlands”. The 2002 NPC stated that there would be 478,787 sf of alteration in the Riverfront Area. Wetlands alteration in excess of 10 acres is a mandatory EIR threshold pursuant to Section 11.03(3)(a)(1)(b) of the MEPA regulations. However, in supplemental information provided after the submission of the NPC, the proponent noted that 4.8 acres of the affected Riverfront Area is existing pavement that will be repaved. Therefore, the net new impact to Riverfront Area was identified as 6.2 acres.

The project requires the following permits and/or review: a National Pollutant Discharge Elimination System (NPDES) General Permit from the U.S. Environmental Protection Agency (EPA); a 401 Water Quality Certificate from the Department of Environmental Protection (DEP); and Orders of Conditions from the Phillipston, Athol and Orange Conservation Commissions. The project also requires permits from the U.S. Army Corps of Engineers (ACOE) pursuant to Section 404 of the Clean Water Act and requires review by the Massachusetts Historical Commission (MHC) and the Division of Fisheries and Wildlife (DFW) Natural Heritage and Endangered Species Program (NHESP). Because the proponent is a state agency, MEPA jurisdiction extends to all aspects of the project with the potential to cause Damage to the Environment as defined in the MEPA regulations.

Review of the Single EIR

Project Description

The Single EIR provides an adequate description of the project and each phase. The Single EIR identifies the applicable statutory and regulatory standards and requirements, describes how the project will meet those standards and it indicates which permits have been received to date. The Single EIR indicates that work in Phillipston and Athol is substantially complete and that all required state permits for those sections of work were obtained. The Single EIR indicates that a single Water Quality Certification application was filed for Athol and Phillipston.

The Single EIR also indicates that the proponent has consulted with the Route 2 Task Force and that a meeting was held with the Task Force in November 2006 which was after the issuance of the NPC Certificate.

Land Alteration

The project will result in the alteration of 91.93 acres of land, including the creation of 14.93 acres of new impervious surfaces. The remaining 77 acres of land alteration is associated with the widening of the road cross-section and will be mitigated through the planting of disturbed areas with loam and seed to stabilize the surface and prevent erosion following construction. The creation of impervious surfaces is associated with the pavement required for

the extension of existing acceleration and deceleration lanes at the interchanges, the creation of a six-foot paved median with the Qwick Kurb[®] barrier, creation of the eastbound truck climbing lane and creation of the westbound truck weigh station. With the exception of acquisition of an easement from the Town of Orange on a piece of property that will be used for stormwater management, all of the altered land is within the Route 2 right-of-way and is, for the most part, in use as roadside and side slope for Route 2. The project will require the removal of approximately 1,700 cubic yards of rock in the Town of Orange along an eastbound section of Route 2. The rock will be removed through blasting.

Wetlands/Stormwater

The Single EIR identifies how project elements were selected and designed and discusses alternatives for minimizing impacts to land alteration and wetlands including development of a stormwater management system. The Single EIR indicates that impacts to wetlands include 31,223 sf of BVW, 481,017 sf of Riverfront Area (RFA), 16,274 cubic feet (cf) of Bordering Land Subject to Flooding (BLSF), 121 linear feet (lf) of Bank and 31 lf of Land Under Waterways (LUWW). Within Orange, these impacts include: 21,894 sf of BVW; 107,238 sf of RFA; 9,149 cf of BLSF; 108 lf of Bank; and 31 lf of LUWW. The proponent received Orders of Conditions for the work in Athol and Phillipston and will file a Notice of Intent (NOI) with the Orange Conservation Commission upon completion of the MEPA process. In addition, as noted previously, the project received a Water Quality Certificate from MassDEP for the work in Phillipston and Athol and will require a Water Quality Certificate for the remaining work in Orange.

Measures considered for minimizing impacts to wetlands included narrowing of the existing travel lanes, reduction of shoulder widths and alterations to side slopes. The Single EIR indicates that narrowing of the existing travel lines was determined to be contrary to the project purpose. It indicates that shoulder widths were reduced from 10 feet to 9 feet which reduced the amount of impervious surfaces by 79,200 sf and avoided and minimized wetland impacts. In addition, side slopes were increased from up to 6:1 to 3:1 or 2:1 to further minimize the extent of land alteration and wetland impacts. Where side slopes would affect wetlands, a 1.5:1 rock covered slope was incorporated into the design.

In addition, the Single EIR identifies wetland replication areas in Athol (7,620 sf) and Phillipston (2,946 sf) and proposes 22,000 sf of wetland replication in Orange. Wetlands replication in Orange is proposed within the Shingle Swamp Brook watershed adjacent to Exit 15 and is proposed on an approximate 1:1 basis. A wildlife passageway will be constructed between the replication site and land outside of the ramps. As required, the Single EIR includes a wetlands replication plan that addresses long-term monitoring. The Single EIR indicates that, based on consultation with the Orange Conservation Commission, it will expand the replication area to provide replication on a 1.25:1 basis. Comments from the Orange Conservation Commission request additional replication to ensure no net loss of wetlands.

The Certificate on the NPC noted the absence of any stormwater treatment along the length of the project corridor and applauded the proponent's efforts to exceed the guidelines of the Stormwater Management Policy (SMP) and improve existing conditions in the project area. The Scope for the Single EIR directed the proponent to address several outstanding issues identified in comment letters from DCR, Mass Audubon, and the Orange Conservation

Commission. These included improvements to provide a higher level of stormwater treatment to protect Lake Mattawa and enhance response capabilities in the event of a hazardous release; identification of how peak rates of discharge would be maintained and TSS removal performed; and identification and removal of untreated outfalls.

As proposed, the stormwater management system will treat 86% of stormwater from the entire proposed cross-section. The system will consist of deep sump catch basins, plunge pools and detention basins. The project will treat 22.24 acres to 80% TSS removal and an additional 48.52 acres will receive 33% to 49 % TSS removal. It includes removal of 28 outfalls (out of a total of 109) throughout the corridor that are located in wetlands and buffer zones and treatment or partial treatment for many of the remaining outfalls. Stormwater Pollution Prevention Plans (SWPPP) to identify the use of erosion and sedimentation controls during construction and identify how the system will be maintained were developed for work within Athol and Phillipston and will be developed for the portion of the project in Orange.

The Single EIR identifies measures evaluated by MassHighway to improve stormwater management along the corridor adjacent to Lake Mattawa in Orange. The following stormwater management measures are proposed as part of the project:

- Replacement of a proposed modified rock fill ditch along Route 2 westbound (from Station 45+ 65 to Station 46+49) with a turf reinforcement mat to provide some treatment for stormwater runoff.
- Reshaping of the existing natural swale along Route 2 westbound (from Station 44+88 to Station 44+0) and lining with a turf reinforcement mat. Two rock check dams will be added (at Stations 44+73 and 44+30) to reduce the velocity of flow in the channel and allow for sediments to settle.
- Addition of a rock check dam downstream of the outfall along Route 2 eastbound (at Station 43+71).
- Replacement of existing catch basins (from Station 43+80 to Station 46+50) with deep sump catch basins.

MassHighway also considered construction of a wet swale at the bottom of the embankment slope adjacent to Lake Mattawa along Route 2 eastbound and construction of a stormwater conveyance system within the Route 2 right-of-way. These alternatives were rejected because of the steep slopes at the site which could cause substantial erosion. The alternative identified as viable by MassHighway collects stormwater runoff from Route 2 in a closed drainage system within the right-of-way and discharges it to a plunge pool located just outside of the pond and outside the right-of-way. This would eliminate direct discharges of stormwater from Route 2 to Lake Mattawa. Implementation of this alternative will require approval from the Town of Orange because it requires an easement from the Town. The Single EIR indicates that MassHighway will coordinate with the Town to obtain this easement and notes that the Board of Selectmen, at a February 7, 2007 meeting, expressed support for a Town Meeting warrant article to grant the easement. Comments from DCR indicate that MassHighway has consulted with them and considered their stormwater recommendations and that DCR is

satisfied with the mitigation as proposed. Comments from the Orange Conservation Commission question the effectiveness of the plunge pool/settling basin alternative and suggest that a forebay be constructed to pre-treat stormwater runoff or that sediments be dredged from the existing pond. MassHighway will have the opportunity to address these comments during review of the Notice of Intent (NOI).

MassDEP comments do not identify any significant concerns with the project at this time but indicate that it will review the mitigation in more detail during project permitting. Comments from NHESP indicate that the project should be designed consistent with the River and Stream Crossing Standards. Application of these standards should be considered by MassDEP and the Orange Conservation Commission during permitting.

Comments from the Connecticut River Watershed Council indicate that work completed to date included the creation of several contractor/truck parking areas and material storage areas along Route 2 which appeared to involve clearing land in close proximity to sensitive natural areas. The Single EIR does not identify construction laydown areas or potential land or wetland alterations associated with these. MassHighway should indicate in its permit application to MassDEP and within the NOI whether such areas are proposed along the corridor in Orange and, if so, identify appropriate mitigation so that potential impacts and proposed mitigation can be assessed during permitting.

Rare Species

Several portions of the Route 2 Corridor within Orange are located within Estimated and/or Priority Habitat for rare species. These include two species of freshwater mussels, three species of Odonates associated with the Millers River and a state-listed rare moth. In addition, NHESP confirmed the presence of Mountain or "Northern" Firmoss (*Huperzia selago*) within the project site in Athol. Mountain Firmoss is a clubmoss listed as an "Endangered" species pursuant to the provisions of the Massachusetts Endangered Species Act (MESA) (MGL c. 131A) and its implementing regulations (321 CMR 10.00). According to NHESP, this is the only known extant occurrence of the species within Massachusetts, and this species is considered to be "rare" throughout New England. The Single EIR notes the presence of the Mountain Firmoss and indicates that the proponent consulted with NHESP staff to discuss appropriate protections and management for the species within the project area. The proponent agreed to avoid disturbing the rockface on which this plant grows, the ditch below the rockface and the line of trees immediately adjacent to the plant's location which provide needed shade for this species. The Single EIR confirms that the area has not been altered or impacted by construction.

Comments from NHESP indicate that impacts associated with the project can be addressed through minor construction conditioning and that MassHighway should provide a long-term management plan for the Mountain Firmoss as part of this review.

Historical and Archaeological Resources

The Single EIR indicates that the project site does not include any properties listed on the State or National Register of Historic Places and is not located adjacent to any such properties. MassHighway did identify several project areas as having archaeological potential based on suitable environmental criteria. An intensive locational survey, which was conducted within

undisturbed portions of the project area, identified two potential sites. One of the sites consists of a historic period site that is common in the area and, therefore, not eligible for listing in the National Register. The other site yielded no cultural artifacts or features. MassHighway concluded that the project was unlikely to affect historic and archaeological resources and, in a letter dated July 14, 2004, MHC concurred with this conclusion provided that the second site was identified as a sensitive resource area in construction contracts and engineering plans and that a qualified archaeologist was present during installation of the sedimentation barrier at the site.

Mitigation

The Single EIR includes Draft Section 61 Findings for all state permits. The Draft Section 61 Findings include a clear commitment to mitigation, identification of the parties responsible for implementing the mitigation and a schedule for implementation. The Single EIR identifies the following measures to avoid, minimize and mitigate project related impacts:

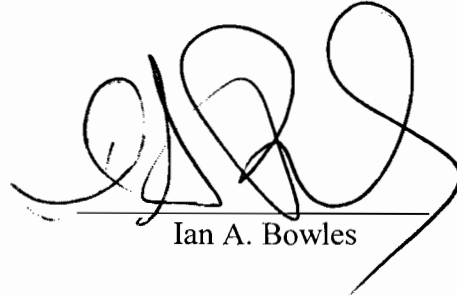
- Re-planting of disturbed areas with loam and seed to stabilize the surface and prevent erosion following construction.
- Reduction of shoulder widths from 10 feet to 9 feet to reduce impervious surfaces and minimize wetland impacts.
- Increase in side slopes from 6:1 to 3:1 or 2:1 to minimize the extent of land alteration and wetland impacts. Where side slopes would affect wetlands, a 1.5:1 rock covered slope is proposed.
- Wetlands replication areas will be created consisting of 7,620 sf in Athol, 2,946 sf in Phillipston and replication on a 1.25:1 basis in Orange. Each location will be monitored for a period of three years to ensure that within the first two growing seasons vegetated coverage equals or exceeds 75% of the wetland replication area and status reports will be provided to the Conservation Commission and to MassDEP.
- Construction of a stormwater management system that will treat 86% of stormwater from the entire proposed cross-section. The project will treat 22.24 acres to 80% TSS removal and an additional 48.52 acres will receive 33% to 49 % TSS removal. The system will consist of deep sump catch basins, plunge pools and detention basins. Stormwater Operation and Management (O&M) Plans were developed for work within Athol and Phillipston and will be provided as part of the NOI review for work within Orange.
- Removal of 28 existing outfalls throughout the corridor which are located in wetlands and buffer zones.
- Stormwater management within Orange will include: replacement of a proposed modified rock fill ditch along Route 2 westbound (from Station 45+ 65 to Station 46+49) with a turf reinforcement mat to provide some treatment for stormwater runoff; reshaping of the existing natural swale along Route 2 westbound (from Station 44+88 to Station 44+0) and lining with a turf reinforcement mat; addition of two rock check dams (at Stations 44+73 and 44+30) to reduce the velocity of flow in the channel and allow for sediments to settle; addition of a rock check dam downstream of the outfall along Route 2 eastbound (at Station 43+71); replacement of all existing catch basins (from Station 43+80 to Station 46+50) with deep sump catch basins; and extension of existing culverts along Shingle Swamp Brook north and south of Route 2 in Orange (Exit 15).

Conclusion

Based on a review of the Single EIR, comment letters and consultation with state agencies, I find that the Single EIR adequately and properly complies with MEPA and its implementing regulations. Outstanding issues can be addressed during state and local permitting and review. The project may proceed to permitting.

March 20, 2009

Date



Ian A. Bowles

Comments Received:

3/13/09 Department of Conservation and Recreation/ Division of Water Supply Protection
3/13/09 Department of Environmental Protection/Western Regional Office
(MassDEP/WERO)
3/5/09 Division of Fisheries and Wildlife/ Natural Heritage and Endangered Species
Program (DFW/NHESP)
3/18/09 Connecticut River Watershed Council
3/12/09 Orange Conservation Commission
3/18/09 Massachusetts Association of Conservation Commissions
3/13/09 Mass Audubon

IAB/CDB/cdb