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March 2, 2018

**CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS  
ON THE 2017 FINAL SNOW AND ICE CONTROL PROGRAM  
ENVIRONMENTAL STATUS AND PLANNING REPORT**

PROJECT NAME : 2017 Final Snow and Ice Control Program  
Environmental Status and Planning Report  
PROJECT MUNICIPALITY : Statewide  
PROJECT WATERSHED : Statewide  
EOEA NUMBER : 11202  
PROJECT PROPONENT : Massachusetts Department of Transportation  
DATE NOTICED IN MONITOR : December 20, 2017

As Secretary of the Executive Office of Energy and Environmental Affairs (EEA), I hereby determine that the 2017 Final Snow and Ice Control Environmental Status and Planning Report (FESPR) adequately and properly complies with the Massachusetts Environmental Policy Act (M.G.L. c.30 ss.61-62) and its implementing regulations (301 CMR 11.00). This Certificate includes a Scope for the next ESPR to be filed by the Massachusetts Department of Transportation (MassDOT) in 2022.

Project Description

The purpose of the ESPR is to describe the methods and policies used by the Massachusetts Department of Transportation's (MassDOT) Snow and Ice Control Program (SICP). It documented the environmental impacts of these practices and identified the Best Management Practices (BMPs) used to minimize these impacts while providing safe roadway driving conditions. The ESPR presented the environmental data, road safety requirements, and economic factors used by MassDOT to plan for and implement the SICP with the goal of protecting sensitive resource areas, particularly public water supplies and wetland and aquatic ecosystems. The series of ESPRs filed by MassDOT document the

historical changes and trends in the use of materials, equipment, storage practices, and snow and ice control practices and provide an opportunity to identify and prioritize aspects of the SICP that may be improved.

### History and Purpose of the ESPR

MEPA review of MassDOT's snow and ice control procedures commenced with the filing of Generic Environmental Impact Reports (GEIR) in 1978, 1995, and 2006. Revisions to the MEPA regulations in 1998 eliminated provisions for the preparation of GEIRs. In connection with the issuance of the Certificate on the GEIR in 2006, a Special Review Procedure (SRP) was established to maintain an ongoing MEPA review process of the SICP through the filing of ESPRs. The SRP outlined a process where ESPRs would be prepared on a five-year cycle and submitted for MEPA review. Prior to the filing of an ESPR, a Draft Scope of Work (DSW) outlining the contents of the ESPR would be prepared and submitted for public review and comment. MassDOT will continue to prepare Snow and Ice Control Annual Reports that are noticed in the Environmental Monitor but not subject to a formal comment or review process.

The ESPR process does not replace MEPA review of roadway projects that require a State Agency Action and meet or exceed regulatory thresholds. For any project that does exceed thresholds, an Environmental Notification Form (ENF) and, if necessary, an Environmental Impact Report (EIR) would be required to analyze impacts, review alternatives and identify measures to avoid, minimize, and mitigate impacts. The ESPR process serves as a vehicle for public review of the environmental impacts associated with the SICP. It is creating a long-term data set that provides the opportunity to gauge the effectiveness of efforts to minimize impacts, and can serve as the basis for prioritizing future planning and implementation measures.

### Review of the FESPR

The FESPR was generally responsive to the Scope outlined in the Certificate on the DSW. It incorporated the entirety of the DESPR, including the following major components:

- An overview of the SICP's organization, policies and operations;
- A description of the latest equipment improvements, technologies, and Best Management Practices (BMPs) used by MassDOT for roadway snow and ice control;
- An update on the latest environmental protection/remediation activities and related research pertaining to environmental issues concerning snow and ice control activities;
- Updated information on the added infrastructure costs associated with the corrosion effects from deicing chemical usage and the economic benefits of maintaining safe travel conditions on roadways during winter weather;
- A review of the SRP and proposed changes to subsequent MEPA review of ESPRs; and
- A list of goals and initiatives for the SICP to be implemented over the next 5 years prior to filing of the next ESPR.

The FESPR included responses to all comments received on the DESPR. The responses included details of ongoing and additional studies, analyses and data collection to be undertaken prior to the preparation of the next ESPR. As reflected in the Scope below, MassDOT consulted with the

Massachusetts Department of Environmental Protection (MassDEP) during the review period to further refine the analyses so that the impacts of road salt and the effects of implementation of BMPs by MassDOT to reduce its use can be assessed. The FESPR provided reformatted tables and graphs of annual road salt use expressed in tons per lane-mile and in tons per year (tpy) to allow for direct comparison of the data to previous ESPRs.

### Scope for 2022 ESPR

The FESPR provided a comprehensive review of the SICP. It included a significant amount of data and technical analyses of road salt use, and extensive information regarding the technological and operational aspects of the program. The 2022 ESPR should update the data and analyses included in the FESPR. MassDOT should consider reorganizing or changing the format of the ESPR to facilitate its use as a data resource and status report of snow and ice control practices. At a minimum, the 2022 ESPR should include a separate section or clearly reference the sections of the report that provide new data and review the results of the new programs and studies that MassDOT has proposed to undertake. The DSW should identify any proposed changes to the format or organization of the ESPR. The 2022 ESPR should report on the status of the new and ongoing initiatives identified in the FESPR and include data and analyses based on their results. These initiatives include:

- Additional snow and ice control training programs;
- Installation of pavement friction and pavement temperature sensors to help determine when deicing material may be needed and to monitor road surface conditions;
- Construction of a brine manufacturing facility in Deerfield to facilitate the use of roadway pretreatment in MassDOT Districts 1, 2 and 3, and investigation of the feasibility of constructing a brine facility in District 4;
- Expansion of the availability of tanker trucks, brine storage and pretreatment capabilities in environmentally-sensitive areas;
- Ongoing monitoring of spreader equipment calibration;
- Expansion of the use of GPS/AVL systems with the goal of having all contractors use this equipment by 2022;
- Reduction of the amount of sand applied in RSZ by using better plowing methods, improved forecasting and minimizing salt application rates;
- Exploration of the use of variable message signs to inform travelers of roadway conditions and road speeds;
- Continuation of participation in research projects to explore new technologies and methods for reducing salt use, including use and standardization of vehicle-mounted sensor equipment, updated material application guidelines and BMPs, performance of porous pavements, and enhanced snowplow training and operations;
- Review of potential anti-corrosion methods;
- Replacement and/or upgrade of salt storage sheds;
- Providing updates of annual salt usage in comparison to the Winter Severity Index (WSI) statewide and by District, including a comparison of current usage to that used prior to 2011 before anti-icing practices were introduced while adjusting for differences in the WSI;
- An update on salt usage in specific sensitive areas such as in the Dedham-Westwood Water District (DWWD) watershed using the recently installed AVL/GPS equipment. Updates on

the locations of expanded equipment implementation will be provided in the intervening Annual Reports;

- An update on sodium concentrations in Public Water Supplies (PWS) using data reported to MassDEP and a comparison of the percentage of PWS that exceed certain concentration thresholds for PWS located within and outside of a 0.5-mile radius of a MassDOT road, including time series graphs of average sodium concentration over time for major municipal PWS using available historical data;
- A summary of observed chloride concentrations in water bodies based on data collected by MassDEP and others, including chloride-impaired water bodies noted in MassDEP's 305(b)/303(d) integrated report. MassDOT will include and share any data collected as part of targeted field investigations completed under its agreement with UMass-Amherst;
- Collaboration with MassDEP and other State or municipal agencies to develop a work scope to conduct a watershed study in the Cambridge Water District to update the 1985 study and estimate the relative sodium and chloride contributions from various sources;
- Conduct a limited desktop study for the Dedham-Westwood Water District (DWWD) to update sodium and chloride contributions related to increased development in the watershed;
- Continue a study with the Natural Heritage and Endangered Species Program (NHESP) to investigate the impacts of road salt in the Kamposoa Bog;
- Work with the Auburn Water District to study the impacts of snow and ice operations on the surrounding watershed, specifically the recharge sources for their supply wells;
- Collaborate with MassDEP in developing appropriate outreach and training materials to educate the public, commercial applicators and other road salt users on various salt reduction or efficiency measures; and
- Evaluate technology implementation and other alternatives (i.e., Best Management Practices) in select locations with a goal of reducing overall material usage as measured by the WSI.

MassDOT should continue to meet with MassDEP to identify opportunities for targeting the implementation of the proposed initiatives in environmentally-sensitive areas and for technical assistance in developing outreach materials. In its comment letter, MassDEP suggested that this coordination could include targeting the expanded use of GPS/AVL; partnering with municipalities, watershed groups, academics and to develop educational programs; and expanding watershed-based study areas. MassDOT should review MassDEP's recommendations and incorporate them as appropriate. The DSW for the 2022 ESPR should identify additional recommendations that have been adopted by MassDOT entirely or in modified form, or explain why they were not adopted.

The DSW for the 2022 ESPR should include a response to comments received on the FESPR. In its comments on the DESPR, WalkBoston requested that the ESPR include more information about snow and ice control measures for pedestrian facilities. The FESPR noted that MassDOT will soon complete a statewide Pedestrian Transportation Plan that will include recommendations for improving pedestrian conditions affected by snow and ice. Consistent with MassDOT's policy to promote alternate modes of transportation, including walking and bicycling, and implementation of its Complete Streets design program, the 2022 ESPR should provide a summary of the findings and recommendations of the Pedestrian Transportation Plan and describe any snow and ice control measures that will be implemented by MassDOT to improve pedestrian conditions. The DSW for the 2022 ESPR should identify any additional analyses or tracking of salt use associated with pedestrian facilities that will be included in the ESPR consistent with the scope and purpose of the SICP ESPRs.

ESPR Review Process

The 2022 ESPR should be submitted to MEPA for public review consistent with the requirements of the SRP. The DSW, which would be noticed in the Environmental Monitor for public review and comment, should be submitted approximately 18 months prior to the submittal of the 2022 ESPR. A Consultation Session would be held during the 30-day DSW comment period. MassDOT should consult with MassDEP, NHESP, and other agencies on the content and form of the DSW prior to its submission. Within 18 months of the issuance of the Certificate on the DSW, a single ESPR should be submitted for public review and comment with a 30-day comment period.

The single ESPR would replace the DESPR and FESPR prepared by MassDOT in the 2012 and 2017 ESPR cycles. The single ESPR format is consistent with the SRP and the process used by the Massachusetts Port Authority (Massport) for Hanscom Field (EEA #5484/8696) and Logan Airport (EEA #3247). The filing of ESPRs will continue on a 5-year cycle.

Circulation

The 2022 ESPR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should be sent to the list of “comments received” at the end of this Certificate and to commenters on the 2017 DESPR. A copy of the 2022 ESPR should be made available for public review at the State Transportation Library.

Conclusion

The 2022 DSW and ESPR should include a copy of this Certificate and should be made available in printed or CD-ROM format. The ESPR should be submitted in 2022.



March 2, 2018

Date

Matthew A. Beaton

Comments received:

01/15/2018	Natural Heritage and Endangered Species Program (NHESP)
02/21/2018	Dedham-Westwood Water District (DWWD)
02/22/2018	Massachusetts Department of Transportation (MassDOT)
02/23/2018	Massachusetts Department of Environmental Protection (MassDEP)
02/23/2018	Walpole Country Club

MAB/AJS/ajs