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

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Kathleen A.Theoharides
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1081
http://www.mass.gov/eea

June 25, 2021

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

PROJECT NAME	: Dunstable - Improvements on Main Street (Route 113)
PROJECT MUNICIPALITY	: Dunstable
PROJECT WATERSHED	: Merrimack
EEA NUMBER	: 16374
PROJECT PROPONENT	: MassDOT, Town of Dunstable
DATE NOTICED IN MONITOR	: May 26, 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 project consists of resurfacing and reconstruction of Main Street (Route 113) in the Town of Dunstable (the Town), from the intersection of Main Street with Pleasant Street to approximately 750 feet (ft) east of Westford Street, including a partial realignment of the roadway for a total distance of approximately 2,000 linear feet (lf) (0.38 miles). The project will also involve the construction of 11-foot travel lanes and 4-foot paved shoulders along Main Street to provide for a consistent 30-foot cross section. The project is proposed jointly by the Massachusetts Department of Transportation (MassDOT) and the Town to improve traffic operations, create and improve bicycle and pedestrian accommodations, and improve safety within the project limits. The project will address operational deficiencies by providing a consistent roadway cross-section on Main Street and by replacing both the failing retaining wall and a structurally substandard

culvert associated with the roadway. The project is currently programmed for funding in the FY 2021 Transportation Improvement Program (TIP) for the Northern Middlesex Metropolitan Planning Organization (NMMPO). The project includes the following activities:

- Full-depth reconstruction of Main Street where the overall pavement conditions are failing from the culvert location to the easterly project limits to achieve uniform 11-foot-wide travel lanes and 4-foot shoulders on both sides of the roadway.

- Resurfacing only from the westerly project limits to the approach of the roadway cross culvert location where the overall pavement conditions are in good condition to achieve uniform 11-foot-wide travel lanes and 4-foot shoulders on both sides of the roadway.

- Deficiencies in pedestrian accommodations will be addressed by the construction of sidewalks in compliance with the Americans with Disabilities Act (ADA), as follows: on the southerly side of Main Street from the westerly project limits to the vicinity of the intersection with Westford Street (1,500 feet of sidewalk improvements); and, on the northerly side of the Main Street from the westerly project limits to the vicinity of the intersection with Common Street (350 feet of sidewalk improvements).

- Pavement markings, traffic signs, and lighting on Main Street will be updated within the project area.
- Partial realignment of Main Street to reduce horizontal curvature.
- Replacement of existing underground utilities along Main Street.
- Replacement of the 850 ft retaining wall along the north side of Main Street; and,
- Updates to pavement markings, traffic signs, and street lighting along Main Street (including bike lane markings and pedestrian crossings on Main Street).

Project Site

The 3.5-acre project site includes Main Street which is classified as an urban principal arterial and is a National Highway System (NHS) roadway. Main Street provides an east-west link between neighboring towns and serves as a primary means of access to Route 3 for travel destinations both north and south. Within the project site, Main Street includes Dunstable's Town Center which includes Dunstable's Town Hall, the Evangelical Congregational Church, the Town's Central Cemetery, and Kendall Tavern.

The Central Cemetery and Kendall Tavern are both listed in the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth (Inventory). The project corridor contains several wetland resource areas, including: Bordering Vegetated Wetlands (BVW), Bank, Land Under Waterbodies (LUW), Bordering Land Subject to Flooding (BLSF), and Riverfront Area (RA). An unnamed perennial stream, which lies within the Merrimack River Basin, drains southerly under Main Street through the existing culvert and ultimately drains into Black Brook, located approximately two miles south of Main Street.

Three municipally-owned parcels within the project site are subject to protection under Article 97 of the amendments to the Massachusetts constitution ("Article 97"): 510 Main Street (Town Common); 511 Main Street (Town Hall War Memorial); and 437 Main Street (David Hardman Trust for open space). The project site does not contain any *Estimated and Priority Habitat of Rare Species* as delineated by the Natural Heritage and Endangered Species Program (NHESP) in the 14th Edition of the Massachusetts Natural Heritage Atlas.

Environmental Impacts and Mitigation

Potential environmental impacts associated with the project include the creation of 0.2 acres of impervious area, for a total of 2.2 acres within the project site. The project will result in the direct alteration of wetlands including: 233 sf (permanent) of BVW impacts; 155 linear feet (lf) (permanent) of Bank impacts; 161 sf (permanent) and 894 sf (temporary) of LUW impacts; 1,524 sf (permanent) BLSF impacts; and 52,761 sf (permanent) and 20,557 sf (temporary) of RA impacts. Three parcels of land subject to Article 97 within the project site will be impacted by the project associated with grading and lawn restoration along the project site which will result in 2,980 sf (permanent) of impacts.

Measures to avoid, minimize, and mitigate Damage to the Environment include wetland replication for BVW impacts, creation of compensatory storage as mitigation for BLSF impacts, improvements to the existing stormwater management system, and use of erosion and sedimentation controls during construction. To mitigate for the collective impacts to the three parcels of land subject to Article 97, the Town is proposing to purchase and permanently protect, through the placement of a Conservation Restriction (CR), an approximate 1.27-acre parcel of land associated with 673 Main Street, currently referred to as the Drew parcel. The conversion of Article 97 land to roadway purposes also requires legislative approval.

Jurisdiction and Permitting

This project is subject to MEPA review and preparation of an ENF pursuant to 301 CMR 11.03(1)(b)(3) and 301 CMR 11.03(1)(b)(5) because it requires a State Agency Action and involves the Conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97 and the Release of an interest in land held for conservation, preservation or agricultural or watershed preservation purposes. The project is being proposed by MassDOT in conjunction with the Town and will receive funding from MassDOT.

The project requires an Order of Conditions (OOC) from the Dunstable Conservation Commission, or in the case of an appeal, a Superseding Order of Conditions from Massachusetts Department of Environmental Protection (MassDEP). The project is subject to review by the Massachusetts Historical Commission (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). It requires a National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the U.S. Environmental Protection Agency (EPA).

Because the project will be undertaken by a State Agency and is receiving Financial Assistance, 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 provided a description of existing and proposed conditions, preliminary project plans, detour plan, correspondence with the Massachusetts Historic Commission (MHC), and identified measures to avoid, minimize and mitigate environmental impacts. Comments from State Agencies and the Northern Middlesex Council of Governments (NMCOG) Regional Planning Agency do not identify any significant impacts that were not reviewed in the ENF, note deficiencies in the alternatives analysis, or identify additional alternatives for further review.

Alternatives Analysis

Alternatives were evaluated on their ability to best meet the purpose and need of the project while limiting impacts to environmental resources and private property. Project goals include: improving roadway safety; widening the travel way and stabilizing its surface; improving stormwater treatment; and minimizing wetland impacts and earthmoving activities (cuts and fills). The ENF evaluated four alternatives (including the Preferred Alternative) based on their ability to address these criteria and improve the existing deficiencies in the roadways. The ENF evaluated the following alternatives: the No-Build Alternative (Alternative 1), the 12-foot Travel Lanes, 8-foot Paved Shoulders, and a 5-foot Sidewalk on Both Sides Alternative (Alternative 2), the 11-foot Travel Lanes, 5-foot Paved Shoulders, and a 5-foot Sidewalk on Both Sides Alternative (Alternative 3), and the Preferred Alternative (as described herein).

The No-Build Alternative does not result in any environmental impacts but was dismissed as a viable option, as it would not meet the project goals of improving roadway safety for all users, and the roadway surface would continue to deteriorate to unacceptable conditions. Alternative 2 would involve providing 12-foot travel lanes, 8-foot paved outside shoulders, and a 5-foot sidewalk on both sides of the roadway for the entire length of the project. This alternative is the only alternative that meets all of MassDOT's Engineering Directive Design Criteria under E-14-006. According to the ENF, Alternative 2 was not selected because it would result in the greatest environmental resource area impacts, the greatest right-of-way acquisitions and the greatest overall construction costs. The resulting roadway facility would be entirely out-of-context with the corridor's existing village character and that of all other roadways that approach the area.

Alternative 3 represents a new Main Street (Route 113) roadway cross section which only meets the Pedestrian and Bicycle Accommodation design criteria of MassDOT Engineering Directive E-14-006 for an urban principal arterial on the NHS, consisting of 11-foot travel lanes, 5-foot paved shoulders, and a 5-foot sidewalk on both sides of the roadway for the entire length of the project. Alternative 3 would result in slightly less overall impacts than those associated with Alternative 2, but such impacts are still considered substantial. As with Alternative 2, the resulting roadway facility would be entirely out-of-context with the corridor's existing village character and that of all other roadways that approach the area. Similar to Alternative 2 this alternative was dismissed.

The Preferred Alternative (described herein) includes the creation of a consistent roadway cross-section to provide for a consistent 30-foot cross section, comprised of 11-foot travel lanes and 4-foot paved outside shoulders. The Preferred Alternative will include the construction new 5-foot wide ADA compliant sidewalks, with granite curbing on the southerly side of Main Street, from the westerly project limits to the vicinity of the intersection with Westford Street (1,500 feet of sidewalk improvements). It will also include on the northerly side of the Main Street, from the westerly project limits to the vicinity of the intersection with Common Street (350 feet of sidewalk improvements). The Preferred Alternative does not meet MassDOT's Engineering Directive Design Criteria under E-14-006, because it does not include 8-foot paved outside shoulders for bicycles and a 5-foot sidewalk on both sides of the roadway for the entire length by choosing this alternative. However, It would result in the least environmental resource area impacts, the least right-of-way acquisitions and the least overall construction costs as compared to Alternative 2 and Alternative 3. In addition, according to the ENF, this Preferred Alternative has strong local support and most closely achieves the project's goals as established by MassDOT and the Town.

Article 97

Any disposition or change in use of Article 97 land or interest in land requires legislative approval and compliance with the Executive Office of Energy and Environmental Affairs (EEA) Article 97 Land Disposition Policy (the Policy). A primary goal of the Policy is to ensure no net loss of Article 97 lands under the ownership and control of the Commonwealth. Allowances are made within the Policy for exceptional dispositions. The ENF provides information regarding impacts to Article 97 land and associated mitigation to address the factors in the Policy necessary to support a Article 97 conversion, including that exceptional circumstances exist such that a disposition of Article 97 land may be appropriate. Impacts to Article 97 land are associated with relocation of a guy wire system to anchor a utility pole, sidewalk improvements to provide a safe, ADA-compliant access to the Town Hall, and roadway realignment to increase the buffer between the new roadway and historic structures. The ENF asserts that there are no viable options to eliminate these impacts while still achieving the Town's goal of improving overall safety and accessibility in the immediate area. The ENF indicates that these impacts to Article 97 are unavoidable and have been minimized as much as possible as the placement of the guy wire is dictated by countering the horizontal strain exerted on the pole and the location of the sidewalk improvements are driven by the roadway layout which is the minimum necessary to accommodate a school bus turning movement. According to the ENF the Article 97 land does not contain unique or significant habitat or rare or unusual terrain within the immediate area of the disposition.

The three parcels of land subject to Article 97 to be impacted by the project total 2,980 sf. To mitigate for the collective impacts to the three parcels of land subject to Article 97, the Town is proposing to purchase and permanently protect an approximate 1.27-acre parcel of land associated with 673 Main Street, currently referred to as the Drew parcel, in order to compensate for the loss of 2,980 sf of Article 97. Located approximately 0.65 miles west of the project's limits, the Drew parcel provides direct access to Salmon Brook, has parking facilities available for public use, and is a popular location for shore fishing and canoe launching. The Town will place a CR on the 1.27-acre parcel to preserve it as open space in perpetuity. The ENF indicates that the proposed mitigation land will provide greater value than the 2,980 sf of impacts to the three parcels. The compensatory open space will result in a

significant expansion public open space in Dunstable and will enhance public access. The Drew parcel will be under the care and control of the Town of Dunstable Conservation Commission, while care and control of the three parcels impacted by the project will be transferred from the Town of Dunstable to the Town of Dunstable's Highway Department. The Town and MassDOT will not act on the Land Transfer until legislation is enacted authorizing this change in use.

Wetlands

As noted above, the Dunstable Conservation Commission will review the project for its consistency with the Wetlands Protections Act (WPA), the Wetland Regulations (310 CMR 10.00), and associated performance standards including the Stormwater Management Standards (SMS). The project will result in the direct alteration of several areas subject to jurisdiction under the WPA and its regulations, including BVW, Bank, LUW, BLSF, and RA.

According to the ENF, alteration of BVW will total 233 sf and will be directly associated with work related to roadway widening. Impacts to BVW will be mitigated through the creation of 510 sf of wetland replication, exceeding the 1:1 required replication ratio established under the WPA. Erosion and sedimentation controls will be implemented during project construction. Impacts to LUW will occur within an unnamed perennial stream that flows beneath Main Street and will result in a total of 161 sf of permanent alteration and 894 sf of temporary impact. These impacts are directly associated with the culvert replacement and interconnection of the culvert to the retaining wall, which is also proposed for replacement. As indicated in the ENF, the impacts to LUW will be restored in place, however, improved the culvert design will result in a total replacement of 184 sf of LUW, making a net increase in LUW resource of 23 sf.

The alteration of BLSF will total 1,524 sf, which will result in the loss of approximately 1,467 cubic feet of flood storage. Mitigation for these impacts will be achieved through the creation of 2,288 sf of compensatory storage, resulting in the creation of 2,883 cubic feet of storage volume, a net increase of 1,416 cubic feet. Comments from the MassDEP indicate that the Town and MassDOT should demonstrate that the project complies with the Performance Standards found in 310CMR 10.57(4), specifically those requiring that compensatory storage be incrementally equal to the theoretical volume of flood water "at each elevation." The ENF indicates that alteration of RA will permanently impact 52,761 sf and temporarily impact 20,557 sf. The permanent impacts to RA are associated with the proposed culvert replacement, roadway widening/ reconstruction, driveway reconstruction, sidewalk construction, and retaining wall re-construction. According to comments from MassDEP these impacts will occur primarily within the existing limits of the roadway and the disturbed roadway shoulder and therefore constitute redevelopment of RA. Temporary impacts to RA are associated with erosion control installation/removal, wetland replication/compensatory storage construction, and incidental grading. All temporary impact areas are to be stabilized through seeding or planting.

Land/Stormwater

The project proposes to increase the impervious area within the project site by 0.2 acres for a total of 2.2 acres within the project site resulting from the proposed roadway widening and sidewalk installation. The ENF indicates that the project is categorized as a redevelopment/limited project in accordance with the WPA. MassDEP indicates that the proposed project meets the definitions of a

redevelopment project as it applies to the SMS and therefore must comply to the SMS to the maximum extent practicable.

The current stormwater management infrastructure varies widely across the project site. Most of the area west of the existing stream crossing has in-street catch basins, conveyance and a definitive discharge point. The area immediately west of the culvert, and the remainder of the Project site to the east, drain overland via the roadway shoulder and within the roadway to various points of low elevation. Under proposed conditions the existing stormwater system on the westerly side of the stream crossing will be largely unaltered except for minor shifting of catch basins to accommodate new sidewalk and curb lines. Improvements to the existing system will include new catch deep-sump catch basins to replace those existing in addition to a new flared end section and rip-rap at the discharge point. The areas immediately west of the stream crossing, and the remaining portions of the project site to the east will include new systems consisting of deep-sump catch basins and discharge resulting in an overall improvement to runoff quality.

Historical Resources

According to the ENF, the Proponent's review of the Inventory of Historic and Archaeological Resources of the Commonwealth indicates that there is one inventoried area and one inventoried property adjacent to the project corridor area. The inventoried area is the Central Cemetery. The inventoried property is the and Kendall Tavern. The ENF indicates that the project is not anticipated to adversely impact the historic area or the historic property. The ENF states a letter describing the project has been sent to the Town of Dunstable Historical Commission, the MassDOT Cultural Resources Unit, and the State Historic Preservation Officer (the Massachusetts Historic Commission). The project received a finding of No Adverse Effect from the Massachusetts Historical Commission. Comments received from the Massachusetts Board of Underwater Archaeological Resources (BUAR) indicate that this project is unlikely to impact submerged cultural resources.

Construction

All construction 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). Consistent with the GreenDOT policy directive, MassDOT requires that contractors install emission control devices in all off-road vehicles. MassDOT's Revised Diesel Retrofit Specification also requires that emissions control standards must be met or technology must be used for non-road, diesel-powered construction equipment in excess of 50 horsepower. Contractors will be instructed to limit engine idling and use ultra-low sulfur diesel fuel. If oil and/or hazardous materials are found during construction, the Town and MassDOT 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.

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

June 25, 2021
Date

Kathleen A. Theoharides

Comments received:

6/15/2021 Northern Middlesex Council of Governments (NMCOG)
6/15/2021 Massachusetts Department of Environmental Protection (MassDEP), Central Regional Office (CERO)
06/15/2021 Massachusetts Board of Underwater Archaeological Resources (BUAR)

KAT/ACC/acc

Northern Middlesex Council of Governments

June 15, 2021

Kathleen Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
Attention: MEPA Office
Anne Canaday: EOEAA #16374
100 Cambridge Street, Suite 900
Boston, MA 02114-2509

RE: EOEEA #16374/NMCOG #684 – Dunstable – Improvements on Main Street (Route 113), from Pleasant Street to 750 FT east of Westford Street

Dear Secretary Theoharides:

The Northern Middlesex Council of Governments (NMCOG) has reviewed the Environmental Notification Form (ENF) for the Dunstable Main Street (Route 113) Improvement Project, extending from Pleasant Street to 750 ft. east of Westford Street, a distance of 2,000 linear feet (0.38 miles). The Town of Dunstable, in conjunction with MassDOT Highway Division, is proposing transportation and roadway infrastructure improvements along Main Street from the vicinity of the Main Street/Pleasant Street intersection to the westerly limits of a previous MassDOT project. The proposed project is currently programmed for funding in the FY 2021 Transportation Improvement Program (TIP) for the Northern Middlesex Metropolitan Planning Organization (NMMPO).

The project triggers MEPA review due to the fact that it trips the following thresholds:

- Conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97
- Release of land held in a conservation restriction (David Hardman Trust).

This project will not require any State Agency Permits. However, a Wetlands Protection Act Order of Conditions from the Dunstable Conservation Commission will be required.

The purpose of the project is to improve safety and accessibility for the roadway's users while protecting, enhancing, and reinforcing the Main Street corridor's existing landscape, character, and historic features. Benefits include roadway widening and pavement, intersection, and access improvements. The project will increase safety and accessibility and promote multimodal use through sidewalk construction, bicycle accommodation, accessibility improvements, and guardrail, signage, and pavement marking installations. Furthermore, the project will provide water and stormwater system improvements and has been designed to comply with MassDEP's Stormwater Management Policy to the maximum extent practicable. The potential impacts of the

A Multi-Disciplinary
Regional Planning
Agency Serving:

Billerica
Chelmsford
Dracut
Dunstable
Lowell
Pepperell
Tewksbury
Tyngsborough
Westford

Andrew Deslaurier
Chair

Beverly A. Woods
Executive Director

40 Church Street
Suite 200
Lowell, MA
01852-2686

TEL: (978) 454-8021

FAX: (978) 454-8023

www.nmcog.org

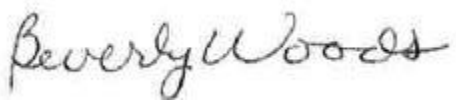
project, including disturbance to adjacent resource areas, will be minimized with best management practices such as sediment and erosion controls.

Based on the information provided within the Environmental Notification Form, project alternatives have been carefully considered and the analysis has shown that the potential negative impacts of this project will be mitigated where possible. In addition, NMCOG received no significant environmental concerns from the Town of Dunstable following our request for MEPA review comments. Therefore, future review under the MEPA process does not appear warranted.

In addition to the ENF review, NMCOG staff used this project as an opportunity to pilot the Resilient MA Action Team (RMAT) Beta Climate Resilience Design Standards Tool. Inputting project details into this tool provided a preliminary climate change exposure and risk rating, recommended climate resilience design standards for the roadway improvements, and guidelines with best practices to support implementation. A copy of the report is attached to the end of this letter.

Should you have any questions regarding the NMCOG staff comments please feel free to contact me directly at (978) 454-8021, ext. 120.

Sincerely,



Beverly Woods
Executive Director

Cc:
Dunstable: Board of Selectmen, Town Administrator, Planning Board, Water Department, Conservation Commission, Board of Health, Historical Commission, and NMCOG Councilors

Project Summary

Link to Project

Dunstable - Improvements on Main Street (Route 113)
Estimated Construction Cost: $4900000.00
Useful Life: 2040 - 2049

Ecosystem Benefits	Scores
Project Score	Low
Exposure	**Scores**
Sea Level Rise/Storm Surge	Not Exposed
Extreme Precipitation - Urban Flooding	Moderate Exposure
Extreme Precipitation - Riverine Flooding	High Exposure
Extreme Heat	High Exposure

Asset Summary

Number of Assets: 1

Asset Risk	Sea Level Rise/Storm Surge	Extreme Precipitation - Urban Flooding	Extreme Precipitation - Riverine Flooding	Extreme Heat
Roadway	Low Risk	High Risk	High Risk	High Risk

Project Outputs

	Target Planning Horizon	Intermediate Planning Horizon	Percentile	Return Period	Tier
Sea Level Rise/Storm Surge					
Roadway					
Extreme Precipitation					
Roadway	2050			50-yr (2%)	Tier 3
Extreme Heat					
Roadway	2050		90th		Tier 3

Scoring Rationale - Exposure

Sea Level Rise/Storm Surge

This project received a "Not Exposed" because of the following:

- Not located within the predicted mean high water shoreline by 2030
- No historic coastal flooding at project site
- Not located within the Massachusetts Coastal Flood Risk Model

Extreme Precipitation - Urban Flooding

This project received a "Moderate Exposure" because of the following:

- Increased impervious area
- No historic flooding at project site
- Minor projected increase in rainfall within project's useful life

Extreme Precipitation - Riverine Flooding

This project received a "High Exposure" because of the following:

- Exposed to riverine flooding within the project's useful life
- No historic riverine flooding at project site

Extreme Heat

This project received a "High Exposure" because of the following:

- 30+ days increase in days over 90 deg. F within project's useful life
- Increased impervious area
- Located within 100 ft of existing water body

Scoring Rationale - Asset Risk Scoring

Asset - Roadway
Primary asset criticality factors influencing risk ratings for this asset:

- Asset may inaccessible/inoperable for more than a day but less than a week after natural hazard event
- Loss/inoperability of the asset would have impacts limited to local area and/or municipality
- Infrastructure functions as an evacuation route during emergencies
- Inoperability may moderately impact other facilities, assets, or buildings, but is not expected to affect their ability to operate
- There are no hazardous materials in the asset

Project Design Standards Output

Asset: Roadway — Infrastructure

Sea Level Rise/Storm Surge — Low Risk

Applicable Design Criteria

Tidal Benchmarks: No
Stillwater Elevation: No
Design Flood Elevation (DFE): No
Wave Heights: No
Duration of Flooding: No
Design Flood Velocity: No
Wave Forces: No
Scour or Erosion: No

Extreme Precipitation — High Risk

Target Planning Horizon: 2050
Return Period: 50-yr (2%)

Applicable Design Criteria

Tiered Methodology: Tier 3 (Link)

Total Precipitation Depth for 24-hour Design Storms: Yes
Peak Intensity for 24-hour Design Storms: Yes
Riverine Peak Discharge: Yes
Riverine Peak Flood Elevation: Yes
Duration of Flooding for Design Storm: Yes
Flood Pathways: Yes

Extreme Heat — High Risk

Target Planning Horizon: 2050
Percentile: 90th Percentile

Applicable Design Criteria

Tiered Methodology: Tier 3 (Link)

Annual/Summer/Winter Average Temperature: Yes
Heat Index: Yes
Days Per Year With Max Temperature > 95°F: Yes
Days Per Year With Max Temperature > 90°F: Yes

Days Per Year With Max Temperature < 32°F: Yes
Number of Heat Waves Per Year: Yes
Average Heat Wave Duration (Days): Yes
Cooling Degree Days (Base = 65°F): No
Heating Degree Days (Base = 65°F): No
Growing Degree Days: No

Project Inputs

Core Project Information

Name:	Dunstable - Improvements on Main Street (Route 113)
Given the expected useful life of the project, through what year do you estimate the project to last (i.e. before a major reconstruction/renovation)?	2040 - 2049
Location of Project:	Dunstable
Estimated Capital Cost:	$4,900,000
Entity Submitting Project:	Dunstable
Is this project being submitted as part of a state grant application?	No
Which grant program?	
Is climate resiliency a core objective of this project?	No
Is this project being submitted as part of the state capital planning process?	No
Is this project being submitted as part of a regulatory review process?	Yes
Brief Project Description:	The Town of Dunstable, in conjunction with MassDOT Highway Division, is proposing transportation and roadway infrastructure improvements along Main Street (Route 113) from the vicinity of the Main Street/Pleasant Street intersection to the westerly limits of a previous MassDOT project. The purpose of the project is to improve safety and accessibility for the roadway's users while protecting, enhancing, and reinforcing the Main Street corridor's existing landscape, character, and historic features. The project is triggering MEPA review for the conversion of land held for natural resource purposes and the release of land held in a conservation restriction (David Hardman Trust).

Project Ecosystem Benefits

Provides flood protection through green infrastructure or nature-based solutions	No
Provides storm damage mitigation	Yes
Provides groundwater recharge	No
Protects public water supply	No
Filters stormwater	No
Improves water quality	No
Promotes decarbonization	No
Enables carbon sequestration	No
Provides oxygen production	No
Improves air quality	No
Prevents pollution	Yes
Remediates existing sources of pollution	No
Protects fisheries, wildlife, and plant habitat	No
Protects land containing shellfish	No
Provides pollination	No
Provides recreation	No
Provides cultural resources/education	No

Project Climate Exposure

Does the project site have a history of coastal flooding?	No
Does the project site have a history of flooding during extreme precipitation events (unrelated to water/sewer damages)?	No
Does the project site have a history of riverine flooding?	No
Does the project result in a net increase in impervious area of the site?	Yes
Are existing trees being removed as part of the proposed project?	No

Project Assets

Asset: Roadway
Asset Type: Transportation
Asset Sub-Type: Roads (highway)
Construction Type: Major Repair/Retrofit
Construction Year: 2022
Useful Life: 25

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.
Infrastructure may be inaccessible/inoperable for more than a day, but less than a week after natural hazard without consequences.

Identify the geographic area directly affected by permanent loss or significant inoperability of the infrastructure.
Impacts would be limited to local area and/or municipality

Identify the population directly served that would be affected by the permanent loss or significant inoperability of the infrastructure.
Less than 5,000 people
Identify if the infrastructure is located within an environmental justice community or provides services to vulnerable populations.
The infrastructure is not located in an environmental justice community and does not provide services to vulnearble populations
Will the infrastructure reduce the risk of flooding?
Yes
If the infrastructure became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?
Inoperability of the infrastructure would not be expected to result in injuries
If there are hazardous materials in your infrastructure, what are the extents of impacts related to spills/releases of these materials?
There are no hazardous materials in the infrastructure
If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?
Moderate – Inoperability may impact other facilities, assets, or buildings, but cascading impacts do not affect the ability of other facilities, assets, or buildings to operate
If the infrastructure was damaged beyond repair, how much would it approximately cost to replace?
Less than $10 million
Does the infrastructure function as an evacuation route during emergencies? This question only applies to roadway projects.
Yes
If the infrastructure became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?
No impact on surrounding natural resources is expected
If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the infrastructure is not able to serve or operate its intended users or function)?
Loss of infrastructure is not expected to reduce the ability to maintain government services
What are the impacts to loss of confidence in government resulting from loss of infrastructure functionality (i.e. the infrastructure asset is not able to serve or operate its intended users or function)?
Loss of confidence in government agency

The COMMONWEALTH OF MASSACHUSETTS
BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
251 Causeway Street, Suite 800, Boston, MA 02114-2136
Tel. (617) 626-1014 Fax (617) 626-1240
www.mass.gov/orgs/board-of-underwater-archaeological-resources

June 15, 2021

Kathleen A. Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
Attention: Anne Canaday, MEPA Unit (via email attachment)
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: Improvements on Main Street (Route 113), from Pleasant Street to 750 ft East of Westford Street, Project (EEA #16374), Dunstable, MA

Dear Secretary Theoharides,

The staff of the Massachusetts Board of Underwater Archaeological Resources has reviewed the above-referenced proposed project as detailed in the Environmental Monitor of May 26, 2021 and offers the following comments.

The Board has conducted a preliminary review of its files and secondary literature sources to identify known and potential underwater archaeological resources within the wetlands portion of proposed project area. No record of any underwater archaeological resources was found within the area. Based on the results of this review, the absence of recorded sites, and the impacts of past roadway, utility, and drainage construction and roadside development, the Board expects that this project is unlikely to impact submerged cultural resources.

However, should heretofore-unknown underwater archaeological resources be encountered during the course of the project, the Board expects that the project's sponsor will take steps to limit adverse effects and notify the Board and the Massachusetts Historical Commission, as well as other appropriate agencies, immediately, in accordance with the Board's *Policy Guidance for the Discovery of Unanticipated Archaeological Resources*.

The Board appreciates the opportunity to provide these comments as part of the MEPA review process. Should you have any questions regarding this letter, please do not hesitate to contact me at the address above or by email at david.s.robinson@mass.gov.

Sincerely,

David S. Robinson
Director

/dsr
Cc: Brona Simon, MHC
Jameson Harwood and Jeffrey Shrimpton, MDOT (via email attachment)

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Central Regional Office • 8 New Bond Street, Worcester MA 01606 • 508-792-7650

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

June 15, 2021

Secretary Kathleen A. Theoharides
Executive Office of Environmental Affairs
100 Cambridge Street, 9th Floor
Boston, MA 02114

Attention: MEPA Unit – Anne Canaday

Re: Environmental Notification Form (ENF)
Improvements on Main Street (Route 113)
Dunstable
EEA #16374

Dear Secretary Theoharides,

The Massachusetts Department of Environmental Protection's ("MassDEP") Central Regional Office has reviewed the ENF for the Improvements on Main Street (Route 113) from Pleasant Street to 750 feet east of Westford Street (the "Project") submitted by the Massachusetts Department of Transportation (MassDOT) and the Town of Dunstable (the "Town"). MassDOT and the Town (the "Proponents") are proposing to make roadway infrastructure and traffic improvements to approximately 2,000 linear feet (lf) of Main Street.

The Project includes road widening and pavement structure improvements; intersection and access improvements; sidewalk construction; bicycle accommodation and accessibility improvements; roadway retaining wall, culvert and stormwater system improvements; water system improvements; granite curb and hot mix asphalt berm installations; highway guardrail, signage and pavement marking installations; and landscaping. The road is currently narrow and deteriorating with no sidewalks or bicycling areas, limited sight distance, and failing culverts and retaining walls.

The Project will alter wetland areas and is proposed as a Limited Project under the Wetlands Protection Act (WPA) regulations at 310 CMR 10.53(3)(f). The Project includes

dredging of 78 cubic yards of material. The Project also proposes work in three parcels subject to Article 97.

The Project is listed on the 2021 North Middlesex Metropolitan Planning Organization Transportation Improvement Program. Construction funding from MassDOT will be provided for the Project, so MEPA jurisdiction is broad.

The Project is under MEPA review because it meets or exceeds the following review thresholds:

- 301 CMR 11.03(1)(b)(3) - Conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97;
- 301 CMR 11.03(1)(b)(5) - Release of an interest in land held for conservation, preservation or agricultural or watershed preservation purposes.

The Project requires the following State Agency Permits:

- MassDEP - Superseding Order of Conditions (if local Order of Conditions is appealed);
- MassDEP- 401 Water Quality Certification for Dredging (potential).

MassDEP offers the following comments:

Wetlands

The Project will result in the direct alteration of several areas subject to jurisdiction under the WPA and its regulations at 310 CMR 10.00, including Bordering Vegetated Wetland (BVW) and its associated Buffer Zone (BZ), Bank and its BZ, Land Under Waterbodies (LUW), Bordering Land Subject to Flooding (BLSF), and Riverfront Area (RA).

Alteration of wetland resource areas and associated BZ proposed for the Project requires the filing of a Notice of Intent (NOI) with the Dunstable Conservation Commission and MassDEP. The Proponent has filed an NOI application that is currently undergoing technical review prior to file number issuance. The Proponents have submitted the Project as a Limited Project under 310 CMR 10.53(3)(f). In its review of the NOI MassDEP may provide additional commentary beyond what is provided below concerning BVW replication, the need for wildlife habitat evaluation, and the exploration of alternative culvert replacement designs as they relate to the Project.

Impacts to BZ proposed under the ENF will total 49,946 square feet (sf) of permanent alteration and 19,541 sf of temporary alteration.

Alteration of BVW will total 233 sf and will be directly associated with work related to roadway widening. Impacts to BVW will be mitigated through the creation of 510 sf of wetland replication, exceeding the 1:1 required replication ratio established under the WPA.

Impacts to Bank will total 155 linear feet (lf). The Proponents should demonstrate how the Project complies with the Performance Standards for Bank at 310 CMR 10.54(4), including the submission of a wildlife habitat evaluation.

Impacts to LUW will occur within an unnamed perennial stream that flows beneath Main Street and will result in a total of 161 sf of permanent alteration and 894 sf of temporary impact. These impacts will be directly associated with culvert replacement and interconnection of the culvert to the retaining wall, which is also proposed for replacement. Once completed, impacts to LUW will be restored in place, however, improved culvert design will result in a total replacement of 184 sf of LUW, making a net increase in LUW resource of 23 sf.

Alteration of BLSF will total 1,524 sf, which will result in the loss of approximately 1,467 cubic feet of flood storage. Mitigation for these impacts will be achieved through the creation of 2,288 sf of compensatory storage, resulting in the creation of 2,883 cubic feet of storage volume, a net increase of 1,416 cubic feet. The Proponents should demonstrate that the Project complies with the Performance Standards found in 310CMR 10.57(4), specifically those requiring that compensatory storage be incrementally equal to the theoretical volume of flood water "at each elevation."

Alteration of RA will total 52,761 sf of which 20,557 sf will be temporary in nature. Permanent impacts to RA will be associated with proposed culvert replacement, roadway widening/ reconstruction, driveway reconstruction, sidewalk construction, and retaining wall re-construction. These impacts will occur primarily within the existing limits of the roadway and the disturbed roadway shoulder and therefore constitute redevelopment of RA. Temporary impacts to RA will be associated with erosion control installation/removal, wetland replication/compensatory storage construction, and incidental grading. All temporary impact areas are to be stabilized through seeding or planting.

According to the ENF the proposed culvert replacement will not fully meet the Massachusetts Stream Crossing Standards but has been designed to meet the standards to the maximum extent practicable.

The existing culvert consists of a 3-foot-wide x 4-foot-high dry-stacked stone culvert, which currently displays signs of failure and lacks wingwalls. The Proponents propose a new 6-foot-wide x 6.25-foot-high pre-cast concrete bottomless box culvert with a total length of approximately 82 feet. Under these conditions the new culvert will have an openness ratio of 0.31, which is below the preferred value of 0.82, but significantly above the 0.19 openness ratio afforded by the existing crossing.

The Proponents do not provide a specific analysis of how the proposed culvert will comply with the requirements that crossings be built at minimum 1.2 x bankfull width. Per the description provided in the ENF, USGS StreamStats identifies bankfull width of the unnamed perennial stream as 11.4 feet. The proposed 6-foot wide culvert will therefore fail to meet the bankfull width criteria. MassDEP maintains that the use of direct ground observations is preferable to StreamStats when evaluating the physical characteristics of a stream.

Alternatives explored in the ENF only account for alternative roadway widths, inclusion or exclusion of bicycle/pedestrian accommodation and adherence to FHWA horizontal curve criteria. To provide improved infrastructure resilience MassDEP encourages the consideration of crossing designs that will accommodate for flows experienced during the 100-year storm where practicable.

Stormwater

The Project will result in the creation of an additional 0.2 acres of impervious surfaces within the Project site resulting from proposed roadway widening and sidewalk installation. Total impervious surface areas following Project completion will total 2.2 acres. As proposed the Project meets the definitions of a redevelopment Project as it applies to the Massachusetts Stormwater Standards and therefore must comply to the Standards only to the maximum extent practicable.

Current stormwater management infrastructure varies widely across the Project site. Most of the area west of the existing stream crossing has in-street catch basins, conveyance and a definitive discharge point. The area immediately west of the culvert, and the remainder of the Project site to the east, drain overland via the roadway shoulder and within the roadway to various points of low elevation.

Under proposed conditions the existing stormwater system on the westerly side of the stream crossing will be largely unaltered except for minor shifting of catch basins to accommodate new sidewalk and curb lines. Improvements to the existing system will include new catch deep-sump catch basins to replace those existing in addition to a new flared end section and rip-rap at the discharge point.

Areas immediately west of the stream crossing, and the remaining portions of the Project site to the east will receive new systems consisting of deep-sump catch basins and discharge points with flared end sections and rip-rap.

Incorporation of deep sump catch basins as well as flared/rip-rapped end sections will result in an overall improvement to runoff quality by reducing/removing untreated discharges, increasing TSS removal and reducing runoff velocities. In keeping with the guidance provided for redevelopment Projects found in Volume2 Chapter 3 of the Massachusetts Stormwater Management Handbook, MassDEP encourages the additional consideration of stormwater BMPs, i.e., hydrodynamic separators, which may further improve TSS removal of the proposed stormwater systems.

Other Permits and Considerations

The Project proposes dredging of 78 cubic yards of material from within wetland resource areas for the installation of the culvert replacement. It should be noted that if changes to Project design result in an increase of dredged material in excess of 100 cubic yards the Project will require review under the 401 Water Quality Certification Program.

The Proponents should also determine whether the following U.S. EPA NPDES permit is necessary prior to commencing Project construction: Dewatering General Permit - https://www.epa.gov/npdes-permits/dewatering-general-permit-dgp-massachusetts-new-hampshire.

Water Supply

MassDEP reviewed the water supply and water system portions of the ENF. The Proponents adequately address the impacts to the environment due to the Project. The Proponents do not need a MassDEP Water Supply permit for the proposed work.

Air Quality

Construction and demolition activity must conform to Massachusetts Air Pollution Control regulations governing nuisance conditions at 310 CMR 7.01, 7.09 and 7.10 and not cause or contribute to a condition of air pollution due to dust, odor or noise. As such, the Proponent should propose measures to prevent and minimize dust, noise, and odor nuisance conditions, which may occur during both construction and demolition. Because the Project is located on a moderately traveled roadway with residences, a town common and town hall along it, excessive dust generation is a concern. The Proponent should consider commercially available dust suppression methods including use of a water truck and/or spreading calcium chloride during the construction period.

MassDEP requests that all non-road diesel equipment rated 50 horsepower or greater meet EPA's Tier 4 emission limits, which are the most stringent emission standards currently available for off-road engines. If a piece of equipment is not available in the Tier 4 configuration, then the Proponent should use construction equipment that has been retrofitted with appropriate emissions reduction equipment. Emission reduction equipment includes EPA-verified, CARB-verified, or MassDEP-approved diesel oxidation catalysts (DOCs) or Diesel Particulate Filters (DPFs). The Proponent should maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece of equipment on file for Departmental review.

MassDEP appreciates the opportunity to comment on the Project. If you have any questions regarding these comments, please do not hesitate to contact JoAnne Kasper-Dunne, Central Regional Office MEPA Coordinator, at (508) 767-2716.

Very truly yours,

Mary Jude Pigsley
Regional Director

cc: Commissioner's Office, MassDEP