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

Matthew A. Beaton
SECRETARY

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

December 30, 2020

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

PROJECT NAME	: Route 20 Reconstruction
PROJECT MUNICIPALITY	: Charlton and Oxford
PROJECT WATERSHED	: French
EEA NUMBER	: 15355
PROJECT PROPONENT	: Massachusetts Department of Transportation (MassDOT)
DATE NOTICED IN MONITOR	: November 23, 2020

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62I) and Section 11.08 of the MEPA regulations (301 CMR 11.00), I have reviewed the Final Environmental Impact Report (FEIR) and hereby determine that it **adequately and properly complies** with MEPA and its implementing regulations.

Project Description

As described in the Draft Environmental Impact Report (DEIR) and FEIR, the project entails roadway and traffic infrastructure improvements along a 3.2-mile corridor of Route 20 in Charlton and Oxford. This section of Route 20 serves as a bypass to the Massachusetts Turnpike and carries approximately 24,000 vehicles per day. The existing pavement and signage along this corridor are generally in good condition; however, the horizontal and vertical alignment of the roadway do not meet current design standards. The roadway has a history of severe head-on and fixed object collisions that have resulted in numerous vehicular accidents.

The project corridor is classified as an urban principal arterial with 11-foot wide travel lanes and one-foot wide shoulders. The limits of work (LOW) for the project begin at Richardson Corner Road in Charlton and extend easterly along Route 20 to its intersection with Route 12 in Oxford. The project

area is lined primarily with commercial and industrial uses, with small pockets of residential areas and undeveloped areas. The majority of intersecting roads are collector roads for residential areas. Large areas of wetland resource areas associated with the French and Little Rivers and their tributaries are located on both sides of Route 20 throughout the project area. These include Bordering Vegetated Wetlands (BVW), Bank, Isolated Vegetated Wetlands (IVW), Land Under Water (LUW), Bordering Land Subject to Flooding (BLSF), and Riverfront Area (RFA). Portions of the project corridor are within *Priority* and *Estimated Habitat* as mapped in the 14th Edition of the Natural Heritage Atlas. No properties within or adjacent to the project area are listed in the National or State Register of Historic Places. However, there are properties or districts listed in the *Inventory of Historic and Archaeological Assets of the Commonwealth* (Inventory).

The project is proposed to improve safety, geometry, and traffic operations along the corridor by reconstructing the roadway cross section, modifying select areas of the alignment, and improving substandard intersections and bridges to meet applicable design standards. Major elements of the project are designed to address roadway safety concerns of vehicle speed, sight distance, geometry, permissive left-turns and emergency response. The project includes the following elements:

- Pavement resurfacing and full-depth widening of the roadway to accommodate two 11-foot wide lanes with two-foot wide median shoulders and four-foot wide curbside shoulders in each direction
- A concrete median barrier, separating opposing directions of travel, from Richardson's Corner to Route 56 and a raised concrete median from Route 56 to Route 12
- A median break with left-turn lanes at the signalized intersection of Route 20/Richardson Corner Road in Charlton (western LOW) to allow for U-turns from both directions
- A new signalized intersection at Route 20/Oxbow Road in Oxford to allow for U-turns from both directions
- Reconstruction of the intersection of Route 56/Route 20 with median breaks to allow for U-turns from both directions
- Minor improvements at the signalized intersection of Route 20/Route 12 (eastern LOW) to allow for U-turns from both directions
- A shared use path along the north side of Route 20 from the intersection of Oxbow Road to the intersection of Route 12
- Sidewalks along the south side of Route 20 between Route 12 and extending to Route 56
- Widen/replace the functionally obsolete Route 20 bridge over the French River in Oxford
- Widen/replace the Route 20 bridge over the Little River in Charlton
- Replace stormwater management system to improve stormwater management and quality
- Replace seven cross culverts
- Install signage, pavement markings, guardrails, and retaining walls
- Demolish four houses and a garage

According to the FEIR, roadway improvements are designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) and the Massachusetts Department of Transportation (MassDOT) design criteria standards. MassDOT has identified approximately 10.2 acres of right-of-way (ROW) acquisition required to construct the project and 14.5 acres of temporary and permanent easement acquisitions. The project was selected for Design-Build (D-B) delivery, which combines the final project design and construction. The FEIR maintains that the

advantages of a D-B procurement for this project include an accelerated design and construction schedule for procurement; the ability to begin construction while design is still underway; innovative construction phasing for utilities, constructability, and traffic control; and the opportunity to team a contractor with a designer to optimize the final product deliverable.

Emergency Authorization

Following the issuance of the Certificate on the Environmental Notification Form (ENF) for this project (May 8, 2015), MassDOT filed a separate ENF for the construction of interim roadway safety improvements along a portion of Route 20 (Route 20 Emergency Repairs Project; EEA#15449) under the Emergency Action provisions of the MEPA regulations (301 CMR 11.13). The Emergency Repairs Project (3,600 linear foot (lf) segment) is located within the 3.2-mile corridor of the Reconstruction Project. Those roadway improvements were intended to minimize the occurrence of head-on vehicle accidents by providing median separation between lanes and wider shoulders. Specifically, work included widening the roadway by approximately five feet on each side, as well as installation of double-faced guardrails along the centerline, flashing curve warning signs, dynamic speed feedback signs, reflector lane delineators, and new guardrails along both sides of the roadway. Interim widening was necessary to install the centerline and side guardrails and to provide for wider shoulders.

The ENF Certificate for EEA #15449 issued on January 8, 2016 granted Emergency Authorization for the Route 20 Emergency Repairs Project and determined that the project did not require the preparation of an Environmental Impact Report (EIR). As described in greater detail in that Certificate, MassDOT was required to subsequently undertake due compliance with MEPA and its implementing regulations by identifying the impacts associated with the emergency action and incorporating avoidance, minimization, and mitigation measures into the Draft EIR (DEIR) for the Route 20 Reconstruction Project. Construction of interim measures commenced in November 2015 and was completed in January 2016. The repairs resulted in slightly wider travel lanes.

Changes to the Project Since Filing the DEIR

Following issuance of the Certificate on the DEIR, MassDOT initiated a Value Engineering (VE) study completed by an independent engineering company to evaluate the project and provide recommendations for further project refinement in support of the project's purpose and need. The FEIR presents the results of the VE study which were assessed and incorporated into the Base Technical Concept (BTC) for the D-B procurement process. Modifications to the project since filing of the DEIR include: significant narrowing of roadway cross sections (from 74 feet to 58 feet); alignment modifications; limited full depth roadway reconstruction; intersection revisions including modifications to the Route 20/56 intersection which eliminate the proposed Quadrant Roadway; expansion of pedestrian accommodations; and full replacement of the Little River bridge. Coordination with utilities has also furthered the design and impact assessment presented in the BTC.

In comparison with impacts described in the DEIR, the FEIR indicates that the project corridor increased from 36.8 acres to 44.2 acres; total area of land alteration decreased from 28.0 acres to 26.2 acres; and creation of impervious area decreased from 10.2 acres to 9.2 acres.

The project will add Emergency Pull-Off Areas along Route 20 to offer safe parking for disabled

vehicles outside of traffic and allow for traffic enforcement and maintenance operations. The reduction in proposed roadway cross section will result in less impervious area and associated stormwater requiring treatment, and less impacts to private parcels. The project contains modified cross sections in three segments of the LOW: from Richardson's Corner Road to Oxbow Road; from Oxbow Road to Route 56; and from the Route 56 to Route 12. A raised concrete median is now proposed from Route 56 to Route 12 in lieu of a continuous concrete barrier.

The intersection of Route 20/Oxbow Road required modification to allow left turning and U-turning vehicles to fully operate concurrently without conflict. The length between the stop lines on Route 20 was increased and the approach alignment of Oxbow Road adjusted. Work associated with this intersection will result in increase to impacts to Bank, BVW, and RFA.

The Quadrant Roadway intersection at Route 56 proposed in the DEIR is eliminated from the project. Instead, the traditional intersection design remains, with reconstruction and new traffic/ pedestrian signals as originally proposed in the ENF to reduce the amount of impervious area and eliminate a new road within the project LOW and associated stormwater management.

Environmental Impacts and Mitigation

Potential environmental impacts include 26.2 acres of land alteration and creation of 9.2 acres of new impervious area within the project area. The project will permanently and temporarily alter a number of wetland resource areas including the following total impacts and changes from the DEIR: 105,184 square feet (sf) of BVW (increase of 27,641 sf); 9,469 sf of LUW (decrease of 862 sf); 1,774 lf of Bank (increase of 221 sf); 176,418 sf of RFA (an increase of 3,486 sf); 7,735 sf (955 cubic yards (cy)) of BLSF (no change); and 2,103 sf of IVW (no change). The project will alter 0.86 acres of wood turtle habitat.

Measures to avoid, minimize and mitigate potential impacts include transportation improvements along the corridor; construction of a 1.4-acre BVW replication area; acquisition and permanent protection of 42 acres of undeveloped land containing wetlands and mapped Priority habitat; avoidance of impacts to historic and archaeological resources; construction of a stormwater management system; implementation of construction period best management practices (BMPs); and enhanced pedestrian accommodations.

Jurisdiction and Permitting

The project is undergoing MEPA review and is subject to a mandatory EIR pursuant to 301 CMR 11.03(1)(a)(2) and 11.03(3)(a)(1)(a) because it requires State Agency Actions and will create ten or more acres of impervious area and alter one or more acres of BVW. The project will also exceed ENF thresholds pursuant to 301 CMR 11.03(3)(b)(1)(b) and 301 CMR 11.03(b)(1)(f) for alteration of 500 or more lf of Bank and one-half or more acres of other wetlands (RFA). The project will require an Individual 401 Water Quality Certificate (401 WQC) from the Massachusetts Department of Environmental Protection (MassDEP) and a Conservation and Management Permit (CMP) from Natural Heritage and Endangered Species Program (NHESP). The project will require review by the Massachusetts Historical Commission (MHC) under M.G.L. c. 9, §§ 26-27C as amended by c. 254 of the Acts of 1988, and Section 106 of the National Historic Preservation Act (NHPA) of 1966

(regulations at 36 CFR 800). The project is subject to review under the May 2010 MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol (GHG Policy).

The project will also require an Order of Conditions from the Charlton and Oxford Conservation Commissions (or in the case of an appeal, a Superseding Order of Conditions from MassDEP), a Section 404 Individual Permit from the U.S. Army Corps of Engineers (ACOE), a National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) from the U.S. Environmental Protection Agency (EPA), a Section 7 Consultation under the U.S. Endangered Species Act with the U.S. Fish and Wildlife Service (USFWS), and review under the National Environmental Policy Act (NEPA) as an Individual Categorical Exclusion by the Federal Highway Administration (FHWA).

The project is being undertaken and funded by an Agency of the Commonwealth. Therefore, MEPA jurisdiction for this project is broad and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

Review of the FEIR

The FEIR includes a detailed description of the project, provides a summary of project alternatives and identifies changes to the project since the filing of the DEIR. The FEIR describes steps MassDOT has taken to further reduce the impacts of the project since the filing of the DEIR. It includes updated site plans for existing and proposed conditions and updated environmental impact calculations. Plans depict project elements, permanent and temporary easement areas, pedestrian and bicycle accommodations, historic resources; stormwater infrastructure, rare species habitat; and wetland resource areas.

The FEIR provides a description and analysis of applicable statutory and regulatory standards and requirements, and addresses how the project will meet those standards. It includes a list of required State Agency permits, Financial Assistance, and approvals, and provides an update on the status of each of these pending actions. The FEIR identifies and briefly describes local review and permitting requirements. MassDOT has consulted with the MEPA Office, MassDEP, NHESP, ACOE, and local Conservation Commissions. During MEPA review, MassDOT provided supplemental information on December 30, 2020 to clarify project-related impact estimates for land alteration, impervious area, and wetland resource areas. For purposes of clarity, all supplemental materials are referred to herein as the "FEIR" unless otherwise referenced.

Land Impacts/Stormwater

The project will result in 26.2 acres of land alteration which consists of construction of roadway widening, sidewalk and multi-use paths as well as associated grading. Much of the mitigation for land impacts will take the form of acquisition of undeveloped land for wetlands and rare species protection, as further described below.

The FEIR identifies the extent and location of potential private property takings based on the project's conceptual design. The FEIR identifies the location and extent of permanent or temporary easements that will be acquired to complete the project. These include temporary and partial acquisitions along both sides of the existing ROW and structure/permanent acquisitions for a total of 14.2 acres.

The project will also result in 9.2 acres of new impervious area. The DEIR provided an analysis and discussion of potential impacts to the project area posed by increased frequency and intensity of storms associated with climate change. MassDOT consulted with the MEPA Office regarding this analysis prior to submission of the DEIR. The FEIR provides an update on the proposed stormwater design. The reduction of 16-feet in the roadway template width as proposed in the DEIR (74 feet) to the FEIR (58 feet) will reduces the volume of runoff from impervious areas to receiving bodies. There have been minor modifications to the stormwater management system. The final design of the closed conduit system and cross culverts will be designed to anticipate future rainfall events to improve resiliency.

According to the FEIR, the existing stormwater management system will be entirely replaced, and new infrastructure will be installed that complies with the SMS to the maximum extent practicable in accordance with the Wetlands Regulations and 401 WQC Regulations. The proposed stormwater design will treat stormwater using a combination of techniques, including sediment forebays, detention wet basins, infiltration basins, drainage channels, grassed channels, a bioretention area, and energy dissipaters. These measures will improve water quality, infiltrate runoff, control peak runoff rates and volumes, and remove total suspended solids (TSS) removal. Interim and post-development peak discharge rates will not exceed predevelopment peak discharge rates for the 2-year, 10-year, and 100-year storm events. The majority of the project is considered "redevelopment" as defined in the Wetlands Protection Act (WPA).[1]

Wetlands and Waterways

The project will result in unavoidable impacts to wetland resource areas. The Charlton and Oxford Conservation Commissions will review the project to determine its consistency with the limited project provisions of the WPA, the Wetlands Regulations (310 CMR 10.00), and associated performance standards, including stormwater management standards (SMS). MassDEP will review the project to determine its consistency with the 401 WQC regulations (314 CMR 9.00). The FEIR maintains that portions of the proposed work associated with bridges over the Little and French Rivers are subject to Section 24 of the 2014 Transportation Bond Bill (Chapter 79 of the Acts of 2014) (i.e. the Bridge Exemption). Therefore, Section 61 and Sections 62A to 62I, inclusive, of Chapter 30 of the General Laws, Chapter 91 (Waterways Act) of the General Laws and Section 40 of Chapter 131 of the General Laws (WPA) do not apply to these bridges, and a c. 91 License will not be required for the project. MassDOT indicates that, notwithstanding this exemption, the project will comply with the performance standards of the WPA regulations to the maximum extent feasible pursuant to Limited Project criteria for roadway and intersection improvements.

The project has been modified since the DEIR and includes some changes in impacts to wetland resource areas, refinement of mitigation plans, and identification of specific locations for wetland replication and land preservation. Other changes include completion of a culvert analysis, resulting in the proposed replacement of all culverts in the project area, and an assessment of the stormwater management system and river and stream crossings. The FEIR includes an updated summary of impacts to wetland resource areas by type, location (Charlton or Oxford), and the nature of the impact

[1] For purpose of the SMS as provided in 310 CMR 10.05(6)(k) through (q), redevelopment is defined to include the following projects: (a) maintenance and improvement of existing roadways including widening less than a single lane, adding shoulders, correcting substandard intersections, improving existing drainage systems and repaving.

(temporary versus permanent).

Specific impacts to wetland resource areas are described in the following table:

Wetland Resource Area	Charlton			Oxford			Total		
	Perm.	Temp.	Subtotal	Perm.	Temp.	Subtotal	Perm.	Temp.	Overall
BVW (sf)	4,055	8,126	12,181	57,003	36,000	93,003	61,058	44,126	105,184
Bank (lf)	149	261	410	1,130	233	1,363	1,280	494	1,774
LUW (sf)	692	1,359	2,051	5,228	2,190	7,418	5,920	3,549	9,469
RFA (sf)	59,677	0	59,677	116,741	0	116,741	176,418	0	176,418
BLSF (sf)/(cy)	3,200/ 280	865/ 0	4,065/ 280	3,100/ 675	570/ 0	3,670/ 675	6,300/ 955	1,435/ 0	7,735/ 955
IVW (sf)	0	0	0	2,103	0	2,103	2,103	0	2,103

The project will fill a total of 61,058 sf of BVW (1.39 acres), which will be mitigated through wetland replication as further described below. Impacts to BVW are located on both sides of Route 20 and are associated with roadway alignment and widening; utilities; construction of retaining walls at wetland crossings; side slope work; bridge replacement work; and culvert replacement. Improvements to the substandard intersection at Oxbow Road (new traffic signal, roadway extension, and U-turn bulb) will fill 9,619 sf of BVW on the north side of the roadway. The redesign of the Route 20/Route 56 intersection will impact 3,884 sf of BVW on the north side of Route 20. A retaining wall is proposed to minimize impacts in this location. Replacement of the French River Bridge requires 1,394 sf of permanent fill and 1,445 sf of temporary alteration associated with the construction of the supporting retaining wall at Texas Pond.

The project will permanently impact 5,920 sf of LUW. Impacts to LUW are associated with construction of a vertical retaining wall adjacent to Texas Pond to support the widened roadway alignment; expanded bridge abutments at Little River, and culvert replacements throughout the corridor.

The project will permanently impact 6,300 sf of BLSF at the Little River and French River bridges. Areas of temporary alteration will be restored following construction. The FEIR depicts the 100-year floodplain on project plans; it does not depict the 500-year floodplain. The FEIR indicates that compensatory flood storage will be provided within two discrete areas near the Little River and French River. The volume will be created in areas not currently used for flood storage and will be incrementally equal to the theoretical volume of flood water lost at each elevation, up to and including the 100-year flood elevation. In addition, the created volume at the wetland replication site which matches contour elevations filled at the Little River crossing will also be used for compensatory storage to the extent feasible. The final details and design of the compensatory flood storage areas will be advanced through the permit review processes in consultation with MassDEP and the Charlton and Oxford Conservation Commissions.

The project will permanently impact approximately 1,280 lf of Bank. Permanent alteration of Bank is associated with roadway widening, bridge construction, and two of the three proposed replacement culverts. All seven cross culverts in the project area will be replaced. Three of these culverts convey streams beneath Route 20 and will be reconstructed to meet Massachusetts River and Stream Crossing Standards (RSCS) relative to fish and wildlife passage and stream continuity to the

extent practicable. The other four culverts only convey stormwater and will be designed for conveyance of design flows only.

Impacts to RFA associated with the Little River and an unnamed tributary include abutment extension for the Little River Bridge, roadway widening and associated retaining wall and side slope construction, and water quality treatment basins. Impacts to RFA associated with the French River include abutment demolition and construction, roadway widening, and associated retaining wall and side slope construction. The FEIR considers a significant portion of the RFA within the project corridor as previously developed and/or degraded pursuant to 310 CMR 10.58(5) (approximately 136,778 sf). The FEIR quantifies impacts to RFA as they relate to land alteration on previously undeveloped land under 310 CMR 10.58(4) and land alteration on previously developed and degraded RFA under 310 CMR 10.58(5). Limited areas of RFA within the project corridor would be considered vegetated and undeveloped (approximately 39,639 sf). The FEIR indicates that work in RFA is considered bridge exempt under the Transportation Bond Bill with the exception of culvert replacement associated with perennial rivers.

The project requires a Section 401 WQC from MassDEP because project activities will result in the discharge of fill material in waters of the United States within the Commonwealth. MassDEP comments indicate that the project has been designed to meet the 401 WQC regulations found at 314 CMR 9.00. The regulations contain Criteria for the Evaluation of Applications for Discharge of Dredged or Fill Material (314 CMR 9.06). MassDEP comments notes that the least environmentally damaging practicable alternative has been selected.

Mitigation for the project's unavoidable impacts will be provided in accordance with performance standards in the WPA Regulations and ACOE *Compensatory Mitigation Guidance* document (USACE, July 20, 2010). To mitigate the filling of 1.39 acres of BVW, MassDOT proposes to construct a 1.4-acre replacement area (1:1 replication) designed in accordance with 310 CMR 10.55(4)(b) and *Massachusetts Inland Wetland Replication Guidelines* (MassDEP, 2002) and the ACOE guidance. The wetland replication area is proposed off-site adjacent to a large wetland complex associated with the Little River along the Charlton and Oxford municipal boundary. MassDOT will provide a conceptual design of the replication area to the Conservation Agents of Charlton and Oxford for review prior to submission of the Notice of Intent and WQC applications. The conceptual design will be refined during the permitting process to produce a replication plan designed in accordance with MassDEP Guidelines. At this time, two seasons of groundwater data have been collected and analyzed to help determine the proposed elevations within the created wetland. Data collected during 2020 will not be used in the planning and design process for the wetland because a drought was declared in the region. Data will continue to be collected until the time of construction.

Based on consultation with ACOE and its preference for land preservation as mitigation for direct impacts and secondary effects (i.e. temporary impacts, clearing proximate to streams) on wetlands and waters for this project, MassDOT proposes to permanently protect 42 acres of undeveloped land south of the project corridor in both communities. The proposed land preservation parcel includes approximately 27.2 acres of jurisdictional wetland resource areas and 25.8 acres of Priority Habitat for Wood Turtle. The FEIR includes additional information regarding the permanent protection of the property acquisition. MassDEP comments indicate that the proposed plan will satisfy mitigation requirements under the WPA, Sections 401 and 404 of the federal Clean Water Act, and ACOE

mitigation guidance, and will contribute to mitigation toward impacts reviewed under the Massachusetts Endangered Species Act (MESA). MassDOT has worked with the Massachusetts Department of Fish and Game (DFG) Division of Fish and Wildlife (DFW), which will take ownership of and manage the parcel of land proposed for mitigation after the land is acquired by MassDOT.

Rare Species

The FEIR provides an update on the project's potential impacts to rare species and their habitat and the outcome of any consultation with NHESP. NHESP determined that the project will likely result in a "take" of Wood Turtle (*Glyptemys insculpta*), a species of Special Concern. The project will require a CMP from NHESP in compliance with MESA (321 CMR 10.00). Permanent impacts to approximately 14,565 sf of wood turtle habitat are associated with the loss of wetlands near the Little River on the northern side of Route 20 in Charlton where road widening is proposed, and on either side of Route 20 where bridge abutments will be extended. Temporary impacts to approximately 22,935 sf of turtle habitat is associated with bridge and roadway activities. Proposed bridge abutments at the Little River crossing will also cause temporary disturbance to the streambed from the installation of temporary cofferdams to dewater the area around the abutment extensions.

MassDOT intends to submit a CMP application to NHESP in 2021. It will include descriptions of existing and proposed conditions, an alternatives analysis, and a draft CMP. The plan will describe the proposed mitigation area, measures to avoid and minimize impacts to habitat during construction, post-construction monitoring plans, and long-term habitat management protocols. Preparation of the CMP application will include ongoing consultation with NHESP. To mitigate impacts to mapped habitat and provide a net benefit to the conservation of the state-listed species, MassDOT proposes to acquire and preserve approximately 42 acres of undeveloped land (described above) south of the project corridor in Charlton and Oxford, of which approximately 25.8 acres are mapped habitat for the wood turtle, 27.2 acres are wetlands and 14.8 acres are uplands. This commitment would exceed the 3:1 mitigation ratio required by NHESP. NHESP comments indicate that it anticipates that the project can meet the standards for a CMP. Prior to the start of construction, MassDOT proposes to purchase this land in fee to be transferred to DFG for land preservation and management. A small parking area will be developed for public access. As part of the land transfer agreement, use will be limited to passive recreation and the boundaries will be appropriately identified with signage. The land currently supports activities such as hiking and hunting following state rules and regulations.

Suitable streambed material will be placed around the rehabilitated bridge abutments at the Little River to maintain and enhance wood turtle habitat and passage. MassDOT will also implement turtle avoidance and protection measures during construction, including conducting turtle sweeps and use of turtle exclusion fencing.

Historical and Archaeological Resources

The project requires review by MHC in compliance with Section 106 of the NHPA of 1966 (36 CFR Part 800) and M.G.L. Chapter 9, Section 26-27C (950 CMR 71.00). The FEIR provides an update on the project's potential impacts to historical and archaeological resources.

Construction of a U-turn bulb at the southeasterly corner of the intersection of Routes 20 and 56

in Oxford will require a fee taking from the parcel occupied by a building known as the Abisha Learned House at 60 Leicester Street which was constructed in 1783 and is included in the Inventory. The building has been substantially altered and does not appear to retain sufficient architectural integrity necessary for individual listing in the National Register of Historic Places (NRHP). The fee taking will be located at the far northerly extent of the parcel adjacent to Route 20 and will not disturb the Abisha Learned House or a large mature oak tree on the parcel. A retaining wall will be constructed adjacent to the U-turn bulb to minimize the area of the proposed fee taking. The Abisha Learned House is also located within the boundaries of Learned Village, aka Texas Village, which is included in the MHC Inventory. The Learned Village Area does not appear to be eligible for listing in the NRHP as a historic district because of the demolition of two significant buildings (the Harrison Gray Otis Taft House and the Abisha Learned Broadcloth Mill Shop), as well as incompatible alterations to the remaining buildings within the inventoried area. MassDOT conducted additional consultation with the Oxford Historical Commission (OHC) in 2020 to provide updates on design changes and describe how the project was avoiding adverse impacts to the Abisha Learned House and Texas Village to the greatest extent feasible. MassDOT will include either a sign or plaque recognizing the Texas Village area as requested by the OHC.

Outside of the Texas Village Area, MassDOT is proposing to demolish four houses and a garage (circa late-19th to early 20th century) to facilitate project construction; MassDOT determined that none of these buildings possess the architectural integrity or historical significance necessary to meet the criteria for listing in the NRHP. MassDOT will submit an Inventory Form B for each of these buildings for submittal to MHC.

The project area was reviewed for archaeological sensitivity. It was determined that a proposed wetland replication area required an intensive (locational) survey. The results of the 2015 field investigations indicate that the survey area has little potential for yielding significant archaeological information, either for the ancient Native American or historic periods. MassDOT opines that the project area includes low archaeological sensitivity based on the absence of previously recorded archaeological sites, the results of an intensive (locational) archaeological survey conducted in 2015, and the effects of past roadway, drainage, utility construction, and roadside development. MassDOT will submit a Project Notification Form to MHC for review under Section 106 of the NHPA. MassDOT anticipates that MHC will determine that the project will be unlikely to affect significant historic or archaeological resources.

Hazardous Materials

Material will be managed in accordance with the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) and other applicable regulations. MassDOT is advised that, if sources oil and/or hazardous material (OHM) are identified during the implementation of the project, notification pursuant to the MCP must be made to MassDEP, if necessary.

The FEIR characterizes, identifies (on site plans), and reviews the status and responsible party for Release Tracking Numbers (RTNs) within the project area. It indicates that MassDOT has completed an extensive analysis of ground conditions to identify hazardous materials present within the project area beyond what would be required in a Phase I Site Assessment. The ENF and DEIR provided additional information on the geotechnical exploration program. The FEIR provides an update of the results of the Draft Hazardous Materials Assessment Report (HMAR) presented in the ENF and the results of the

subsurface environmental investigations provided in the DEIR. The Draft HMAR will be finalized with the most recent information and included in the contract documents for bid procurement.

The MassDEP database identified an additional five RTNs listed since the Draft HMAR was completed. The FEIR includes an updated Table 2-2 which identifies additional reported sites. During a preliminary environmental investigation performed in 2016, a reportable condition of naphthalene and 2-melthylnaphthalene was identified in soil boring TP-105 at the intersection of Oxbow Road/Route 20 in Oxford and reported to MassDEP on September 7, 2016 which assigned RTN 2-19979 to the release. Follow-up sampling performed in 2016 and 2017 identified impacted soils in the immediate area of boring TP-105 and impacted groundwater over a larger area. Any work in this location that will disturb soils and/or require groundwater removal will be conducted as a Release Abatement Measure (RAM). The FEIR indicates that a Temporary Solution with long-term monitoring is likely based on available data and economic infeasibility of remediation beneath Route 20.

Stockpiling of soil will be managed under the oversight of a Licensed Site Professional (LSP) according to an approved excavation and stockpiling protocol in compliance with all MassDEP requirements. In general, soil tested as part of preliminary environmental investigations is suitable for reuse at a restricted reuse facility or for reuse as cover at an unlined Massachusetts landfill. Most of the soil could be reused as fill for the project. Some soil must be disposed of off-site. MassDOT specifications for Oil and Hazardous Materials will be incorporated into the build contract to require the evaluation of excavated soils during construction if materials are encountered that were not previously identified during environmental investigations. Soils requiring special handling will be properly managed and disposed of in accordance with state and federal laws, including the MCP. A soil and groundwater management plan will be developed and implemented by the Design-Build Entity (D-B Entity) during construction. Specific means and methods have not been identified at this stage of design.

The FEIR describes how MCP-regulated conditions for any of the identified RTNs may impact construction techniques (i.e., dewatering, grading or fill, etc.) or location/design of site infrastructure (e.g., groundwater and stormwater management, new or relocated water, sewer and drainage pipes). It addresses potential effects on stormwater infiltration. The FEIR indicates that none of the proposed stormwater basins are located within the vicinity of these RTNs and stormwater infiltration is not anticipated to be a concern as the environmental investigations have confirmed that there are no OHM within the proposed basin locations.

Greenhouse Gas Emissions

The project is not expected to induce new vehicle trips beyond those associated with yearly background growth within the region. Therefore, the project appears to meet the de minimis exception outlined in the MEPA GHG Policy. I note that MassDOT has targeted a 7.6 percent decrease in transportation sector GHG emissions by 2020 as stated in the Massachusetts *Clean Energy and Climate Plan for 2020.*

The DEIR summarized other MassDOT initiatives to reduce the reliance on single-occupant vehicles, including the GreenDOT Implementation Plan which promotes healthy transportation options, including walking, bicycling, use of public transit, and smart growth development. It highlighted the network of Park & Ride lots. The DEIR indicated that the project will reduce vehicle queuing and

improve operations which will reduce GHG emissions. The project will provide new sidewalks to promote walking; plant trees; provide conditions to support transit access; and use recycled materials.

Construction Period

The project must comply with MassDEP's Solid Waste and Air Quality Control regulations during construction and demolition (C&D). All C&D activities should be undertaken in compliance with the conditions of all State and local permits. MassDOT should review MassDEP regulatory requirements to ensure the adoption of appropriate mitigation measures for implementation during the construction period. The FEIR describes construction period activities and sequencing/phasing, related permitting requirements, and mitigation measures. MassDOT has selected the project for Design-Build procurement (approximately 25 percent design level). The D-B Entity will be responsible for completing the final design and constructing the project.

The project is anticipated to be constructed over a 34-month timeframe. The wetland mitigation site will be constructed first, followed by roadway activities. The FEIR describes potential construction period impacts (including land alteration, noise, air quality, traffic, and materials management) and proposes measures that could be implemented to avoid or minimize these impacts. It is highly likely that accelerated bridge construction techniques (constructing components off-site and transporting to site for assembly and installation) will be implemented at both bridge locations to reduce the overall project delivery time and impacts to the traveling public and abutters.

The FEIR indicates that drilling or blasting may be required between Route 56 and Route 12. The project will comply with MassDEP's Noise Pollution Policy at 310 CMR 7.10 and implement a noise control plan to minimize noise during construction. Noise monitoring will be required to document compliance with the noise monitoring plan. Measures to mitigate construction noise related to drilling or blasting will include specifying site construction hours and locating specific activities such as crushing and pulverizing, and equipment staging areas at appropriate distances from residential receptors.

The project will require the D-B Entity to develop a Construction Waste Management Plan as part of MassDOT's GreenDOT Implementation Plan. The FEIR discusses proposed solid waste management protocols for the construction period including the recycling of asphalt and potential asbestos removal.

<u>Mitigation and Section 61 Findings</u>

The FEIR includes an updated and revised chapter that summarizes proposed mitigation measures and provides individual draft Section 61 Findings for each State Agency that will issue permits for the project. It identifies the party responsible for implementation and contains a schedule for implementation of mitigation measures.

Greenhouse Gas Emissions

- Implement asphalt recycling where feasible
- Require contractors to use clean diesel 750 hp EPA Tier 4 construction equipment
- Construct sidewalks to encourage pedestrian use in the area

Land

- Landowners will be interviewed regarding their property needs and will be compensated and/or relocated prior to construction as appropriate in accordance with the Uniform Act of 1970.

Stormwater

- During construction, structural and non-structural controls will be implemented to minimize erosion and sedimentation, including temporary stabilization, temporary seeding, permanent seeding, dust control, temporary sediment basins and check dams, diversion swales, catch basin inlet protection, and dewatering filters.
- During operation, consistency with MassDEP's Stormwater Regulations will be met through measures including infiltration, peak runoff rate and volume control, and TSS removal.
- Stormwater management improvements will include:
    - new collection and conveyance system
    - Stormwater detention, recharge, and improved water quality will be provided through use of the following BMPs: two wet basins; two infiltration basins; inlet forebays at the stormwater basins; one bioretention area; and deep sump catch basins.

Wetlands

- Construct an approximately 1.4-acre BVW replication area prior to alteration of BVW
- Acquire and protect 42 acres of property located adjacent to the project corridor prior to construction
- Protect wetland resource areas during construction from direct impacts, including erosion and sedimentation
- Restore temporary impacts in place post-construction
- Comply with SMS during and post construction
- Complete culvert replacement in compliance with RSCS to extent feasible

Rare Species Habitat

- Protect approximately 42 acres containing both mapped habitat (approximately 26 acres) and adjacent land to provide for net benefit
- Turtle avoidance and protection measures during construction will include turtle sweeps and the installation of turtle exclusion fencing

Historic Resources

- Confine impacts to a fee taking at the corner of the Abisha Learned House parcel
- Construct a stone retaining wall to minimize the area of the fee taking
- Implement construction mitigation methods to avoid impacts
- Install signage or plaque identifying Learned Village in consultation with OHC

Construction

- Construction staging plan
- Compliance with the SWPPP including implementation of structural and non-structural controls to minimize erosion and sedimentation, including temporary stabilization, temporary seeding, permanent seeding, dust control, temporary sediment basins and check dams, diversion swales, catch basin inlet protection, and dewatering filters
- Avoid and minimize tree clearing, and protect/mark trees that will remain
- Implementation of MassDEP and EPA construction-period BMPs
- Equipment maintenance to minimize noise
- Ultra-low sulfur diesel fuel use by contractors
- Implementation of a traffic management plan required to maintain one lane in each direction at all times and designated truck routing
- Limit truck idling
- Site housekeeping, such as water use for dust suppression, and interim stabilization of surfaces not being worked and
- Recycling and waste reclamation where possible

Conclusion

Based on review of the FEIR and in consultation with State Agencies, I find that the FEIR adequately and properly complies with MEPA and its implementing regulations. The project may proceed to State permitting. State Agencies and the Proponent should forward copies of the final Section 61 Findings to the MEPA Office for publication in accordance with 301 CMR 11.12.

K. Theoharides

December 30, 2020
Date

Kathleen A. Theoharides

Comments received:

12/11/2020 Stephen Kaiser
12/17/2020 Massachusetts Natural Heritage and Endangered Species Program (NHESP)
12/23/2020 Massachusetts Department of Environmental Protection (MassDEP) – Central Regional Office (CERO)

KAT/PPP/ppp

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

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

December 23, 2020

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

Attention: MEPA Unit – Purvi Patel

Re: Final Environmental Notification Form (FEIR)/Notice of Project Change (NPC)
Route 20 Reconstruction Project
Charlton/Oxford
EEA #15355

Dear Secretary Theoharides,

The Massachusetts Department of Environmental Protection's ("MassDEP") Central Regional Regional Office has reviewed the FEIR/NPC for the Route 20 Reconstruction Project in Charlton and Oxford (the "Project") submitted by the Massachusetts Department of Transportation (MassDOT). MassDOT (the "Proponent") is proposing to make roadway infrastructure and traffic improvements along a 3.2-mile corridor on Route 20, from Richardson Corner Road in Charlton to the Route 20/Route 12 intersection in Oxford. The Project includes reconstruction of the roadway cross section, modification of alignment in select areas, improvement of substandard and dangerous intersections, installation of concrete median barriers, and replacement of two bridges. Sidewalks and shared use paths are also included in the Project.

Changes in the Project since the DEIR was filed include a decrease in permanent impacts to Bank but an increase in temporary impacts to Bank; an increase of permanent and temporary impacts to Bordering Vegetated Wetlands (BVW); a decrease in permanent impacts to Land Under Water (LUW); an increase of temporary impacts to LUW; an increase of permanent impacts to Riverfront Area (RA); narrowing of roadway cross sections; alignment modifications; limited full depth roadway construction; modifications to the Route 20/Route 56 intersection; expansion of pedestrian accommodations; and the full replacement of the Little River Bridge.

The FEIR/NPC has been prepared to address the Scope in the Secretary's Certificate on the DEIR, which was issued on January 12, 2018. The Proponent is a State Agency, 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)(a)(2) - Creation of 10 or more acres of impervious area;
- 301 CMR 11.03(3)(a)(1)(a) - Alteration of one or more acres of salt marsh or bordering vegetated wetlands;
- 301 CMR 11.03(6)(b)(2)(a) - Construction, widening or maintenance of a roadway or its right-of-way that will: alter the bank terrain located ten or more feet from the existing roadway for one-half or more miles, unless necessary to install a structure or equipment.

The Project requires the following State Agency Permits:

- MassDEP - 401 Water Quality Certification and Chapter 91 Waterways License;
- MassDEP - Superseding Order of Conditions (if local Order of Conditions is appealed);
- Massachusetts Division of Fisheries and Wildlife - Conservation and Management Permit.

MassDEP offers the following comments on the Project:

Wetlands

To mitigate Project impacts, the Proponent has developed a comprehensive wetland mitigation plan that involves wetland replication of permanently impacted wetlands at a 1:1 ratio and the preservation of 42 acres of land that contains both jurisdictional wetland resource areas and rare species habitat. This plan will satisfy mitigation requirements under the WPA, Sections 401 and 404 of the federal Clean Water Act, and the New England U.S. Army Corps District mitigation guidance, and will contribute to mitigation toward impact reviewed under the Massachusetts Endangered Species Act.

Wetland resource areas will be protected from direct impacts, including erosion and sedimentation, during construction. The Proponent plans to restore temporary impacts in place post-construction and BMPs will be implemented for compliance with Stormwater Standards during and after construction. Culvert replacement will occur in compliance with Stream Crossing Standards to the extent feasible during permitting and construction. Turtle avoidance and protection measures are planned during construction, including turtle sweeps and the installation of turtle exclusion fencing.

Since the filing of the DEIR, the Project has been modified and includes some reduction in impacts to wetland resource areas and rare species habitat, refinement of mitigation plans for wetland and waterway impacts and Priority Habitat, and identification of specific locations for wetland replication and land preservation. Other changes include completion of a culvert analysis, resulting in the proposed replacement of all culverts in the Project area, and an assessment of the stormwater management system and river and stream crossings. The Project as now defined will permanently and temporarily (due to construction) alter wetland resource areas including: 61,058 square feet (sf) of permanent and 44,125 sf of temporary impact to BVW; 1,280 linear feet (lf) of permanent and 494 lf of temporary impact to Bank; 2,103 sf of permanent impact to Isolated Vegetated Wetland; 5,920 sf of permanent and 3,549 sf of temporary impact to LUW; 6,300 sf of permanent and 1,435 sf of temporary impact to Bordering Land Subject to Flooding (BLSF); and 176,418 sf of impact to RA.

During construction, consistency with MassDEP's Stormwater Regulations will be satisfied with measures including infiltration, peak runoff rate and volume control, and total suspended solids removal. Stormwater management improvements will include new collection and conveyance system, stormwater detention, and recharge. Improved water quality will be provided through use of Best Management Practices (BMPs) that include two wet basins, two infiltration basins, inlet forebays at the stormwater basins, one bioretention area, and deep sump catch basins.

The Project requires a Section 401 Water Quality Certification from MassDEP. Project activities will result in the discharge of fill material in waters of the United States within the Commonwealth. Because these areas of fill require a Clean Water Act Section 404 Permit, MassDEP must issue a Section 401 Water Quality Certification indicating that the Project will comply with state water quality standards and other requirements of state law. The Project has been designed to meet the 401 Water Quality Certification (WQC) regulations found at 314 CMR 9.00. The regulations contain Criteria for the Evaluation of Applications for Discharge of Dredged or Fill Material (314 CMR 9.06). The least environmentally damaging practicable alternative has been selected. The Proponent has proposed a plan to mitigate unavoidable adverse impacts. Wetland replication will be provided for unavoidable discharges of fill to BVW at a ratio of at least 1:1. The portion of the BVW to be filled is not mapped as Estimated Habitat for rare vertebrate or invertebrate species as specified in 310 CMR 10.00. No discharge of fill material is proposed within a vernal pool or other Outstanding Resource Water.

The Proponent is also required to obtain a Final Order of Conditions from the Charlton and Oxford Conservation Commissions under the WPA and its regulations and a Water Quality Certification under Section 401 of the Clean Water Act ("Section 401") from MassDEP. The WPA Regulations allow municipal Conservation Commissions, or MassDEP under appeal, to authorize certain activities in resource areas, even though they may not meet the performance standards for one or more resource areas, for the purpose of advancing overriding public interests and to protect public health and safety. These are referred to as "limited projects," and the limited projects for inland resource areas are found in 310 CMR 10.53(3). The Proponent submitted this Project as a limited project described in 310 CMR 10.53(3)(f): "Maintenance and improvement of existing public roadways, but limited to widening less than a single lane, adding shoulders, correcting substandard intersections, and improving inadequate drainage systems."

A Conservation and Management Permit under Massachusetts Endangered Species Act Natural Heritage and Endangered Species Program is required. The Proponent has worked with the Massachusetts Division of Fish and Wildlife in order to take ownership of and manage the parcel of land proposed for mitigation to wetland resource area impacts upon the Proponents acquisition of this land. During construction, structural and non-structural controls will be implemented to minimize erosion and sedimentation, including temporary stabilization, temporary seeding, permanent seeding, dust control, temporary sediment basins and check dams, diversion swales, catch basin inlet protection, and dewatering filters.

Portions of the Project related to the reconstruction of the bridges over the French River and Little River are subject to Section 24 of the 2014 Transportation Bond Bill, and therefore G.L. c. 30 §§ 61 and 62A to 62I, inclusive (MEPA), G.L. c. 91 (Waterways Act) and G.L. c. 131 § 40 (Wetlands Protection Act (WPA)) do not apply to the reconstruction these two bridges. Notwithstanding this exemption, the Project will comply with the performance standards and mitigation requirements of the WPA regulations to the maximum extent feasible pursuant to Limited Project provisions for roadway and intersection improvements.

Bureau of Waste Site Cleanup

The plan to handle potentially contaminated soil and groundwater for this project adequately addresses MCP requirements. BWSC has no additional comments.

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

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

December 17, 2020

Kathleen A. Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
Attention: MEPA Office
Purvi Patel, EEA No. 15355
100 Cambridge St.
Boston, Massachusetts 02114

Project Name:	*Route 20 Reconstruction Project, Charlton and Oxford*
Proponent:	*MassDOT Highway Division*
Location:	*Route 20 (Oxford/Charlton, MA)*
Document Reviewed:	*Final Environmental Impact Report*
EEA No.:	*15355*
NHESP No.:	*09-26454*

Dear Secretary Theoharides:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the Division) has reviewed the Final Environmental Impact Report for the proposed Route 20 Reconstruction Project and would like to offer the following comments regarding state-listed rare species and their habitats.

The MESA prohibits the Take of state-listed species, which includes actions that "in reference to animals, means to harass, harm, pursue, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding or migratory activity or attempt to engage in any such conduct, or to assist such conduct… Disruption of nesting, breeding, feeding or migratory activity may result from, but is not limited to, the modification, degradation or destruction of habitat of state-listed wildlife species" (321 CMR 10.02).

The Division has determined that the proposed project is located within the mapped Priority and Estimated Habitat of the Wood Turtle (*Glyptemys insculpta*), a species state-listed as Special Concern. This species and its habitats are protected pursuant to the MESA. Fact sheets for state-listed species can be found at www.mass.gov/nhesp.

Based on a review of the information that was provided and the information that is currently contained in our database, the Division anticipates that the project, as proposed, will likely result in a Take (321 CMR 10.18 (2)(b)) of the Wood Turtle due to the temporary and permanent loss of suitable habitats and interference with the feeding, breeding, over-wintering and migratory activities of this species.

Projects resulting in a Take of state-listed species may only be permitted if they meet the performance standards for a Conservation and Management Permit (CMP; 321 CMR 10.23). In order for a project to qualify for a CMP, the applicant must demonstrate that the project has avoided, minimized and

mitigated impacts to state-listed species consistent with the following performance standards: (a) adequately assess alternatives to both temporary and permanent impacts to the state-listed species, (b) demonstrate that an insignificant portion of the local population will be impacted, and (c) develop and agree to carry out a conservation and management plan that provides a long-term net benefit to the conservation of the state-listed species.

The Applicant has proactively consulted with the Division to avoid, minimize and mitigate impacts to state-listed species and their habitats associated with proposed project, and it is our understanding that it intends to apply for a CMP. Based on ongoing consultations with the Applicant, we understand that the proposed project will include the permanent protection of approximately 42 acres of suitable habitat for state-listed species along the Little River.

Although the exact details of the long-term net benefit required under a CMP have not been finalized, the Division anticipates that the proposed project should be able to meet the necessary performance standards of a CMP. In our view, the Applicant has and continues to work constructively with the Division to proactively address rare species issues and permitting requirements associated with this project.

Please note that the Division will not render a final decision until a final CMP Application has been submitted and the Massachusetts Environmental Policy Act (MEPA) review process has been completed. We appreciate the opportunity to comment on this project. If you have any questions about this letter, please contact David Paulson, Senior Endangered Species Review Biologist, at (508) 389-6366 or david.paulson@state.ma.us.

Sincerely,

Everose Schlüter

Everose Schlüter, Ph.D.
Assistant Director

cc: James Cerbone, MA DOT
MA DEP, Central Region
Charlton Conservation Commission
Oxford Conservation Commission

Stephen H. Kaiser
191 Hamilton St.
Cambridge Mass. 02139

To : Secretary Kathleen A. Theoharides
Executive Office of Energy and Environmental Affairs
Attention : MEPA Office, Page Czepiga, Purvi Patel, File No. 15355 and 15449

From : Stephen H. Kaiser

FEIR for Route 20 Reconstruction Project --Oxford and Charlton

With the final construction plans almost complete, the FEIR presents a quite different project than was originally contemplated in the ENF filing of five years ago. The original proposal was for 74 feet of pavement and a concrete median barrier, while the FEIR plan is for 58 feet of pavement and extensive areas of either a painted median or a low-level curbed median – neither of which offer structural protection against head-on collisions. Originally the ENF proposed a full barrier median for the length of the project.

Section 1.3 fails to described the reasons for the road narrowing and the changes in median treatment. There is no description of how these changes affect safety – the core issue that was driving the original MEPA waiver. Only in the Basic Design Report at the end of the report is there a description of the March 2015 fatal head-on accident that triggered the waiver for the emergency work related to the accident. The accident occurred in the morning rush hour, with a vehicle traveling in the high-speed lane crossing over the centerline and colliding head-on with a truck, before being hit by a second vehicle. Further accident analysis stops at this point.

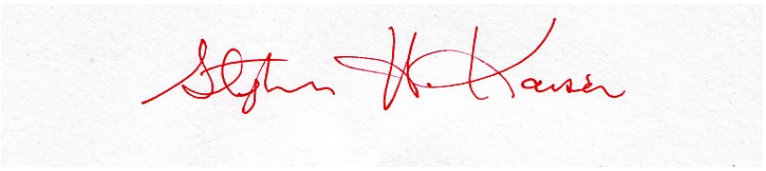
At no point in the past five years have I seen any assessment at to the *cause* of the accident. A proper analysis could have considered road design defects, vehicle failure, driver error (including speeding and suicide), or a combination of two or more factors. The presumptive conclusion in the emergency request and subsequent design review has been to assume the design of the highway was 100% at fault.

If Route 20 design was indeed the cause of the head-on accident, the Final EIR design changes present an awkwardly inadequate response to the presumed cause of the accident, which is the absence of a median barrier. The section of Route 20 from Oxbow Road in Oxford to Richardson Corner Road will have no structural barrier protection. This design contradicts the original proposition that the hazard of head-on accidents required a median barrier.

Following its detailed dedication to the precepts of AASHTO standards, the Highway Division has created example of a substandard median design, and other features which might be judged "substandard" by the edicts of AASHTO. How can the original emergency waiver of MEPA regulations be justified if the Highway Division – according to its own professional principles – produces a substandard product that does not fully address the issue of head-on accidents?

Should there ever again be a case when MassDOT petitions MEPA for an emergency safety waiver (other than imminent structural collapse) MEPA should review the technical quality of the safety analysis presented. Funding for this MEPA review should be provided by MassDOT -- to be performed by a qualified traffic engineer and as scoped directly by MEPA as an internal study. In this way the logical safety fallacies associated with this Route 20 project and its distortions of the waiver process of the Executive Office of Energy and Environmental Affairs need not be repeated in the future.

Sincerely,



Stephen H. Kaiser, PhD
Mechanical Engineer

cc. James Cerbone