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March 10, 2017

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

PROJECT NAME : Green Line Extension
PROJECT MUNICIPALITY : Cambridge, Somerville, Medford
PROJECT WATERSHED : Boston Harbor
EEA NUMBER : 13886
PROJECT PROPONENT : Massachusetts Department of Transportation /
Massachusetts Bay Transportation Authority
DATE NOTICED IN MONITOR : February 8, 2017

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62I) and Section 11.10(6) of the MEPA regulations (301 CMR 11.00), I hereby determine that this project change does not require the preparation of a Supplemental Environmental Impact Report (EIR). This Certificate sets forth the issues that must be addressed by the Massachusetts Department of Transportation (MassDOT) and the Massachusetts Bay Transportation Authority (MBTA) during permitting and discusses recommendations that were submitted on the project change during MEPA review.

Project Change

The project change consists of the redesign of the Green Line Extension (GLX) to reduce project cost while maintaining project functionality and benefits. Project modifications include:

- Redesign of stations which will be scaled back in size and amenities (e.g. open-air platforms rather than enclosed structures)
- Green Line maintenance facility will be smaller
- Preservation and/or reduced reconstruction of some bridges along the project corridor;
- Redesign of the multi-use Community Path Extension (CPX);
- Construction of an alternative version of the Lechmere viaduct structure;
- Modifications to retaining walls to reduce height and simplify construction;
- Modifications to traction power substations at Red Bridge, Gilman Square, and Ball Square;
- An alternative construction plan and schedule that will provide the construction contractor greater flexibility to access the work area; and
- A reduced construction scope, which, if pursued, could reduce the overall project schedule and risk profile.

Project Description

The GLX involves the extension of the existing Massachusetts Bay Transportation Authority (MBTA) Green Line north of its current terminus at Lechmere Station to further service the communities of Cambridge, Somerville and Medford. The project includes the relocation of the existing commuter rail tracks, the construction of 4.3 miles of new Green Line tracks and systems, one relocated station and six new stations, construction of multi-span viaducts and reconstruction of bridge structures, and a new vehicle maintenance facility.

The project is one of the most significant remaining transit commitments arising out of the Central Artery/Tunnel Project (CA/T), and will significantly reduce vehicle trips and related air emissions while increasing access to fast and reliable public transit service in historically under-served areas. The project will support anticipated ridership of over 50,000 trips per day once completed. The project represents a major investment by the Commonwealth in urban mass transit in an effort to provide critical transportation, air quality, greenhouse gas (GHG) reduction and urban redevelopment benefits along the project corridor.

Two service branches are proposed:

- The Medford Branch - Extending Green Line service 3.4 miles to Medford within the existing MBTA Lowell Line commuter railroad right-of-way (ROW), from a relocated Lechmere Station terminating at College Avenue with intermediate stations at Washington Street (formerly known as Brickbottom Station, proposed to be called East Somerville Station), Lowell Street (proposed to be called Magoun Square Station), Gilman Square, and Ball Square; and
- The Union Square Branch – Extending Green Line Service 0.9 miles to Union Square in Somerville, within the existing MBTA Fitchburg Line commuter rail ROW, with a station at Union Square.

The project also includes construction and/or implementation of measures to mitigate potential operational and construction period impacts associated with, but not limited to: noise

and vibration, traffic (vehicle, pedestrian, bicycle), air quality, stormwater, hazardous materials management, historical and cultural resources, land use, and ongoing public involvement.

Procedural History

The Expanded Environmental Notification Form (EENF) was submitted for MEPA review and noticed in the Environmental Monitor. On December 1, 2006, a Certificate was issued on the EENF which provided the scope for the DEIR. The DEIR was subject to a 75-day comment period. A Certificate on the DEIR was issued on January 5, 2010 outlining a limited scope for the FEIR which included ongoing evaluation siting alternatives for the maintenance facility, identification of potential impacts at College Avenue and Lechmere Stations, and clarification of mitigation and community participation commitments.

The FEIR was filed with the MEPA office and noticed in the Environmental Monitor on June 23, 2010. The FEIR received a 30-day comment period, concluding on July 23, 2010. The Certificate on the FEIR was issued on July 30, 2010 indicating that the FEIR adequately and properly complied with the MEPA regulations. Construction of the project commenced in 2013 with bridge reconstruction along the project corridor.

The project was approved for funding through the FTA's New Starts project. In January a Full Funding Grant Agreement (FFGA) was issued which awarded nearly \$1 billion in federal funds to the project. This grant amounted to a 50% share of the estimated project cost at the time of the FFGA. In late 2015, MassDEP reassessed projected costs for the GLX and concluded that project costs could reach \$3 billion based on a continuation of trends. The GLX was suspended by the MBTA Fiscal and Management Control Board and MassDOT to allow for the creation of a multidisciplinary interim project management team (IPMT) to redesign the project to reduce cost while maintaining core functionality, benefits, and environmental mitigation commitments. The project presented in the NPC is reflective of redesign of GLX in response to the IPMT evaluation. The total revised GLX program cost is estimated at \$2.3 billion (including costs already incurred). According to the NPC, FTA correspondence to the MBTA concluded that the redesigned project was consistent with the FFGA and would continue to receive federal funding.

In light of the significant benefits of the project and the concern that cost issues would threaten its construction, the cities of Somerville and Cambridge committed funds (\$50 million and \$25 million, respectively). In August 2016 the MBTA Fiscal and Management Control Board authorized the MBTA to commence the process of procuring a new GLX construction team using a Design-Build method. A Request for Qualifications (RFQ) was issued on December 15, 2016 and a Draft Request for Proposal (RFP) is scheduled to be issued this month. The procurement schedule anticipates award notification in November 2017 and construction from February 2018 through December 2021.

Project Corridor

The project corridor consists of existing commuter rail rights-of-way (ROW) and passes through a wide cross-section of land uses: industrial, commercial, institutional, and residential. These ROWs extend from Cambridge near the existing Lechmere Station to College Avenue

(Lowell Commuter Rail line) in Medford with a separate branch extending to Union Square in Somerville (Fitchburg Commuter Rail line). These ROWs are spanned by numerous bridges associated with local and regional roadways.

Permits and Jurisdiction

The project was subject to review and mandatory preparation of an EIR pursuant to Sections 11.03 (1)(a)(1) and (6)(a)(5) of the MEPA regulations because it will be undertaken by a State Agency and it will alter more than 50 acres of land and consists of a new rail or rapid transit line along a new, unused or abandoned right-of-way for transportation of passengers or freight, respectively. The project will require Access Permits from MassDOT and 8(m) Permits, a Sewer Connection Permit and a Sewer Discharge Permit from the Massachusetts Water Resources Authority (MWRA).

The MBTA will continue consultation with the Massachusetts Historical Commission (MHC) in accordance with a 2013 Memorandum of Agreement (MOA) for the project in compliance with M.G.L. c.9, ss.26-27C (950 CMR 70-71) and Section 106 of the National Historic Preservation Act (NHPA).

The project will also require a Determination of Effect to Historic or Archaeological Resources (per Section 106 of the NHPA) and has received a Section 4(f) Finding of No Significant Impact (FONSI) determination by the FTA. Finally, it will require a National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Construction Activities, a Remediation General Permit for Contaminated Groundwater Discharges, and modification to an existing Individual NPDES Permit for discharges associated with an industrial activity from the United States Environmental Protection Agency (U.S. EPA).

Because the Proponent is a State Agency and will receive Financial Assistance, 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 NPC

The NPC discussed the proposed project changes, the outcome of the project's fiscal review, and compared the revised design to the FEIR design. The NPC included sample graphics of station redesign, comparative tables of station elements and amenities, a discussion of modifications to the CPX, and potential environmental consequences of the project changes. The NPC also provided an update on public meetings and open houses held in conjunction with the fiscal assessment and redesign of the GLX.

I received comments from U.S. Representative Michael Capuano, State Representative Denise Provost, State Agencies, the City of Somerville, environmental, transportation and bicycle advocacy groups, and numerous citizens on the project change. These comments were generally supportive of the project and cognizant of the significant fiscal concerns driving the changes. The comments continue to identify the significant benefits GLX will provide, particularly in regard to transit mobility and air quality. Many comments focused on the

completion of a CPX connection to the Lechmere Station area and noise mitigation commitments. Notably, numerous comments request that I condition approval of the NPC on a requirement that MassDOT incorporate certain mandates regarding the design and construction of the CPX in its design-build RFP.

The NPC summarized project changes to stations, the maintenance facility and proposed mitigation measures. As noted previously, the project will continue to meet the basic functionality and benefits as the project described in the FEIR. The primary factors that affect ridership - station locations, platform sizes, span of service and service frequency – have been retained. The NPC compared features for each station, noting that all stations will be open-air platforms with weather shelters (in lieu of canopies), fare vending, station lighting and CCTV, emergency access routes (as required), bike storage, and equipment rooms. All stations will meet requirements of the Americans with Disabilities Act (ADA). Gilman Square and Magoun Square stations will include an elevator and access stairs. Lechmere and College Avenue stations will include redundant elevators and stairs. Overall station area will be reduced from 118,443 square feet (sf) to 11,247 sf.

The vehicle maintenance facility (VMF) design included a 94,000-sf building, outdoor storage for 88 Green Line vehicles, and associated maintenance areas and equipment (e.g. a wash bay, three cranes, four service and inspection bays, HVAC shop and storage, a truck shop, etc.). The redesigned VMF consists of a 55,000-sf maintenance building, outdoor storage for 44 Green Line vehicles, a 1,200-sf modular transportation building, surface-level parking, four service tracks, a 7-ton and 10-ton crane, and two inspection bays. All other features of the VMF identified in the FEIR have been eliminated from programming. Certain foundation and structural elements have been sized to support expansion in the event funding is available. Light maintenance work will be performed at the proposed VMF; heavy maintenance for Green Line cars will continue to be conducted at the Riverside Maintenance facility.

Community Path

The Certificate on the FEIR directed MassDOT to consider how connections to North Point could be achieved and demonstrate that final design would not preclude future connections. MassDOT was encouraged to continue to work with the City of Somerville and advocates for CPX to identify sufficient funding for the ultimate construction of the Path. Subsequent to and independent of MEPA review, MassDOT and the MBTA committed to construct the path from Magoun Square to Lechmere (North Point). In light of budgetary constraints, MassDOT has reconsidered the design and cost of the CPX.

The GLX project includes construction of a 1.4-mile off-street extension of the Community Path at a cost of approximately \$20 million. MassDOT will construct the section of the path along the railroad cut from the existing terminus at Lowell Street to Washington Street. At Washington Street cyclists will transition to the existing street system (including McGrath Highway) to continue east towards the Charles River park system and the originally planned terminus (estimated at 3,100 feet). The NPC indicated that the redesign was developed to minimize the need for additional retaining walls between Lowell Street and Washington Street,

which was a costly element of the original design. Furthermore, the elevated viaduct to span the industrialized and heavy rail-centric Inner Belt was determined to be too expensive to retain.

The CPX presents a significant opportunity to expand a multi-use path through one of the densest cities in the country to the Charles River. The previous design would provide more direct and more desirable access. Its construction in conjunction with the GLX would reduce CPX construction costs compared to constructing it independently. MassDOT has acknowledged these significant benefits and emphasized that redesign of the GLX has resulted in scaling back many highly desirable aspects of the project – the ability to repair Green Line trains at the VMF, bridge reconstruction, and station design. Further, MassDOT is committed to evaluate opportunities in the design-build procurement process which may provide flexibility to contractors to improve the CPX design within the project budget. Key concerns that may be addressed by the design-build contractors include: designing a more cost-effective connection to North Point and constructing it; re-evaluating connections to the CPX at Medford Street, Walnut Street, and Cross Street; and maintaining a south-side alignment for the CPX between Central Street and School Street.

The purpose of MEPA review is to ensure that a Proponent identifies and discloses potential environmental impacts associated with its project, examines alternatives to avoid impacts and, in the event that impacts cannot be avoided, incorporates measures to minimize and mitigate Damage to the Environment to the maximum extent practicable. MassDOT met the commitment identified in its Final Section 61 Findings by completing the planning, design, and engineering of the extension of the Somerville Community Path between Lowell Street (Magoun Square Station) and Inner Belt Road. As noted above, MassDOT independently included construction of the CPX in the previous GLX design and has retained a portion of its construction within the redesigned project. Many commenters have requested that the NPC be conditioned on a requirement that MassDOT construct the full alignment, including a direct connection to North Point. MassDOT has thoroughly assessed alternatives for the GLX and CPX and associated benefits and impacts consistent with MEPA review and the NPC does not identify new or additional impacts that would warrant such a requirement.

I am confident that MassDOT will continue to work with the community to consider how construction of the CPX can be maximized. In addition, I encourage MassDOT to consider how the McGrath Boulevard Project may provide safe and effective connections for users of the CPX between Washington Street and North Point. As the design-build process proceeds, MassDOT should remain mindful that final design and/or operations of the GLX do not physically preclude completion of an off-street connection of the CPX to North Point.

Noise

As part of the redesign process, the MBTA evaluated the cost-effectiveness of noise barriers. Two options were presented in the FEIR to provide noise mitigation consistent with FTA Guidelines: noise barriers or sound insulation. Noise control may be provided at the source, along the sound path, and at the receiver. According to the NPC, specific noise mitigation measures were refined and modified during the Preliminary and Final Design of the GLX project. These modifications were identified in the NPC and are typical of projects that proceed to advance design post-MEPA review. As part of the redesign process, all noise barriers

were subjected to a cost-effective analysis. The NPC indicated that two noise walls (N-5 on the Medford Branch between Cross Street and McGrath Highway and N-13 located on the Medford Branch between Cedar Street and Broadway) are not cost-effective and have been eliminated in lieu of sound insulation to meet FTA standards. Where noise walls are not cost effective, the MBTA will provide sound insulation as an alternative noise mitigation measure, not to exceed \$50,000 per dwelling unit and the MBTA will directly contact property owners to allow selection of preferred measures (e.g., acoustical windows, acoustical doors, wall/ceiling insulation, etc.). Several comments express concerns about quality of living in these areas where noise barriers were previously proposed and the process by which appropriate mitigation will be provided. The MBTA must continue to work with impacted properties to ensure that the FTA Guidelines for noise mitigation will be met and that property owners have a clear understanding of their options and future MBTA responsibilities, if any. The MBTA will monitor noise after service starts (with proposed mitigation in place) to evaluate whether the actual noise levels correspond with the modeled values and take corrective action if actual values are higher than the projections.

Public Involvement Plan

The MBTA held meetings with local officials, interest groups, abutters and the general public regarding the project redesign, to provide project updates and to solicit input. The MBTA will continue to implement its Public Involvement Plan (PIP) as set forth during prior MEPA review. The four principal goals of the project's PIP are as follows:

- To provide an interactive, collaborative, and credible public process;
- To equip the design team with ideas and recommendations from the public that would inform the design of the Green Line Extension;
- To solicit input from local residents and businesses, local and regional government agencies and interest groups; and
- To provide methods to keep residents, business owners and municipal officials informed about construction, its potential impacts and schedule, and to lessen those impacts as much as possible.

The MBTA will be responsible for implementing the overall Community Outreach Program (as described in the PIP) during both engineering and construction phases. The PIP should be updated periodically to assess successes and/or challenges of plan implementation and modified accordingly to achieve effective outreach.

Mitigation and Section 61 Findings

The NPC included a comparative analysis of project mitigation commitments identified in the FEIR and those proposed in conjunction with the revised project. Generally, these mitigation commitments remain unchanged. The information on mitigation provided in the NPC is appended to this decision.

Conclusion

The NPC has sufficiently defined the nature and general elements of the project for the purpose of MEPA review. It identifies changes to the project that have been necessary to reduce costs and has demonstrated that changes will not significantly increase associated environmental impacts or require additional mitigation compared to the project previously presented. I am confident that the revised draft Section 61 Findings; compliance with established criteria set forth in Federal, State and municipal regulations and guidelines pertaining to noise, vibration, stormwater, hazardous materials, air quality, and traffic; and the establishment and adherence to Best Management Practices (BMPs) during the construction and operations period, will ensure that the project will avoid, minimize and mitigate Damage to the Environment. MassDOT will continue to work with the affected communities and project stakeholders on the redesign and construction of GLX. MassDOT should review comments on the NPC to inform the project's design-build RFP and final design process, to guide collaborative efforts with Federal, State and municipal permitting agencies, and to inform project mitigation along the corridor.

Comments from State Agencies did not request additional MEPA review and I am satisfied that any outstanding issues can be addressed by State Agencies during permitting. Draft Section 61 Findings presented in the NPC should be updated, as necessary, to incorporate additional or modified mitigation measures that may be identified during the State permitting process. MassDOT and permitting agencies should forward copies of the final Section 61 Findings to the MEPA Office for publication in accordance with 301 CMR 11.12. MassDOT should consult with the MEPA Office regarding changes to the project that may warrant a NPC; however, funding or design changes that would facilitate the addition of previously identified and reviewed project elements (e.g. original station design, VMF design) would not require a NPC. Finally, the second, future phase (Phase II) extending the Medford Branch to Mystic Valley Parkway/Route 16 was not the subject of the FEIR or this NPC. When the second phase of the project is advanced, MassDOT will need to file a NPC in accordance with 310 CMR 11.10 to initiate additional MEPA review. I expect that this NPC will present additional (and updated) information on the potential environmental impacts of this segment for review by interested parties. This NPC will be required to address how this portion of the project avoids, minimizes, and mitigates Damage to the Environment as defined by the MEPA regulations and present additional station design alternatives and existing and proposed conditions data on potential environmental impacts along this section of the corridor.

March 10, 2017

Date

signature on original

Matthew A. Beaton

Comments received:

2/1/2017 Nicholas Borch-Rote
2/1/2017 Howard H. Kranz
2/2/2017 Thomas W. Lincoln
2/17/2017 U.S. Representative Michael E. Capuano, 7th District Massachusetts
2/21/2017 Livable Streets Alliance
2/21/2017 Massachusetts Historical Commission
2/23/2017 350MA Transportation Working Group
2/24/2017 Conservation Law Foundation
2/24/2017 Sierra Club Massachusetts
2/27/2017 WalkBoston
2/27/2017 BPJ LLC
2/27/2017 Mary Alexandra Agner
2/27/2017 Cynthia Snow
2/27/2017 Solh Zendeheh
2/27/2017 Anthony Genco
2/27/2017 Nathanael Fillmore
2/27/2017 Miranda Henne
2/27/2017 Jason Stockmann
2/27/2017 Ted Clausen
2/27/2017 Rachel Gordon
2/27/2017 Nina Garfinkle
2/27/2017 Kathleen Hornby
2/27/2017 David Marcus
2/27/2017 Laura Beretsky
2/27/2017 Ryan "Fritz" Holznagel
2/27/2017 Lori Segall and Fred Berman
2/27/2017 Alan Moore
2/27/2017 Friends of the Community Path
2/28/2017 Karl Alexander
2/28/2017 Karen Molloy
2/28/2017 Christopher Cassa
2/28/2017 Ruthann Rudel
2/28/2017 Robin Hazard Ray
2/28/2017 Christian Farrar
2/28/2017 Dick Bauer
2/28/2017 Jeffrey Morrow
2/28/2017 Jane Katz
2/28/2017 Gabriel S. Distler
2/28/2017 Mike Korczynski
2/28/2017 John Roland Elliott
2/28/2017 Mark Chase
2/28/2017 Laurel Ruma
2/28/2017 Colin Durrant
2/28/2017 Nicholas Matsakis

2/28/2017 Elisabeth Bayle
2/28/2017 Bob Nesson
2/28/2017 Heather Van Aelst
2/28/2017 Josiah Lee Auspitz
2/28/2017 Mark Boswell
2/28/2017 William Messenger
2/28/2017 Alex and Ami Feldman
2/28/2017 Mark Adams
2/28/2017 Katharine Sackton
2/28/2017 Michael Davidson
2/28/2017 Theresa Racicot
2/28/2017 Anne Tuan
2/28/2017 Wig Zamore
2/28/2017 Kenneth J. Krause
2/28/2017 Somerville Bicycle Advisory Committee
2/28/2017 City of Somerville, Mayor's Office of Strategic Planning & Community
Development
2/28/2017 State Representative Denise Provost, 27th Middlesex District
2/28/2017 Massachusetts Water Resources Authority
2/28/2017 Somerville Transportation Equity Partnership
2/28/2017 Mass Central Rail Trail
2/28/2017 Mystic River Watershed Association
2/28/2017 Boston Cyclists Union
2/28/2017 Brickbottom Condominium Trustees
3/1/2017 Lynn Weissman

MAB/HSJ/hsj

Appendix

TABLE 5.1: COMPARISON OF PROJECT MITIGATION COMMITMENTS

Environmental Mitigation Measures Identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation Measures for the GLX Redesign
Traffic and Transportation Systems	
<p>Provide roadway and signal modifications at the following intersections in order to prevent adverse traffic impacts from the project:</p> <p><u>City of Medford</u></p> <ul style="list-style-type: none"> • Boston Avenue at Winthrop Street • Boston Avenue at College Avenue <p><u>City of Somerville</u></p> <ul style="list-style-type: none"> • Washington Street at McGrath Highway • Prospect Street at Somerville Avenue • Washington Street at Somerville Avenue/Webster Street • Medford Street at Pearl Street <p><u>City of Cambridge</u></p> <ul style="list-style-type: none"> • Monsignor O'Brien Highway/Route 28 at Third Street • Monsignor O'Brien Highway/Route 28 at Water Street • Monsignor O'Brien Highway/Route 28 at North First Street/East Street/Cambridge Street • Cambridge Street at First Street 	<p>No change in the locations or mitigation elements resulting from the redesign.</p> <p><u>City of Medford</u> No change to commitment Boston Avenue at College Avenue will be modified to provide a right hand turn lane on College Avenue on the existing bridge, instead of widening the bridge. A sidewalk will be provided on a new pedestrian bridge to be located adjacent to the existing College Avenue Bridge. Construction of a pedestrian bridge is less costly than widening the existing bridge.</p> <p><u>City of Somerville</u> No change to commitment. , Improvements to the intersection of Washington Street and Tufts Street have been added as a mitigation measure. The intersection will be signalized and sidewalks improved. Washington Street will be widened to four lanes between McGrath Highway and Tufts Street. The City of Somerville to implement these mitigation measures instead of the MBTA.</p> <p><u>City of Cambridge</u> No change to commitment. Intersection improvements to be completed by the NorthPoint Development.</p>
<p>Optimize traffic signal timing and phasing to maximize the efficiency of signalized intersections in the Proposed Action.</p>	<p>No change; work is incorporated with intersections listed above.</p>
<p>Work with cities to develop station-area parking enforcement plans. No public parking proposed at any station</p>	<p>No change. No public parking proposed at any station. MBTA will continue to coordinate with municipalities on parking enforcement off site.</p>

Environmental Mitigation Measures Identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation Measures for the GLX Redesign
<p>Work with the MBTA to evaluate opportunities to improve connections between the new stations and existing bus connections.</p>	<p>No change</p>
<p>Work with cities and applicable emergency personnel during design of intersection mitigation measures, including the development of construction management and detour plans.</p>	<p>No change. Construction management and detour plans to be developed as needed.</p>
<p>Provide pedestrian improvements at the following specific locations to improve pedestrian flow and safety:</p> <p><u>City of Medford</u></p> <ul style="list-style-type: none"> • Boston Avenue at North Street • Boston Avenue at Winthrop Street • Boston Avenue between Winthrop Street and College Avenue (mid-block) • Boston Avenue at Harvard Street <p><u>City of Somerville</u></p> <ul style="list-style-type: none"> • Powder House Rotary • Boston Avenue at Broadway • College Avenue between Boston Street and Frederick Avenue (mid-block) • College Avenue at George Street • Main Street at George Street • Main Street at Harvard Street • Medford Street at Broadway • Main Street at Mystic Valley Parkway Ramps • Main Street at Mystic Avenue • Medford Street at Lowell Street • Medford Street at Central Street • Medford Street at School Street • Medford Street at Pearl Street • Medford Street at Walnut Street • Medford Street at Highland Avenue • Highland Avenue at Lowell Street • Highland Avenue at Central Street • Washington Street at McGrath Highway • Washington Street at Tufts Street • Washington Street at Inner Belt Road • Medford Street at Somerville Avenue/McGrath Highway • Washington Street at Somerville Avenue/Prospect Street 	<p>No change in the locations or mitigation elements resulting from the redesign. Implementation in Cambridge and Somerville will be done by other entities.</p> <p><u>City of Medford</u></p> <p>No change to commitment.</p> <p><u>City of Somerville</u></p> <p>No change to commitment, but City of Somerville to implement instead of MBTA.</p>

Environmental Mitigation Measures Identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation Measures for the GLX Redesign
<ul style="list-style-type: none"> • Washington Street at Somerville Avenue/Webster Street • Washington Street at Kirkland Street • Prospect Street at Webster Avenue 	
<p><u>City of Cambridge</u></p> <ul style="list-style-type: none"> • O'Brien Highway at Third Street • O'Brien Highway at Water Street • O'Brien Highway at North First Street • Cambridge Street at First Street 	<p><u>City of Cambridge</u></p> <p>No change to commitment. Pedestrian improvements to be completed by the NorthPoint Development as in EA FONSI.</p>
<p>Noise</p>	
<p>Provide noise mitigation in the form of noise barriers or sound insulation to mitigate severe noise impacts. Provide mitigation for moderate noise impact where existing day-night sound levels (Ldn) are above 65 dBA. Provide mitigation for impacts with no significant outdoor land use if interior noise levels are above 45 dBA from project sources or single-event maximum noise levels (Lmax) are above 65 dBA. Provide noise barriers at the following locations:</p> <ul style="list-style-type: none"> • N1 -Glass Factory Condominiums and Hampton Inn Hotel • N4 -Alston Street 	<p>There is no change in the levels of noise mitigation being provided. At some locations, the MBTA has determined that residential sound proofing is a more cost-effective measure than building noise walls, as is provided for in the FTA Noise and Vibration Assessment Guidance document. The mitigation however, will continue to provide the necessary level of noise reductions and will continue to meet the mitigation requirements in the EIR.</p> <ul style="list-style-type: none"> • No change to commitment. Sound insulation will be implemented for the 6th and 7th floor of the Hampton Inn, as noise wall is not effective at this height. • N2 - Northeast façade Brickbottom Artist building Noise barrier added as project design advanced. • N3 -South façade Brickbottom Artist building Noise barrier added as project design advanced. • No change to commitment. Mitigation measure changed to sound insulation prior to redesign. Commitment to mitigate noise impacts made in the EIR will continue to be met.

Environmental Mitigation Measures Identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation Measures for the GLX Redesign
<ul style="list-style-type: none"> • N5 -Between Cross Street and McGrath Highway (Avon Place) 	<ul style="list-style-type: none"> • No change to commitment. Mitigation measure changed to sound insulation prior to redesign. Commitment to mitigate noise impacts made in the EIR will continue to be met.
<ul style="list-style-type: none"> • N6 -Between McGrath Highway and Walnut Street (Gilman Street) 	<ul style="list-style-type: none"> • No change to commitment
<ul style="list-style-type: none"> • N7 -Between School Street and Sycamore Street (Richdale Avenue) 	<ul style="list-style-type: none"> • No change to commitment
<ul style="list-style-type: none"> • <i>Willoughby Street (Medford Branch)</i> 	<ul style="list-style-type: none"> • No longer required because the impact was eliminated due to relocation of special trackwork as design advanced.
<ul style="list-style-type: none"> • N8 -Sycamore Street near Richdale Avenue (historic Susan Russell house) 	<ul style="list-style-type: none"> • No change to commitment. Mitigation measure changed to sound insulation prior to redesign. New mitigation proposed as part of Section 106 consultation process and approved by the consulting parties.
<ul style="list-style-type: none"> • <i>Woodbine Street near Centre Street (Medford Branch)</i> 	<ul style="list-style-type: none"> • No longer required due to the noise reduction expected from the retaining wall.
<ul style="list-style-type: none"> • N9 -Vernon Street 	<ul style="list-style-type: none"> • No change to commitment
<ul style="list-style-type: none"> • N10 -Nashua Street/Henderson Street/Hinckley Street 	<ul style="list-style-type: none"> • No change to commitment
<ul style="list-style-type: none"> • <i>Murdock Street near Cedar Street (Medford Branch)</i> 	<ul style="list-style-type: none"> • No longer required because the impact was eliminated due to relocation of special trackwork as design advanced.
<ul style="list-style-type: none"> • N11 -Trum Playground 	<ul style="list-style-type: none"> • No change to commitment
<ul style="list-style-type: none"> • N12 -Cedar Street and Wilson Avenue 	<ul style="list-style-type: none"> • No change to commitment
<ul style="list-style-type: none"> • N13 -Between Cedar Street and Broadway (Boston Avenue) 	<ul style="list-style-type: none"> • No change to commitment. Mitigation measure changed to sound insulation prior to redesign. Commitment to mitigate noise impacts made in the EIR will continue to be met.
<ul style="list-style-type: none"> • N14-Newbern Ave/Morton Ave/Granville Ave 	<ul style="list-style-type: none"> • No change to commitment
<ul style="list-style-type: none"> • N15 -Burget Avenue 	<ul style="list-style-type: none"> • No change to commitment

Environmental Mitigation Measures Identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation Measures for the GLX Redesign
<ul style="list-style-type: none"> • N16 -Horace Street • N17 -Walnut Street Center 	<ul style="list-style-type: none"> • No change to commitment. Barrier has been constructed. • No change to commitment. Noise barrier reduced in length due to change in use at Walnut Street Center, which eliminated the sensitive receptor at that location.
<p>Provide sound insulation improvements at the following locations:</p> <ul style="list-style-type: none"> • Pearl Street Apartment building • Outside the Lines Studio • Tufts University Science and Technology Center 	<ul style="list-style-type: none"> • No change to commitment • No change to commitment • No change to commitment. Tufts University completed sound insulation.
<p>Monitor Noise after service starts with the proposed mitigation in place) to evaluate whether the actual noise levels correspond with the modeled values and take appropriate corrective actions if the actual values are found to be higher than the projections.</p>	<p>No change to commitment</p>
Vibration	
<p>Provide vibration mitigation in the form of ballast mats or resilient rail fasteners and relocated or specially-engineered special tract to mitigate vibration impacts at the following locations:</p> <ul style="list-style-type: none"> • V1: Glassfactory Condominiums • V2: Brickbottom Artists Building (Northeast Façade) • V3: Brickbottom Artists Building (South Façade) • V4: Alston Street (south of Cross Street) • V5: Tufts Street/Avon Pl/ Auburn Ave South of Cross to McGrath Highway • V6: Gilman Street (McGrath Highway to Walnut) • V7: Medford Street (North of Walnut) • V8: Pearl Street Apartment • V9: Richdale Avenue • <i>Jerome Court (near Sycamore Street)</i> 	<p>There are no changes in commitments for vibration mitigation.</p> <ul style="list-style-type: none"> • No change • No change • Added as design advanced. • No change • No change • No change • No change • No change • No change • No longer needed as impact eliminated due to due to advanced design.

Environmental Mitigation Measures Identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation Measures for the GLX Redesign
<ul style="list-style-type: none"> • V10 -Lowell Street/Nashua Street/Hinckley Street/Berwick Street (Lowell Street to Charles E Ryan Road) • V11 -Murdock Street (south of Cedar Street) • V12 -Cedar Street (north of Cedar Street) • V13 -Newbern Avenue/Morton Avenue/Granville Avenue/Winchester Place/Wareham Street (Broadway to Warren Street) • V14 -Tufts University Science and Technology Center • V15 -Tufts Bacon Hall • V16 -Outside the Lines Artist Studio • V17 -Tufts Bray Laboratory • V18 -Tufts Curtis Hall • <i>Brooking Street</i> • V19 -Horace Street 	<ul style="list-style-type: none"> • No change • No change • No change • No change • No change • No change • No change • No change • No change • No change • Combined with V17 – Tufts Bray Laboratory • No change
Hazardous Materials	
<p>Consult with MassDEP during design and construction to ensure planning and implementation of demolition and management of contaminated soils is consistent with applicable MassDEP regulations and recommendations.</p>	<p>No change</p>

Land Use	
<p>Work with the community in the area of the future Mystic Valley/Route 16 to consider land use and station design elements.</p>	<p>No change. Not included in the current project. To be completed by next phase of the GLX.</p>
<p>Complete the final design for the proposed Somerville Community Path between Lowell Street and the Inner</p>	<p>Final design for a revised community path to be</p>

Environmental Mitigation Measures Identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation Measures for the GLX Redesign
Belt area. Work with City of Somerville to identify opportunities for state and Federal funding for construction of Community Path.	completed by Design-Build contractor.
Water Quality/Stormwater	
Implement all aspects of the SWPPP including recommendations in annual updates based on new or improved procedures or changes to operations.	No change
Visual Environment	
Provide vegetation on and/or above retaining walls to minimize visual changes.	Loam and seed on private property. Compensate for damaged shrubbery.
Work with affected communities on design of noise barriers and vegetated walls.	Walls will meet criteria agreed to with the community.
Cultural Resources and Section 4(f) Resources	
Perform archival photographic and written documentation of historic structures to be removed or altered. (Lechmere Station/Lechmere Viaduct, Somerville Automobile Company Building)	Photography and documentation has been completed.
Submit design plans and construction specifications for project elements that affect above-ground historic properties for review by MHC, local historical commissions, and the Design Working Group.	No change. Design review by the Section 106 consulting parties was completed. The re-design needs to be resubmitted to the parties. The DB contractor will be required to provide the MBTA with 30%, 60% and 90% design plans that will be resubmitted to the Section 106 parties as required by the Section 106 MOA.

Construct noise barrier adjacent to historic Susan Russell House with context-sensitive materials and colors.	No change in commitment to mitigate noise impacts. Noise barrier was changed to sound insulation as owner request. Massachusetts Historical Commission has approved
Public Involvement	
Continue civic engagement opportunities during the design process. Provide transparent public information and outreach process through construction.	No change.
Engage interested parties through the Design Working Group.	The Design Working Group was engaged during the redesign process and will continue to be engaged throughout the project. It will transition to a Construction Working Group as the project progresses. The MBTA will be appointing a new GLX Community and Stakeholder Engagement person to focus full time on the issues surrounding GLX.
Conduct land use workshops with affected communities to further identify community needs and issues near the proposed station areas.	Station area workshops have been completed.
Design	
As design advances, facilitate future transit/transportation projects such as light rail expansion or connections to existing infrastructure to the extent possible.	Future transit/ transportation projects not precluded by GLX redesign.
Implement "green" design elements (recycled or recyclable materials or incorporate vegetation) in design of proposed retaining walls, stations and maintenance and storage facility.	A Sustainability Plan will be developed for the redesign.
During design, refine project designs to further minimize temporary and permanent impacts on local neighborhoods and property owners.	No change to commitment
Design all stations in compliance with ADA standards, Massachusetts AAB standards; MBTA's settlement agreement with the Boston Center for Independent Living (BCIL) and applicable National Fire Protection Association standards.	No change. The project will be designed in compliance with all applicable standards

5.2 COMPARISON OF CONSTRUCTION MITIGATION COMMITMENTS

Environmental Mitigation identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation for the GLX Redesign
General	
<p>Prior to construction, prepare a detailed plan to address various construction period impacts to various environmental resources (vehicular traffic, pedestrian and bicycle, on-street parking, public access, emergency access to local businesses and residences, dust, noise, odor, rodents, construction-related nuisance conditions) through coordination with cities and appropriate emergency personnel.</p>	<p>No change. DB contractor will be required to prepare construction management plan (CMP) and mitigation plan which will be shared with communities.</p> <p>The CMP will address all of the construction period related issues articulated in the EIR. The re-design does not change these requirements, nor is the MBTA seeking to change any of them.</p>
Traffic and Transportation Systems	
<p>Establish temporary detours to minimize traffic disruptions due to construction.</p>	<p>No change</p>
<p>Stage bridge construction to ensure that adjacent bridges are not closed simultaneously.</p>	<p>No change</p>
<p>Work with cities and applicable emergency personnel to ensure that appropriate safety measures are incorporated throughout construction.</p>	<p>No change</p>
Air Quality	
<p>Apply water to dry soil to prevent dust production. Use water for compaction in the fill areas and as a dust retardant in both the soil cut areas and haul roads.</p>	<p>No change</p>
<p>Comply with MassDEP's idling regulations. Post idling restriction signage on project construction sites.</p>	<p>No change</p>
<p>Follow existing MassDEP's Solid Waste and Air Quality Control regulations and MBTA retrofit procedures for construction equipment to reduce emissions.</p>	<p>No change</p>
Noise	
<p>Prepare a Noise Control Plan in conjunction with the contractor's specific equipment and methods of construction.</p>	<p>No change</p>

Environmental Mitigation identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation for the GLX Redesign
Use specially quieted equipment with enclosed engines and/or high-performance mufflers.	No change
Perform construction equipment noise certification testing.	No change
Avoid nighttime construction in residential neighborhoods.	In order to expedite construction, nighttime work may occur only with full coordination with the communities and abutting neighborhoods.
Require ambient-adjusting or manually adjusted backup alarms set to 5dBA over background levels.	No change
Keep truck idling to a minimum.	No change
Set acoustic shield requirement for jackhammers, chainsaws, and pavement breakers.	No change
Develop methods for projecting construction noise levels.	No change
Develop methods for responding to community complaints.	No change
Establish a protocol for reporting noise monitoring results, noise reduction measures used, and responses to the community.	No change
Use shields, shrouds, or intake and exhaust mufflers to control construction noise level.	No change
Apply noise deadening materials to chutes or storage bins.	No change
Install temporary noise barriers.	No change
Apply acoustic enclosures.	No change
Implement specialized back-up alarms.	No change
Limit the size of generators and the duration of their use.	No change
Develop truck routes that minimize exposure to noise-sensitive sites.	No change
Develop other detailed engineering noise control measures, as appropriate.	No change

Environmental Mitigation identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation for the GLX Redesign
Route construction equipment and vehicles through areas that would cause the least disturbance to nearby receptors where possible.	No change
Fit any air-powered equipment with pneumatic exhaust silencers.	No change
Locate stationary construction equipment as far as possible from noise-sensitive sites.	No change
Construct noise barriers, such as temporary walls or piles or excavated material, between noisy activities and noise-sensitive receivers.	No change
Monitor noise after service starts (with the proposed mitigation in place) to evaluate whether the actual noise levels correspond with the modeled values and take appropriate corrective actions if the actual values are found to be higher than the projections.	No change
Vibration	
Configure truck routes that minimize exposure to vibration sensitive receptors and maintain smooth roadway surfaces.	No change
Avoid nighttime construction in residential neighborhoods.	In order to expedite construction, nighttime work may occur only with full coordination with the communities and abutting neighborhoods.
Use alternative construction methods to minimize the use of impact and vibratory equipment (e.g., pile drivers and compactors).	No change
Monitor vibration after service starts (with the proposed mitigation in place) to evaluate whether the actual vibration levels correspond with the modeled values and take appropriate corrective actions if the actual values are found to be higher than the projections.	No change

Water Quality/Stormwater	
Install detention and infiltration systems to infiltrate peak runoff and to prevent any increase in peak flows to municipal stormwater drainage systems and to remove TSS from stormwater runoff prior to discharge.	No change
Install hydrodynamic particle separators to treat pavement runoff.	No change

Environmental Mitigation identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation for the GLX Redesign
Use Low Impact Development practices, where feasible, to maintain natural hydrology (e.g., raingardens to treat disconnected roof drainage and/or parking runoff).	No change
Develop and implement a SWPPP in accordance with NPDES and MassDEP standards.	No change
Stabilize any highly erosive soils with erosion control blankets and other stabilization methods, as necessary.	No change
Reinforce slopes using a hydroseed mix with a resin base, native vegetation, or other approved methods.	No change
Use dewatering controls, if necessary.	No change
Install a gravel entrance at construction sites to prevent sediment from being tracked onto roadways and potentially discharged to surface waters.	No change
Maintain construction equipment to prevent oil and fuel leaks and install catch basin protection as needed.	No change
Hazardous Materials	
Consult with MassDEP to ensure planning and implementation of demolition and management of contaminated soils is consistent with applicable MassDEP regulations and recommendations.	No change
Follow all protocols to adequately characterize, stockpile and dispose of materials encountered during construction.	No change

Outreach	
Establishing a project construction office.	No change
Establishing a Green Line Extension project Ombudsman position that would field all construction-period comments and complaints, coordinate with the cities, and respond to public concerns.	No change
Establish a Construction Working Group to advise MassDOT and the MBTA.	No change
Establish a project email address and 24-hour phone hotline for public concerns.	No change

Environmental Mitigation identified in the Final Environmental Impact Report	Comparison to the Environmental Mitigation for the GLX Redesign
Provide frequent website updates of construction activities at www.mass.gov/greenlineextension	No change
Host neighborhood construction kick-off meetings.	No change
Produce quarterly construction updates.	No change
Develop a business outreach plan to assist local businesses during construction.	No change

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