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

PROJECT NAME : Metropolitan Water Tunnel Program
PROJECT MUNICIPALITY : Waltham, Belmont, Watertown, Weston, Newton, Wellesley,
Needham, Brookline, Boston, Dedham
PROJECT WATERSHED : Charles River and Boston Harbor
EEA NUMBER : 16355
PROJECT PROPONENT : Massachusetts Water Resources Authority (MWRA)
DATE NOTICED IN MONITOR : October 24, 2022

Pursuant to Section 11.08(8)(b)(iii) of the MEPA regulations, I hereby determine that the Draft Environmental Impact Report (DEIR) submitted on this project **does not adequately and properly comply** with the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62L) and with its implementing regulations (301 CMR 11.00), and therefore requires the filing of a Supplemental DEIR (SDEIR). Specifically, I find that substantive issues remain to be addressed related to the viability of the proposed receiving shaft site¹ at the Fernald Property in Waltham, which is common to all alternatives considered for the project for the northern alignment. In addition, potential alternate receiving locations that could replace the Fernald Property have not been disclosed nor have the impacts of any such locations been analyzed. As such, I cannot find that the project has satisfied the regulatory requirement to adequately describe and analyze the environmental impacts of the project, including all feasible alternatives to the receiving shaft location and routes for the northern alignment. As an adequate alternatives analysis is a central component of the MEPA review process, I am requiring a supplemental filing before the project proceeds to the Final EIR phase of review.

Project Description

As described in the DEIR, the Massachusetts Water Resources Authority (MWRA) is proposing

¹ Shafts sites are locations where vertical concrete lined tunnels will connect the deep rock tunnel to the surface and/or water distribution infrastructure.

to construct two new deep rock water supply tunnels (north and south alignments totaling ± 14.5 miles) that will provide redundancy for MWRA's existing Metropolitan Tunnel System, which includes the City Tunnel (constructed in 1950), City Tunnel Extension (constructed in 1963) and Dorchester Tunnel (constructed in 1976). This tunnel system has been in continuous service since construction. While the concrete lined deep rock tunnels have a long design life, some of the associated valves and piping have exceeded their design life and are currently in poor condition. A redundant system is needed to maintain and/or replace some of these valves and piping without interruption to water supply. The project will provide the redundancy to allow for system maintenance and repair, without disrupting service to over 2.5 million water customers. Under current conditions, if the Metropolitan Tunnel System is shut down, water must be supplied from open reservoirs containing nonpotable water, backup aqueducts, and undersized surface mains to distribute the nonpotable water with inadequate pressure. These backup options require use of emergency chlorination and issuance of a boil water order to customers. The project will support MWRA's responsibility to protect public health, provide sanitation, and provide fire protection through adequate water supply.

Water from the Quabbin Reservoir and Wachusett Reservoir is conveyed to the John J. Carroll Water Treatment Plant (WTP) in Marlborough. Treated water is conveyed from the WTP through the MetroWest Water Supply Tunnel (MWWST) and the Hultman Aqueduct (Shaft 5/5A). From there, the existing Metropolitan Tunnel System conveys ± 60 percent of the metropolitan Boston area's daily demand. The new, redundant deep rock tunnels will originate near the convergence of MWWST and the Hultman Aqueduct (Shaft 5/5A) at a site located at the western most portion of the Metropolitan Tunnel System generally in the vicinity of the Interstate 95 (I-95)/Interstate 90 (I-90) Interchange. From this point, one tunnel would take a northerly route toward Waltham (North Tunnel) and the other a southerly route toward Boston and Dorchester (South Tunnel). Each tunnel will connect to existing water supply infrastructure at key locations to provide water supply redundancy to the existing system.

Ten DEIR Alternatives were evaluated and ranked to ultimately determine the Preferred Alternative and two backup alternatives. The Preferred Alternative would propose tunnel construction in three segments including the North Tunnel (Segment 1) and the South Tunnel (Segments 2 and 3) with the South Tunnel proceeding first. Both tunnels are proposed to begin in the Town of Weston near the terminus of the Hultman Aqueduct and MWWST. The North Tunnel Alternative would extend ± 4.5 miles to the north, ending near the Waltham/Belmont line with a connection to the existing 60-inch diameter Weston Aqueduct Supply Main Number Three (WASM3). The South Tunnel Alternative would extend ± 10.1 miles to the south, with a connection to the distribution pipes near Shaft 7C of the Dorchester Tunnel and ending in Boston (Dorchester).

After preliminary and final design are complete, construction is estimated to take ± 8 to 12 years and is planned to occur between 2027 and 2040, with the new deep-rock tunnel system placed into service before or around 2040 (useful life of more than 100 years). When sizing proposed facilities, MWRA considered projected future water demands due to population and employment increases within the service area as well as increased water use efficiency. The intent of the project is not to increase total capacity of the system, but to ensure redundancy by providing a backup to the existing Metropolitan Tunnel System if it were ever out of service for planned or unplanned reasons. Temporary construction impacts will be associated with construction of the deep rock tunnels, associated construction shaft sites and intermediate shaft sites, as well as management of material removed from the tunnel and treatment of groundwater inflow (i.e., dewatering excavated material).

Study Area

The MWRA is a Massachusetts public authority established by an act of the Legislature in 1984 to provide wholesale water and sewer services to 3.1 million people and more than 5,500 businesses in 61 communities in eastern and central Massachusetts. The MWRA water transmission system consists of Quabbin and Wachusett Reservoirs, the Ware River intake, and the deep rock tunnels and surface aqueducts that deliver water by gravity. The overall transmission and distribution system consists of ± 100 miles of tunnels and aqueducts and 280 miles of surface pipeline that carry water from the source reservoirs to communities. The Quabbin and Wachusett Reservoirs, which are the main water supply sources, are located 65 and 35 miles west of Boston, respectively. Water from the reservoirs is treated at the John J. Carroll WTP in Marlborough before being conveyed to the metropolitan Boston area through the Hultman Aqueduct and the MWWST completed in 2003 which provides redundancy for the Hultman Aqueduct. Water from the Hultman Aqueduct and MWWST is then conveyed to the existing Metropolitan Water Tunnel System, which does not have a redundant system (east of Shaft 5/5A).

Each tunnel comprising the Metropolitan Tunnel System (City Tunnel, City Tunnel Extension, and Dorchester Tunnel) consists of concrete-lined deep rock tunnel sections linked to the surface through steel and concrete vertical shafts. At the top of each shaft, cast iron or steel pipe and valves connect to the MWRA surface pipe network. These pipes and valves are accessed through subsurface vaults and chambers. The tunnel and shafts themselves require little or no maintenance and represent a low risk of failure however, many of the valves and piping are in poor condition.

The project Study Area encompasses ± 14.5 miles of deep rock tunnels and connections to existing water supply infrastructure (± 200 -400 ft) below the surface of several communities. Potential impacted areas in the Study Area include the communities of Boston, Belmont, Brookline, Dedham, Needham, Newton, Watertown, Waltham, Wellesley, and Weston. The Study Area includes wetlands, Areas of Critical Environmental Concern (ACECs), Outstanding Resource Waters (ORWs), historic resources, and mapped habitats for endangered species. As discussed below, the 14 site locations within the Study Area are within 1 mile of several Environmental Justice (EJ) Populations.² While the project was originally filed prior to January 1, 2022, when new MEPA protocols related to EJ outreach and analysis took effect, the DEIR voluntarily provides a description of public outreach activities and analysis of impacts over the 1-mile area around the 14 shaft site locations.

Environmental Impacts and Mitigation

Proposed shaft chambers and connecting pipelines would be underground structures. permanent above-ground features, such as concrete slabs and concrete vaults or top of shafts, would not extend more than three feet above finished grade. Potential impacts associated with the project (depending on the alternative) include alteration of up to 46.0 acres of land (surface impacts); creation of up to 4 acres of new impervious surface; and temporary and permanent alteration of wetlands including 1,674 square feet (sf) of Bordering Vegetated Wetlands (BVW)/Isolated Vegetated Wetlands (IVW), up to 106 sf of Bank, up to 3,286 sf of Bordering Land Subject to Flooding (BLSF), up to 2,800 sf of Land Under Water (LUW), and up to 290,963 sf of Riverfront Area (RFA). Greenhouse Gas (GHG) emissions and other air pollutants will be generated during construction period activities, including the use of heavy equipment, trucks and other emitting sources employed during construction. Table 4.2-1 of the DEIR

² "Environmental Justice Population" is defined in M.G.L. c. 30, § 62 under four categories: Minority, Income, English Isolation, and a combined category of Minority and Income.

provides a qualitative summary of environmental impacts associated with the project.

Specific shaft site locations have been selected with the intent to avoid resource areas and sensitive receptors to the greatest extent practicable. Measures to avoid, minimize, and mitigate Damage to the Environment include avoiding direct impacts to BVW/IVW; revegetating areas disturbed during construction with native species including replacing removed trees; providing compensatory storage for loss of flood storage; identifying and providing compensatory land for parcels protected by Article 97 that would be disposed to MWRA; monitoring construction noise and vibration with implementation of mitigation if established thresholds are exceeded; implementation of a Water Supply Contingency Plan with alternate sources of water as required (Appendix J); and implementation of comprehensive construction-period Best Management Practices (BMPs) including erosion and sedimentation controls.

Jurisdiction and Permitting

The project is undergoing MEPA review and is subject to a Mandatory EIR pursuant to 301 CMR 11.03(4)(a)(3) because it requires Agency Actions and involves the construction of one or more new water mains ten or more miles in length. The DEIR indicates that the project exceeds the Environmental Notification Form (ENF) threshold pursuant to 301 CMR 11.03(1)(b)(3) for the conversion of land held for natural resources purposes in accordance with Amendments to the Constitution of the Commonwealth Article 97 (Article 97) to any purpose not in accordance with Article 97. The project also exceeds the ENF review thresholds pursuant to 301 CMR 11.03(1)(b)(2) for alteration of 25 or more acres of land and 301 CMR 11.03(3)(b)(1)(f) for alteration of one-half or more acres of other wetlands (RFA)³.

The project requires or potentially requires Highway Access/Construction Access Permits and land disposition/easements from the Massachusetts Department of Transportation (MassDOT); Right of Way Access License Agreement from the Massachusetts Bay Transportation Authority (MBTA); Construction and Access Permits and land disposition/easements from the Massachusetts Department of Conservation and Recreation (DCR); Water Management Act (WMA) Water Withdrawal Permit (WM03), Section 401 Water Quality Certificate (WQC), Chapter 91 (c. 91) License and a Distribution System Modification Permit (BRPWS32) from the Massachusetts Department of Environmental Protection (MassDEP); review by the Natural Heritage and Endangered Species Program (NHESP); review by the Massachusetts Historical Commission (MHC) pursuant to MGL c. 9 Section 23-27C; review by the Water Resources Commission (WRC) pursuant to the WMA; and Article 97 Land Disposition legislation from the Massachusetts Division of Capital Asset Management and Maintenance (DCAMM). The project is subject to review under the May 2010 MEPA GHG Emissions Policy and Protocol (GHG Policy).

The project will also require an Order of Conditions from the Conservation Commissions in Waltham, Weston, Needham, Wellesley, and Boston (or in the case of an appeal, a Superseding Order of Conditions (SOC) from MassDEP) depending on the specific site selected; a National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) and Dewatering and Remediation General Permit (potentially) from the U.S. Environmental Protection Agency (EPA); and Section 404 review from the U.S. Army Corps of Engineers (ACOE).

Because the project is being undertaken by MWRA, an Agency as defined in MEPA regulations,

³ The DEIR did not identify that the project exceeds both ENF review thresholds.

MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment.

Review of the DEIR

The DEIR provides a comprehensive description of existing conditions, analysis of alternatives, and assessment of environmental impacts (temporary and permanent) for the Preferred Alternative and two backup alternatives including land alteration (including protected open space), wetlands and waterways, rare species and wildlife habitat, cultural and historic resources, hazardous materials/materials handling/recycling, transportation, air quality, noise, and community resources. It identifies measures to avoid, minimize and mitigate impacts and provides draft Section 61 Findings. The DEIR includes a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards.

The DEIR includes conceptual site plans for existing and post-development conditions (proposed temporary and permanent limits of disturbance) for each DEIR Alternative and identifies environmental resources including wetlands and waterways, protected open space, c.91 jurisdictional limits, stormwater, wastewater and water supply infrastructure (including private wells), rare species and wildlife habitat, cultural and historic resources, land use including land ownership, transportation, noise, and community resources.

The DEIR identifies and describes state, federal and local permitting and review requirements associated with the project and provides an update on the status of each of these pending actions. It includes a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards.

MWRA provided supplemental information to the MEPA Office on December 13, 2022 to respond to comments from the City of Waltham. For purposes of clarity, all supplemental materials are included in references to the "DEIR" unless otherwise referenced.

Alternatives Analysis

Based on previous studies (including identification of the type and size of the tunnels), the ENF identified 13 North Tunnel Alternatives and 15 South Tunnel Alternatives (28 alternatives). The 13 preliminary alternatives evaluated for the north portion of the system were grouped into three categories: operational changes to the system; increasing the capacity of the existing 60-inch WASM3 pipeline by pumping or replacing it with a larger capacity pipeline; and increasing capacity through construction of a new tunnel. The 15 preliminary alternatives considered for the south portion of the system were grouped into three categories: construction of a surface pipeline or deep rock tunnel from Shaft 5/5A or Shaft N to connect to the Sudbury Aqueduct, and sliplining the Sudbury Aqueduct to the Chestnut Hill Emergency Pumping Station; construction of a surface pipeline from Shaft 5/5A to a connection along the Dorchester Tunnel; and increasing redundancy through construction of a new deep-rock tunnel with connections to the existing MWRA distribution system. The ENF concluded that a deep-rock tunnel to the north and south would be the preferred solution to advance for further evaluation.

Since the ENF, MWRA conducted further supplemental high-level analysis of the 28 ENF alternatives using available GIS data. The total disturbed area for each of the 28 alternatives was estimated based on an assumed trench width and shaft construction requirements. Those alternatives that

passed the Tier 1 requirements (meeting water demand and system reliability and resilience) were then further evaluated to gauge impacts to the following resources: open space, wetlands, rare species, and historic and cultural areas. This supplemental analysis (summarized in Appendix C Table C-1 and Table C-2) reached the same conclusion as the original qualitative analysis that the deep rock tunnel alternatives 8N (North Tunnel) and 20S (South Tunnel) described in the ENF are MWRA's preferred alternatives, and associated impacts to the above resources are equal to or less than that of the other 26 alternatives.

Each tunnel alternative would include a tunnel boring machine (TBM) launching shaft at the starting point for each tunnel segment and a TBM receiving shaft at each tunnel segment terminus. Since the ENF, MWRA identified and evaluated potential launching (entry), receiving (exit), and connection point (primary and secondary) locations to determine the alternatives that would advance to the DEIR. Since the DEIR Alternatives are made up of different combinations of launching, receiving, and connection sites and different tunnel segments, a multicriteria decision tool was developed to consistently apply the evaluation criteria and subcriteria to each site or tunnel segment, and to score the alternative components to develop a mechanism for comparing one against the other and in combination.

Since the ENF was filed, MWRA focused on the deep-rock tunnel concept to develop alternatives with the goal of identifying a small set of tunnel alignment alternative that would be assessed in the DEIR. MWRA identified 10 potential alternatives that considered the following factors: sufficient acreage to serve the evaluated function; proximity to highways; land ownership; availability of land; and a high-level screening of environmental impacts. The ten DEIR Alternatives are composed of two or three deep rock tunnel segments, each with a launching shaft site at the start of the tunnel segment, a receiving shaft site at the terminus of the tunnel segment, connection shaft sites where the tunnels are connected to the existing water distribution system, and deep rock tunnel segments connecting the various shaft sites. Together these shaft sites and tunnel segments comprise a tunnel alignment. The DEIR provides an evaluation of potential environmental impacts associated with the project for each alternative. The 10 potential DEIR Alternatives were then further screened to identify three alternatives that proceeded into more detailed environmental impact assessment in the DEIR. This alternatives' screening process is described in detail in Appendix C. The DEIR depicts the location of shaft sites and isolation valve sites for each alternative. The 10 candidate DEIR Alternatives differ in the combination of sites, direction of excavation of the TBMs, and the lengths of the tunnel segments. They also have several common characteristics such as all alignment alternatives include the Fernald Property in Waltham, which is the location of the former Fernald School, as the most northern point of the North Tunnel. All alignment alternatives include the American Legion site, which is under the care, custody, and control of the DCR as the most southern point of the South Tunnel. In addition, all alternatives include the same six intermediate connection shaft sites and the Hultman Aqueduct isolation valve site.

As indicated above, the DEIR presents a Preferred Alternative and two back up alternatives from among the ten DEIR Alternatives reviewed. It is unclear from the alternatives analysis if other alternatives that were less impactful to environmental resources were dismissed. The DEIR Alternatives screening evaluated and scored each of the DEIR tunnel alignment shaft and connection sites individually, and then cumulatively for the entire tunnel alignment, considering the relative ability of the respective alternatives to achieve the project goals while minimizing environmental impacts. High-level DEIR evaluation criteria included: Engineering/Constructability; Land Availability; Environmental; Social/Community; Operations; Cost; and Schedule. All three alternatives provide the required hydraulic, redundancy and operational features to meet project goals.

The Preferred Alternative among these was Alternative 4, which was preferred in four categories (engineering/constructability, land availability, cost differential and schedule). Alternative 4 consists of three tunnel segments and would require three TBM drives (one for the North Tunnel and two for the South Tunnel). The North Tunnel (4.5 miles long) starts by launching from the Tandem Trailer site near the Hultman Aqueduct with a connection tunnel to Park Road East and receiving at the Fernald Property near the WASM3. The South Tunnel (3 miles long) launches from the Highland Avenue Northwest site near the Highland Avenue and receiving at the Park Road West near the Hultman Aqueduct. A third tunnel (7 miles long) drive would launch from the Highland Avenue Northeast site and receive at the American Legion site near the Shaft 7C. According to the DEIR, the three alternatives all have comparable impacts for rare species and Article 97 Lands and generally traverse the same horizontal alignment and would have comparable potential impacts on wetlands, wells or surface water bodies along the tunnel alignment. The only differing factor is how each alternative addresses launch shaft groundwater management and its potential impact on surface water bodies.

Alternative 4 would require six construction shaft sites, three for launching and three for receiving, on land owned by MassDOT, DCR, the City of Waltham, and the Town of Weston. Each of the three tunnel segments would have connections to the MWRA water system at two additional tunnel shafts along their courses. The tunnels will be concrete lined in most areas. In locations where the ground conditions necessitate that the tunnels have greater structural strength, a mortar-coated steel lining will be installed.

Comments from the City of Waltham raise concerns with the adequacy of information presented in the DEIR regarding the Fernald Property. These comments appear to throw into question the viability of the Fernald site in Waltham as the receiving shaft location for the northern tunnel alignment. The Fernald site is identified as the receiving shaft location for the northern alignment for all ten DEIR Alternatives, and no alternate locations in Waltham or Belmont were considered. The SDEIR should address the comments raised by the City of Waltham and continue to study alternatives for the northern tunnel alignment. The SDEIR should also clarify how environmental factors were considered in the choice of a Preferred Alternative for the tunnel alignments, and if less impactful alternatives were dismissed, provide a clear justification for the dismissal.

Environmental Justice

Table 2.4-1 summarizes each of the proposed sites and the presence of EJ populations near those sites or within the limit of disturbance (LOD).

Table 2.4-1 Summary of Environmental Justice Populations by Site

Proposed Site	Number of EJ Block Groups within 1 mile	Approximate Area of EJ Block Groups in a site's DGA (%)	LOD within EJ Block Group?	Languages Spoken by at least 5% of census tract population¹
Fernald Property, Waltham	10	34%	No	Spanish or Spanish Creole Chinese
Tandem Trailer and Park Road East, Weston	2	2%	No	Chinese
Bifurcation, Weston	2	<1%	No	Chinese
Park Road West, Weston	0	0%	No	None
Highland Avenue Northwest/ Southwest, Needham	1	<1%	No	Chinese
Highland Avenue Northeast/ Southeast, Needham	1	<1%	No	Chinese
American Legion, Boston	18	75%	Yes	Spanish or Spanish Creole French Creole
School Street, Waltham	25	83%	Yes	Spanish or Spanish Creole Chinese
Cedarwood Pumping Station, Waltham	21	79%	Yes	Spanish or Spanish Creole Chinese
Hegarty Pumping Station, Wellesley	1	13%	Yes	Chinese
St. Mary Street Pumping Station, Needham	1	1%	No	Chinese
Newton Street Pumping Station, Brookline	9	80%	Yes	None
Southern Spine Mains, Boston	22	44%	Yes	Spanish or Spanish Creole French Creole
Hultman Aqueduct Isolation Valve, Weston	2	<1%	No	Chinese

Source: EJ Maps Viewer, 2021.

¹ Data is from "Languages Spoken in Massachusetts" tab of the EJ Maps Viewer to determine languages spoken by at least 5 percent of population in the census tract who do not speak English very well.

The DEIR provides a summary of MWRA’s public outreach that have occurred since the ENF was submitted. MWRA has implemented a robust community outreach initiative and continues to actively communicate with communities and stakeholders. The DEIR outlines the outreach plan (Table 2.3-1) that MWRA will follow after issuance of the Certificate on the DEIR. MWRA consulted with the MEPA Office to present its outreach plan on September 15, 2022. The outreach strategy includes meetings within each community in the Study Area, formation of a working group, coordination with MWRA’s Advisory Board and Commonwealth agencies, as well as outreach to environmental advocacy groups. MWRA made six presentations to the working group regarding selection of the Preferred Alternative and two backup alternatives. Furthermore, MWRA is participating as a member of an EJ task force led by the Executive Office of Energy and Environmental Affairs (EEA) and will follow EEA guidelines pertaining to outreach to and inclusion of EJ populations.

The DEIR analysis identifies EJ communities within the Study Area for each of the 14 proposed sites. MWRA will tailor outreach to EJ communities and use a combination of methods to facilitate

participation in the environmental review process. Each of the 14 proposed sites has its own Designated Geographic Area (DGA), which is the 1-mile radius or buffer around the site. The DEIR presents an analysis of impacts on EJ populations within each of these DGAs. Collectively, the 14 DGAs make up what the DEIR refers to as the “EJ Study Area.” Outreach methods will include translating outreach materials to languages prevalent in EJ communities within the EJ Study Area, publishing notices in foreign language local newspapers, and using various social media platforms and media outlets to reach the intended population. MWRA will hold public information sessions or workshops as requested; provide wide dissemination of project summaries and fact sheets for topics such as traffic, noise and vibration, shaft site selection process, and natural and cultural resource impacts (with translations); and provide project website and make information available on community websites. Interpretation services will automatically be provided for communities where at least 5% of census tract population in each community speak a specific language; MWRA will provide interpreters as requested for all other communities. MWRA proposes to provide advance notification of the project no later than 45 days, and no earlier than 90 days, prior to filing of EIRs to community-based organizations (CBOs) and tribes based on a recommended list provided by the EEA EJ Director.

The DEIR makes the following assertions on project-related impacts regarding EJ populations:

- analysis of new average daily trips (ADT) of diesel vehicle traffic was separated by site due to the different geographies and EJ block groups at proposed sites (the DEIR concludes that the project would not generate more than 150 net new ADT of diesel vehicle traffic)
- EJ populations were identified within 1 mile of all launching, receiving, and connection and isolation valve sites, except the Park Road West site where no EJ populations were present
- Per the Massachusetts Department of Public Health (DPH) EJ Tool (including review of Vulnerable Health EJ criteria) environmental pollutant and health data and the Climate Resilience Design Tool climate exposure data, existing unfair or inequitable environmental and health burdens on EJ populations are potentially present for the American Legion site, School Street site, Cedarwood Pumping Station, Hegarty Pumping Station, Newton Street Pumping Station, and Southern Spine Mains
- Based on emissions levels, locations, and timeframe, criteria pollutant air quality impacts during construction for all alternatives are expected to be relatively minor, and well below state and federal air quality risk management standards. Thus, impacts to EJ communities are expected to be insignificant (mitigation measures will be implemented to further reduce emissions during construction as described below)
- GHGs (primarily CO₂), although attributed to causing climate change, are not a direct health-based pollutant (no significant construction-period impacts to EJ or non-EJ populations related to air quality or climate change exposure are anticipated for the project)

Based on a review of the existing EJ populations and anticipated project-related impacts, no disproportionate construction period impacts or full-build impacts would be anticipated for any identified EJ population at any of the project sites. The SDEIR should supplement this EJ analysis in accordance with the Scope.

Land Alteration, Open Space and Article 97

The DEIR describes land alteration, creation of impervious area, and removal of trees. The DEIR indicates that land alteration and tree clearing has been limited to the maximum extent practicable and

proposes supplemental landscaping or tree planting to mitigate impacts associated with land alteration, which will be coordinated with the owner of the land. MWRA should continue to reduce impervious area through incorporation of pervious surfaces and landscaped areas. The DEIR describes how the project is consistent with the EEA Article 97 Land Disposition Policy, which ensures no net loss of Article 97 lands under ownership/control of the Commonwealth, with a general premise that EEA and its agencies shall not sell, transfer or otherwise dispose of any right or interest in Article 97 lands. Exceptional circumstances, as defined in the Policy, include the determination that no feasible alternative is available, and a minimum amount of land or an interest therein is being disposed for the proposed use. DCR comments note that with the recent passage of St. 2022, c. 274, *An Act Preserving Open Space in the Commonwealth*, additional requirements may apply to a transfer of Article 97 property.

Table 4.2-4 of the DEIR provides a summary comparison of land use characteristics associated with the three DEIR Alternatives including proposed changes in impervious surface compared to existing conditions (up to 2.7 acres), temporary construction area limits of disturbance (LOD) (up to 46 acres), permanent easements or land acquisition, and estimated Article 97 land disposition anticipated to be required. Key findings on impacts of the project regarding land use include:

- proposed sites would be located on state- or municipality-owned land
- no relocation of residential units and proposed sites would be located away from residential uses and protected and recreational open spaces, to the extent feasible
- restoration of areas temporarily disturbed during construction
- potential removal of public shade trees as defined in MGL c. 87, which will be identified pending advancement of site design
 - MWRA would not plant, trim, cut, or remove a public shade tree without permission of the Tree Warden (and/or in coordination with the park commissioner, DCR, and/or MassDOT where appropriate) and would follow requirements for public hearings and public notification in accordance with c. 87, as well as Chapter 40, Section 15C (the “Scenic Roads Act”), where applicable
- replacement of trees removed during construction where required and as appropriate
- existing open space areas protected by Article 97 will be avoided (greatest extent practicable)
 - Three sites may require disposition of land protected under Article 97: the Hegarty Pumping Station (Ouellet Park) (Article 97 status to be determined); Southern Spine Mains (Southwest Corridor Park/Arborway I) on DCR land; and the American Legion (Morton Street Property) on DCR land
 - Three additional sites have resources protected under Article 97 that would not result in an Article 97 land disposition since the protected resources (Hultman Aqueduct and Sudbury Aqueduct) are owned by the Commonwealth of Massachusetts under the care, custody, and control of MWRA: Park Road East (Hultman Aqueduct); Bifurcation launching site (Hultman Aqueduct); and St. Mary Street Pumping Station connection site (Sudbury Aqueduct)

Proposed sites on DCR land that require permanent easements will trigger Article 97; it appears that up to 5 acres of DCR property may be needed as staging locations for tunnel construction over several years, which will require a DCR Construction and Access Permit. As described above, two sites (the Southern Spine Mains connection site and American Legion receiving site) may require disposition of DCR land that is protected under Article 97. The DEIR also describes locations where tunnel

construction is proposed beneath DCR properties, including the Leo J. Martin Golf Course in Weston and portions of the Charles River Reservation. Tunnel construction beneath DCR property will require permanent easements triggering Article 97. DCR comments identify support for granting of a Construction and Access Permit for temporary tunnel staging sites and permanent easements on and under DCR land, and it will continue to work with MWRA to ensure that the process is compliant with the Article 97 Policy.

Comments from the City of Waltham indicate MWRA has not yet completed test borings which would enable it to determine whether the project may be constructed in any of the public or private locations identified in Waltham as possible locations. Supplemental information from MWRA indicates that only the subsurface (underground) tunnel alignment between shaft sites would be influenced by future test borings. The DEIR indicates that at this stage in the alternatives development and evaluation process, the specific subsurface (underground) alignment that a tunnel segment may take would be refined throughout the design phases of the project based on additional geotechnical data. The DEIR identifies Required Connection Points (hydraulic connection points where tunnel facilities must connect to existing surface infrastructure to achieve redundancy goals) and Secondary Connection Points (connection points identified to facilitate tunnel construction or to provide benefit to its customers and reinforcement to its transmission network). These connection points (shaft sites) will not change based on the results of future geotechnical borings. MWRA maintains that impacts have been described in the DEIR based on identification of the shaft sites.

MWRA is currently conducting the second phase (Phase 1B) of preliminary work, which includes deep rock borings and geophysical investigations. MWRA will continue to conduct additional geotechnical investigations and testing as the project moves through final design. The data derived from borings will determine the extent of easements needed from landowners. It will prepare a draft and final Preliminary Design Report to support and provide the technical basis for the information included in the EIRs, including design criteria, construction considerations, and operational requirements for the tunnels, shafts, and valve chambers and pipe connections; a detailed hydraulic analysis of the proposed tunnels using projected future water demands; and preliminary design drawings, proposed construction packaging, a proposed schedule, and a preliminary cost estimate. Final Design and the development of construction contract documents (including Final Plans, Specifications, and a detailed Construction Cost Estimate) is anticipated in 2024. Based on these, MWRA will initiate a public bidding process to select a contractor (or contractors if multiple construction contracts are issued). Construction is anticipated to begin in 2027.

Wetlands and Stormwater

The DEIR (Table 4.2-2) provides a summary of wetland impacts by municipality for each DEIR Alternative. The project will temporarily and permanently impact BVW, IVW, Bank, BLSF, LUW, and RFA, and associated buffer zones. The Conservation Commissions will review the project for its consistency with the WPA, Wetlands Regulations (310 CMR 10.00) and associated performance standards including stormwater management standards (SMS). MassDEP will review the project for its consistency with the 401 WQC regulations (314 CMR 9.00) and the c. 91 Waterways Regulations (310 CMR 9.00).

Total impacts associated with Alternative 3 are estimated to include 1,674 sf of BVW/IVW (temporary), 106 sf of Bank (32 sf temporary and 74 sf permanent), 3,286 sf of BLSF (1,890 sf temporary and 1,396 sf permanent), 3,820 sf of LUW (2,534 sf temporary and 1,286 sf permanent), and

290,963 sf of RFA (273,822 sf temporary and 17,141 sf permanent). Total impacts associated with Alternative 4 are estimated to include 1,674 sf of BVW/IVW (temporary), 106 sf of Bank (32 sf temporary and 74 sf permanent), 2,668 sf of BLSF (1,640 sf temporary and 1,028 sf permanent), 2,800 sf of LUW (1,882 sf temporary and 918 sf permanent), and 256,976 sf of RFA (239,835 sf temporary and 17,141 sf permanent). Total impacts associated with Alternative 10 are estimated to include 1,674 sf of BVW/IVW (temporary), 82 sf of Bank (24 sf temporary and 58 sf permanent), 2,000 sf of BLSF (1,340 sf temporary and 660 sf permanent), 2,520 sf of LUW (1,612 sf temporary and 908 sf permanent), and 149,569 sf of RFA (134,113 sf temporary and 15,456 sf permanent).

Key findings of impacts of the project regarding wetland resource areas are summarized below (the majority of potential impacts would occur during construction):

- no permanent impacts to BVW or IVW associated with construction or operation
- temporary impacts to BVW and IVW at the Fernald Property due to a dewatering discharge pipe and at American Legion for a pipeline connection to the existing water supply infrastructure (impacted areas would be restored)
- permanent impacts to RFA due to top-of-shaft and/or valve structures and associated pavement at four locations (Fernald Property, Hegarty Pumping Station, Tandem Trailer and Hultman Aqueduct Isolation Valve) (impacted areas would be restored and revegetated)
- temporary impacts to RFA due to construction staging at four locations (Fernald Property, Tandem Trailer, Bifurcation, and American Legion), one connection site (Hegarty Pumping Station) and the Hultman Aqueduct Isolation Valve (impacted areas would be restored and revegetated)
- impacts to BLSF for rip rap splash pads at dewatering discharge locations (Tandem Trailer or Bifurcation and Highland Avenue) depending on the alternative (compensatory flood storage volume would be provided at appropriate elevations within the same floodplains)
- implementation of appropriate BMPs in accordance with the Stormwater Pollution Prevention Plan (SWPPP) required under the NPDES CGP to avoid and minimize potential impacts to wetland and surface waters on or adjacent to sites during construction
- prior to discharge, all flows would be treated as necessary to meet water quality standards for the receiving water body and any other requirements of environmental permits issued for the project to avoid and minimize potential impacts to water quality in surface waters during construction by pollutants in tunnel dewatering discharges and in discharges related to tunnel cleaning, disinfection, and flushing
- grouting of water-bearing rock features in advance of TBM excavation activities and after its passage will reduce groundwater inflows to avoid and minimize impacts of groundwater drawdown due to tunnel inflows which may temporarily impact water levels in surface waters and wells (if necessary, alternative water supplies would be provided as described in the Water Supply Contingency Plan (Appendix J))
- no impacts to surface or groundwater resources is anticipated post-construction
- water conveyed in the tunnel will be under higher pressure than groundwater pressure, thus groundwater will not infiltrate and cannot cause a groundwater drawdown condition
- loss of annual recharge resulting from new impervious area at project sites will be minimized in accordance with the SMS
- no impacts to water quality are anticipated post-construction; stormwater runoff from impervious surfaces would be treated and managed in accordance with the SMS
- groundwater withdrawal volumes associated with dewatering are estimated to vary between

less than 100,000 GPD up to an estimated 8 MGD, which would trigger the need for a WM03 Water Management Withdrawal Permit

The project would require work within BLSF associated with Seavern's Brook and the Charles River for construction of flared end discharge pipes and associated rip rap splash pads as mitigation for potential scour due to dewatering discharges. Impacts include permanent alteration of ± 25 cubic yards each of BLSF at two locations on Seavern's Brook (Tandem Trailer and Bifurcation) and 50 cubic yards at one location on the Charles River. An equal volume of material would be excavated and removed within the same floodplains at location to provide compensatory flood storage at each elevation interval impacted during construction.

Waterways

According to comments from the MassDEP Waterways Regulation Program (WRP), the preferred tunnel alignment and two backup alternatives will all 'intersect' waterways in several locations. In addition, several dewatering discharge locations are proposed within waterways that are subject to c. 91 jurisdiction pursuant to 310 CMR 9.04. Dewatering sites will include placement of structures and fill consisting of outlet pipes with riprap splash pads to mitigate potential scour. All structures and fill and any associated dredging that will be located waterward of the ordinary high water mark will require c. 91 authorization. The tunnels and associated infrastructure installations underneath jurisdictional waterways are potentially exempt from licensing pursuant to 310 CMR 9.05(3)(g)(3) "pipelines, cables, conduits, sewers, and aqueducts entirely embedded in the soil beneath such river or stream", provided that they are consistent with all criteria in the referenced section of the regulations.

Rare Species

According to the DEIR, key findings regarding project-related impacts to rare species and wildlife habitat include the following:

- No state-listed rare species are mapped in the vicinity of project sites and therefore, would not be impacted during or post-construction
- Temporary alterations of wildlife habitat, including potential Northern Long-Eared Bat (NLEB) habitat regulated under the federal Endangered Species Act (ESA) would occur due to the construction
 - Adherence to applicable time-of-year restrictions on tree clearing would avoid incidental take of NLEB
 - Habitat impacts would be mitigated through restoration of disturbed areas after completion of work
- Permanent and temporary impacts to wildlife habitats are not anticipated to adversely affect the overall Study Area wildlife populations
- Post-construction inspection and maintenance activities are not expected to impact state or federally listed species or other wildlife (normal operations would not involve additional tree removal that could affect NLEB)
- No impacts are anticipated from dewatering activities

Water Management Act/Water Supply

The DEIR describes groundwater resources and surface water supplies located in the vicinity of the launching and receiving sites, the connection and isolation valve sites, and along the three alternative tunnel alignments of the DEIR Alternatives under consideration. Groundwater resources assessed include public drinking water wells and available information on private wells. Potential impacts to these resources and measures to avoid, minimize, and mitigate impacts are also addressed. Information on the existing quality and usage of these resources is based on publicly accessible information. Surface waters assessed include those with WMA registrations in the project area.

The project will require a Distribution System Modification Permit (BRPWS32) from the MassDEP Drinking Water Program. It will also require a Water Withdrawal Permit (WM03) in accordance with the WMA because groundwater withdrawal volumes associated with dewatering are expected to vary from less than 100,000 gallons per day to about 8 million gallons per day (MGD). According to MassDEP comments, dewatering at launch sites and tunnel shafts should not affect any public water supply.

The DEIR states that the volume of the proposed tunnels will be about 66 million gallons (MG) of water. Following initial disinfection of the tunnels, up to four volumes of water will be used to flush the tunnels (i.e., up to 264 MG). According to MassDEP, the amount of water that MWRA provides to the Boston metropolitan area averages just under 200 MGD. Therefore, the disinfection/flushing process may have to take place during a time of the year when water demand is low.

The DEIR identifies the volumes of rock cuttings that will be excavated in the process of boring the rock tunnels but does not identify where the long-term deposition of this material will be. During construction of the MWWST, this material was referred to as “tunnel muck” based on how fine the cuttings were. The boring process creates a great deal of freshly-cut surface area that is subject to leaching. Long-term disposal of these cuttings near a water supply could increase the total dissolved solids (TDS) content of the water, which would in turn increase the corrosivity of the water. Therefore, large volumes of this material should not be deposited adjacent to a public water supply.

The DEIR examines the project impacts on public and private wells. Construction mitigation measures related to water supply are the same for all three DEIR alternatives. In areas of concern, the TBM has the capability to simultaneously drill and pre-grout the tunnel heading along the tunnel route, which would reduce the volume of groundwater inflow into the tunnel and help to mitigate any potential impacts to water supply wells. A preconstruction survey will be conducted to verify locations of wells and well characteristics prior to construction. The Water Supply Contingency Plan (Appendix J) includes a summary of mitigation measures that would be implemented if water supplies would be impacted during construction: reduce the potential for groundwater drawdown during construction by probing from the tunnel heading in advance of the excavation to assess water inflows, followed by pre-excavation grouting (also from the tunnel heading) in the event water-bearing features are encountered by the probing (probing and pre-grouting may be made mandatory before the tunnel proceeds beneath important areas of groundwater well production or beneath sensitive local water bodies); reduce groundwater inflow into the tunnel by drilling and cut-off grouting of water-bearing features in the rock through the walls of the unlined tunnel after the TBM has passed (this type of grouting is not as effective as the pre-excavation probing and grouting); and to avoid disruption of water supply from groundwater wells by provide users with an alternative water supply until groundwater levels can be restored.

Adaptation and Resiliency

According to the DEIR, MWRA already considers the impacts of climate change as part of its capital improvement projects⁴ to ensure infrastructure is resilient to climate change-related risks. The DEIR emphasizes that the fundamental goal of the project is to provide redundancy for the Metropolitan Water Tunnel System to ensure continued access to clean and reliable water. It includes a discussion of the project's vulnerability to climate change over the course of its design life and identifies how the project has considered and incorporated climate vulnerability, resiliency and climate data into the design to increase the resiliency of infrastructure and services that will be provided by the project.

The DEIR contains an output report from the MA Climate Resilience Design Standards Tool prepared by the Resilient Massachusetts Action Team (RMAT) (the "MA Resilience Design Tool"),⁵ together with information on climate resilience strategies to be undertaken by the project. The output report indicates that all proposed sites have at least a portion of land within their site boundary that would have a high exposure to flooding (urban and riverine) associated with extreme precipitation (except the Highland Avenue Northeast/Southeast site) and a high exposure to extreme heat. The DEIR provides a comparison between the three alternatives (preferred and backup) for climate change-related risks and exposures identified by the Tool. As identified by the Tool, during the useful life of the project (100 years) precipitation depth over 24 hours for a 100-year storm event in 2070 is projected to reach up to 11.2 inches depending on the site. The project would primarily consist of underground structures. The DEIR identifies infrastructure (rip rap splash pads) that will be located within floodplain at the Tandem Trailer site, Bifurcation site, and Highland Avenue sites.

The preliminary design for the project incorporates the following elements and best practices to avoid and minimize these potential climate change-related risks:

- site selection to avoid proximity to areas designated by FEMA as having potential flood risk to the greatest extent feasible
- sites would be restored post-construction with loaming and seeding or include additional trees and landscaping where feasible
- launching, receiving, connection, and isolation valve sites considered in Alternatives 3, 4, and 10 primarily consist of previously disturbed open space areas and right-of-way space
- proposed stormwater management systems (incorporating unpaved areas) for each site would be designed to treat stormwater runoff associated with the addition of impervious areas
- proposed covers, hatches, and isolation valve chambers would be designed to prevent infiltration of floodwaters in the event of flooding
- land alteration and tree clearing would be limited to the extent practicable (tree impact avoidance and protection strategies would be implemented where feasible)

Greenhouse Gas (GHG) Emissions / Air Quality

Because the project requires the preparation of an EIR, it is subject to the MEPA Greenhouse Gas Policy and Protocol (GHG Policy). The DEIR includes a GHG analysis in accordance with the GHG Policy. According to MWRA, the majority of GHG emissions are associated with construction period activities. The DEIR provides an accounting of the estimated total number of trucks and other

⁴ Consistent with Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth

⁵ https://resilientma.org/rmat_home/designstandards/

mobile sources, as well as all fossil fuel burning equipment, to be used during the construction period, including a breakdown by location and time period (e.g., peak time period within 10-year construction period) for the three alternatives (preferred and backup). The DEIR quantifies the GHG emissions associated with these emitting sources, and the volatile organic compounds (VOC) and nitrogen oxides (NO_x) projected to be emitted in the Study Area. The DEIR indicates that the project will have minimal GHG emissions during its operation (i.e., post-construction). As such, a quantitative GHG assessment of project operations was not conducted.

Estimates of on-road mobile source emissions were conducted in accordance with the MassDEP *Guidelines for Performing Mesoscale Analysis of Indirect Sources*. During the peak emissions year of construction, each of the three alternatives would result in a total pollutant emission of up to 33.8 tons per year (tpy) of NO_x, up to 2.6 tpy of VOCs, and up to 6,287 tpy of GHG (both off-road and on-road emissions). Peak-year emissions are similar among the three DEIR Alternatives reviewed. The DEIR asserts that emissions from all alternatives are not expected to be significant and will generally occur from a variety of locations within the Study Area, limiting potential health impacts.

Construction-related activities would primarily take place underground with limited disruption to the surface above. The DEIR asserts that no significant construction-period impacts related to air quality or climate change exposure are anticipated for the project.

MWRA intends to incorporate mitigation measures into the construction methodology, which is reflected in the emissions analysis. Where feasible, MWRA would use electrified construction equipment with no direct emissions (i.e., use of an electrified TBM and associated equipment, which would remove direct pollutant emissions from one of the largest pieces of construction equipment). MWRA would also require the following mitigation measures to further reduce emissions from construction activities:

- limit vehicle idling time in compliance with the Massachusetts idling regulation (310 CMR 7.11) with appropriate signage and operator training
- use Ultra Low Sulfur Diesel fuel and fit all diesel-fuel construction equipment with after-engine emission controls meeting EPA's Tier 4 emission limits (emission-reduction equipment could include EPA-verified or CARB-verified diesel oxidation catalysts or diesel particulate filters)
- encourage use of cleaner alternatively fueled equipment (natural gas or electric) by contractors rather than diesel-fueled equipment where available and feasible
- implement measures to protect residents and others from off-site exposure to dust and debris
- use dust control (i.e., application of water during ground-disturbing activities, stone surfacing of construction roads, seeding areas of exposed/stockpiled soils, wheel washing, covered trucks, regular sweeping of paved roadways, and recycling construction waste and demolition materials)

Transportation

Key findings on project-related impacts to transportation include the following:

- truck routes were established for each shaft site location by identifying the shortest path to and from the nearest highway (critical intersections and roadways along these routes were examined and sensitive receptors, defined as properties/locations that may be impacted by construction of the project were identified and described; a high-level crash analysis was

performed for each study intersection identified by MassDOT as a high-crash location potentially eligible for Highway Safety Improvement Program funding)

- most traffic expected to be generated by construction activities at proposed shaft sites would be due to construction workers driving to and from the sites
- the maximum amount of traffic would occur at launching shaft sites where there is a shift change during the evening peak hour (these launching shaft locations are adjacent to highway ramps and are not expected to cause a significant traffic impact to nearby local roadways)
- construction of surface pipes at some shaft locations would require traffic management measures, including lane closures, sidewalk closures, and detours (surface piping operations are expected to impact traffic at the Fernald Property and School Street sites in Waltham, St. Mary Street Pumping Station in Brookline, and American Legion site in Boston, which could require short-term detours along roadways functionally classified as arterials; where possible, trenchless construction methods will be used)
- at locations where surface piping construction would be expected to impact traffic, the activities would be limited to certain time periods depending on the characteristics of the roadways and surrounding land use (mitigation measures consist of adjusting traffic signal timings, potential roadway widening, and traffic signal warrant evaluation)
- at locations where additional traffic due to construction may increase intersection delays, mitigation measures consist of adjusting traffic signal timings, and traffic signal warrant evaluation (adjusted traffic signal timings are expected to result in either minimal increases or reductions in delay when compared to existing conditions)

Cultural Resources

According to the DEIR, three properties within the project's Area of Potential Effects (APE) including the Walter E. Fernald State School (WLT.AB) at the Fernald Property site in Waltham, the St. Mary's Roman Catholic Church Complex (WLT.AM) at the School Street site in Waltham, and the Sudbury Aqueduct Linear District (NEE.F) at the St. Mary Street Pumping Station in Needham are listed in the State and National Registers of Historic Places. Two additional properties within the APE (the Hultman Aqueduct (WSN.O) at the Tandem Trailer/Park Road East, Bifurcation, and Park Road West sites in Weston and Pumping Station #1 (WEL.311) at the Hegarty Pumping Station site in Wellesley) are eligible for listing.

Key findings on impacts of the project regarding cultural and historic resources are listed below:

- The only listed or eligible property that may be impacted by permanent direct adverse effects is the Walter E. Fernald State School based on proposed demolition of three buildings that contribute to the significance of the district (along with three to five noncontributing buildings) - contributing buildings (a stucco shed, a barn foundation, and a woodshed) are located at the southern perimeter of the campus, distant from its historic core
- No anticipated construction period impacts are anticipated to any of the listed or eligible properties within the APE
- No permanent indirect adverse effects are expected at any of the listed or eligible properties
- An archaeological assessment was completed of project sites (using historical and archaeological research and walkover surveys to assess the history of land use and existing conditions) which concluded that none of the sites were archaeologically sensitive and recommended no further archaeological investigation due to extensive landscape disturbance

at each site

MWRA will prepare an Inadvertent Discovery Plan, should there be an unanticipated finding of archaeological resources during construction. MHC will review the report results and either indicate concurrence with the findings or request additional information.

Construction Period

The DEIR provides a comprehensive review of the project's construction-period impacts and mitigation relative to noise, air quality, water quality, and transportation, including pedestrians, bicyclists and transit riders. The DEIR includes measures that will avoid and minimize damage to the sites and adjacent areas that could result from storm events including flooding from extreme precipitation. It identifies the schedule and phasing for design and construction of various project elements. It is anticipated that construction would take place at as many as 14 site locations as part of the deep-rock tunnel construction, including up to three launching sites, up to three receiving sites, six connection sites, and one stand-alone isolation valve site. Construction activities would be contained within the temporary construction LOD designated for each proposed site to minimize the area of potential disruptions at the surface.

The DEIR provides an inventory of construction equipment that will be in use during the construction and estimates the number of truck trips to provide information on the potential air quality impacts associated with construction period mobile emissions as described above. It outlines mitigation measures that will be undertaken to avoid, minimize and mitigate these impacts. It summarizes construction period materials management plans (including management of contaminated materials). It describes potential operational and construction period noise impacts at each site.

The DEIR includes an analysis of the project's potential environmental impacts regarding hazardous materials on and in the vicinity of the shaft sites and isolation valves sites. It includes a description of how contaminated soil or groundwater encountered during construction will be managed in accordance with M.G.L. c. 21E and the Massachusetts Contingency Plan (MCP). Protocols developed during final design would be followed to identify excavated material that may contain contaminated materials so it can be handled appropriately and disposed at suitable locations. Most of the excavated material is anticipated to be clean, crushed rock, which could be reused beneficially at other locations. Naturally present contaminants, such as asbestos-containing rock and arsenic, may be present in the excavated material, which would require proper management. Some excavated material could be used for embankment depending on its size and timing of its removal. Uncontaminated excavated material could also be used as road-paving materials, depending on its consistency. Groundwater dewatering would be required during construction with proper management to avoid impacts to the surrounding environment. Prior to discharge, dewatering effluent would be managed in accordance with applicable regulatory requirements. Shaft and isolation valve sites that may require a NPDES Dewatering and Remediation General Permit to facilitate groundwater dewatering were identified. The DEIR provides information on excavation, excavated material removal/transportation, and construction dewatering.

SCOPE

General

The SDEIR should follow Section 11.07 of the MEPA regulations for outline and content and provide the information and analyses required in this Scope. It should clearly demonstrate that the Proponent has sought to avoid, minimize and mitigate Damage to the Environment to the maximum extent feasible.

Project Description and Permitting

The SDEIR should include a detailed and updated description of the project and identify any changes since the filing of the DEIR. The SDEIR should identify additional MEPA thresholds that will be exceeded, including any not identified in this Certificate, based on the location of the proposed shaft sites and other design refinements (i.e., removal of public shade trees, etc.). The SDEIR should include an updated description of the project's temporary and permanent impacts to environmental resources, including but not limited to the following: land alteration (including protected open space), wetlands, rare species habitat, cultural and historic resources and open space. The SDEIR should identify methods that will be undertaken to avoid, minimize and mitigate Damage to the Environment.

The SDEIR should include updated site plans for existing and post-development conditions for each project alternative (preferred and backup) that clearly identify environmental resources, either existing land ownership or acquisitions, easements and associated rights (e.g., rail operations, sewer lines, drainage culverts, etc.) required for project construction, and roadway and intersection jurisdictions. The SDEIR should include a Construction Management Plan that identifies how the project will minimize traffic disruption during construction particularly in areas within or near EJ populations.

The SDEIR should identify and describe state, federal and local permitting and review requirements associated with the project and provide an update on the status of each of these pending actions. It should include a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards. The SDEIR should clearly describe the permits and/or regulatory approvals required for each component of the project.

The information and analyses identified in this Scope should be addressed within the main body of the SDEIR and not in appendices. In general, appendices should be used only to provide raw data, such as drainage calculations, traffic counts, capacity analyses and energy modelling, that is otherwise adequately summarized with text, tables and figures within the main body of the SDEIR. Information provided in appendices should be indexed with page numbers and separated by tabs, or, if provided in electronic format, include links to individual sections. Any references in the SDEIR to materials provided in an appendix should include specific page numbers to facilitate review.

Alternatives Analysis

The objective of the MEPA review process is to support analysis of the environmental impacts of a project and measures to avoid, minimize and/or mitigate Damage to the Environment to the maximum extent practicable within the context of the project purpose and goals. Alternatives analyses are required

to consider what effect changing the parameters and/or siting of a project, or components thereof, will have on the environment. The DEIR provides a comprehensive analysis of alternatives; however, it relies exclusively on one receiving shaft site for all North Tunnel options (Fernald Property) which appears to be uncertain based on comments from the City of Waltham. In addition, MWRA has preliminarily identified an alternative receiving shaft site location in proximity of the WASM8 in Belmont, which could serve as an alternative to Fernald Property. The details of this alternative location have not been disclosed.

The SDEIR should confirm MWRA's commitment to use the Fernald Property with demonstrated concurrence from the City of Waltham or disclose the environmental impacts associated with alternative receiving shaft site location(s). Specifically, the SDEIR should include a discussion that describes and estimates the environmental impacts associated with any new alternatives presented in the DEIR including changes in shaft sites. To the extent a change in shaft site location necessitates a new or revised north tunnel alignment, the details of any such revision and associated impacts should be discussed.

The DEIR indicates that the three DEIR Alternatives (preferred and backup) generally traverse the same horizontal alignment and would have comparable potential impacts on wetlands, wells or surface water bodies along the tunnel alignment. However, it does not indicate if any dismissed alternative included less impacts to environmental resources than the preferred or backup alternatives selected. The SDEIR clarify if any of the other seven alternatives that were dismissed would include less environmental impacts. The SDEIR should clearly indicate if the Preferred Alternative is also the most environmentally preferred or provide justification why it was selected over a less environmentally impactful alternative.

Environmental Justice

I expect that the MWRA will continue to actively seek public input and work closely with the Stakeholder Working Group(s) and other stakeholders in developing the SDEIR for this project. The SDEIR should provide an overview of outreach activities that have taken place since the DEIR was submitted.

The SDEIR should supplement the EJ analysis presented in the DEIR. While the DEIR identifies certain site locations where the DPH EJ Tool data show indication of an existing "unfair or inequitable burden," it does not specifically assess project impacts on the surrounding EJ populations at those locations, other than to state that impacts, such as traffic and emissions, will be relatively minor and insignificant. The SDEIR should discuss, in greater detail, how the various impacts of the project, including land alteration/Article 97, wetlands/stormwater, traffic, and GHG/air emissions, will specifically affect the EJ populations that are identified as incurring existing environmental burdens. In particular, the SDEIR should discuss whether the anticipated routes of travel for construction period trucks and traffic will extend adjacent to any of those neighborhoods, and whether EJ populations may be disproportionately affected by Article 97 dispositions of parkland and other land takings/easements that may be needed for the project. The SDEIR should confirm that the project will not generate more than 150 new adt associated with diesel vehicle trips (Table 4.2-5 appears to indicate the project may produce up to 158 truck trips per day during the construction period). The SDEIR should discuss whether stormwater or other flood impacts, including from extreme storm events that may occur during the construction period, may affect EJ populations due to their proximity to any applicable infrastructure. The SDEIR should supplement the climate change and GHG/air quality analyses in

accordance with the Scope below.

Land Alteration / Article 97

The SDEIR should provide an update on the project's consistency with the Article 97 Policy. As requested by DCR, the SDEIR should describe how MWRA will minimize the size and extent of impacts to DCR land. MWRA should work closely with DCR to identify mitigation for the loss of Article 97 conservation lands as the shaft, staging and tunnel locations are finalized. The SDEIR should provide a summary of the outcome of consultations with DCR regarding Article 97 protection and mitigation.

The SDEIR should provide an update on the borings and geotechnical analysis underway, including presenting the results of any analysis completed by the time of the SDEIR filing. The SDEIR should clearly describe the plans to conduct geotechnical analysis during the course of construction, how such analysis may affect any choice of routing or excavation methods along the chosen tunnel alignment, and what steps MWRA will take to secure easements from landowners along the tunnel alignment route. The SDEIR should discuss what contingency plans will be in place in the event of unforeseen circumstances, such as geotechnical conditions or opposition from landowners, that may preclude the project's ability to site the tunnel alignment in the exact location anticipated prior to commencing excavation.

Wetlands

The SDEIR should provide an update on temporary and permanent impacts to wetland resource areas. The SDEIR should clarify impacts associated with each wetland resource area as the DEIR includes conflicting estimates (Table 4.2-2 versus Table 7.4-2).

The SDEIR should address concerns regarding the impacts of increased volume and velocities of dewatering discharges to several waterways associated with construction of the new tunnels (discharge to Clementis Brook on the Fernald Property, discharge to Canterbury Brook at the American Legion site, and discharge to Seavern's Brook for the launching and receiving shafts for the Bifurcation site). The SDEIR should clarify whether impacts to BVW and Inland Bank will be permanent or temporary due to the installation of splash pads and culvert outlets. As recommended by MassDEP, the SDEIR should examine the possibility of moving these structures farther from the BVW. The SDEIR should provide calculations demonstrating that proposed pipes and splash pads, intended to dissipate velocity to avoid eroding effects on the resource areas, have been properly sized to regulate flows and prevent scour. The SDEIR should provide a plan to monitor the outfalls during dewatering activities to ensure that scour and erosion does not occur, including a contingency plan to address any unexpected negative impacts.

The SDEIR should confirm that stormwater runoff as a result of any increase in impervious areas, however small, will be treated in accordance with the SMS.

Waterways

The SDEIR should include a list or table that specifies all waterways where work will occur in, on, over, or under the waterway, an indication of whether the waterway is jurisdictional pursuant to the regulations at 310 CMR 9.00, and the scope of work that will occur in, on, over, or under any c. 91

jurisdictional area to allow MassDEP WRP to identify all portions of the project that will be located within c. 91 jurisdiction. The SDEIR should describe the project's consistency with c. 91 regulations. The SDEIR should describe how tunnels and associated infrastructure installations underneath jurisdictional waterways will be constructed consistent with all criteria pursuant to 310 CMR 9.05(3)(g)(3) to demonstrate these project elements will be exempt from licensing pursuant.

Water Management Act/Water Supply

MWRA's water supply sources are in the Chicopee River Basin and the Nashua River Basin. According to WRC comments, the current transfer of water supply from these basins to communities in eastern Massachusetts in different basins would be considered an existing interbasin transfer and includes transfers that occurred prior to 1984 and any subsequent transfers that received interbasin transfer approval by the WRC. The Interbasin Transfer Act (ITA; 313 CMR 4.00) regulates the transfer of water supply or wastewater across major basin boundaries. The DEIR asserts that the project is proposed to ensure redundancy by providing a backup to the existing Metropolitan Tunnel System and not to increase the capacity of the MWRA water supply system. The ITA regulations (313 CMR 4.05 (5)) exempt projects whose "sole purpose is to provide redundancy, provided that any increase in capacity cannot be used to increase the ability to transfer water out of the Donor Basin and provided further that streamflow in the Donor Basin is not adversely affected".

According to WRC comments, the project may not be subject to the ITA provided that there was no increase in the present rate of interbasin transfer. However, the DEIR does not appear to contain the existing capacities of the existing tunnels, and the capacities of the proposed redundant tunnels. The SDEIR should provide these capacities to allow the WRC to determine if there is a possibility of exceeding the present rate of interbasin transfer. The SDEIR should confirm that the transfer of water will be limited to the existing capacity if there is no intent to increase the present rate of interbasin transfer. Specifically, the SDEIR should provide the capacity of the City Tunnel, City Tunnel Extension and Dorchester Tunnel, and also provide the capacity of each of the two new deep rock tunnels. The SDEIR should clearly state if the existing capacity will not be exceeded and what steps will be taken to limit flow to the present rate of interbasin transfer.

Groundwater volumes associated with dewatering are estimated to vary between less than 100,000 GPD up to an estimated 8 MGD. No transfers over 1 MGD may be considered insignificant under the ITA. However, the DEIR states that all construction dewatering activities will take place in the Charles River Basin. WRC comments indicate that as long as all bedrock infiltration will occur from and be discharged to the Charles River Basin and will not cross a basin boundary, then the ITA will not apply to the dewatering portion of the project. The SDEIR should confirm that all construction dewatering will take place in the Charles River Basin and not cross a basin boundary.

Based on the study area and the preferred South and North Alternative, the project may require WMA Permits in more than one river basin (the tunnel may pass through the Charles and Boston Harbor Basins). The DEIR should clarify the need for this Permit and address the permit criteria at 310 CMR 36.00 that incorporate: streamflow criteria (Biological Category, Groundwater Withdrawal Category and Seasonal Groundwater Withdrawal Categories) and potential impacts to coldwater fish resources. MWRA should consult with MassDEP regarding this analysis prior to preparing the DEIR.

The SDEIR should include a commitment to manage the long-term disposal of rock cuttings excavated in the process of boring the rock tunnels and identify where the long-term deposition of this

material will be. Large volumes of this material should not be deposited adjacent to a public water supply because it could increase the total dissolved solids (TDS) content of the water, which would in turn increase the corrosivity of the water.

Climate Change

The SDEIR should clarify what infrastructure is proposed to be sited in floodplain, and what measures will be taken to minimize the risk of flooding including through elevation of structures or other wet or dry proofing methods.

GHG/Air Quality

The SDEIR should supplement the GHG/air quality analysis presented in the DEIR to clarify how the anticipated emissions associated with the peak construction year compare to Existing and future No Build conditions (both as tpy and % increases/decrease); if the calculated emissions are assumed to increase from Existing/No Build levels of 0 tpy, this should be stated, and the associated percentages calculated. The SDEIR should clarify the total number of years that construction related emissions are anticipated from the project, and what the anticipated rate of decline in emissions is as compared to the peak year (e.g., expect to decline by X% each year from the peak year). The SDEIR should clarify what traffic study area (including specific intersections) was used to calculate the emissions presented in the mesoscale analysis and indicate whether EJ populations are present near any of the intersections that were studied. To the extent additional EJ populations are identified outside the traffic study area but along routes of travel for construction related traffic, the SDEIR should estimate the anticipated increase in traffic and air emissions at intersections adjacent to those EJ populations. To the extent data is available, the revised air quality analysis should report emissions of PM2.5, PM10, NOx, lead, and DPM at the specified locations above.

Mitigation and Draft Section 61 Findings

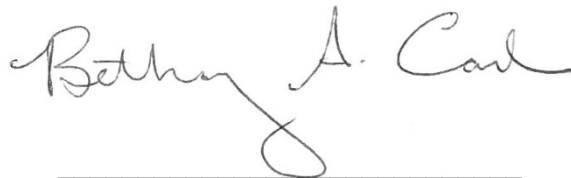
The SDEIR should include a separate chapter summarizing all proposed mitigation measures including construction-period measures. This chapter should also include a comprehensive list of all commitments made by the Proponent to avoid, minimize and mitigate the impacts of the project. The SDEIR should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation. The list of commitments should be provided in a tabular format organized by subject matter (traffic, water/wastewater, GHG, EJ, etc.) and identify the Agency Action or Permit associated with each category of impact. Draft Section 61 Findings should be separately included for each Agency Action to be taken on the project.

Responses to Comments

The SDEIR should contain a copy of this Certificate and a copy of each comment letter received. It should include a comprehensive response to comments on the DEIR that specifically address each issue raised in the comment letter; references to a chapter or sections of the SDEIR alone are not adequate and should only be used, with reference to specific page numbers, to support a direct response. This directive is not intended to, and shall not be construed to, enlarge the Scope of the SDEIR beyond what has been expressly identified in this certificate.

Circulation

The Proponent should circulate the SDEIR to the same distribution list the ENF and DEIR were sent to, including all community contacts identified for the Study Area; any additional stakeholders identified during MWRA’s public outreach program; to any Agencies from which MWRA will seek Permits, Land Transfers or Financial Assistance; and to any parties specified in Section 11.16 of the MEPA regulations. Pursuant to 301 CMR 11.16(5), the Proponent may circulate copies of the SDEIR to commenters in a digital format (e.g., CD-ROM, USB drive) or post to an online website. However, the Proponent must make available a reasonable number of hard copies to accommodate those without convenient access to a computer to be distributed upon request on a first come, first served basis. The Proponent should send correspondence accompanying the digital copy or identifying the web address of the online version of the SDEIR indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. A copy of the SDEIR should be made available for review at public libraries of the Study Area communities.



December 16, 2022
Date

Bethany A. Card

Comments received:

- 11/22/2022 Massachusetts Water Resources Commission
- 11/23/2022 Massachusetts Department of Environmental Protection (MassDEP) – Waterways Regulation Program (WRP)
- 12/08/2022 City of Waltham
- 12/09/2022 Town of Needham
- 12/12/2022 MassDEP Northeast Regional Office (NERO)
- 12/13/2022 Massachusetts Department of Conservation and Recreation (DCR)

BAC/PPP/ppp



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION
100 CAMBRIDGE STREET, BOSTON MA 02114

November 22, 2022

Bethany Card, Secretary
Executive Office of Energy and Environmental Affairs
Attention: Purvi Patel, MEPA Office
EOEEA #16355
100 Cambridge Street
Boston, MA 02114

Dear Secretary Card:

The Water Resources Commission (WRC) staff has reviewed the Draft Environmental Impact Report (DEIR) for the Massachusetts Water Resources Authority (MWRA) Metropolitan Water Tunnel Program (Program). The Program is proposed by MWRA to provide redundancy for the existing Metropolitan Tunnel System, which includes the City Tunnel, City Tunnel Extension, and Dorchester Tunnel. Construction will consist of two new deep rock water supply tunnels originating at the westernmost portion of the existing Metropolitan Tunnel System, with one tunnel extending north towards Waltham and the other extending south towards Boston/Dorchester. Work for this proposed project is slated to take place in the following municipalities: Waltham, Watertown, Newton, Belmont, Weston, Brookline, Boston, Dedham, Needham, and Wellesley. MWRA's water supply sources are in the Chicopee River Basin and the Nashua River Basin. The current transfer of water supply from these basins to communities in eastern Massachusetts in different basins would be considered an existing interbasin transfer and includes transfers that occurred prior to 1984 and any subsequent transfers that received interbasin transfer approval by the WRC. The Interbasin Transfer Act (ITA; regulations at 313 CMR 4.00) regulates the transfer of water supply or wastewater across major basin boundaries.

The DEIR asserts that the intent of the Program is to ensure redundancy by providing a backup to the existing Metropolitan Tunnel System, and not to increase the capacity of the MWRA water supply system. The ITA regulations, specifically 313 CMR 4.05 (5), exempt projects whose "sole purpose is to provide redundancy, provided that any increase in capacity cannot be used to increase the ability to transfer water out of the Donor Basin and provided further that streamflow in the Donor Basin is not adversely affected".

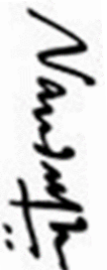
The Metrowest Water Supply Tunnel (formerly known as the Sudbury Tunnel) was completed in 2003 and created a redundant water transmission system for approximately 25 miles from the Wachusett Reservoir to the beginning of the existing Metropolitan Water Tunnel System. In 1991, the WRC found that this redundancy project was not subject to the ITA and did not require WRC approval, provided that there was no increase in the present rate of interbasin transfer. The WRC did require MWRA to submit on an annual basis a report of the volume transferred through this section of the water transmission system to ensure that the existing capacity is not exceeded. The 1991 precedent would indicate that the ITA may also not apply to this proposed Metropolitan Water Tunnel Program project.

However, the DEIR does not appear to contain the existing capacities of the existing tunnels, and the capacities of the proposed redundant tunnels. The WRC will need to know these capacities to determine if there is a possibility of exceeding the present rate of interbasin transfer. If there is no intent to increase the present rate of interbasin transfer, the transfer of water will need to be limited to the existing capacity. WRC staff request that MWRA provide the capacity of the City Tunnel, City Tunnel Extension and Dorchester Tunnel, and also provide the capacity of each of the two new deep rock tunnels. WRC staff also request that MWRA clearly state if the existing capacity will not be exceeded and what steps will be taken to limit flow to the present rate of interbasin transfer.

Additionally, in 1995, the WRC reviewed a Request for Determination of Insignificance for the Metrowest Tunnel Dewatering project. During the excavation of the Charles River Basin portion of the Metrowest Tunnel, 0.75 million gallons per day (MGD) or less of bedrock infiltration was proposed to be transferred to what is now known as the SuAsCo Basin during tunnel construction. This was determined to be an insignificant transfer as it was less than 1 MGD and also met the following criterion of the ITA regulations, which are now found at 313 CMR 4.08 (3)(b): “For temporary transfers, that the increase would be of short duration and conducted to facilitate the construction, maintenance or repair of a public utility, for flood control purposes, for public safety purposes or other similar purposes not related to water supply or wastewater service”. For the current proposed project, groundwater volumes associated with dewatering are estimated to vary between less than 100,000 gallons per day (GPD) up to an estimated 8 MGD. No transfers over 1 MGD may be considered insignificant under the ITA. However, it is stated on page 5-3 of the DEIR that all construction dewatering activities will take place in the Charles River Basin. As long as all bedrock infiltration will occur from and be discharged to the Charles River Basin and will not cross a basin boundary, then the ITA will not apply to the dewatering portion of the project.

In conclusion, WRC staff needs some additional information to determine if the project is jurisdictional under the ITA. We request that the MWRA provide the above requested information on tunnel capacities in a Final EIR, if one is required, or directly to WRC staff if a FEIR is not required. Please contact Vanessa.Curran@mass.gov if you have any questions.

Thank you for the opportunity to comment.



Vandana Rao, PhD
Executive Director, MA Water Resources Commission

cc: Anne Carroll, DCR
Vanessa Curran, DCR
Erin Graham, DCR
Rebecca Weidman, MWRA
Kathy Murrugh, MWRA
Water Resources Commission



Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Bethany A. Card
Secretary

Martin Suuberg
Commissioner

Memorandum

To: Purvi Patel, Environmental Analyst, MEPA

From: Alice Doyle, Waterways Regulation Program, MassDEP

Cc: Daniel J. Padien, Program Chief, Waterways Regulation Program, MassDEP

Re: Comments from the Chapter 91 Waterways Regulation Program
EEA #16355 – Draft Environmental Impact Report
MWRA Metropolitan Water Tunnel Program

Date: November 23, 2022

The Department of Environmental Protection Waterways Regulation Program (the “Department”) has reviewed the above referenced Draft Environmental Impact Report (DEIR), EEA #16355 submitted by CDM Smith in association with VHB and Jacobs on behalf of the Massachusetts Water Resources Authority (MWRA) for the Metropolitan Water Tunnel Program. The project proposes to construct approximately 14 miles of two new water supply deep-rock tunnels and connections to existing water supply infrastructure, providing redundancy for MWRA's existing Metropolitan Tunnel System. The project area includes Waltham, Belmont, Watertown, Weston, Newton, Wellesley, Needham, Brookline, Boston, and Dedham.

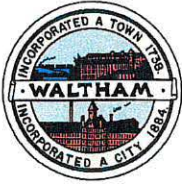
Chapter 91 Jurisdiction

The DEIR has identified a preferred tunnel alignment and two backup alternatives, all of which will ‘intersect’ waterways in several locations. There will also be several dewatering discharge locations within waterways that are subject to Chapter 91 jurisdiction pursuant to 310 CMR 9.04. In order for the Department to identify all portions of the project that will be located within Chapter 91 jurisdiction, the FEIR should include a list or table that specifies all waterways where work will occur in, on, over, or under the waterway, an indication of whether the waterway is jurisdictional pursuant to the regulations at 310 CMR 9.00, and the scope of work that will occur in, on, over, or under any Chapter 91 jurisdictional area.

Regulatory Review

The dewatering sites will include the placement of structures and fill consisting of outlet pipes with riprap splash pads to mitigate potential scour. All structures and fill and any associated dredging that will be located waterward of the ordinary high water mark will require a Chapter 91 authorization. The tunnels and associated infrastructure installations underneath jurisdictional waterways are potentially exempt from licensing pursuant to 310 CMR 9.05(3)(g)3. “pipelines, cables, conduits, sewers, and aqueducts entirely embedded in the soil beneath such river or stream”, provided that they are consistent with all criteria in the referenced section of the regulations.

The Department has previously met with MWRA and is available to have subsequent discussions and/or meetings upon request. If you have any questions regarding the Department’s comments, please contact Alice Doyle at alice.doyle@mass.gov.



City of Waltham

MASSACHUSETTS

LAW DEPARTMENT

City Solicitor

JOHN B. CERVONE

Assistant City Solicitors

PATRICIA A. AZADI
BERNADETTE D. SEWELL
MICHELLE LEARNED
LUKE STANTON
KATHERINE D. LAUGHMAN

December 7, 2022

Bethany Card, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
Attn.: MEPA analysts Purvi Patel and Erin Flaherty

RE: MWRA Metropolitan Water Tunnel Program – EEA # 16355

Dear Secretary Card:

I write on behalf of the City of Waltham to express concerns with the Draft Environmental Impact Report (DEIR) submitted by the MWRA relative to the tunnel program proposed to go through Waltham. As you know, the purpose of a DEIR is to provide detailed information regarding a project's environmental effects, an analysis of ways to minimize or eliminate those impacts, and provide reasonable alternatives. The DEIR submitted by the MWRA, however, fails to do so. When the state issued its Certificate of the Secretary on the Environmental Notice, the text of the certificate included the following language: ". . .due to the project preliminary design phase, specific locations of temporary and permanent impacts are not known and the full scope of the project's environmental impacts cannot be understood and assessed until the DEIR is submitted." The City believes that the project is still at such a preliminary stage that its impacts continue to be unable to be understood and assessed and that the DEIR submitted does not meet the objectives and requirements of such a report. The comments below identify some of the issues still not properly addressed by the MWRA, and which prevent the City from being able to fully respond.

It is the City's position that the DEIR is premature as the MWRA has not yet completed test borings which would enable it to determine whether the project may be constructed in any of the public or private locations identified in Waltham as possible locations therefor. As the MWRA has itself noted, geologic conditions in Waltham are particularly complex and complete identification of the location of the Northern Boundary Fault, which runs through Waltham, requires extensive deep borings. Such test borings produce noise and vibrations that will impact nearby residential areas and the impacts on those areas must be fully identified and addressed.

The MWRA had been asked to provide the City with a certified list of City-owned Waltham locations to be impacted and the MWRA has not provided same – it has only generally identified certain City-owned properties but not the locations thereon proposed for use. This may, as noted above, be attributable to the lack of completed test borings in Waltham. But said lack of test borings make the DEIR too speculative in its review of possible environmental impacts. The MWRA has indicated that the test boring results will drive selection of locations and that final locations will not be set until the 60% or possibly even the 90% design phase. Since final design is not scheduled to commence until 2024, it is not possible for the MWRA to assess, even preliminarily, the possible environmental impacts of its proposed project on City-owned properties.

The MWRA has indicated that it proposes long-term usage of the City-owned former Fernald State School (Fernald property). The MWRA, however, has neither addressed with the Mayor nor identified what such possible long-term usage would entail. The Mayor has advised the MWRA that the City will not allow anything outside of the roadways located on the Fernald property. The work proposed, however, goes well beyond those roadways. Furthermore, the MWRA was advised that the land south of the Fernald incinerator is highly contaminated and not appropriate for a water project. There is state-owned land to the south of the Fernald site, some of which is contaminated and some of which is not, yet it is not proposed for the placement of the project.

The Fernald property has been in a process within the City to identify possible City uses, whether for housing, recreation, or other uses and is currently poised for bidding for open space, recreation, the arts, nature and athletic areas. Without information as to the MWRA's proposed usage and the areas within which such long-term usage is to be proposed, the Fernald property re-use is adversely impacted. The MWRA should be required to identify its proposed long-term use so that the City will be able to determine whether it will allow such use and whether the use proposed will harm the City's long-term plans for the Fernald.

The City reserves its rights with respect to use of municipal property - the Fernald as well as all other City-owned property – to review, accept or reject the MWRA's plans for such City-owned land once the MWRA has finished its testing. While the MWRA, by filing this DEIR, is trying to advance the permitting of its project, it has only provided the City with schematic summaries and it is not and should not be at the permitting stage.

The MWRA also proposes to locate one of its tunnel shafts on the Fernald property and traffic disruption is expected to extend into the adjacent public ways. The MWRA should be required to identify the expected traffic disruption to be caused thereby and its proposed methods of mitigating same.

The MWRA has indicated that it plans to locate a portion of the project within School Street. The MWRA has indicated that it estimates this portion of the work to take approximately 3 months to complete. School Street is a major street within the City of Waltham, running parallel to Main Street and adjacent to the City's central downtown area. A disruption of traffic on this street for the period contemplated by the MWRA must be fully analyzed and specific methods of addressing traffic issues should be detailed to minimize, to the greatest extent possible, the impact on the City's downtown traffic.

The MWRA has indicated that it is proposing haul routes based upon shortest distances to highways, but wants to work with the City on this. As currently proposed, the MWRA has stated that mitigation of impacts of the haul routes consists of proposals to adjust traffic signal timing at two intersections on Main Street. The MWRA must further identify the impacts of use of Main Street as a haul route, including potential traffic delays for regular users of that street, and alternative haul routes with their attendant traffic impacts must be identified. A determination of the actual route to be used is necessary before the City can fully comment.

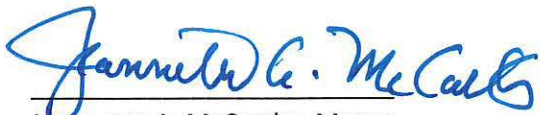
On an important note, the City has worked with the MWRA and a private property owner to facilitate the MWRA's acquisition of private property on School Street for its tunnel project, but the MWRA still is not providing sufficient information to the City for it to make informed comments.

The above comments provide only a brief overview of the concerns of the City of Waltham and the City is unable to comment further based upon the current state of the MWRA's plans.

At this time, therefore, the City requests that the DEIR submitted by the MWRA be rejected and that the MWRA prepare a more complete DEIR once it has completed its test boring work. Once a more substantial DEIR is provided, the City will then be able to review same and provide appropriate and complete comments. Only after a more complete DEIR has been presented and comments received should any consideration be given to allowing the MWRA to advance to the EIR stage.

Thank you for your consideration.

Regards,



Jeannette A. McCarthy, Mayor



Patricia A. Azadi, First Assistant Solicitor

File: 230-2022-MEPA letter



TOWN OF NEEDHAM
Town Hall
1471 Highland Avenue
Needham, MA 02492-2669

**Office of the
Town Manager**

Telephone: (781) 455-7500
Email: OTM@NeedhamMA.gov

December 9, 2022

Attn: MEPA Office
Project No. 16355
Metropolitan Water Tunnel Program

Ms. Bethany A. Card
Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Ms. Tori Kim
Director
Massachusetts Environmental Policy Act Office
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: Project No. 16355
Metropolitan Water Tunnel Program

Dear Secretary Card, Director Kim, et. al.,

The Town of Needham respectfully submits these comments on the Massachusetts Water Resources Authority (MWRA)'s Draft Environmental Impact Report (DEIR) for the Metropolitan Tunnel System Program (the "Project"). As outlined in the DEIR, the MWRA proposes to construct approximately 14 miles of two new deep rock tunnels that will provide redundancy for the MWRA's existing Metropolitan Tunnel System. The Preferred Alternative (Alternative 4) for the Project calls for the construction of a secondary shaft and pump station in Needham at St. Mary Street. The MWRA also proposes two launching sites and receiving area near the Highland Avenue and I-95 Interchange in Needham.

The Town's comments are as follows:

General Project Design

The Town seeks further clarity on why the MWRA proposes two launching sites within the Town of Needham. The Town is inquiring as to whether the MWRA could reduce the number of launching sites and still achieve its overall objective of the Project.

The DEIR indicates that work will be conducted in the southwestern portion of the I-95 cloverleaf in Needham. However, it is unclear whether trees or vegetation will need to be removed to perform work within this area and, if so, whether MWRA has a plan for restoration.

Security at the construction sites is critical. The DEIR does not address what measures, if any, the MWRA will employ. The Town requests that at a minimum cameras and fencing be erected to protect the public.

The Town is also concerned on how this proposed tunnel construction activity will impact our Public Safety Departments (Fire and Police Departments). Tunnel construction is a specialized construction activity with deep 300 vertical foot shafts and limited access points. A detailed plan of what is expected or may be required from our first responders is necessary for evaluation should an emergency rescue or other situation arise within the proposed tunnel.

General Construction

The DEIR does not provide sufficient information relative to the construction schedule. The St. Mary Street Pumping Station is located within a residential neighborhood. The Town requests that the MWRA provide a detailed construction management plan outlining the hours of proposed work relative to site setup, vehicle and employee mobilization, construction activities, equipment-laydown, and decommissioning at the St. Mary Street and I-95/Highland Ave cloverleaf sites.

It is unclear from the materials whether drilling and blasting is necessary at all shafts in the Project. To the extent that the St. Mary Street Pumping Station necessitates this construction method, the MWRA should clarify when (hours and frequency) the construction work will occur.

The DEIR does not provide information relative to the procurement of additional power from Eversource. While more power will be needed, no data is provided relative to the manner in which the power will be routed to the I-95/Highland Ave cloverleaf and the St. Mary construction site. A map showing the location of any temporary power lines or underground construction should be included. The MWRA should also provide information relative to the construction of these additional energy facilities (timing, traffic impacts, hours, etc.).

The Town requests that the MWRA specify whether the laydown and storage area for the tailings has been determined and, if so, where it will be located at all areas for excavation in Needham. Information relative to the storage, delivery, and removal methods should also be provided.

The DEIR recognizes the presence of hazardous materials in certain portions of the Project area (Section 4.2.4). However, the DEIR does not adequately outline its process to address and manage storage of, contamination from, or discovery of hazardous materials that may be encountered during the construction phase in either the soil or the groundwater. A plan should be developed prior to construction to ensure safe handling of contaminants. A pest control plan should also be incorporated into the Project.

Existing and Known Infrastructure Impacts

The DEIR lacks sufficient information to ascertain the impact of the Project on the Town's existing infrastructure (road/pipelines/structures). The DEIR does not specify whether pre-construction and pre-blast surveys will be performed on all structures and if so, at what radius from the site. The Town requests that the MWRA identify who will be performing this survey work and whether the company performing the work will be independent of the contractors for the underlying Project. The DEIR should also clarify what measures will be implemented to ensure that the Town's infrastructure will be protected during the pendency of the Project.

Finally, a large development project is planned at 557 Highland Avenue. The DEIR is silent as to the impacts of the tunneling on this site, which will be undergoing significant construction anticipated for 2023 – 2025.

Noise Impacts

The Town requests additional information relative to the planned noise studies. The MWRA should clarify when it intends to obtain the baseline data (time of day and year), who will perform those readings, the methodology for collecting baseline, and the locations of the baseline monitors. The Town is also interested in better understanding the anticipated radius of noise impacts and if the Eliot Elementary School on Central Avenue falls within that area.

Dewatering Pipe

The proposed project includes the siting of a 36-inch diameter dewatering pipeline between the tunnel boring machine insertion location on I-95 to the discharge point at the Charles River. The DEIR does not elaborate on whether the MWRA considered alternatives to this route, including a potential shorter route for this pipeline segment. The DEIR does not provide sufficient detail on how the pipe will be installed and how the Town's existing utilities and infrastructure will be protected throughout this process. Additional details relative to this pipeline segment is requested.

Water Supply

The DEIR should define the pipeline, shaft, and tunnel diameters in area around the St. Mary Street Pumping Station. The Town requests clarification on whether a redundant connection to the Town of Needham's public water supply facility will be performed as part of this water supply improvement or whether that connection will be tied-in directly to the

MWRA's existing Section 80 water main. The Town is also interested in understanding whether the new tunnel line will provide enough flow and volume for a potential future connection between Needham and Dover.

Additionally, the DEIR does not explain the tunnel's impact on groundwater elevation in Needham. As part of this Project, the MWRA should monitor groundwater levels to ensure that Needham's public water supply is not negatively impacted by the proposed work. Impacts to the Town's public water supply, capacity, volume, and quality should be fully explored as part of this environmental review.

Traffic

The MWRA proposes to direct traffic from the St. Mary Street Pumping Station down Central Avenue and up Cedar Street through Wellesley to connect to I-95. There are three elementary schools located along Central Avenue between Cedar Street and High Rock Street in Needham, including Eliot Elementary School located at 135 Wellesley Avenue off Cedar Street. While each of the schools has staggered start and finish times the areas around each school experience increased pedestrian (student walkers/bikers) and automobile traffic during school drop off and pick up (8:30 am - 3:10 pm). Couple this with commuter traffic, the Town does not recommend that Central Avenue be used as a designated haul route during the periods when the school year is in session.

Additionally, the DEIR does not provide sufficient detail on the hours of truck traffic through the Town. This information is important to fully understand the impacts to the local roadways and the residential neighborhood surrounding the St. Mary Street Pumping Station.

The traffic analysis does not consider the planned large-scale development of 557 Highland Avenue. It is unclear from the MWRA's DEIR whether the traffic from a fully developed 557 Highland Avenue has been factored into the Authority's analysis for the Project.

Environmental Justice Issues

The Town is concerned about the Project's impacts on the environmental justice communities near the St. Mary Street Pumping Station and the residents of the Needham Housing Authority. The DEIR should expand on what actions the MWRA plans to utilize to protect those residing in this area.

Communication Plan

The Town requests that the MWRA develop a clear communication plan to ensure that all individuals living within a half mile of St. Mary Street and the Highland Avenue and I-95 Interchange launching and receiving area, along with abutters to the haul routes, are kept fully apprised of all project developments. Individuals should be able to obtain the materials in their requested language.

The Town appreciates MEPA and the MWRA taking the time to review these comments and looks forward to working collaborative with the Authority as this Project progresses.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kate Fitzpatrick".

Kate Fitzpatrick
Town Manager



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Bethany A. Card
Secretary

Martin Suuberg
Commissioner

December 9, 2022

Bethany A. Card, Secretary
Executive Office of
Energy & Environmental Affairs
100 Cambridge Street
Boston MA, 02114

RE: Boston and multiple communities
Metropolitan Water Tunnel Program
EEA # 16355

Attn: MEPA Unit

Dear Secretary Card:

The Massachusetts Department of Environmental Protection Northeast Regional Office (MassDEP-NERO) has reviewed the Draft Environmental Impact Review (“DEIR”) of the Metropolitan Water Tunnel Program for Boston and other communities and provides the following comments.

Wetlands

Construction of the new tunnels will result in dewatering discharges to several waterways, which raises concerns about the impacts of increased volume and velocities of the discharges. On the Fernald property, there will be a discharge to Clementis Brook, and at the American Legion site there will be a discharge to Canterbury Brook. The launching and receiving shafts for the Bifurcation will discharge to Seaverns Brook. Permanent alterations to BVW and inland Bank will occur due to the installation of splash pads and culvert outlets. MassDEP recommends that the applicant examine the possibility of moving these structures farther from the BVW if possible.

The DEIR discusses impacts from the increased volume of discharge to the waterways, but appears to assume that the splash pads will be adequate to dissipate velocity in order to avoid eroding effects on the resource areas. The applicant should provide calculations demonstrating that the pipes and splash pads have been properly sized to regulate flows and prevent scour. In addition, MassDEP recommends that the applicant develop a plan to monitor the outfalls during dewatering activities to ensure that scour and erosion does not occur, including a contingency plan to address any unexpected negative impacts.

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

TTY# MassRelay Service 1-800-439-2370

MassDEP Website: www.mass.gov/dep

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The project will entail the addition of impervious surfaces, such as access roads and parking areas, in many of the sites. The DEIR describes the increase in impervious areas as “negligible.” The applicant is reminded that stormwater runoff from these surfaces must be treated in accordance with the Stormwater Regulations.

Drinking Water

The MWRA provided redundancy for the Hultman Aqueduct when it constructed the MetroWest Tunnel, which went on-line in 2003; however, it presently does not have any redundancy for the older “Metropolitan Tunnel System” to the east of Route I-95. Some of the tunnels, valves, associated surface piping, and equipment that have been in use for more than 60 years are now in need of regular inspections, and possibly repairs, but cannot be shut down for inspection or repair because there is no way to provide the necessary water throughout the system while these are shut down. Some valves are not exercised because there would be an interruption in the water supply if one got stuck in the closed position. The need for redundancy was highlighted when a break in a pipe connection in May 2010 resulted in an interruption in service and subsequent Boil Water Order for much of the Boston metropolitan area.

In the ENF, MWRA evaluated 28 alternatives to provide redundancy via construction of deep rock tunnels, near-surface mains, and improvements to the existing infrastructure. All of these alternatives began in the vicinity of Shaft 5 and 5A in Weston, near the Route I-90 and I-95 intersection. Of these alternatives, there were 13 “north” alternatives that extended to the northeast from Weston, providing improvements or redundancy for Weston Aqueduct Supply Main 3 (WASM 3). There were 15 “south” alternatives that extended to the east-southeast from Weston to the Dorchester Tunnel. MWRA’s evaluation sought a combination of a north and south alternative that would work together.

The alternatives that MWRA determined were preferable were north Alternative 8N and south Alternative 20S. Alternative 8N would involve construction of a 10 to 12-foot diameter rock tunnel 4.5 miles long, from the Shaft 5/5A area in an alignment roughly parallel to WASM 3, and ending in Waltham near the Belmont town line. Alternative 20S would involve construction of a 10-foot diameter rock tunnel extending from the Hultman Aqueduct near Shaft 5/5A, to first the end of the Section 80 main in Needham, then to the Newton Street Pumping Station in Brookline, and ending near Shaft 7C of the Dorchester Tunnel. For improved redundancy, MWRA intended to connect the tunnels to some additional existing pump stations near the planned routes for the tunnels.

In the DEIR, MWRA went on to evaluate 10 alternative ways to construct the deep tunnels along the routes of Alternatives 8N/20S. These alternatives primarily involved where the launching (entry) and receiving (exit) points would be sited for the tunnel boring machine(s), and whether the tunnels would be constructed in two or three segments. The preferred alternative among these was Alternative 4, in which three tunnel segments would be constructed. Two of these would be launched to the northwest and east from the Highland Road property in Needham, and one launched to the northeast from a location in Weston referred to as the Tandem Trailer site. Each of the three tunnel segments would have connections to the MWRA water system at two additional tunnel shafts along

their courses. Section 1.1 of the DEIR states that construction of the tunnels is expected to take 8 to 12 years, during the period of 2027 to 2040.

The tunnels will be concrete-lined in most areas. In locations where the ground conditions necessitate that the tunnels have greater structural strength, a mortar-coated steel lining will be installed.

As noted in Section 1.4.3.6, the project will require a Distribution System Modification permit (MassDEP Permit Category BRPWS32) from the MassDEP Drinking Water Program. However, this permit was not included in the list of required permits/approvals in Table 1.4-1.

The DEIR states that the groundwater withdrawal volumes associated with dewatering are expected to vary from less than 100,000 gallons per day to about 8 million gallons per day. Therefore, in accordance with the Water Management Act, a Water Withdrawal Permit (MassDEP Permit Category WM03) will be required.

Dewatering at the launch sites and tunnel shafts should not affect any public water supply. These locations are all downstream of the Dedham-Westwood Water District's Bridge Street Wells, which are adjacent to the Charles River. The Bridge Street Wells are the farthest downstream of any public water supply sources along the Charles River. The City of Cambridge's Stony Brook Reservoir is just upstream of Stony Brook's confluence with the Charles River, so the discharges to the Charles River and Seaverns Brook will not affect the reservoir.

Section 4.4.7.1 of the DEIR states that the volume of the proposed tunnels will be about 66 million gallons (MG) of water. Following initial disinfection of the tunnels, up to four volumes of water will be used to flush the tunnels; i.e., up to 264 MG. For comparison, the amount of water that MWRA provides to the Boston metropolitan area tends to average just under 200 MG per day. Therefore, the disinfection/flushing process may have to take place during a time of the year when water demand is low.

Table 5.4-1 refers to certain launching and receiving sites being within the Zone I protective radius and/or Zone II wellhead protection area for the Town of Weston's Fitzgerald and Nickerson Wells. On May 20, 2022, MassDEP approved an application by the Weston Department of Public Works to formally abandon these wells. The wells never had a Zone II, but had an Interim Wellhead Protection Area (IWPA) with a half-mile radius as a default instead. Upon abandonment, the wells are no longer considered to be public water supply sources, and the Zone Is and IWPAs for the two wells are no longer protected water supply areas.

The DEIR is incorrect in stating in Section 5.4.3 that Rosemary Brook is a surface water source for the Town of Wellesley. Wellesley has a municipal well called the Rosemary Brook Well, but the brook itself is not a public water supply source.

The DEIR identifies the volumes of rock cuttings that will be excavated in the process of boring the rock tunnels, but does not identify where the long-term deposition of this material will be. During construction of the MetroWest Tunnel, this material was referred to as "tunnel muck" for how fine the cuttings were. The boring process creates a great deal of freshly-cut surface area that is

subject to leaching. Long-term disposal of these cuttings near a water supply could increase the total dissolved solids (TDS) content of the water, which would in turn increase the corrosivity of the water. Therefore, large volumes of this material should not be deposited adjacent to a public water supply.

MassDEP looks forward to working with the Town on implementation of the CWMP/SEIR, and more generally on the Town's interest in protecting and preserving the Town's water resources. MassDEP appreciates the opportunity to comment on this proposed project. Please contact Rachel Freed at Rachel.Freed@mass.gov or (978) 694-3258, or Susy King at susannah.king@mass.gov or (857) 300-3294 for further information on wastewater issues. If you have any general questions regarding these comments, please contact me at john.d.viola@mass.gov or (978) 694-3304.

Sincerely,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

John D. Viola
Deputy Regional Director

cc: Brona Simon, Massachusetts Historical Commission
Eric Worrall, Rachel Freed, Susy King, MassDEP-NERO



December 12, 2022

Secretary Bethany A. Card
Executive Office of Energy and Environmental Affairs
Attn: Purvi Patel, MEPA Office
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: EOEEA #16355 Metropolitan Water Tunnel Program DEIR

Dear Secretary Card:

The Department of Conservation and Recreation (“DCR” or “Department”) is pleased to submit the following comments in response to the Draft Environmental Impact Report (“DEIR”) submitted by the Massachusetts Water Resources Authority (the “Proponent”) for the Metropolitan Water Tunnel Program (the “Project”).

As described in the DEIR, the Proponent will construct approximately 14 miles of new water supply deep rock tunnels that will provide redundancy for the MWRA’s Metropolitan Tunnel System. Sites on DCR land that require permanent easements will trigger Article 97 of the Amendments to the Massachusetts Constitution. Based on a consult meeting provided by the Proponent, it appears that up to 5 acres of DCR property may be needed as staging locations for tunnel construction over several years; such temporary use of DCR property will require a DCR Construction and Access Permit.

Article 97 Land Disposition

Transfers of interests in state conservation property must meet the requirements set forth in the Executive Office of Energy and Environmental Affairs (“EEA”) Article 97 Land Disposition Policy (the “Policy”). The Policy has the stated goal of ensuring no net loss of Article 97 lands under the ownership and control of the Commonwealth, and states as a general premise that EEA and its agencies shall not sell, transfer or otherwise dispose of any right or interest in Article 97 lands. Transfer of ownership or interests therein only may occur under exceptional circumstances, as defined in the Policy, including the determination that no feasible alternative is available, and a minimum amount of land or an interest therein is being disposed for the proposed use. DCR also notes that with the recent passage of St. 2022, c. 274 – commonly known as the Public Lands Preservation Act – additional requirements may apply to a transfer of Article 97 property.

The DEIR describes two sites that may require disposition of DCR land that is protected under Article 97: the American Legion receiving site within the Morton Street property; the Southern Spine Mains connection site within the Southwest Corridor Park. The DEIR also describes locations where tunnel construction is proposed beneath DCR properties, including the Leo J. Martin Golf Course in Weston and portions of the Charles River Reservation. Tunnel construction beneath DCR property will require permanent easements triggering Article 97. DCR requests that the Proponent minimize the size and extent of impacts to DCR

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Bethany A. Card, Secretary
Executive Office of Energy & Environmental Affairs
Douglas J. Rice, Commissioner
Department of Conservation & Recreation

land, and work closely with DCR to identify mitigation for the loss of Article 97 conservation lands as the shaft, staging and tunnel locations are finalized.

DCR supports the granting of a Construction and Access Permit for temporary tunnel staging sites and permanent easements on and under DCR land, and DCR will continue to work with the Proponent to ensure that the process is compliant with EIA's Article 97 Policy. Construction and Access Permits for this Project, required for work activities on DCR property, will not be issued until MBPA review is complete and Article 97 legislation has been enacted.

Thank you for the opportunity to comment on the DEIR. Please contact the Director of Construction & Access Permitting, Sean Casey at sean.casey@mass.gov regarding DCR Construction and Access Permits. Questions related to Article 97 can be directed to Jennifer Howard at jennifer.howard@mass.gov.

Sincerely,



Douglas J. Rice
Commissioner

cc: Jennifer Howard, Sean Casey, Priscilla Geigis, Patrice Kish, Tom LaRosa (DCR)