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September 29, 2023

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS  
ON THE  
SUPPLEMENTAL 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 : August 9, 2023

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62L) and Section 11.08 of the MEPA regulations (301 CMR 11.00), I have reviewed the Supplemental Draft Environmental Impact Report (SDEIR) and hereby determine that it **adequately and properly** complies with MEPA and its implementing regulations. The Proponent may prepare and submit for review a Final Environmental Impact Report (FEIR). As directed by the prior Scope, the SDEIR addresses substantive issues related to the viability of the proposed receiving shaft site<sup>1</sup> at the Fernald Property in the City of Waltham, which was common to all alternatives considered for the project for the northern alignment in the Draft Environmental Impact Report (DEIR). The SDEIR identifies potential alternative receiving locations that could replace the Fernald Property and analyzes associated impacts. The SDEIR has identified a new Preferred Alternative that avoids use of the Fernald Property identified in the DEIR, and this alternative will be carried through to the FEIR.

Project Description

As described in the SDEIR, the Massachusetts Water Resources Authority (MWRA) is proposing to construct two new deep rock water supply tunnels (north and south alignments totaling

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

±14.6) 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.

The SDEIR evaluated and ranked numerous alternatives to ultimately determine the Preferred Alternative and two backup alternatives. As discussed below, the SDEIR contained a supplemental alternatives analysis (Alternatives 3A, 4A, and 10A) that revised prior alternatives to relocate the terminus of the North Tunnel, Segment 1, to locations other than the City-owned Fernald Property site previously identified in the DEIR. This analysis resulted in selection of a new Preferred Alternative (Alternative 4A) that proposes to use a parcel owned by the University of Massachusetts (UMass) as the terminus for North Tunnel, Segment 1. The Preferred Alternative is otherwise substantially similar to the preferred alternative identified in the DEIR. Specifically, it 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 ±15 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 13 shaft site locations<sup>2</sup> within the Study Area are within 1 mile of several Environmental Justice (EJ) Populations.<sup>3</sup> While the project was originally filed prior to January 1, 2022, when new MEPA protocols related to EJ outreach and analysis took effect, the SDEIR voluntarily provides a description of public outreach activities and analysis of impacts over the 1-mile area around the 13 shaft site locations.

### Changes Since Filing of the DEIR

As noted, since the DEIR was filed, the MWRA identified other sites for the terminus of the North Tunnel, Segment 1, which would serve as the end point of the North Tunnel. The SDEIR describes the site selection process to identify alternative sites for the terminus of the North Tunnel, Segment 1. A property owned by UMass located at 240 Beaver Street (UMass Property site) and a

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<sup>2</sup> The DEIR identified 14 site locations. The FEIR notes that the Tandem Trailer launching shaft site would include a connection tunnel to the Park Road East large connection shaft in SDEIR Alternatives 3A and 4A to provide the required connection to the Hultman Aqueduct.

<sup>3</sup> "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.

different area of the former Walter E. Fernald State School property that is owned by the City of Waltham (Lower Fernald Property site) closer to Waverley Oaks Road were identified as candidate sites in place of the Fernald Property site previously considered in the DEIR. The UMass Property site would serve as the end point for SDEIR Alternatives 3A and 4A,<sup>4</sup> as described further below. The UMass Property would be a large connection shaft site and unlike under the DEIR scenario, would not be a receiving shaft location for the Tunnel Boring Machine (TBM). The SDEIR outlines several options for removal of the TBM from the tunnel, as further described below. The Lower Fernald Property site would serve as the end point for SDEIR Alternative 10A<sup>5</sup>. The Lower Fernald Property site would be a receiving shaft site for the TBM and would have a larger shaft site diameter than the large connection for the UMass Property site. As discussed below, the Preferred Alternative (Alternative 4A), which is similar to Alternative 4 in the DEIR, proposes to use the UMass Property site as the terminus for the North Tunnel, Segment 1. As in the DEIR, Alternatives 3A and 10A (similar to Alternatives 3 and 10 in the DEIR) are retained as “backup alternatives” that will be carried through to the FEIR.

The SDEIR describes revisions to the alignment of the tunnel associated with this change in the proposed site for the terminus of the North Tunnel, Segment 1. The revised alternatives identified above (Alternatives 3A, 4A, and 10A) were then assessed in relation to wetlands and waterways, water supply, and Article 97 of the Amendments to the Constitution of the Commonwealth (Article 97) resources.

### 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. The SDEIR provided revised estimates of project impacts for the Preferred Alternative and two back up alternatives, which include (depending on the alternative) alteration of up to a maximum of 42.4 acres of land (surface impacts); creation of up to 2.7 acres of new impervious surface; up to 8.4 acres of permanent easement or land acquisition to support shaft and valve chambers; 3.8 acres of Article 97 land for which a land disposition may be required; and temporary and permanent alteration of wetlands including 1,558 square feet (sf) of Bordering Vegetated Wetlands (BVW)/Isolated Vegetated Wetlands (IVW), up to 121 sf of Bank, up to 3,286 sf of Bordering Land Subject to Flooding (BLSF), up to 3,440 sf of Land Under Water (LUW), and up to 163,301 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 2-8 of the SDEIR provides a qualitative summary of environmental impacts associated with the Preferred Alternative and two backup alternatives.

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

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<sup>4</sup> SDEIR Alternatives 3A and 4A are similar to DEIR Alternatives 3 and 4, respectively, but would use the UMass Property in place of the Fernald Property for the terminus of North Tunnel, Segment 1. All other sites remain the same.

<sup>5</sup> SDEIR Alternative 10 is similar to DEIR Alternative 10 but would use the Lower Fernald Property instead of the Fernald Property for the terminus of North Tunnel, Segment 1. All other sites remain the same.

with alternate sources of water as required (Appendix C); 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. It also exceeds the Environmental Notification Form (ENF) review thresholds pursuant to 301 CMR 11.03(1)(b)(1) for alteration of 25 or more acres of land; 301 CMR 11.03(1)(b)(3) for the disposition or change in use of land or an interest in land subject to Article 97; and 301 CMR 11.03(3)(b)(1)(f) for alteration of one-half or more acres of other wetlands (RFA). The SDEIR identifies that the project will exceed the ENF review threshold pursuant to 301 CMR 11.03(6)(b)(2)(b) for construction, widening or maintenance of a roadway or its right-of-way that will cut five or more living public shade trees of 14 or more inches in diameter at breast height.

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

### Review of the SDEIR

The SDEIR identifies changes since the filing of the DEIR. It provides a detailed and updated description of the project, existing conditions for the two new alternative terminus sites for the North Tunnel, Segment 1 (UMass Property site and Lower Fernald Property site), supplemental analysis of alternatives with the new terminus locations, 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 SDEIR responds to the comments raised in the Certificate on the DEIR, along with each comment letter received on the DEIR. It 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. The SDEIR identifies an additional MEPA threshold that will be exceeded.

The SDEIR provides updated site plans depicting the two alternative sites considered for the terminus of the proposed North Tunnel, Segment 1. Figure 2-2 provides a schematic layout of the UMass Property site that identifies the temporary construction area limits of disturbance (LOD), and Figure 2-3 provides the proposed post-development final conditions. Similarly, for the Lower Fernald Property site, a schematic layout with the LOD depicted is provided in Figure 2-4, and the proposed post-development conditions are shown in Figure 2-5. Environmental resources in the Study Area associated with the UMass Property site and the Lower Fernald Property site are depicted for wetlands and waterways, protected open space (Article 97), 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 SDEIR describes the components that will be included in a Construction Management Plan, specifically those that will be required to limit potential impacts to EJ populations.

### *Alternatives Analysis*

The DEIR provided a comprehensive analysis of alternatives; however, it relied exclusively on one receiving shaft site for all North Tunnel routing options (Fernald Property) which appeared to be uncertain based on comments from the City of Waltham. It did not consider alternate locations in Waltham or Belmont. The SDEIR documents the continued study of alternatives for the northern tunnel alignment in light of comments received. In place of the DEIR Fernald Property site, MWRA identified several potential sites within the vicinity of WASM3 (a critical connection point) in Waltham and Belmont. Sites were also considered where the TBM would not be retrieved at the end of the tunnel but would be 1) disassembled in the tunnel with parts transported and removed through the launch shaft, with the shell of the TBM left abandoned in the ground, or 2) backed out the whole length to the launching site at Tandem Trailer. In addition, the MWRA reevaluated potential sites near WASM3 that were previously considered earlier in the design. The study area for the additional potential sites considered that critical connection points to the existing water distribution system must be located within a reasonable distance to the supply main for a near-surface piping connection. MWRA determined that sites in Belmont were not available for use in the project, and therefore not viable alternatives to the DEIR Fernald Property site.

Based on conversations with respective property owners and other factors (i.e., availability of land, ownership, proximity to WASM3, size, existing conditions, accessibility, environmental impacts, etc.), two sites were identified as potentially viable options for the terminus of the North Tunnel in place of the DEIR Fernald Property site as discussed below:

1. The UMass Property site (Waltham) is owned by the Commonwealth of Massachusetts under care, custody, and control of UMass. The site is  $\pm 1,000$  feet southwest of the DEIR Fernald Property site, south of the former Walter E. Fernald State School, and north of Beaver Street.

It consists of vacant/unpaved open space within Lawrence Meadow, a ±31-acre area that surrounds the Samuel D. Warren Estate. The site would accommodate a large connection shaft in SDEIR Alternatives 3A and 4A and is located ±800 feet west of WASM3 in Waverley Oaks Road. Temporary construction area LOD is ±0.9 acres.

2. The Lower Fernald Property site (Waltham) is owned by the City of Waltham. It is ±1,000 feet southeast of the DEIR Fernald Property site and located on property associated with the former Walter E. Fernald State School. The site is near the intersection of Waverley Oaks Road and Chapel Road, adjacent to WASM3. The site would accommodate a TBM receiving shaft in SDEIR Alternative 10A. Temporary construction area LOD is ±2.3 acres with ±1.4 acres reserved for permanent MWRA facilities.

Use of either of these two sites in place of the DEIR Fernald Property site would alter the northernmost portion of the North Tunnel Segment 1 alignment described in the DEIR. This change includes the alignment from the proposed School Street connection site (common to all SDEIR Alternatives) to the northern terminus site (UMass Property site in SDEIR Alternatives 3A and 4A, or Lower Fernald Property site in SDEIR Alternative 10A). South of the School Street connection site, the preliminary alignment of North Tunnel Segment 1 would remain the same as described in the DEIR. South Tunnel Segment 2 and South Tunnel Segment 3 would remain the same as described in the DEIR.

The SDEIR updates the environmental resource analysis for each SDEIR Alternative incorporating the new alternative sites and the refined tunnel alignment. The table below identifies the tunnel segments in each of the SDEIR Alternatives, updating the northern terminus for North Tunnel, Segment 1, in place of the DEIR Fernald Property site.

Alter- native	North Tunnel Segment 1		South Tunnel Segment 2		South Tunnel Segment 3		Total Approx. Length (miles)
	Description	Approx. Length (miles)	Description	Approx. Length (miles)	Description	Approx. Length (miles)	
3A	<i>Tandem Trailer/ Park Road East Launching to UMass Property Large Connection</i>	4.5	<i>Bifurcation Launching to Highland Avenue Northwest Receiving</i>	3.3	<i>Highland Avenue Northeast/Southeast Launching to American Legion Receiving</i>	6.8	14.6
4A	<i>Tandem Trailer/ Park Road East Launching to UMass Property Large Connection</i>	4.5	<i>Highland Avenue Northwest/ Southwest Launching to Park Road West Receiving</i>	3.3	<i>Highland Avenue Northeast/Southeast Launching to American Legion Receiving</i>	6.8	14.6
10A <sup>1</sup>	<i>Highland Avenue Northwest to Park Road West to Lower Fernald Property Receiving</i>			8.3	<i>Highland Avenue Northeast/Southeast Launching to American Legion Receiving</i>	6.8	15.1

Note: 1 One TBM would mine the tunnel for both Tunnel Segment 1 and Segment 2 in Alternative 10A.

High-level 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 and were considered to have similar potential environmental impacts. The assessment reaffirmed that SDEIR Alternative 4A

(similar to DEIR Alternative 4, with the exception of the terminus of North Tunnel, Segment 1) is the Preferred Alternative based on the engineering/constructability, land availability, social/community, cost differential, and contract packaging flexibility evaluation criteria, and that the two-back up alternatives are SDEIR Alternative 3A and 10A. As shown in Table 2-7, Alternative 4A received a “Preferred” rating (score of 3) in each of the seven evaluation criteria and a resulting total score of 21. Alternative 3A received the second highest total score (18), followed by Alternative 10A (12).

Table 2-8 in the SDEIR provides a comparison of alternatives and associated impacts. SDEIR Alternatives 3A and 4A are anticipated to have fewer potential impacts related to historic resources. SDEIR Alternative 10A, given it would include two launching sites compared to three in Alternatives 3A and 4A, is more favorable in terms of groundwater management and potential impact on surface water bodies. The SDEIR emphasizes that the potential environmental impacts associated with each of the three alternatives are generally similar, with mitigation measures incorporated where necessary, and were not a determining factor in identifying the Preferred Alternative.

The SDEIR was required to clarify if any of the other seven alternatives that were dismissed would include less environmental impacts. According to the SDEIR, potential environmental impacts were generally the same across alternatives given that the 10 DEIR Alternatives use the same launching, receiving, and large connection sites but in different configurations, except for DEIR Alternative 8. DEIR Alternative 8, which was dismissed as the least favorable alternative, scored lower in the environmental category because it included an active recreational parcel at Riverside Park (an Article 97 property within the Charles River Reservation); is within the flood zone of the Charles River; would require shared access; and would require a connecting pipeline to be built beneath MBTA tracks. DEIR Alternative 7 includes a double launching site from Highland Avenue Northeast, which could increase the intensity of environmental impacts at that location. The remaining DEIR Alternatives are made up of the same set of sites, in various different combinations and with varying functions, and thus have similar environmental impacts. DEIR Alternatives were comparable in terms of potential impacts to rare species, Article 97 lands, and MCP sites, and would have similar potential impacts on wetlands, wells, or surface water bodies along the tunnel alignment.

The three shortlisted alternatives were also more favorable or neutral compared to the other seven DEIR Alternatives in the social/community category except DEIR Alternative 2, which scored more favorably than DEIR Alternatives 3 and 4. DEIR Alternative 2 avoids TBM launching and receiving at the Hultman Aqueduct node (in favor of the Highland Avenue sites), thus reducing the possible risk associated with the timing of MassDOT Project No. 606783. However, DEIR Alternative 2 was less favorable than DEIR Alternatives 3 and 4 due to scheduling and engineering/constructability.

### *Environmental Justice*

The SDEIR provides a table (Table 3-7) that summarizes each of the proposed sites (Waltham, Weston, Needham, Boston, Wellesley, and Brookline) and the presence of EJ populations near those sites or within the LOD. It summarizes MWRA’s public outreach that has occurred since the DEIR was submitted. MWRA has implemented a robust community outreach initiative. The SDEIR outlines the updated outreach plan (Table 3-3) that MWRA will follow after issuance of the Certificate on the SDEIR. The outreach strategy includes meetings within each community in the Study Area as requested with notification provided through different outlets, offering interpretation services during meetings, translation of public meeting minutes, posting minutes on the project website, sharing minutes with municipal and other contacts in project communities, and incorporating feedback into draft FEIR prior



to submission to MEPA. 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 in decision-making about the project.

The SDEIR analysis identifies EJ communities within the Study Area for each of the 13 proposed sites. MWRA has and will continue to tailor outreach to EJ communities and use a combination of methods to facilitate participation in the environmental review process. Each of the 13 proposed sites has its own Designated Geographic Area (DGA), which is the 1-mile radius or buffer around the site. The SDEIR presents an analysis of impacts on EJ populations within each of these DGAs (collectively, the EJ Study Area). Outreach methods will include translating outreach materials to languages prevalent in EJ communities within the EJ Study Areas, 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. 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.

The SDEIR includes additional EJ analysis to assess potential traffic and air quality impacts from anticipated construction vehicle routes between each project site and the interstate highway. Table 3-12 lists those EJ populations (total of 58) located within 0.5 mile of construction truck routes, and are identified as exhibiting “vulnerable health EJ criteria” by the DPH EJ Tool. The DGAs around the UMass Property site, Lower Fernald Property site, American Legion site, School Street site, St. Mary’s Street Pumping Station site, Newton Street Pumping Station site, and Southern Spine Mains site include EJ populations located adjacent to construction vehicle routes. The SDEIR indicates that most construction traffic is expected to be generated at proposed shaft sites due to construction workers driving to and from the sites. The maximum amount of temporary project-related traffic would occur at launching shaft sites where there is a shift change conservatively modeled to take place during the evening peak hour.<sup>6</sup> Launching shaft sites (i.e., Tandem Trailer, Bifurcation, and Highland Avenue sites) are adjacent to highway ramps and are therefore not expected to cause a significant traffic impact to nearby local roadways. For all other launching shaft sites, the SDEIR indicates that the most direct route to nearby highways was selected for construction vehicle traffic, and that no construction vehicle routes between these launching shaft sites and the highway travel through EJ block groups.

Since project sites are separated geographically and intersect distinct EJ populations, MWRA conducted a conservative analysis of net new average daily trips (adt) of diesel vehicle traffic over one year or more at each site instead of analyzing cumulative adt across all sites. The DEIR estimated the potential for up to 156 adt of diesel trucks at launching sites in the worst-case scenario including Tandem Trailer (Alternatives 3A and 4A), Bifurcation (Alternative 3A), Highland Avenue Northwest/Southwest (Alternatives 4A and 10A), and Highland Avenue Northeast/Southeast (all alternatives). According to the SDEIR, the 156 adt value was calculated only over the number of days of construction per year, not the annual average. The annual adt generated by the project during construction activities would be  $\pm 111$  adt per year<sup>7</sup> which is below the 150 adt threshold for expanding the assessment to 5 miles. The worst-case analysis assumes  $\pm 70$  feet excavation per day by a TBM and construction only occurring on business days. The average rate for excavation is likely to be less than 60

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<sup>6</sup> Construction worker trips are usually at 3:00 PM; the evening peak hour generally occurs between 4:00 PM and 6:00 PM.

<sup>7</sup> According to the SDEIR, the annual adt is reached by taking the maximum number of daily truck trips (156) multiplied by the typical workdays in a year (260) and dividing that amount over a full 365 days.

feet per day, translating to fewer than 150 additional adt by diesel trucks. Although the excavation in some days may reach or exceed 70 feet a day, the likelihood of exceeding 60 feet a day continuously over one year is extremely low. Accordingly, the estimated number of trucks is a conservative estimate considering the full duration of construction. The SDEIR asserts that this conservative estimate of adt can be accommodated on roadways with no need for mitigation. A supplemental air quality analysis was also provided, as described below.

As shown in Table 3-23, some of the permanent, above ground easements and land acquisitions would include portions of existing community resources and open space, including portions of three Article 97 properties. These areas would be small in overall property size (acreage) in relation to the total area and would contain only the critical infrastructure needed for operation and maintenance of the tunnel system. Use of the sites is not anticipated to significantly interfere with or detract from the existing use. Subterranean easements of land that the tunnel runs underneath are not anticipated to impact future property use. The 0.1-acre acquisition at the 7.3-acre Ouellet Park (Hegarty Pumping Station connection shaft site) is not anticipated to impede the existing recreational amenities or public access. The 0.2-acre portion of Southwest Corridor Park/Arborway I is not anticipated to interfere with the existing recreational use of the Greenway nor the adjacent community garden. DCR's Morton Street property (American Legion receiving shaft site) does not provide recreational activities. For the UMass Property site (Lawrence Meadow), Hegarty Pumping Station connection shaft site (Ouellet Playground), and Southern Spine Mains connection shaft site (Southwest Corridor Park/Arborway I), the proposed acquisition is not anticipated to change the existing recreational amenities or public access. For the Lower Fernald Property site (Walter E. Fernald State School Property) and American Legion site (Morton Street), the property does not have existing public access or recreational amenities.

Construction period impacts on existing floodplains for all alternatives were evaluated by comparing the flow rates of dewatering discharges at each site to those of the potential receiving water bodies. Proposed discharge volumes would be a small percentage of the projected storm flow volumes from all storm events in all alternatives. Based on flow estimates, it is anticipated that construction period dewatering discharges from all sites would not contribute significantly to existing flood impacts. Project activities would not exacerbate flood risk to proximal EJ populations or existing environmental and health burdens. No disproportionate adverse effects are anticipated due to stormwater or other flood impacts. Drilling and excavation of contaminated soil, and construction dewatering of contaminated groundwater or surface water has the potential to exacerbate elevated blood lead health vulnerabilities. In the event that soil or water contaminated with lead is discovered during drilling, excavation, or dewatering, the MWRA will work with municipal entities to establish appropriate mitigation.

#### *Land Alteration, Open Space and Article 97*

The SDEIR provides an updated assessment of land use, community resources, open space, and Article 97 resources to incorporate the two new alternative sites that are considered for the terminus of the North Tunnel, Segment 1, in place of the Fernald Property site that was previously evaluated in the DEIR. Table 4-1 of the SDEIR provides a summary comparison of land use characteristics associated with the Alternatives 3A, 4A, and 10A including proposed changes in impervious surface compared to existing conditions (up to 2.7 acres), temporary construction area LOD (up to 42.4 acres), permanent easements or land acquisition (at least seven), and estimated Article 97 land disposition anticipated to be required. MWRA has consulted with DCR regarding the project design and compliance with the Public Lands Preservation Act (PLPA) and the EEA Article 97 Land Disposition Policy.

The SDEIR provides an update on the project's consistency with the Article 97 Policy. Three sites may require disposition of land protected under Article 97 (not under the care, custody and control of MWRA) totaling 3.8 acres: the Hegarty Pumping Station (0.1 acres of Ouellet Park) (Article 97 status to be determined) in Wellesley; Southern Spine Mains (0.2 acres of Southwest Corridor Park/Arborway I) on DCR land; and the American Legion (3.5 acres of Morton Street Property) on DCR land. The SDEIR describes how MWRA will minimize the size and extent of impacts to DCR land. MWRA has continued to work closely with DCR to identify mitigation for the loss of Article 97 conservation land. The SDEIR provides a summary of the outcome of consultations with DCR regarding Article 97 protection and mitigation.

It appears that up to five acres of DCR property will also be needed as staging locations for construction over several years, which will require temporary easements and a DCR CAP. The SDEIR also describes locations where the tunnel construction is proposed beneath these and several other DCR properties, including the Leo J. Martin Memorial Golf Course in Weston and Newton, and portions of the Charles River Reservation in Weston. Tunnel construction beneath DCR property will require permanent easements triggering Article 97. DCR comments on the DEIR identified support for granting of a CAP for temporary tunnel staging sites and permanent easements on and under DCR land.

The SDEIR provides an update on the borings and geotechnical analysis underway, including presenting the results of analyses completed by the time of the SDEIR filing. Eighteen deep test borings were drilled as part of the preliminary design, most of which are located at shaft sites; surface geophysical surveys were conducted at 43 locations along the preliminary tunnel alignment; and bedrock outcrop mapping was conducted at 25 locations in the Study Area where bedrock is exposed and accessible. This and other data collected as part of past projects by MWRA, MassDOT, etc. was analyzed to understand the geologic and hydrological setting for the Study Area, and the conditions which influence shaft and tunnel design and construction methods (e.g., top of rock elevation, location and limits of geologic faults, permeability, strength, abrasiveness, mineralogy, lithology, stability, etc.). This data, as well as other factors, including hydraulic connections to critical infrastructure, land availability and land use, and environmental impacts was used to select shaft sites and the preliminary tunnel alignment, which will be further refined throughout the design phases of the project. The results of these investigations and analysis are currently being compiled and will be incorporated into the final design and/or included in the construction documents.

Up to 40 additional deep test borings will be drilled during the next phase of design at the remaining shaft sites and along the preliminary tunnel alignment. These investigations will build on those conducted as part of the preliminary design to further inform the design including locations of discrete sections of tunnel alignment between shaft sites (e.g., between School Street and the end of the North Tunnel in Waltham), extent and type of initial tunnel support type or final liner, etc. This additional data will also help estimate tunnel construction production rates and project costs. During final design of each tunnel segment, the tunnel alignment (both horizontal and vertical) between shaft sites will be finalized. Subterranean easements along the tunnel alignment will be required, which will consist of a zone surrounding the tunnel horizon but will not extend to, or affect, land use at the ground surface. Easements will be obtained from each landowner prior to construction and recorded. Geotechnical analyses conducted during construction are not expected to change the tunnel alignment. Unforeseen geotechnical conditions at a shaft site revealed during later investigation phases is not expected to warrant modifications of a shaft site location considering that most of the preliminary design phase investigations and significant geotechnical and geologic data collected as part of past projects borings were gathered at shaft sites. If a geologic condition is revealed during later investigations that

warrants an adjustment to the tunnel alignment between shaft sites, the tunnel and corresponding subterranean easements will be modified prior to construction. If landowner opposition to a subterranean easement were to occur, an evaluation of the impacts of modifying the tunnel alignment or exercising eminent domain as allowed by MWRA’s enabling act will be made.

*Wetlands and Stormwater*

The SDEIR provides an update on temporary and permanent impacts to wetland resource areas. The project will temporarily and permanently impact BVW, IVW, Bank, BLSF, LUW, and RFA, and associated buffer zones. Table 5-6 provides a summary of wetland impacts by municipality for Alternatives 3A, 4A and 10A (a portion of Table 5-6 is included below which identifies total impacts).

*Table 5-6 Summary of Wetland Impacts by Municipality Alternatives 3A, 4A, 10A*

Sites by Municipality	Resource Area(s) Affected	Alternative 3A			Alternative 4A			Alternative 10A		
		Temporary Impacts (sf/lf)	Permanent Impacts (sf/lf)	Total Impacts (sf/lf)	Temporary Impacts (sf/lf)	Permanent Impacts (sf/lf)	Total Impacts (sf/lf)	Temporary Impacts (sf/lf)	Permanent Impacts (sf/lf)	Total Impacts (sf/lf)
GRAND TOTAL	BVW/VW (sf)	1,558	0	1,558	1,558	0	1,558	1,558	0	1,558
	Bank (sf)	43	78	121	35	52	87	27	36	63
	BLSF (sf)	1,890	1,396	3,286	1,640	1,028	2,668	1,340	660	2,000
	LUW/WW (sf)	2,336	1,104	3,440	1,684	736	2,420	1,414	726	2,140
	RA (sf)	158,470	4,831	163,301	124,483	4,831	129,314	18,761	3,146	21,907

The Conservation Commissions will review the project for its consistency with the Wetlands Protection Act (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).

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

- no permanent impacts to BVW or IVW associated with construction or operation
- temporary impacts to BVW and IVW for pipeline connection at American Legion site
- permanent and temporary impacts to LUW, Bank, BLSF, and RFA for rip rap splash pads at permanent and temporary dewatering discharge locations with compensatory flood storage volume provided
- permanent and temporary impacts to RFA for pipeline connection (Hegarty Pumping Station)
- permanent impacts to RFA for top-of-shaft and/or valve structures and associated pavement at Tandem Trailer site and Hultman Aqueduct Isolation Valve site
- temporary impacts to RFA due to construction staging at up to six sites
- implementation of appropriate BMPs in accordance with the Stormwater Pollution Prevention Plan (SWPPP) required under the NPDES CGP
- prior to discharge related to tunnel activities, all flows would be treated to meet water quality standards for the receiving water body and any other requirements of environmental permits

- grouting of water-bearing rock features in advance of TBM excavation activities and after its passage to reduce groundwater inflows to avoid and minimize impacts of groundwater drawdown which may temporarily impact water levels in surface waters and wells (if necessary, alternative water supplies would be provided as described in the updated draft Water Supply Contingency Plan (Appendix C))
- no impacts to surface or groundwater resources is anticipated post-construction (completed tunnel will be lined and under higher pressure than surrounding groundwater to prevent groundwater inflow)
- no impacts to water quality are anticipated post-construction; stormwater runoff from impervious surfaces would be treated and managed in accordance with the SMS

The SDEIR addresses MassDEP comments regarding the impacts of increased volume and velocities of dewatering discharges to several waterways associated with construction of the new tunnels (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 clarifies that installation of splash pads and culvert outlets will permanently and temporarily impact LUW, BLSF and Bank. Temporary impacts would result from pipe trenching and excavation and stabilization for construction of the flared end-sections and riprap splash pads (vegetation and shorelines would be restored post-construction). Permanent impacts would include only the flared end-sections and associated riprap splash pads, providing scour protection and erosion control for dewatering discharges within the waterways. Impacts to BVW described in the DEIR due to the discharge structures at the Fernald Property site have been eliminated due to inclusion of the alternative sites, which do not require impacts to BVW for the discharges. According to the SDEIR, it is not feasible to eliminate proposed impacts to Bank, LUW and BLSF because to mitigate potential scour impacts to existing resource areas, the discharge must be in proximity to the associated receiving waterbody.

The SDEIR provides calculations (Appendix B) 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 notes that the SWPPP will be prepared to document stormwater management during construction including a description of dewatering practices and inspection schedule to monitor for scouring and erosion resulting from dewatering practices. Corrective action procedures would include a contingency plan to address any unexpected impacts of construction dewatering activities that may be observed during inspection and monitoring (i.e., splash pad maintenance measures, modifications to pipe sizing, treatment of discharges, or implementation of additional velocity dissipation measures).

The SDEIR confirms that stormwater runoff as a result of any increase in impervious areas, however small, will be treated in accordance with the SMS. MWRA should continue to reduce impervious area through incorporation of pervious surfaces and landscaped areas.

### *Waterways*

The proposed tunnels and dewatering discharge locations 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.

The SDEIR includes Table 5-15 which identifies waterbodies where work will occur in, on, over, or under the waterway, indicates whether the waterway is jurisdictional pursuant to the regulations at 310 CMR 9.00, and identifies the associated scope of work. Work is expected to occur on, in, over, or under the following waterbodies: Clematis Brook; Chester Brook; Unnamed Tributary (Stony Brook); Seaverns Brook; Charles River; Rosemary Brook; Hurd Brook; and Canterbury Brook/Stony Brook. The SDEIR describes the project’s consistency with c. 91 regulations. It explains 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. In addition, proposed outfalls and splash pads would not extend into the waterway or adjacent wetland in accordance with 310 CMR 9.05(3)(g)(4). The placement of rip rap splash pads and tunneling of the structure below waterways would not reduce the space available for navigation and therefore may not require c. 91 authorization. MassDEP Waterways Regulatory Program (WRP) comments concur that the proposed work may be exempt pursuant to 310 CMR 9.05(3)(g)4, provided the project complies with the regulatory prerequisites. Further coordination with MassDEP will be completed during final design to determine applicability of any c. 91 exemptions to proposed project elements and/or requirements to comply with c. 91 regulations if the project does not meet exemption criteria.

#### *Water Management Act/Water Supply*

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. According to MassDEP comments, dewatering at launch sites and tunnel shafts is not likely to affect any public 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. 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.” The SDEIR indicates that this provision would apply to exempt this project (a water tunnel to be constructed solely for redundancy purposes) from the need for approval under the TIA. The project is not subject to the ITA and will not require approval from the WRC, as discussed below. In addition, the ITA would not apply to the dewatering portion of the project if all bedrock infiltration will occur from and be discharged to the Charles River Basin and will not cross a basin boundary.

The SDEIR responds to requests for additional information by WRC in their comments on the DEIR including capacities of the City Tunnel, City Tunnel Extension and Dorchester Tunnel, and the proposed capacity of each of the two new deep rock tunnels. WRC seeks this information to confirm that water withdrawals through the redundancy tunnel would not exceed currently permitted levels under the

ITA. It affirms that the existing capacity will not be exceeded and describes steps that will be taken to limit flow to the present rate of interbasin transfer. The SDEIR reiterates that the project is proposed 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 and not to increase the total capacity of the MWRA water supply system. MWRA anticipates that it will take segments of the existing City Tunnel system offline for maintenance and repair once the North and South Tunnel are completed and rely primarily on them to provide water to the metro-Boston area communities. Therefore, the new tunnels must be able to provide water supply capacities that are equivalent to the existing tunnel system.

MWRA modeled the water distribution system with 1) the existing tunnel system in operation only and 2) the proposed tunnels in operation only under the same flow conditions to estimate capacities under the same operating conditions. This comparison used the 2060 High Day Demand of 283 million gallons per day (MGD), which is the design flow used when sizing the new tunnels and evaluating ability of the water system to meet required hydraulic conditions. Modeling indicates that the maximum flows through the existing tunnels are as follows: City Tunnel  $\pm 210$  MGD (acts as the limiting factor in supply); City Tunnel Extension  $\pm 90$  MGD; and Dorchester Tunnel  $\pm 95$  MGD. The modeled maximum flows with the new tunnels only in operation are North Tunnel  $\pm 80$  MGD and South Tunnel  $\pm 125$  MGD (combined capacity of 205 MGD). The volume of water conveyed through the new deep rock tunnels, as well as existing tunnels, is limited by existing aqueducts and tunnels upstream (the Hultman Aqueduct and MetroWest Water Supply Tunnel), which are limited by the Norumbega Reservoir, which sets the hydraulic grade for the system and new tunnels, thereby regulating flows downstream. Additionally, at the downstream end of the tunnels, the surface piping restricts how much water can be conveyed to communities.

The combined capacity of the proposed tunnels in the modeled condition is 205 MGD, which is slightly less than the modeled capacity of the City Tunnel at 210 MGD. WRC comments state that, accordingly, the project is not subject to the ITA and will not require approval from the WRC, provided that the combined transfer through both the proposed North and South Tunnels and the City Tunnel do not exceed the current hydraulic capacity of the City Tunnel. MWRA already provides an annual report detailing the volumes transferred through the Hultman and Sudbury Aqueducts. In the future, this annual report will also include the City Tunnel and North and South Tunnel volumes (once operational) to ensure that the project does not result in an increase in capacity. All proposed construction, including tunnel boring, launching, receiving, large connection, and connection shaft site construction, is proposed to occur only within the Charles River Basin. No dewatering activities will cross major basin boundaries. Due to estimated withdrawals over 100,000 gallons per day (GPD), a WMA permit for construction period withdrawals only will be required. There will be no permanent withdrawals. While the tunnel is being constructed, groundwater will infiltrate into the tunnel and will ultimately be discharged at certain locations.

### *Greenhouse Gas Emissions and Air Quality*

The SDEIR supplements the climate change and GHG/air quality analyses provided 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). Both the Existing and future No-Build condition assume the project would not be constructed and there would be no emissions associated with either construction or operations, nor with transportation or mobilization of any equipment (i.e., 0 tons of emissions). Emissions estimates provided for project alternatives represent absolute increases from the Existing/No-Build conditions. MWRA conducted an estimate of existing emissions on assumed

transportation Study Area routes<sup>8</sup> to be used by construction vehicles and equipment for emissions of NOx, VOC, and GHG using 2023 emission factors for Middlesex County from the EPA’s MOVES3 model, and existing traffic estimates and distances used in the transportation analysis. Due to improvements in vehicle technology, lower- and zero-emission vehicles, and investment in public transportation, baseline future roadway emissions are expected to continue to decrease from existing levels. The SDEIR (Table 8-10 below) compares calculated GHG emissions for the project during the peak 12-month period of construction emissions (6,150 to 6,210 tons per year (tpy), depending on the alternative) to the statewide GHG emissions totals (73.5 million tpy of CO<sub>2</sub>e in 2018). Project-related construction emissions were compared to the U.S. EPA’s “General Conformity” de minimis emissions thresholds for precursors of ozone (100 tpy), NOx (100 tpy), and VOC (50 tpy). Peak 12-month period emissions shown in Table 8-10 below are shown to be below the de minimis thresholds.<sup>9</sup>

**Table 8-10 Summary Comparison of Emissions (Tons) Among Alternatives**

Alternative	NOx Emissions (Tons)				VOC Emissions (Tons)				GHG Emissions (Tons)		
	General Conformity de minimis threshold (Tons Per Year)	MA 2017 Inventory Total On- and Off-Highway Vehicles	Peak 12-Month Period	Total 10-Year Modeled Duration	General Conformity de minimis threshold (Tons Per Year)	MA 2017 Inventory Total On- and Off-Highway Vehicles	Peak 12-Month Period	Total 10-Year Modeled Duration	2018 MA GHG Emissions (Tons CO <sub>2</sub> e)	Peak 12-Month Period	Total 10-Year Modeled Duration
3A	100.0	67,598	33.7	122.8	50.0	44,177	2.5	9.1	73,500,000	6,210.1	25,738.8
4A	100.0	67,598	33.7	122.6	50.0	44,177	2.5	9.0	73,500,000	6,209.7	25,669.9
10A	100.0	67,598	33.4	123.0	50.0	44,177	2.6	9.1	73,500,000	6,149.5	25,158.3

Regarding comparison to future No-Build traffic conditions, the project is expected to add ±0.1% to 2.0% additional vehicles to local roadways on the peak day. The SDEIR maintains that this minor increase would not be expected to materially affect any ambient pollutant concentrations and their comparison to any air quality standards. Regarding existing project-related traffic outside the Study Area, which primarily includes traffic along the interstate highways, project-related traffic (and associated emissions) is anticipated to comprise less than 0.1% to 0.7% of total daily volumes on the modeled peak day, which conservatively assumes that construction would occur at all shafts simultaneously.

Project construction is estimated to take ±8 to 12 years to complete and is planned to occur between 2027 and 2040. For emission modeling purposes, construction activities in each of the SDEIR Alternatives were modeled to take place for a total of 10 years (beginning at the start of Year 1 Quarter 1 and ending at the conclusion of Year 10 Quarter 4); emissions were calculated for each quarter for the modeled 10-year duration and illustrated in Figures 8-1 through 8-3 which show how emissions increase and decrease over the course of construction. Tables 8-11 (Alternative 3A), 8-12 (Alternative 4A), and 8-13 (Alternative 10A) provide the estimated percent decline in emissions compared to the peak calendar year. The peak calendar year of estimated NOx and VOC emissions in SDEIR Alternatives 3A

<sup>8</sup> As discussed above, the project Study Area encompasses ±15 miles of deep rock tunnels and connections to existing water supply infrastructure (±200-400 ft) below the surface of several communities. Thirteen (13) shaft site locations within the Study Area are located within 1 mile of EJ populations. However, a smaller transportation Study Area was used to calculate the total air emissions summarized below.

<sup>9</sup> The SDEIR cites to the U.S. Environmental Protection Agency (EPA), General Conformity, “De Minimis Tables,” updated July 20, 2022, as the source of the “de minimis” thresholds. See <https://www.epa.gov/general-conformity/de-minimis-tables> (accessed June 12, 2023). According to EPA fact sheets, the relatively high thresholds in the General Conformity rule are used to help states and tribes improve air quality in areas that are in “nonattainment” with national air quality standards. Nonetheless, they provide some basis for comparison to the overall air emissions impacts of the project.



and 4A is Year 3. For all SDEIR Alternatives, the estimated peak calendar year for GHG emissions is Year 6.

The traffic study includes local roadway routes to and from construction locations to the nearest highway interchanges, generally with I-93 and I-95. Air pollutant emissions were calculated along these local routes, which traverse both EJ and non-EJ areas. On the modeled peak day, the project is expected to temporarily add 0.1% to 2.0% additional vehicles to local roadways. Project-related traffic outside the Study Area would primarily include construction-related trucks and employee vehicles along the interstate highways. Given the existing volumes of traffic on I-93 and I-95, project-related traffic (and associated generated emissions) is anticipated to be a small percentage of the total highway traffic (and emissions) and any increases outside the Study Area attributable to the project would be minimal. The SDEIR defines the transportation Study Area used to calculate the emissions presented in the mesoscale analysis (summarized above) and identifies the roadway intersections analyzed in both the transportation and air quality analyses. It identifies which of the intersections in the analysis include U.S. Census block groups containing potential EJ populations. Table 8-14 presents the peak 12-month period of construction emissions of NOx and particulates from project-related construction vehicles and identifies how the emissions are distributed on local roads adjacent to block groups identified as containing EJ populations versus non-EJ block groups. Emissions of NOx, PM10, PM2.5, and diesel particulate matter (DPM) are all expected to be below 0.5 tpy, and well below the EPA’s “de minimis” thresholds of 100 tpy for NOx, 100 tpy for PM10, and 100 tpy for PM2.5 (there are no thresholds for DPM). Lead is no longer used in gasoline and is not used in diesel fuel. Therefore, the Program is expected to have no lead emissions.

**Table 8-14 Program-Related On-Road Emissions in Proximity to EJ Block Groups) (Tons)**

Alternative	Nitrogen Oxides (NOx) Peak 12-Month Period		Particulate Matter (PM <sub>10</sub> ) Peak 12-Month Period		Fine Particulate Matter (PM <sub>2.5</sub> ) Peak 12-Month Period		Diesel Particulate Matter (DPM) Peak 12-Month Period	
	EJ Block Groups	Non-EJ Block Groups	EJ Block Groups	Non-EJ Block Groups	EJ Block Groups	Non-EJ Block Groups	EJ Block Groups	Non-EJ Block Groups
Alternative 3A	0.28	0.14	0.04	0.02	0.01	0.01	0.01	0.00
Alternative 4A	0.26	0.13	0.03	0.02	0.01	0.00	0.01	0.00
Alternative 10A	0.30	0.14	0.04	0.02	0.01	0.00	0.01	0.00

Calculations show that emissions are small, however more pollutants are emitted in EJ areas than in non-EJ areas due to the proximity of EJ neighborhoods to construction sites and the main state and local thoroughfares used to get to the interstate highways, especially for the American Legion site, and the most direct route along State Road 203 to I-93. Construction vehicle routes between the interstate highways and construction sites are anticipated to take place on local roads, some of which abut EJ communities, assuming that the most direct local routes would be used. Any rerouting of construction vehicles would increase travel times and/or mileage, thus increasing regional emissions totals in both EJ and non-EJ communities. The SDEIR states the least impactful routing to all populations is using the most direct routes to/from the interstate highway and minimizing traffic on local roads. Program launching shaft locations (i.e., Tandem Trailer, Bifurcation, and Highland Avenue sites) are adjacent to highway ramps and are therefore not expected to cause a significant traffic impact to nearby local roadways. None of the launching shaft sites considered in either of the SDEIR Alternatives are in EJ

block groups and given their proximity to highway ramps, no construction vehicle routes between these launching shaft sites and the highway travel through EJ block groups.

### *Adaptation and Resiliency*

Permanent aboveground infrastructure proposed to be sited within the Federal Emergency Management Agency (FEMA) Special Flood Hazard Area (SFHA) (area subject to inundation by the 1% annual chance flood) would be limited to dewatering discharge pipes and associated splash pads. Three project sites would have discharge pipes and splash pads within floodplain (Zone AE or A): the Highland Avenue Northeast/Southeast launching site (Alternatives 3A, 4A, and 10A), Bifurcation launching site (Alternative 3A), and Tandem Trailer/Park Road East launching site (Alternatives 3A and 4A). According to the SDEIR, it is not feasible to locate the structures outside of floodplain because it overlaps the areas required to be protected from potential scour. To minimize the risk of flooding, permanent shaft structures will be sited outside of floodplain and would be designed as watertight structures to provide continuous access to the tunnel throughout storm events. Discharge pipes and splash pads would be designed with scour protection and erosion control to minimize impacts to existing waterways.

## SCOPE

### General

The FEIR 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 FEIR should include a detailed and updated description of the project and identify any changes since the filing of the SDEIR. The FEIR 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 FEIR should identify methods that will be undertaken to avoid, minimize and mitigate Damage to the Environment.

The FEIR 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 FEIR 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 FEIR should clearly describe the permits and/or regulatory approvals required for each component of the project.

Comments from Charles River Watershed Association (CRWA) identify a number of concerns which should be addressed in the FEIR regarding construction period impacts, tree removal, land alteration and Article 97, community outreach, EJ impact assessments, wetlands, waterways, water supply, and climate change. The FEIR should also address comments from the Waltham Land Trust as they relate to their environmental and public access goals for the Lawrence Meadow parcel, which is adjacent to the to the UMass Property site.

The information and analyses identified in this Scope should be addressed within the main body of the FEIR 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 FEIR. 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 FEIR to materials provided in an appendix should include specific page numbers to facilitate review.

### 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 FEIR for this project. The FEIR should provide an overview of outreach activities that have taken place since the SDEIR was submitted. The FEIR should address the comments from the CRWA regarding active outreach to EJ populations, and should circulate a copy of the FEIR or summary thereof to the EJ Reference List prior to filing. It should identify measures to avoid, minimize and mitigate impacts to EJ populations from project-related activities during and post-construction including working with Departments of Public Works (DPWs) and transportation departments in each municipality to implement mitigation measures in all areas with EJ populations. The FEIR should clarify the precise extent of the “transportation Study Area” used to calculate air emissions for the project, as contrasted with the “Study Area” for the project as a whole.

### Land Alteration, Open Space, and Article 97

According to DCR comments, the SDEIR does not provide an estimate of the total tunnel alignment area on DCR properties; however, during consultation, MWRA indicated that a permanent easement ±30 feet wide would be required, which would also trigger Article 97 requirements. DCR will continue to work with MWRA to ensure that there are no feasible alternatives to the fee simple and permanent easement interests identified within the limit of work for the project and, if no alternatives exist, that the minimum amount of interest in DCR land is being disposed of for the purpose of the project. MWRA will be responsible for meeting the obligations of the PLPA, including public notification, an alternatives analysis, the identification and dedication of replacement land to Article 97 purposes, an appraisal, requests for the Secretary to waive or modify the replacement land requirement or make findings relative to funding in lieu of replacement land, if applicable, and Article 97 legislation. The FEIR should provide a summary of the outcome of further consultations with DCR regarding Article 97 protection and mitigation. It is my expectation that mitigation commitments relative to Article 97 dispositions will be finalized in conceptual fashion by the time of the FEIR.

### Wetlands

The FEIR should provide an update on temporary and permanent impacts to wetland resource areas. It should address MassDEP comments which note that permanent alterations to BVW and Bank

will occur due to the installation of splash pads and culvert outlets. It should confirm that these structures are located as far from BVW as possible. According to MassDEP comments, the SDEIR appears to assume that splash pads will be adequate to dissipate velocity to avoid erosion and/or sedimentation in resource areas. The FEIR should confirm with calculations that the pipes and splash pads have been properly sized to regulate flows to prevent scour. The FEIR should confirm that MWRA will develop a plan to monitor the outfalls during dewatering activities to ensure that scour and erosion does not occur, that includes a contingency plan to address any unexpected impacts.

The FEIR should verify that none of the waterbodies proposed for discharge are identified as ORWs because discharges to ORWs are ineligible for coverage under the NPDES DRGP unless an authorization is granted by the MassDEP pursuant to 314 CMR 4.04(3)(b). If authorization is needed from MassDEP it must be obtained prior to seeking coverage under the DRGP.

### Fisheries

During construction at the launching and receiving sites, construction water will be generated, primarily from groundwater inflows into the tunnel excavation. One of the primary dewatering discharge sites (Tandem Trailer) is located near the I-90/I-95 interchange; flows will discharge into Seaverns Brook which discharges into the Charles River, which supports diadromous fish including American shad, rainbow smelt, white perch, Atlantic tomcod, and American eel. Additionally, the area between the Moody Street Dam and I-90/I-95 provides important spawning habitat for River Herring.

The FEIR should address comments from the Massachusetts Division of Marine Fisheries (DMF) regarding proposed dewatering work, which will potentially impact river herring spawning and migration in the Charles River based on changes in water velocity and volume, increased turbidity, and potential changes in temperature. It should confirm that the project will implement a time-of-year restriction of no in-water, silt-producing work from April 15 to July 15 to minimize this impact. The FEIR should include additional information about the temporary water-treatment facility proposed at the Tandem Trailer shaft site and regarding noise and vibration impacts caused by tunneling, which may impact fish migration and spawning.

### Rare Species

According to comments from NHESP, a portion of the project under all alternatives is proposed within Priority or Estimated Habitat of rare species. Work within or immediately adjacent to existing paved roads is likely exempt from Massachusetts Endangered Species Act (MESA, MGL c131A) and its implementing regulations (321 CMR 10.00) pursuant to 321 CMR 10.14 under exemptions 6, 7, 8, 10, 12. However, project components and work adjacent to or within unpaved roads (e.g., gravel, dirt, sand), or beyond 10 feet from a paved road are unlikely to qualify as exempt from review. Therefore, some aspects of the project may require review through a direct filing with NHESP for compliance with MESA. MWRA should consult with NHESP prior to filing the FEIR to address state-listed species concerns, as avoidance and minimization of impacts to rare species and their habitats is likely to expedite endangered species regulatory review. The FEIR should provide an update on any consultations with NHESP and identify avoidance, minimization, and mitigation measures, as appropriate.

### Mitigation and Draft Section 61 Findings

The FEIR 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 FEIR 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.

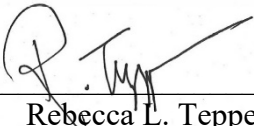
Responses to Comments

The FEIR 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 SDEIR that specifically address each issue raised in the comment letter; references to a chapter or sections of the FEIR 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 FEIR beyond what has been expressly identified in this certificate.

Circulation

The Proponent should circulate the FEIR to the same distribution list the ENF, DEIR and SDEIR 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 FEIR 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 FEIR indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. A copy of the FEIR should be made available for review at public libraries of the Study Area communities.

September 29, 2023  
Date

  
\_\_\_\_\_  
Rebecca L. Tepper

Comments received:

- 09/22/2023 Massachusetts Department of Environmental Protection (MassDEP) – Northeast Regional Office (NERO)
- 09/22/2023 City of Cambridge Water Department
- 09/22/2023 Charles River Watershed Association (CRWA)
- 09/22/2023 Waltham Land Trust
- 09/25/2023 MassDEP Waterways Regulation Program (WRP)

09/25/2023 Massachusetts Water Resources Commission (MWRC)  
09/28/2023 Massachusetts Department of Conservation and Recreation (DCR)  
09/29/2023 Massachusetts Division of Marine Fisheries (DMF)  
09/29/2023 Massachusetts Natural Heritage and Endangered Species Program (NHESP)

RLT/PPP/ppp



## CITY OF CAMBRIDGE

### MASSACHUSETTS

Water Department  
250 Fresh Pond Parkway  
Cambridge, Mass. 02138

(617) 349-4770



September 22, 2023

Secretary of Energy and Environmental Affairs  
Executive Office of Energy and Environmental Affairs (EEA)  
Attn: MEPA Office  
Purvi Patel, EEA No. 16355  
100 Cambridge Street Suite 900  
Boston, MA 02114

*via email*

### **Re: EEA #16355 Metropolitan Water Tunnel Program**

Dear Secretary Tepper:

The City of Cambridge Water Department (CWD) appreciates the opportunity to submit comments on the Metropolitan Water Tunnel Program. The proposed project is located near the Stony Brook Reservoir in Waltham and Weston and the City of Cambridge-owned water supply protection lands surrounding it.

Through a City contract, CWD hired STV Group, Inc. to conduct a technical review of the proposed project. See attached comments.

Currently, the proposed tunnel alignment does not cross City-owned land. Changes to that alignment to within City property boundaries would require further discussions with the applicant regarding City property rights and interests.

Sincerely,

A handwritten signature in black ink, appearing to read 'DKaplan'.

David Kaplan, Watershed Manager, CWD

cc: Mark Gallagher, Acting Managing Director, CWD  
Julie Greenwood-Torelli, Director of Water Operations  
Jamie O'Connell, Watershed Protection Supervisor  
Cambridge Water Board



## MEMORANDUM

**TO:** Kara Falise, City of Cambridge (City)  
**FROM:** Evan Batchis and Da Ha  
**CC:** Jim Wilcox; David Kaplan; Julie Greenwood-Torelli; Mark Gallagher (City)  
**DATE:** September 21, 2023  
**SUBJECT:** Peer Review of MWRA Tunnel MEPA Filing

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As requested by the City of Cambridge (City), Evan Batchis (Structural) and Da Ha (Geotechnical) from STV performed a Technical Peer Review of the Environmental Notification Form, Draft Environmental Impact Report (EIR), and Supplemental Draft EIR documents as well as supporting documentation. STV recommends the following action items based on review of the documents:

- Confirm subsurface conditions and verify the depth of bedrock local to the Stony Brook Reservoir by performing one or more vertical rock borings.
- Properly grout all boreholes after completion of investigation. Borehole segments in bedrock should be backfilled with cement grout and borehole segments in soil should be backfilled with cement-bentonite grout.
- Provide boring logs and associated reports to the City for review and coordination on this project.



September 22, 2023

*Via Email*

Purvi Patel, Environmental Analyst  
MEPA Office  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114  
purvi.patel@mass.gov

**Re: Supplemental Draft Environmental Impact Report for the Massachusetts Water Resources Authority  
Metropolitan Water Tunnel Program, EEA #16355**

Dear Ms. Patel:

Charles River Watershed Association (“CRWA”) submits the following comments on the Supplemental Draft Environmental Impact Report (“SDEIR”) for the proposed Massachusetts Water Resources Authority (“MWRA”) Metropolitan Water Tunnel Program published in Massachusetts Environmental Policy Act (“MEPA”) Office’s Environmental Monitor on August 9, 2023.

MWRA plans to construct two new deeprock water supply tunnels (north and south alignments) to provide redundancy for MWRA’s existing Metropolitan Tunnel System. The existing Metropolitan Tunnel System includes the City Tunnel (1950), the City Tunnel Extension (1963), and the Dorchester Tunnel (1976). The Metropolitan Tunnel System delivers approximately 60 percent of the water that travels eastward from the Quabbin Reservoir through a series of tunnels and aqueducts to MWRA’s John J. Carroll Water Treatment Plant in Marlborough to serve 53 communities. The Program Study Area encompasses approximately 15 miles of deep rock tunnel approximately 200 to 400 feet below the ground surface of several communities.

In this SDEIR MWRA has identified Alternative 4A as its preferred alternative by using a numerical scoring framework that assigned scores to certain evaluation criteria - 1 for “Least Preferred,” 2 for “Moderate,” and 3 for “Preferred.” The criteria used were “Engineering/Constructability,” “Land Availability,” “Environmental,” “Social/Community,” “Operations,” “Cost,” and “Schedule.” While Alternative 3A only received a score of “Moderate” in three areas, Alternative 4A received a perfect score across the seven criteria. Accordingly, the majority of CRWA’s comments are oriented towards this alternative, though these comments remain generally applicable. CRWA acknowledges that MWRA has stated that the potential environmental impacts associated with each of the three alternatives are generally similar, though we note that this is “with mitigation measures incorporated where necessary.”

SDEIR Alternative 4A would require three launching shaft sites, two receiving shaft sites, one large connection shaft site, six connection shaft sites, and one isolation valve site. All sites are located on state- or municipality-owned land. Alternative 4A is tied for the shortest of the alternatives at 14.6 miles and is estimated to be the cheapest at \$45 million. Alternative 4A also incorporates feedback from the Secretary of the Executive

Office of Energy and Environmental Affairs (“EEA”) and uses the University of Massachusetts (“UMass”) Property in Waltham as the terminus of North Tunnel, Segment 1 instead of the Fernald Property. Alternative 4A will result in approximately 2 acres of new impervious area compared to existing conditions and is anticipated to require approximately 8 acres of permanent easements or land acquisition for the areas supporting the shafts and valve chambers.

CRWA is pleased to see MWRA working thoughtfully on a project so critically important to the greater Boston area's public health, safety, and economy. However, despite this SDEIR providing additional details on project alternatives and further information about project implementation, significant questions remain about the project’s sustainability and its impacts on environmental justice (“EJ”) populations. CRWA appreciates the opportunity to review this SDEIR and respectfully submits the following comments:

Construction Period Impacts:

For many of the alternatives and site locations, MWRA notes that excavated material will be disposed of daily, but does not specify where or how. CRWA requests clarification regarding the daily disposal of excavated material for all site locations. If excavated materials are to be stored on-site, detailed measures to prevent runoff should be outlined. With 941,000 CY total of approximate excavated material to be removed from the tunnel and disposed of off-site, proper storage and disposal will be crucial to prevent harmful runoff, especially for sites like the UMass Property where hazardous materials such as coal ash are present. As it is currently presented, the SDEIR only notes that “suitable locations for reuse and disposal of excavated material would be identified.” While CRWA appreciates that the project remains at a preliminary stage, it is not useful when a project proponent states - as is done throughout this SDEIR - that excavated material will be stored using “appropriate containment” methods “within appropriate facilities.”

Regarding dust control measures, CRWA urges the project proponent to estimate water usage for this purpose and use a native seed mix for re-seeding.

Additionally, though this is further commented on below, for the project proponent to conclude that no disproportionate adverse effects during construction periods for EJ populations are anticipated because planned mitigation and proper handling will be used is tautological and gives no indication of actual methods to be utilized to ensure that disproportionate effects will be meaningfully avoided.

Tree Removal

Trees and other vegetation improve air and water quality, help control stormwater runoff and flooding, and provide natural cooling. The SDEIR indicates that trees will be removed as part of the project and that existing trees and vegetation will be preserved where practicable. While the SDEIR has some information on the species of trees and vegetation on the program sites, it is unclear how many trees and of what size will be cut down. Existing mature trees should be preserved, as replanted trees will not be as beneficial. We urge the Project Team to consult with an arborist to evaluate trees for suitability of preservation and that as many trees as possible be maintained (specifically those whose suitability is determined to be moderate or high). We also recommend that native trees and shrubs be planted within proposed landscaped areas and along proposed roadways wherever possible.

**Charles River Watershed Association**

41 West Street, Floor 8 Boston, MA 02111 t 617 540 5650 [www.crwa.org](http://www.crwa.org)

Again, CRWA appreciates that these plans remain provisional for the moment. In future plans, CRWA looks forward to reviewing more information, including an accurate count of the trees to be removed across sites. Additionally, more details on the replanting process and coordination with communities and property owners are necessary in order to comment meaningfully.

#### Land Alteration and Article 97

CRWA reiterates that public lands should be protected whenever possible, but appreciates that the Article 97 lands implicated in this project are necessary to the overall design and that “no feasible and substantially equivalent alternatives are available to avoid potential Article 97 land” for Ouellet Park, the DCR Morton Street Property at American Legion Receiving Shaft Site, and the Southwest Corridor Park/Arborway I at Southern Spine Mains Connection Shaft Site. Nonetheless, as MWRA acknowledges, to comply with the Article 97 Land Disposition Policy it will be required to provide compensatory land of equal or greater value to offset any disposed of land required for the program. MWRA should take all efforts to avoid impacts, comply with the Public Lands Preservation Act, take extra measures to protect surrounding natural areas, and restore as much of the impacted area as possible. CRWA looks forward to reviewing details on the proposed compensatory land as well as MWRA’s plans to reduce and minimize impacts on Article 97 land.

#### Community Outreach and Environmental Justice

CRWA appreciates the project proponent's outreach to communities and stakeholders. CRWA has spoken to Waltham residents who report that they are aware of the project. However, to ensure transparency and consideration of public feedback we have the following recommendations:

- **Default Outreach Sessions:** The measures proposed as part of Section 3.2.6 & 3.2.7 are insufficient. In these sections, MWRA notes that it “will hold public information sessions and/or workshops *as requested* by communities or other stakeholders.” The point of this type of outreach is to make communities and other stakeholders aware of the project - if the proponent waits for the communities or other stakeholders to reach out to them, community members may not know to request these informational sessions until the project is already well underway. For example, Table 3-1 does not show any specific meetings with residents for the express purpose of discussing the general project and possible impacts. Meetings with Fire Departments, Select Boards, MEPA offices, and UMass cannot be said to be fully reaching EJ populations directly. Even the sole meeting with the Jamaica Plain Neighborhood Council does not accomplish this goal. To say that the proponent has met with landowners, municipalities, and neighborhood groups is not technically incorrect but it does misrepresent the ultimate goal of reaching EJ populations. To ameliorate this, CRWA suggests that the project proponent should hold additional default outreach sessions as early as possible, and throughout the active construction. These sessions should be in addition to as-requested meetings and workshops. If necessary, MWRA could implement a pre-registration system; if fewer than five community members register, a given default session could be canceled. A more proactive approach like this one will ensure broader community engagement.
- **Updated EJ Outreach Plan:** CRWA commends the inclusion of translation services and MWRA’s effort to publish notices in foreign language local newspapers and use various social media platforms and media outlets to reach intended populations. To further improve this plan, CRWA recommends prioritizing

non-traditional media sources and using community-based organizations (“CBOs”) to help disseminate information and flyers. Lists of suitable CBOs have already been created by EEA to assist with outreach for other projects and initiatives.

- Feedback Incorporation: The project proponent's commitment to incorporating feedback at public meetings is commendable, and CRWA hopes that MWRA will meaningfully implement this part of the plan. It is particularly heartening to see that MWRA intends to work with towns and cities to make meeting minutes available on municipal websites.

### Environmental Justice Impact Assessments

CRWA acknowledges that the SDEIR anticipates no disproportionate adverse effects on EJ populations in any of the proposed Alternatives. However, CRWA cautions against speculative measures and suggests that concrete plans are developed to address potential impacts. As noted above, while this may be due to the preliminary nature of these plans, it is concerning to see that MWRA expects no impacts - despite the real existence of possible threats - simply because appropriate measures will be taken. This sort of broad language provides no indication of what those measures are, or indeed, whether they will actually be sufficient to protect EJ populations.

For example, in its response to Comment C-22 CRWA appreciates the proponent’s focus on analyzing the Department of Public Health’s (“DPH”) vulnerable health criteria (low birth rate and elevated blood lead prevalence). Subsequent analysis in this response to comment breaks down the minimal traffic impacts on EJ populations in a reasonably persuasive manner. However, as noted, the proponent appears intent on minimizing potential impacts rather than making plans to address those impacts. For example, when addressing Air Quality and greenhouse gas emissions, the proponent’s “calculations show that emissions are small, however, more pollutants are emitted in EJ areas than in non-EJ areas.” While the proponent states that “this is due to the proximity of EJ neighborhoods to both the construction sites and to the main state and local thoroughfares used to get to the interstate highways...” it nonetheless acknowledges - as it must - that “emissions from diesel trucks, vehicles, and construction equipment can exacerbate low birth weight health vulnerabilities, and there are existing low birth weight health vulnerabilities.” The proponents' subsequent assertion that “project activities are not anticipated to have an adverse impact” followed by a note that it will “work with the DPW and Transportation departments of each municipality if necessary to establish appropriate mitigation to further reduce the risk of exacerbating low birth weight rates” is not reassuring. This is especially so when the proponent concludes by asserting that since “no significant program-related air quality or GHG emissions are anticipated...there would be no impacts to baseline environmental or health conditions of EJ or non-EJ populations.” “No significant” does not equate to “none” and not anticipating any impacts does not mean that impacts will not result. The Secretary was right to comment on this aspect of the DEIR and the project proponent should be required to work with DPW and transportation departments in each municipality to implement mitigation measures in all areas with EJ populations. Even if impacts are not significant, it appears that impacts are very much possible. Therefore, mitigation *is* necessary, and incorporating those mitigation measures early into the planning process will ensure that they are protective, well-executed, and most importantly, that they actually occur.

### Wetlands, Waterways, and Water Supply

All Program sites are located within the Charles River Watershed, which drains approximately 308 square miles through 23 towns and cities in eastern Massachusetts to the Boston Harbor. The two new alternative sites are in the upper Charles River basin. The UMass Property site and the Lower Fernald Property Site would discharge dewatering and stormwater runoff to tributaries of the Charles River. CRWA encourages the use of additional sediment control methodologies where temporary impacts are anticipated, though CRWA acknowledges that a National Pollution Discharge Elimination System (“NPDES”) Stormwater Pollution Prevention Plan (“SWPPP”) will be prepared that should address these concerns. CRWA looks forward to reviewing this SWPPP. At the state level, CRWA is glad to see that the project proponent will be consulting and complying with Massachusetts Department of Environmental Protection stormwater standards, though CRWA advises the project proponent that updated stormwater standards are to be released within the next few months, which should be considered in project design.

The project proponent should also consider including further detail on how groundwater will be treated before being discharged into wetland resource areas, like the wetland area that drains to Clematis Brook. Lead-impacted soils mean that mitigation measures will be required to avoid exacerbating the contaminated sediments already present. Again, CRWA looks forward to reviewing the required NPDES and Dewatering and Remediation General Permits.

We are particularly concerned about this project’s potential impact on groundwater levels and water supplies, given the proximity of public water supply wells. While unlikely, CRWA would like to see further analysis of the possibility that the tunnel boring machine could reduce groundwater levels or lead to disruption of water supplies. With 83 public water supply wells near Alternative 4A, many of CRWA’s members could be seriously affected by the proponent’s efforts. Accordingly, CRWA questions whether a separate EJ analysis has been undertaken to understand which populations would be affected in the event of a water supply emergency. The SDEIR suggests that “probing and pre-grouting could be made mandatory beneath important areas of groundwater well production or beneath sensitive local water bodies” but “the determination for mandatory probing and grouting (both where this may be required as well as the number and relative position of probe holes or grouting criteria) would be a risk-based assessment during the final design phase of the Program.” CRWA understands that probing and pre-grouting must be judiciously utilized to avoid stoppages and a lengthier construction schedule. However, we emphasize that there should be public or agency involvement in this risk-based determination, or, if possible, that a map of proposed areas of pre-grouting and probing be published ahead of time for review. Regardless, further details on the “extreme cases” that might “reduce the levels of local water bodies” as described in the Tunnel Alignments sections of the SDEIR would be welcome.

Relating to water supplies, due to estimated withdrawals over 100,000 GPD, a Water Management Act permit for construction period withdrawals will be required. This permit should include seasonal restrictions that are standard to such permits. While CRWA appreciates the need for this project, in the event of extreme weather, this project must not impact public water supply availability. Relatedly CRWA requests additional information regarding the proponent’s coordination with the Massachusetts Department of Environmental Protection to identify appropriate mitigation measures for groundwater recharge.

Climate Change

CRWA appreciates the consideration of climate change in the project's design. However, we recommend incorporating updated flood maps that account for climate change through flood modeling. Accordingly, CRWA is glad to see that MWRA has conducted some analysis using the Resilient Massachusetts Action Team ("RMAT") Climate Resilience Design Standards Tool. While it is concerning to see sites included as part of Alternative 4A identified as high exposure and moderate exposure for urban flooding and riverine flooding respectively, CRWA is grateful that the project proponent has included consideration of RMAT best management practices ("BMPs") and hopes that these BMPs will be incorporated wherever possible into the final designs for this project.

The minimal increase in impervious surface associated with all project alternatives is important, as is the preservation of mature trees. Both of these aspects of the project reduce the risks posed by both flooding and extreme heat. Maintaining permeable areas of each program site to serve as a stormwater management area is a step in the right direction, but CRWA reiterates that the risk of flooding at these sites remains significant. CRWA would appreciate it if future filings incorporated examples of flood modeling based on the proponent's management strategies. Relatedly, CRWA would like to note that Federal Emergency Management Agency Special Flood Hazard Area maps are often outdated and therefore less useful for planning purposes as they do not properly account for climate change. Accordingly, the proponent should incorporate the use of up-to-date maps in order to properly assess risk and to model the benefits of management strategies. Generally, stormwater management systems should be designed to not only accommodate current storms but future storms as well. Approaches including green roofs where possible and the use of cool pavements should be considered.

CRWA appreciates the opportunity to review these documents. Thank you for your consideration of these comments.

Respectfully,

A handwritten signature in black ink, appearing to read "Zeus Smith". The signature is written in a cursive, flowing style.

Zeus Smith, Esq.  
Associate Attorney



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

# Department of Environmental Protection

Northeast Regional Office • 150 Presidential Way Woburn, MA 01801 • 978-694-3200

Maura T. Healey  
Governor

Kimberley Driscoll  
Lieutenant Governor

Rebecca L. Tepper  
Secretary

Bonnie Heiple  
Commissioner

September 22, 2023

Rebecca L. Tepper, Secretary  
Executive Office of  
Energy & Environmental Affairs  
100 Cambridge Street  
Boston MA, 02114

RE: Boston and Several Communities  
Metropolitan Water Tunnel Program  
EEA# 16355

Attn: MEPA Unit

Dear Secretary Tepper:

The Massachusetts Department of Environmental Protection Northeast Regional Office (MassDEP-NERO) has reviewed the Supplemental Draft Environmental Impact Report (SDEIR) for the proposed Metropolitan Water Tunnel Program in Boston and several communities. MassDEP provides the following comments.

## **Wetlands**

A Supplemental Draft Environmental Impact Report (SDEIR) has been filed with the Executive Office of Energy and Environmental Affairs by CDM Smith in association with VHB and Jacobs, on behalf of the Massachusetts Water Resources Authority (MWRA). The project proposes to construct approximately 14 miles of two (2) new, deep rock tunnels that will provide redundancy for MWRA's existing Metropolitan Tunnel System, which includes the City Tunnel, City Tunnel Extension, and Dorchester Tunnel. The Program will also allow MWRA's existing tunnel system to be rehabilitated without interrupting service.

The Secretary's Certificate issued for the DEIR on December 16, 2022, required that MWRA file an SDEIR to address concerns related to the viability of the proposed receiving shaft site at the Fernald Property in Waltham. The Certificate requested that potential alternative receiving locations be explored and that the impacts of those locations be analyzed. This SDEIR analyzed two additional locations for the receiving site.

This information is available in alternate format. Please contact Melixza Esenyie at 617-626-1282.  
TTY# MassRelay Service 1-800-439-2370  
MassDEP Website: [www.mass.gov/dep](http://www.mass.gov/dep)

Printed on Recycled Paper

The first location is a property owned by the University of Massachusetts (UMASS), noted as Alternative 4A; and the second location is at 240 Beaver Street at a different location of the former Walter Fernald State School Property (Lower Fernald site) closer to Waverley Oaks Road. The UMASS site would not be a receiving site but would rather be a large connection site where the Tunnel Boring Machine would be disassembled in the tunnel and the Lower Fernald Site would serve as the end point for SDEIR Alternative 10A.

The SDEIR explains in section 5.1.1 that there would be no direct impacts to wetland resource areas anticipated with either the UMASS property or the Lower Fernald Property sites. The project would require temporary and permanent impacts to Bordering Vegetated Wetland (BVW) and federally jurisdictional Vegetated Wetlands for connection to the existing water supply infrastructure at the American Legion Site. The project would also require temporary and permanent impacts to Riverfront Area, Land Under Water, Bank, and Bordering Land Subject to Flooding for the installation of rip rap splash pads located at permanent and temporary dewatering discharge locations, and for paved access ways.

Construction of the new tunnels will result in dewatering discharges to several waterways, which raises concern about the impacts of increased volume and velocities of the discharges. 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 SDEIR discusses impacts from the increased volume of discharges to the waterways but appears to assume that the splash pads will be adequate to dissipate velocity in order to avoid erosion and/or sedimentation in the resource areas. The applicant should provide calculations demonstrating that the pipes and splash pads have been properly sized to regulate flows in order to 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, as well as include a contingency plan to address any unexpected negative impacts.

## **Drinking Water**

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” located 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 it is 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 during May 2010 resulted in a service interruption 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 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 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 stated that construction of the tunnels is expected to take 8 to 12 years, during the period of 2027 to 2040.

Comments on the DEIR from the City of Waltham opposed use of the Fernald Property for construction of one of the tunnel shafts. The SDEIR evaluates alternative locations for the shaft. The preferred alternative in the SDEIR is stated as Alternative 4A, in which the shaft would be located on a parcel owned by the University of Massachusetts.

MassDEP has assumed in its SDEIR review that the Alternatives locations for the shaft identified as 3A, 4A, and 10A are the same alternatives that were termed 3, 4, and 10 in the DEIR. However, MassDEP could not find any language in the SDEIR where this is confirmed.

As stated in the previous MEPA reviews for this project, the project will require a Distribution System Modification permit (MassDEP Permit Category BRPWS32) from the MassDEP Drinking Water Program. The groundwater withdrawal volumes associated with dewatering will require a Water Withdrawal Permit (MassDEP Permit Category WM03) in accordance with the Water Management Act. The SDEIR states that all of the dewatering will occur in the Charles River Basin, so a Water Withdrawal Permit will only be required for the Charles River Basin.

As MassDEP stated in the DEIR comments, dewatering at the launch sites and tunnel shafts is not likely to 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.

## **Wastewater**

The project proponent has correctly identified that they will need to seek coverage under the National Pollutant Discharge Elimination System (NPDES) Dewatering and Remediation General Permit (DRGP). The proponent should verify that none of the proposed waterbodies for discharge are identified as Outstanding Resource Waters (ORW). Per the DRGP, discharges to ORWs, as defined in 314 CMR 4.06, are ineligible for coverage unless an authorization is granted by the MassDEP pursuant to 314 CMR 4.04(3)(b). If authorization is needed from MassDEP it must be obtained prior to seeking coverage under the DRGP.

The MassDEP appreciates the opportunity to comment on this proposed project. Please contact [Kristin.Divris@mass.gov](mailto:Kristin.Divris@mass.gov) at (508) 887-0021 for further information on wetlands issues. If you have any general questions regarding these comments, please contact me at [John.D.Viola@mass.gov](mailto:John.D.Viola@mass.gov) or at (857) 276-3161.

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, Kristin Divris, Jill Provencal, Kyle Lally, MassDEP-NERO  
Jim Persky, Melissa Balcourt, MassDEP NERO



Waltham Land Trust, Inc.  
P.O. Box 541120  
Waltham, MA 02454-1120  
www.walthamlandtrust.org  
781-893-3355

A non-profit organization dedicated to preserving our community's natural resources through open space advocacy, education, acquisition, and protection.

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**Protecting  
Waltham's land  
...forever.**

Secretary Rebecca Tepper  
Executive Office of Energy  
and Environmental Affairs  
100 Cambridge St., 10th Floor  
Boston, MA 02114

September 22, 2023

Dear Secretary Tepper,

We submit these comments regarding our interest and concern about the proposed siting of the Metropolitan Water Tunnel Program's (MWTP) *Large Shaft* at Lawrence Meadow, 225-227 Beaver St., Waltham. We appreciated the excellent presentation, followed by a Q&A session, that Director Kathy Murtagh, and her team provided to members of the Waltham Land Trust on September 14, 2023. Our group now has a clearer understanding of the complex tunnel program including the rationale for the project, and its impact on our local community. Answers to the questions we submitted provided useful information about the future course of the project. Additionally, we have become familiar with the DEIR and the SDEIR reports that include comprehensive data and detailed project descriptions.

With respect to the planning and construction of the preferred siting of the *Large Shaft* at Lawrence Meadow, we respectfully submit the following comments. Our hope is that this statement provides a local perspective regarding both the context and importance of this particular site to our community, should you move forward with the current recommendations.

The Waltham Land Trust (WLT) has long advocated for permanent environmental preservation of the 30-acre parcel at Lawrence Meadow (LM). Historically, part of the Cedar Hill Dairy farm, it was gifted to the Commonwealth by the estate of Cornelia Warren in 1922. For a century, LM comprised the northern section of the *Waltham Field Station* agricultural technology center, an entity managed by UMass Amherst's Cooperative Extension program. The University ceased all operations at the Waltham campus by 2021. In March, 2022, the City of Waltham purchased the southern agricultural parcels of the station using funds from the Community Preservation Act. This resulted in permanent protection under Article 97 for only the lower half of the original 58-acre entity. Consistent with its mission to promote, protect, restore, and acquire open space, the land trust was one of many groups that advocated for this acquisition.

However, as the northern parcel was not included in the City's acquisition, the WLT initiated its *Lawrence Meadow Project* in May, 2020, to explore options to permanently protect and to fully restore the environmental integrity of the site for the purpose of establishing a public nature preserve. Though needing extensive clean-up and restoration, the creation of a permanent nature preserve at LM fulfills a community goal that has significant ecological, historical, recreational, and environmental values for Waltham. Currently, the land trust is working in partnership with the UMass Amherst administration to develop a planning process to achieve this goal.

Lawrence Meadow is situated at a key nexus of 1300 acres of critical green space corridor in this highly urbanized region. It sits amidst a unique geography of public and private land holdings that support an array of entities dedicated to promoting the health

and well-being of the public. Within a one-mile radius of LM are several non-profit and private educational, agricultural, and recreational organizations, all of which have a significant focus on youth programs including: Girl Scouts of Eastern Massachusetts, Waltham Fields Community Farm, Bentley University, Gann Academy, James Fitzgerald Elementary School, and the City-owned Cornelia Warren Park. Within walking distance are McDevitt Middle School, Waltham High School, and Chapel-Hill Chauncy Hall School.

Many of the surrounding large land parcels were former private Estates, or Commonwealth-owned state institutions since decommissioned (Fernald School, Metropolitan State Hospital). To connect these largely open green spaces, the land trust designed and built the nearly completed 10-mile Western Greenway trail, an outstanding recreational feature for the public to enjoy. Concurrent with trail development have been efforts to identify and to preserve natural environments along the course of the linear beltway. To complete the final segments of the Western Greenway, the trail has been designed to pass along the dirt road from the entrance to LM continuing through the western border alongside the Girl Scout property through to Fernald. This route passes directly next to where the *Large Shaft* is planned to be sited. In addition, the Wayside Trail, a segment of the major state supported alternate transportation effort, the Mass Central Rail Trail, is under construction passing within a block of Lawrence Meadow. These proximate trails and routes afford the public access to healthy living opportunities within the local landscape.

The City of Waltham has a large Environmental Justice population. As development pressure threatens the City's unprotected green spaces, preserving Lawrence Meadow, a critical link in the Western Greenway trail, as a natural resource for public enjoyment is ever more important. Equally important, with full environmental restoration and permanent protection the unique attributes of this keystone property will buttress local climate resiliency. To accomplish this goal will require full remediation of toxic contamination, removal of invasive vegetation, and a professionally managed replanting of native trees, shrubs, wildflowers, and grasses that will result in a wildlife habitat, a carbon heat sink, and a water retention basin within the wetland marsh for the water runoff of contiguous streams and hills.

For the reasons above, the land trust requests that the MWTP conduct an extensive environmental review and analysis of the toxic waste dumps in close proximity to the proposed location of the *Large Shaft*. Supplemental testing may be warranted to protect our drinking water. Previous environmental testing (DEP RTN3-28049) identified two main areas of toxicity near the wetlands: the heavy metal contaminants from the 1970's era *Phoenix Program* that was dumped into and next to the wetland marsh; and the 1-2' thick debris field of lead and coal ash 50' to the west of the wetland. Given the long life expectancy of the Tunnel components, and the potential risks to the security of the water supply should a seismic or other event result in leakage and contamination to the shaft, it would be prudent for MWRA in conjunction with UMass and/or the Commonwealth, to fully clean up the toxins prior to project completion. The City of Waltham has contributed \$2 million dollars to the University's escrow account explicitly for this purpose. It seems reasonable that a clean-up of the local water resiliency program would be consistent with the greater mission of the MWRA.

We understand from our discussion with the Tunnel Team that the following issues of concern to the local community will be addressed during the final design planning phase and be implemented during actual on-site construction, to the greatest extent possible:

sound mitigation techniques will be implemented to minimize disruption to the adjacent neighborhood;

site construction will be scheduled during daytime hours with no night shifts;

advance planning protocols will result in scheduling the major LM construction period for a time ***other than the summer season*** in consideration of the special nature of the summer activities at both

the adjacent Girl Scout Camp, and Waltham Fields Community Farm (WFCF) that is directly across at 240 Beaver Street;

the MWRA will employ a traffic officer, if necessary, during construction periods when neighboring entities anticipate potential high use of their sites for public events with pedestrian and increased traffic flow;

overflow parking for special events will be permitted at LM for special events, such as, WFCF, Farm Day, and Spring plant sales, for example;

the MWRA will reach out to local community groups like the WLT, WFCF, and the Girl Scouts of Eastern Massachusetts, and maintain communication with local stakeholders as it continues to develop plans for the site;

the MWRA will develop a rodent control plan that will not use toxic Second Generation Anticoagulant Rodenticides (SCAR's) that poison our wildlife, including red-tailed hawks that are frequently seen flying and hunting in the area;

final clean-up of the permanent LM site will be done in an environmentally sensitive manner with native plantings as screening around the perimeter, and with related design and materials appropriate to the natural setting;

access to the LM property outside of the MWRA boundary will be permitted for land stewardship and trail building work on other areas of the site;

the MWRA will conduct an expanded environmental review and possible supplemental testing to fully assess the potential threat to the water supply related to the toxic dumps next to the shaft site; in addition, the MWRA will consider a full environmental clean-up of the contamination in conjunction with UMass Amherst, and the Commonwealth's DEP as discussed above.

In conclusion, we were pleased to hear Director Murtagh state that our environmental and public access goals for the Lawrence Meadow site are compatible with previous work the group has done with DCR, and the Arnold Arboretum, for example. We appreciate the opportunity for our local concerns to be taken into consideration and we look forward to ongoing communication with the Tunnel Program team as this project evolves.

Sincerely,



Sonja Wadman, Executive Director  
Waltham Land Trust



# Department of Environmental Protection

100 Cambridge Street 9th Floor Boston, MA 02114 • 617-292-5500

Maura T. Healey  
Governor

Kimberley Driscoll  
Lieutenant Governor

Rebecca L. Tepper  
Secretary

Bonnie Heiple  
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:** MWRA Metropolitan Water Tunnel Program  
EEA #16355 – Supplemental Draft Environmental Impact Report  
Comments from the Chapter 91 Waterways Regulation Program  
**Date:** September 25, 2023

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The Department of Environmental Protection Waterways Regulation Program (“WRP”) has reviewed the above-referenced Supplemental Draft Environmental Impact Report (SDEIR), EEA #16355 submitted by CDM Smith in association with VHB and Jacobs on behalf of the Massachusetts Water Resource Authority (MWRA) (the “Proponent”) for the Metropolitan Water Tunnel Program. The project proposes to build 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 proposed water supply tunnels and dewatering discharge locations will ‘intersect’ inland waterways in several locations. The WRP’s Chapter 91 comments and the Secretary’s Certificate on the Draft Environmental Impact Report (DEIR) requested that the next project submittal identify each waterway, the scope of work, anticipated impacts and consistency with Chapter 91 regulations. The SDEIR (Table 5-15) lists eight waterbodies the project would pass beneath in the alternatives presented, and further identifies waterbodies/water courses within which temporary or permanent rip-rap scour protection may be proposed below the high water mark. Fill and structures below the high water mark are within a geographic area subject to jurisdiction.

### **Regulatory Review**

The SDEIR states that the proposed water supply tunnels will cross beneath eight non-tidal waterbodies approximately 200-400 feet below ground surface, entirely embedded in the soil or bedrock. Up to three of these crossings would include temporary or permanent dewatering discharge pipes and stone rip-rap scour protection at or near the water's edge. The "Wetlands and Waterways Overview Maps" (Figures 5-3 through 5-6) include a legend item for Chapter 91 jurisdiction but no jurisdictional boundaries are identified. Regardless, the SDEIR correctly asserts that the underground tunnels would be exempt from Chapter 91 licensing pursuant to 310 CMR 9.05(3)(g)(3), provided the regulatory criteria are met.

The SDEIR asserts that the temporary and permanent dewatering discharge outfalls and associated stone riprap splash pads will be designed to extend into such waterbodies only to the extent necessary for bank stabilization while not reducing the space available for navigation. The SDEIR correctly asserts that this fill and/or structures would be exempt from licensing pursuant to 310 CMR 9.05(3)(g)4, provided the project complies with the regulatory prerequisites.

The Proponent acknowledges that further coordination with the WRP is needed during final design to determine if Chapter 91 authorization is required for any of the project components. The Department is available to confer with the MWRA's team upon request. Consultation early in the final design phase is encouraged. If you have any questions regarding the Department's comments, please contact Alice Doyle at [alice.doyle@mass.gov](mailto:alice.doyle@mass.gov).



THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

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September 22, 2023

Rebecca L. Tepper, Secretary  
Executive Office of Energy and Environmental Affairs  
Attention: Purvi Patel, MEPA Office  
EOEEA #16355  
100 Cambridge Street  
Boston, MA 02114

Dear Secretary Tepper:

The Water Resources Commission (WRC) staff has reviewed the Supplemental Draft Environmental Impact Report (SDEIR) 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 and SDEIR assert 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".

In our comment letter dated November 22, 2022, WRC requested 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 requested 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. The WRC comment letter also stated 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.

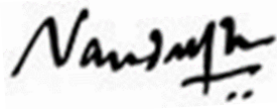


In the SDEIR, MWRA provided the following responses to our comments on the DEIR.

- The MWRA indicated that the intent of the Program 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. For example, when the North and South Tunnel are completed, the MWRA anticipates it will take segments of the existing City Tunnel system offline for maintenance and repair. During those periods, MWRA would be relying primarily on the North and South Tunnels to provide water to the metro-Boston area communities. Therefore, the new tunnels must be able to provide water supply capacities that are equivalent to the existing tunnel system.
- To respond to the request for existing tunnel capacities, MWRA indicated that they modeled the water distribution system with 1) existing tunnel system in operation only and 2) the proposed tunnels in operation only under the same flow conditions to see what each system conveys under the same operating conditions. For this comparison, MWRA used the 2060 High Day Demand of 283 million gallons per day (MGD), which is the design flow used when sizing the new tunnels and evaluating ability of the water system to meet required hydraulic conditions.
- The flows provided below are the maximum through the tunnel in the modeled condition. The City Tunnel supplies the City Tunnel Extension and the Dorchester Tunnel and acts as the limiting factor in supply. The maximum flows through the existing tunnels only when modeled in operation are as follows:
  - City Tunnel = approximately 210 MGD
  - City Tunnel Extension = approximately 90 MGD
  - Dorchester Tunnel = approximately 95 MGDThe modeled maximum flows with the new tunnels only in operation are as follows:
  - North Tunnel = approximately 80 MGD
  - South Tunnel = approximately 125 MGD
- The volume of water conveyed through the new deep rock tunnels, as well as the existing tunnels, is limited by the existing aqueducts and tunnels upstream (the Hultman Aqueduct and MetroWest Water Supply Tunnel), which are limited by the Norumbega Reservoir. The Norumbega Reservoir sets the hydraulic gradeline for the metropolitan system and the new tunnels, thereby regulating flows downstream. Additionally, at the downstream end of the tunnels, the surface piping restricts how much water can be conveyed to communities.
- All proposed construction, including tunnel boring, launching, receiving, large connection, and connection shaft site construction, is proposed to occur only within the Charles River Basin. No dewatering activities will cross major basin boundaries.

Based on the information provided by the MWRA, stated above, the combined capacity of the proposed North and South Tunnels in the modeled condition is 205 MGD, which is slightly less than the modeled capacity of the City Tunnel at 210 MGD. Therefore, the Program is not subject to the ITA and will not require approval from the WRC, provided that the combined transfer through both the proposed North and South Tunnels and the City Tunnel do not exceed the current hydraulic capacity of the City Tunnel. MWRA already provides an annual report detailing the volumes transferred through the Hultman and Sudbury Aqueducts. In the future, this annual report will also include the City Tunnel and North and South Tunnel volumes (once operational) to ensure that the Program does not result in an increase in capacity.

Please contact Vanessa Curran, staff to the WRC, at [Vanessa.Curran@mass.gov](mailto:Vanessa.Curran@mass.gov) if you have any questions. Thank you for the opportunity to comment.

A handwritten signature in black ink, appearing to read "Vandana Rao". The signature is written in a cursive style with a horizontal line under the name.

Vandana Rao, PhD  
Executive Director, MA Water Resources Commission

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



September 26, 2023

Secretary Rebecca L. Tepper  
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 SDEIR

Dear Secretary Tepper:

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

As described in the SDEIR, the Proponent will construct approximately 14 miles of new deep rock water supply tunnels that will provide redundancy for MWRA’s existing Metropolitan Tunnel System. Multiple DCR properties will be impacted by the Project, requiring the disposition of fee simple and permanent easement interests in the land, which will trigger Article 97 of the Amendments to the Massachusetts Constitution (“Article 97”). Based on a consult meeting with the Proponent, it appears that up to five acres of DCR property will also be needed as staging locations for construction over several years, requiring temporary easements and DCR Construction and Access Permits (“CAP”), which may need to be re-issued given the estimated duration of the Project.

**Article 97**

State conservation and recreation property is protected by Article 97. Transfers of ownership or interests in DCR property must meet the requirements set forth in the Public Lands Preservation Act (M.G.L. c. 3, § 5A; the “PLPA”) and the Executive Office of Energy and Environmental Affairs’ Article 97 Land Disposition Policy (the “Policy”) to ensure no net loss of lands protected under Article 97. Selling, transferring, or otherwise disposing of any right or interest in DCR property may occur only 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. Such transfers also require legislative authorization by the General Court through a two-thirds roll call vote.

The SDEIR describes two sites that will require DCR to dispose of land that is protected under Article 97: the American Legion Receiving Shaft Site within the Morton Street property (approximately 3.5 acres, fee simple and permanent easement interests) and the Southern Spine Mains Connection Shaft Site within the Southwest Corridor Park, including DCR’s adjacent Arborway (Route 203; approximately 0.2 acres fee simple interest and additional permanent easement interest). The SDEIR plans also show locations where

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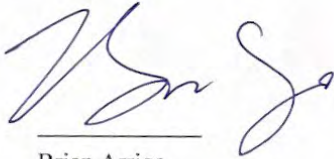
Maura T. Healey      Rebecca L. Tepper, Secretary  
Governor              Executive Office of Energy & Environmental Affairs  
  
Kimberley Driscoll      Brian Arigo, Commissioner  
Lt. Governor              Department of Conservation & Recreation

the preliminary tunnel alignment is located beneath these and several other DCR properties, including the Leo J. Martin Memorial Golf Course in Weston and Newton, and portions of the Charles River Reservation in Weston. The SDEIR does not provide an estimate of the total tunnel alignment area on these properties; however, in a consult meeting, the Proponent indicated that a permanent easement approximately 30 feet wide would be required, which would also trigger Article 97.

As noted above, the Proponent has engaged with DCR regarding the Project design and compliance with the PLPA and the Policy. DCR will continue to work with MWRA to ensure that there are no feasible alternatives to the fee simple and permanent easement interests identified within the limit of work for the Project and, should no alternatives exist, that the minimum amount of interest in DCR land is being disposed of for the purpose of the Project. The Proponent will be responsible for meeting the obligations of the PLPA, including public notification, an alternatives analysis, the identification and dedication of replacement land to Article 97 purposes, an appraisal, requests for the Secretary to waive or modify the replacement land requirement or make findings relative to funding in lieu of replacement land, if applicable, and Article 97 legislation. Construction and Access Permits for this project, required for work activities on DCR property, will not be issued until MEPA review is complete and Article 97 legislation has been enacted.

Thank you for the opportunity to comment on the SDEIR. Please contact the Director of Construction & Access Permitting, Sean Casey at [sean.casey@mass.gov](mailto:sean.casey@mass.gov) regarding temporary easements and DCR Construction and Access Permits. Questions related to Article 97 can be directed to Land Protection Specialist Loni Fournier at [Loni.M.Fournier@mass.gov](mailto:Loni.M.Fournier@mass.gov).

Sincerely,



Brian Arrigo  
Commissioner

cc: Loni Fournier, Sean Casey, Priscilla Geigis, Patrice Kish, Peter Mulcahy (DCR)



# The Commonwealth of Massachusetts

## Division of Marine Fisheries

(617) 626-1520 | [www.mass.gov/marinefisheries](http://www.mass.gov/marinefisheries)



MAURA T. HEALEY  
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Lt. Governor

REBECCA L. TEPPER  
Secretary

THOMAS K. O'SHEA  
Commissioner

DANIEL J. MCKIERNAN  
Director

September 27, 2023

Secretary Rebecca L. Tepper  
Executive Office of Energy and Environmental Affairs (EEA)  
Attn: MEPA Office  
Purvi Patel, EEA No. 16355  
100 Cambridge Street, Suite 900  
Boston, MA 02114

Dear Secretary Tepper:

The Division of Marine Fisheries (MA DMF) has reviewed the Supplemental Draft Environmental Impact Report (SDEIR) for the proposed Metropolitan Water Tunnel Program (the Program) submitted on behalf of the Massachusetts Water Resources Authority (MWRA). MWRA is proposing to construct two new deep rock water supply tunnels (north and south alignments totaling  $\pm 14.5$  miles) that would provide redundancy for MWRA's existing Metropolitan Tunnel System. Construction would consist of two tunnels originating at the westernmost portion of the Metropolitan Tunnel System, with one tunnel extending north towards Waltham and the other extending south towards Boston/Dorchester. Each tunnel consists of concrete-lined deep rock tunnel sections linked to the surface through steel and concrete vertical shafts. 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.

The tunnel construction of the Program would use rock tunnel boring machines (TBMs) and in some cases drill and blast methods. The tunnels would range 200'-400' below the surface and the tunnel diameter would be approximately 10-12'. A portion of the tunnel would be installed under the Stony Brook Dam along the Charles River. The Program also includes the construction of launching, receiving, and connecting shafts. Launching and receiving sites are used for staging, shaft excavation, excavated material removal, and construction dewatering. During construction at the launching and receiving sites, construction water would be generated, primarily from groundwater inflows into the tunnel excavation. One of the primary dewatering discharge sites (Tandem Trailer) is located near the Interstate I-90/I-95 Interchange (I-90/I-95). Groundwater withdrawal volumes associated with dewatering are estimated to vary between less than 100,000 GPD to up to an estimated 8 MGD. The groundwater would be treated at a temporary water treatment facility located within the staging area and discharged to Seaverns Brook which flows into the Charles River.

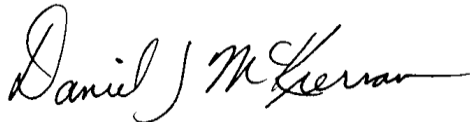
The Charles River supports diadromous fish including American shad (*Alosa sapidissima*), rainbow smelt (*Osmerus mordax*), white perch (*Morone americana*), Atlantic tomcod (*Microgadus tomcod*), and American eel (*Anguilla rostrata*). Additionally, the area between the Moody Street Dam and I-90/I-95 provides important spawning habitat for River Herring (*Alosa spp.*) [1].

MA DMF offers the following comments for your consideration:

- MA DMF finds that the proposed dewatering work, which would include changes in temperature, increased turbidity, and changes in water velocity and volume, presents a potential risk to river herring spawning and migration in the Charles River. MA DMF may recommend a time-of-year restriction of no in-water, silt-producing work from **April 15 to July 15** to minimize this impact [2].
- The FEIR should include additional information about the temporary water treatment facility proposed at the Tandem Trailer shaft site.
- The FEIR should include additional information about noise and vibration impacts caused by tunneling. One tunnel would pass underneath the Stony Brook Dam which is adjacent to the Charles River. Noise and vibration impact from tunneling may adversely affect fish migration and spawning.

Questions regarding this review may be directed to Kate Frew in our Gloucester office at [Kate.Frew@mass.gov](mailto:Kate.Frew@mass.gov).

Sincerely,



Daniel J. McKiernan  
Director

cc:

C. Daly, Waltham Conservation Commission  
K. Shaw, NMFS  
M. Marold, DFW  
H. Davis, DEP  
R. Croy, E. Reiner, EPA  
C. Rizzi, MWRA  
B. Gahagan, B. Chase, M. Rousseau, DMF

#### References

1. MA DMF. MassGIS Data: Diadromous Fish. <https://www.mass.gov/info-details/massgis-data-diadromous-fish>. Accessed September 8, 2023. 2023.
2. Evans NT, Ford KH, Chase BC, Sheppard J. Recommended Time of Year Restrictions (TOYs) for Coastal Alteration Projects to Protect Marine Fisheries Resources in Massachusetts. Massachusetts Division of Marine Fisheries Technical Report, TR-47. <https://www.mass.gov/doc/time-of-year-recommendations-tr-47/download>. Accessed September 8, 2023. 2011.

DM/KF/sd



## Patel, Purvi (EEA)

---

**From:** Marold, Misty-Anne (FWE)  
**Sent:** Friday, September 29, 2023 3:45 PM  
**To:** Patel, Purvi (EEA)  
**Cc:** Cheeseman, Melany (FWE)  
**Subject:** EEA# 16355 MetroWater Tunnel

Hi Purvi,

I'm taking over this project from a prior reviewer and I was unaware of the deadline for comments. If there is still time, could you add the following to the Certificate for the DEIR?

*"The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") reviewed the Draft Environment Impact Report and would like to offer the following comments relative to the Massachusetts Endangered Species Act (MESA, MGL c131A) and its implementing regulations (321 CMR 10.00). Based on the DEIR, a portion of the project under all alternatives is proposed within Priority or Estimated Habitat. Work within or immediately adjacent to existing paved roads is likely exempt from MESA review pursuant to 321 CMR 10.14 under exemptions 6, 7, 8, 10, 12. However, project components and work adjacent to or within unpaved roads (e.g., gravel, dirt, sand), or beyond 10 feet from a paved road are unlikely to qualify as exempt from review. Therefore, some aspects of the project may require review a direct filing with the Division for compliance with the MESA. As project elements within Priority Habitat move forward, we recommend that the Proponents are in direct contact with the Division to address state-listed species concerns, as avoidance and minimization of impacts to rare species and their habitats is likely to expedite endangered species regulatory review. If you have any questions, please contact Misty-Anne Marold, Senior Endangered Species Review Biologist, at (508) 389-6356 or misty-anne.marold@mass.gov. We appreciate the opportunity to comment on this project."*

Thank you, Misty-Anne

Misty-Anne R. Marold, Senior Endangered Species Review Biologist

Massachusetts Division of Fisheries & Wildlife  
Natural Heritage Endangered Species Program  
1 North Drive, Rabbit Hill Road  
Westborough, MA 01581  
508-389-6356

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**From:** Davis, Shannon (FWE) <shannon.davis@mass.gov>  
**Sent:** Friday, September 29, 2023 2:40 PM  
**To:** Patel, Purvi (EEA) <purvi.patel@mass.gov>  
**Cc:** Frew, Katelyn (FWE) <Kate.Frew@mass.gov>; Kaitlyn Shaw <kaitlyn.shaw@noaa.gov>; Marold, Misty-Anne (FWE) <misty-anne.marold@mass.gov>; Davis, Heidi (DEP) <heidi.davis@mass.gov>; Croy.Rachel@epa.gov; Reiner, Edward <reiner.ed@epa.gov>; colleen.rizzi@mwra.com; cdaly@city.waltham.ma.us  
**Subject:** EEA# 16355 MetroWater Tunnel



Hi Purvi,

Please see the attached Marine Fisheries comments regarding EEA# 16355 MetroWater Tunnel. For additional comments or questions regarding this review, please contact Kate Frew at [kate.frew@mass.gov](mailto:kate.frew@mass.gov).

Thank you

Shannon

***Shannon Davis***

*Commonwealth of Massachusetts*

*Division of Marine Fisheries*

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