

For Office Use Only
Executive Office of Environmental Affairs

EOEA No.: **13086**
 MEPA Analyst: **ANDREA DAMES**
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ENF Environmental Notification Form

The information requested on this form must be completed to begin MEPA Review in accordance with the provisions of the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: Shaft 7 to WASM3 Connecting Mains Project		
Street: Various, See USGS Locus Map, located in Appendix C		
Municipality: Arlington, Belmont, Watertown, Boston	Watershed: Mystic River, Charles River	
Universal Transverse Mercator Coordinates:	Latitude: 42.409388 to 42.359133 Longitude: 71.165326 to 71.170383	
Estimated commencement date: Sept 2004	Estimated completion date: October 2007	
Approximate cost: CP-1: \$23,000,000	Status of project design: CP-1: 60%	
Construction Package 2 (CP-2): \$7,400,000	Construction Package 2: 10% complete	
Construction Package 3 (CP-3): \$3,000,000	Construction Package 3: 30% complete	
Proponent: Massachusetts Water Resources Authority		
Street: 100 First Avenue, Charlestown Navy Yard		
Municipality: Boston	State: MA	Zip Code: 02129
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Jason Gillespie – Senior Environmental Scientist		
Firm/Agency: Weston & Sampson Engineers	Street: 5 Centennial Drive	
Municipality: Peabody	State: MA	Zip Code: 01960
Phone: 978-532-1900	Fax: 978-977-0100	E-mail: gillespj@wseinc.com

- Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
 Yes No
- Has this project been filed with MEPA before?
 Yes (EOEA No. _____) No
- Has any project on this site been filed with MEPA before?
 Yes (EOEA No. _____) No
- Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:
- a Single EIR? (see 301 CMR 11.06(8)) Yes No
 - a Special Review Procedure? (see 301 CMR 11.09) Yes No
 - a Waiver of mandatory EIR? (see 301 CMR 11.11) Yes No
 - a Phase I Waiver? (see 301 CMR 11.11) Yes No

Identify any financial assistance or land transfer from an agency of the Commonwealth, including the agency name and the amount of funding or land area (in acres): **NONE**

Are you requesting coordinated review with any other federal, state, regional, or local agency?
 Yes (Specify _____) No

List Local or Federal Permits and Approvals:

Federal: Army Corp of Engineers (ACOE) Section 10/404 of the Clean Water Act (33 U.S.C. 1344), EPA National Pollutant Discharge Elimination System (NPDES) Permits for Storm Water Discharges from Construction Sites, NPDES Permit for Construction Dewatering.

Local: Notice of Intent, as required by the Wetlands Protection Act, Street opening permits.

Which ENF or EIR review threshold(s) does the project meet or exceed (see 301 CMR 11.03):

- | | | |
|--|---------------------------------------|---|
| <input checked="" type="checkbox"/> Land | <input type="checkbox"/> Rare Species | <input checked="" type="checkbox"/> Wetlands, Waterways, & Tidelands |
| <input type="checkbox"/> Water | <input type="checkbox"/> Wastewater | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Air | <input type="checkbox"/> Solid & Hazardous Waste |
| <input type="checkbox"/> ACEC | <input type="checkbox"/> Regulations | <input checked="" type="checkbox"/> Historical & Archaeological Resources |

Summary of Project Size & Environmental Impacts	Exist.	Change	Total	State Permits & Approvals
LAND				<input checked="" type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input checked="" type="checkbox"/> Chapter 91 License <input checked="" type="checkbox"/> 401 Water Quality Certification <input checked="" type="checkbox"/> MHD or DCR Access Permit <input type="checkbox"/> Water Management Act Permit <input type="checkbox"/> New Source Approval <input type="checkbox"/> DEP or MWRA Sewer Connection/ Extension Permit <input type="checkbox"/> Other Permits (including Legislative Approvals) – Specify: <input checked="" type="checkbox"/> Chapter 97 <input checked="" type="checkbox"/> Massachusetts Historic Commission
Total site acreage	~13			
New acres of land altered		~3 (temp. impact)		
Acres of impervious area	~10	0	~10	
Square feet of new bordering vegetated wetlands alteration		6,400 sq. ft. CP-2 *		
Square feet of new other wetland alteration		0		
Acres of new non-water dependent use of tidelands or waterways		1.06 acres CP-2 *		
STRUCTURES				
Gross square footage	N/A	N/A	N/A	
Number of housing units	N/A	N/A	N/A	
Maximum height (ft)	N/A	N/A	N/A	
TRANSPORTATION				
Vehicle trips per day	N/A	N/A	N/A	
Parking spaces	N/A	N/A	N/A	
WATER/WASTEWATER				
Gallons/day (GPD) of water use	0	0	0	
GPD water withdrawal	0	0	0	
GPD wastewater generation/ treat.	0	0	0	
Length of water/sewer mains (miles)	Approx. 3 (CP-3)	Approx. 4 (CP-1 & CP-2)	Approx. 7	

* All work within bordering vegetated wetlands will occur on the banks of the Charles River. All work will be temporary in nature and, with the exception of valve chambers, the site will be returned to existing conditions upon completion of work.

CONSERVATION LAND: Will the project involve the conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97?

- Yes (Specify Easement on DCR Lands, Easement in Watertown's Arsenal Park) No

NOTE: All references to the "Department of Conservation and Recreation", or "DCR", refer to properties formerly under the care and control of the Metropolitan District Commission (MDC).

Will it involve the release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction?

- Yes (Specify _____) No

RARE SPECIES: Does the project site include Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities?

- Yes (Specify _____) No

HISTORICAL /ARCHAEOLOGICAL RESOURCES: Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

Yes (Specify: **State-Registered, Nationally Listed archaeological site within the boundaries of the Watertown Arsenal Park**) No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?

Yes (Specify _____) No

AREAS OF CRITICAL ENVIRONMENTAL CONCERN: Is the project in or adjacent to an Area of Critical Environmental Concern?

Yes (Specify _____) No

PROJECT DESCRIPTION: The project description should include (a) a description of the project site, (b) a description of both on-site and off-site alternatives and the impacts associated with each alternative, and (c) potential on-site and off-site mitigation measures for each alternative (*You may attach one additional page, if necessary.*)

The Massachusetts Water Resources Authority (MWRA) is planning to construct a new 48-inch diameter water pipeline connecting the Weston Aqueduct Supply Main 3 (WASM3) and WASM 4 in the Northern High Service area and clean and line portions of an existing pipeline within the towns of Watertown, Belmont, and Arlington. The project is part of the MWRA's Integrated Water Supply Improvement Program to improve the reliability and quality of the water supply, and to meet the stringent requirements of the federal Safe Drinking Water Act. This ten-year program includes \$1.7 billion in expenditures in five critical areas:

- enhanced watershed protection measures
- water treatment improvements
- transmission system improvements
- covered distribution storage
- pipeline rehabilitation

WASM3 is a critical component of the MWRA's High Service water system serving nine communities (248,000 people) and representing about 12 percent of the total population served by the MWRA. The existing steel pipeline is over 70 years old and has a high potential for susceptibility to corrosion, therefore requiring rehabilitation. A break almost anywhere on this pipeline would result in a severe disruption of water service.

Implementation of the project will allow for:

- critical redundancy and operations flexibility for the MWRA water system between the High and Intermediate High Service Areas
- improved reliability for WASM3 and WASM4
- future rehabilitation of WASM3
- repair of sections of pipeline that are prone to leaks and may be susceptible to failure
- prevention of further deterioration of the existing pipelines
- improved water quality and hydraulic capacity of the pipelines

The project area is located predominantly in Watertown and Belmont, with some pipeline rehabilitation in Arlington, and a small portion of construction work in Boston where the new 48-inch diameter pipeline will connect to WASM4. The project will be constructed under three separate construction packages (CPs) over four years, beginning in September 2004 with CP-1. CP-2 is expected to start in 2005 and finish in 2006, and CP-3 will be constructed over one year in 2007. Details for the three construction packages (CPs) are as follows:

CP-1 – Construction of 15,500 feet of new 48-inch pipeline

CP-1 will primarily traverse public streets in Belmont and Watertown. The new pipeline will begin on Alexander Street at Pleasant Street in Belmont (connecting to WASM3), extend south in Alexander Street, across the AMTRAK/MBTA railroad and through the Belmont High School athletic fields, along Oak and School Streets, then along Winsor and School Streets in Watertown. CP-1 will end at the intersection of School Street and the abandoned railroad easement in Watertown, adjacent to Arsenal

Street. The new pipeline will be constructed within the streets using typical trench construction methods, with repair and restoration of paved roads, and sidewalks and curbs that are disturbed from the construction. CP-1 will also include emergency interconnections with the Belmont, Watertown, and Cambridge water systems, and limited relocation of existing utilities where they conflict with the new construction. Special crossings include the Clay Pit Pond culvert in Belmont, the Belmont High School athletic fields, and the AMTRAK/MBTA railroad.

CP-2 – Construction of 4,100 feet of new 48-inch pipeline and Charles River Crossing

From the intersection of the railroad easement and School Street, in Watertown, CP-2 will extend the pipeline easterly along the railroad easement approximately 1,200 feet, then south across Arsenal Street, through Arsenal Park to Charles River Road, across the Charles River and Soldiers Field Road, to a connection to WASM4 east of the DCR Pool Facility on Nonantum Road in Boston. The MWRA has conceptually studied ten alternatives for crossing the Charles River at four different locations. Please refer to the table below and to the Alternatives Analysis – Appendix E.

Early in the studies several of these alternatives were dismissed from further consideration due to significant impacts or the technical difficulties involved with construction. The remaining alternatives warranted additional investigations and discussion with regulatory agencies. Of the alternatives, one is considered to be the preferred alternative, Alternative 1A. This alternative, located approximately 150 feet east of the North Beacon Street Bridge, would construct the pipe crossing by typical cut-and-cover excavation. Potential construction impacts for this alternative, which are currently under investigation, are traffic impacts on Nonantum Road, excavation of potentially contaminated river sediments, restriction of river flows, potential Native American site adjacent to the Charles River, potentially contaminated soils within the old Watertown Arsenal property, and a pipe crossing of Arsenal Street.

Charles River Crossing Alternatives	Status
Alternative 1A – Cut-and-Cover at North Beacon Street Bridge	Preferred Alternative
Alternative 1B – North Beacon Street Bridge - add pipe bridge onto existing structure	Dismissed
Alternative 1C – Pipe Bridge adjacent to the North Beacon Street Bridge	Dismissed
Alternative 1D – North Beacon Street Bridge – Hard Rock Microtunnel	Dismissed
Alternative 1E – Horizontal Directional Drill west of North Beacon Street Bridge	Dismissed
Alternative 2A – Microtunnel in soils - Palmer Street to the DCR Rink	Dismissed
Alternative 2B – Cut-and-Cover – Palmer Street to the DCR Rink	Dismissed
Alternative 3A – Three-Span Pedestrian/Pipe Bridge - Farren Playground	Dismissed
Alternative 3B – Cut-and-Cover – Farren Playground	Dismissed
Alternative 3C – Single Span Pedestrian/Pipe Bridge - Farren Playground	Dismissed

CP-3 – Rehabilitation of 16,400 feet of 20-inch pipeline

CP-3 comprises the rehabilitation of approximately 16,400 feet of existing 20-inch cast iron pipeline (Sections 59 and 60) serving the towns of Watertown, Belmont, and Arlington. Section 59, constructed in 1935, connects to WASM3, and extends North from the Belmont Pump Station to the Arlington Covered Reservoir along Clifton and Prospect Streets, and Park Avenue. Section 59 also extends South from the Belmont Pump Station to the Watertown town line, via Leonard and Common Streets in Belmont. The pipe supplies Meters 110 and 111 to the town of Belmont and Meter 2 to the town of Watertown. Section 60, constructed in 1938, extends from the Arlington Covered Reservoir along Fisher Road, and Hillcrest and Spring Streets to the Arlington distribution system at Meter 121.

The pipe rehabilitation will be comprised of cleaning and cement-mortar lining, which is the least intrusive and most economical method of rehabilitation, to prevent further internal pipe surface corrosion and improve water quality and hydraulic capacity. Pipeline sections that have severe corrosion will be replaced with new cement-lined ductile iron pipe. Pipeline appurtenances (e.g. meters and valves) will be replaced as necessary. In general, most of the CP-3 work will use pit excavations, located approximately 500 to 1000 feet apart along the pipeline, with a typical pit about 8 to 10 feet wide, 12 to 15 feet long, and up to 10 feet deep.

A Routing Study (1996) and Preliminary Design (2001) has been conducted by the MWRA to focus on minimizing construction and long-term impacts to public streets, traffic, sensitive receptors, existing land use, waterways and wetland resources, archaeological and historical resources, and businesses and residents of Boston, Watertown, and Belmont.

All impacts associated with implementation of this project are temporary and during construction only. Once the project is completed, the site will be restored to pre-existing conditions.