Commonwealth of Massachusetts
Executive Office of Environmental Affairs ■ MEPA Office

ENF Environmental Notification Form

For Office Use Only
Executive Office of Environmental Affairs
EOEA No.: 13236
MEPA Analyst Anne Canaday
Phone: 617-626-1035

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: ***Chicopee Valley Aqueduct Pipeline Redundancy Project***		
Street: *See Figure 1, Appendix B for site locations*		
Municipality: *Ludlow, Belchertown, and Ware*	Watershed: *Chicopee*	
Universal Tranverse Mercator Coordinates: *See Appendix A*	Latitude: *See Appendix A* Longitude: *See Appendix A*	
Estimated commencement date: *Fall 2004*	Estimated completion date: *Fall 2006*	
Approximate cost: $6.6 million	Status of project design: *90* %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: *Cynthia A. Parks, Operations Division (Cynthia.parks@mwra.state.ma.us)*		
Firm/Agency: *MWRA*	Street: *100 First Avenue*	
Municipality: *Boston*	State: *MA*	Zip Code: *02129*
Phone: *(617)788-4318*	Fax: *(617)788-4892*	E-mail: *see above*

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 301CMR 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):

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

List Local or Federal Permits and Approvals:

See below

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

- ☐ Land
- ☐ Water
- ☐ Energy
- ☐ ACEC
- ☐ Rare Species
- ☐ Wastewater
- ☐ Air
- ☐ Regulations
- ☒ Wetlands, Waterways, & Tidelands
- ☐ Transportation
- ☐ Solid & Hazardous Waste
- ☐ Historical & Archaeological Resources

Summary of Project Size & Environmental Impacts	Existing	Change	Total
LAND			
Total site acreage	7.8		
New acres of land altered		0	
Acres of impervious area	1.5	0	1.5
Square feet of new bordering vegetated wetlands alteration		1.28 1.89 (1)	
Square feet of new other wetland alteration		0	
Acres of new non-water dependent use of tidelands or waterways		0	
STRUCTURES			
Gross square footage	0	0	0
Number of housing units	N/A	N/A	N/A
Maximum height (in feet)	N/A	N/A	N/A
TRANSPORTATION			
Vehicle trips per day	<1(2)	1(2)	1(2)
Parking spaces	0	0	0
WATER/WASTEWATER			
Gallons/day (GPD) of water use	N/A(3)	N/A	
GPD water withdrawal	N/A(3)	N/A	
GPD wastewater generation/ treatment	N/A(3)	N/A	
Length of water/sewer mains (in miles)	Approx 15(4)	2.55(4)	17.55 total pipe length

State Permits & Approvals

- ☒ Order of Conditions
- ☐ Superseding Order of Conditions
- ☐ Chapter 91 License
- ☒ 401 Water Quality Certification
- ☐ MHD or MDC Access Permit
- ☐ Water Management Act Permit
- ☐ New Source Approval
- ☐ DEP or MWRA Sewer Connection/ Extension Permit
- ☒ Other Permits (*including Legislative Approvals*) – Specify:

Army Corps of Engineers

DEP - Distribution System Modifications

Ludlow Board of Public Works – Road Opening Permit

Mass Dept of Public Safety – Building Permit

MWRA – 8M Permit

NPDES Stormwater

(1)Bordering vegetated wetland alteration will be temporary, as existing wetlands will be restored. Using Section 404 & 401 calculation methodologies, 1.28 acres of wetlands will be impacted, while 1.89 acres will be impacted using WPA calculation methodology.

(2)Routine maintenance is performed on existing CVA and appurtenances, but daily inspection is not performed. It is anticipated that a daily vehicle trip will be made to the proposed Route 21 Valve Chamber for routine inspection and operation.

(3)Project will provide parallel water main to existing Chicopee Valley Aqueduct in certain areas and will not involve an increase in water withdrawal or supply to user communities.

(4)Existing CVA is approximately 15 miles long. Parallel pipelines will be provided along 2.55 miles of the CVA, with approximately 1.65 miles located within an existing cross-country property corridor and the remainder along existing paved roads/shoulders within the property corridor.

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_____) ☒No

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

The proposed redundant pipelines are not located within any Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife and Certified Vernal Pools. However, the proposed work at certain appurtenances will occur within Priority Habitats for State Protected Rare Species and Estimated Habitats for Rare Wildlife.

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_____) ☒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 Chicopee Valley Aqueduct (CVA) Pipeline Redundancy Project will provide redundancy and improve reliability of the existing CVA water transmission system. This ENF addresses the construction of parallel pipelines to provide redundancy for the two user communities of South Hadley Fire District (SHFD) No. 1 and Chicopee, as well as maintenance and improvements to existing appurtenances along the entire length of the CVA. A third redundant pipeline may also be constructed for Wilbraham, the third user community. For the purposes of this ENF, all three redundant pipelines are addressed.

The CVA is a large diameter (48-inch and 36-inch) water transmission main that supplies drinking water from the Quabbin Reservoir to Wilbraham, SHFD No. 1, and Chicopee, MA. The CVA is approximately 15 miles long and begins in Ware at the Quabbin Reservoir Winsor Dam and the Quabbin Power Station. From the dam, it travels south adjacent to the Swift River to the Ware Disinfection and Flow Control facility on Route 9. From the Ware facility, it continues south along the east side of the Swift River to the standby Bondsville Throttling Station in Ware. From the Bondsville Throttling Station, the pipeline crosses the Swift River and follows a westerly route through Belchertown and Ludlow to the Route 21 Pressure Reducing and Pressure Relief Facility (also known as the Route 21 Valve Chamber), continuing to the Nash Hill Covered Storage Tanks in Ludlow. From the Nash Hill Tanks, water is delivered to Chicopee via a 36-inch diameter pipeline. Upstream of Nash Hill, a 16-inch diameter draw-off provides water to Wilbraham, and another 16-inch draw-off provides water to SHFD No. 1. A general location map of the CVA is shown on Figure 1 in Appendix B.

The CVA is a reinforced concrete, embedded cylinder pipe that was constructed in 1949 at a depth of approximately five feet, and has a design hydraulic capacity of 23 mgd. The CVA was constructed within a 50-foot corridor owned by the Commonwealth and now managed by MWRA for water supply purposes; some of this corridor traverses wetland resource areas. When the CVA was constructed, the pipeline was off-set from the center of the property corridor so that a second parallel pipeline could be constructed within the corridor sometime in the future. Appurtenances providing for the second barrel were part of the original design, but the CVA was constructed as a single barrel pipeline, and as a result, redundant supply is not available to the three user communities. If a break or failure were to occur in the CVA, it is possible that one or all of the user communities would be without water for an extended period of time. Many routine repairs and maintenance activities for the system also cannot be performed without disrupting the supply to the receiving communities. Certain modifications, such as pipeline redundancy, meter replacement, and pressure reducing and relief facilities, are necessary to ensure uninterrupted supply to the downstream CVA communities.

The CVA was originally designed such that the Bondsville Throttling Station would provide primary flow control for the CVA, and the Route 21 Valve Chamber would provide secondary flow control. In the 1960s or early 1970s, the flow control valves were removed from the Route 21 Valve Chamber and therefore the Route 21 Valve Chamber no longer has flow control capabilities. In 2000, primary flow control of the CVA was transferred to the Ware Disinfection and Flow Control Facility, and the Bondsville facility was placed on standby service. With the elimination of the Route 21 Valve Chamber flow regulating valves, sufficient operational flexibility does not exist to properly operate the CVA under all flow conditions. At low and average day demand conditions, throttling of the Ware facility flow control valves results in the suppression of the hydraulic grade line (HGL) of the CVA such that certain high topographical locations of the CVA exceed the hydraulic grade line elevation of the CVA. This situation results in vacuum conditions within the pipe, possibly resulting in damage to the pipe. Pipeline infiltration is also a concern. MADEP guidelines require 20 psi positive pressure on distribution system piping to reduce these risks.

Redundant pipelines to serve Chicopee and SHFD No. 1 will be constructed to provide CVA water supply redundancy. A redundant pipeline for Wilbraham may also be constructed. Each proposed redundant pipeline will allow the respective community to be served from either the Quabbin Reservoir or the Nash Hill Covered Storage Tanks in the event of a CVA pipeline break at any location along the CVA. Pressure control capability will also be restored to the Route 21 Valve Chamber location to provide operational control of the CVA. This pressure control facility will increase the HGL of the CVA so that sufficient pipeline pressure can be maintained under almost all flow conditions. The project will also include the construction of fire tanker hook-ups on the existing CVA in each of the three host communities of Ware, Belchertown, and Ludlow to improve fire fighting capabilities and to provide water in an emergency. In addition, interconnections will be provided between the CVA and the Springfield Water & Sewer Commission System at two locations in Ludlow to provide water for emergency situations.

A report was prepared for the MWRA entitled "Final Alternative Recommendations Technical Memorandum" dated January 4, 2002 in which various alternatives for providing redundancy for the CVA were evaluated. Alternatives included providing parallel redundant pipelines, installing redundant pipelines in alternate locations, and installing isolation valves in the CVA to allow certain CVA segments to be isolated and supplied from the Nash Hill Covered Storage Tanks. The Technical Memorandum recommended that parallel pipelines be constructed to provide redundancy for the three user communities. A copy of that report, on CD, is included in Appendix G.

A CVA Working Group was formed at the onset of the project to allow interested parties to participate in the decision making process at an early stage. The CVA Working Group is comprised of representatives from the three user communities, the three host communities of Ludlow, Belchertown and Ware, and other interested participants. The CVA Working Group meets periodically to discuss concerns raised by the communities and issues relevant to the project.

The following table summarizes the recommended maintenance activities and improvements to the CVA system included in the scope of the project.

Municipality Served / Location	Recommendation
SHFD No. 1	Construct 3,100 lf of 16-inch redundant pipeline in the Commonwealth's 50-ft wide property corridor in Ludlow between Nash Hill Covered Storage Tanks & SHFD No. 1 take-off on Rood St.
Chicopee	Construct 8,100 lf of 30-inch redundant pipeline between Nash Hill Covered Storage Tanks & the Chicopee meter at the Ludlow/Chicopee bound in the Commonwealth's 50-ft wide property corridor in Ludlow
Wilbraham	Likely construct 2,400 lf of 20-inch redundant pipeline along Route 21 in Ludlow between Wilbraham take-off on Miller Street & Rt. 21 Valve Chamber
Route 21 Valve Chamber	Modify existing structure for new pressure control facility and Wilbraham meter
Bondsville Facility	Remove existing throttling valves and replace with spool pipe and reducer Modify structure and valve operators to provide for operation of mainline isolation valves from ground level
SHFD No. 1 Facility	Replace meter and isolation valves within SHFD No. 1 Disinfection and Corrosion Control Facility
Chicopee meter	Provide new Chicopee meter on south side of Holyoke Street
Existing Air Relief Valves	Maintain air relief valves & upgrade structures throughout 15-mile length of aqueduct
Host Community Fire Tanker Hookups	Modify existing side connection valves to provide hookups for emergency fire fighting capabilities for the host communities of Ware, Belchertown, and Ludlow
Interconnection with Springfield Water System	Provide interconnections between CVA and Springfield Water & Sewer Commission System at two locations in Ludlow for emergency mutual aid interconnection
Proposed Blowoff	Provide new blowoff on existing CVA to facilitate pipeline dewatering on River Road in Ware
Existing Combination Air Valves	Maintain certain valves and upgrade structures along the 15-mile length of aqueduct.
Side Connection Valves	Provide raised manhole frame & cover on manholes that have been paved over