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.: 13186
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: **Coes Reservoir Dam Rehabilitation**		
Street: **Mill Street / Coes Street**		
Municipality: **Worcester**	Watershed: **Coes Reservoir**	
Universal Tranverse Mercator Coordinates: **4681525.5N 265920.7E**	Latitude: **042°15'N** Longitude: **071°50' W**	
Estimated commencement date: **9/1/04**	Estimated completion date: **1/31/05**	
Approximate cost: **2.3 million including estimated cost for environmental remediation**	Status of project design: **90** %complete	
Proponent: **City of Worcester**		
Street: **18 East Worcester Street**		
Municipality: **Worcester**	State: **MA**	Zip Code: **01604**
Name of Contact Person From Whom Copies of this ENF May Be Obtained: **Mr. Mark Mitsch**		
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: **mitschm@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 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): 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: Please see page 1 appendix A

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	3.62 acres		
New acres of land altered		1.92 acres	
Acres of impervious area	0.028 acres	0.0103 acres	0.0383
Square feet of new bordering vegetated wetlands alteration		14,102.54 sq. ft.	
Square feet of new other wetland alteration		24,487.73 sq. ft.	
Acres of new non-water dependent use of tidelands or waterways		0	
STRUCTURES			
Gross square footage	0	0	0
Number of housing units	0	0	0
Maximum height (in feet)	0	0	0
TRANSPORTATION			
Vehicle trips per day	0	0	0
Parking spaces	0	0	0
WASTEWATER			
Gallons/day (GPD) of water use	0	0	0
GPD water withdrawal	0	0	0
GPD wastewater generation/ treatment	0	0	0
Length of water/sewer mains (in miles)	0	0	0

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:

Office of Dam Safety
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Army Corps 404

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

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 Coes Reservoir Dam is located on Tatnuck Brook, which is a tributary of the Blackstone River, within the City of Worcester, Massachusetts. The City acquired the property of the former Coes Knife Company, which includes the Coes Reservoir Dam, with abutments along Mill Street and Lakeside Avenue, in 1997. The Coes Knife Company, which was originally named the Coes Wrench Company, constructed the Dam in 1865 to provide power to a waterwheel for operating machinery and to supply water for process cooling at the factory. In addition, the pond was used for the production of ice at the Walker Ice Company. In 1936, the intake pipe that transferred water from the reservoir to the water wheel assembly was closed and currently both the Dam and the pond are used for recreational activities such as swimming and fishing.

The large, high hazard dam, as originally classified by the Army Corps of Engineers in a Phase I Inspection Report published in August of 1978, is in poor structural condition and is hydraulically inadequate relative to current dam safety requirements. Based on our calculations, the existing spillway could be overtopped during a 25-year storm and would be overtopped if subjected to the spillway design flood for the dam. The inspection reports, observations and engineering calculations indicate conditions related to structural deficiencies include:

- **Heavy vegetation growth on the dam,**
- **Erosion on the upstream slope and crest of the dam,**
- **Undercutting and collapse of the upstream slope near the spillway where grinding grit has been deposited,**
- **Tilting of the stone masonry tailrace channel walls, and**
- **Seepage from the tailrace channel wall.**

In addition, environmental sampling on the dam revealed the presence of elevated concentrations of PCBs, PAHs and certain metals in fill materials deposited on the dam. In July, 2003, Weston & Sampson submitted a report entitled "Phase I – Initial Site Investigation and Tier Classification Report, Volume I & II", (Phase I Report) to the Massachusetts Department of Environmental Protection (DEP) summarizing the environmental conditions at the site.

Through completion of the proposed project, the City intends to repair the dam, bringing it into compliance with current dam safety regulations while concurrently addressing the environmental conditions of the dam. The project will include three phases that are expected to begin in September of 2004.

Phase I

Phase I will consist of construction of a low-level outlet structure designed to comply with 302 CMR 10.14.(7) which requires that a conduit be provided capable of draining the reservoir. In order to minimize environmental impacts, the low-level outlet will be installed along the alignment of the former intake pipe through the dam and the tailrace channel. Phase I will also include clearing and grubbing of the area, excavation of the upper 12 inches of sediment within the tailrace channel and confirmatory analytical sampling, as well as installation of temporary cofferdams around the low-level outlet and within the tailrace channel to allow for excavation in the dry.

Upon completion of Phase I, the Tailrace Channel will be backfilled with clean material allowing for proper operation of the outlet structure. The low-level outlet will be operated in order to drop the water level within the reservoir below elevation 496 while Phase III is being completed. Provided that confirmatory sampling conducted during Phase II and III does not reveal any additional impacted material, it is anticipated that the water level elevation will be drawn down for a period not to exceed twelve weeks.

Phase II

Phase II primarily consists of removal of PCB impacted soils located on the Dam itself. Initial discussions with the EPA have focused on removing the soils to concentrations below 1 ppm following TSCA 40 CFR 761.61 guidelines. The removal of the impacted soils will be conducted under the self-implementing cleanup, high occupancy standards. Final conditions for removal will be developed with EPA and submitted in the PCB Notification Letter.

Phase III

Phase III of the project involves construction of an enlarged spillway, providing embankment repairs, and installation of upstream slope protection. Primary alternatives for improvements to the dam considered during design are presented in the table below and are discussed in more detail in the Alternatives Analysis provided as Appendix E. Tree removal, upstream slope protection and installing a low-level outlet are common to each alternative. The distinguishing design requirement between alternatives was creating adequate hydraulic capacity for the least cost and least impact to the environment.

Alternatives	Status
1 Do nothing No Action	Unacceptable
2 Raise crest of dam	
A Design Storm = 1/2 PMF	Unacceptable
3 Lengthen spillway for 1/2 PMF	Unacceptable
4 Lengthen spillway for 100-year storm, provide overtopping protection	
A Keep old spillway and add new spillway section in center of dam	Deferred
B Expand existing spillway to the north	Deferred
C Expand existing spillway to the south	**Preferred**