

# ORIGINAL PUBLIC

## MASSACHUSETTS WATER RESOURCES AUTHORITY



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100 First Avenue  
Boston, Massachusetts 02129

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Frederick A. Laskey  
Executive Director

March 12, 2009

Ms. Kimberly Bose, Secretary  
Mr. Nathaniel J. Davis, Sr., Deputy Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

P-13400-000

Subject: Application for Exemption of Small Conduit Hydroelectric Facility,  
Loring Road Hydroelectric Project at the  
Loring Road Covered Distribution Storage Facility

Dear Ms. Bose and Mr. Davis:

In accordance with 18 CFR, Part 4, Subpart D, Section 4.32 (b) (2), the Massachusetts Water Resources Authority (MWRA) is hereby filing the Loring Road Small Conduit Hydroelectric Facility application for exemption for Small Conduit Hydroelectric Facility. This project is included on MWRA's list of proposed projects for stimulus funding and MWRA would like to proceed with construction of this important project as soon as possible. Accordingly, MWRA respectfully requests FERC's expedited review of this Conduit Exemption application.

The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of MWRA's water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit that serves parts of Boston and surrounding communities (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

MWRA has complied with the requirements of 18 CFR, Part 4, Subpart D, Section 4.38. A copy of the First Stage Consultation document was provided to agencies and members of the public on the attached list. In accordance with the regulation, MWRA also scheduled a joint meeting to discuss the proposed project and gave appropriate notice of the meeting to FERC, resource agencies, and members of the public. The joint meeting occurred on January 8, 2009 and was attended by a number of resource agency

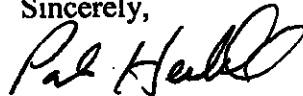
representatives, Town of Weston staff, and members of the public. Meeting attendees voiced support for the proposed Loring Road project. Similarly, letters in support of the project were also received from key state and federal agencies; their letters concluded that the project will not have any adverse environmental impacts. MWRA also received written comments from resource agencies in support of a waiver of the second stage of consultation.

Therefore, MWRA requests that the Federal Energy Regulatory Commission, pursuant to its authority, waive the second stage consultation requirements and allow the MWRA to proceed with the third stage of consultation as set forth in 18 CFR, Part 4, Subpart D, Section 4.38 (d ) by accepting for filing of the enclosed application for the Loring Road Exemption of Small Conduit Hydroelectric Facility. At this time, MWRA is also mailing copies of this Application to those on the attached distribution list.

Please note that MWRA requests that all figures in Exhibit F be kept confidential and considered CEII due to their status as critical water supply infrastructure. An original and two copies of the Application contain the Figures F and a CEII notation is included on the cover. The remaining copies, denoted by "Public" on the cover, have a page inserted in Exhibit F indicating detail design drawings are not included for security reasons, due to the nature of the water supply infrastructure.

Please do not hesitate to contact Fred Holland (CDM, MWRA's design consultant) at (617) 452-6084 or myself at (617) 788 1102 at should you have any questions or desire further information.

Sincerely,



Pamela Heidell,  
Policy and Planning Manager

cc:

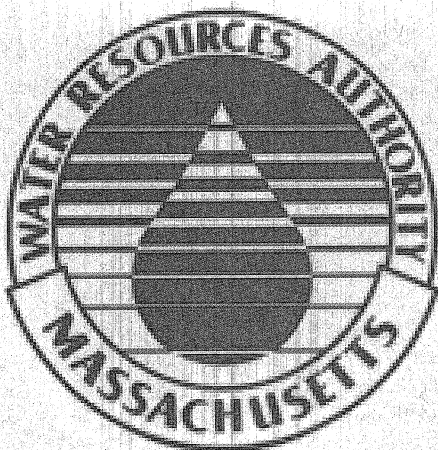
Fred Holland, CDM  
Maureen McAvoy, MWRA  
Tom Lindberg, MWRA  
Distribution List (attached)

Massachusetts Water Resources Authority  
**Loring Road Hydroelectric Project**  
**Exemption of Small Conduit Hydroelectric Facilities Application**  
Document Distribution List

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Ralph Abele U.S. Environmental Protection Agency One Congress Street Boston, MA 02114 Mail Code CWQ	Mr. Kevin Mendik/Duncan Hay National Park Service 15 State Street Boston, MA 02109
Kathleen Baskin, Director of Water Policy EOEEA 100 Cambridge Street Boston, MA 02114	Robert Bell FERC 888 First Street, N.E. Washington D.C. 20426
Caleb Slater, PHd MA department of Fisheries and Wildlife 1 Rabbit Hill Road Westborough, MA 01581	Mr. Robert Kubit Department of Environmental Protection Division of Watershed Management 627 Main Street 2 <sup>nd</sup> floor Worcester, MA 01608
Hilary Jean  MassDEP Northeast Region 205B Lowell Street Wilmington, Massachusetts 01887 Main Phone: 978-694-3200	Dwayne Breger MA. DOER 100 Cambridge Street, Suite 1020 Boston, MA 02114
Ms. Brona Simon Secretary of the Commonwealth MA Historical Commission MA Archives Building 220 Morrissey Boulevard Boston, MA 02125	Mr. Russ Cohen MA Department of Fish and Game MA Riverways Program 251 Causeway St, Suite 400 Boston, MA 02114
Mr. Thomas French, PhD Assistant Director One Rabbit Hill Road Westborough, MA 01581	Ms. Melissa Grader U.S. Fish and Wildlife Service Connecticut River Coordinator's Office 103 East Plumtree Road Sunderland, MA 01375

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FEDERAL ENERGY  
REGULATORY COMMISSION

## **Loring Road Hydroelectric Project**

Application for Exemption of a Small Conduit  
Hydroelectric Facility

Submitted to:  
Federal Energy Regulatory Commission

Submitted By:  
Massachusetts Water Resources Authority  
March, 2009

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## **Table of Contents**

Introductory Statement

Exhibit A – Project Description and Proposed Mode of Operation

Exhibit E – Environmental Report

Exhibit F – General Design Drawings

Exhibit G – Maps of the Project

Statement of Indian Tribes That May Be Affected by the Project

Appendix 1 – Evidence of Real Property Interests

Appendix 2 – Documentation of Consultation

## INTRODUCTORY STATEMENT

**Before the Federal Energy Regulatory Commission**  
**Application for Exemption for**  
**Small Conduit Hydroelectric Facility**

1. The Massachusetts Water Resources Authority (MWRA) applies to the Federal Energy Regulatory Commission for an exemption for the Loring Road Small Hydroelectric facility, a small conduit hydroelectric facility that meets the requirements of Section 4.30 (b) (26) of this subpart, from certain provision of Part I of the Federal Power Act.

2. The location of the Project is:

State or Territory: Commonwealth of Massachusetts

County: Middlesex

Nearby Town: Weston

3. The exact and business address of the applicant are:

Michael J. Hornbrook, Chief Operating Officer  
Massachusetts Water Resources Authority  
Charlestown Navy Yard, Building 39  
100 First Avenue  
Boston, MA 02129

4. The exact name and business address of each person authorized to act as agent for the applicant in this application, if applicable, is:

Pamela A. Heidell, Policy and Planning Manager  
Massachusetts Water Resources Authority  
Charlestown Navy Yard, Building 39  
100 First Avenue  
Boston, MA 02129


Frederick J. Holland, Senior Vice President  
Camp Dresser & McKee Inc  
One Cambridge Place, 50 Hampshire Street  
Cambridge, MA 02139

The applicant, the Massachusetts Water Resources Authority, is an independent state authority incorporated under the laws of the Commonwealth of Massachusetts.

The Provisions of Part 1 of the Federal Power Act for which exemption is requested are: Exemption from all of Part 1 of the Federal Power Act pursuant to Section 30 of the Federal Power Act is hereby requested.

The Massachusetts Water Resources Authority, as a public instrumentality and a Commonwealth of Massachusetts authority, has been given exclusive powers of care and control over state-owned land where MWRA's water/sewer facilities are located, included the property in question. These powers include the power to rehabilitate and construct on such land whatever structures and facilities MWRA deems necessary in furtherance of its essential government function in operating, maintaining and improving the MWRA water and wastewater systems. These powers have been codified in MWRA's enabling legislation, Chapter 372 of the Acts of 1984. Section 4(c) of Chapter 372 specifically states that MWRA "...shall have the rights to enter, use, improve, operate, maintain and manage" all state-owned real property where MWRA facilities are located. Appendix A contains the documentary evidence that the Massachusetts Water Resources Authority has the real property interests required under 18 CFR, Part 4, Subpart D, Section 4.31 (b).

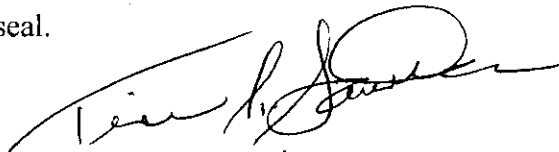
IN WITNESS HEREOF, the Massachusetts Water Resources Authority has caused its name to be hereunto signed by its Chief Operating Officer this 9 day of March, 2009.



Michael J. Hornbrook, Chief Operating Officer  
Massachusetts Water Resources Authority

Subscribed to me and sworn before me, a notary public of the Commonwealth of Massachusetts, this 9 day of March, 2009.

Witness my hand and official seal.



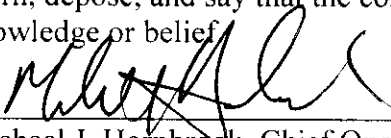
A True Copy Attest  
TINA A. SAUNDERS  
NOTARY PUBLIC  
My commission expires Jan. 15, 2015

**Verification**

Commonwealth of Massachusetts .  
Suffolk County

This application is executed in the Commonwealth of Massachusetts, Suffolk County by Michael J. Hornbrook ,Chief Operating Officer, Massachusetts Water Resources Authority, Charlestown Navy Yard, 100 First Avenue, Boston, MA 02129, and on behalf of the Massachusetts Water Resources Authority.

I, Michael J. Hornbrook, being duly sworn, depose, and say that the contents of this application are true to the best of my knowledge or belief.

  
\_\_\_\_\_  
Michael J. Hornbrook, Chief Operating Officer  
Massachusetts Water Resources Authority

Subscribed to me and sworn before me, a notary public of the Commonwealth of Massachusetts, this 9 day of March, 2009.

Witness my hand and official seal.



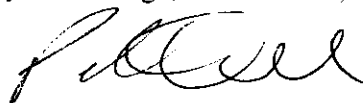
A True Copy Attest  
TINA A. SAUNDERS  
NOTARY PUBLIC  
My commission expires Jan. 15, 2015

## Verification

Commonwealth of Massachusetts  
Suffolk County

I, Pamela A. Heidell, Policy and Planning Manager, Massachusetts Water Resources Authority, Charlestown Navy Yard, 100 First Ave, Boston MA 02129, being duly sworn, depose and say that I am a duly authorized agent on behalf of the Massachusetts Water Resources Authority in matters relating to filings with the Federal Energy Regulatory Commission concerning the Loring Road Hydropower Small Conduit Hydroelectric facility.

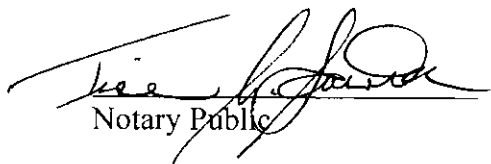
In addition, I, Pamela A. Heidell being duly sworn, depose, and say that the contents of this application are true to the best of my knowledge, information, and belief.



Pamela A. Heidell, Policy and Planning Manager  
Massachusetts Water Resources Authority

Subscribed to me and sworn before me, a notary public of the Commonwealth of Massachusetts, this 10<sup>th</sup> day of March, 2009.

Witness my hand and official seal.



Notary Public

A True Copy Attest  
TINA A. SAUNDERS  
NOTARY PUBLIC  
My commission expires Jan 15, 2011

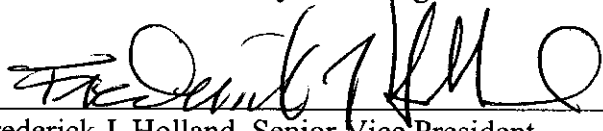


## Verification

Commonwealth of Massachusetts  
Middlesex County

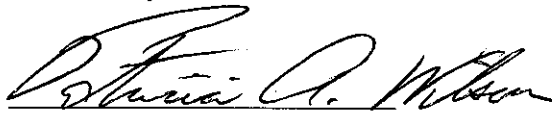
I, Frederick J. Holland, P.E., Senior Vice President, Camp Dresser & McKee, One Cambridge Place, 50 Hampshire Street, Cambridge, Massachusetts 02139, being duly sworn, depose, and say that I am a duly authorized agent on behalf of the Massachusetts Water Resources Authority in matters relating to filings with the Federal Energy Regulatory Commission concerning the Loring Road Small Conduit Hydroelectric Facility

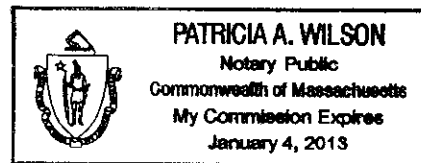
I, Frederick J. Holland, being duly sworn, depose and say that I am familiar with the matters set forth herein and the same are true to the best of my knowledge and belief.

  
Frederick J. Holland, Senior Vice President  
Camp Dresser & McKee

Subscribed to me and sworn before me, a notary public of the Commonwealth of Massachusetts, this 5<sup>th</sup> day of March, 2009.

Witness my hand and official seal.

  
Notary Public



**EXHIBIT A**  
**PROJECT DESCRIPTION AND PROPOSED MODE OF**  
**OPERATION**

## PROJECT DESCRIPTION AND PROPOSED MODE OF OPERATION

1. A brief description of any conduits and associated consumptive water supply facilities, intake facilities, powerhouses, and any other structures associated with the facility.

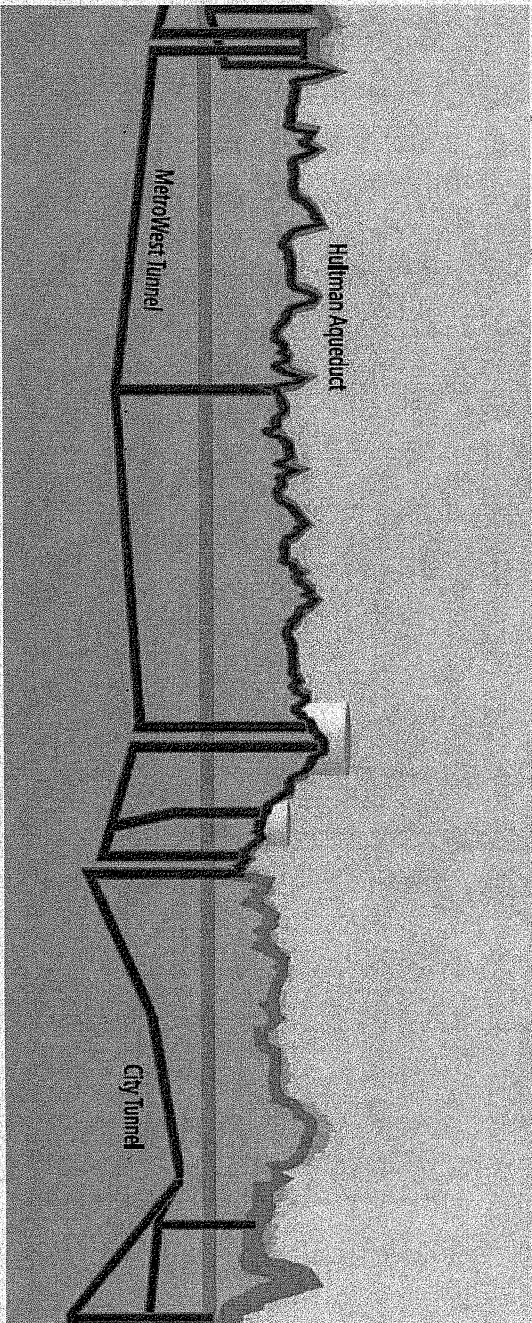
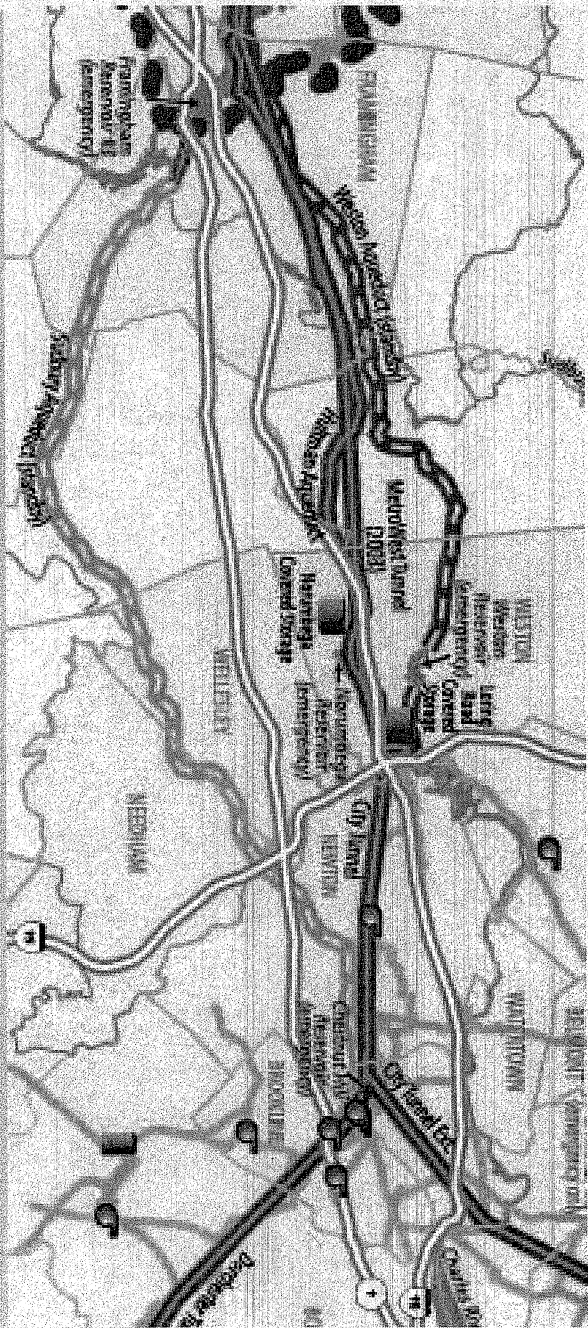
The Loring Road Small Conduit Hydroelectric Facility would be located in Valve Chamber One (VC-1) at the Loring Road Covered Storage Facility is located in Weston; the hydroelectric facility would be fed from a storage tank in MWRA's water distribution system and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away. To place this facility in context, a brief description of the MWRA water supply system and facilities upstream and downstream of Loring Road is provided below.

The MWRA supplies wholesale water to local water departments in 50 communities, primarily in the Boston metropolitan area. MWRA's water comes from the Quabbin Reservoir, about 65 miles west of Boston, and the Wachusett Reservoir, about 35 miles west of Boston. The two reservoirs combined supplied an average of 220 million gallons per day to consumers in 2007. A transmission system consisting of over 100 miles of tunnels and aqueducts transport water largely by gravity to points of distribution within the MWRA service area. Water that is conveyed to the Boston Metropolitan area is treated at the John J. Carroll Water Treatment Plant in Marlborough, then sent eastward through either the new MetroWest Water Supply Tunnel or Hultman Aqueduct.

Close to its centers of demand, MWRA has recently constructed a new network of tanks to protect and store treated drinking water in compliance with the Federal Safe Drinking Water Act. The network of new tanks include the Norumbega and Loring Road Covered Storage Facilities. The tanks replace a 100-year old system of open reservoirs. The covered tanks protect drinking water from potential contamination by natural sources, such as algae, bacteria, birds and other animals. The water is continuously used and replenished. From the tanks, water is then distributed to member communities. Each community maintains its own network of pipes that ends at customers' taps. Construction of the Loring Road Storage Facility was completed in 2001. A schematic of the MWRA Distribution System follows.

The Small Conduit Hydroelectric Facility would be located at the Loring Road Covered Storage Facility in Weston in Valve Chamber One (VC-1). Water is conveyed to Loring Road from the Norumbega Covered Storage Facility via a branch of the Metro West Tunnel, a 17.5 mile deep rock tunnel 14 feet in diameter, which ends at shaft W at VC-1.

The Loring Road facility establishes the hydraulic grade line of the MWRA's Low Service Area (areas of lower elevation within the MWRA service area). The water reaches Loring Road at a hydraulic grade line of approximately 282 feet. At Loring Road, the flow is divided; some flow is directed to a supply pipeline serving the High Service System, while other flow is directed to pressure reducing valves inside Valve Chamber One. The pressure reducing valves reduce the grade line to approximately 200



feet. After the pressure reducing valves, water is sent via a ten-foot pipe to a second valve chamber that directs flows to either Loring Road Storage Tank One or Two. The Loring Road storage tanks are operated within a three foot operating range varying from 197 to 200, the maximum elevation being the tank overflow elevation. A steady flow rate of 20 mgd can be discharged from Valve Chamber One into the tanks on a nearly constant basis. The flow rate out of the tanks typically averages 20 mgd; during periods of high demand, the flow rate out of the tanks may be 25 mgd. From the Tanks, flow is discharged to downstream pipelines (Weston Aqueduct Supply Mains) serving the Low Service Area. Piping and additional connections on site allow either or both tanks to be bypassed if necessary and also provide an interconnection from the Weston Aqueduct to the Metro-West Tunnel, to be used in the event of an emergency.

Instead of dissipating the energy with sleeve valves in Valve Chamber One, the energy available in this reduction could be recovered by a hydro-turbine generator. In this manner, the hydro turbine driven generator will provide energy recovery along with the primary purpose of the Loring Road Valve Vault to regulate flow and provide a constant pressure water supply to the Low Service system.

2. The proximate natural sources of water that supply the related conduit.

The closest natural source of water that supplies the conduit is the Wachusett Reservoir, the terminal source reservoir that serves the Boston Metropolitan Area. Wachusett Reservoir is approximately 30 miles northeast of Loring Road, and intervening water supply infrastructure includes a series of Cosgrove Aqueducts, the John J. Carroll Treatment Plant, and the Norumbega Reservoir Covered Storage Facility.

3. The purposes for which the conduit is used.

The conduit is used to transfer water from the Norumbega Covered Distribution Storage facility to the Loring Road Covered Distribution Storage facility. The facilities are used for municipal water supply.

4. The number of generating units, including auxiliary units, the capacity of each unit, and provisions, if any, for future units.

One 200-kilowatt (kW) turbine-generator unit will be installed. There will be no auxiliary units or provisions for future units.

5. The type of each hydraulic turbine

A spiral case type turbine with wicket gates utilizing a Francis (or possibly a Kaplan) type runner.

6. A description of how the plant is to be operated, manually or automatically, whether the plant is to be used for peaking

The Loring Road Storage Facility operates 24/7. The hydroelectric facility will operate somewhat automatically, but its operation will be integrated into existing operations and

controlled by SCADA. The concept is that the wicket gates will be controlled by a governor system that mechanically positions the wicket gates with a hydraulic servo motor. The hydraulic system will be sized to provide not less than one full cycle of the wicket gates to assure the ability of the turbine to execute a shut down upon any type of failure. The hydraulic system will control the rate of activation of the wicket gates to regulate the rate of flow change to both protect the turbine from damage if a shut down is necessary and to prevent excessive surge conditions in the water transmission system. The turbine control panel will include controls for operation of the hydraulic system, turbine condition monitoring, and turbine controls to regulate the flow and accomplish start-up and shut-down.

The turbine will not be operated for peaking. MWRA's objective will be to operate the turbine at a constant flow rate of 20 mgd year-round except for those seasonal periods when demand is below that rate. During periods of low demand, the turbine will operate at a flow that is slightly lower than 20 mgd.

7. Estimations of:

- a. The average annual generation in kilowatt-hours.

The average annual generation will be 1,207,000 kWh.

- b. The average head of the plant.

The operating head will be 75 feet.

- c. The hydraulic capacity of the plant (flow through the plant) in cubic feet per second (cfs).

Maximum flow through the plant is 39 cfs.

- d. The average flow of the conduit at the plant or point of diversion (using best available data and explaining the sources of the data and the method of calculation).

The average flow through the plant is 31 cfs. MWRA records for 2006-2007 were tabulated and an average flow of 20 mgd was derived. A conversion was then made (20 mgd = 31 cfs).

- e. The average amount of flow described in clause (d) available for power generation.

95% of the flow described in clause (d) is available for power generation. During peak seasonal demand when more than 20 mgd would be discharged to the tanks, flow through the turbine would likely be supplemented with flow through the existing sleeve (pressure-reducing) valves.



8. The planned date for construction of the facility

Construction of the facility is planned for Fall 2009 through Fall 2010.

9. If the hydroelectric facility discharges directly into a natural body of water and a petition for a waiver of §4.30 (b) (26) (v) has not been submitted, evidence that a quantity of water equal to or greater than the quantity discharged from the hydroelectric facility is withdrawn from that water body downstream that is part of the same water supply system as the conduit on which the hydroelectric facility is located.

The hydroelectric facility would discharge into the MWRA's existing water supply conduit and would not discharge into a natural body of water.

10. If the hydroelectric facility discharges directly to a point of agricultural, municipal, or industrial consumption, a description of the nature and location of that point of consumption.

The hydroelectric facility would discharge into the Loring Road Covered Storage. Downstream of the existing Vault Chamber One which would house the turbine, flow is directed to either Loring Road Tanks One or Two, after first passing through an additional vault chambers and either a pipe that serves Tank One or a pipe that supplies Tank Two. On the downstream side of the tanks, flow is discharged into the MWRA's Weston Aqueduct Supply Mains which serve the MWRA's Boston Low Service Area.

11. A description of the nature and extent of any construction of a dam that would occur in association with construction of the proposed small conduit hydroelectric facility, including a statement of the normal maximum surface area and normal maximum surface elevation of any existing impoundment.

There is no construction of a dam that is associated with the construction of the proposed small conduit hydroelectric facility.

As indicated above, MWRA's source reservoirs are the Quabbin and Wachusett Reservoirs that are located in central Massachusetts and are far removed from Weston.

The normal maximum surface area of Wachusett Reservoir is 6.2 square miles and the normal maximum surface elevation is 391 Boston City Base. Wachusett Reservoir receives flow from its natural watershed area as well as from Quabbin Reservoir. Quabbin Reservoir's normal maximum surface area is 37.7 square miles its and normal maximum surface elevation is 530 Boston City Base.

**STATEMENT OF  
INDIAN TRIBES THAT MAY BE AFFECTED BY THE PROJECT**

There are no Indian tribes that may be affected by the project.

**EXHIBIT E**  
**ENVIRONMENTAL REPORT**

## **EXHIBIT E – ENVIRONMENTAL REPORT**

### **Introduction.**

A small conduit hydroelectric facility is defined in the Federal Energy Regulatory Commission regulations to include all structures, fixtures, equipment and lands used and useful in the operation or maintenance of the hydroelectric facility, but excluding the conduit on which the hydroelectric facility is located or the transmission lines associated with the hydroelectric facility.

Exemptions for small conduit hydroelectric facilities have been determined by FERC to not have a significant effect on the human environment and do not require the preparation of an Environmental Impact Statement or Environmental Assessment. FERC regulations require that an Environmental Report be prepared commensurate with the scope and environmental impact of the facility's construction and operation and that the report describe the environmental setting in the vicinity of the facility. The paragraphs below describe the environmental setting in the vicinity of the facility, as well as the relationship of Loring Road to other MWRA water supply infrastructure.

As addressed further below, other than reducing carbon footprint by implementation of a renewable energy facility, there would be no environmental impacts associated with the proposed project. Equipment will be installed within an existing underground vault that is approximately 125 feet by 50 feet, and that is located within a twenty acre site that is already disturbed and used for water infrastructure purposes. An existing transmission line serves the site.

### **MWRA Water System and Site Overview**

Water from Wachusett Reservoir is treated at the John J. Carroll Treatment Facility, and then conveyed eastward through either the MWRA's new MetroWest West Tunnel (brought on line in 2003) or Hultman Aqueduct to the Norumbega Covered Storage Facility in Weston. From the Norumbega Covered Storage Facility, water is conveyed to either Loring Road or the City Tunnel. The Norumbega and Loring Road facilities are part of a new network of distribution storage tanks that MWRA constructed to protect and store treated water in compliance with the Federal Safe Drinking Water Act. The distribution storage tanks, or covered reservoirs, are close to the location of daily demand. In addition to holding treated water to provide a reservoir for the hours of the day when demand is high, distribution reservoirs also provide an emergency water source. The covered storage reservoirs replace open distribution reservoirs that were more susceptible to contamination.

The Loring Road Covered Storage Facility serves the Boston Low Service Area, representing approximately 15% of the population served by the MWRA water system.

## **Proposed Project**

Exhibit A provides the description of the project. As was noted, the Loring Road facility establishes the hydraulic grade line of the MWRA's Low Service system. Water reaches the Loring Road site at a hydraulic grade line of approximately 282 feet; the grade line is then reduced to approximately 200 feet by pressure reducing that are used to reduce pressure, prior to conveying the water to the storage tanks serving MWRA's Low Service Area. Instead of dissipating the energy with sleeve valves, the energy available in this reduction could be recovered by a hydro-turbine generator. In this manner, the hydro turbine driven generator will provide energy recovery along with the primary purpose of the Loring Road facility to regulate flow and provide a constant pressure water supply to the low service system.

## **Environmental Setting**

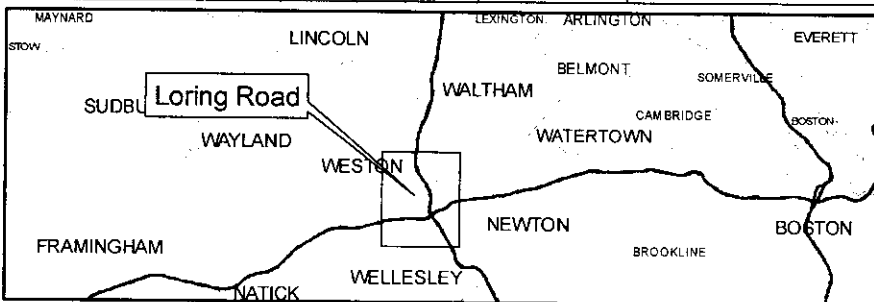
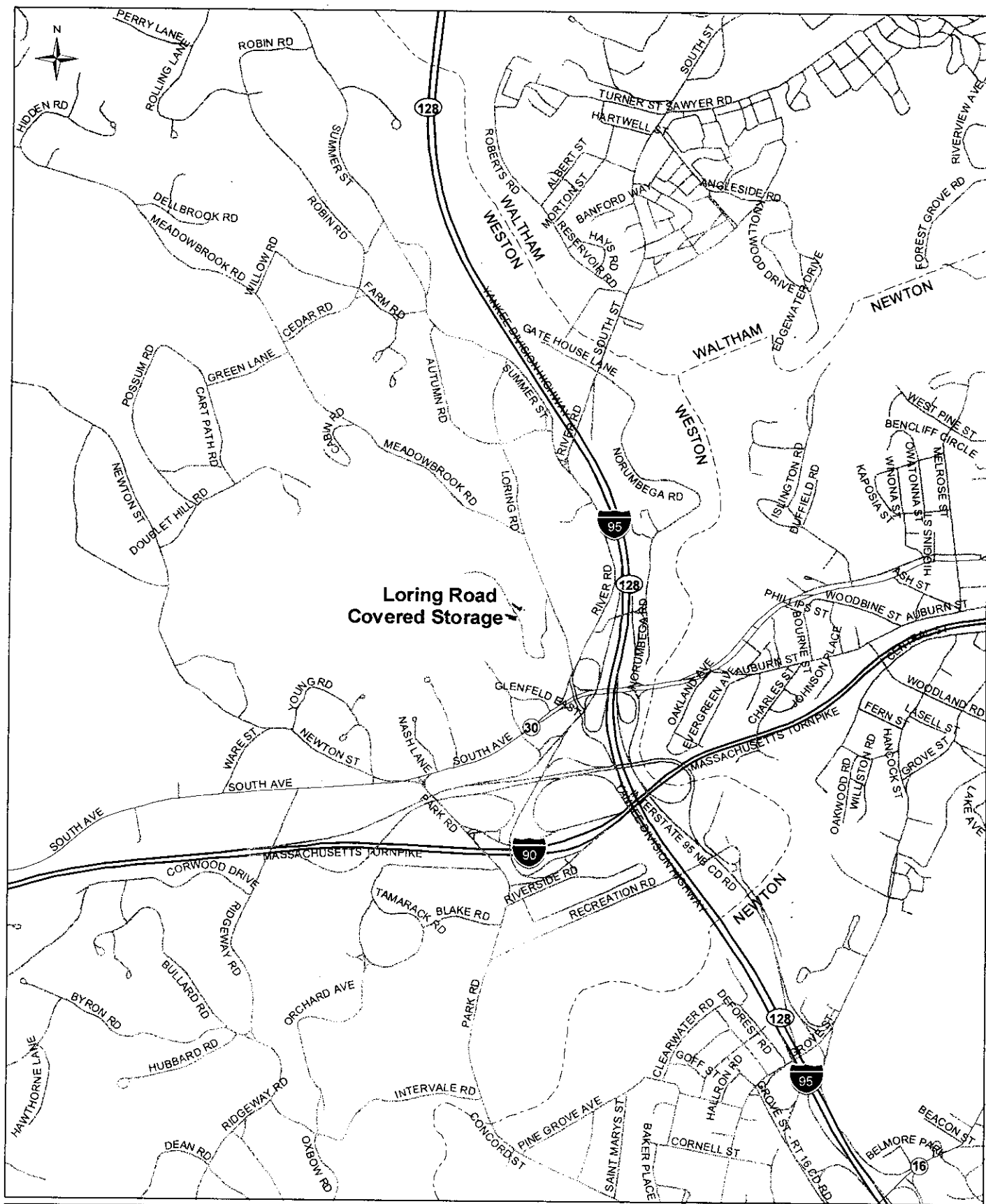
The Valve Chamber is an underground vault approximately 125 feet by 50 feet at MWRA's Loring Road Covered Storage Facility in Weston. Figure E-1 shows the project's general location; Exhibit G includes an aerial view of the Loring Road site and maps of the project area and boundary. The site is under the care and control of MWRA.

The Valve Chamber is located at the top a hill in the northeast portion of the approximately 20 acre Loring Road site; this site is essentially a steep sloping hill off of Loring Road. Valve Chamber One is near the Weston Aqueduct terminal chamber and approximately 150 feet from buried tank one; a second buried tank is on the western part of the site, approximately 1000 feet away from Vault Chamber One. Valve Chamber One is located at the top of a hill. Tank Number One occupies approximately 1.4 acres, and Tank Number two occupies 2.3 acres of land. There is an existing electrical transmission line that serves the site.

Vegetative Cover. Valve Chamber One appears as a concrete slab at its surface extending a few feet above finished grade, with a number of access hatches and fencing on top. A paved area between Valve Chamber One and Tank One provides parking for MWRA maintenance crews and operators that visit the site daily. The nearby storage tanks are covered with earth and were re-vegetated with grass after construction was completed. The tops of the tanks now appear as large open grassed areas. The perimeter of the Loring Road site is wooded, as is much of the land between the tanks. There are also bedrock outcrops throughout the site. A cleared area on site overlies pipelines and is used as an access road between the two tanks.

Fish and Wildlife Resources. The Valve Chamber One area is developed and does not itself host significant wildlife. Wildlife in undeveloped portions of the twenty acre Loring Road site include songbirds, small mammals. In these undeveloped areas, there have also been sightings of deer, fox and red-tail hawks. There are no fishery resources present.

The US Department of Interior also reviewed the project for federally listed or proposed threatened or endangered species presence and based on the information currently available, concluded that no federally listed or proposed threatened or endangered species



**FIGURE E-1**  
**General Location Map**



or critical habitat under the jurisdiction of the service were known to occur in the project area. Similarly, the Massachusetts Division of Fisheries and Wildlife indicated that the project site is not mapped as a Priority or Estimated Habitat and that the Natural Heritage and Endangered Species Program did not have any rare species concerns with the site.

Water Quality and Quantity. The project does not lie within a floodplain. There is a small drainage ditch nearby. A sedimentation basin constructed to receive runoff from Storage Tank 2 is thousands of feet away from the valve chamber and is well outside the conduit facility's boundaries. Similarly, there is a natural wetland at the western perimeter of MWRA's property, also well outside the small conduit facility's project boundary. The water that would be harnessed by the proposed hydro turbine is water contained within an extensive water distribution system.

Land uses and Recreation. The valve chamber which will house the turbine is a restricted and secured facility and is not open to the public. The access road to the site is pipe-gated and vehicles other than those on MWRA business are not permitted. The valve chamber is part of a vast array of water supply infrastructure on the twenty acre Loring Road site. The location of the Valve chamber at the top of a wooded slope provides a large buffer between the chamber and land uses adjacent to MWRA. There are six residences along Loring Road between the MWRA's entrance road and the intersection with River Road and connections with Route 128 and the Massachusetts Turnpike, major regional highways. There is no recreational use within the valve chamber boundaries, and public access is restricted for water security reasons. Elsewhere on the twenty-acre site, though, MWRA does permit the public pedestrian access over the tanks and through the parking lots; trails of the Weston Forest and Trails Association traverse the top of Tank Two and connect to trails on adjacent wooded properties.

Historical and Archaeological. The vault chamber was constructed approximately five years ago and as such is not considered an historic structure; it is not eligible for or included on the National Register of Historic Places. The Weston Aqueduct Terminal Chamber is outside the area of the conduit facility but is located on the Loring Road site. It is one of many components of the MWRA water transmission system that are included on the Water Supply System of Metropolitan Boston, which was listed on the National Register of Historic Places in 1991.

Visual resources At the surface, the structure that will house the turbine is an existing underground structure that appears on the surface as a concrete slab with raised access hatches surrounded by fencing. The sloping nature of the Loring Road site and its wooded perimeter screen MWRA infrastructure from residences off-site.

Socio-Economic Conditions Weston is a suburban town approximately twelve miles west of Boston. The US Census reported the town's population to be 11,469 in 2000. The population density is 599 persons per square mile. Weston is one of the most affluent towns in Massachusetts.

## Environmental Impacts

The project will have beneficial environmental effects, as it will reduce greenhouse gas emissions, reduce use of fossil fuels resulting in fewer air pollutants, and will reduce impacts on natural resources that are associated with mining fossil fuels. The generation of energy will be the only impact associated with the facility's operation.

The project will entail minimal construction disturbance. The small conduit hydroelectric equipment and 30-inch supply and discharge piping connections to and from the hydro-turbine to the existing valve chamber piping will be installed through existing roof openings of the Valve Chamber.

A Joint Meeting held in Weston and pre-filing consultation with resource agencies and members of the public resulted in no specific study requests or requests for other specific measures to protect and enhance the environment other than those described in this section. Written comments received from review agencies are summarized below.

- United States Department of the Interior, Fish and Wildlife Service: "The proposed project appears to have minimal, if any, impacts to fish and wildlife resources. The construction activities would occur in an already disturbed area, and operation of the project would use water coming from a water supply pipeline and discharge to another water supply pipeline using a completely contained system that has no hydraulic connection to natural water bodies. As such, the U.S. Fish and Wildlife Service supports this project, and concurs that a waiver of second stage consultation requirements is appropriate."
- Commonwealth of Massachusetts Division of Fisheries and Wildlife. "The Fisheries section supports the project and is in favor of a waiver of the second stage consultation requirements. At this time, the site is not mapped as Priority or Estimated Habitat and the Natural Heritage and Endangered Species program does not have any rare species concerns associated with this site."
- New England District Corps of Engineers: "We have determined that a Department of Army permit is not required for the construction of a hydroelectric facility within an existing valve chamber at the Loring Road Covered Storage Facility in Weston."
- Massachusetts Department of Environmental Protection, Division of Watershed Management: The hydroelectric facility would not affect water levels in the local watershed or in source reservoirs. The Department supports this project and concurs a waiver of the second stage consultation requirements is appropriate.

Impacts associated with the project are also discussed further below.

Water Quality and Quantity. The proposed facility will generate power from fully treated potable water transferred from the Norumbega covered storage tank to the Loring Road Covered Storage tanks. Non-toxic lubricants are used in association with water supply valves. The same type of lubricants would be use in the proposed hydroelectric

machinery. MWRA will submit a permit application to the Department of Environmental Protection, BRP, WS 32 Distribution System Modification, prior to construction.

Vegetation. There will be no impacts on vegetation as all construction will occur within an existing cleared area. An existing electrical transmission line serves the site so there will be no need to remove vegetation for a new electrical line right-of-way.

Fisheries and Wildlife There will be no impacts to fisheries and wildlife as the small conduit hydroelectric facility will be installed within a drinking water distribution system located in an existing underground vault.

Land Use and Recreation There will be no impacts on land use and recreation. All materials required for completion of work will be placed or stored designated, already developed areas. The operation of a small hydroelectric facility in lieu of the operation of existing pressure reducing valves will have no effect on adjacent land uses, since the turbine operation would not be visible at the surface or off-site. Any noise resulting from operation of the turbine is expected to be less than the noise generated by the valve operation that the turbine would replace. The roof of the vault structure is also insulated.

Construction activity associated with the installation of a small hydro facility at the site will be of limited duration and extent, as no new permanent enclosures or structures will be required. Existing access hatches will be used, and a temporary shelter will be constructed over the vault. Upon completion of the installation of the turbine/generator, piping and valving, the surface of the vault will be restored to its original condition.

There is an existing twenty-foot wide access road that will be used by construction personnel vehicles and delivery vehicles bringing equipment to the site. The entrance to the MWRA access road from Loring Road was previously widened to accommodate vehicle turning movements on the site. Contract specifications will require that the contractor restrict traffic to designated construction route, using the southern portion of Loring Road to provide direct access to Route 30, Route 128, and Mass Turnpike. Less than 500 feet of Loring Road will be affected. Trucks accessing MWRA's site are currently required, and will continue to be required, to travel at low speed. During most of the construction period, less than eight vehicles per day are expected; there would be truck deliveries for new piping and the turbine/generator. There will also be a crane brought to the site. The Contractor will have a designated parking and construction area.

In advance of construction, MWRA will notify Town of Weston officials, including the Town Manager, and the Police and Fire Departments and will also notify abutters to the site. A pre-construction meeting is anticipated, and any details regarding required construction coordination will be discussed and addressed.

Historical and archaeological Resources. There will be no impacts on historic or archaeological resources given that the structure in which the small conduit hydroelectric facility would be installed was built in 2002 and no additional excavation will be required to accommodate the hydroelectric equipment. Work would occur in previously disturbed areas. No modifications to any exteriors of historic buildings would occur, nor would

any structural modifications associated with the small conduit hydroelectric facility affect the terminal chamber in any manner.

The Massachusetts Historical Commission reviewed the Initial Consultation Document and indicated that after a review of its files and the information submitted, it has been determined that the project is unlikely to affect significant historic or archaeological resources.

Visual Resources The project will have no affect on aesthetics.

Socio-economics The project will have no affect on socio-economics.

### **Alternative Means of Obtaining Power**

The alternative means of obtaining power is the continued purchase of power from the grid, as occurs currently. The proposed project will lessen the need to burn fossil fuels, which will help to reduce greenhouse gas emissions, result in fewer air pollutants, and will reduce impacts on natural resources that are associated with the mining of fossil fuels.

### **Documentation of Consultation**

Upon the filing of this application, the MWRA will have met the requirements of FERC regulations 18 CFR Part 4, Subpart D, Section 4.38. Copies of all correspondence and documentation related to compliance with FERC regulations 18 CFR, Part 4, Subpart D, Section 4.38 are located in Appendix 2, Documentation of Consultation.

**EXHIBIT F**  
**SET OF DRAWINGS**

## **EXHIBIT F – SET OF DRAWINGS**

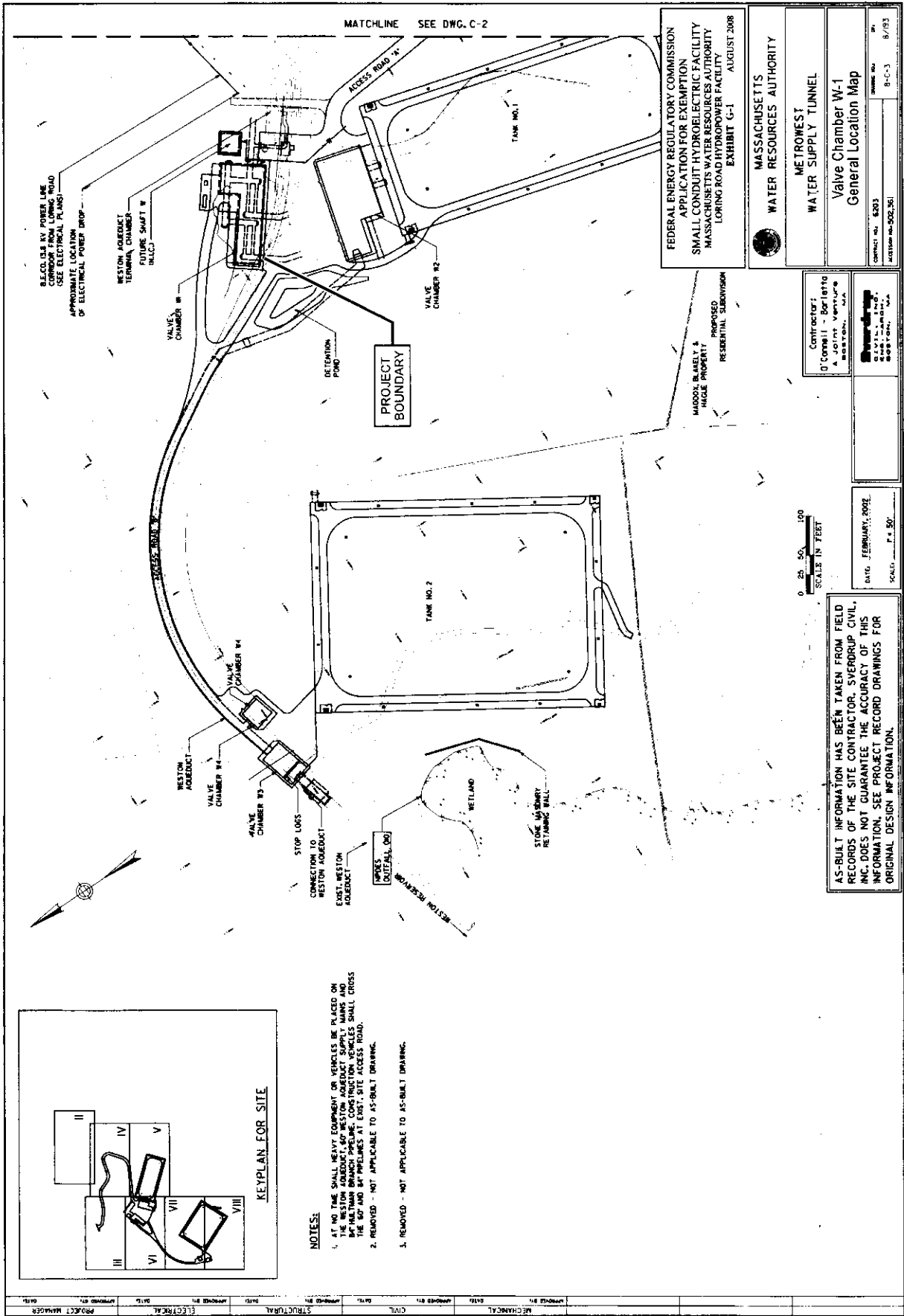
The MWRA's project will be located in an existing vault chamber and building. The structure is critical infrastructure serving a water supply purpose and drawings of the structure will be filed with the Commission separately.



**EXHIBIT G**  
**MAP OF PROJECT AND BOUNDARY**

## **EXHIBIT G – MAP OF PROJECT AND BOUNDARY**

- G-1 General Location Map
- G-2 Valve Chamber Project Boundary
- G-3 Valve Chamber Aerial View
- G-4 Valve Chamber Project Location (two topographic maps)



AS-BUILT DRAWING

B.E.CO. 13.8 KV POWER LINE  
CORRIDOR FROM LORING ROAD  
(SEE ELECTRICAL PLANS)

APPROXIMATE LOCATION  
OF ELECTRICAL POWER DROP



WESTON AQUEDUCT  
TERMINAL CHAMBER

FUTURE SHAFT W  
(N.I.C.)

VALVE  
CHAMBER W1

DETENTION  
POND

CONDUIT PROJECT  
BOUNDARY IS THE  
OUTSIDE FACE OF THE  
CONCRETE VAULT WALL

0 25 50 100  
SCALE IN FEET

Contractor:  
O'Connell - Barletta  
A Joint Venture  
BOSTON, MA

**Sverdrup**  
CIVIL, INC.  
ENG. ARCH.  
BOSTON, MA

FEDERAL ENERGY REGULATORY COMMISSION  
APPLICATION FOR EXEMPTION  
SMALL CONDUIT HYDROELECTRIC FACILITY  
MASSACHUSETTS WATER RESOURCES AUTHORITY  
LORING ROAD HYDROPOWER FACILITY  
EXHIBIT G-2 . AUGUST 2008



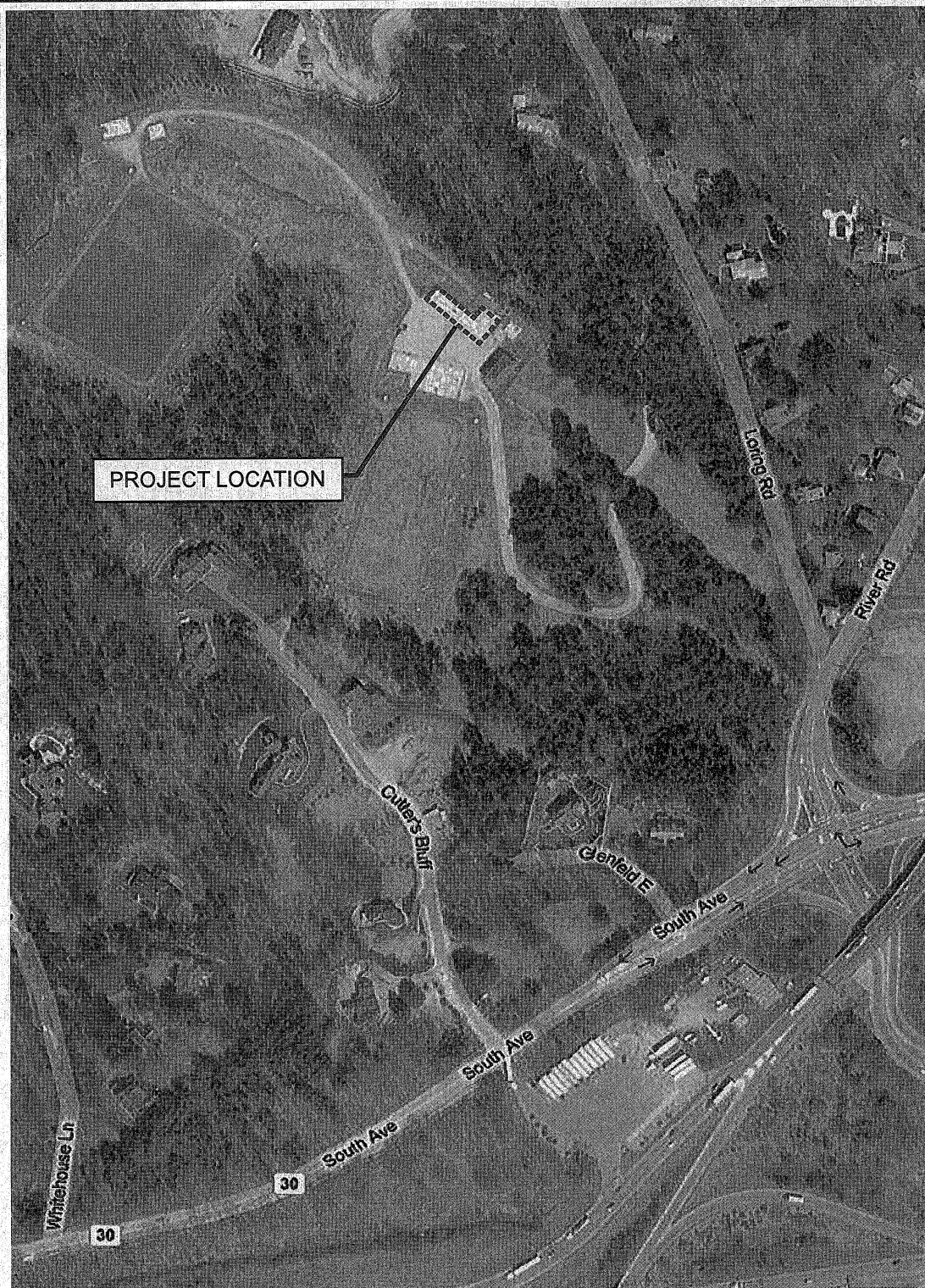
MASSACHUSETTS  
WATER RESOURCES AUTHORITY

METROWEST  
WATER SUPPLY TUNNEL

Valve Chamber W-1  
Project Boundary

CONTRACT NO. 6203  
ACCESSION NO. 502,361

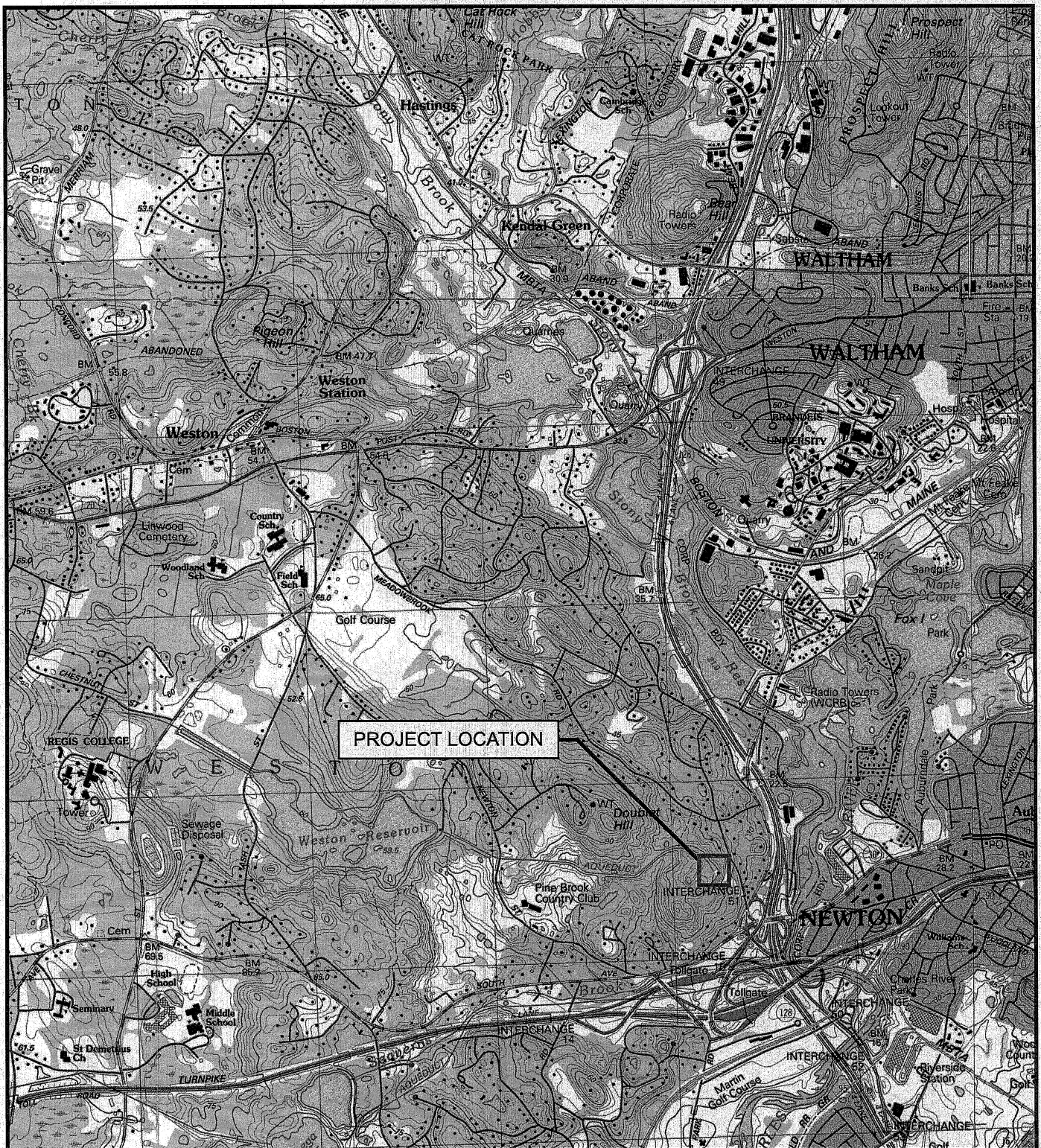
DRAWING NO. OF  
8-C-3 8/193



FEDERAL ENERGY REGULATORY COMMISSION  
 APPLICATION FOR EXEMPTION  
 SMALL CONDUIT HYDROELECTRIC FACILITY  
 MASSACHUSETTS WATER RESOURCES AUTHORITY  
 LORING ROAD HYDROPOWER FACILITY  
 EXHIBIT G-3 AUGUST 2008

Valve Chamber W-1  
 Project Aerial Photo

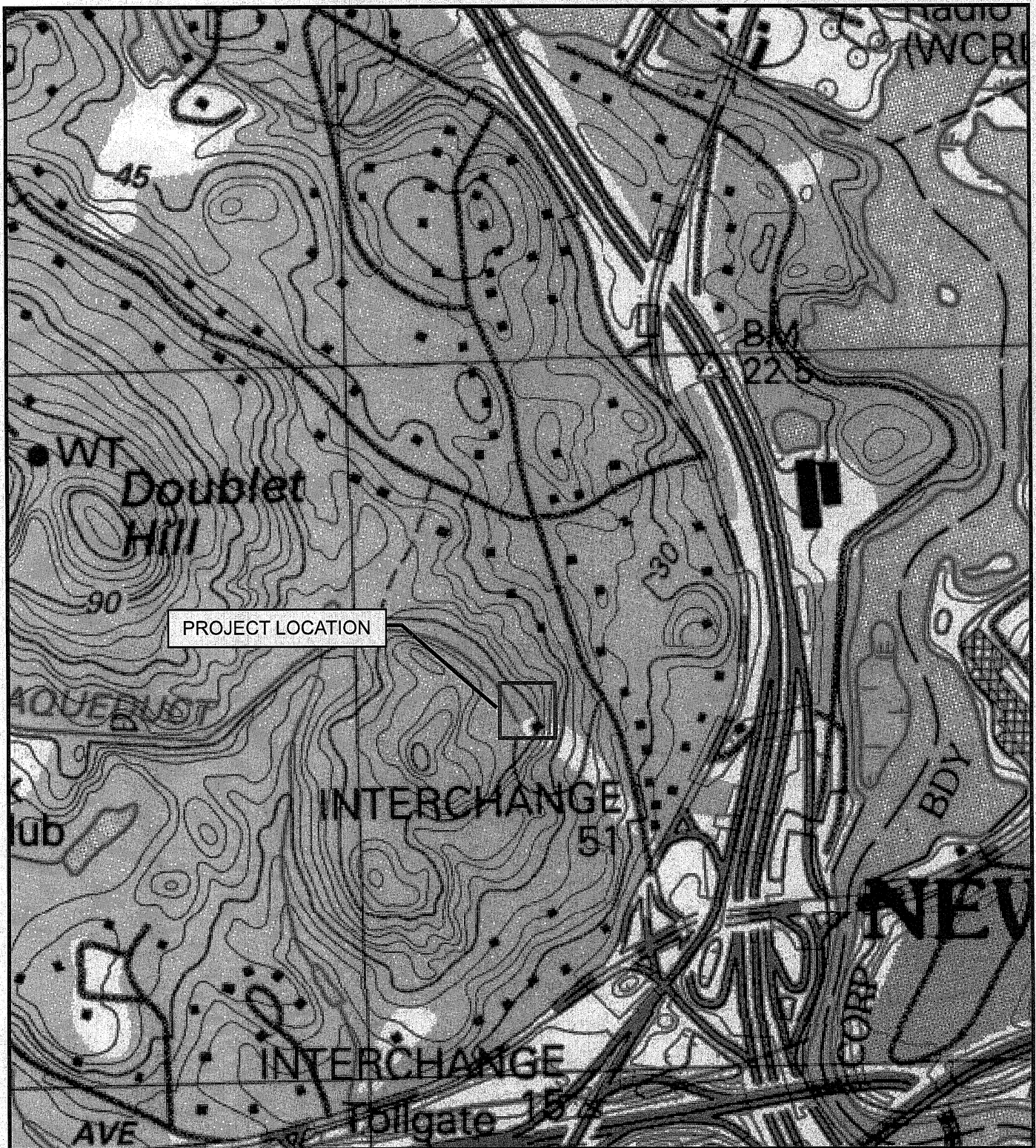




FEDERAL ENERGY REGULATORY COMMISSION  
APPLICATION FOR EXEMPTION  
SMALL CONDUIT HYDROELECTRIC FACILITY  
MASSACHUSETTS WATER RESOURCES AUTHORITY  
LORING ROAD HYDROPOWER FACILITY  
EXHIBIT G-4 AUGUST 2008

Valve Chamber W-1  
Project Location





FEDERAL ENERGY REGULATORY COMMISSION  
APPLICATION FOR EXEMPTION  
SMALL CONDUIT HYDROELECTRIC FACILITY  
MASSACHUSETTS WATER RESOURCES AUTHORITY  
LORING ROAD HYDROPOWER FACILITY  
EXHIBIT G-4 AUGUST 2008

Valve Chamber W-1  
Project Location

**APPENDIX 1**  
**EVIDENCE OF REAL PROPERTY INTERESTS**



**ID #118**

**TAKING No. 118**

**WESTON AQUEDUCT.      FRAMINGHAM, WAYLAND AND WESTON.**

**Dated Nov. 22, 1907. Recorded Dec. 3, 1907. Middlesex South District Deeds, Book 3340, Page 323**

**Taking/ID No. 118**

**KNOW ALL MEN BY THESE PRESENTS,**

That the Commonwealth of Massachusetts, by Henry H. Sprague, Henry P. Walcott and James A. Bailey, Junior, the Metropolitan Water and Sewerage Board, duly constituted and appointed under and according to the provisions of Chapter 168 of the Acts of the Legislature of the Commonwealth of the year 1901, by virtue and in the exercise of the power and authority of Chapter 488 of the Acts of the year 1895, transferred to and now vested in said Board, and of all other power and authority hereto enabling, and in partial execution of said powers and authorities, hereby takes in fee for the Metropolitan Water Works provided for by said Act of 1895, and more particularly for the purposes of the Weston Aqueduct, constructed under the provisions of Chapter 375 of the Acts of 1900, three certain parcels of land, situate, one in Framingham, one in Wayland and one in Weston, all in the county of Middlesex and Commonwealth of Massachusetts, with all the rights, easements, privileges and appurtenances thereto belonging. Said parcels are shown on three plans hereinafter referred to and recorded herewith, and are bounded and described as follows, to wit: -

First. A parcel of land, triangular in shape, lately owned by the Saxonville Mills, situate in that part of Framingham called Nobscot, easterly from Edgell Street on the northwesterly side of the location of the Weston Aqueduct, containing sixty-three one-hundredths (0.63) of an acre, shown on a plan inscribed "Commonwealth of Massachusetts. Metropolitan Water Works. Plan No. 141 of Land Takings. Weston Aqueduct. Land in Framingham," dated November 8, 1906, signed by Dexter Brackett, Department Engineer, and bounded: -

Westerly by land of Nancy A. Brown, now of the Commonwealth, nineteen (19) feet and by land now or late of George A. Bacon, two hundred and fifty-four (254) feet, in all two hundred and seventy-three (273) feet;  
northerly by land now or late of Mary E. Williams, one hundred and ninety-five (195) feet; and  
southeasterly by land late of the Saxonville Mills, now of the Commonwealth, three hundred and forty-six (346) feet, the same running on a line parallel with and distant thirty (30) feet northwesterly from the center line of the location of the Weston Aqueduct, measured at a right angle thereto, being the northwesterly part of the second parcel described in a deed from the said Saxonville Mills to the Commonwealth, dated July 31, 1901, and recorded with Middlesex South District Deeds, Book 2910, page 227

Second. A parcel of land lately owned by Abbie F. Nogler, situate in the easterly part of Wayland, easterly from School Street and on the northerly side of the location of the Weston Aqueduct, containing six one-hundredths (0.06) of an acre, shown on a plan inscribed "Commonwealth of Massachusetts. Metropolitan Water Works. Plan No. 142 of Land Takings. Weston Aqueduct. Land in Wayland." dated November 8, 1906, signed by Dexter Brackett, Department Engineer, and bounded: -

Easterly by land now or late of John O. Shaw, Jr., Trustee for Sidney W. Hayward and others, twenty-four (24) feet;  
southerly by land late of Abbie F. Nogler, now of the Commonwealth, one hundred and thirty-seven (137) feet;  
westerly and northerly by land now or late of Abbie F. Nogler by two lines measuring respectively eighteen (18) feet and one hundred and twenty-eight (128) feet, the northwesterly, northeasterly and southeasterly angles of said lot being marked by stone bounds; being the parcel described in the Fifth paragraph of a deed from Abbie F. Nogler to the Commonwealth dated July 23, 1902, recorded as aforesaid, Book 2993, page 505.

TAKING/ID No. 118

Third. A parcel of land lately owned by Laura S. Wilkinson and others, situate in the southeasterly part of Weston on River Street and Loring Street, a short distance northerly from South Avenue (being the southwesterly part of the Aqueduct Terminal Chamber Lot, so called), containing twelve and eighty-three one-hundredths (12.83) acres, shown upon a plan inscribed "Commonwealth of Massachusetts. Metropolitan Water Works. Plan No. 143 of Land Takings. Weston Aqueduct. Land in Weston," dated November 8, 1906; signed by Dexter Brackett, Department Engineer, and bounded and described as follows: -

Beginning at its most southerly angle at the center of a stone bound by land now or late of Annie J. Mathews and others in the northwesterly line of River Street;  
then running north 16- 48' east on said westerly line, two hundred and fifty-two (252) feet to the centre of stone bound at the southerly end of the westerly line of Loring Street;  
then on said westerly line on a curve to the left having a radius of two hundred fourteen and fifty-two one hundredths (214.52) feet, ninety-six and thirty-five one hundredths (96.35) to the centre of a stone bound;  
then north 8- 54' west on said westerly line, eighteen and thirteen one-hundredths (18.13) feet to the centre of a stone bound at the southerly angle of land formerly of the estate of Deborah Ware, now of the Commonwealth (being the northeasterly and remaining portion of said Terminal Chamber Lot);  
then about north 52- 52' west on said land of the Commonwealth, seven hundred seventy and five-tenths (770.5) feet to the centre of a stone bound;  
thence about 31- 13' west on said land of the Commonwealth five hundred thirty-three and nine-tenths (533.9) feet to the centre of a stone bound at the southerly angle of land late of Edward Dooley, now of the Commonwealth, and the easterly angle of land now or late of Edward Dooley;  
then a little west of south by land of said Dooley, five hundred and sixty-five (565) feet to land now or late of Annie J. Mathews and others;  
then on land of said Mathews and others the six following courses and distances, viz: -  
south 24- 36' west, fifty-seven and four tenths (57.4) feet to the centre of a stone bound;  
south 45- 51' east, six hundred and three-tenths (600.3) feet to a copper bolt;  
south 56- 54' east, forty and five-tenths (40.5) feet;  
south 61- 58' east, two hundred forty-three and five-tenths (243.5) feet to the centre of a stone bound;  
south 60- 58' east, one hundred forty-one and one-tenth (141.1) feet to the centre of a stone bound; and  
south 64- 53' east, two hundred seventy-three and one-tenth (273.1) to the centre of a stone bound and the point of beginning;

being the greater and southwesterly part of the premises described in two deeds to the Commonwealth, one from Laura S. Wilkinson and others, covering thirty-one undivided thirty-fifth parts, dated January 25, 1902, recorded as aforesaid, Book 2952, page 15, and the others from Marion Gott and others, conveying four undivided thirty-fifth parts, dated May 9, 1902, recorded as aforesaid, Book 2966, page 221.

TAKING/ID No. 118

The measurements and areas as above given are supposed to be as stated, but said parcels are hereby taken whether said measurements and areas are greater or less than as above given.

The above courses are with reference to the meridian 71- 44' 57" west of Greenwich.

The lands above described and hereby taken are deemed by the said Metropolitan Water and Sewerage Board to be necessary for the carrying out the powers and duties conferred upon it by said acts.

IN WITNESS WHEREOF the said Henry H. Sprague, Henry P. Walcott and James A. Bailey, Junior, the Metropolitan Water and Sewerage Board aforesaid, acting for the Commonwealth, have hereunto set their hands this twenty-second day of November in the year one thousand nine hundred and seven.

(Signed) Henry P. Sprague  
Henry P. Walcott  
James A. Bailey, Jr.

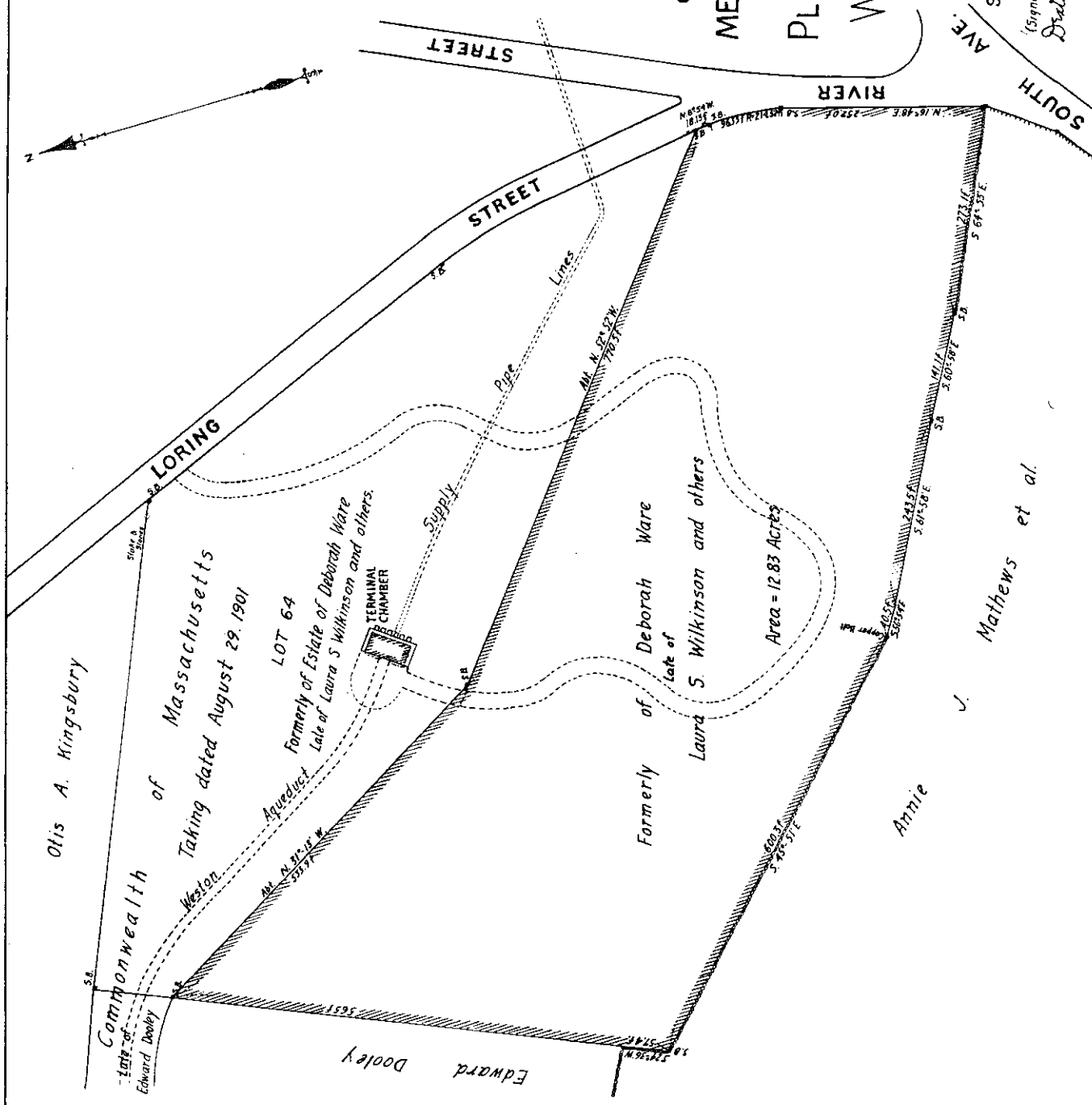
METROPOLITAN WATER AND SEWERAGE BOARD

Cambridge, Mass., Dec. 3, 1907. At 11 o'clock and 15 minutes A.M.  
Received and entered with Middlesex South District Deeds, Book 3340, page 323.

Attest:

Edwin O. Childs  
Register.

See Book of Plans No. 167, Plans Nos. 44, 45 and 46.



TAKING / ID#  
118

Sheet 4 of 4

COMMONWEALTH OF MASSACHUSETTS

METROPOLITAN · WATER · WORKS

PLAN No. 143 OF LAND TAKINGS

WESTON AQUEDUCT

LAND IN WESTON

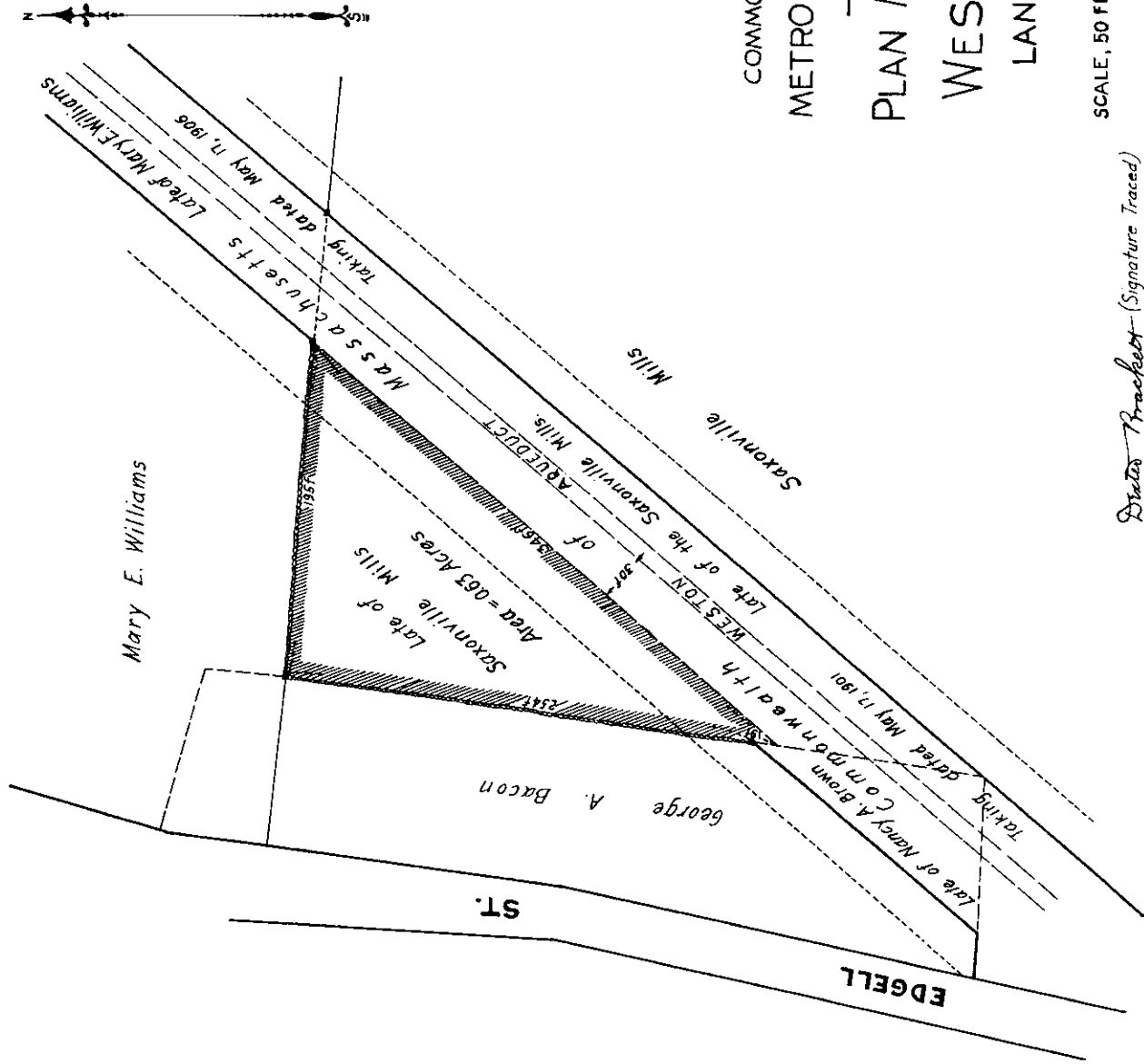
SCALE, 50 FEET TO AN INCH NOV. 8, 1906.

(Signature traced)  
D. W. Brashers

DEPARTMENT ENGINEER

Acc. No. 210,349

TRACED BY W.P.A. PROJECT #21374



TAKING / ID#

**118**

**Sheet 2 of 4**

COMMONWEALTH OF MASSACHUSETTS  
METROPOLITAN • WATER • WORKS

PLAN No. 141 OF LAND TAKINGS  
WESTON AQUEDUCT  
LAND IN FRAMINGHAM

SCALE, 50 FEET TO AN INCH

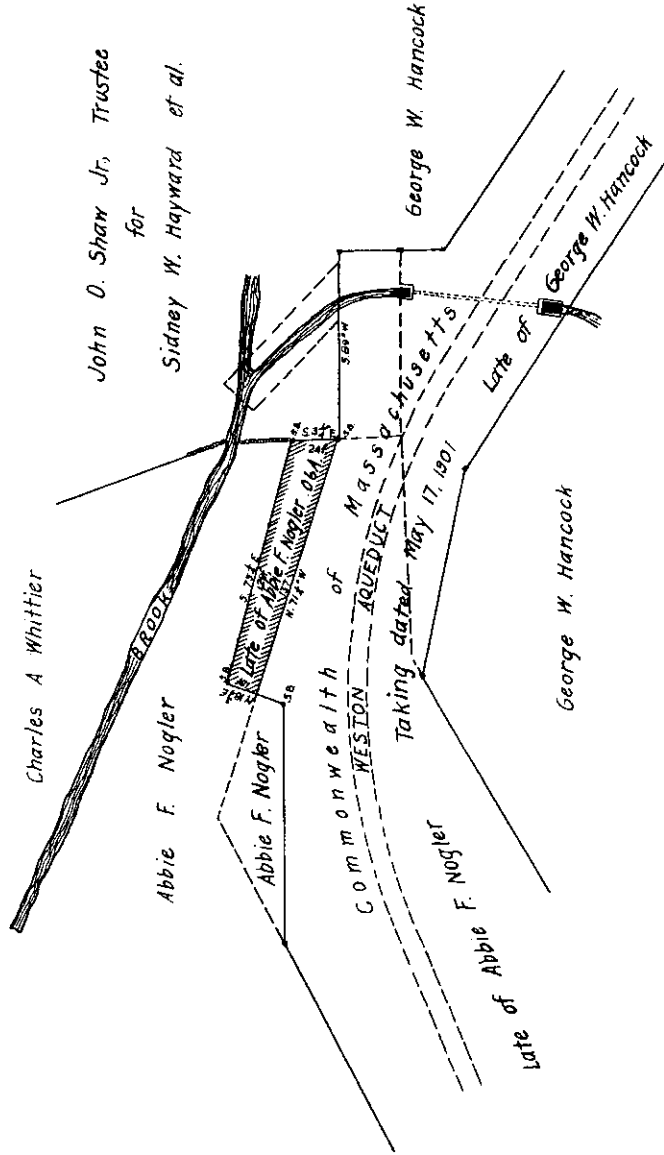
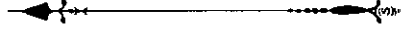
NOV. 8, 1906

*Drates Thacker* (Signature Traced)

DEPARTMENT ENGINEER

**Acc. No. 210,547**

TRACED BY WPA. PROJECT #21374



TAKING / ID#

118

Sheet 3 of 4

COMMONWEALTH OF MASSACHUSETTS

METROPOLITAN WATER WORKS

PLAN NO. 142 OF LAND TAKINGS

WESTON AQUEDUCT

LAND IN WAYLAND

SCALE 50 FEET TO AN INCH

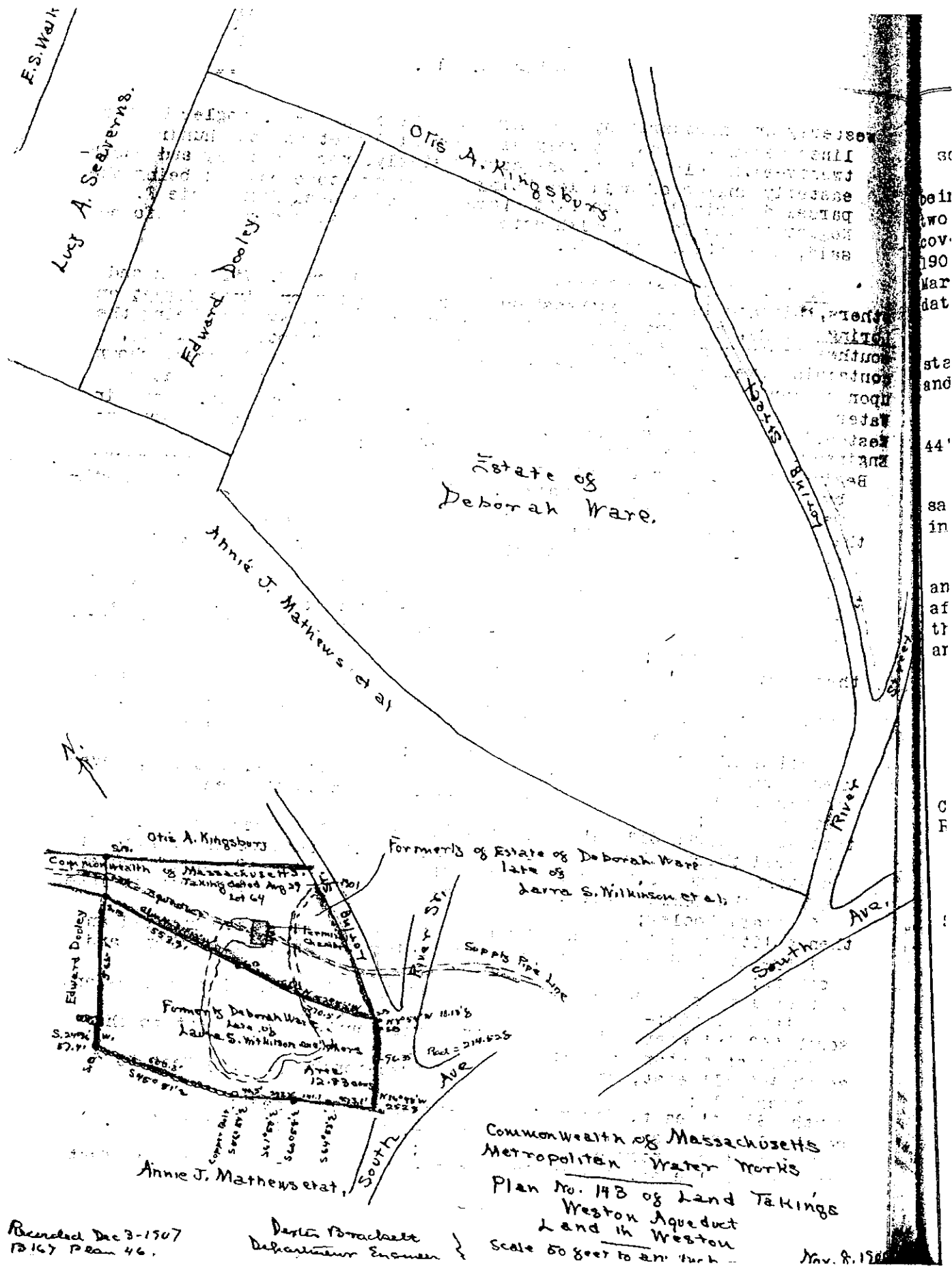
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*Daniel V. Prockett* (Signature Traced)

DEPARTMENT ENGINEER

Acc No. 210,348

TRACED BY W.P.A. PROJECT 21374



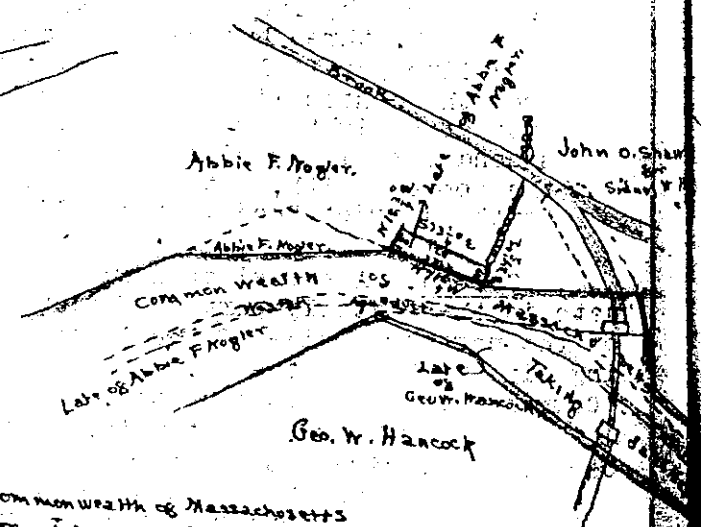
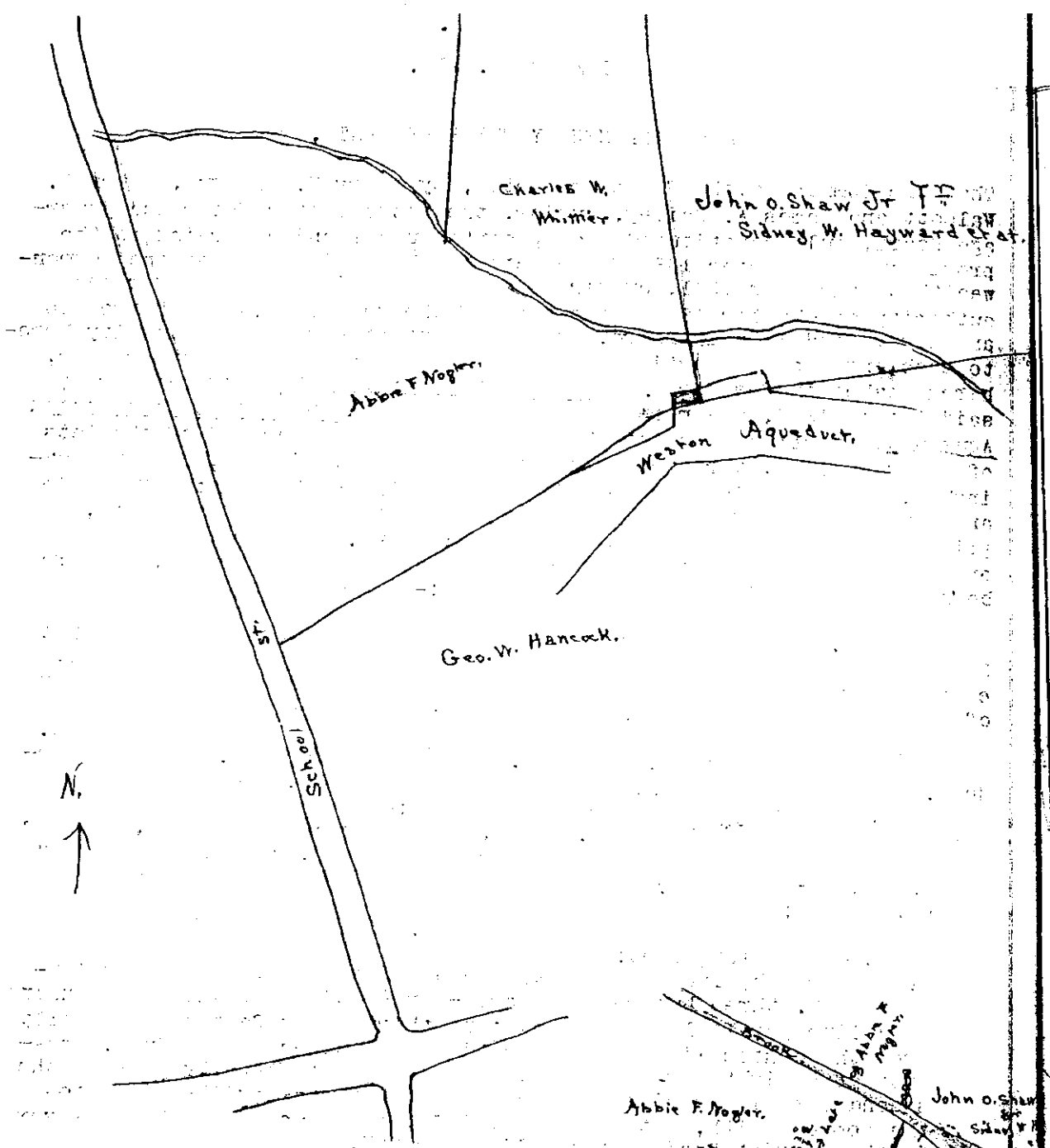
Recorded Dec 3-1907  
 13167 Plan 46.

Dexter B. Bouchette  
 Draftsman Engineer

Commonwealth of Massachusetts  
 Metropolitan Water Works  
 Plan No. 143 of Land Takings  
 Weston Aqueduct  
 Land in Weston  
 Scale 50 feet to an inch -

Nov. 8, 1907





Commonwealth of Massachusetts  
 Metropolitan Water Works  
 Plan No. 142 of Land Takings  
 Weston Aqueduct,  
 Land in Wayland.

Dexter Forrester  
 Draftsman Engineer

Scale 50 feet to an inch. Nov. 2, 1906.

Plan



**APPENDIX 2**  
**DOCUMENTATION OF CONSULTATION**

## **Appendix 2 – Documentation of Consultation - Table of Contents**

1. Master Address List
2. Letters of transmittal – First Stage Consultation Document
3. Comments from Resource Agencies
  - New England District, Corps of Engineers
  - Executive Office of Energy and Environmental Affairs, Department of Environmental Protection, Northeast Regional Office
  - Executive Office of Energy and Environmental Affairs, Department of Environmental Protection, Division of Watershed Management
  - United States Department of the Interior, Fish and Wildlife Service
  - Massachusetts Historical Commission
  - Commonwealth of Massachusetts, Division of Fisheries and Wildlife
4. Notice of Joint Meeting to Resource Agencies and Town of Weston and Public Notice of Joint Meeting (Weston Town Crier)
5. Transcript of Joint Meeting

**MASTER ADDRESS LIST (INITIAL CONSULTATION DOCUMENT)**

Massachusetts Water Resources Authority  
Loring Road Small Conduit Hydroelectric Project  
Exemption of Small Conduit Hydroelectric Facilities Application  
Consultation List

<p>Ms. Karen Adams, Chief Permits &amp; Enforc U.S. Army Corps of Engineers New England District 696 Virginia Road Concord, MA 01742-2751</p> <p>Public affairs contact: Larry.b.rosenberg@usace.army.mil</p>	<p>Ms. Kimberly Bose FERC 888 First Street, N.E. Washington D.C. 20426</p>
<p>Ralph Abele U.S. Environmental Protection Agency One Congress Street Boston, MA 02114 Mail Code CWQ <a href="mailto:Abele.ralph@epa.gov">Abele.ralph@epa.gov</a></p> <p>David Turin <a href="mailto:Turin.david@epa.gov">Turin.david@epa.gov</a></p>	<p>Mr. Kevin Mendik/Duncan Hay National Park Service 15 State Street Boston, MA 02109</p> <p><a href="mailto:Kevin_Mendik@nps.gov">Kevin_Mendik@nps.gov</a></p>
<p>Kathleen Baskin, Director of Water Policy EOEEA 100 Cambridge Street Boston, MA 02114</p> <p><a href="mailto:Kathleen.Baskin@state.ma.us">Kathleen.Baskin@state.ma.us</a></p>	<p>Ms. Jolett Westbrook Energy Facilities Siting Council 1 South Station Boston, MA 02110-2212 <a href="mailto:SitingBoard.Filing@state.ma.us">SitingBoard.Filing@state.ma.us</a></p>
<p>Ms. Mary B.Griffin Commissioner Department of Fish and Game 251 Causeway Street Suite 400 Boston, MA 02114</p>	<p>Ms. Laurie Burt, Commissioner DEP One Winter Street Boston, MA 02108</p>
<p>Hilary Jean (assigned by Glenn Haas)</p> <p>MassDEP Northeast Region 205B Lowell Street Wilmington, Massachusetts 01887 Main Phone: 978-694-3200</p> <p><a href="mailto:Hilary.Jean@state.ma.us">Hilary.Jean@state.ma.us</a></p>	<p>Dwayne Breger MA. DOER 100 Cambridge Street, Suite 1020 Boston, MA 02114</p> <p><a href="mailto:Dwayne.Breger@state.ma.us">Dwayne.Breger@state.ma.us</a> <a href="mailto:DOER.Energy@state.MA.US">DOER.Energy@state.MA.US</a></p>

<p>Ms. Brona Simon Secretary of the Commonwealth MA Historical Commission MA Archives Building 220 Morrissey Boulevard Boston, MA 02125</p> <p><a href="mailto:mhc@sec.state.ma.us">mhc@sec.state.ma.us</a></p>	<p>NOAA-National Marine Fisheries Service 55 Great Republic Drive Gloucester, MA 01930</p>
<p>Mr. Thomas French National Heritage &amp; Endangered Species One Rabbit Hill Road Westborough, MA 01581</p> <p><a href="mailto:Tom.french@state.ma.us">Tom.french@state.ma.us</a></p>	<p>Ms. Melissa Grader U.S. Fish and Wildlife Service Connecticut River Coordinator's Office 103 East Plumtree Road Sunderland, MA 01375</p> <p>(413) 548 9138</p>
<p>Mr. Tyler Leeds, Mass Technology Collaborative 75 North Drive Westborough, MA 01581-3340</p>	<p>Mr. Jack Sullivan FEMA 99 High Street, 6<sup>th</sup> floor Boston, MA 02109</p> <p><a href="mailto:Jack.sullivan@dhs.gov">Jack.sullivan@dhs.gov</a></p>
<p>National Advisory Council on Historic Preservation Old Post Office Building 100 Pennsylvania Ave, NW Suite 803 Washington, D.C. 20004</p> <p><a href="mailto:achp@achp.gov">achp@achp.gov</a></p>	<p>Mr. James Kardatzke Bureau of Indian Affairs Eastern Agency 711 Steward Ferry Pike Nashville, TN 37214 (returned)</p>
<p>Regional Director US Fish and Wildlife Service 300 Westgate Center Drive Hadley, MA 01035-9587</p> <p><a href="mailto:northeast@fws.gov">northeast@fws.gov</a></p>	<p>Regional Engineer FERC New York Regional Office 19 W. 34<sup>th</sup> Street, RM. 400 New York, N.Y. 1001-3006</p>
<p>Mr. Russ Cohen MA Department of Fish and Game MA Riverways Program 251 Causeway St, Suite 400 Boston, MA 02114</p> <p><a href="mailto:Russ.Cohen@state.ma.us">Russ.Cohen@state.ma.us</a></p>	<p>Ms. Jolett Westbrook MA. Energy Facilities Siting Council 1 South Station Boston, MA 02110-2212</p>
<p>Ms Donna VanderClock Weston Town Manager Weston Town Hall Town Hall Road</p>	<p>Robert Bell FERC 888 First Street, N.E. Washington D.C. 20426</p>

P.O. Box 378 Weston, MA	
Regional Environmental Impact Review Officer U.S. Department of the Interior 408 Atlantic Ave, Suite 142 Boston, MA	Mr. Jack Schwartz MA Division of Marine Fisheries Annisquam River Marine Fisheries Station 30 Emerson Ave. Gloucester, ma 01930
Steve Fogg Town Engineer 190 Boston Post Road By-Pass Weston, MA 02493  Fogg.s@westonmass.org	Caleb Slater, PHd MA department of Fisheries and Wildlife 1 Rabbit Hill Road Westborough, MA 01581  Caleb.Slater@state.ma.us



**LETTERS OF TRANSMITTAL – INITIAL CONSULTATION DOCUMENT**



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000  
Fax: (617) 788-4899  
TTY: (617) 788-4971

December 1, 2008

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.D. 20426

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Secretary Bose:

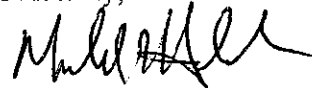
As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed a copy of the Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit that serves parts of Boston and surrounding communities (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

The material presented in this initial consultation package is presented and formatted as the FERC Application for a Conduit Exemption itself. This package is also being sent to the resource agencies listed in the attached sheets. Please note that MWRA requests that all figures in Exhibit F be kept confidential and not be considered public information due to their status as critical water supply infrastructure.

If after review of this initial consultation package, there are no objections from resource agencies, the MWRA intends to request that the FERC, pursuant to its authority, waive the second stage consultation requirements in 18 CFR Part 4, Subpart D, Section 4.38 (c) and allow the MWRA to proceed directly to the third stage of consultation (filing of the Application for Exemption with the FERC) as set forth in 18 CFR, Part 4, Subpart D, and Section 4.38 (d).

Should you have any questions, please do not hesitate to contact me at (617) 788 4359 or Pam Heidell of my staff at (617) 788 1102.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael J. Hornbrook". The signature is fluid and cursive, with the first name "Michael" being more prominent.

Michael J. Hornbrook,  
Chief Operating Officer

cc:  
Robert Bell



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000  
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December 1, 2008

Mr. Robert Bell  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Mr. Bell:

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At MWRA's Loring Covered Storage Facility in Weston, sleeve valves in an underground vault are currently used to reduce the pressure of water to safely send approximately 22 million gallons per day of water to storage tanks serving a portion of MWRA's service area. A hydropower turbine-generator at this location could harness the power of this water, and provide energy recovery along with the primary purpose of the Loring Road facility to regulate flow and provide a constant pressure water supply to water supply customers.

As defined by FERC, a small conduit hydroelectric facility includes "all structures, fixtures, equipment and lands used and useful in the operation or maintenance of the hydroelectric facility, but excludes the conduit on which the hydroelectric facility is located or the transmission lines associated with the hydroelectric facility." As a result, the geographic scope of this project is limited.

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application to FERC; evidence of agency consultation must be included in the exemption application. MWRA anticipates that limited consultation will be necessary given the nature of this project, and plans to request that FERC, pursuant to its authority, waive the second stage consultation requirements in 18 CFR Part 4, Subpart D, Section 4.38 ( c ) and allow the MWRA to proceed directly the third stage of consultation (filing of the Application for Exemption with the FERC). Therefore, MWRA would appreciate your timely review and comment, and your concurrence with a waiver of the second stage consultation requirements.

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Michael J. Hornbrook,  
Chief Operating Officer



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Boston, MA 02129

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Executive Director

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TTY: (617) 788-4971

December 1, 2008

Regional Engineer  
FERC  
New York Regional Office  
19 W. 34<sup>th</sup> Street, RM. 400  
New York, N.Y. 1001-3006

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Sir/Madam:

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Chief Operating Officer



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TTY: (617) 788-4971

December 1, 2008

Mr. Jack Sullivan  
FEMA  
99 High Street, 6<sup>th</sup> floor  
Boston, MA 02109

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Mr. Sullivan:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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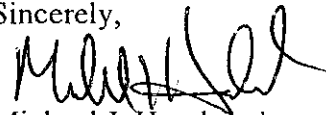
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Michael J. Hornbrook,  
Chief Operating Officer



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Boston, MA 02129

Frederick A. Laskey  
Executive Director

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December 1, 2008

Mr. Thomas French  
National Heritage & Endangered Species  
One Rabbit Hill Road  
Westborough, MA 01581

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Mr. French:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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Chief Operating Officer



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December 1, 2008

NOAA-National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Sir/Madam:

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Michael J. Hornbrook,  
Chief Operating Officer



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Executive Director

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December 1, 2008

Ms. Mary B. Griffin, Commissioner  
Department of Fish and Game  
251 Causeway Street Suite 400  
Boston, MA 02114

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Ms. Griffin:

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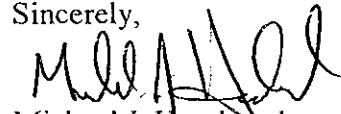
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Michael J. Hornbrook,  
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Frederick A. Laskey  
Executive Director

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TTY: (617) 788-4971

December 1, 2008

Mr. Kevin Mendik/Duncan Hay  
National Park Service  
15 State Street  
Boston, MA 02109

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Messrs. Mendik and Hay:

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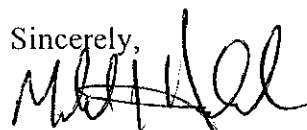
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Charlestown Navy Yard  
100 First Avenue, Building 39  
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Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000  
Fax: (617) 788-4899  
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December 1, 2008

Ms. Laurie Burt, Commissioner  
DEP  
One Winter Street  
Boston, MA 02108

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Ms. Burt:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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Chief Operating Officer



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December 1, 2008

Mr. Glenn Haas  
Department of Environmental Protection  
One Winter Street  
Boston, MA 02108

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Mr. Haas:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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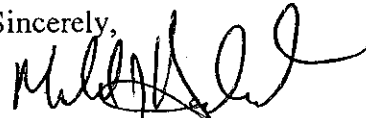
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Chief Operating Officer



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000  
Fax: (617) 788-4899  
TTY: (617) 788-4971

December 1, 2008

District Chief  
United States Geological Survey  
10 Bearfoot Road  
Northborough, MA

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Sir/Madam:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

At MWRA's Loring Covered Storage Facility in Weston, sleeve valves in an underground vault are currently used to reduce the pressure of water to safely send approximately 22 million gallons per day of water to storage tanks serving a portion of MWRA's service area. A hydropower turbine-generator at this location could harness the power of this water, and provide energy recovery along with the primary purpose of the Loring Road facility to regulate flow and provide a constant pressure water supply to water supply customers.

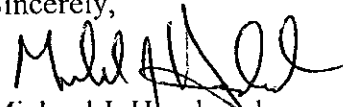
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Should you have any questions about the project or the process outlined above, please do not hesitate to contact me at (617) 788 4359 or Pam Heidell of my staff at (617) 788 1102.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael J. Hornbrook", written over a horizontal line.

Michael J. Hornbrook,  
Chief Operating Officer



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December 1, 2008

Mr. James Kardatzke  
Bureau of Indian Affairs  
Eastern Agency  
711 Steward Ferry Pike  
Nashville, TN 37214

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Mr. Kardatzke:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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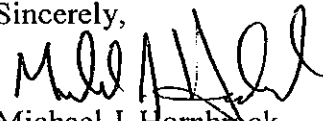
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Michael J. Hornbrook,  
Chief Operating Officer



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December 1, 2008

Ms. Donna VanderClock  
Weston Town Manager, Town Hall  
Town Hall Road, P.O. Box 378  
Weston, MA

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Ms. VanderClock:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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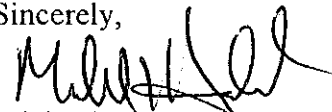
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Michael J. Hornbrook,  
Chief Operating Officer



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December 1, 2008

Kathleen Baskin, Director of Water Policy  
EOEEA  
100 Cambridge Street  
Boston, MA 02114

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Ms. Baskin:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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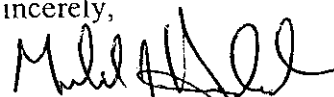
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Michael J. Hornbrook,  
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Executive Director

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December 1, 2008

Mr. Russ Cohen  
MA Department of Fish and Game  
MA Riverways Program  
251 Causeway St, Suite 400

Boston, MA 02114 Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Mr. Cohen:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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December 1, 2008

Ms. Melissa Grader  
U.S. Fish and Wildlife Service  
Connecticut River Coordinator's Office  
103 East Plumtree Road  
Sunderland, MA 01375

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Ms. Grader:

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December 1, 2008

Ms. Karen Adams, Chief Permits & Enforcement  
U.S. Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Ms. Adams:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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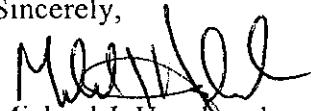
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TTY: (617) 788-4971

December 1, 2008

Ralph Abele  
U.S. Environmental Protection Agency  
One Congress Street  
Boston, MA 02114  
Mail Code CWQ

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Mr. Abele:

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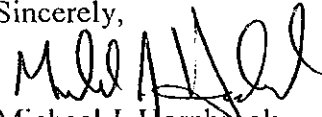
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December 1, 2008

Mr. Tyler Leeds,  
Mass Technology Collaborative  
75 North Drive  
Westborough, MA 01581-3340

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Mr. Leeds:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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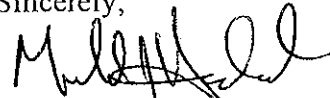
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December 1, 2008

Ms. Brona Simon  
Secretary of the Commonwealth  
MA Historical Commission  
MA Archives Building  
220 Morrissey Boulevard  
Boston, MA 02125

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Ms. Simon:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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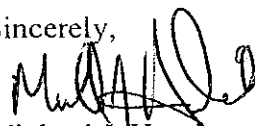
As defined by FERC, a small conduit hydroelectric facility includes "all structures, fixtures, equipment and lands used and useful in the operation or maintenance of the hydroelectric facility, but excludes the conduit on which the hydroelectric facility is located or the transmission lines associated with the hydroelectric facility." As a result, the geographic scope of this project is limited.



The material presented in this initial consultation package is presented and formatted as the FERC Application for a Conduit Exemption itself. FERC regulations require that federal and state resource agencies be consulted prior to submission of the final application to FERC; evidence of agency consultation must be included in the exemption application. MWRA anticipates that limited consultation will be necessary given the nature of this project, and plans to request that FERC, pursuant to its authority, waive the second stage consultation requirements in 18 CFR Part 4, Subpart D, Section 4.38 ( c ) and allow the MWRA to proceed directly the third stage of consultation (filing of the Application for Exemption with the FERC). Therefore, MWRA would appreciate your timely review and comment, and your concurrence with a waiver of the second stage consultation requirements.

Should you have any questions about the project or the process outlined above, please do not hesitate to contact me at (617) 788 4359 or Pam Heidell of my staff at (617) 788 1102.

Sincerely,



Michael J. Hornbrook,  
Chief Operating Officer



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000  
Fax: (617) 788-4899  
TTY: (617) 788-4971

December 1, 2008

Ms. Jolett Westbrook  
MA. Energy Facilities Siting Council  
1 South Station  
Boston, MA 02110-2212

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Ms. Westbrook:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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Sincerely,

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Michael J. Hornbrook,  
Chief Operating Officer



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000  
Fax: (617) 788-4899  
TTY: (617) 788-4971

December 1, 2008

Hydropower Section, MA. DOER  
100 Cambridge Street, Suite 1020  
Boston, MA 02114

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Sir/Madam:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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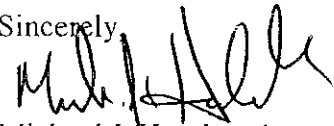
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Sincerely,



Michael J. Hornbrook,  
Chief Operating Officer



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000  
Fax: (617) 788-4899  
TTY: (617) 788-4971

December 1, 2008

National Advisory Council on Historic Preservation  
Old Post Office Building  
100 Pennsylvania Ave, NW Suite 803  
Washington, D.C. 20004

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Sir/Madam:

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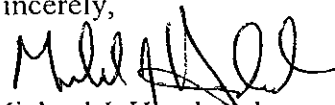
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Michael J. Hornbrook,  
Chief Operating Officer



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000  
Fax: (617) 788-4899  
TTY: (617) 788-4971

December 8, 2008

Andrew Raddant  
Office of Environmental Policy and Compliance  
Boston Region, DOI  
408 Atlantic Avenue, Room 142  
Boston, MA 02210-3334

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Mr. Raddant:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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Michael J. Hornbrook,  
Chief Operating Officer



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000  
Fax: (617) 788-4899  
TTY: (617) 788-4971

December 8, 2008

Mr. Jack Schwartz  
MA. Division of Marine Fisheries  
Annisquam River Marine Fisheries Station  
30 Emerson Ave  
Gloucester, MA 01930

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Mr. Schwartz:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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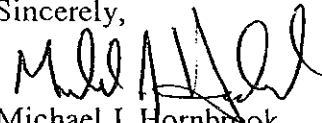
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Sincerely,



Michael J. Hornbrook,  
Chief Operating Officer

## COMMENTS FROM RESOURCE AGENCIES



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NORTHEAST REGIONAL OFFICE

205B Lowell Street, Wilmington, MA 01887 • (978) 694-3200

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

IAN A. BOWLES  
Secretary

LAURIE BURT  
Commissioner

January 21, 2009

Michael J. Hornbrook  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

PWS Name: MWRA  
PWS ID #: 6000000  
Proposed Loring Road Hydropower  
First Stage Consultation Document

Dear Mr. Hornbrook:

The Massachusetts Department of Environmental Protection (MassDEP) is in receipt of your letter dated December 1, 2008, in which you request MassDEP to support the MWRA's request that the Federal Energy Regulatory Commission waive the second stage of consultation requirements in 18 CFR Part 4 Subpart D, Section 4.38 (c).

In addition to a review of the documentation presented, MassDEP staff also attended the Public Hearing concerning this matter at the Weston Town Hall on January 8, 2009, and inspected the site for the generator installation following that meeting.

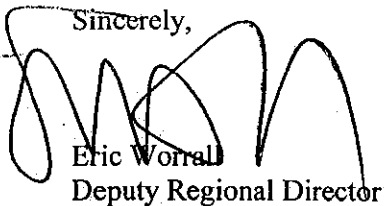
The project consists of the installation of a 200 kW turbine inside an existing below grade valve chamber. Water for the generator is from an existing pipeline that transfers fully treated potable water from the Norumbega covered storage tank to the Loring Road covered storage tanks.

MassDEP supports your request to waive the second stage consultation requirements in 18 CFR Part 4, Subpart D section 4.38 (c).

MRWA will need to submit a permit application, BRP WS 32 Distribution System Modification, to MassDEP for review and approval prior to initiating construction of the project.

If you have any questions regarding this matter, please do not hesitate to contact me at (978) 694-3225.

Sincerely,



Eric Worrall  
Deputy Regional Director

EW/HJ

Cc: Y:\DWP Archive\NERO\Weston-6000000-System Modifications-2009-01-21  
Glenn Hass, MassDEP





COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Watershed Management, 627 Main Street 2nd Floor, Worcester, MA 01608

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

IAN A. BOWLES  
Secretary

LAURIE BURT  
Commissioner

Mr. Michael J. Hornbrook  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston MA 02139

December 30, 2008

Re: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption

Dear Mr. Hornbrook,

The MA Department of Environmental Protection (Department) has reviewed your submission of the Initial Consultation Package for the Loring Road Hydropower Small Conduit Exemption draft application to the Federal Energy Regulatory Commission.

The proposed hydroelectric conduit facility would be located within an existing underground valve chamber that is part of the Massachusetts Water Resources Authority's water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit. The hydroelectric facility would not affect water levels in the local watershed or in source reservoirs.

The Department supports this project and concurs a waiver of second stage consultation requirements is appropriate.

Future correspondence related to this project should be copied to my attention. If you have any questions, please contact me at 508-767-2854.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Robert Kubit'.

Robert Kubit, P.E.





# United States Department of the Interior



FISH AND WILDLIFE SERVICE

New England Field Office

70 Commercial Street, Suite 300

Concord, New Hampshire 03301-5087

<http://www.fws.gov/northeast/newenglandfieldoffice>

REF: Loring Road Hydropower Small Conduit Exemption  
Massachusetts Water Resources Authority  
COMMENTS

December 16, 2008

Michael J. Hornbrook  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Dear Mr. Hornbrook:

This is in response to your letter dated December 1, 2008, requesting our review of an Initial Consultation Package (ICP) for the proposed Loring Road Hydropower Small Conduit Facility, to be located within the Massachusetts Water Resources Authority's (MWRA) public water supply distribution system in Weston, Massachusetts. In addition to reviewing the ICP, MWRA requests that we concur with its request to waive the second-stage consultation requirements in 18 CFR Part 4, Subpart D, Section 4.38(c) and allow the MWRA to proceed directly to filing an application for exemption with the Federal Energy Regulatory Commission. We have reviewed the ICP and offer the following comments.

## PROPOSAL

The applicant, the MWRA, proposes to install a hydroelectric turbine within a valve chamber presently used to relieve water pressure in the water supply distribution system. Specifically, water enters Valve Chamber One (VC1), where sleeve valves are used to reduce water pressure; then water is sent to one of two storage tanks, from which it is sent to a pipeline that provides public water to MWRA's Low Water Service area. If approved, instead of using sleeve valves to dissipate energy, the hydroturbine would be used to harness the energy to regulate flow and provide a constant pressure water supply to the Low Service system.

The project would use one 200-kW turbine generator unit (either a Kaplan or Francis-type runner), with a hydraulic capacity of approximately 39 cfs at an operating head of 75 feet. Project operations would be integrated into existing MWRA operations and controlled by SCADA.

## FISH AND WILDLIFE RESOURCES

VC1, where the turbine/generator unit would be placed, is located within the 20-acre Loring Road facility. The majority of the site is grass, with a wooded perimeter. VC1 is an underground vault, appearing only as a concrete slab at the surface. There is an access road leading to a paved parking area between VC1 and Storage Tank One. While there are no rivers or streams within the project area, there is a wetland to the west of Storage Tank Two.

The ICP states that there are no threatened or endangered species or critical habitats within the project bounds. As part of our review of the ICP, we used the Service's New England Field Office website to determine whether any federally-listed, threatened, proposed, or candidate species (T/E) are likely to occur within the proposed project action area based on the location of the proposed project. Since the proposed project occurs in a county with no known listed, proposed, or candidate species present, no further T/E coordination is needed. Enclosed please find a letter stating this fact, which should be included in your final exemption application.

## COMMENTS

The proposed project appears to have minimal, if any, impacts to fish and wildlife resources. The construction activities would occur in an already disturbed area, and operation of the project would use water coming from a water supply pipeline, and discharge to another water supply pipeline, utilizing a completely contained system that has no hydraulic connection to natural waterbodies. As such, the U.S. Fish and Wildlife Service fully supports this project, and concurs that a waiver of second stage consultation requirements is appropriate. No further consultation with this office is necessary.

Thank you for this opportunity to comment. If you have any questions or require further information, please contact Melissa Grader of this office at 413-548-8002, extension 124.

Sincerely yours,



Marilyn D. Brower  
Acting Supervisor  
New England Field Office

Enclosure



cc: FERC, Secretary  
MA DFW, Caleb Slater  
MA DEP, Robert Kubit  
Reading File  
ES: MGrader:12-16-08:603-223-2541



United States Department of the Interior  
FISH AND WILDLIFE SERVICE

New England Field Office  
70 Commercial Street, Suite 300  
Concord, New Hampshire 03301-5087



January 1, 2008

To Whom It May Concern:

This project was reviewed for federally-listed or proposed threatened or endangered species presence per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website (<http://www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation.htm>). Based on information currently available, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (Service) are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with the Service under Section 7 of the Endangered Species Act is not required.

This concludes the review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this review, unless additional information on listed or proposed species becomes available.

Thank you for your coordination. Please contact us at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Anthony P. Tur  
Endangered Species Specialist  
New England Field Office



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

RECEIVED

DEC 02 2008

MASS. HIST. COMM  
AC. 45479

Telephone: (617) 242-6000  
Fax: (617) 788-4899  
TTY: (617) 788-4971

Frederick A. Laskey  
Executive Director

December 1, 2008

Ms. Brona Simon  
Secretary of the Commonwealth  
MA Historical Commission  
MA Archives Building  
220 Morrissey Boulevard  
Boston, MA 02125

Subject: Initial Consultation Package  
Proposed Loring Road Hydropower Small Conduit Exemption  
Located at MWRA Loring Road Covered Storage Facility

Dear Ms. Simon:

As required by the Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38 (b) (1), please find enclosed an Initial Consultation Package for the proposed Loring Road Small Conduit Hydroelectric Facility. The proposed Loring Road hydro conduit facility would be located within an existing underground structure (a valve chamber) that is part of the Massachusetts Water Resources Authority's (MWRA) water distribution system in Weston, Massachusetts. The hydroelectric facility would be fed from a storage tank and discharge into an existing water supply conduit (and not into a natural water body). The hydro facility would be driven by water demand in MWRA's Low Water Service area, and would not influence or affect withdrawals from MWRA's source reservoirs more than 30 miles away.

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Should you have any questions about the project or the process outlined above, please do not hesitate to contact me at (617) 788 4359 or Pam Heidell of my staff at (617) 788 1102.

After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.

Sincerely,



Michael J. Hornbrook,  
Chief Operating Officer

 MHC PC 45479

Edward L. Bell

Date

Senior Archaeologist

09 December 2008

Massachusetts Historical Commission

XC: Marianne Connolly, MWRA



**MassWildlife**

Commonwealth of Massachusetts

# Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

Michael J. Hornbrook  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

December 9, 2008

**RE: Proposed Loring Road hydropower small conduit exemption  
Weston, MA  
NHESP File No. 08-25912**

Dear Mr. Hornbrook:

Thank you for contacting the Division of Fisheries and Wildlife for information relative to the above referenced project. The Fisheries Section supports the project and is in favor of a waiver of the second stage consultation requirements.

At this time the site is not mapped as Priority or Estimated Habitat and the Natural Heritage and Endangered Species Program does not have any rare species concerns associated with this site. Should your site plans change, or new rare species information become available, this evaluation may be reconsidered.

For questions regarding the Natural Heritage & Endangered Species Program, please contact Amanda Veinotte at (508) 389-6380. For questions regarding fisheries issues, please contact Richard Hartley at (508) 389-6330.

Sincerely,

Thomas W. French, PhD  
Assistant Director

[www.masswildlife.org](http://www.masswildlife.org)

Division of Fisheries and Wildlife

Field Headquarters, One Rabbit Hill Road, Westborough, MA 01581 (508) 389-6300 Fax (508) 389-7890

An Agency of the Department of Fisheries, Wildlife & Environmental Law Enforcement



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS  
696 VIRGINIA ROAD  
CONCORD, MASSACHUSETTS 01742-2751

January 16, 2009

Regulatory Division  
CENAE-R-2008-3759

Michael J. Hornbrook  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Dear Mr. Hornbrook:

We have determined that a Department of the Army permit is not required for the construction of a hydroelectric facility within an existing valve chamber at the Loring Road Covered Storage Facility in Weston, Massachusetts. The work includes installation of a hydropower turbine-generator and associated equipment within an existing 50 foot by 125 valve chamber and will not result in the placement of fill material within waterways or wetlands. This determination is based on the information in your submittal entitled "LORING ROAD HYDROELECTRIC PROJECT, FIRST STAGE CONSULTATION DOCUMENT", and plans entitled "MASSACHUSETTS WATER RESOURCES AUTHORITY, METROWEST WATER SUPPLY TUNNEL, SHAFT W, GENERAL PLAN 11" on two sheets.

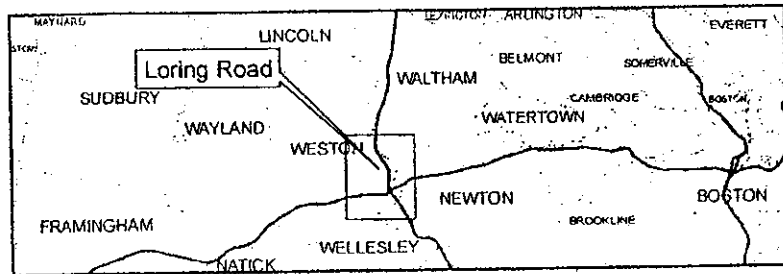
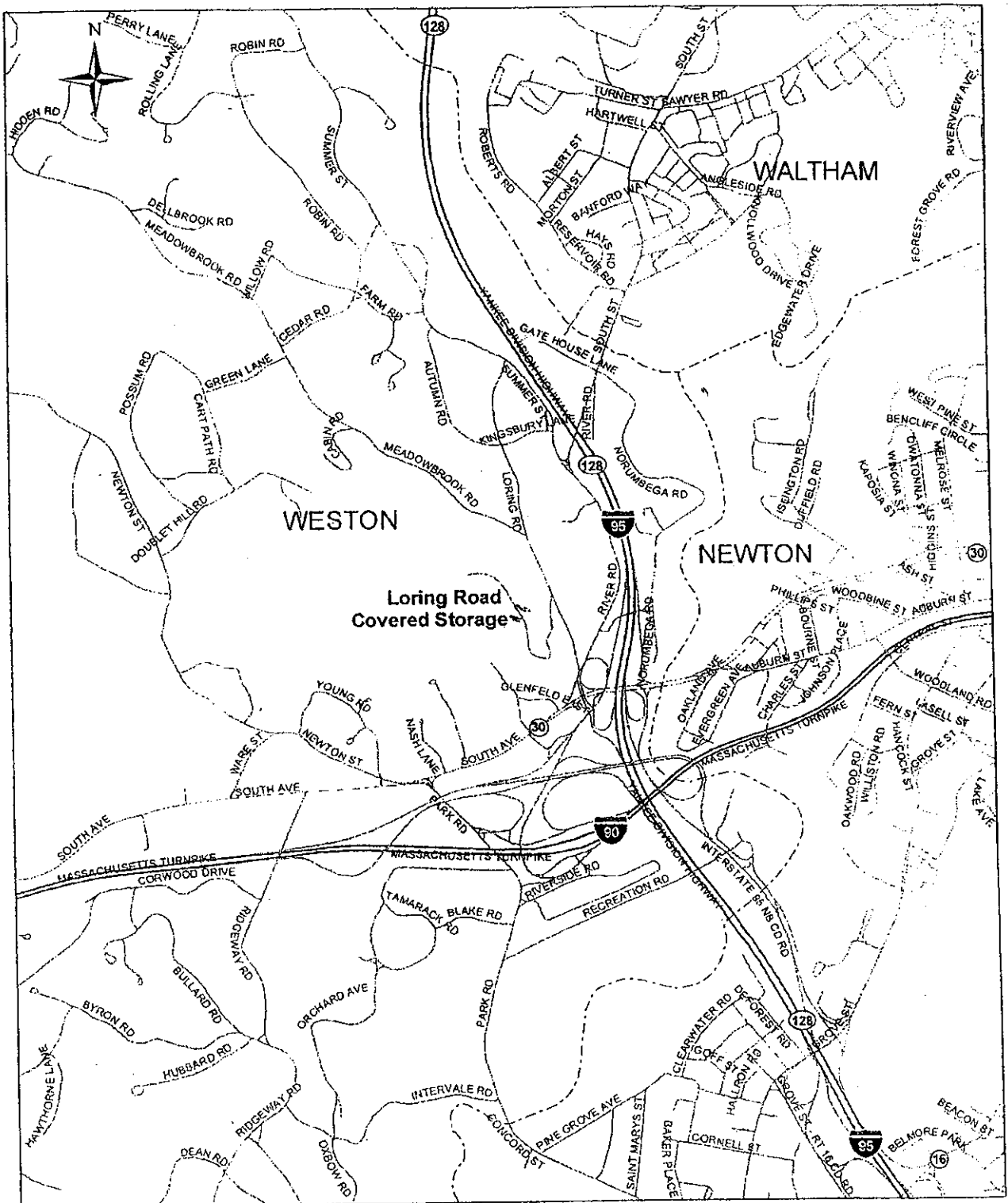
Our regulatory jurisdiction encompasses all work in or affecting navigable waters of the United States under Section 10 of the Rivers and Harbors Act of 1899 and the discharge of dredged or fill material into all waters of the United States, including adjacent wetlands under Section 404 of the Clean Water Act. Since your proposal does not include any of the aforementioned activities, a Department of the Army permit is not required and further consultation with our office concerning the Federal Energy Regulatory Commission application for this project is not necessary.

Finally, our Corps permit process does not supersede any other agency's jurisdiction. Therefore, if other Federal, State, and/or local agencies have jurisdiction over your proposed activity, you must receive all other applicable permits before you can begin work. If you have any questions regarding this letter, please contact Ted Lento, Regulatory Branch project manager, at (978) 318-8863, or (800) 362-4367 within Massachusetts.

Sincerely,

A handwritten signature in black ink, appearing to read "Karen Kirk Adams", is written over the typed name.

Karen Kirk Adams  
Chief, Permits & Enforcement Branch  
Regulatory Division



**FIGURE B1**  
**General Location Map**





**NOTICE OF JOINT MEETING TO RESOURCE AGENCIES AND TOWN OF  
WETSTON AND PUBLIC NOTICE OF JOINT MEETING**

**WAYLAND BOA  
LEGAL NOTICE  
TOWN OF WAYLAND  
MASSACHUSETTS  
01778  
BOARD OF APPEALS**

A public hearing will be held on January 13, 2009 at the TOWN BUILDING, 41 COCHITUATE ROAD, WAYLAND on the following applications at the time indicated:

1 p.m. Application of TODD MAGURA for any necessary approvals, special permits, variances as may be required to change, alter, extend a pre-existing non-conforming structure more than 20% (construct 1st & 2nd floor additions with deck & porch) under the Town of Land Zoning By-Laws Chapter 198 Sections 201, 203, 401.1.2, and 401.1.3. The property is located at 21 LAKESHORE DRIVE which is in a SINGLE RESIDENCE DISTRICT and AQUIFER PROTECTION DISTRICT. (08-36)

1 p.m. Application of RAFFI GARABEDIAN WAYLAND SUNOCO to appeal the decision of the Building Commissioner (see letter dated October 22, 2008) or in the alternative modify previous decisions to allow the sale of snacks and drinks under the Town of Wayland Zoning By-Laws Chapter 198 Sections 201, 203, (the sale of candy, chocolate, chips, nuts, coffee, soda, etc.) and M.G.L. Chapter 40A. The property is located at 78 BOSTON POST ROAD which is in a BUSINESS A and SINGLE RESIDENCE DISTRICT. (08-35)

At the conclusion of the hearings on the aforementioned applications, the Board may then meet for the purpose of deciding on or deliberating toward a decision on any applications previously heard by it and to which no decision has been filed or any other public business before the Board.

**BOARD OF APPEALS**

Eric Michael Thomas  
Eric Goldberg  
James Grumbach  
Steven Fugarazzo  
Boos

56169  
Weston Town Crier 12/25, 1/1/09

**BUTTERMAN ESTATE  
LEGAL NOTICE  
COMMONWEALTH OF MASSACHUSETTS  
THE TRIAL COURT  
THE PROBATE AND FAMILY COURT  
DEPARTMENT  
MIDDLESEX, SS DIVISION DOCKET NO  
08P5072AP1**

**PUBLIC ADMINISTRATION WITH SURETIES**

**NOTICE**

Estate of Robert L. Butteman  
Late of Weston,  
IN THE COUNTY OF MIDDLESEX

A petition has been presented in the above-captioned matter praying that Gayle Stone-Turesky, of Boston, in the County of Middlesex be appointed public administratrix of said estate with sureties on her bond.

If you desire to object to the allowance of said petition, you or your attorney must file a written appearance in said court at Cambridge, on or before 10:00 in the forenoon on January 16, 2009.

V. J. Hon. PETER C. DIGANGI, Esquire, First Justice of said Court at Cambridge, the 9th day of December, in the year of our Lord two thousand and eight.

Marie A. Gardin  
ACTING REGISTER  
REGISTER OF PROBATE COURT

AD#11855496  
Weston Town Crier 12/25/08

**Park it here -  
if you want to  
sell your car**

**GUIDON ESTATE**

**LEGAL NOTICE  
Commonwealth of Massachusetts  
The Trial Court  
Probate and Family Court Department  
MIDDLESEX Division  
Docket No. 08P4690AD1**

In the Estate of WILLIAM G GUIDON  
Late of WESTON  
In the County of MIDDLESEX  
Date of Death October 4, 2006

**NOTICE OF PETITION FOR  
APPOINTMENT OF ADMINISTRATOR**

To all persons interested in the above captioned estate, a petition has been presented praying that KENL SHULMAN, of BOSTON in the County of SUFFOLK be appointed administrator of said estate to serve with personal surety.

IF YOU DESIRE TO OBJECT THERETO, YOU OR YOUR ATTORNEY MUST FILE A WRITTEN APPEARANCE IN SAID COURT AT CAMBRIDGE ON OR BEFORE TEN O'CLOCK IN THE FORENOON (10:00 AM) ON JANUARY 22, 2009.

WITNESS, HON. PETER C. DIGANGI, ESQUIRE, First Justice of said Court at CAMBRIDGE this day, December 11, 2008.

Marie A. Gardin  
ACTING Register of Probate

AD#11853745  
Weston Town Crier 12/25/08

**MWRA/WESTON  
LEGAL NOTICE  
Public Notice**

The Massachusetts Water Resources Authority will hold a meeting with interested agencies and members of the public to review the proposed Loring Road Hydropower Small Conduit Facility in Weston. The meeting will be held on:

Date: January 8, 2009  
Time: 1:00 p.m.  
Location: Weston Town Hall, Lower Conference Room 11 Town House Road Weston, MA 02493

The purpose of the meeting is to present MWRA's proposal for the installation of a small hydroelectric turbine within an existing underground structure at Loring Road and to hear comments and questions on the project.

If you have any questions, please contact Pamela Heidett at (617) 788-1102.

AD#11856174  
Weston Town Crier 12/25/08

**WESTON PLA  
LEGAL NOTICE  
WESTON PLANNING BOARD  
PUBLIC HEARING**

Pursuant to Section V.3.(d) and Section XI of the Weston Zoning By-Law, the Planning Board will hold a public hearing in the Planning Board Office on Wednesday, January 14, 2009 at 7:45 PM on a Site Plan Approval application by The Meadowbrook School of Weston, Inc. to operate a day camp/summer program at 10 Farm Road, Weston, MA. The Application is on file at the Planning Board Office for public review M-F, 8:30-4:30.

By: Alfred Aydelott, Chairman  
Weston Planning Board

AD#11851497  
Weston Town Crier 12/18, 12/25/08

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**Thursday, January 8th**

**Monday, January 26th**

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# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000

Fax: (617) 788-4899

TTY: (617) 788-4971

December 15, 2008

Ms. Kimberly Bose  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Subject: Initial Consultation Process, Proposed Loring Road Hydropower  
Small Conduit Exemption

Dear Ms. Bose:

MWRA submitted an Initial Consultation Package for the Loring Road Small Conduit Hydroelectric Facility to FERC, resource agencies, and local government officials on 12/1/08. In accordance with 18 CFR, Part 4, subpart D, Section 4.38, MWRA has scheduled a joint meeting to discuss the proposed project. FERC, resource agencies on the attached listing, and members of the public are invited to attend and participate in the joint meeting. The meeting is scheduled for January 8, 2009 at 1:00 in the Weston Town Hall, Lower Conference Room. The agenda for the January 8<sup>th</sup> meeting is as follows:

- Introductions
- Purpose of Meeting (introduction to the FERC Conduit Exemption Process)
- Project Description
- Discussion of Initial Consultation Package
- Agency and Public Comments
- Next Steps

According to 18 CFR, Part 4, Subpart D, Section 4.38, the meeting will be recorded.

After the meeting at Weston Town Hall, there will be an opportunity for a site visit to Loring Road. The purpose of the site visit is to acquaint interested parties with the environmental setting for the proposed facility.

Please do not hesitate to contact me should you have any questions at (617) 788 1102.

Sincerely,

A handwritten signature in black ink, appearing to read "P. Heidell", is written over the word "Sincerely,".

Pamela Heidell,  
Policy and Planning Manager

cc: Entities on Consultation List

## TRANSCRIPT OF JOINT MEETING

Transcript of Joint Meeting  
LORING ROAD HYDROELECTRIC PROJECT  
Weston Town Hall, Lower Conference Room  
January 8, 2009, 1:00 p.m.

INTRODUCTIONS

Hello. My name is Pam Heidell and I am from the MWRA. I am managing this project. That's it for now.

I am Inge Uhler. I guess I was once a member of the (Weston/MWRA) Working group. I don't know what you would call it now but I have been around for years reviewing MWRA projects.

My name is Hilary Jean. I represent the Department of Environmental Protection Drinking Water Section.

I am Mark Johnson also with the MWRA. My official title is Director of Metropolitan Operations. The bottom line is I am responsible for operating and maintaining the facility so the turbine is something that I will make sure is operable.

I am Joe Konzem at 17 Loring Road and I am an abutter to the site about as close to MWRA Shaft W as you can get.

I am Earl Forman also from Loring Road and the Town's representative at the MWRA Advisory Board.

Tom Lindberg added: And Chairman of our Working Group for many years.

I am Courtney Feeley Karp of the Mass Department Energy Resources which as of eight days ago included hydro in the RPS program.

And I am Russ Cohen of the Mass Riverways Program which is within the Department of Fish and Game and I get a little involved in hydro projects. I am from the Town of Weston. I was in Steve Shaw's same class in high school and [looking at Earl Forman, Russ said] you have a son named Andy, right, and I played in the marching band next to your son. It is good to be back here.

I am Steve Shaw and I represent the Police Department in town.

I am Maureen McAvoy and I am a Design Manager with MWRA in the Water Engineering Department and I will be assisting Pam in the design aspects of this project.

I am Dave Soor and I am representing the Fire Department.

I am Fred Holland. I am engineer with CDM in Cambridge and I am the person who worked on the preliminary design for this turbine and the feasibility study as well

I am Vandana Rao from Energy and Environmental Affairs.

---

## PRESENTATION

Tom Lindberg: Great. Welcome. O.K. I am going to turn it over to Pam who will describe the project and Fred will have a few things to say as well.

Pam Heidell: The purpose of the meeting today is to provide a brief introduction to MWRA; I think most of you know us so we will go over that pretty fast. Also, the purpose is to provide some background [on the project] as to where this fits with our agency objectives. And to acquaint you with the Federal Energy Regulatory Commission review process for this project and the consultation process, a big part of any FERC process. And to hear your feedback and to sort of discuss next steps. There is a PowerPoint that we are distributing. We debated whether to do it overhead and then thought it would be a little better to have people follow along. This is an informal atmosphere, so we can obviously take questions that you have at the end, but if there is a question as we present the material, please feel free to consider this a participatory event here.

As you will note first thing [in the handout] a schematic of our system and that we are a regional water and sewer provider. It provides an overview of what our water system is, the Quabbin and Wachusett Reservoir and our transmission system that consists of over a hundred miles of tunnels and pipelines that transport the water to our distribution system. We will harken back to specific parts of the distribution system that relate to this project.

MWRA is an environmental organization. We have a keen interest in sustainability. It is not just water and sewer where we have sustainability practices; we have been trying to do renewable energy generation for quite some time. Energy is a really big part of our budget and at this point we have made a commitment to reduce energy consumption through efficiencies as well as by siting renewable projects. At this point, we generate about 43% of our energy needs through renewable resources. A big part of the renewable energy generation is methane from digested sludge at Deer Island. We have also installed solar panels at Deer Island, we are in the process of designing and building a wind turbine at Deer Island, and have other wind and solar projects in the works. And we also have hydropower in our energy portfolio. Turning to the fourth slide right now. The map shows that we have three hydro projects right now currently in operation. Two are in our water system, we have hydro at Cosgrove Intake, which is the intake at Wachusett Reservoir, which sends water through Cosgrove Aqueduct to the John Carroll Water Treatment Plant that you all eventually drink, and we also do hydro generation at our transfer from Quabbin Reservoir to the Wachusett Reservoir. We also generate hydropower at Deer Island. After the wastewater goes through treatment it goes through a turbine before it is discharged through the outfall.

We have these three hydro projects and we are hoping to expand our portfolio. Loring Road is one of two projects that are in the works and that is why we are here today. Fred Holland is going to talk more about the specifics of the project, but just to give you an overview. The project is located in a conduit that is an existing water supply structure up on Loring Road. The upstream source is a distribution storage tank and the downstream source, the discharge, is also to a storage tank so we are not talking about a new project that will have a new discharge. It will be very much contained within our system. So Norumbega and Loring Road are the backdrop for this project to place things in context.

Right now I want to talk a little bit about the regulatory process for hydro projects. Most hydro projects are regulated by the Federal Energy Regulatory Commission and that is the purpose of the hearing today. There are very extensive regulations and procedures, there are many different types of licenses and approvals and there is a specific approval for conduit like this project here. If you look at the handout on page six, the conduit definition is there. I will also say that FERC further defines the conduit as all structures and equipment and lands used in the operation of the facility, but excluding the conduit on which the facility is located or the transmission line associated with the project. So it is pretty contained review under FERC. The specific approval here is called a Conduit Exemption. It is really misleading. Everyone says, Oh, so the project doesn't have to go through review. But [the conduit exemption] doesn't mean the project is exempt from approval, and it doesn't mean the project is exempt from review. It just means that it is exempt from certain provisions of the Federal Power Act. It is important to clarify that for people.

And so associated with the review process for this project as well as any other hydroelectric project regulated by FERC, there is a consultation process. The consultation process is designed to ensure that all resource agencies with an interest in the project as well as the public have an opportunity to review and comment on the project. So if you turn to page eight of the handout, I sort of summarized the steps in the process prescribed by FERC regulations. There are three steps in the process. The first stage in the consultation process, and that is where we find ourselves today. We distributed the pre-consultation document to the agencies that are here today because they are on an agency distribution list. We didn't know which members of the public would be interested, but I have brought extra copies of the consultation document today for anyone that is interested in Weston that actually wants to take a look at the project. I can either pass the copies around, or you can let me know later on if you want one. I can give you my card and you can also contact Tom and we would be happy to provide anyone with more information.

After the distribution of the consultation document, there is a meeting. There is also an opportunity for a site visit. So after we are done here, we will go up to Loring Road site. If you like to go down steep ladders, we will take you into the vault where you can see the project is; you may want to go down - you will get your money's worth.

Following this meeting, there is a sixty day comment period. The sooner you provide us comments, we can move on to the next steps, but I don't want to pressure you here. The second stage of consultation is if there are studies identified or questions that we can't readily answer today we will do those studies, and then we would resubmit the document and you will have an opportunity to review that.

I have to be honest. For conduit projects, the second stage of the consultation process is often waived because of the non-impacts and non-issues associated with the project. In any event, if the second stage is waived or not, then you move onto the third stage, where you finalize the application and submit it to FERC. You also serve all the agencies and commenters on the project with a copy of the document, and then there is another opportunity for comment there.

At this point, I want to turn it over to Fred Holland from CDM who is the design engineer on the project.

Fred Holland. Good Afternoon. I would like to start with a little schematic of the project in the handout. Some of you that have been involved in Weston and MWRA for some time perhaps understand the history of the vault and the reasons for the vault. I thought I would give you a little summary of why the vault is there now, and what it currently does, and why we would like to change things.

Water service to the greater Boston area is provided by MWRA and water gets to the City by gravity without being pumped all the way from Quabbin Reservoir out west. When the system was designed, it was designed intentionally to do that. The obvious advantage is not having to pump, but it does get a little bit tricky because of the change in elevation throughout the Greater Boston area. Some properties on high hills have lower pressure than those properties that are down in the flats along the Charles River. In the case of the City of Boston there is a section of the City that is so low and piping is so old that MWRA needs to reduce pressure to feed those five or six master meters that are down in the City of Boston; the way they do that is that they have a vault at Loring Road and water comes from Norumbega Reservoir and essentially the pressure is reduced by about 80 feet of head using valves that throttle. And this happens 24 hours a day on roughly 20 million gallons of water that passes through that vault. At the time the vault was built, that was the best solution for the Authority... to install some valves that essentially dissipate energy across the valves.

And so I will get up and get a couple things for you to see. I will come over here. These are two pictures of the vault looking in different directions. You can see in blue some of the piping down here. There are valve operators that force the sleeve to move back and forth to dissipate head and that happens all the time every day. This is another shot that we will get to. So what the MWRA currently does is that they dissipate energy in the vault and then if you look at that schematic you can see some longer horizontal lines and some of them are labeled WASM 4 and WASM 2. Those are large surface pipelines that run from Loring Road down to the City. One runs along Washington Street and Nonantum Road into the city. One runs down Commonwealth Avenue and they feed



different meters in the City. At the current operation, we dissipate some energy in the vault and then send water down the WASM lines.

With the recent legislation that made it much more attractive for agencies like the Authority to produce power on site and recover their investment, the Authority is looking at several sites to install hydro or solar power or wind power. In the case of Loring Road, we have the opportunity to recover that energy that we are dissipating by installing turbines and so that is the idea here for the project. If you could switch to the next page... The output of the generator that would be attached to the turbine over the course of the year would produce about 1.2 million kilowatt hours and to give you a little bit of perspective on that, for the non-engineering people in the audience, if you have a 100 watt light bulb burning in your living room for ten hours, that burns 1000 watts or one kilowatt. So we hope to recover 1.2 million kilowatt hours over the course of a year. Some of that energy will be used to offset energy needs in the vault currently and the remainder will be sold back to NSTAR. Roughly about 75%, 25% will be used to offset uses in the vault, such as heating with the rest sold to the grid.

O.K... the pictures that you are looking at. This is the type of the turbine that we would propose to put in the vault. It is called a Francis Turbine, what you are looking at on the right hand side of the picture is the scroll case, that the water passes through the turbine. What you are looking at on the left hand side is the scroll case in its physical representation as well as the generator. The horizontal piece with the fins on it is the generator. The footprint is relatively small. It would be installed. There is a concrete pad in the middle of the vault. And it is actually a large block of concrete that encases two large pipes. We would intend to install the turbine unit right on top of that concrete block and make connections to the piping up and downstream of the valves. In essence, all of the construction up at the site would be done inside the vault, there might be some disturbance during the construction period to bring in the materials, but once the project is completed, the site would look no different than it currently looks and it would generate no greater noise, no odor, and would no require additional trips to the site other than the trips that Marks' staff make to the site on a regular basis for maintenance.

Electricity that is generated would be tied into the vault's electrical conduit and eventually make its way up to the same power line poles that currently feed the site and the only difference there would be that we would generate excess electricity would be fed into the grid, rather than coming to the site from the grid. No other changes to the surface on a long term basis. Other questions so far?

Joe Konzem: Yes. The Transmission line. What does that connect to? Do the lines go down Loring to the intersection at the Traffic light?

Fred Holland: Yes, I don't know the specifics, but the line goes down the hill and connects. It is an overhead line and I think that it is 13.8 KV and there is at least one transformer on the site.

Joe Koluzeng: Who maintains the trees? This could be more of a concern.

Fred Holland: NSTAR maintains the electrical service and I think there is approximate location of the pole coming to the site. The entrance road to the site is here, there are the

two tanks that store water, the pipelines come in and feed the specific vault that we are discussing and the electric lines come in and are stepped down. Maybe I can show you in a little clearer detail right here. This is the former BECO, now NSTAR, power line that comes into the site here, this is the vault in question. What you see in dashed lines are some of that piping and the concrete pad is at this point in the vault.

---

## QUESTIONS/ DISCUSSION

Joe Konzem: So you basically will not have power outages at your facility?

Fred Holland: Correct. As long as the turbine is running, there should be no power outages at the facility. Now the turbine may come down for routine maintenance, perhaps in the course of a year, less than 10 percent of the time but other than that it would be running just as the sleeve valves fluctuate during the course of a day, the turbine would just run continuously at one rate.

Member of the Audience: The access road, can you get all your equipment up the existing access road?

Fred Holland: Yes. The biggest pieces of equipment, let's try to switching to this one [goes to poster board]. This is a plan view of the vault, what you see in bold is the new piping and turbine that will be required. You can see the vault is pretty large, this is 37 plus 36 plus 52 so it is about 100-110 long, all buried. What we would be bringing on site for new equipment would be the piping shown in bold, so it is maybe 100-120 feet of piping based on these dimensions, and the turbine itself. The construction period would run maybe 18 months total. There would be a period at the beginning where things would be fairly quiet. The procurement process that one has to go through, it takes about four to six months to manufacture the turbine, they are custom-made. So the Authority would likely award a contract to a construction contractor who would do the installation; he would then order the turbine and after a period of four to five months, then he would come to the vault with the piping and turbine, then he would open up the roof of the vault and drop in the piping and the turbine and then do the associated electrical and instrumentation work. From a standpoint of numbers of vehicles, during most of the time on site I would expect that you would see less than 8 vehicles during the day. You would see some deliveries - there would be a truck or trucks bringing the pipe in, there would be a truck bringing the turbine in, and there would probably need to be some sort of a crane that would lift the turbine off of the transporter and down into the vault. During the construction period, the Authority would continue to maintain the security of the vault, and the security connections to the Operations Control Center would be maintained. During periods when the roof of the vault were open, there would be a structure put over that so that no one could get in or fall in or that sort of thing.

Member of the audience: How will the vault be structurally, pretty much as in the past...or something like that?

Fred Holland: Yes.

Inge Uhler: I would like to ask a question about what the text says on page five. It says the project is located at a conduit in an existing structure. The water source is upstream

water supply distribution storage and the discharge is also to a tank. Is that an existing tank?

Fred Holland: Yes

Inge Uhlir: So it essentially between two existing tanks?

Fred Holland: Yes, correct.

Pam Heidell: It is between Norumbega and Loring Road. The valve chamber steps down the pressure before it goes to the tank [Loring Road tanks].

Inge Uhlir: The other question I have is when one reads about massive floods in Boston because the water main broke, is that because the valve didn't do enough step down? I always wondered especially when the Library was inundated.

Fred Holland: No, no. The valves have been in operation, how long.

Mark Johnson: eight years.

Member of the Audience: Which communities are in the area served?

Fred Holland: It is primarily along the Charles River.

Mark Johnson: we supply the Longwood Medical area, parts of Commonwealth Ave, Allston-Brighton, and if Cambridge ever needed water, it would be from this connection also.

Fred Holland: The same Norumbega Reservoir is feeding the hills in Arlington and Belmont as well as feeding the City of Boston that is down low and Boston Water and Sewer Commission has requested that the Authority reduce pressure in that area.

Member of audience: The pipes are old.

Pam Heidell: Inge, to follow up on your question. There are some technology firms out there (and we are not saying yes or no to them), and they propose to put the turbine right in the conduit. That sort of makes MWRA nervous. The beauty of this location is that you have the tanks that provide some response time. It is relatively unique in our system.

Member of audience: did you plan it this way?

Pam Heidell: Some times we just do ingenious things.

Member of audience: Yes you do and I admire the energy and steps MWRA has taken.

Phyllis Halpern Fixler: I want to ask a question about that because it seems like originally, the design of these tanks, there was originally the idea to put some kind of turbine in there and that did not happen. I didn't know if you spoke about this before I got here. I am wondering how this differs.

Pam Heidell: It was a much larger turbine when that was considered before. That is one difference. Another difference is the economics have changed. The Department of Energy Resources' new regulations as a result of legislation enacted by the Legislature and signed by the Governor. In the past there was less incentive for the utilities to offer a competitive price for the power that they would buy from us, but now there is a lot more recognition of the value of renewable energy - I won't get into Climate change here, but there are definitely issues out there. Things have changed.

Member of audience. And other things about it, is the location different?

Pam Heidell: I don't know if we ever got far advanced into design, there was a little bit of distrust from Weston (about the entire Loring Road project) and so we didn't pursue hydro then.. Tom Lindberg: But the size was much bigger, we were talking 3-4 times the

size, and this is a totally different project taking place within the existing vault chamber.

Fred Holland: The way we have approached it, and from the MWRA Operations standpoint, they would like to see as little as difference as possible between the new operation and the old operation, so we have sized the turbine only on what flow currently goes through the vault, so that made the footprint of the turbine a lot smaller. As we said earlier, the Boston meters consume about 20 million gallons a day of water and so everyday for the last eight years about 20 million gallons has gone through the vault - a little bit less in January at 1:00 in the morning, a little bit more in the July in the middle of the summer, but on average over a 24 hour period, 20 million gallons, so the approach we have taken is to size the turbine for 20 million gallons. I wasn't involved earlier, but I think earlier people saw a potential for much greater flow. We are going to try and meet existing demand and let it run continuously. It makes the operation much simpler. It will be monitored from the Operations Control center 24 hours a day.

Courtney Feeley Karp: Just to clarify - the water running through the turbine, I was thinking it was the water running to the tank, but are you telling me it is the water running into Boston?

Mark Johnson: Yes, the valves upstream of the tank reduce the pressure of the water going into the tank. The turbine will operate in parallel with the current valve. existing valves, it will capture the energy, decrease the pressure, and then let the water go into the tank. And the system supplies downtime Boston. In terms of the specifics, it goes from the pipe, to the turbine, to the tank to Boston.

Pam Heidell. And upstream of the pipe, there is a tank. That is why I was surprised when you said hydrokinetic [prior to meeting]. It is not free flowing water, it is water that comes from a tank, and that has gone through a bunch of controls.

Courtney Feeley Karp: I just want to understand this -- I am not an engineer. I was under the impression it was the water that you were diverting that wasn't going to Boston that you were using for the turbine, but are you saying it is the other way around?

Fred Holland: If you can imagine that there are two sets of tanks, perhaps. One is the Norumbega Tank which is the high tank you see from the highway, and there are these two low tanks that are buried on-site. Under the current operation, water from Norumbega essentially goes in two directions, it goes into the City Tunnel down deep about 200 feet below grade to downtown Boston, and a piece of it goes here, and runs through the valves, to the tanks and from these tanks it goes to WASM 1 and 2. And so the piece that is pressure reduced to go to the City comes from Norumbega, through the valves, into the storage tanks here, and then downtown to the City. Under the new operation, the valves will operate essentially as Mark said, in parallel with the turbine, except the turbine will be the one that operates all the time. The valves will remain in place.

Courtney Feeley Karp: To say it again, at what point is the water go through the turbine?  
Fred Holland: It goes through the turbine, coming from Norumbega and before it hits these.

Mark Johnson: And currently, it comes from Norumbega and goes through the valves, and then hits these. In both cases, downstream of the tanks are the City of Boston's meters.

Fred Holland: Other questions? I think we have kind of covered everything.

Member of the Audience: I have a minor question. In this text, there is a statement and it says that the turbine is designed for 20 mgd and that sometimes the flow might be more than 20 mgd and at that point, the excess flow will take another route and not go through the turbine. Why is it that you cannot run the additional flow through the turbine?

Fred Holland: Turbines, the way they are designed, they operate at a maximum efficiency point, and depending on the size of the turbine, the efficiency can fall off slowly or dramatically on either the high side or the low side of the best efficiency point. We have selected a turbine that its optimum efficiency point is about 20 mgd, it may be able to run up to about 25, and maybe down to about 18. In looking at the consumption of the City of Boston meters, on average in the course of the year, it is about 20 million gallons a day. In January, it is lower than that and the way the current operation functions is when it is lower and these two tanks fill up, say in the month of January, the tanks fill up, the valves close and there is no flow. And then it 6:00 in the morning when people start taking showers and getting ready for work, the level in the tanks go down and the valves open up. Similarly in the summer, there may be times when the consumption is greater than 20 mgd. From a review of the historical record, it doesn't really look like it gets much above 25 based on the history Mark, would that be fair?

Mark Johnson: Yes. In the case of the summer if demand was up to 25 and the turbine could only get to 22 mgd, water level in the reservoir would start to fall. If it fell to a certain low level that we would establish, one of the valves would open up to supplement the turbine to maintain water levels in the reservoir while the turbine was running at max output.

Member of the Audience: O.K. so, that is two different things I heard. I heard that the efficiency of the ability of the turbine to convert the flowing water into electricity drops off, and now you are saying there is a physical limitation on the amount of water – the volume of water – that can actually go through the turbine and that that might be insufficient at some points and so you have to have an additional way for water to go into Boston.

Fred Holland: You are trying to balance two different things. You can't have a turbine with unlimited capacity on either side and unlimited efficiency so you try to pick your best spot. Based on efficiency, we felt that 20 [mgd] is about the best spot, but we recognize that consumption could get up to 25, so we are using the valve as back-up. Could we have picked a 28 or 30 mgd turbine, probably, but what might have happened if we had gone in that direction is that the footprint of the turbine generator might have gotten too large for the concrete pad or it might have gotten too high for the ceiling of the

vault. That was another constraint – to use the existing space. The advantage of using the existing space, there are advantages from a cost standpoint because the Authority is trying to recover their investment in this turbine and the more changes we made to the structure, the more expensive the process might have been. And so the idea was to disturb the least amount of area possible and if you need to supplement with the valves, you do so. We also wanted to keep the valves in place permanently because maybe 5-10% of the year, the turbine will have to come out of service for maintenance and in those cases we will revert to the valve.

Mark Johnson: I would just like to add.... from my perspective, basically one valve can supply the system nine months out of the year, and basically the turbine will take over the base load for the one valve and for the peaks, what happens now is one valve is operation and a second comes into operation so essentially the turbine is base load and another valve will come on for peaks.

Russ Cohen: O.K. I just want to understand this. So you have more flow, and maybe it is not operating as efficiently as it would operate at 20 mgd, but it is still more energy than you would have if the flow wasn't going through the turbine, so why not have it all go through the turbine if the capacity can handle it?

Mark Johnson. We decided collectively that if we started going higher on the turbine range, again with an average flow of 20 mgd up to 25 and 30, then you would need to get into more on and off cycles with the turbine. Operation is really predicated on tank elevation. Rather than get into on and off cycles with the turbine we would rather have it operate as a base load as best as possible and try to hit the sweet spot so to speak... it was kind of a balancing act.

Hilary Jean. Yes, I have a question on how well the existing valves will work at low flows, will the fact that you will be using those valves for very low flows rather than 20 mgd, will that affect the wear and tear?

Mark Johnson: The ways we operate these valves is that we don't let them modulate to the flow; they have dial-in settings, so basically they are closed and when they are called to open, they open to 30% of their position – we don't let them modulate to in-between positions. Either the valve is open to a specific setting or is it closed. So basically the same thing will happen here. If the turbine is base loading and he have a call for that extra demand, then the sleeve valve will go to that opening for an hour, two hours, three hours, fill up the tank that much faster and then shut down and let the turbine go back to the base load. We found issues in other locations with modulating the sleeve valves - wear issues on some of the drives.

Joe Konzem: Joe Konzem again, 17 Loring Road. On the surface, we are not going to hear anything when the turbine is in operation?

Fred Holland: You would hear certainly no more, perhaps less than what you hear now.

Joe Konzem: Right now I can go up there and all I hear is, what it is a standpipe or vent pipe, I hear a little bit of roar.

Fred Holland: That or less.

Mark Johnson: That is the ventilation from below ground that is coming up, that is coming up from that air vent.

Fred Holland: What you are hearing now from the vent is the rush of water across the surface of the valves that creates very high velocities a whistle. With the turbine, there is no rush of water through small openings across a valve, the wheel turns. So I think you will hear less.

Member of audience. Going back to the size, I am assuming based on 25% consumed on site and the numbers here that you are a net zero purchaser from the grid so you don't intend to buy energy.

Pam Heidell. More or less. What happens is that most of the energy load at the site is at that valve chamber. There is still a transmission line that goes down the road to another meter vault. If we tried to connect that meter vault, then the utility said they are no longer responsible for that line and we might end up spending more money. They are still going to provide service to the site and we will still be buying electricity for the second that at other meter vault on that site. So, does that still work out. Fred Holland: Does that work for you? The way the electric service would work is that the current service comes into the site overhead through a transformer, and then goes underground. Between the pole and the meter there is a customer meter, the authority meter if you will. When the authority is generating power, they will most times during the year, not in the winter when the heater is running, they will have an excess and the excess will go backwards through a meter if you will, to a second meter to the grid and the Authority will have some negotiation with NSTAR concerning the price and other terms and conditions. In essence, roughly 75% will go back to the grid. The Authority has a second smaller vault on the site that is further down this line of poles, that is this one here, and there are poles that run down the site, overhead, to feed this vault. It consumes a very small amount of electricity. We had discussions with NSTA about (and I think this one is metered separately) we want to pick up the use of power for this small one as well, and they said, well if you do that, the configuration of the meters will be such that you, the Authority, will have to maintain the poles. The Authority did not want to be in that position of having something go wrong in the middle of the winter and have the Authority staff go out there and figure it out. The Authority felt that NSTAR was better positioned to do that work so let them keep the responsibility. So because of this little outlier, there is a bit of a crazy metering arrangement but in essence whatever is not consumed on site will be sold at whatever rate you can get from NSTAR.

Pam Heidell: Fred, do you also want to mention the beauty of the operation... to the extent that the turbine is not efficient, the byproduct is used to offset heating demand.

Fred Holland: That is a good point. In generating power, the turbine gives off heat, and the Authority uses a fair amount of heat in the winter to keep that vault at a temperature that is suitable for the instruments in the vault. We are able to take advantage of the heat generated by the turbine to further reduce electrical usage.

Member of Audience: How are you using the heat?

Fred Holland: Like a space heater, to make sure we are not freezing any of the sensitive lines.

Inge Uhler. Will it get too hot in the summer?

Fred Holland: We don't know that, what we find in the summer is that the vault gets a little damp. What we are hoping is that the heat given off by the turbine in the summer will also act as a dehumidifier and dry the place out. I don't think we will now until we operate it whether or not there will be too much heat generated at the vault in the summer.

Mark Johnson: We don't have to air condition now.

Tom Lindberg: Other questions?

Joe Konzem: Will there be a site walk?

Pam Heidell: Yes. Just before we close this session of the meeting and move to the site walk portion that the initial consultation document follows the format of what the final will be, and that we mailed out about 25 copies. I have a couple of extra copies here if someone wants one that doesn't have one. Just before we close, I want to say that the Application also includes a very brief environmental report. Basically, there are a lot of positive environmental benefits of the project in terms of reducing greenhouse emissions by use of a renewable source. Fred in the process of answering your questions portrayed that this is a no impact type of project, it is an existing vault, there are no new structures, and there are no areas disturbed by construction. We will have to fence off an area of the site when we do the work but we are not planning on taking down trees, we are using the existing transmission line, we are integrating the project into our water supply operations so that water supply remains our primary function and won't be compromised. I guess that is it. If you want to submit comments, I have provided the address, submit them to Mike Hornbrook, our Chief Operating Officer. If you wouldn't mind, please copy me. And if you have any questions, call anyone of us.

Tom Lindberg: Do you want to talk about the schedule?

Pam Heidell: Oh yes, sure. The Detail design is underway. The turbine spec has been developed. We are about 30% design on the rest of the project. I am hoping to submit to submit the final application to FERC in March. That assumes a waiver of the second stage of consultation which I think is appropriate since we have addressed people's questions pretty handily. We will coordinate with DEP throughout the Spring since we need to get a permit from DEP. We will also coordinate with the utility since we need to have an interconnection agreement with them as well. We obviously don't want to put any documents out to bid for construction until we have the permits in hand, so that is sort of the critical path here. We are hoping in the fall of 2009 the bid documents will be ready and we will issue a Notice to Proceed in December of this year. And then the turbine will be manufactured and delivery and we will be substantially complete and bring the turbine on-line in early 2011.

Member of the Audience: As the project moves along if there is anything that abutters would like to know about or when the trucks for construction will begin how will we be informed?

Tom Lindberg: I can let you know.



Member of the Audience: I might say that this meeting the date appeared Christmas eve in the little weekly paper. Would we have a way of informing ourselves by something in the Library?

Tom Lindberg: I will take the responsibility of informing people. I will do that.

Pam Heidell: We had sent out a notice in early December to the town manager, should we also send out a copy to the Town Library?

Tom Lindberg: We usually do.

Pam Heidell: That was my oversight, I apologize.

Russ Cohen: I just wanted to say while the tape is still running that this is Russ Cohen from the Mass Department of Fish and Game that Caleb Slater from our Division of Fisheries and Wildlife is our point person for FERC licensing and relicensing so he would be the person who would be the person who would officially be part of this. I am here more on an informational and informal basis, but that said, I have to say it is hard to imagine a project having less environmental impact than this one. There are issues about discharges from reservoirs and stuff and at some point there is a comment it says well those are 30 miles away. I don't think that is relevant about how far away they are from the project, because in a conduit project it is relevant where the water is coming from to get to the conduit, but this is so small in scale compared to the larger issue about releases from reservoirs and that issue is going to be taken up in other venues so I don't see that a major issue in this discussion.

Vandana Rao: I just wanted to clarify the Stage Two consultation. At what time is that determination made that it is not required? what do you need anything from the agencies? Is it contingent upon you getting those letters from the agencies? What is the process?

Pam Heidell: If there are no comments, you can certainly make the case to FERC. But that is a great question. If anyone is looking for words to put in such a letter, the U.S. Department of interior Fish and Wildlife did send us a letter and I did make extra copies...this wasn't a plant. I am distributing the letter [letter was distributed]. The closing paragraph in the letter sort of sums things up. I would welcome the letters, also the sooner we get the letters it also may mean that we don't have to wait 60 days. I don't know exactly how FERC decides what is good enough without waiting the full 60 days. But as I mentioned, the whole FERC thing is the critical path.

Member of the Audience: Are you going to have preconstruction meetings so we are all on the same page.

Tom Lindberg: Yes.

Member of the Audience: Another question. Is there a term of life for this machinery?

Fred Holland: Normally 25-50 years, but there are turbines that the Authority has that have gone even longer than that.

Tom Lindberg: O.K, we are going to take a site visit to Loring Road next. If there is anyone that does not know how to get up to Loring Road, I have offered to caravan those

that don't know how to get up there and still be part of the site visit. So, we can wrap things up.

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- 1) List of Meeting Attendees is attached. Two additional attendees who were not present during introductions included: Phyllis Halpern Fixler, neighbor and Bob Hoffman, DPW Director.
  - 2) A site visit was held after the formal meeting. The ambient environment in the vault was not conducive to a recording. The site visit was brief, and attended by less than a handful of guests. The site visit included entry into the underground vault where the turbine/generator would be located. The MWRA team pointed out the location of the proposed turbine and new piping, in relation to the existing vault layout and piping. The electrical connection was also noted. No significant questions or issues arose.