MASSACHUSETTS WATER RESOURCES AUTHORITY
Deer Island
33 Tafts Avenue
Boston, MA 02128

Frederick A. Laskey
Executive Director

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June 8, 2023

George Papadopoulos
US Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109

Jennifer Wood
Massachusetts Department of Environmental Protection
100 Cambridge Street, Suite 900,
Boston, MA 02114

Re.: NPDES Permit Application Transmittal
Application for Permit to Discharge
Oakdale Power Station
51 River Road, West Boylston, MA
Hydroelectric Generating Facility General Permit

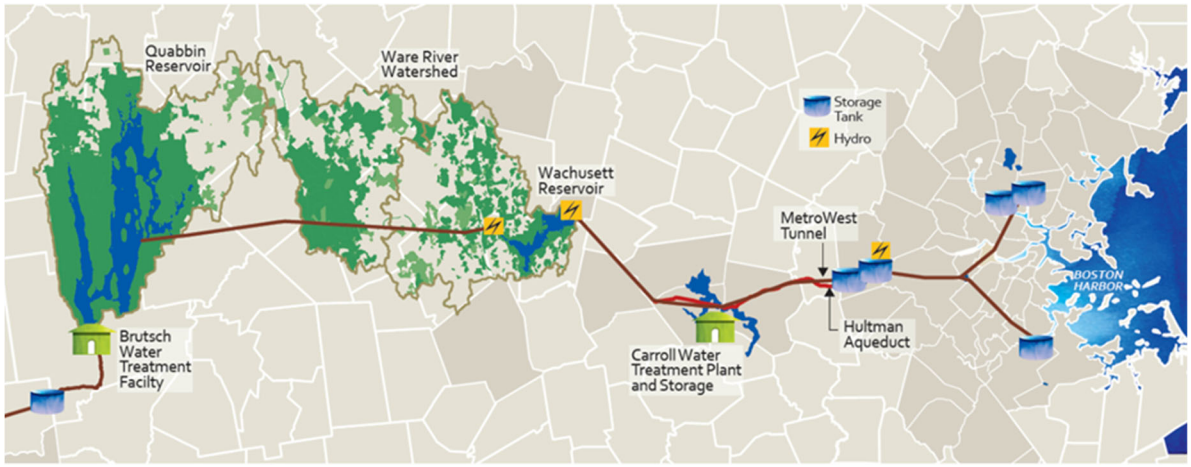
Dear Mr. Papadopoulos and Ms. Wood:

Attached please find a copy of the Notice of Intent (NOI) and supporting documents for the Hydroelectric Generating Facility General Permit. The specifics of the facility and the discharges are summarized on the attached forms.

Background

The MWRA supplies wholesale water to local water departments in 50 communities, primarily in the Boston metropolitan area. On average, MWRA supplies approximately 200 million gallons per day to its water system customers. MWRA's water comes from the Quabbin Reservoir, about 65 miles west of Boston, and the Wachusett Reservoir, about 35 miles west of Boston. Both Quabbin and Wachusett Reservoirs are man-made reservoirs, constructed for water supply purposes. More than 50% of the inflow into the Wachusett Reservoir is transferred from Quabbin Reservoir via the Quabbin Aqueduct; Quabbin Reservoir water is required to meet MWRA's metropolitan demand. The Quabbin Aqueduct is one component of a transmission system consisting of over 100 miles of tunnels and aqueducts that transports water largely by gravity to points of distribution within the MWRA service area.

A schematic of the MWRA water system is presented below and the following page provides more detail on the Oakdale facility.



Summary of Oakdale Hydroelectric Operations

The Oakdale hydroelectric facility is located at the outlet of the Quabbin Aqueduct, just upstream of Wachusett Reservoir and near the mouth of the Quinapoxet River. Quabbin Aqueduct is a deep rock tunnel. The water enters the aqueduct at Quabbin Aqueduct Intake, Shaft 12 and travels over 24 miles to its terminus at the Oakdale transfer station in West Boylston Massachusetts. Within the structure, flow from the aqueduct rises from Shaft 1 and is split between a generator penstock inlet pipe and a bypass pipeline. An 84-inch butterfly valve provides isolation for the generator. Flow through the bypass is controlled by a 72-inch butterfly valve and sleeve valve.

The facility is equipped with hydroelectric generating equipment consisting of a turbine and a generator. Hydroelectric energy is generated with this equipment during water transfer operations between the Quabbin and Wachusett Reservoirs, which occur approximately six to ten months during the year. Water can be discharged from the aqueduct through the hydroelectric turbine via an 84-inch main that connects the top of the outlet shaft to the turbine and/or through a 72-inch main that bypasses the turbine. The hydroelectric turbine runs only when water is being transferred from the Quabbin Aqueduct to the Wachusett Reservoir and typically operates at between 100 MGD and 300 MGD. These transfers occur as needed based on demand and reservoir elevations. The facility operates as a conduit facility and is located on a water transfer aqueduct. Waters are transferred from one water supply reservoir to another. Waters within the facility reach are utilized for water supply purposes and are thus high quality and potable.

NPDES Discharge

The turbine contains upper and lower main bearings. The upper bearing is oil-lubricated and water cooled at a flow rate of approximately 7 to 11 gallons per minute (gpm). The upper bearing surrounds the turbine shaft and is contained in a torus-shaped structure containing 50 gallons of turbine hydraulic oil. A 3/4-inch copper cooling line coils through the center of the bearing housing. The cooling water at no time comes into contact with the oil. The cooling water effluent is discharged directly to the short outlet channel leading to the Quinapoxet River. The cooling water, as well as all other water needs at the facility, is drawn from the 84-inch main in the basement of the building. The flow rate of the cooling water in both bearings is dependent on

a number of factors including the amount of water being sent through the turbine and to a lesser extent on the elevation of the Quabbin Reservoir.

The lower bearing of the turbine is fiber-based and is water-lubricated and cooled at an approximate flow rate of 40 to 70 gpm. The lower bearing cooling and lubrication water pressurizes a packing box containing the bearing material that surrounds the shaft. A majority of this water leaks down through the bottom seal of the packing box and is discharged to the river with the outgoing turbine water flow. The remainder of the water leaks from the packing box and drains to a sump at the bottom level of the building. The lower bearing cooling and lubrication water flow is constant throughout the year; however, the cooling water flow to the upper bearing is typically stopped when the turbine is not operational.

In addition to the excess cooling and lubrication water from the lower bearing, there is a small amount of additional water from miscellaneous equipment that reaches the sump and is discharged to the river. This includes air compressor blowdown, a hose bib, an emergency eyewash, several sample taps on water pipes, groundwater infiltration, and condensation off the large-diameter water pipes. Water in the sump is in turn pumped to a 300-gallon oil-water separator located on the main floor that drains by gravity to the river. All outgoing water from the facility is discharged to a short outlet channel leading to the river, which empties into the Wachusett Reservoir approximately 750 feet downstream.

The facility has a Spill Prevention Control and Countermeasures (SPCC) Plan as required by 40 CFR 112. Through spill prevention and inspection requirements, this plan provides protection against oil spills from the facility to the Quinapoxet River and Wachusett Reservoir. Included in the periodic inspections is a quarterly inspection of the oil water separator. In addition, the oil water separator is equipped with a remotely monitored alarm to notify staff that oil is present. An interlock is also present in the sump pumps that would stop the pumps from operating if oil is detected in the oil water separator.

NOI Section C: Best Technology Available for CWIS

The flow path of water from the Quabbin Reservoir to the facility has been described above. As shown in Attachment 5, a two-inch copper pipe has been tapped into this 84-inch pipe. This pipe supplies all the water needs of the facility including non-contact cooling of the upper oil-filled turbine bearing, contact cooling and lubrication of the lower lignite bearing, an emergency eyewash, and a hose spigot. The two-inch line eventually reduces to a ¾-inch copper line for cooling of the upper bearing. Fine mesh screens within these pipes are employed to keep detritus from clogging the cooling water lines and thereby detrimentally affecting cooling of the turbine bearings.

For the purposes of this General Permit, the "Cooling Water Intake Structure" (CWIS) as defined in the permit is the two-inch water line tap off the 84-inch water main from the top of the Aqueduct discharge shaft as described. In accordance with Part 4 of the permit, this facility must comply with the "Best Technology Available" (BTA) requirements of this permit because the Oakdale facility withdraws water for use in part as cooling water.

Section 4.2a of the General Permit requires that the permittee demonstrate that the volume of cooling water withdrawn is minimized.

The design capacity of the CWIS, the two-inch cooling water line, is not known. The flow in this line is dependent on the elevation head difference between the two reservoirs and the quantity of flow through the 84-inch main. The highest recorded daily discharge flow occurred in August 2019, with a combined flow of 32,981 gallons and the average monthly flow is 15,126 gallons per day.

Based on the minimum hydroelectric turbine capacity of 120 MGD the maximum daily discharge of 32,981 gallons per day (0.033 MGD), discharge of cooling, lubrication, miscellaneous equipment and floor drain water that has potential contact with pollution sources represents 0.027% of the total flow through the facility.

Section 4.2b of the General Permit requires that the permittees satisfy one of the options listed under 4.2bfor impingement mortality.

As noted above the cooling water utilized at the facility, represents less than 0.027% of the total flow through the facility. The volume of water flowing through the facility relative to the volume of cooling water withdrawn minimizes the risk of impingement at the CWIS, which satisfies option 4.2b.iv of the permit.

NOI Section E: Determination of Endangered Species act Eligibility

MWRA consulted US Fish and Wildlife Service (FWS) and determined that no federally listed endangered species and two federally listed threatened species are reported in Worcester County, Massachusetts. The listed threatened species are the Small Whorled Pogonia (Isotria medeoloides) and the Northern Long-eared Bat (Myotis septentrionalis). The Northern long-eared Bat does not have any occurrences in West Boylston, nor does it have any designated critical habitat. This finding was confirmed with a review of the Massachusetts Natural Heritage Program, see Attachment 7. The Small Whorled Pogonia received a not likely to adversely affect determination. See Attachment 7. Therefore, eligibility criteria under Criterion B is met for this application. As required by the permit, a current copy of the listing of federally listed endangered and threatened species in Massachusetts from the FWS New England Field Office web site is attached to this letter.

The maintenance of the hydroelectric generating equipment does not require any cutting of trees and therefore, there is no impact on bird species nesting or living in the area around the facility.

NOI Section F: National Historic Preservation Act Requirements

MWRA consulted the Massachusetts Historical Commission for a record of historic properties; one historic property was identified. The Oakdale facility's MHC identification number is WBY.907.

There is no construction occurring at the facility, and no impact to the historic structure is anticipated. As required by Part 5.B of the Hydroelectric Generating Facility General Permit, a certification letter is submitted annually, certifying monthly BMP inspections are conducted. Monthly inspections are conducted, results recorded and records maintained at our office. The facility complies with the BMP Plan and permit.

Should you have any questions, or if you would like to arrange a meeting to discuss, please feel free to contact Maret Smolow at Maret.Smolow@mwra.com .

Sincerely,

Frederick A. Laskey
Executive Director

Attachments:

Notice of Intent Form
Attachment 1: Topographic Map
Attachment 2: North Brook TMDL
Attachment 3: Line Drawing Flow Schematic
Attachment 4: Cooling water intake structure
Attachment 5: Determination of Endangered Species Act Eligibility
Attachment 6: MA Verification Letter
Attachment 7: Consistency Letter
Attachment 8: Documentation of National Historic Preservation Act Requirements

II. Suggested Format for the HYDRO General Permit Notice of Intent (NOI):

Request for General Permit Authorization to Discharge Wastewater Notice of Intent (NOI) to be covered by Hydroelectric Generating Facilities General Permit (HYDROGP) No. MAG360000 or NHG360000

Indicate Applicable General Permit for Discharge(s): ■ **MAG360000** ☐ NHG360000

A. Facility Information

1.	Facility Location	Name: **Oakdale Power Station**	
		Street: **51 River Road**	
		City: **West Boylston**	State: **MA**
		Zip: **01583**	SIC Code: **4941 & 4911**
		Latitude: **42^0 23' 12"**	Longitude: **71^0 48' 09"**
		Type of Business: **Public Water Facility & Hydroelectric generating station**	
2.	Facility Mailing Address (if different from Location)	Street: **33 Tafts Avenue**	
		City: **Boston**	State: **MA**
		Zip: **02128**	
3.	Facility Owner	Name: **Massachusetts Water Resources Authority** (Deer Island)	Email: **Dave. Coppes@mwra.com**
		Street: **33 Tafts Avenue**	Telephone: **617-788-4359**

		City: **Boston**	State: **MA**
		Contact Person: **Dave Coppes**	Zip: **02128**
4.	Facility Operator (if different from above)	Name: **Eben Nash**	Email: **Eben.Nash@mwra.com**
		Street: **260 Boston Road**	Telephone: 508-424-3669
		City: **Southboro**	State: **MA**
		Zip: **01772**	
5.	Current Permit Status	Has prior HYDROGP coverage been granted for the discharge(s) listed in the NOI?	■ **Yes** ☐ No
		Permit number (if yes): **MAG360002**	
		Is the facility covered under an Individual Permit?	☐ Yes ■ No
		Is there a pending NPDES application of file with EPA for the discharge(s)?	☐ Yes ■ No
		Date of Submittal (if yes):	Permit Number (if known):
		Attach a topographic map indicating the locations. of the facility and outfall(s) to the receiving water	■ Map Attached
		Number of turbines: **1**	**Attachment 1**
		Combined turbine discharge (installed capacity) at:	Maximum capacity? **464** cfs Minimum capacity? **185** cfs
		Is this facility operated as a pump storage project?	☐ Yes ■ No

B. Discharge Information

1.	Name of Receiving Water(s): **Quinapoxet River**	■ Freshwater ☐ Marine
2.	Waterbody classification: ■ Class A ☐ Class B ☐ Class SA ☐ Class SB	
3.	Is the receiving water is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d))?	■ Yes ☐ No
4.	If the applicant answered yes to B.2, has the applicant identified the designated uses that are impaired, any pollutants indicated, and whether a final TMDL is available for any of the indicated pollutants in a separate attachment to the NOI?	■ Yes ☐ No **Attachment 2**
5.	Attach a line drawing or flow schematic showing water flow through the facility including location of intake(s), operations contributing to effluent flow, treatment units, outfalls, and receiving water(s).	■ Line Drawing Attached **Attachment 3**
6.	List each outfall (numbered sequentially) discharging effluent from the following categories and provide an estimate of the average monthly flow (in gallons per day) for each discharge type. See Parts 1.1 through 1.5 (for MA) or Parts 2.1 through 2.5 (for NH) for descriptions and permit conditions for each discharge type.	

Equipment-related cooling water, Equipment and floor drain water, Maintenance-related water **See Attachment 3**	Outfalls: **All discharge to a single outfall on the Quinapoxet River Outfall A5A**	**15,126 gpd**

7. For each outfall listed above, provide the following information (attach additional sheets if necessary). Outfalls may be eligible for alternative pH effluent limits. See Parts 1.7.l. and 2.7.l of the permit for additional information. Contact MassDEP or NHDES to determine the required information and protocol to request alternative pH effluent limits.		
Outfall No.	Latitude: **42^0 23' 13"**	Longitude: **71^0 48' 09"**
	Discharge is: ☐ Continuous ■ Intermittent ☐ Seasonal	
	Maximum Daily Flow **0.033** MGD	Average Monthly Flow **0.015** MGD
	Maximum Daily Temperature **69.4** °F	Average Monthly Temperature **58.9** °F
	Maximum Daily Oil & Grease **0** mg/L	Average Monthly Oil & Grease **0** mg/L
	Maximum Monthly pH **7.71** s.u.	Minimum Monthly pH **6.27** s.u.
	Alternative pH limits requested? ☐ Yes ■ No	State approval attached? ☐ Yes ■ No

C. Best Technology Available for Cooling Water Intake Structures

Facilities that checked "equipment-related cooling" as one of the discharges in Part B. of this NOI are subject to the following requirements.

1. Does the facility intake water for cooling purposes subject to the BTA Requirements at Part 4 of the HYDROGP?	■ Yes ☐ No If no, skip to Part D of this NOI.

2. If yes, indicate which technology employed to comply with the general BTA requirements at Part 4.2.b of the HYDROGP:

☐ An existing technology (e.g., a physical or behavioral barrier, spillway, or guidance device) that directs fish towards a downstream passage that minimizes exposure to the CWIS. Has the applicant attached a narrative description of the barrier to demonstrate that the downstream fish passage effectively transports live fish in a manner that minimizes the likelihood of becoming impinged or entrained at the cooling water intake?
☐ Yes ☐ No

☐ An effective intake velocity at the point of cooling water withdrawal, or alternatively, at the point where cooling water enters the penstock (for intakes located within the penstock), not to exceed 0.5 fps. Has the applicant attached a demonstration of compliance with this intake velocity through observation of live fish in the intake or calculation based on the maximum intake volume and minimum bypass flow? ☐ Yes ☐ No

☐ For cooling water withdrawn directly from the source waterbody (*i.e.*, not from within the penstock), a physical screen or other barrier technology with a mesh size no greater than ½-inch) that minimizes the potential for adult and juvenile fish to become entrapped in the CWIS.
Has the applicant attached a description of the technology? ☐ Yes ☐ No
If the mesh size of the screen is greater than ½-inch has the applicant demonstrated that the calculated intake velocity is less than ☐ 0.5 fps based on the screen dimensions, maximum intake volume, and source water 7Q10 low flow?

■ Other aspects of the location, design, construction, and capacity of the intake that minimize impingement mortality.

The volume of water flowing through the penstock relative to the volume of cooling water withdrawn minimizes the risk of impingement at the CWIS. See Supplemental information page and attachment 4 for more details.

3. If the answer to question C.1 is yes, in addition to complying with one of the criteria above, the applicant must submit the following information:
Maximum daily volume of cooling water withdrawn during previous five (5) years: **32,981**gpd
Maximum monthly average volume of cooling water withdrawn during the previous five (5) years: **17,182** gpd
Maximum daily and average monthly volume of water used exclusively for cooling: Max: N/A gpd Avg: N/A gpd Maximum daily and average monthly volume of water used for another process before or after being used for cooling: Max: N/A gpd Avg; N/A gpd Has the applicant attached a narrative description explaining how cooling water is reused? ☐ Yes ☐ No
Volume of total intake water withdrawn and used in facility as a percentage of: Installed turbine capacity **0.011** % (Max turbine capacity), **0.027** % (Min turbine capacity) Average daily flow through penstock **0.027** % Minimum flow through penstock N/A
Source water annual mean flow (*e.g.*, available from USGS, MassDEP, or NHDES):N/A cfs
Source water 7-day mean low flow with 10-year recurrence interval (7Q10):N/A cfs
Volume of total intake water withdrawn and used in facility as a percentage of: Source water mean annual flow N/A cfs Source water 7Q10 flow N/A cfs

D. Chemical Additives

1. Does the facility use or plan to use non-toxic chemicals for pH adjustment?	☐ Yes ■ No
2. Does the facility use or plan to use chemicals for anti-freeze purposes?	☐ Yes ■ No
3. If the answer to D.2 is yes, provide the following for **EACH** chemical additive used for anti-freeze:	
Chemical Name and Manufacturer:	
Maximum Dosage Concentration Used:	Average Dosage Concentration Used:
Maximum Concentration in Discharge: mg/L	Average Concentration in Discharge: mg/L
Material Safety Data Sheet (MSDS) or other toxicity documentation for each chemical attached? ☐ Yes ☐ No	

E. Endangered Species Act Certification

Appendix 2 to the HYDROGP explains the certification requirements related to threatened and endangered species and designated critical habitat. Indicate under which criteria the discharge is eligible for coverage under the HYDROGP:	
1. ESA eligibility for species under jurisdiction of USFWS	☐ **Criterion A**: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area." See Appendix 2, Part B for documentation requirements. Documentation attached? ☐ Yes ☐ No
	■ **Criterion B**: Formal or informal consultation with the USFWS under Section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by USFWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat. Has the operator completed consultation with USFWS and attached documentation? ■ Yes ☐ No **See Attachment 5, 6 and 7 for more details** If no, is consultation underway? ☐ Yes ☐ No

	☐ **Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and designated critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered species or designated critical habitat under the jurisdiction of the USFWS. Has the applicant attached documentation of the "no effect" finding? ☐ Yes ☐ No
2. ESA eligibility for species under jurisdiction of NMFS	Is the facility located on: the Connecticut River between the Massachusetts/Connecticut state line and Turners Falls, MA; the Taunton River; the Merrimack River between Lawrence, MA and the Atlantic Ocean; the Piscataqua River including the Salmon Falls and Cocheco Rivers; or a marine water? ☐ Yes ■ No
	If yes, was the applicant authorized to discharge from the facility under the 2009 HYDROGP? ☐ Yes ☐ No
	If the discharge is to one of the named rivers above or to a marine water *and* the facility was not previously covered under the 2009 HYDROGP, has there been any previous formal or informal consultation with NMFS? ☐ Yes ☐ No Documentation of consultation attached? ☐ Yes ☐ No

F. National Historic Properties Act Eligibility

1. Indicate under which criterion the discharge(s) is eligible for covered under the HYDROGP:
☐ **Criterion A**: No historic properties are present.
■ **Criterion B**: Historic properties are present. The discharges and related activities do not have the potential to impact historic properties.
☐ **Criterion C**: Historic properties are present. The discharges and related activities have the potential to impact or adversely impact historic properties.

2.	Has the applicant attached supporting documentation for NHPA eligibility described in Appendix 3, Part C of the HYDROGP? ■ Yes ☐ No **See supplemental information and Attachment 8 for more details.**
3.	Does supporting documentation include a written agreement from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or other tribal representative that outlines measures the operation will carry out to mitigate or prevent any adverse effects on historic properties? ☐ Yes ■ No

G. Supplemental Information

Please provide any supplemental information, including antidegradation review information applicable to new or increased discharges. Attach any certifications required by the HYDROGP. Supplemental information attached? ☐ Yes ■ No

H. Signature Requirements

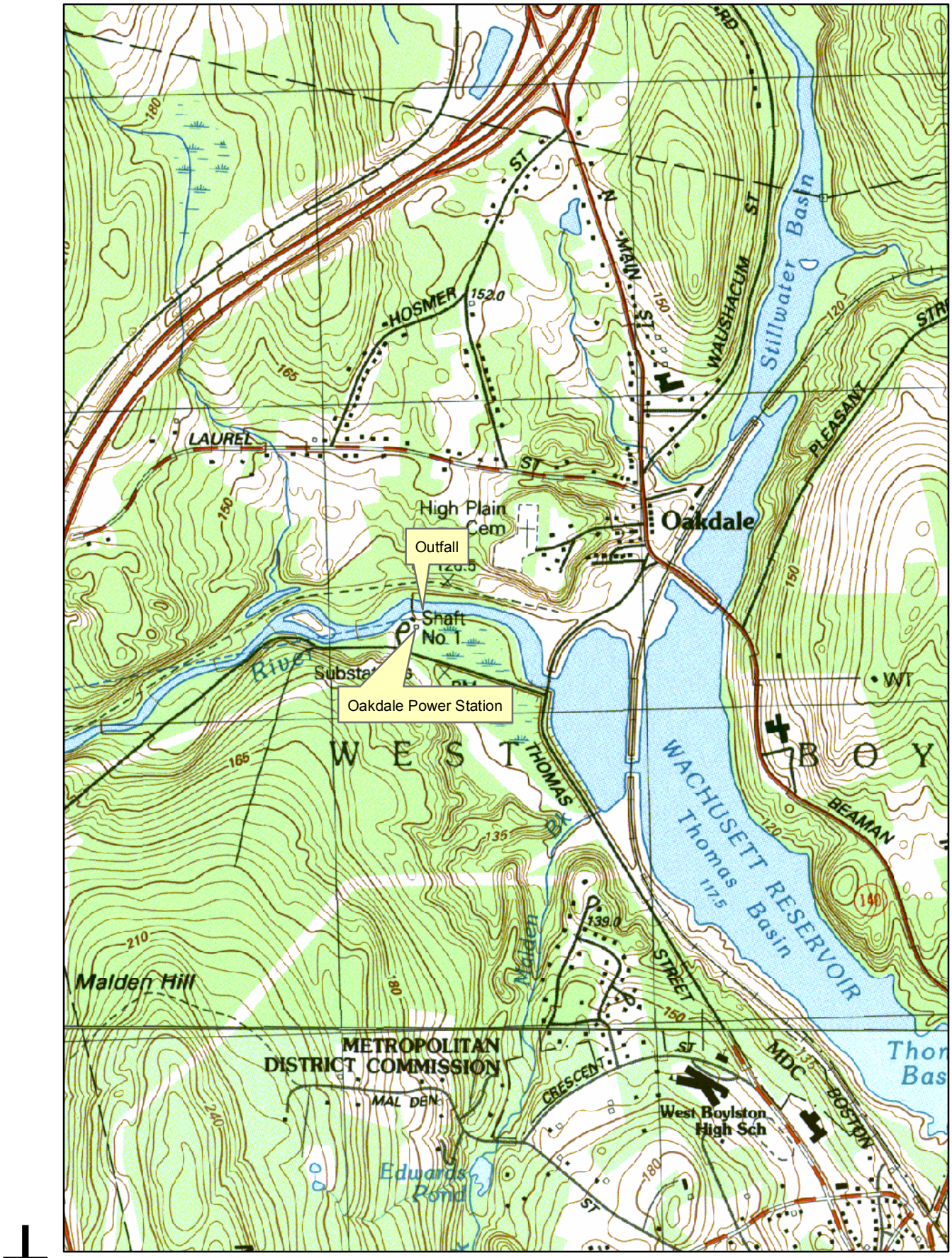
1. The NOI must be signed by the operator in accordance with the signatory requirements of 40 C.F.R. § 122.22, including the following certification:

I certify under penalty of law that no chemical additives are used in the discharges to be authorized under this General Permit except for those used for pH adjustment or anti-freeze purposes and that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

2. Notification provided to the appropriate State, including a copy of this NOI, if required?	■ Yes ☐ No
Signature:	Date: 6/7/23
Print Name and Title: Frederick A. Laskey, Executive Director	

Attachment 1

Figure 1: Site Location Map
Oakdale Power Station, West Boylston, MA



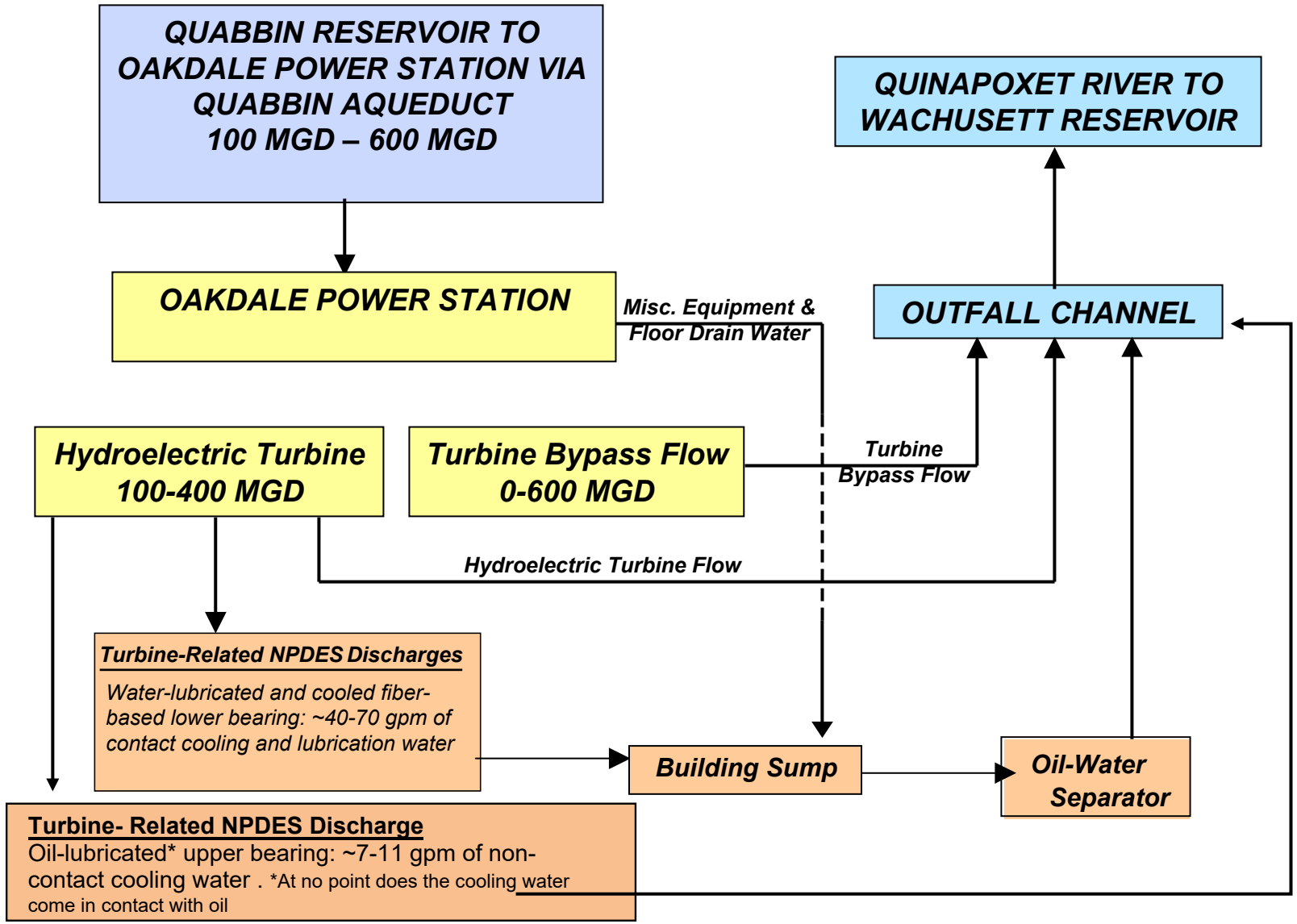
Category 5 waters listed alphabetically by major watershed
The 303(d) List – "Waters requiring a TMDL"

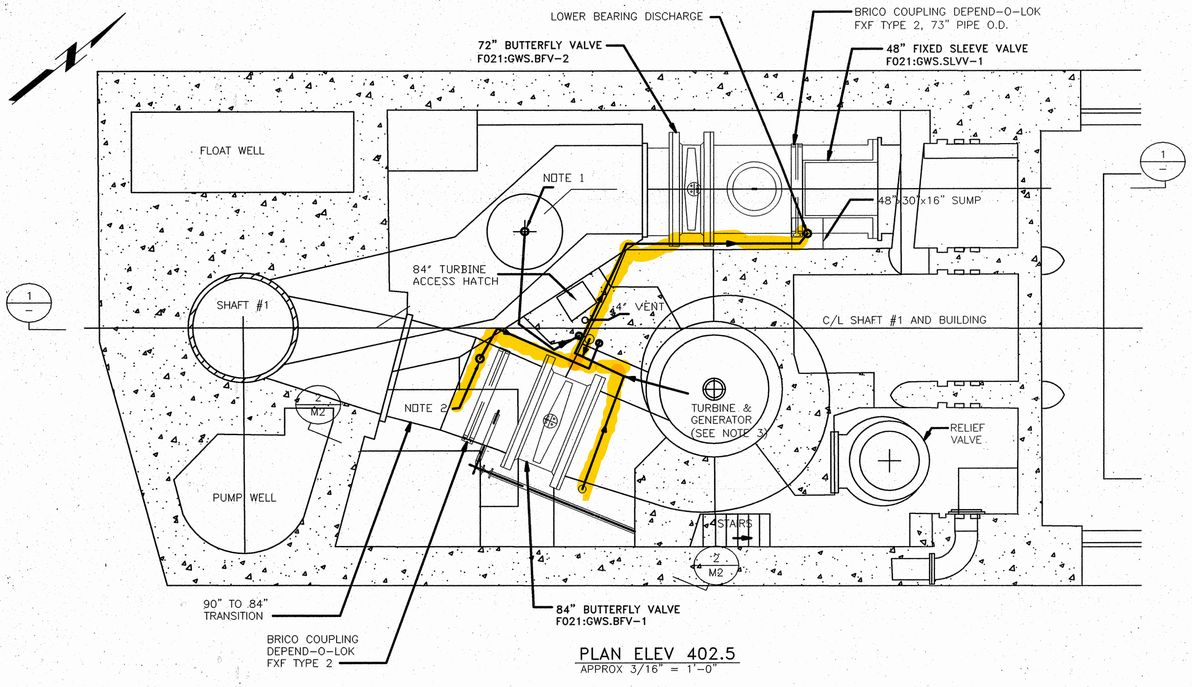
Waterbody	AU_ID	Description	Size	Units	Impairment	ATTAINS Action ID
Phillips Brook	MA81-12	Headwaters, outlet Winnekeag Lake, Ashburnham to Westminster Street (Route 2A/31), Fitchburg (segment includes McTaggarts Pond and unnamed tributary to North Nashua River) (qualifiers apply to 0.0 to 1.0 mile of river per 2007 SWQS, NOTE: CSO eliminated in 2006).	8.40	Miles	Temperature	
Plow Shop Pond	MA81103	Ayer.	29.00	Acres	(Fanwort*)	
					(Non-Native Aquatic Plants*)	
					Aquatic Plants (Macrophytes)	
					Arsenic	
					Chromium, Total	
					Mercury in Fish Tissue	
					Polycyclic Aromatic Hydrocarbons (PAHs) (Aquatic Ecosystems)	
					Sediment Bioassay [Chronic Toxicity Freshwater]	
Quinapoxet River	MA81-32	Headwaters, outlet Quinapoxet Reservoir, Holden to mouth at inlet Wachusett Reservoir (Thomas Basin), West Boylston.	7.90	Miles	(Dewatering*)	
					Temperature	
Scarletts Brook	MA81-25	Headwaters west of West Boylston Street (Route 12), West Boylston to mouth at confluence with Gates Brook, West Boylston (stream entirely intermittent; per SARIS and the 1983 Worcester North USGS topographic quadrangle).	0.50	Miles	Chloride	
Smith Brook	MA81-90	Headwaters, outlet Meetinghouse Pond, Westminster to mouth at inlet Wyman Pond, Westminster.	1.60	Miles	Temperature	
Spectacle Pond	MA81132	Lancaster.	61.00	Acres	Dissolved Oxygen	
Squannacook River	MA81-18	Headwaters, confluence Mason and Willard brooks, Townsend to Hollingsworth and Vose Dam (NATID: MA00443), Groton/Shirley (through former 2008 segment: Harbor Pond MA81054).	12.60	Miles	Lack of a coldwater assemblage	
					pH, Low	
					Temperature	
Still River	MA81-60	Headwaters, Lancaster to Route 117, Bolton (formerly part of 2008 segment: Still River MA81-15).	0.60	Miles	Dissolved Oxygen	
					Escherichia Coli (E. Coli)	
Stillwater River	MA81-31	Headwaters, confluence of Justice and Keyes brooks, Princeton/Sterling to mouth at inlet of Wachusett Reservoir (Stillwater Basin), Sterling.	6.70	Miles	Escherichia Coli (E. Coli)	
					Temperature	
Trout Brook	MA81-26	Headwaters, outlet Cournoyer Pond, Holden to mouth at confluence with Quinepoxet River, Holden.	1.90	Miles	Temperature	

*TMDL not required (Non-pollutant)
[ ] provided as further explanation of ATTAINS impairment code

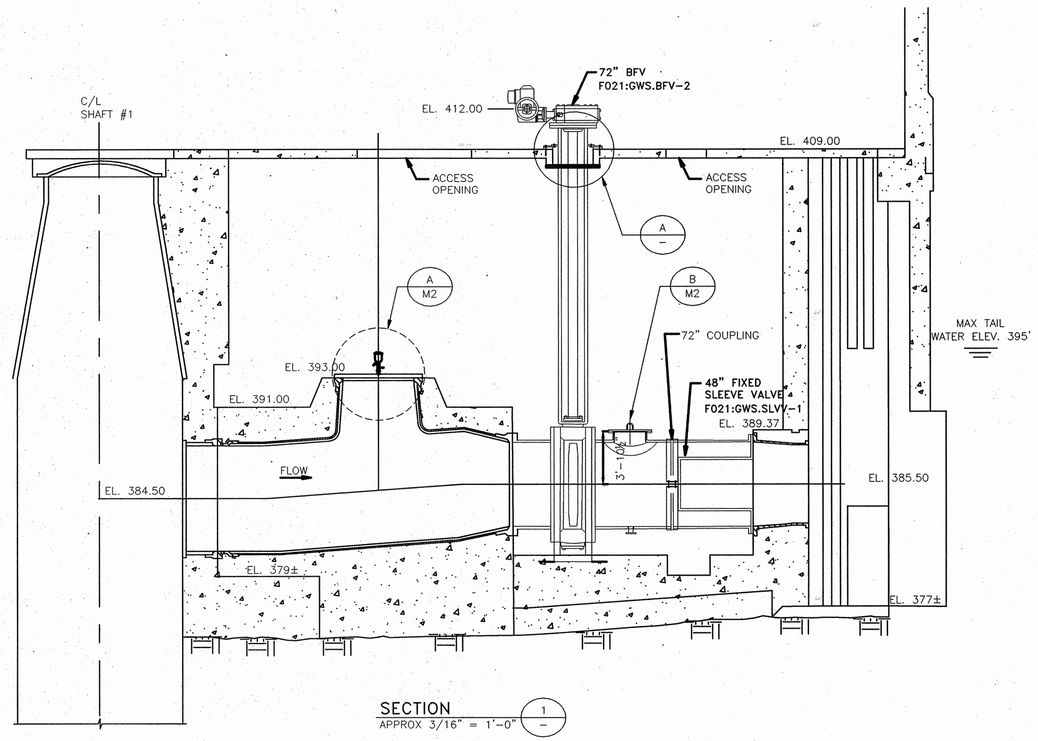
Attachment 3

Schematic of Water Flow
Oakdale Power Station
West Boylston, Massachusetts

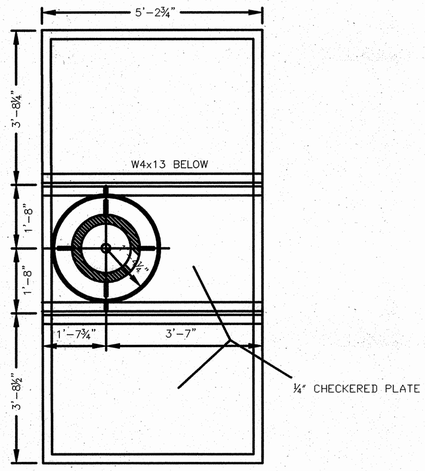




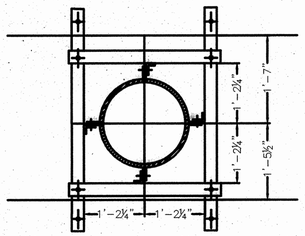
PLAN ELEV 402.5
APPROX 3/16" = 1'-0"



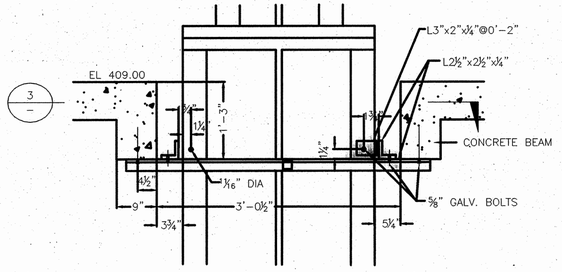
SECTION
APPROX 3/16" = 1'-0"



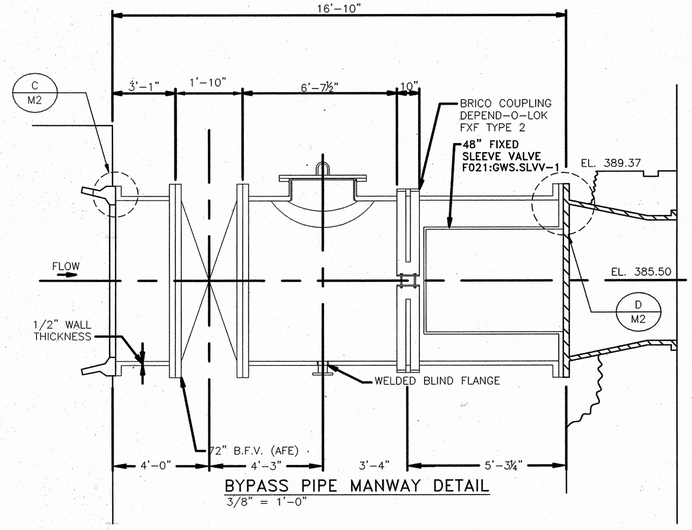
SECTION
3/8" = 1'-0"



SECTION
3/8" = 1'-0"



DETAIL
NTS



BYPASS PIPE MANWAY DETAIL
3/8" = 1'-0"

NOTES:

1. TOTAL LENGTH OF ¾-INCH TYPE "L" COPPER PIPE FROM TAP TO SAMPLE POINT IS ~35 FT.
2. TOTAL LENGTH OF ¾-INCH TYPE "L" COPPER PIPE FROM EXISTING TAP TO SAMPLE POINT IS ~30 FT.
3. BALL VALVE LOCATED AT THE SAMPLE TAP LOCATION IN THE BASEMENT AND AT THE SAMPLE POINT LOCATION AT THE OPERATING FLOOR LEVEL. A SAMPLE LINE SINK LOCATED ON OPERATING FLOOR LEVEL WITH 2-INCH DRAIN.

CONTRACT NO. :	6690
CAD FILE NO. :	M1V3
DRAWN BY :	JMS
CHECKED BY :	DJV
APPROVED BY :	AMA
DATE :	OCTOBER 2006
SCALE :	AS NOTED

D137686

VALVE REHABILITATION AT OAKDALE POWER STATION RECORD PLAN

MASSACHUSETTS WATER RESOURCES AUTHORITY

PHASE 1 VALVE REHABILITATION AT OAKDALE POWER STATION

BYPASS PIPE PLAN AND PROFILE

ACCESSION NO. 517184

DRAWING NO. M1

Attachment 5

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To: February 16, 2023
Project Code: 2023-0046119
Project Name: Quinapoxet River- Oakdale Discharge

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 12/27/2022 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the "**New England Field Office Endangered Species Project Review and Consultation**" website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (Updated 12/27/2022) Please visit our New England Field Office Project Review webpage at the link above for updated northern long-eared bat consultation guidance. The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule will go into effect on **January 30, 2023**. After that date, the current 4(d) rule for NLEB will no longer be in effect, and the 4(d) determination key will no longer be available. New compliance tools will be available by mid- to late-January, and information will be posted on our New England Field Office Project Review webpage in January, so please check this site often for updates.
Depending on the type of effects a project has on NLEB, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project may result in incidental take of NLEB after the new listing goes into effect, this will need to be addressed in an updated consultation that includes an Incidental Take Statement. Many of these situations will be addressed through the new compliance tools. If your project may require re-initiation of consultation, please wait for information on the new tools to appear on our website or contact our office at **newengland@fws.gov** for additional guidance.

Additional Info About Section 7 of the Act
Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/service/section-7-consultations

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the

ESA. The species' occurrence on an official species list does not convey a requirement to consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

https://www.fws.gov/program/migratory-bird-permit

https://www.fws.gov/library/collections/bald-and-golden-eagle-management

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Project Code: 2023-0046119
Project Name: Quinapoxet River- Oakdale Discharge
Project Type: Wastewater Discharge
Project Description: Discharge point
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.38546115,-71.7925601833922,14z

Counties: Worcester County, Massachusetts

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Small Whorled Pogonia *Isotria medeoloides* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Massachusetts Water Resource Authority
Name: Shonesia Davis
Address: 190 Tafts ave
City: Winthrop
State: MA
Zip: 02152
Email shonesia.davis@mwra.com
Phone: 8572747821

Attachment 6

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To:
Project code: 2023-0046119
Project Name: Quinapoxet River- Oakdale Discharge

February 22, 2023

Subject: Consistency letter for the 'Quinapoxet River- Oakdale Discharge' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Shonesia Davis:

The U.S. Fish and Wildlife Service (Service) received on February 22, 2023 your effects determination for the 'Quinapoxet River- Oakdale Discharge' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Additionally, please note that on March 23, 2022, the Service published a proposal to reclassify the northern long-eared bat (NLEB) as endangered under the Endangered Species Act. The U.S. District Court for the District of Columbia has ordered the Service to complete a new final listing determination for the NLEB by November 2022 (Case 1:15-cv-00477, March 1, 2021). The bat, currently listed as threatened, faces extinction due to the range-wide impacts of white-nose syndrome (WNS), a deadly fungal disease affecting cave-dwelling bats across the continent. The proposed reclassification, if finalized, would remove the current 4(d) rule for the NLEB, as these rules may be applied only to threatened species. Depending on the type of effects a project has on NLEB, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective (anticipated to occur by March 31, 2023). If your

project may result in incidental take of NLEB after the new listing goes into effect this will first need to be addressed in an updated consultation that includes an Incidental Take Statement. If your project may require re-initiation of consultation, please contact our office for additional guidance.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate
- Small Whorled Pogonia *Isotria medeoloides* Threatened

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

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[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Attachment 7

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To:
Project code: 2023-0046119
Project Name: Quinapoxet River- Oakdale Discharge
IPaC Record Locator: 004-122727998

February 23, 2023

Federal Nexus: no
Federal Action Agency (if applicable):

Subject: Technical assistance for 'Quinapoxet River- Oakdale Discharge'

Dear Shonesia Davis:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on February 23, 2023, for “Quinapoxet River- Oakdale Discharge” (here forward, Project). This project has been assigned Project Code 2023-0046119 and all future correspondence should clearly reference this number.

The Service developed the IPaC system and associated species’ determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into the IPaC must accurately represent the full scope and details of the Project. Failure to accurately represent or implement the Project as detailed in IPaC or the Northeast Determination Key (Dkey), invalidates this letter. To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative effect(s)), to a federally listed species or designated critical habitat.

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17). Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no further consultation with, or concurrence from, the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Service concurs, in writing, that a proposed action "is

not likely to adversely affect (NLAA)" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13]).

The IPaC results indicated the following species is (are) potentially present in your project area and, based on your responses to the Service's Northeast DKey, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Small Whorled Pogonia (*Isotria medeoloides*)	Threatened	NLAA

Conclusion

Coordination with the Service is complete. This letter serves as technical assistance. All conservation measures should be implemented as proposed. Thank you for considering federally listed species during your project planning.

If no changes occur with the Project or there are no updates on listed species, no further consultation/coordination for this project is required for the species identified above. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project implements any changes which are final or commits additional resources.

In addition to the species listed above, the following species and/or critical habitats may also occur in your project area and are not covered by this conclusion:

- Monarch Butterfly *Danaus plexippus* Candidate
- Northern Long-eared Bat *Myotis septentrionalis* Threatened

To complete consultation for species that have reached a "May Affect" determination and/or species may occur in your project area and are not covered by this conclusion, please visit the "New England Field Office Endangered Species Project Review and Consultation" website for step-by-step instructions on how to consider effects on these listed species and/or critical habitats, avoid and minimize potential adverse effects, and prepare and submit a project review package if necessary: https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review

Please Note: If the Action may impact bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d) by the prospective permittee may be required. Please contact the Migratory Birds Permit Office, (413) 253-8643, or PermitsR5MB@fws.gov, with any questions regarding potential impacts to Eagles.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference the Project Code associated with this Project.

Attachment 8

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

Search Date: 2/16/2023

Search Criteria: Town(s): West Boylston; Street Name: river ; Resource Type(s): Area,Building,Burial Ground,Object,Structure;

Inv. No.	Property Name	Street	Town	Year	Designations
WBY.907	Quabbin Aqueduct Outlet Chamber (Shaft #1)	River Rd	West Boylston	1932	
WBY.168	Quabbin Aqueduct Outlet Service Building	River Rd	West Boylston		
WBY.905	Quinapoxet River Circular Control Dam	River Rd	West Boylston	1905	

Massachusetts Cultural Resource Information System
Scanned Record Cover Page

Inventory No:	WBY.907
Historic Name:	Quabbin Aqueduct Outlet Chamber (Shaft #1)
Common Name:	
Address:	River Rd
	Thomas St
City/Town:	West Boylston
Village/Neighborhood:	
Local No:	11-3;
Year Constructed:	1932
Architect(s):	Densmore, LeClear and Robbins;
Use(s):	Other Engineering; Power House; Utilities Other;
Significance:	Architecture; Engineering;
Area(s):	WBY.C, WBY.G
Designation(s):	
Building Materials:	
Demolished	No

The Massachusetts Historical Commission (MHC) has converted this paper record to digital format as part of ongoing projects to scan records of the Inventory of Historic Assets of the Commonwealth and National Register of Historic Places nominations for Massachusetts. Efforts are ongoing and not all inventory or National Register records related to this resource may be available in digital format at this time.

The MACRIS database and scanned files are highly dynamic; new information is added daily and both database records and related scanned files may be updated as new information is incorporated into MHC files. Users should note that there may be a considerable lag time between the receipt of new or updated records by MHC and the appearance of related information in MACRIS. Users should also note that not all source materials for the MACRIS database are made available as scanned images. Users may consult the records, files and maps available in MHC's public research area at its offices at the State Archives Building, 220 Morrissey Boulevard, Boston, open M-F, 9-5.

Users of this digital material acknowledge that they have read and understood the MACRIS Information and Disclaimer (http://mhc-macris.net/macrisdisclaimer.htm)

Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc