

NOTICE OF INTENT FOR GENERAL PERMIT

**Lincoln Water Department
Lincoln, MA
Flints Pond Water Treatment Plant**

A. Facility Information

1. Indicate applicable General Permit for discharge MAG640000 NHG640000

2. Facility Data

Facility Name Flints Pond Water Treatment Plant

Street/PO Box 77 Sandy Pond Road City Lincoln

State MA Zip Code 01773

Latitude -71.31935 Longitude 42.43143

SIC Code(s) 4941001

Type of Business: **Municipal Potable Water Treatment Plant**

3. Facility Mailing Address (if different from Location Address, above)

Facility Name Flints Pond Water Treatment Plant

Street/PO Box 16 Lincoln Road City Lincoln

State MA Zip Code 01773

4. Facility Owner:

Legal Name Town of Lincoln Water Department

Email woodsg@lincolntown.org

Street/PO Box 16 Lincoln Road City Lincoln

State MA Zip Code 01773

Contact Person Greg Woods Tel # 781-259-1329

Owner is (check one): Federal State Tribal Private

Other (describe) Municipal

5. Facility Operator (if different from above):

Legal Name _____

Email _____

Street/PO Box _____ City _____

State _____ Zip Code _____

Contact Person _____ Tel # _____

6. Currently (Administratively) Covered Under the Expired PWF General Permit? (Please check yes or no):

Yes

No

a) Has a prior NPDES permit (either individual or general permit coverage) been granted for the discharge that is listed on the NOI? Yes No If Yes, Permit Number MAG640051

b) Is the discharge a "new discharger" as defined by 40 CFR Section 122.22? Yes No

c) Is the facility covered by an individual NPDES permit for other discharges? Yes No

If yes, Permit Number: _____

d) Is there a pending NPDES application (either individual or general permit) on file with EPA for this discharge? Yes No

If yes, date of submittal: _____ and Permit Number, if available _____

7. Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? Yes

B. Discharge Information (Attach additional sheets as needed):

1. Name of receiving water into which discharge will occur: **Flints Pond**

Check Appropriate Box: Freshwater Marine Water

State Water Quality Classification Class A

Type of Receiving Water Body (e.g., stream, river, lake, reservoir, estuary, etc.) Reservoir

2. Indicate the frequency of the discharge:

Emergency Only Infrequent (Once/Twice a Year) Intermittent*** Continuous
Other***

***If Intermittent (i.e., occurs sometimes but not regularly as in batch discharge), provide # of days per year the discharge occurs ~335 days

***If Other, explain _____

3. Describe the discharge activities for which the owner/applicant is seeking coverage, including process discharges not specifically authorized in the PWF GP which need to be authorized for discharge (and which attain the effluent limits and other conditions of the general permit.)

(This description should include all treatment methods used on the wastewater prior to discharge including lagoons, baffles, filter presses, etc. If lagoons are used at the facility, please include the number and size of lagoons; the size and elevation of the entry pipe; the time of travel from the entry

point of the discharge into the lagoon to the entry point to the receiving waters; and the length of backwash cycle for any combination of filters.)

The Flints Pond Water Treatment Plant utilizes microfiltration as its primary treatment process. A process flow diagram is attached. The raw (source) water from Flints Pond is pumped through membrane modules, which are termed the "First Stage" or "Primary" membranes. The filtered water, called filtrate, from the Primary membranes then receives further treatment (disinfection and corrosion control) in a clearwell prior to being supplied to the public. The four Primary membranes generate waste wash water from the routine membrane backwashing process (every 22 minutes). The backwash water is collected and filtered through a "Second Stage" membrane module. This filtrate is then treated in a similar manner as the Primary stage filtrate. The backwash water generated from the Second Stage membrane is then directed into an equalization/sedimentation tanks from which supernatant will be returned via gravity to Flints Pond. Both the Primary and Secondary stage membranes do not utilize pretreatment chemicals, and as such, this water does not contain chemical residue and maintains the same pH as the raw water of the pond. Settled solids, if any, from the equalization / sedimentation tanks will be pumped to the on-site sand drying beds and the supernatant returned via gravity to Flints Pond.

In addition to the routine raw water backwash process that occurs every 22 minutes, sodium hypochlorite (Chlorine) & citric acid (Acid) Maintenance Washes (MW) are conducted after 168 hours of run time and Chlorine & Acid clean-in-place (CIP) procedures are conducted after 720 hours of run time to maintain the membrane performance. Fluids generated by the MW & CIP processes are neutralized in an existing above-ground storage tank (AST) prior to being discharged to the equalization / neutralization tank and the subsequent outfall. The chlorine from the MW & CIP wash waste water is neutralized in the AST by sodium bisulfite and the pH adjusted by sodium hydroxide. The Acid MW & CIP is also available for removal of mineral deposits on the membrane surface, and the pH is adjusted by sodium hydroxide prior to discharge. Water used for the chemical solutions is raw water and does not contain any chemicals associated with the finished drinking water.

4. Attach a line drawing or flow schematic showing water flow through the facility including sources of intake water, operations contributing to flow, treatment units, outfalls, and receiving water(s).

Line drawing or flow diagram attached? **Yes**

5. Identify the source of the water being discharged:

Surface water Groundwater Other (describe)

6. Number of Outfalls 1 Latitude and Longitude to the nearest second for each Outfall. Attach additional pages if necessary.

Outfall # 1 Latitude -71.31935 Longitude 42.43184
Outfall # Latitude _____ Longitude _____
Outfall # Latitude _____ Longitude _____

7. For each outfall, indicate the proposed sampling location(s) for both effluent and ambient water (when applicable) and proposed consistent times of the month for collecting samples:

Outfall #1 – Sample location is the orifice of the 4-inch pipe and it is sampled during the morning on days the treatment plant is operating.

Outfall # _____

Outfall # _____

C. Effluent Characteristics

1. List here and attach additional information (on separate sheet) on any water additives used at the facility. This includes chemicals (including aluminum, iron, or phosphorus-containing chemicals) for pH adjustment, dechlorination, control of biological growth, and control of corrosion and scale in water pipes.

Normal backwash cycles for Primary and Secondary membranes do not have, or require, chemical additives (i.e. is only raw source water). The Chlorine MW and CIP processes includes the use of sodium hypochlorite which is then neutralized with sodium bisulfite and the pH adjusted by sodium hydroxide. The Acid MW and CIP processes includes the use of one or both of hydrochloric acid and citric acid, which is pH adjusted by sodium hydroxide prior to discharge.

2. Report any known remediation activities or water quality issues in the vicinity of the discharge
None known

3. Are aluminum compounds or polymers used as coagulants at this facility?*

Yes

No

*If answer is "Yes" and the facility was *not* covered under the PWTF GP that expired on 10/2/14, additional monitoring data and information is required. **Please complete Item III.C.12.**

4. Does the facility use any alum-based products for algae control?*

Yes

No

*If answer is "Yes" and the facility was *not* covered under the PWTF GP that expired on 10/2/14, additional monitoring data and information is required. **Please complete Item III.C.12.**

5. Are iron-containing coagulants used at this facility?

Yes

No

6. Does the facility's discharge contain residual chlorine?

Yes

No

[If Yes, EPA will calculate a Total Residual Chlorine effluent limit for your facility]

7. Does the facility provide treatment to remove arsenic from the raw water source?

Yes

No

8. a. Are phosphorus-containing chemicals added to the treated water at this facility?

Yes

No

b. If answer to 8.a. is Yes, does the facility discharge to Phosphorus-Impaired waters? Yes No

c. If answer to 8.b. is Yes, provide name of P-Impaired waterbody: _____

9. Does the facility remove radium or other radioactive substances from raw water sources to comply with drinking water standards? Yes **No**

10. Provide the reported or calculated seven day- ten year low flow (7Q10) of the receiving water 7Q10:
0.0256 cfs

See attached USGS StreamStats Report. The Lincoln Water Department contacted Kathleen Keohane of the Massachusetts Department of Environmental Protection to conduct a site visit to determine the dilution factor of the treatment plant discharge. Ms. Keohane conducted an inspection on November 4, 2009 and determined that since the treatment plant is in the headwaters of the reservoir and the discharge flows down a drainage channel back into the reservoir upstream of the treatment plant intake, a 10:1 dilution factor was applicable for this site.

NOTE: For facilities that discharge in New Hampshire, the state permitting authority **must** be contacted at the address listed in Appendix VI of the PWTF GP to determine and/or confirm the 7Q10 and/or dilution factor. For facilities that discharge in Massachusetts, it is highly recommended to contact the relevant state authority (MassDEP) to determine and/or confirm the 7Q10 and/or dilution factor. Attach any calculation sheets used to support the stream flow and dilution factors. See Appendix VII for equations and additional information.

11. For *each* outfall, provide the following discharge information:

Outfall # 1

a) *Design Flow of Facility (in million gallons per day, MGD):* Max Flow 2.0 MGD
This value will determine the facility's daily maximum flow limit, up to a maximum of 1.0 MGD.

b) *Discharge Flow (in gallons per day, GPD):*

Maximum Daily Flow 60,000 GPD Average Monthly Flow 33,000 GPD

c) *TSS (mg/l):* Number of samples: 1 (Minimum of 10 samples)

Maximum Daily </= 50 mg/l Average Monthly </= 30 mg/l

d) *pH (s.u.) :* Number of samples: 1 (Minimum of 10 samples)

Minimum >/= 6.0 s.u. Maximum </= 8.3 s.u.

e) *Total Residual Chlorine (ug/l):* Number of samples: 1 (Minimum of 10 samples)

Maximum Daily </= 190 ug/l

NOTE: TRC is only required for discharges which have been previously chlorinated or contain residual chlorine

12. The following section must be completed for any facility that answered "Yes" to Question III.C.3 or III.C.4 (e.g. adds an aluminum-containing chemical to the water being treated and/or discharged) **AND** was not covered under the previous PWTF GP (which expired on 10/2/14).

a) Collect, analyze and submit **12 effluent samples and 10 ambient surface water samples** from a location upstream of and not affected by the discharge. For facilities in New Hampshire and Massachusetts, each sample should be analyzed for total recoverable Al in micrograms per liter. All laboratory results shall be submitted on a separate sheet.

a. The samples shall be composite samples consisting of four grab samples taken at approximately equal intervals on a flow weighted basis during the time at which the discharge is entering the receiving water after the start of the backwash cycle.

b. For each sampling event, the effluent and surface water samples shall be collected on the same day and during a representative discharge event. The samples shall be no more frequent than weekly and, if time allows in completing the NOI, at monthly intervals and at different flow conditions. If taking the ambient water quality sample from lakes/reservoirs, the 10 samples should be composited vertically.

c. Discharge flow at the time of effluent sampling should be recorded. Flow conditions at the time of ambient water sampling should be recorded (or estimated from nearest gaging station).

d. Do not include dilution when recording the results.

e. See Section 2.1.2.3 and Footnote 12 of Section 2.1.1 for MA facilities (or Section 3.1.2.3 and Footnote 10 of 3.1.1 for NH facilities) for key information on minimum level for analysis and sufficiently sensitive test procedures.

f. Sampling data that was collected within one year of the effective date of this general permit **AND** that adheres to all of the requirements above may be submitted in lieu of new samples. This must be denoted with the submitted data.

b) Provide a description of control measures, chemical substitutions, waste handling methods, and operational changes evaluated and/or used by the facility to minimize the discharge of aluminum to surface waters. (Include additional sheet(s), if necessary)

D. Endangered Species Act Eligibility Information

Using the instructions in Appendix III of the PWTF GP, which of the following criteria apply to your facility?

U.S. Fish and Wildlife Service (USFWS) Criteria: A B C

1. If you selected USFWS criteria B, has consultation with the U.S. Fish and Wildlife Service been completed? Yes No

2. If consultation with US Fish & Wildlife Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received?

Yes No

3. Attach documentation of ESA eligibility for USFWS as required at Part 1.4 and Appendix III of the General Permit. **Documentation attached?** Yes

4. For facilities seeking coverage under the Potable Water Treatment Facility General Permit for the *first* time, respond to the following questions to assist in ESA eligibility for NMFS:

a) Indicate if the facility discharges into any of the stretches of the following rivers which can support or provide habitat to either Shortnose or Atlantic Sturgeon:

Merrimack River (from Essex Dam in Lawrence, Downstream (including Haverhill) to mouth of River)

Yes No

Connecticut River (from Turner's Falls, downstream Holyoke (including Holyoke Dam region)

Yes No

Taunton River Yes No

Piscataqua River (in NH) Yes No

b) Has the facility had any previous formal or informal consultation with NMFS? Yes No

If yes, attach the results of the consultation(s). **Documentation attached?** _____

E. National Historic Properties Act Eligibility

1. Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? Yes No

2. Have any State or Tribal Historic Preservation Officers been consulted in this determination? Yes No

If yes, attach the results of the consultation(s). **Documentation attached?** _____

3. Which of the three National Historic Preservation Act scenarios listed in Appendix II, Section III have you met?

1

2

3

F. Supplemental Information

Please provide any supplemental information, including antidegradation review information applicable to new or increased discharges. Attach any analytical data used to support the application. Attach any certification(s) required by the General Permit.

G. Signature Requirements

The NOI must be signed by the operator in accordance with the signatory requirements of 40 CFR § 122.22 (see below) including the following certification:

I certify under penalty of law that (1) the discharge for which I am seeking coverage under the general permit consists solely of a surface water discharge from a potable water treatment facility; (2) any

chemicals used to treat the discharge have been identified in this NOI; and (3) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act.

I certify under penalty of law 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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature GWoods Date 6/6/17

Printed Name and Title Gregory Woods, Superintendent

Federal regulations require this application to be signed as follows:

1. For a corporation, by a responsible corporate party;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

Note: Permits No. MAG640000 and NHG640000 may be found at <http://www3.epa.gov/region1/npdes/pwtfgp.html>

H. "Opt-Out Request" from NetDMR Requirement

1. Check the box if you are applying for an "opt-out request."
2. Provide a detailed explanation of the technical or administrative factors that support your request to "opt-out" from the requirement to submit DMRs and reports electronically. (Add additional lines, if necessary.)

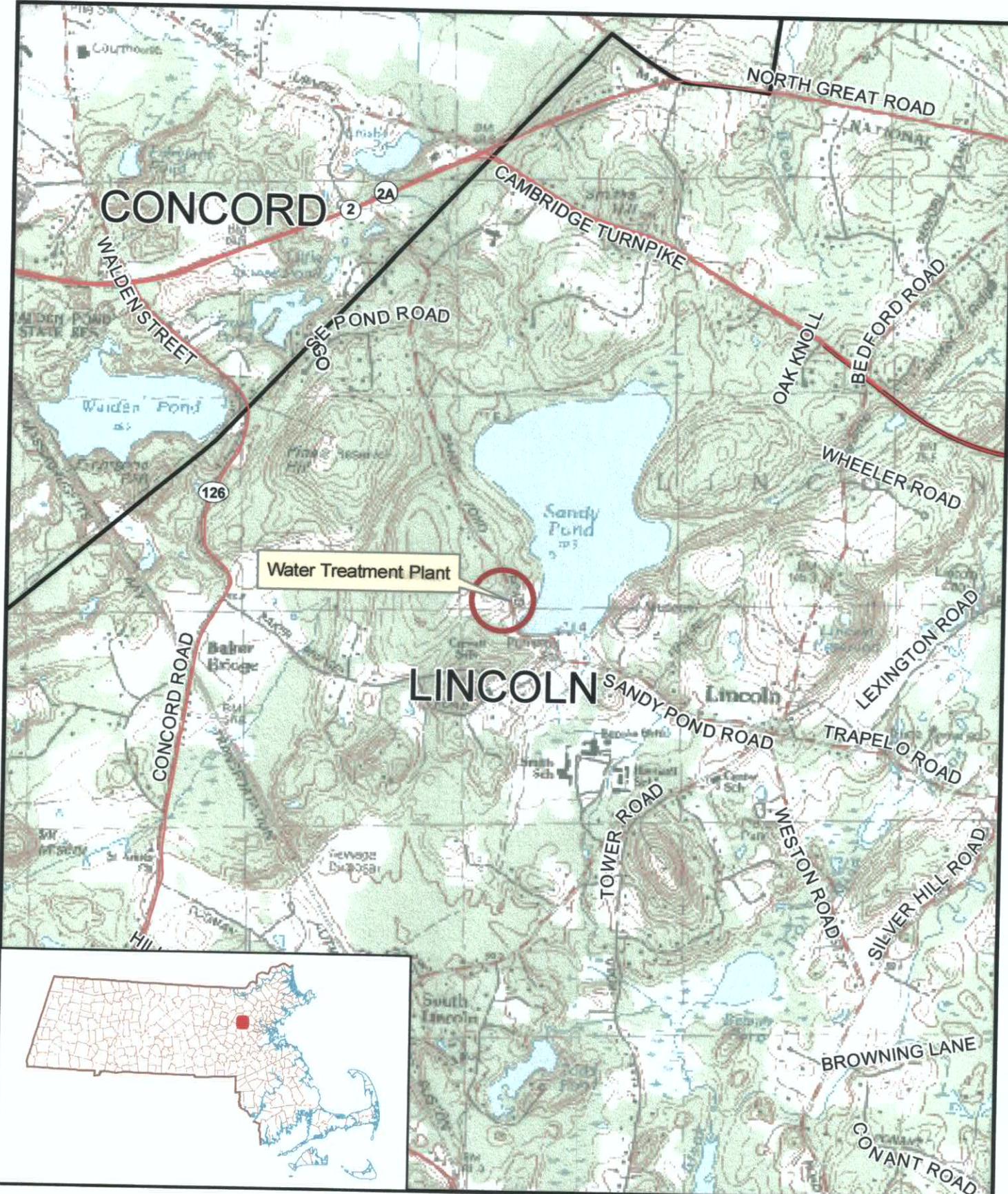


FIGURE 1
Lincoln, MA
Locus Map

2,000 0 2,000

SANDY POND



Discharge Location

Drying Beds

WTP

Pump Station

BAKER BRIDGE ROAD
SANDY POND ROAD

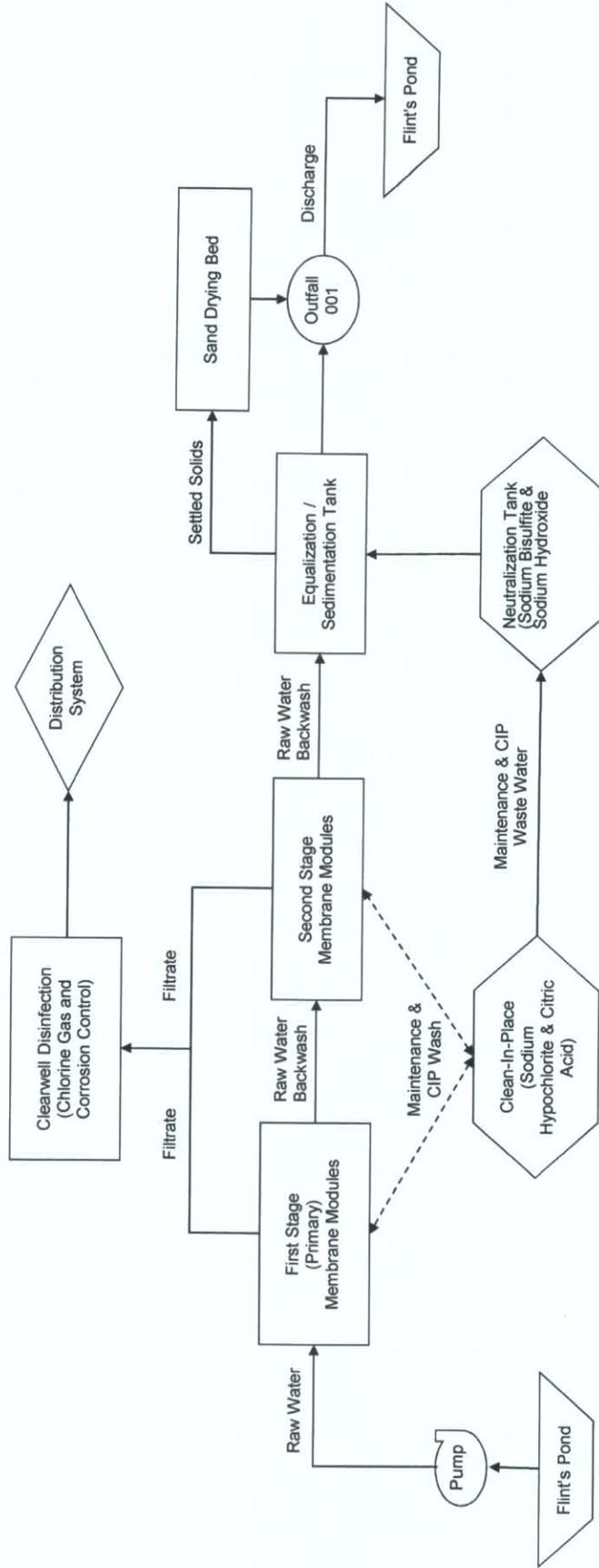
FIGURE 2
Lincoln, MA

NPDES Permit Environmental Receptors

-  Perennial Stream
-  Reservoir
-  DFP Wetlands (1:12,000)

250 0 250

Lincoln Water Department Flint's Pond Water Filtration Plant Process Flow Diagram



StreamStats Report - Flints Pond Water Treatment Plant

Region ID:

MA

Workspace ID:

MA20170602083217663000

Clicked Point (Latitude, Longitude):

42.43255, -71.31693

Time:

2017-06-02 10:32:44 -0400



Outfall #1 discharges to small naturally-occurring swale that drains to Flints Pond

Basin Characteristics
Parameter

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	.73	square miles
DRFTPERSTR	Area of stratified drift per unit of stream length	.250000	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

Parameter

Code	Parameter Description	Value	Unit
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.49	percent

General Disclaimers

Parameter values have been edited, computed flows may not apply.

This watershed has been edited, computed flows may not apply.

Low-Flow Statistics Parameters [100 Percent (0.000232 square miles) Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.73	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0.25	square mile per mile	0	1.29
BSLDEM250	Mean Basin Slope from 250K DEM	2.49	percent	0.32	24.6
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Disclaimers [100 Percent (0.000232 square miles) Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [100 Percent (0.000232 square miles) Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0631	ft ³ /s
7 Day 10 Year Low Flow	0.0256	ft ³ /s

Low-Flow Statistics Citations

Ries, K.G., III, 2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (<http://pubs.usgs.gov/wri/wri004135/>)



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
<http://www.fws.gov/newengland>

In Reply Refer To:

June 02, 2017

Consultation Code: 05E1NE00-2017-SLI-1739

Event Code: 05E1NE00-2017-E-03808

Project Name: Flints Pond Water Treatment Plant

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

To Whom It May Concern:

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 feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. 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. This verification can be completed formally or informally as desired. 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 through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

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. Under sections 7(a)(1) and 7(a)(2) 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 and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, 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 Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. 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:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

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

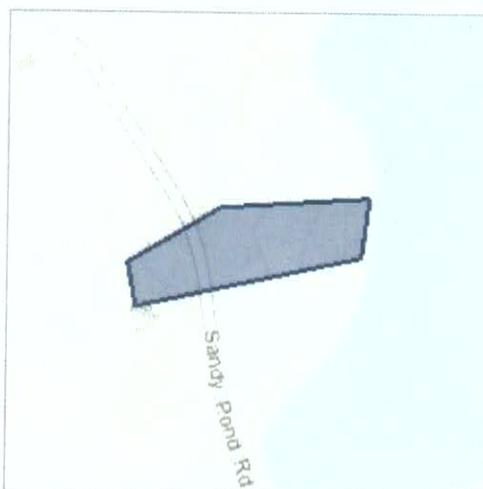
Project Summary

Consultation Code: 05E1NE00-2017-SLI-1739
Event Code: 05E1NE00-2017-E-03808
Project Name: Flints Pond Water Treatment Plant
Project Type: ** OTHER **
Project Description: NDPES NOI Application

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/42.43194866402771N71.31810637294159W>



Counties: Middlesex, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on your 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. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

NAME

STATUS

Northern Long-eared Bat (*Myotis septentrionalis*) Threatened

No critical habitat has been designated for this species.

Species profile: <https://ecos.fws.gov/ecp/species/9045>

Critical habitats

There are no critical habitats within your project area.

IPaC**U.S. Fish & Wildlife Service**[Regulatory review](#) / [Endangered species](#) / [Species determinations](#)

Species determinations

For listed species

¹ not covered by determination keys, an impact analysis should be performed to reach a conclusion about how this project will impact the species. These conclusions will result in *determinations* for each species, which will be used in consultation with the U.S. Fish and Wildlife Service.

Mammals

Northern Long-eared Bat
Myotis septentrionalis

None

Critical habitats

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.