

October 20, 2020

US EPA, Region 1  
Office of Ecosystem Protection  
PWTF GP Applications Coordinator (OEP06-4)  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

**Notice of Intent**  
**Potable Water Treatment Facility**  
**NPDES General Permit No. MAG640000**  
**Greensand Filtration Facility for Well No. 5**  
**Holliston, MA**

Dear Sir or Madam:

On behalf of the Holliston Water Department, please find attached the following documentation pertaining to the Town's application for an NPDES General Permit No. MAG640000 for its proposed Potable Water Treatment Facility, *Greensand Filtration Facility for Well No. 5* to be located at #784 Central Street (Assessor's Record: #169), Holliston, MA.

- Notice of Intent (NOI) with Attachments as follows:
  - Attachment A: General Outfall Location, Topographic Map (Drawing LA-1), and Topographic Map (Drawing ST-1)
  - Attachment B: Process Flow Schematic (Drawing M-1)
  - Attachment C: 7Q10 Information from DEP
  - Attachment D: Endangered Species Act, Eligibility Documentation

Since this facility does not discharge to an Outstanding Resource Water (ORW) or High Quality Water, the attached NOI is not being submitted to the MassDEP per the NOI Instructions.

The design of the proposed Facility is currently undergoing final review by the Drinking Water Program of MassDEP Central Regional Office and construction completion is anticipated by mid-2022.

Should you have any questions on this submittal, please contact me at 508.429.0603.

Very truly yours,

Sean M. Reese  
Director of Public Works

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
NEW ENGLAND - REGION I  
5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MASSACHUSETTS 02109-3912

Request for General Permit Authorization to Discharge Wastewater  
Notice of Intent (NOI) to be covered by the General Permit

Potable Water Treatment Facility (PWTF)  
NPDES General Permit No. MAG640000 and NHG640000

**A. Facility Information**

1. Indicate applicable General Permit for discharge **MAG640000**

2. Facility Data

**Facility Name:** Greensand Filtration Facility for Well No. 5

**Street/PO Box:** #784 Central Street (Assessor's Record: #169)

**City:** Holliston

**State:** MA      **Zip Code:** 01746

**Latitude Longitude:** 42d11'53.17"N, 71d23'49.97"W

**SIC Code(s):** 4941

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

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

**Facility Name:** Holliston Water Department

**Street/PO Box:** 703 Washington Street      **City:** Holliston

**State:** MA      **Zip Code:** 01746

4. Facility Owner:

**Legal Name:** Holliston Water Department

**Email:** reeses@holliston.k12.ma.us

Street/PO Box: 703 Washington Street City: Holliston

State: MA Zip Code: 01746

Contact Person: Sean Reese Tel #: 508.429.0603

Owner is (check one): Federal  State X  Tribal  Private

Other (describe)  
\_\_\_\_\_

5. Facility Operator (if different from above):

LegalName \_\_\_\_\_

Email \_\_\_\_\_

Street/PO Box \_\_\_\_\_ City \_\_\_\_\_

State \_\_\_\_\_ Zip Code \_\_\_\_\_

Contact Person \_\_\_\_\_ Tel # \_\_\_\_\_

6. Currently (Administratively) Covered Under the Expired PWTF General Permit? (Please check yes or no): Yes No:  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:  No If Yes, Permit Number \_\_\_\_\_

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

c) Is the facility covered by an individual NPDES permit for other discharges? Yes No:  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:  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 (Attachment A : 3 pages)

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

1. Name of receiving water into which discharge will occur:  Bogastow Brook

Check Appropriate Box:  Freshwater  Marine Water

State Water Quality Classification Class: **B**

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

**Wetland/Brook**

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: **34 times per year**

\*\*\*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.):

**Groundwater from the Town of Holliston's Well #5 will be pumped through the raw water line to the water treatment facility (WTF). The raw water line between the well and the WTF will have provisions for future connection of a raw water line from another well source or sources. A flow meter in the pipe gallery of the WTF will measure the total raw flow rate of all water sources conveyed to the WTF. This flow meter will be downstream of the recycled water flow connection from the supernatant pumps to account for all of the flow (source water and recycled water) to be treated by the WTF's greensand filters. The flow signal from this water meter will be used for pacing the raw water chemical feed pumps for sodium hypochlorite, potassium permanganate and potassium hydroxide. Additionally, this raw water flow meter signal will be used for controlling the supernatant pump recycle flow rate. Following chemical addition and static mixing, the chemically conditioned raw water will flow through the three (3) greensand pressure filters for the removal of manganese and iron. Filtered water from each filter will be manifolded into a combined filter effluent header, pass through a forced draft aerator for carbon dioxide removal, and enter the atmospheric clearwell by gravity. Sodium hypochlorite will be injected into the combined filter effluent line for pathogen inactivation and secondary disinfection within the distribution system. The chlorinated water will flow around concrete baffle walls in the clearwell to provide adequate contact time to meet regulatory disinfection requirements. The disinfected water will then be pumped from the clearwell to the distribution system by the finished water pumps. Finished water flow rate will be measured by a magnetic flow meter. The finished water flow**

rate signal will be used for pacing the finished water chemical feed pumps for sodium fluoride and zinc orthophosphate.

The greensand filtration system requires periodic backwashing of the filters. It is estimated that each filter vessel will be backwashed every 11 days. Each filter backwash cycle is approximately 45 minutes in duration and produces 15,200 gallons of backwash wastewater. Filter backwashing, initiated either manually or automatically, will use filtered, chlorinated water from the clearwell. Backwash waste from the filters will be discharged to three backwash waste basins located within the lower level of the WTF building. Following a preset period of backwash solids settling within the waste basins, supernatant will be recycled with the raw water between 5 to 10 percent of the total combined flow rate using one of the 2 supernatant pumps. Periodically (when the settled metal oxide solids reaches a concentration of approximately 3 to 5 percent by weight) it will be pumped from the in-plant waste basins by the sludge collection pumps, either into the two on-site lined lagoons for storage and drying or directly into hauling trucks for off-site disposal. Should backwash recycling not be practiced, all of the backwash waste would be pumped from the waste basins into the on-site lagoons at a flow rate ranging from 100 gpm to 150 gpm.

The two on site lagoons will be lined since they are located within the Zone 1 of the groundwater supply. Each lagoon is designed according to MassDEP guidelines, having a volume of approximately 271,000 gallons (542,000 gallons total for two lagoons). Both lagoons are 6 feet in total depth with a 5-foot working depth (elevation 146.00 ft to 151.00 ft.) and one foot of freeboard. There are no baffles in the lagoons. The settling time in each lagoon would be 9.0 hours based on conservative assumptions including: (1) 150 gpm flow rate into each lagoon; (2) a 0.3 short circuiting baffle factor, and (3) continuous flow into and out of the lagoon. However, since flow into the lagoon is on a batch basis estimated at every 11 days, the actual settling time is significantly greater than 9.0 hours and would theoretically approach 11 days.

The lagoons will be constructed with 6-inches of sand borrow over compacted fill. A flexible membrane liner will be placed over the sand to provide an impervious barrier between the lagoon bottom and the aquifer below. A drainage geocomposite layer will be placed over the membrane liner to collect permeate and will be backfilled with an additional 12 inches of sand. The permeate flows in the direction of the outlet structure where it is collected by four 1" perforated PVC pipes for discharge into the outlet structure.

The inlet to each lagoon is designed to allow discharge from (1) the 4-inch ductile iron pipe from the supernatant pumps and/or (2) the 4-inch ductile iron pipe from the sludge collection pumps to flow over an energy-dissipating rip-rap pad. The invert elevation of the inlet pipes is 147.40 ft. Settled wastewater from the lagoons will discharge to a common concrete outlet structure situated between the two lagoons. The lagoon inlet pipes and outlet structure will be located at opposite ends of the lagoon to maximize the time that the solids in the backwash water have to settle out. In addition, the lagoon design includes the capability to operate the two lagoons in series to double the settling time and thus improve solids settling. The outlet structure is designed to provide 5 feet of working depth and to allow discharging without overtopping the lagoons.

Settled water from the lagoons will flow into the concrete outlet structure through three pipes with isolation valves located at three different depths. The outlet structure will be piped for eventual discharge of the settled water (supernatant) to an excavated and stabilized channel through the wetland buffer zone located on the easterly side of the project site above wetland flag # 43 and into the wetlands adjacent to Bogastow Brook. The invert elevation of the outlet pipe entering the wetlands is approximately 143.9 ft. The approximate straight-line distance from where the lagoon outlet pipe enters the wetlands to the edge of Bogastow Brook is 600 feet, providing additional time of travel estimated in days.

There will be flow meters on the discharge lines of the supernatant pumps and the sludge collection pumps to measure the total flow entering the lagoons. The lagoon outlet structure will be designed to allow outlet flow sampling, as required to ensure compliance with the NPDES limits.

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. Attachment B (1 page)**

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: **42.198599**      Longitude: **-71.396654**

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  
**The lagoon outlet structure is designed to allow outlet flow sampling, as required to ensure compliance with the NPDES limits. Sampling is proposed the second Wednesday of each month or when discharges occur.**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Outfall #

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Outfall #

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**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.

- Potassium Hydroxide**
- Sodium Hypochlorite**
- Potassium Permanganate**
- Zinc Orthophosphate**
- Sodium Fluoride**

2. Report any known remediation activities or water quality issues in the vicinity of the discharge: **There are none known.**

3. Are aluminum compounds or polymers used as coagulants at this facility? \* Yes\_ No:  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:  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:  No

6. Does the facility’s discharge contain residual chlorine? Yes No:  Yes

**[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:  No

8. a. Are phosphorus-containing chemicals added to the treated water at this facility? Yes No:

Yes

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

**No. Category 4a.**

c. If answer to 8.b. is Yes, provide name of P-Impaired waterbody: **Not Applicable**

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

10. Provide the reported or calculated seven day- ten -year low flow (7Q10) of the receiving water 7Q10: **0.381 cfs per MassDEP. Attachment C (5 pages)**

\*\*\*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): **0.7 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: **45,600 GPD**      Average Monthly Flow **4,145 GPD (no recycling)**

c) TSS (mg/l): Number of samples: **N/A as this is a new proposed WTP.**  
Maximum Daily: **estimated < 10 mg/L**      Average Monthly: **estimated <10 mg/L**

d) pH (s.u.) : Number of samples: **N/A as this is a new proposed WTP.**  
Minimum: **estimated 6.5 s.u.**      Maximum: **estimated 8.0 s.u.**

e) Total Residual Chlorine (ug/l): **N/A as this is a new proposed WTP.**  
Maximum Daily: **estimated as Non-detect**  
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): **Not Applicable.**

**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?  **Attachment D (5 pages)**

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, Yes No:  No )  
Downstream (including Haverhill) to mouth of River)

Connecticut River (from Turner's Falls, downstream Yes No:  No   
through Holyoke (including Holyoke Dam region)

Taunton River Yes No:  No

Piscataqua River (in NH) Yes No:  No

b) Has the facility had any previous formal or informal consultation with NMFS?

Yes No:  No

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

### **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:  No

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

If yes, attach the results of the consultation(s). Documentation attached?  N/A

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 Sean M. Reese Date 10-21-20

Printed Name and Title Sean Reese, Director of Public Works

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.)

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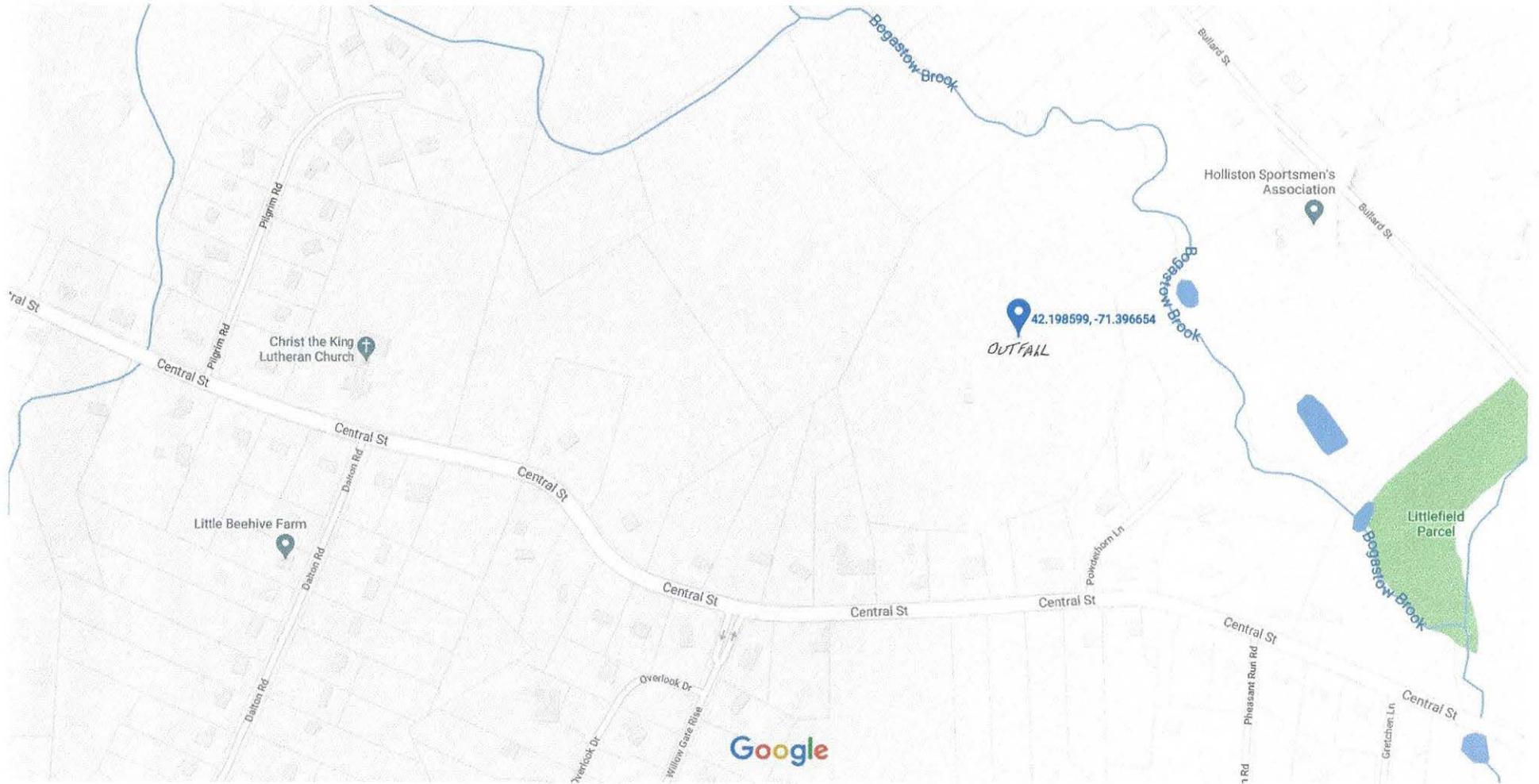
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**ATTACHMENT A**

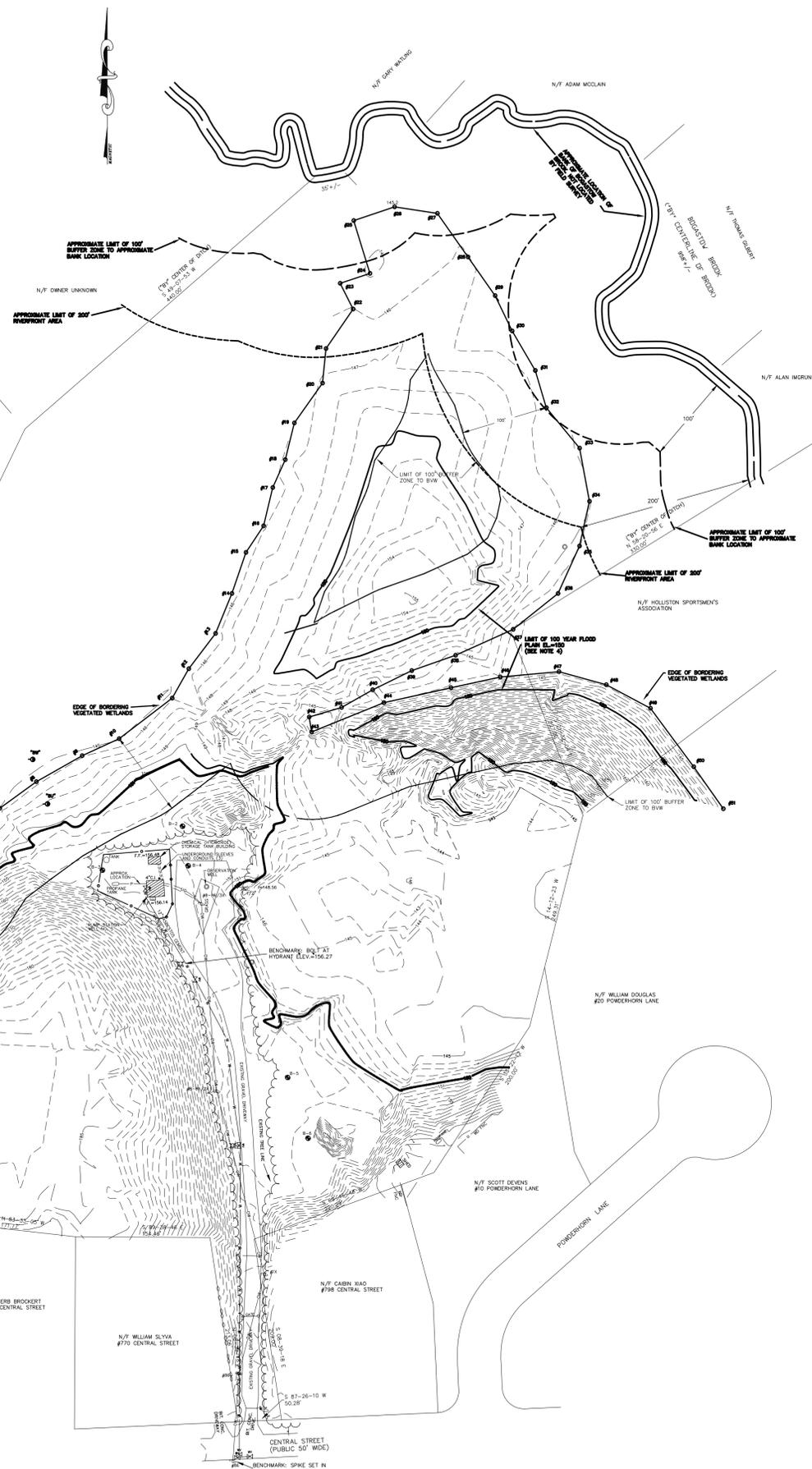
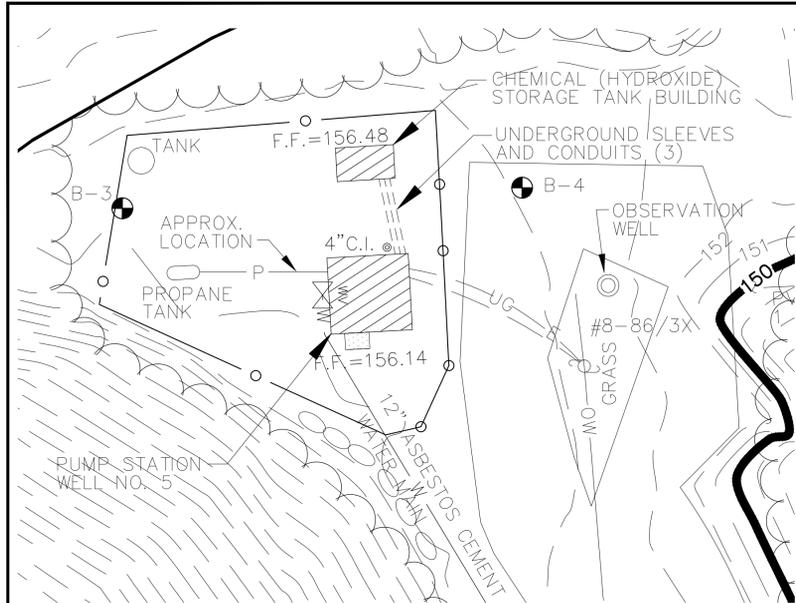
**GENERAL OUTFALL LOCATION  
TOPOGRAPHIC MAP (DRAWING LA-1)  
TOPOGRAPHIC MAP (DRAWING ST-1)**



Map data ©2020 200 ft

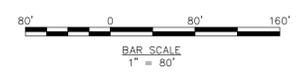
OUTFALL LOCATION  
GREENSAND FILTRATION FACILITY FOR WELL #5  
HOLLISTON, MA

42.198599 -71.396654



**SITE PLAN NOTES:**

1. THE CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH NEW WORK. THE CONTRACTOR SHALL VERIFY PERTINENT INFORMATION AND IDENTIFY ANY POTENTIAL CONFLICTS. ANY DISCREPANCIES OR CONFLICTS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
2. THE CONTRACTOR IS ADVISED THAT THE AREA OF THE PROPOSED WORK AND BEYOND IS THICKLY WOODED. THIS SITE PLAN DOES NOT SHOW ALL THE EXISTING TREES, SHRUBS, AND VEGETATION. THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE EXTENT OF CLEARING AND SITE PREPARATION NECESSARY.
3. THE CONTRACTOR SHALL CUT ALL TREES AND REMOVE STUMPS AND IS RESPONSIBLE FOR CLEARING ALL AREAS WITHIN THE LIMIT OF WORK LINES OR AS NECESSARY TO CONSTRUCT THE PROJECT.
4. ALL TREES, STUMPS, BRUSH, UNSUITABLE ORGANIC MATERIALS, AND EXCESS SITE MATERIALS, AND EXCESS SITE MATERIALS THAT CANNOT BE REUSED SHALL BE THE PROPERTY OF THE CONTRACTOR AND SHALL BE LEGALLY DISPOSED OF OFF SITE.
5. THE LIMIT OF WORK LINE SHALL BE THE PROPOSED TREE LINE AND EROSION CONTROL BARRIERS.
6. THE LOCATIONS OF THE PROPOSED EROSION CONTROL BARRIER IS SHOWN ON DRAWINGS LA-2 AND OR ST-1. THE CONTRACTOR IS ADVISED THAT NO SITE WORK WILL BE PERMITTED UNTIL EROSION CONTROL BARRIER IS INSTALLED AND INSPECTED BY HOLLISTON CONSERVATION AGENT.
7. PROJECT PROPERTY MARKERS DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR.
8. WETLANDS DELINEATIONS WAS PERFORMED BY CHARLES J. KATUSKA, M.F.S., P.W.S., OCTOBER 2016.
9. SURVEY PERFORMED BY J.D. MARQUEDANT & ASSOCIATES INC., NOVEMBER 2016.
10. THE PROJECT IS LOCATED WITHIN AN ENVIRONMENTALLY SENSITIVE AREA. THE CONDITIONS OUTLINED IN THE PROJECT ORDER OF CONDITIONS WILL BE STRICTLY ENFORCED. ANY DEVIATIONS REQUIRE PRIOR APPROVALS BY THE CONSERVATION AGENT AND OR THE HOLLISTON CONSERVATION COMMISSION.
11. REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL RELATED SITE WORK.
12. THE EXISTING PAVEMENT IN CENTRAL STREET SHALL BE SAW CUT AT THE ENTRANCE TO ACCESS ROAD WHERE IT MEETS THE PROPOSED SURFACE TREATMENT. SAW CUT SHALL BE SMOOTH AND STRAIGHT.
13. THE CONTRACTOR SHALL REFER TO SECTION 01310, SCHEDULES AND REPORTS FOR SUBSURFACE INFORMATION.
14. REMOVE EXISTING CONCRETE SUPPORT FOR THE PROPANE TANK, EXISTING CHEMICAL STORAGE TANK BUILDING AND ALL SLEEVES AND CONDUITS BETWEEN BUILDINGS.
15. IT IS THE INTENT OF THIS PROJECT FOR THE WELL NO. 5 STATION TO REMAIN IN SERVICE AS LONG AS POSSIBLE DURING CONSTRUCTION, AND ACCORDING TO A DETAILED SEQUENCE OF CONSTRUCTION TO BE APPROVED BY THE OWNER. THEN THE BUILDING SHALL BE REMOVED AND WELL NO. 5 SHALL BE MODIFIED IN ACCORDANCE TO REQUIREMENTS OF THIS CONTRACT.



REVISION DATE: AUGUST 6, 2020

”95% PROGRESS DRAWING”

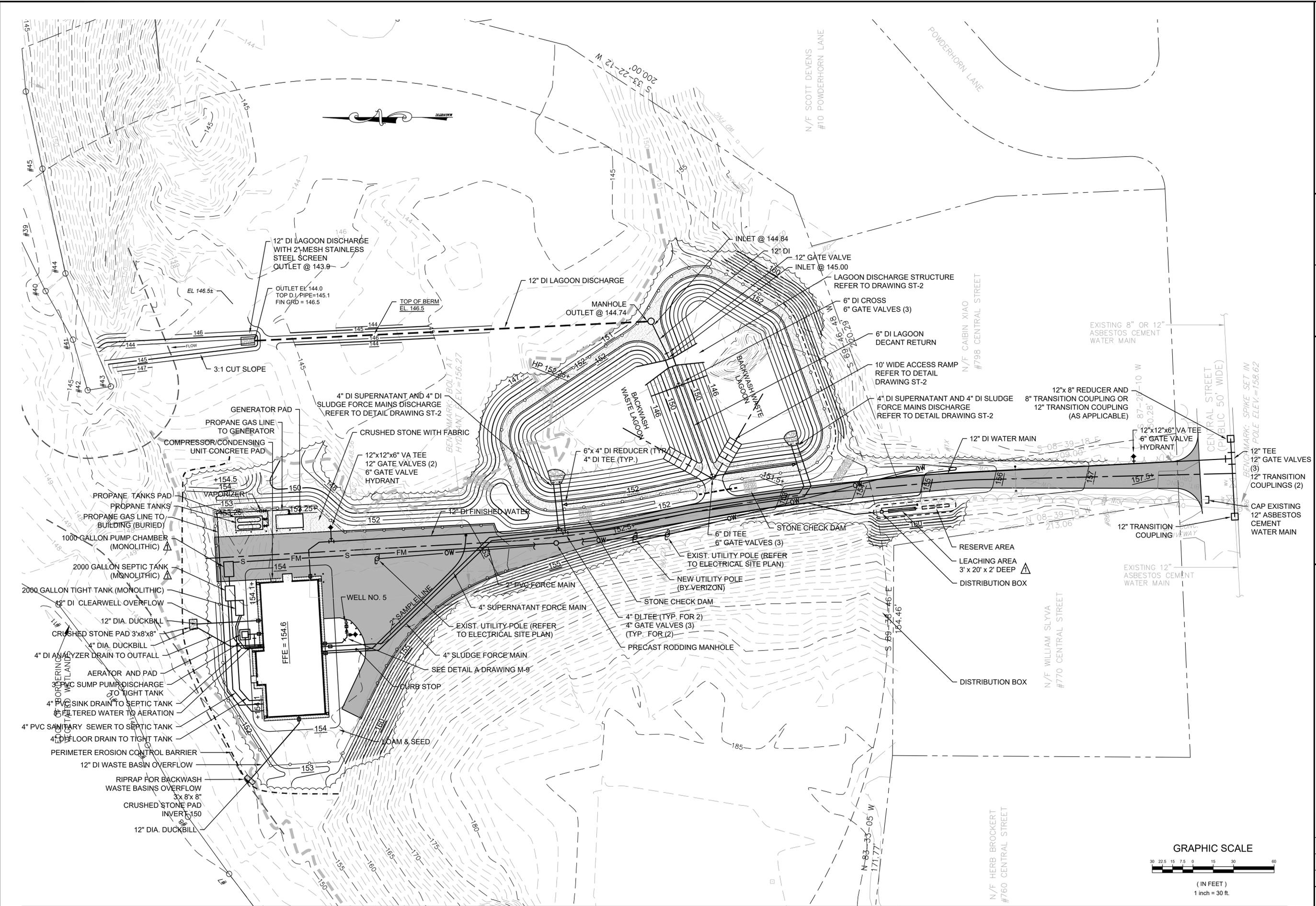
DATE	
BY	
REVISIONS	
NO.	


AP Associates, Inc.  
Environmental & Civil Engineering Services  
Phone: (509) 376-2670  
www.ap-associates.com

HOLLISTON, MASSACHUSETTS  
EXISTING CONDITIONS SITE PLAN  
GREENSAND FILTRATION FACILITY FOR WELL NO. 5

DESIGNED BY	DWG SCALE
AP	AS NOTED
DRAWN BY	CONTRACT NO
JZ	2020-01
CHECKED BY	DATE
	AUGUST 2020

LA-1  
SHEET 3 OF .



REVISION DATE: OCTOBER 6, 2020

95% PROGRESS DRAWING

NO.	REVISIONS	DATE
1	PER HOLLISTON BOH APPROVAL	SM 9/3/20
2	APPROVED PLANS ON FILE	

DESIGNED BY	DWG SCALE
AP	AS NOTED
DRAWN BY	CONTRACT NO.
	2020-01
CHECKED BY	DATE
LJM	OCTOBER 2020

HOLLISTON, MASSACHUSETTS  
 OUTSIDE PIPING PLAN  
 GREENSAND FILTRATION FACILITY FOR WELL NO. 5

AP Associates, Inc.  
 Environmental & Civil Engineering Services  
 Phone: (508) 376-2670  
 www.ap-associates.com

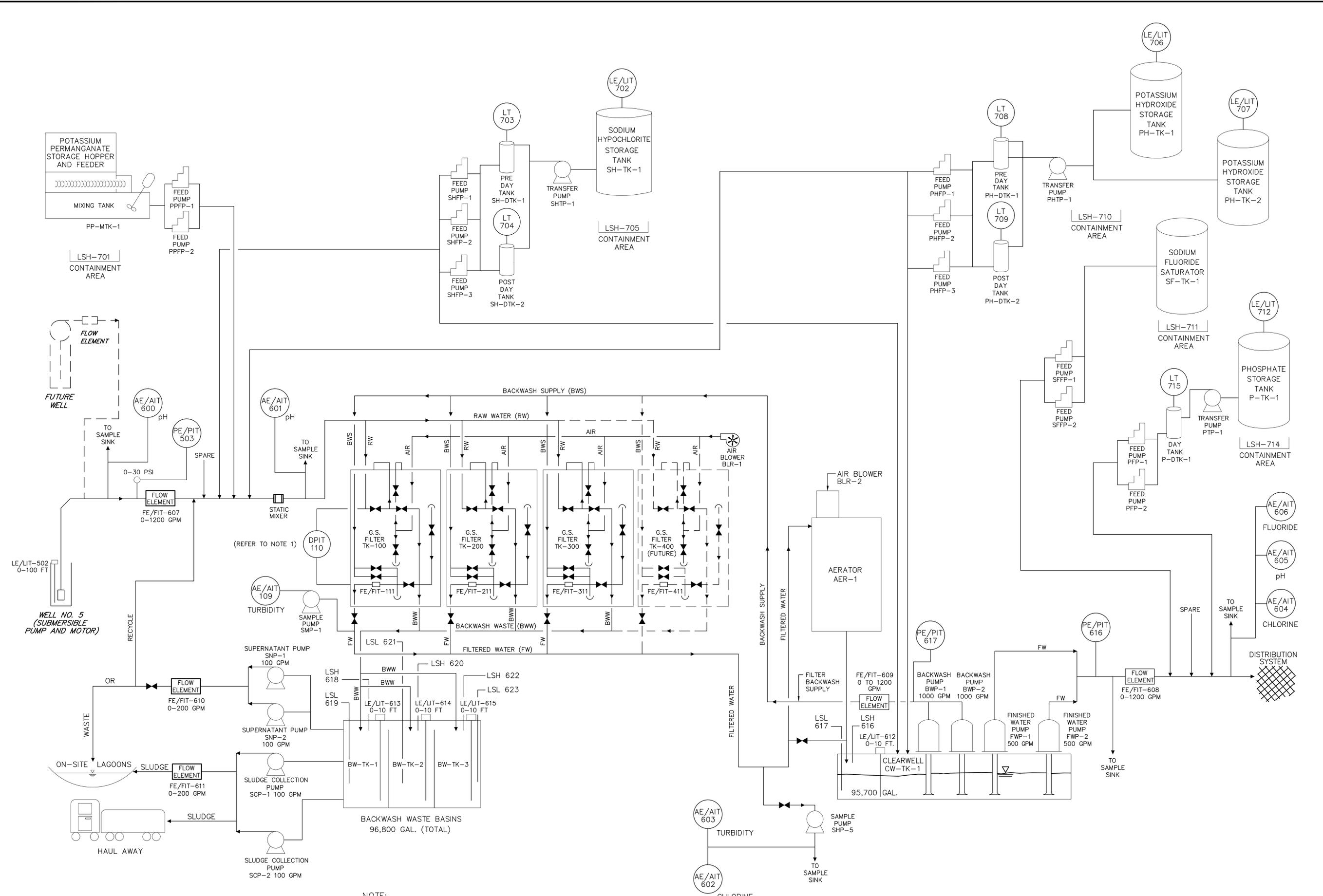
HOLLISTON, MASSACHUSETTS  
 OUTSIDE PIPING PLAN  
 GREENSAND FILTRATION FACILITY FOR WELL NO. 5

DESIGNED BY	DWG SCALE
AP	AS NOTED
DRAWN BY	CONTRACT NO.
	2020-01
CHECKED BY	DATE
LJM	OCTOBER 2020

ST-1  
 SHEET 8 OF 87

**ATTACHMENT B**

**PROCESS FLOW SCHEMATIC (DRAWING M-1)**



NOTE:  
 1. FILTER NO. 110 INSTRUMENTATION AND ANALYZER SHOWN.  
 OTHER FILTERS WILL HAVE THE SAME, BUT WITH 120, 130,  
 140 NUMBER DESIGNATIONS.

REVISION DATE: OCTOBER 6, 2020

”95% PROGRESS DRAWING”

NO.	REVISIONS	DATE


AP Associates, Inc.  
 Environmental & Civil Engineering Services  
 Phone: (509) 376-2670  
 www.ap-associates.com

HOLLISTON, MASSACHUSETTS  
 PROCESS FLOW SCHEMATIC  
 GREENSAND FILTRATION FACILITY FOR WELL NO. 5

DESIGNED BY	AP	DWG SCALE	AS NOTED
DRAWN BY	JZ	CONTRACT NO.	2020-01
CHECKED BY	LJM	DATE	OCTOBER 2020

M-1  
 SHEET 38 OF 87

**ATTACHMENT C**

**7Q10 INFORMATION FROM DEP**

**Subject:** Re: 7Q10 flow for Bogastow Brook - Water Treatment Plant for Holliston,MA  
**Date:** Friday, June 12, 2020 at 10:08:49 AM Eastern Daylight Time  
**From:** Ruan, Xiaodan (DEP)  
**To:** lenny mackoul  
**CC:** Ali Parand  
**Attachments:** Bogastow Brook - StreamStats.pdf

Hi Lenny,

I apologize for the delayed response.

The 7Q10 for the Bogastow Brook would be 0.381 cfs. Please see the attached StreamStats report.

Please let me know if you have any questions.

Thanks,  
Xiaodan

---

**From:** lenny mackoul <lennymackoul@aquagenicsinc.com>  
**Sent:** Thursday, June 11, 2020 12:46 PM  
**To:** Ruan, Xiaodan (DEP)  
**Cc:** Ali Parand  
**Subject:** 7Q10 flow for Bogastow Brook - Water Treatment Plant for Holliston,MA

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Xiaodan!

Just checking in with you regarding the status of your 7Q10 determination.

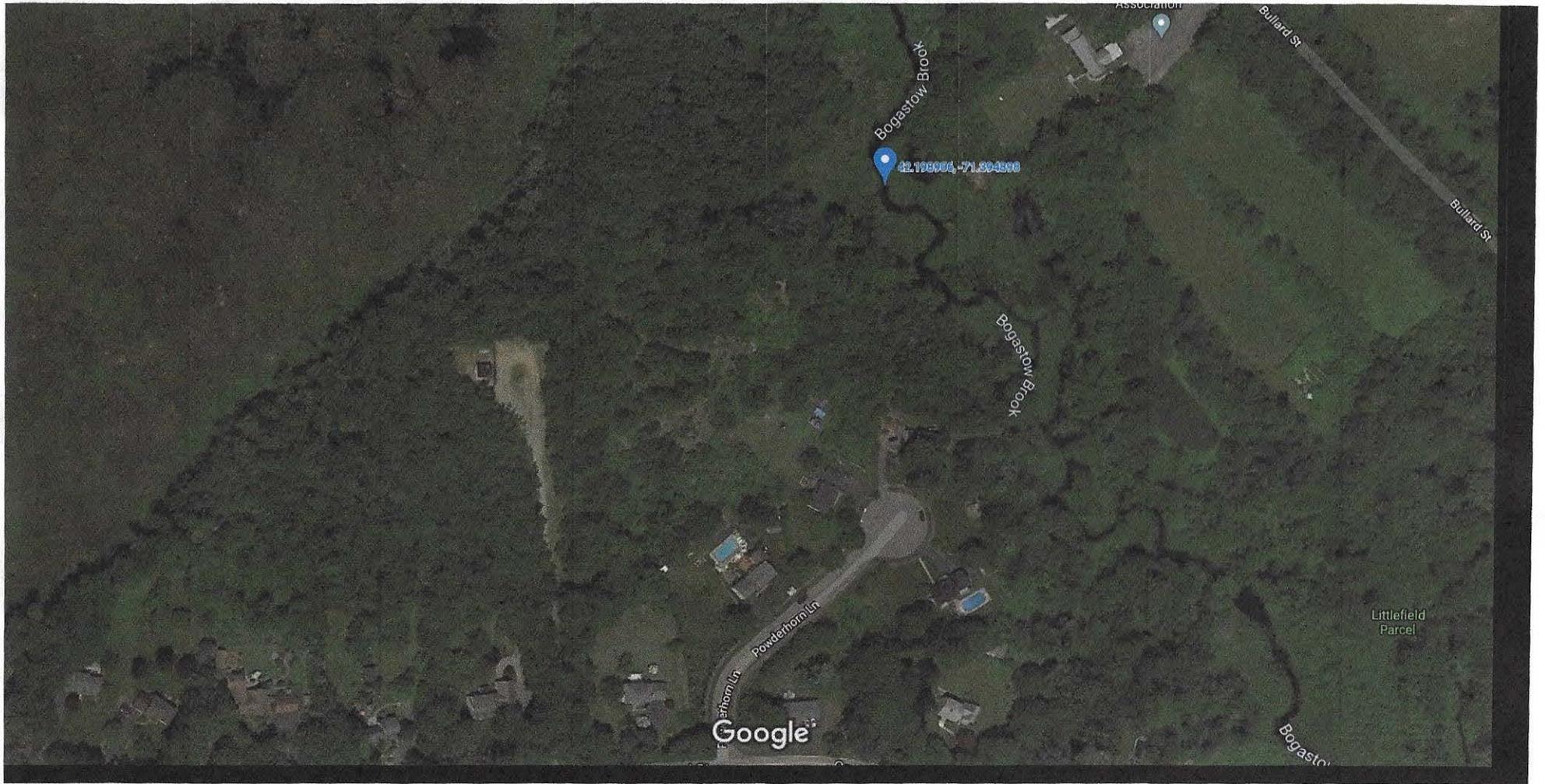
Thank you!

Lenny MacKoul, P.E.  
Aquagenics Inc.  
41 Huron Circle  
Dorchester, MA 02124

O:781.935.7470  
M:617.834.6664  
[lennymackoul@aquagenicsinc.com](mailto:lennymackoul@aquagenicsinc.com)

---

**From:** Lenny MacKoul <lennymackoul@aquagenicsinc.com>



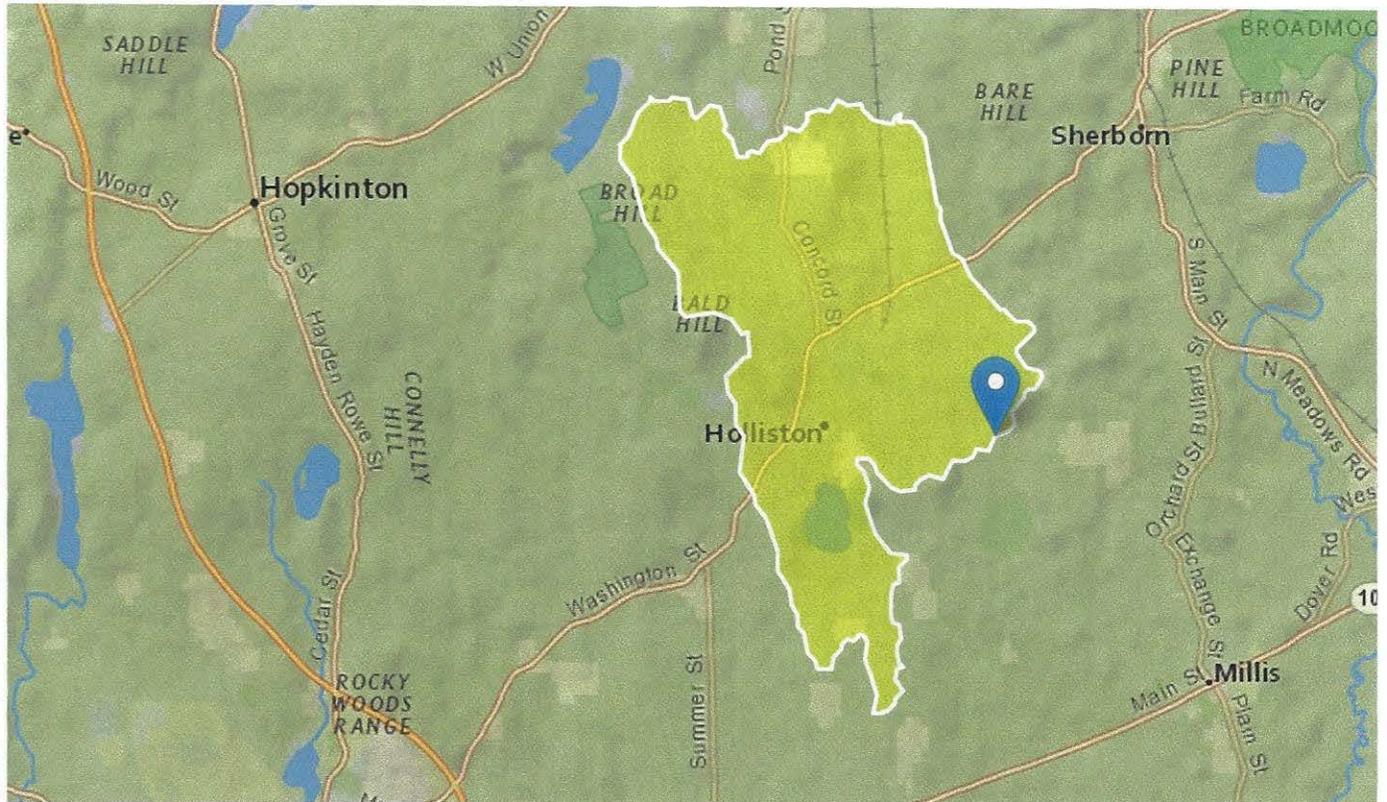
# StreamStats Report

Region ID: MA

Workspace ID: MA20200612135655737000

Clicked Point (Latitude, Longitude): 42.19889, -71.39498

Time: 2020-06-12 09:57:12 -0400



## Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	9.66	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.879	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.15	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

Low-Flow Statistics Parameters<sup>[Statewide Low Flow WRIR00 4135]</sup>

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	9.66	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	2.879	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.15	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Flow Report<sup>[Statewide Low Flow WRIR00 4135]</sup>

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu	SE	SEp
7 Day 2 Year Low Flow	0.911	ft <sup>3</sup> /s	0.349	2.29	49.5	49.5
7 Day 10 Year Low Flow	0.381	ft <sup>3</sup> /s	0.113	1.2	70.8	70.8

*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/>)**

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Application Version: 4.3.11

**ATTACHMENT D**

**ENDANGERED SPECIES ACT  
ELIGIBILITY DOCUMENTATION**



## 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:  
Consultation Code: 05E1NE00-2020-SLI-4016  
Event Code: 05E1NE00-2020-E-12512  
Project Name: Greensand WTP

September 17, 2020

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](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

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## Project Summary

Consultation Code: 05E1NE00-2020-SLI-4016

Event Code: 05E1NE00-2020-E-12512

Project Name: Greensand WTP

Project Type: WATER SUPPLY / DELIVERY

Project Description: New greensand filtration drinking water plant for the Town of Holliston, MA. Construction to begin in 2021 and completed in 2022.

### Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.199768029415836N71.40685607239237W>



Counties: Middlesex, MA

## Endangered Species Act Species

There is a total of 1 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<sup>1</sup>, 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.

- 
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 <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

## Critical habitats

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

