



Merrimac Light and Water Depts.

10 W. Main Street
Merrimac, Massachusetts 01860
Telephone: (978) 346-8311
Fax: (978) 346-8312

May 28, 2010

Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: Request for General Permit Authorization to Discharge Waste Water, (NOI).

Enclosed please find the Request for General Permit Authorization to Discharge Waste Water, (NOI) for the Merrimac Water Department (3180000).

Sincerely,

Gary Tuck
Merrimac Water Department

JUN - 2 2010

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
ONE CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023**

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

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

A. Facility Information

1. Facility Owner:

Name Town of Merrimac e-mail rspinale@townofmerrimac.com
Street/PO Box 2 School st. City Merrimac
State Massachusetts Zip Code 01860
Contact Person Rick Spinale Telephone Number 978-3460612

2. Facility Operator (if different from above):

Name Gary Tuck Jr. e-mail (optional) gtuck@townofmerrimac.com
Street/PO Box Wallace Way City Merrimac
State Massachusetts Zip Code 01860
Contact Person Gary Tuck Jr. Telephone Number 978-346-8417

3. Facility Data (attach topographic map or other map showing facility and discharge location(s)):

Name Merrimac Water Treatment Plant e-mail (optional) _____
Street/PO Box Wallace Way City Merrimac
State Massachusetts Zip Code 01860
Contact Person Gary Tuck Jr. Telephone Number 978-346-8417
Facility Latitude 42d50m 26.02s North Facility Longitude 70d59m 7.10s West

4. Standard Industrial Classification (SIC Codes) and Descriptions of Processes:

SIC Code(s) 4941
Description(s) Water Distribution

5. Current Permitting Status (please check yes or no):

1. Has a prior NPDES permit been granted for the discharge? Yes ☒ (Permit Number: 640030)
No ☐
2. Is the discharge a "new discharge" as defined by 40 CFR Section 122.22? Yes ☐ No ☒
3. Is the facility covered by an individual NPDES permit? Yes ☒ (Permit Number 640030) No ☐
4. Is there a pending application on file with EPA for this discharge? Yes ☐ (Date of submittal: _____)
No ☒

B. Discharge Information

1. Name of Receiving Waterbody Wetlands next to Lake Attitash
2. Type of Receiving Waterbody (e.g. stream, lake, reservoir, estuary etc) lake
3. State Water Quality Classification: _____ Freshwater: yes Marine Water: _____
4. Describe the discharge activities for which the owner/applicant is seeking coverage, including process discharges not specifically authorized in the PWTF 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 water; and the length of backwash cycle for any combination of number of filters. (attach extra sheets if necessary):

Backwash water is stored in a backwash tank. During a backwash, it is pumped backwards through the filter being back washed in through the finish water effluent up through the filter and out the raw water influent, then out to the discharge lagoon where it filters down through 14" of sand, then a membrane, then through PVC under drains laid in crushed stone then it flows out to the swamp area. 2 lagoons (size 30'W x 95'L) 8"D.I. into lagoon, 12"PVC supernatant discharge to swamp. Lagoons are used one at a time and are switched every 2 years. Time of travel from from entry point to receiving water is unknown. (gravity flow)
Approximately 7500 gallons of backwash water per filter (3 filters= 22,500 gal. per backwash).

5. Please provide a diagram depicting the treatment methods, outfalls, and receiving water.

6. Number of outfalls: 1 Latitude and Longitude for each outfall (attach additional pages if necessary)
OUTFALL # 1 Latitude 42d50m 26.02 North Longitude 70d59m 7.10s West
OUTFALL # 2 Latitude 42d50m 26.02 North Longitude 70d59m 7.10s West

For each outfall:

7. What is the proposed sampling location(s) and proposed consistent times of the month for collecting samples:

From discharge lagoon or from supernatant discharge line.

Samples are taken every thursday of the month

C. Effluent Characteristics

1. List here and attach information on any water additives used at the facility (Including chemicals for pH adjustment, dechlorination, control of biological growth, and control of corrosion and scale in water pipes): KOH for PH adjustment

KMnO4 as an oxidizer, Phosphate for corrosion control and chlorine for disinfection.

2. Please report here any known remediation activities or water-quality issues in the vicinity of the discharge.

3. Are aluminum-containing coagulants used at this facility? Yes No ✓

4. Does the discharge contain residual chlorine? Yes ✓ No

5. Does the facility provide treatment to remove arsenic from the raw water source? Yes No ✓

6. Are phosphorus-containing chemicals added to the treated water at this facility? Yes ✓ No

7. All applicants must attach a separate sheet listing all laboratory results (minimum of five) for total recoverable aluminum (in micrograms per liter) taken within the last six months. Do not include dilution when recording your results. See Section 4.4.5 of General Permit for more information.

8. Please include the following effluent data for each outfall:

Characteristic (report if measured)	Average Monthly	Maximum Daily
Discharge Flow (gpd)	Gravity flow	Gravity Flow
TSS (mg/l)	BRL	BRL
pH (s.u.)	(min) 7.1	(max) 8.0
Total Recoverable Aluminum (ug/l)	N/A	N/A
Total Residual Chlorine (ug/l)	.11 mg/l	.31 mg/l

(continued on next page)

8. Continued

Characteristic (report if measured)

Whole Effluent Toxicity (%) LC50 _____ and/or C-NOEC _____

9. If the discharge contains aluminum and/or residual chlorine, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water, the dilution factor, and attach any calculations used to support stream flow and dilution calculations (See Appendix VII for dilution calculations and additional information):

7Q10 _____ cfs Dilution Factor _____ cfs

D. Endangered Species Act Eligibility

1. Using the instructions in Appendix I of the PWTF GP, under which criterion listed in Part II are you eligible for coverage under this general permit?

A ☒ B _____ C _____ D _____ E _____ F _____

2. If you selected criteria D or F, has consultation with the federal services been completed? Yes _____ No _____

3. If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries 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 ☒

4. Attach documentation of ESA eligibility as described below and required at Part 3.4.1 and Appendix I, Part III, Step 4, of the General Permit.

Criterion A - No federally-listed threatened or endangered species or federally-designated critical habitat are present: A copy of the most current county species list pages for the county(ies) where your site or facility and discharges are located. You must also include a statement on how you determined that no listed species or critical habitat are in proximity to your site or facility or discharge locations.

Criterion B - Section 7 consultation completed with the Service(s) on a prior project: A copy of the USFWS's and/or NMFS's, as appropriate, biological opinion or concurrence on a finding of "unlikely to adversely effect" regarding the ESA Section 7 consultation.

Criterion C - Activities are covered by a Section 10 Permit: A copy of the USFWS's and/or the NMFS's, as appropriate, letter transmitting the ESA Section 10 authorization.

Criterion D - Concurrence from the Service(s) that the discharge is "not likely to adversely affect" federally-listed species or federally-designated critical habitat (not including the four species of concern identified in Section I of Appendix I): A copy of the USFWS's and/or the NMFS's, as appropriate, letter or memorandum concluding that the discharge is consistent with the general permit's "not likely to adversely affect" determination.

Criterion E - Activities are covered by certification of eligibility: A copy of the documents originally used by the other operator of your site or facility (or area including your site) to satisfy the documentation requirement of Criteria A, B, C or D.

Criterion F - Concurrence from the Service(s) that the discharge is "not likely to adversely affect" species of concern, as identified in Section I of Appendix I: A copy of the USFWS and/or the NMFS, as appropriate, concurrence with the applicant's determination that the discharge is "not likely to adversely affect" listed species.

E. National Historic Properties Act Eligibility

1. Using the instructions in Appendix III of the PWTF GP, under which criterion listed in Part III are you eligible for coverage under this general permit?

1 ☒ 2 ☐ 3 ☐

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).

F. Certification

I certify that 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. 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 gather and evaluate the information submitted. Based on 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 am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Printed Name and Title Gary D. Tuck Jr./ Water Dept. Foreman

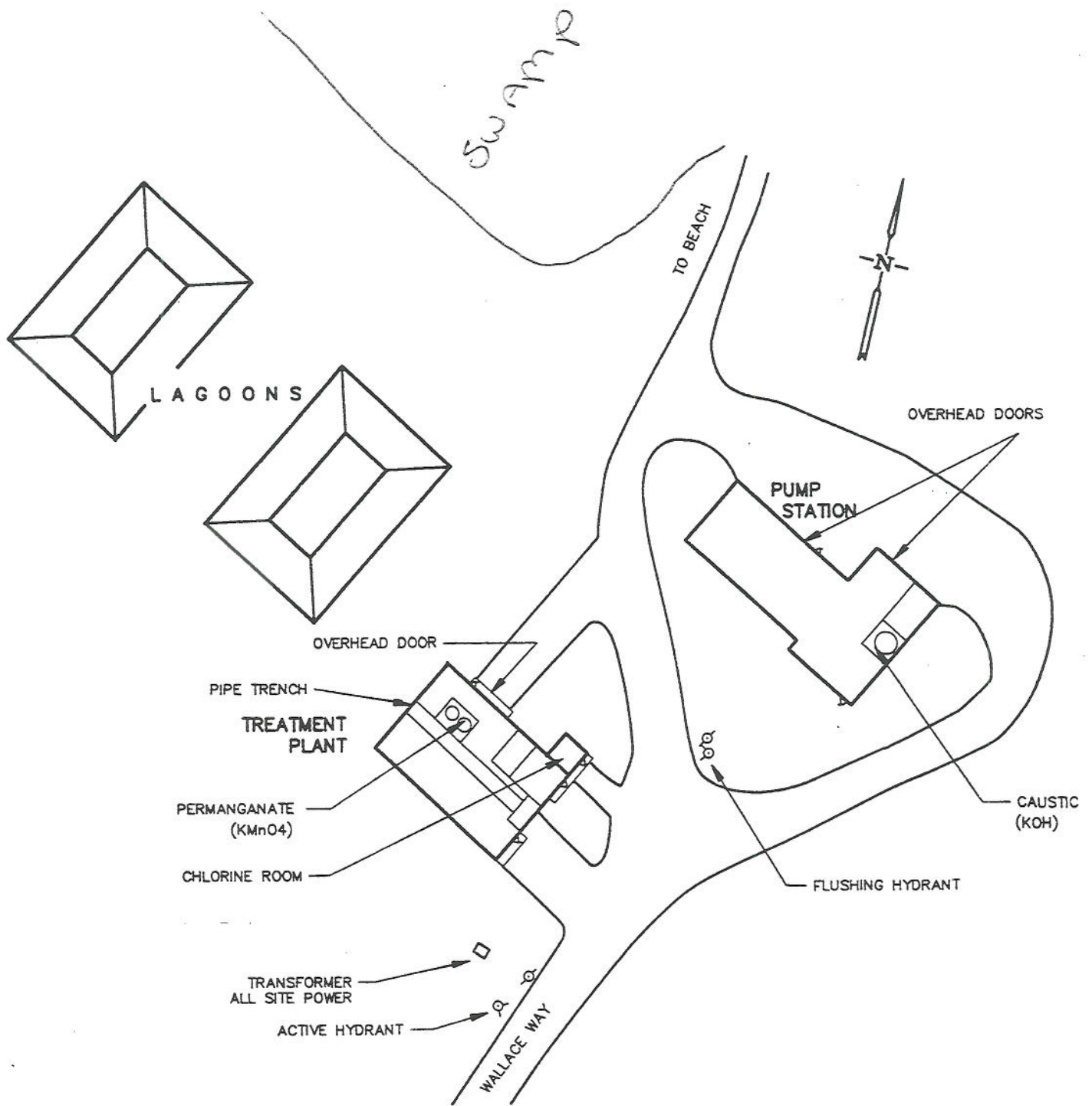
Date

5/27/10

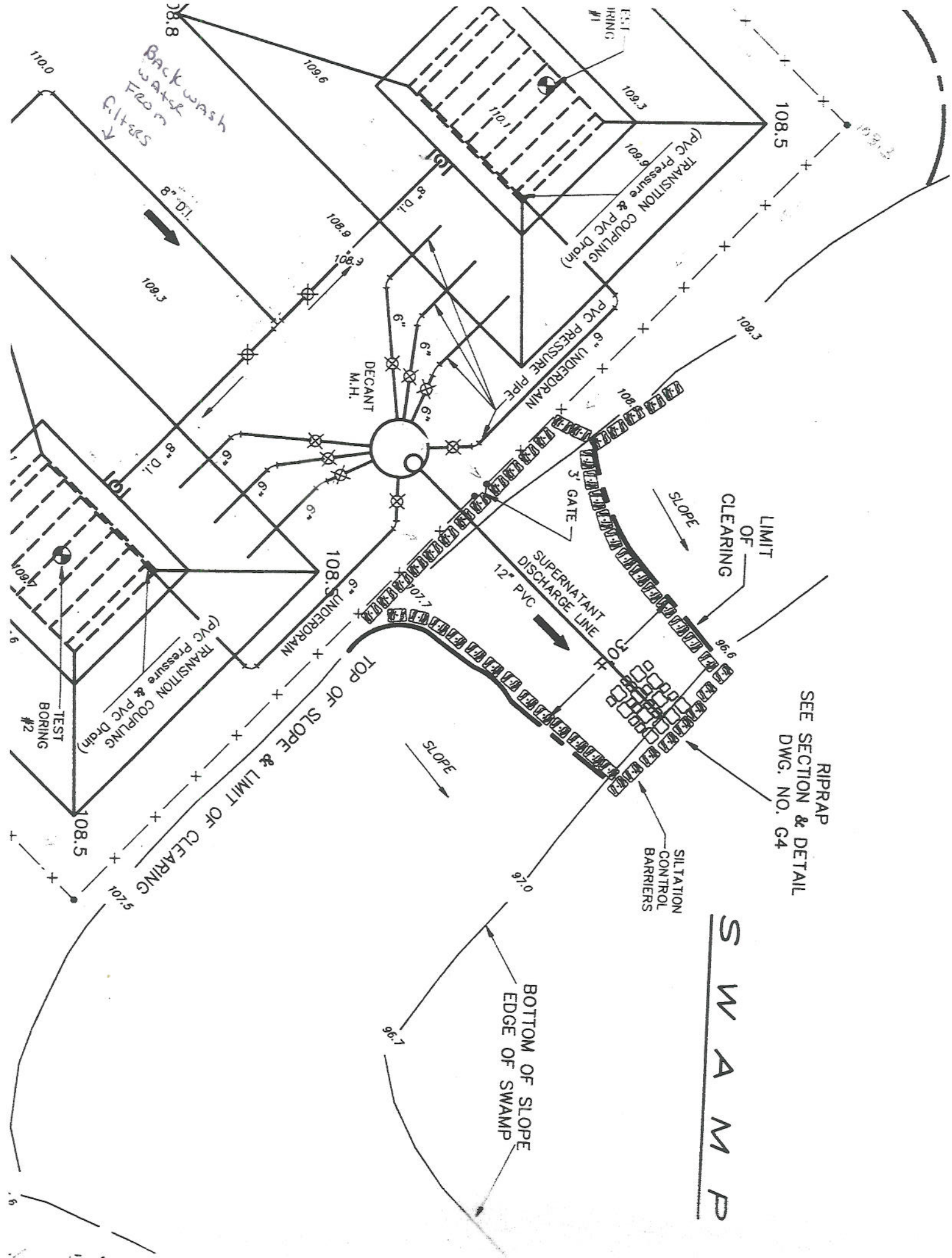
Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For 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 www.epa.gov/region1/npdes/pwtfgp.html



S I T E P L A N



RIPRAP
SEE SECTION & DETAIL
DWG. NO. G4

S W A M P

APPENDIX III ENDANGERED SPECIES AND HISTORIC PROPERTIES REQUIREMENTS

I. Endangered Species

A. Background

In order to meet its obligations under the Clean Water Act and the Endangered Species Act (ESA), and to promote the goals of those Acts, the Environmental Protection Agency (EPA) is seeking to ensure the activities regulated by this general permit do not adversely affect endangered and threatened species and critical habitat. All facilities seeking coverage must assess the impacts of their discharges and discharge-related activities on federally-listed endangered and threatened species (“listed species”) and designated critical habitat (“critical habitat”), to ensure that those goals are met. Prior to obtaining general permit coverage, facilities seeking coverage must meet the ESA eligibility provisions of this permit. Facilities seeking coverage should follow this appendix at the earliest possible stage to ensure that the notification requirements for general permit coverage are complete upon submission.

Facilities seeking coverage also have an independent ESA obligation to ensure that their activities do not result in any prohibited “takes” of listed species¹. Many of the measures required in this general permit and in these instructions to protect species may also assist in ensuring that the facilities seeking coverage activities do not result in a prohibited taking of species in violation of section 9 of the ESA. If the operator has plans or activities in areas where endangered and threatened species are located, they may wish to ensure that they are protected from potential takings liability under ESA section 9 by obtaining an ESA section 10 permit or by requesting formal consultation under ESA section 7. Facilities seeking coverage that are unsure whether to pursue a section 10 permit or a section 7 consultation for takings protection, should confer with the appropriate U.S. Fish and Wildlife Service (USFWS)² office or the National Marine Fisheries Service (NMFS), (collectively, “the Services”).

There are four listed species of concern to facilities seeking coverage applying for permit coverage, namely the **shortnose sturgeon**, the **dwarf wedge mussel**, the **bog turtle**, and the **northern red-bellied cooter**. The shortnose sturgeon is listed under the jurisdiction of the National Marine Fisheries Service and the **dwarf wedgemussel**, the **bog turtle**, and the **northern redbelly cooter** are listed under the jurisdiction of the U.S. Fish and Wildlife Service.

¹ Section 9 of the ESA prohibits any person from “taking” a listed species (e.g., harassing or harming it) unless: (1) the taking is authorized through a “incidental take statement” as part of completion of formal consultation according to ESA section 7; (2) where an incidental take permit is obtained under ESA section 10 (which requires the development of a habitat conservation plan); or (3) where otherwise authorized or exempted under the ESA. This prohibition applies to all entities including private individuals, businesses, and governments.

² Discharges to marine waters may require consultation with the National Marine Fisheries Service instead.

The federally-listed endangered **dwarf wedgemussel** (*Alasmodonta heterodon*) is found in the following areas in Massachusetts and New Hampshire:

- Connecticut River from Northumberland to Dalton, New Hampshire (Coos County).
- Connecticut River from Lebanon to North Walpole, New Hampshire (Grafton and Sullivan Counties).
- Connecticut River from Haverhill to Piermont, New Hampshire (Grafton County).
- Ashuelot River from the Surry Mountain Flood Control Project in Surry to Swanzey, New Hampshire (Cheshire County).
- South Branch of the Ashuelot River in East Swanzey, New Hampshire (Cheshire County).
- Mill River from Whately to Hatfield, Massachusetts (Hampshire County).
- Fort River in Amherst, Massachusetts (Hampshire County).
- Mill River south of State Route 10 in Northampton, Massachusetts (Hampshire County).

The federally-listed endangered **shortnose sturgeon** (*Acipenser brevirostrum*) is found in the following areas in Massachusetts:

- Merrimack River from the Essex Dam in Lawrence, Massachusetts to the Merrimack River's mouth (Essex County).
- Connecticut River from Turners Falls, Massachusetts (Franklin, Hampshire, and Hampden Counties) to the Connecticut River's mouth, Connecticut (Hartford, Middlesex, and New London Counties).

The federally-listed threatened **bog turtle** (*Clemmys muhlenbergii*), is found in the following areas in Massachusetts:

- wetlands and waters in the Towns of Egremont and Sheffield (Berkshire County), MA.

The federally-listed endangered **northern red-bellied cooter** (*Pseudemys rubriventris*) is found in the following areas in Massachusetts:

- bodies of water occurring within the following boundaries: in the Towns of Kingston, Plymouth, Carver, Middleborough, Wareham, Lakeville, Bridgewater and Rochester (Plymouth County), MA.
- bodies of water in the Towns of Bourne and Sandwich (Barnstable County), MA.
- bodies of water in the Town of Raynham (Bristol County), MA.

All facilities seeking coverage by this general permit, including owners and operators of facilities discharging into any of the identified areas where the endangered dwarf wedgemussel, shortnose sturgeon, bog turtle, northern redbelly cooter are found, must determine whether they meet one or more of the ESA eligibility criteria (see section "C", below) before submitting an NOI. A facility that cannot meet any of the ESA eligibility criteria must apply for an individual permit.

B. The ESA Eligibility Criteria

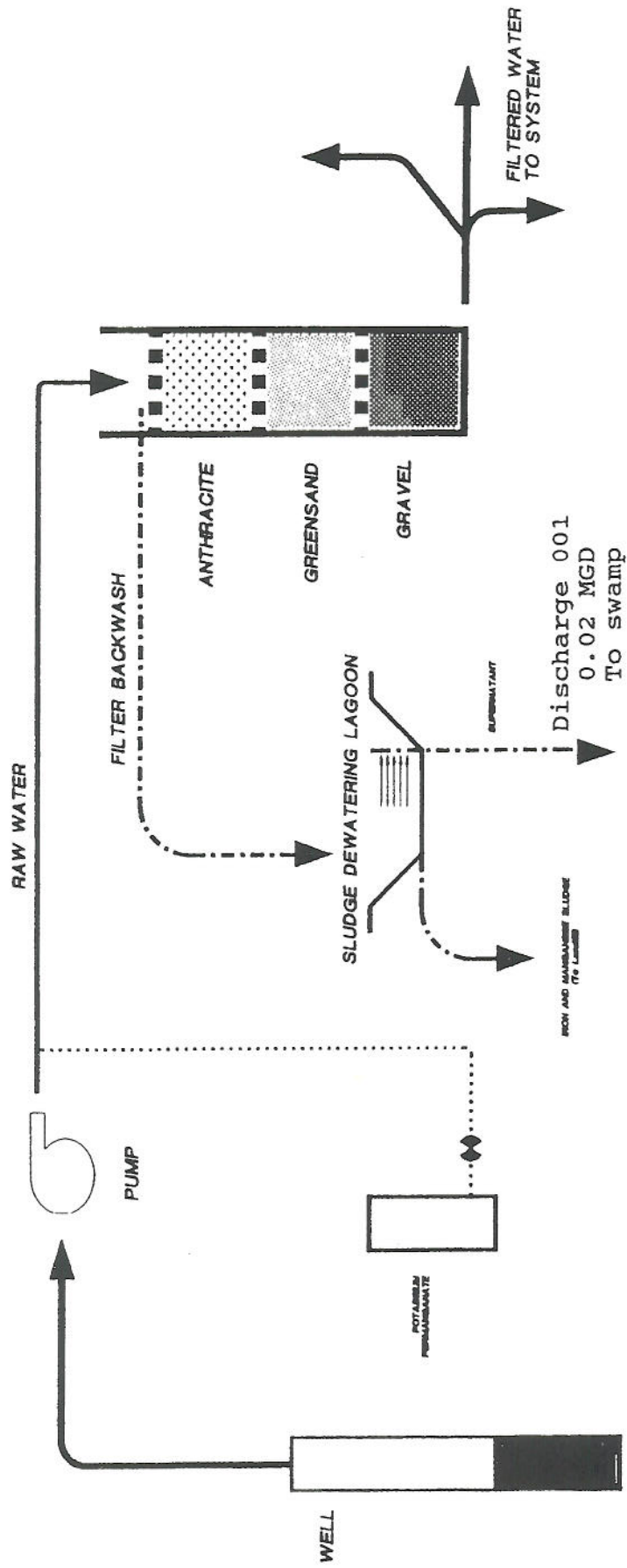
A facility seeking coverage by this general permit must demonstrate that it meets one or more of the following criteria:

- Criterion A: No endangered or threatened species or critical habitat are in proximity to the point where authorized discharges reach the receiving waters.
- Criterion B: (1) In the course of a separate federal action involving the facility, formal or informal consultation with the Fish and Wildlife Service and/or the National Marine Fisheries Service under Section 7 of the ESA has been concluded and that consultation addressed the effects of the discharges and discharge-related activities on listed endangered or threatened species and critical habitat; and
(2) The consultation resulted in either a no jeopardy opinion or a written concurrence by USFWS and/or NMFS with a finding that the discharges and discharge-related activities are not likely to adversely affect listed endangered or threatened species or critical habitat.
- Criterion C: The activities are authorized under Section 10 of the ESA and that authorization addresses the effects of the discharges and discharge-related activities on listed endangered or threatened species and critical habitat.
- (Facilities must follow USFWS and/or NMFS procedures when applying for an ESA Section 10 permit (see 50 CFR §17.22(b)(1) for USFWS and §222.22 for NMFS). Application instructions for section 10 permits can be obtained by assessing the appropriate websites (www.fws.gov and www.nmfs.noaa.gov) or by contacting the appropriate regional office.)
- Criterion D: Using the best scientific and commercial data available, the effects of the discharges and discharge related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by the applicant and affirmed after review by EPA that the discharges and discharge related activity are not likely to adversely affect any federally threatened or endangered listed species or designated critical habitat.
- Criterion E: The discharges and discharge-related activities have already been addressed in another operator's certification of eligibility, which includes the facility's activities covered by the DGP.

C. The Steps to Determine if the ESA Eligibility Criteria Can Be Met

To determine eligibility, you must determine whether endangered or threatened species or critical habitat are in proximity to your facility or the points where its discharges reach the

MERRIMAC, MASSACHUSETTS
PROPOSED MANGANESE GREENSAND FILTER SYSTEM
 FOR
IRON AND MANGANESE REMOVAL



SCHEMATIC OF FLOW

Merrimac, Massachusetts
 Water Treatment Facility
 Discharge Serial No. 001