



AMESBURY WATER DEPARTMENT
WATER TREATMENT PLANT
12 NEWTON ROAD 01913

TELEPHONE
(978) 388-0853

FAX
(978) 834-0438

December 22, 2009

US Environmental Protection Agency
PWTF GP Processing, Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, MA 02114-2023

To Whom It May Concern:

Enclosed please find the completed notice of intent (NOI) and other pertinent documents that are being submitted by the Town of Amesbury for a potable water treatment facility general permit (PWTF GP) for discharge from the Amesbury Water Treatment Plant. This facility was administratively continued for coverage under the general permit that expired November 15, 2005.

Discharge consists entirely of backwash effluent residuals originating from the coagulation and media filtration treatment of surface water released to the Powwow River, a designated Class A water body within the Merrimack River Watershed.

The facility meets all obligations under the Endangered Species Act as there are no federally listed threatened or endangered species or designated critical habitats present in the area of the discharge. Additionally, a review of permit eligibility criteria for protection of historic properties indicates that no historic properties will be affected by the discharge.

Should you have any questions, please feel free to call me at 978-388-0853 or email jeffmason1936@yahoo.com.

Sincerely,

Jeff Mason
Water Systems Manager

Attachments – 6



Enter your transmittal number

W068070
Transmittal Number

Your unique Transmittal Number can be accessed online: <http://www.mass.gov/dep/counter/transfrm.shtml> or call DEP's InfoLine at 617-338-2255 or 800-462-0444 (from 508, 781, and 978 area codes).

Massachusetts Department of Environmental Protection

Transmittal Form for Permit Application and Payment

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: DEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. Copy 2 must accompany your fee payment. Copy 3 should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

DEP
P.O. Box 4062
Boston, MA
02211

* Note:
For BWSC Permits,
enter the LSP.

A. Permit Information

BRP WM 13
1. Permit Code: 7 or 8 character code from permit instructions
2. Name of Permit Category: Request for General Permit Coverage
3. Type of Project or Activity: Surface Water Discharge from a Water Treatment Facility

B. Applicant Information - Firm or Individual

Town of Amesbury - Water Dept.
1. Name of Firm - Or, if party needing this approval is an individual enter name below:
2. Last Name of Individual: 62 Friend St., Townhall
3. First Name of Individual: MA
4. MI: 01913
5. Street Address: Amesbury
6. City/Town: MA
7. State: 01913
8. Zip Code: (978) 388-0853
9. Telephone #: 01913
10. Ext. #: 01913
11. Contact Person: Jeffrey R. Mason
12. e-mail address (optional): JEFFMASON1936@yahoo.com

C. Facility, Site or Individual Requiring Approval

Amesbury Water Treatment Facility
1. Name of Facility, Site Or Individual: 12 Newton Rd.
2. Street Address: Amesbury
3. City/Town: MA
4. State: 01913
5. Zip Code: (978) 388-0853
6. Telephone #: 01913
7. Ext. #: 01913
8. DEP Facility Number (if Known): PWS 300-7000
9. Federal I.D. Number (if Known): 046-001-067
10. BWSC Tracking # (if Known):

D. Application Prepared by (if different from Section B)*

1. Name of Firm Or Individual
2. Address
3. City/Town
4. State
5. Zip Code
6. Telephone #
7. Ext. #
8. Contact Person
9. LSP Number (BWSC Permits only)

E. Permit - Project Coordination

1. Is this project subject to MEPA review? ☐ yes ☒ no
If yes, enter the project's EOE file number - assigned when an Environmental Notification Form is submitted to the MEPA unit:

EOEA File Number

F. Amount Due

Special Provisions:

- ☒ Fee Exempt (city, town or municipal housing authority)(state agency if fee is \$100 or less).
There are no fee exemptions for BWSC permits, regardless of applicant status.
- ☐ Hardship Request - payment extensions according to 310 CMR 4.04(3)(c).
- ☐ Alternative Schedule Project (according to 310 CMR 4.05 and 4.10).
- ☐ Homeowner (according to 310 CMR 4.02).

Check Number

Dollar Amount

Date

DEP Use Only

Permit No:

Rec'd Date:

Reviewer:

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

MA DEP TRANSMITTAL
#W068070

A. Facility Information

1. Facility Owner:

Name Town of Amesbury e-mail mayor@amesburyma.gov
Street/PO Box Town Hall, 62 Friend Street City Amesbury
State Massachusetts Zip Code 01913
Contact Person Thatcher W. Kezer III, Mayor Telephone Number 978-388-8121

2. Facility Operator (if different from above):

Name _____ e-mail (optional) _____
Street/PO Box _____ City _____
State _____ Zip Code _____
Contact Person _____ Telephone Number _____

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

Name Amesbury Water Treatment Facility e-mail (optional) jeffmason1936@yahoo.com
Street/PO Box 12 Newton Road City Amesbury
State Massachusetts Zip Code 01913
Contact Person Jeff Mason Telephone Number 978-388-0853
Latitude 42.8614287 Longitude -70.972843

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

SIC Code(s) 4941
Description(s) Public Water Supply

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

1. Has a prior NPDES permit been granted for the discharge? Yes ☒ (Permit Number: MAG640065)
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) 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 Powwow River , 3007000-01S
2. Type of Receiving Waterbody (e.g. stream, lake, reservoir, estuary etc) river
3. State Water Quality Classification: A 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):

[SEE ATTACHMENT A]

5. Please provide a diagram depicting the treatment methods, outfalls, and receiving water. [SEE ATTACHMENT B]

6. Number of outfalls: 1

For each outfall:

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

A 1000 mL composite sample is collected weekly from lagoon #2 discharge. The composite sample consist of 4 grab samples of 250 mL each collected at approximately equal intervals on a flow weighted basis during the time when discharge is entering the receiving water.

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):
potassium permanganate, chlorine, sodium hydroxide, aluminum sulfate, blended polyphosphate [SEE ATTACHMENT C]

2. Please report here any known remediation activities or water-quality issues in the vicinity of the discharge.
None

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. [SEE ATTACHMENT D]

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

Characteristic (report if measured)	Average Monthly	Maximum Daily
Discharge Flow (gpd)	1,794,000	250,000
TSS (mg/l)	2.65	22.34
pH (s.u.)	(min) 6.62	(max) 6.90
Total Recoverable Aluminum (ug/l)	140	610
Total Residual Chlorine (ug/l)	5	60

(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 1.3 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.

[SEE ATTACHMENT F]

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?

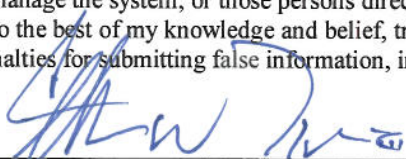
1 ☒ 2 ☐ 3 ☐

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



Date

12/22/09

Printed Name and Title Thatcher W. Kezer III, Mayor

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

Attachment A

Description of Treatment Methods Used Prior to Discharge

The water treatment process consists of a series of physical and chemical steps designed to produce a safe and consistent quality product. A description of the current treatment process and methods used prior to discharge are described below.



The Powwow River is the source of water for Amesbury, which is supplied by 52 sq miles of watershed. Source water pumped from the Powwow River is drawn into the water treatment plant, which purifies millions of gallons of raw water daily. River water travels through screens before entering the raw water pump room to remove any large debris.



The raw water room pumps in, on an average, 550 million gallons per year of river water. At this point, **Chlorine** is added for oxidation and disinfection. Seasonally **Potassium Permanganate** and **Sodium Hydroxide** are added for manganese removal and to aid in later chemical treatment.



River water is then pumped into aeration units. Aeration units further help pretreatment and remove tastes and odors. Water is spread out while air flows up through the unit. Oxidation occurs here and volatiles (i.e. radon) are removed.



After aeration, the raw water then flows to the rapid mix and flocculation basins to mix, at different rates of speed, with **Aluminum Sulfate (alum)** and **Sodium Hydroxide (NaOH)**. Alum attaches to contaminants in the water, and the mixing causes the particles and color causing compounds to cluster into "floc". The clustered floc particles become heavy enough to settle out of the water.



The sedimentation basins provide the quiescent conditions required to settle out floc from the treated water. Floc settles to the bottom of the sedimentation basins where it is periodically discharged to the lagoons. Clarified water rises to the top of the sedimentation basins, flows into troughs, and carried on to the filters for further treatment.



To further remove tastes, odors, and fine particles, clarified water from the sedimentation basin is filtered through granular activated carbon. At this stage, any particulates that made it out of pretreatment are removed through filtration.



Filtered water enters a 300,000 gallon clearwell at the treatment plant where it is further disinfected with **Chlorine**. The pH is raised once again with **sodium hydroxide** and a **blended phosphate** additive is also delivered to the clearwell to help reduce corrosion in the distribution system.

The backwash system uses pumps to withdraw clean water from the clearwell. Clean water flows up through the filter media various controlled rates of flow for specified durations to dislodge any collected matter. During the backwashing process, turbidity and flow are continually monitored. The dirty wash water is collected in filter troughs, carried through the drain channel, and directed to the lagoons to settle out as sludge cake. Overflow from the sludge lagoons is discharge to the Powwow River.



The control room manages all the equipment of the facility with a sophisticated Supervisory Control and Data Acquisition (SCADA) system. Pumps, tank levels, dosages are directed and collected here.



Daily monitoring of process chemical levels as well as distribution water analysis are conducted in our laboratory.

AERIAL PHOTO OF DISCHARGE LOCATION



Discharge Coordinates: Latitude: 42.8614287, Longitude: -70.972843

Attachment B

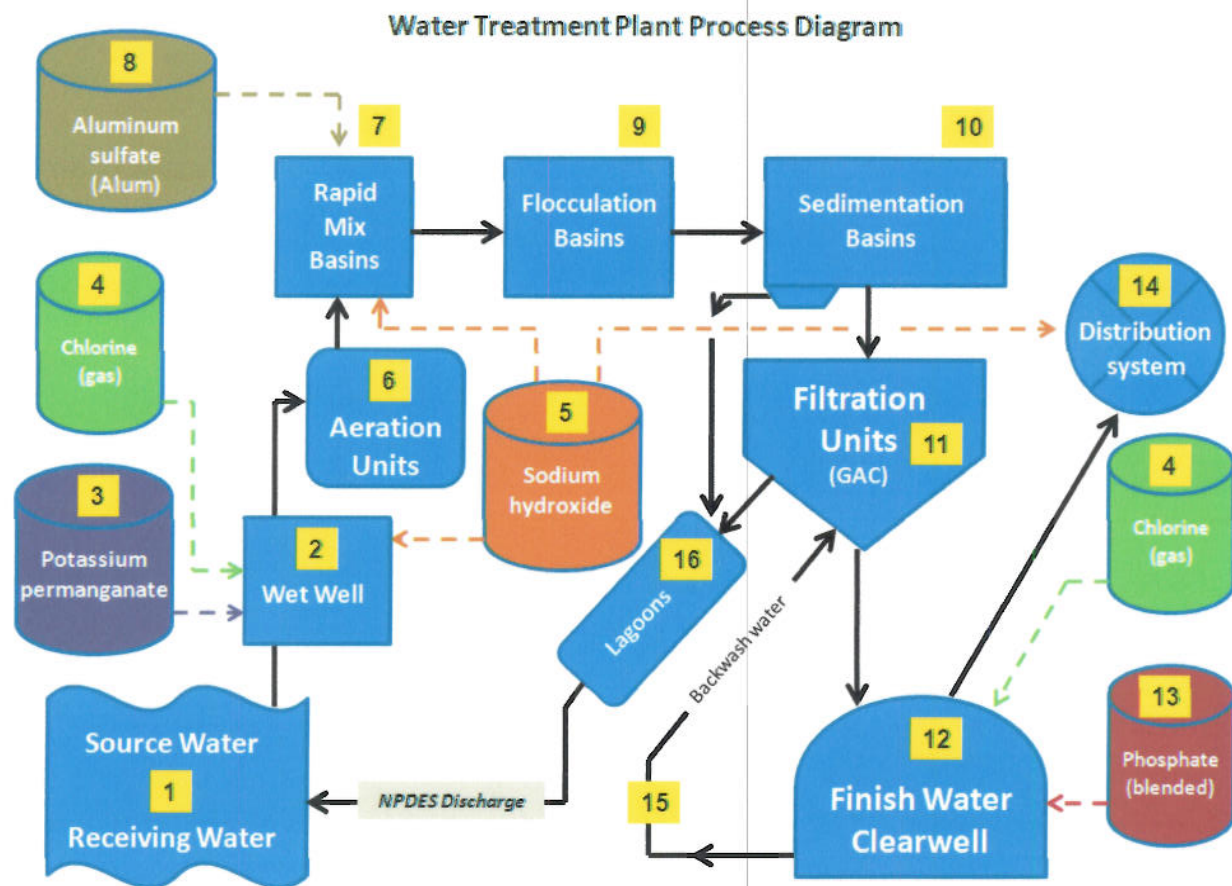


Diagram Description

The Amesbury Water Treatment Plant withdraws source water from the **1** Powwow River and pumps it to the **2** raw water wet well where **3** chlorine is added for oxidation and disinfection. Seasonally, **4** potassium permanganate and **5** sodium hydroxide are added for manganese removal. Raw water flows on to the **6** aeration units and continues through to the **7** rapid mix and **8** flocculation basins to mix with **9** aluminum sulfate (alum). Chemically treated water then travels to the **10** sedimentation basins and **11** filtration units where water passes through granular activated carbon (GAC) media. Periodic clean downs of settled material is siphoned from the sedimentation basins and pumped to the **16** sludge lagoons. Filtered water is stored in a **12** clearwell and disinfected again with **4** chlorine. **13** blended phosphates are added for corrosion control. Again **5** sodium hydroxide is added to adjust the pH of the water before being pumped to the **14** distribution system. Reversing the flow of the **12** clearwell water through the **11** filtration units, utilizing backwash pumps, cleans the filters. The **15** backwash water exits the filter via troughs and out a drain to the **16** sludge lagoons piped in series. Overflow from the lagoons discharges back to the **1** Powwow River.

Attachment C
List of Water Additives

Potassium Permanganate

CAS#: 7722-64-7

Potassium permanganate is added seasonally primarily for the oxidation and removal of manganese. Pretreatment with this oxidizing agent also aids in the later chemical treatment of the water by controlling tastes and odors, removing color, and biological growth in the treatment plant process units.

Normal Dosage Range: 0.25 – 0.75 ppm

Chlorine Gas

CAS#: 7782-50-5

Chlorine provides for disinfection of the finished water. Chlorine destroys pathogenic microorganisms, oxidizes undesirable elements, and reduces some tastes and odors.

Normal Dosage Range: 2.0 – 3.0 ppm

Aluminum sulfate

CAS#: 010043-01-3

Aluminum sulfate (alum) is used to coagulate suspended and colloidal matter in the raw water, forming a floc heavy enough to settle out. This pretreatment greatly reduces the amount of material the filters must remove and also increases the size of particles that otherwise might not be filterable.

Normal Dosage Range: 60 – 80 ppm

Sodium hydroxide

CAS#: 001310-73-2

Sodium hydroxide (NaOH), also known as caustic soda, is used for pH adjustment and corrosion control.

Normal Dosage Range: 25 – 35 ppm

Blended Polyphosphate

A polyphosphate blend is used to solve specific water quality problems resulting from inorganic contaminants (i.e manganese) and help maintain distribution system water quality. Blended polyphosphates work together to stabilize the water quality and minimize color, scale, corrosion, and chlorine demand in the distribution system.

Normal Dosage Range: 0.25 – 0.75 ppm

Attachment D
Aluminum Results

The following Discharge Monitoring Reports (DMR) contains results submitted to MADEP during calendar year 2009. The results are included for Section C.7 of the Notice of Intent.

Note: (1) Aluminum results contained in the DMRs are reported in mg/l.
(2) Results do not include any dilution.

Summary of 2009 Total Recoverable Aluminum Data (ug/L)

<u>Sample Month</u>	<u>Total Aluminum (ug/l)</u>
January 09	80
February 09	70
March 09	140
April 09	610
May 09	100
June 09	60
July 09	50
August 09	40
September 09	80

DECEMBER 1991

MAC840085	001A
PERMIT NUMBER	DISCHARGE NUMBER

MINOR
(SUBR E)
BACKWASH DISCHARGE
External Outfall

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
01/01/2009	01/31/2009

No Discharge ☐[illegible]

NAME/TITLE PRINCIPAL, EXECUTIVE OFFICER	I hereby certify that I am duly qualified and fit to discharge the foregoing duties and responsibilities of the position of Principal, Executive Officer of the Department of Health and Human Services, and I am duly qualified to perform the duties and responsibilities of the position of Principal, Executive Officer of the Department of Health and Human Services.		
	I have signed this statement in the presence of the undersigned witnesses, who are duly qualified to perform the duties and responsibilities of the position of Principal, Executive Officer of the Department of Health and Human Services, and I am duly qualified to perform the duties and responsibilities of the position of Principal, Executive Officer of the Department of Health and Human Services.		
THOMAS S. ROGERS			
TYPED OR PRINTED			
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments thereto)	I hereby certify that I am duly qualified and fit to discharge the foregoing duties and responsibilities of the position of Principal, Executive Officer of the Department of Health and Human Services, and I am duly qualified to perform the duties and responsibilities of the position of Principal, Executive Officer of the Department of Health and Human Services.		
	I have signed this statement in the presence of the undersigned witnesses, who are duly qualified to perform the duties and responsibilities of the position of Principal, Executive Officer of the Department of Health and Human Services, and I am duly qualified to perform the duties and responsibilities of the position of Principal, Executive Officer of the Department of Health and Human Services.		
SIGNATURE OF PRINCIPAL, EXECUTIVE OFFICER OR AUTHORIZED AGENT			
TELEPHONE	978 388-0853	DATE 02/05/2009	
AREA CODE	NUMBER	MM/DD/YYYY	

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)**

Approved
No. 2040-1004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: AMESBURY WATER TREATMENT PLANT
ADDRESS: 19 MERRIMAC STREET
AMESBURY, MA 01813

MA6440065	001A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 01813

MINOR
(SUBR E)
BACKWASH DISCHARGE
External Outfall

FACILITY: AMESBURY WATER TREATMENT PLANT

LOCATION: 12 NEWTON ROAD
AMESBURY, MA 01813

ATTN: JEFFREY MASON, WATER SYS.MAN.

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 02/01/2009	TO 02/28/2009

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS			
pH		MEASUREMENT			6.7		50		Weekly	GRAB-4
00400 10 Effluent Gross		PERMIT REQUIREMENT			MINIMUM 6.5		MAXIMUM 8.3			
Solids, total suspended		SAMPLE MEASUREMENT			1.81		2.46			
00530 10 Effluent Gross		PERMIT REQUIREMENT			30 MG AVG		50 DAILY MX		Weekly	GRAB-4
Aluminum, total recoverable		SAMPLE MEASUREMENT					0.07			
01104 10 Effluent Gross		PERMIT REQUIREMENT					Reg. Mon. DAILY MX		Monthly	GRAB-4
Flow, in conduit or thru treatment plant		SAMPLE MEASUREMENT	0.23	M ³ /d						
00050 10 Effluent Gross		PERMIT REQUIREMENT							Weekly	TOTALZ
Chlorine, total residual		SAMPLE MEASUREMENT			0.01		0.02			
00060 10 Effluent Gross		PERMIT REQUIREMENT			Reg. Mon. NO AVG		Reg. Mon. DAILY MX		Weekly	GRAB-4

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	TELEPHONE	DATE
THOMAS S. ROGERS	978 388-0857	03/09/2009
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)**

Approved
J. No. 2040-0304

PERMITTEE NAME/ADDRESS (Include Facility Name, location if Different)

NAME: AMESBURY WATER TREATMENT PLANT
ADDRESS: 10 MERRIMAC STREET
AMESBURY, MA 01913

MAC940065		DB1A	
PERMIT NUMBER		DISCHARGE NUMBER	

FACILITY: AMESBURY WATER TREATMENT PLANT
LOCATION: 12 NEWTON ROAD
AMESBURY, MA 01913

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 03/01/2009	TO 03/31/2009

ATTN: JEFFREY MASON, WATER SYS.MAN.

DMR Mailing ZIP CODE: 01913
MINOR (SUB E)
BACKWASH DISCHARGE
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE			
pH		7.5	7.5		6.5	6.5	5.0		Weekly	GRAB
00400 1 0 Effluent Gross	SAMPLE MEASUREMENT	0.0000	0.0000	MG/L	6.5 MINIMUM	0.0000	5.0 MAXIMUM		Weekly	GRAB
00530 1 0 Solids, total suspended Effluent Gross	SAMPLE MEASUREMENT	0.0000	0.0000	MG/L	1.50 30 MO AVG	0.0000	3.03 50 DAILY MAX		Weekly	GRAB
01104 1 0 Aluminum, total recoverable Effluent Gross	SAMPLE MEASUREMENT	0.0000	0.0000	MG/L	0.14	0.0000	0.14		Monthly	GRAB
Flow, in candell or ltrv treatment plant	SAMPLE MEASUREMENT	0.0000	0.21	MG/L	0.01	0.0000	0.01		Weekly	TOTAL
00050 1 0 Chlorine, total residual Effluent Gross	SAMPLE MEASUREMENT	0.0000	0.0000	MG/L	0.01	0.0000	0.01		Weekly	TOTAL
00000 1 0 Effluent Gross	PERMIT REQUIREMENT	0.0000	0.0000	MG/L	0.01	0.0000	0.01		Weekly	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE	
THOMAS S. ROGERS		978 368-0853		04/08/2009	
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA CODE	
				NUMBER	
				MANDATORY	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)**

To Approved
1 No. 2040-0024

PERMITTEE NAME/ADDRESS (check Facility Name/Location if Different)

NAME: AMESBURY WATER TREATMENT PLANT
ADDRESS: 19 MERRIMAC STREET
AMESBURY, MA 01913

MAGB40065
PERMIT NUMBER

001A
DISCHARGE NUMBER

FACILITY: AMESBURY WATER TREATMENT PLANT
LOCATION: 12 NEWTON ROAD
AMESBURY, MA 01913

ATTN: JEFFREY MASON, WATER SYS.MANAG.

MONITORING PERIOD
FROM 04/01/2009 TO 04/30/2009

DMR Mailing ZIP CODE: 01913
MINOR (SUBRE)
BACKWASH DISCHARGE
External Outfall

No Discharge ☐

PARAMETER	SAMPLE MEASUREMENT PERMIT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE			
pH		6.7	6.7		6.8	50				
00400 10 Effluent Gross					MINIMUM 6.5	MAXIMUM 8.5			Weekly	GRAB-4
Solids, total suspended					7.62	20.79			Weekly	GRAB-4
00330 10 Effluent Gross					30 NO AVG	50 DAILY MX			Weekly	GRAB-4
Aluminum, total recoverable						0.61			Monthly	GRAB-4
01104 10 Effluent Gross										
Flow, in conduit or thru treatment plant										
50050 10 Effluent Gross		0.17	Mgd/d						Weekly	TOTALZ
Chlorine, total residual					0.00	0.01			Weekly	
50060 10 Effluent Gross					Reg. Mon. DAILY AVG	Reg. Mon. DAILY MX			Weekly	GRAB-4

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE	
THOMAS S. ROGERS		978-383-0853		05/08/2009	
TYPED OR PRINTED		NUMBER		MM/DD/YYYY	
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA CODE			

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)**

EPA Approved
J No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name, location if different)

NAME: AMESBURY WATER TREATMENT PLANT
ADDRESS: 18 MERRIMAC STREET
AMESBURY, MA 01913

MA6640065		001A	
PERMIT NUMBER		DISCHARGE NUMBER	

FACILITY: AMESBURY WATER TREATMENT PLANT
LOCATION: 12 NEWTON ROAD
AMESBURY, MA 01913

ATTN: JEFFREY MASON, WATER SYS MANG.

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 05/01/2009	TO 05/31/2009

DMR Mailing ZIP CODE: 01913
MAJOR (SUB E): BACKWASH DISCHARGE
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE			
pH	SAMPLE MEASUREMENT	6.5	6.5	MINIMUM	6.5	6.7	5.0		Weekly	GRAB
00400 1 0 Effluent Gross	PERMIT REQUIREMENT									
Solids, total suspended	SAMPLE MEASUREMENT	3.02	3.02	NO AVG	3.02	8.26	mg/L		Weekly	GRAB
00530 1 0 Effluent Gross	PERMIT REQUIREMENT									
Aluminum, total recoverable	SAMPLE MEASUREMENT	0.10	0.10	Reg. Mon. DAILY MX	0.10	0.10	mg/L		Monthly	GRAB
01104 1 0 Effluent Gross	PERMIT REQUIREMENT									
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	0.25	0.25	Reg. Mon. DAILY MX	0.25	0.25	mg/L		Weekly	TOTALZ
50050 1 0 Effluent Gross	PERMIT REQUIREMENT									
Chlorine, total residual	SAMPLE MEASUREMENT	0.01	0.01	Reg. Mon. DAILY MX	0.01	0.03	mg/L		Weekly	GRAB
50060 1 0 Effluent Gross	PERMIT REQUIREMENT									

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE	
THOMAS S. ROGERS		978-388-0653		06/03/2009	
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA CODE	
				NUMBER	
				MM/DD/YYYY	

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (reference all attachments here)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)**

Approved
3 No. 2010-0001

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: AMESBURY WATER TREATMENT PLANT
ADDRESS: 10 MERRIMAC STREET
AMESBURY, MA 01913

MAG640065
PERMIT NUMBER

001A
DISCHARGE NUMBER

FACILITY: AMESBURY WATER TREATMENT PLANT
LOCATION: 12 NEWTON ROAD
AMESBURY, MA 01913

ATTN: JEFFREY MASON, WATER SYS. MNG.

MONITORING PERIOD

MM/DD/YYYY	MM/DD/YYYY
06/01/2009	06/30/2009

DMR Mailing ZIP CODE: 01913
MINOR (SUBR E) BACKWASH DISCHARGE
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION			UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE				
pH		6.5			6.5		6.7	SU		Weekly	GRAB-4
00400 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT REQUIREMENT				8.5 MINIMUM					Weekly	GRAB-4
Solids, total suspended	SAMPLE MEASUREMENT PERMIT REQUIREMENT				1.79 30 MO AVG		3.28	mg/L		Weekly	GRAB-4
00530 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT REQUIREMENT						0.06	mg/L		Monthly	GRAB-4
Aluminum, total recoverable	SAMPLE MEASUREMENT PERMIT REQUIREMENT										
01104 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT REQUIREMENT										
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT PERMIT REQUIREMENT		0.163	MGAL/D						Weekly	TOTALZ
00050 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT REQUIREMENT										
Chlorine, total residual	SAMPLE MEASUREMENT PERMIT REQUIREMENT				φ		0.01	mg/L		Weekly	GRAB-4
00060 1 0 Effluent Gross	SAMPLE MEASUREMENT PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE
Thom S. Rogers		978 388-0853		7/9/09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA CODE
				NUMBER
				MIN/DI/YYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)**

1 Approved
No. 2040-0204

PERMITTEE NAME/ADDRESS (Include Facility Name and location if different)

NAME: AMESBURY WATER TREATMENT PLANT
ADDRESS: 19 MERRIMAC STREET
AMESBURY, MA 01913

MA6840065	001A
PERMIT NUMBER	DISCHARGE NUMBER

FACILITY: AMESBURY WATER TREATMENT PLANT
LOCATION: 12 NEWTON ROAD
AMESBURY, MA 01913

ATTN: JEFFREY MASON, WATER SYS.MAN.

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 07/01/2009	TO 07/31/2009

DMR Mailing ZIP CODE: 01913
MINOR (SUB E)
BACKWASH DISCHARGE
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	UNITS			
pH	SAMPLE MEASUREMENT	6.6			6.6		50			
00400 1.0 Effluent Gross	PERMIT REQUIREMENT				6.5 MINIMUM				Weekly	GRAB-4
Solids, total suspended	SAMPLE MEASUREMENT	1.22			1.22		mg/L			
00530 1.0 Effluent Gross	PERMIT REQUIREMENT				3.0 MAX AVG				Weekly	GRAB-4
Aluminum, total recoverable	SAMPLE MEASUREMENT	0.05			0.05		mg/L			
01104 1.0 Effluent Gross	PERMIT REQUIREMENT				Reg. Mon. DAILY MAX				Monthly	GRAB-4
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	0.18			0.18		Mgd/d			
50050 1.0 Effluent Gross	PERMIT REQUIREMENT				Reg. Mon. DAILY MAX				Weekly	TOTALZ
Chlorine, total residual	SAMPLE MEASUREMENT	0.01			0.01		mg/L			
50080 1.0 Effluent Gross	PERMIT REQUIREMENT				Reg. Mon. DAILY MAX				Weekly	GRAB-4

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	THOMAS S. ROEBERS	TELEPHONE	978-388-0353	DATE	08/05/2009
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA CODE	NUMBER

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)**

Approved
No. 2040-0054

PERMITTEE NAME/ADDRESS (include Facility Name and location if different)

NAME: AMESBURY WATER TREATMENT PLANT
ADDRESS: 19 MERRIMAC STREET
AMESBURY, MA 01913

MAC640065
PERMIT NUMBER

001A
DISCHARGE NUMBER

FACILITY: AMESBURY WATER TREATMENT PLANT
LOCATION: 12 NEWTON ROAD
AMESBURY, MA 01913

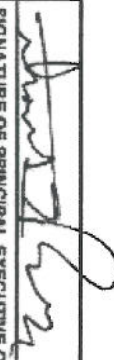
ATTN: JEFFREY MASON, WATER SYS.MAN.

MONITORING PERIOD
FROM 08/01/2009 TO 08/31/2009

DMR Mailing ZIP CODE: 01813
MINOR (SUBRE)
BACKWASH DISCHARGE
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE			
pH	SAMPLE MEASUREMENT	6.7			6.7					
OD400 10 Effluent Gross	PERMIT REQUIREMENT				MINIMUM		MAXIMUM			GRAB
Solids, total suspended	SAMPLE MEASUREMENT	0.76			0.76					
00530 10 Effluent Gross	PERMIT REQUIREMENT				30 MO AVG		50 DAILY MAX			GRAB
Aluminum, total recoverable	SAMPLE MEASUREMENT	0.04			0.04					
01104 10 Effluent Gross	PERMIT REQUIREMENT						Reg Mon. DAILY MAX			GRAB
Flow, in conduit or thru treatment plant	SAMPLE MEASUREMENT	0.26		Mg/L						
50050 10 Effluent Gross	PERMIT REQUIREMENT									
Chlorine, total residual	SAMPLE MEASUREMENT	0.00			0.00					
50060 10 Effluent Gross	PERMIT REQUIREMENT						Reg Mon. DAILY MAX			GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I hereby certify that the data reported on this report are true and correct to the best of my knowledge and belief, and that I am not aware of any falsification of the data reported on this report.		TELEPHONE	DATE
THOMAS S. ROGERS			978 366 0853	09/09/2009
TYPED OR PRINTED			SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	ARTID CODE
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)				

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)**

Approved
J No 2041-0004

PERMITTEE NAME/ADDRESS (Include Facility Name and location if Different)

NAME: AMESBURY WATER TREATMENT PLANT
ADDRESS: 19 MERRIMAC STREET
AMESBURY, MA 01913

MAG640065	001A
PERMIT NUMBER	DISCHARGE NUMBER

FACILITY: AMESBURY WATER TREATMENT PLANT
LOCATION: 12 NEWTON ROAD
AMESBURY, MA 01913

ATTN: JEFFREY MASON, WATER SYS.MAN.

MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
FROM 09/01/2009	TO 09/30/2009

DMR Mailing ZIP CODE: 01913
MINOR
(SUB E)
BACKWASH DISCHARGE
External Outfall

No Discharge ☐

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	VALUE	VALUE	UNITS	VALUE	VALUE	VALUE			
pH	MEASUREMENT	6.5		6.5		6.8		Weekly	GRAB
00400 10 Effluent Gross	PERMIT REQUIREMENT	4.0		MINIMUM 0.5		MAXIMUM 8.3		Weekly	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	1.64		30		50		Weekly	GRAB
00530 10 Effluent Gross	PERMIT REQUIREMENT	1.64		MO AVG		DAILY MAX		Weekly	GRAB
Aluminum, total recoverable	SAMPLE MEASUREMENT	0.08				mg/L		Monthly	GRAB
01104 10 Effluent Gross	PERMIT REQUIREMENT	0.08				mg/L		Monthly	GRAB
Flow, In conduit or thru treatment plant	SAMPLE MEASUREMENT	0.17		MGAL/D		Req. Mon. DAILY MAX		Weekly	TOTAL
50050 10 Effluent Gross	PERMIT REQUIREMENT	0.17		DAILY MAX		Req. Mon. DAILY MAX		Weekly	TOTAL
Chlorine, total residual	SAMPLE MEASUREMENT	0.02				0.06		Weekly	TOTAL
50080 10 Effluent Gross	PERMIT REQUIREMENT	0.02		Req. Mon. MO AVG		Req. Mon. DAILY MAX		Weekly	TOTAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	1. I certify, under penalty of law, that the data shown and all attachments were prepared under my direction or supervision in accordance with the permit requirements and all applicable federal, state, and local laws, regulations, and orders. I am aware that this certification is a legal statement and that I am subject to criminal and civil penalties for providing false information, including the possibility of fines and imprisonment for knowing violations.	
Thomas S. Rogers	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	
TYPED OR PRINTED	TELEPHONE	DATE
	978 368 0853	10-09-2009
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)		
AREA CODE NUMBER MM/DD/YYYY		

Attachment E
Effluent Characteristics

Characteristics of Effluent

1 Year - Consecutive Data

FLOW – million gallons

Month	Average Monthly	Maximum Daily
October-08	1.783	0.21
November-09	1.359	0.19
December-08	1.497	0.20
January-09	1.432	0.18
February-09	2.066	0.23
March-09	1.610	0.21
April-09	1.715	0.17
May-09	2.000	0.25
June-09	1.847	0.16
July-09	2.121	0.18
August-09	2.116	0.26
September-09	1.989	0.17

Average Monthly = 1.794 million gal Max Daily = 0.25 million gallons

TSS – mg/L

Month	Average Monthly	Maximum Daily
October-08	7.78	22.34
November-09	1.16	1.36
December-08	1.2	1.56
January-09	2.28	3.25
February-09	1.81	2.46
March-09	1.5	3.03
April-09	7.62	20.79
May-09	3.02	8.26
June-09	1.79	3.28
July-09	1.22	1.61
August-09	0.76	0.91
September-09	1.64	2.32

Average Monthly = 2.65 mg/L Max Daily = 22.34 mg/L

pH – Std. unit

Month	pH MIN	pH MAX
October-08	6.6	6.8
November-09	6.7	6.8
December-08	6.7	6.8
January-09	6.8	6.8
February-09	6.7	6.8
March-09	6.5	6.8
April-09	6.7	6.8
May-09	6.5	6.7
June-09	6.5	6.7
July-09	6.6	6.7
August-09	6.7	6.8
September-09	6.5	6.8

Average Monthly MIN = 6.62**Maximum Daily MAX= 6.9****ALUMINUM – ug/L**

Month	Ave Monthly Total Aluminum	Max Daily Total Aluminum
October-08	250	<i>same, measured 1/month</i>
November-09	110	<i>same, measured 1/month</i>
December-08	100	<i>same, measured. 1/month</i>
January-09	80	<i>same, measured 1/month</i>
February-09	70	<i>same, measured 1/month</i>
March-09	140	<i>same, measured 1/month</i>
April-09	610	<i>same, measured. 1/month</i>
May-09	100	<i>same, measured 1/month</i>
June-09	60	<i>same, measured 1/month</i>
July-09	50	<i>same, measured. 1/month</i>
August-09	40	<i>same, measured 1/month</i>
September-09	80	<i>same, measured 1/month</i>

Average Monthly = 140 ug/L**Maximum Daily = 610 ug/L****CHLORINE – ug/L**

Month	Average Monthly	Maximum Daily
October-08	0	20
November-09	0	10
December-08	0	10
January-09	0	10
February-09	10	20
March-09	10	10
April-09	0	10
May-09	10	30
June-09	0	10
July-09	10	40
August-09	0	0
September-09	20	60

Average Monthly = 5 ug/L**Maximum Daily = 60 ug/L**

Attachment F
Endangered Species Act (ESA) Eligibility

Amesbury Water Treatment Facility discharges to the Powwow River located in Essex County, Massachusetts. Activities regulated by the Potable Water Treatment Facility General Permit (PWTF GP) were examined, and found that, such activities do *not* adversely affect endangered and threatened species and critical habitats. This facility meets all obligations under the Clean Water Act and the ESA.

The four species of concern that should be noted by owners and operators of facilities seeking coverage under the general permit include the shortnose sturgeon, the dwarf wedge mussel, the bog turtle, and the northern red-bellied cooter. These species, as well as others listed within the state of Massachusetts as endangered or threatened, were considered by the facility.

The facility meets Criterion A as outlined in Appendix I of the PWTF GP that states:

"No federally-listed threatened or endangered species or federally-designated critical habitat are present."

Criterion A was established for the facility by examining areas listed in Section I of Appendix I and the most current county species list: Appendix II Endangered Species Act Count Species List.

Assessment of ESA eligibility concludes:

1. None of the areas in Section I of Appendix I are found in the project area as only Plymouth County has federally-endangered critical habitat in Massachusetts.
2. Recorded on the federally-listed endangered and threatened species document for Essex County, Massachusetts are two threatened species: the small whorled pogonia and the piping plover. The critical habitats for the aforementioned are coastal beaches and forests with somewhat poorly drained soils and/or a seasonably high water table. Neither species nor listed habitats are located within or near the town of Andover, the facility, or the discharge.

NOTE: The following pages are supporting documentation from the US Fish and Wildlife Service (FWS) listing of federally endangered and threatened species for counties in Massachusetts and New Hampshire. The list was updated on July 31, 2008 and is consistent with the most recent data on the FWS Endangered Species Home Page found at:

http://www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpecConsultation_Project_Review.htm

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Raynham and Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hadley, Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, and Wareham
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

- Eastern cougar and gray wolf are considered extirpated in Massachusetts.
- Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
- Critical habitat for the Northern Red-bellied cooter is present in Plymouth County.

7/31/2008