AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA", and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Massachusetts Bay Transportation Authority (MBTA)
10 Park Plaza
Boston, MA 02116

is authorized to discharge from a facility located at

Corner of Granite Street and Parking Way
Quincy, MA 02169

to receiving water named

Town Brook to Weymouth Fore River
Boston Harbor Watershed

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on the first day of the calendar month immediately following 60 days after signature.[1]

This permit expires at midnight, five years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on May 4, 2007.

This permit consists of **Part I** (12 pages), **Attachment A** (Freshwater Acute Toxicity Test Procedure and Protocol, February, 2011, 8 pages), **Attachment B** (Freshwater Chronic Toxicity Test Procedure and Protocol, March, 2013, 7 pages), and **Part II** (NPDES Part II Standard Conditions, April 2018, 21 pages).

Signed this day of

Ken Moraff, Director	Lealdon Langley, Director
Office of Ecosystem Protection	Bureau of Water Resources
Environmental Protection Agency	Department of Environmental Protection
Region 1	Commonwealth of Massachusetts
Boston, MA	Boston, MA

[1] Pursuant to 40 Code of Federal Regulations (C.F.R.) § 124.15(b)(3), if no comments requesting a change to the Draft Permit are received, this permit shall become effective upon the date of signature.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge groundwater comingled with storm water through Outfall Serial Number 001 to Town Brook. The discharge shall be limited and monitored as specified below; the receiving water shall be monitored as specified below.

Effluent Characteristic	**Effluent Limitation**		**Monitoring Requirements[1,2,3]**	
	Average Monthly	**Maximum Daily**	**Measurement Frequency[4]**	**Sample Type[5,6]**
Effluent Flow[7]	Report MGD	Report MGD	1/day	Continuous
Number of Pumping Events	Report	14 events minimum[8]	1/day	Count
Total Suspended Solids (TSS)	---	100 mg/L	1/month	Composite
pH[9]	6.5 - 8.3 S.U.		1/month	Grab
Oil and Grease	---	15 mg/L	1/quarter	Grab
Whole Effluent Toxicity (WET) Testing[10,11]				
LC_{50}	---	≥ 100%	1/quarter	Composite
C-NOEC	---	≥ 100%	1/quarter	Composite
Hardness	---	Report mg/L	1/quarter	Composite
Alkalinity	---	Report mg/L	1/quarter	Composite
pH	---	Report S.U.	1/quarter	Composite

Effluent Characteristic	Effluent Limitation		Monitoring Requirements[1,2,3]	
	Average Monthly	Maximum Daily	Measurement Frequency[4]	Sample Type[5,6]
Specific Conductance	---	Report µmhos/cm	1/quarter	Composite
Total Solids	---	Report mg/L	1/quarter	Composite
Total Organic Carbon	---	Report mg/L	1/quarter	Composite
Total Residual Chlorine	---	Report mg/L	1/quarter	Composite
Dissolved Oxygen	---	Report mg/L	1/quarter	Composite
Ammonia Nitrogen	---	Report mg/L	1/quarter	Composite
Total Aluminum	---	Report mg/L	1/quarter	Composite
Total Calcium	---	Report mg/L	1/quarter	Composite
Total Chromium	---	Report mg/L	1/quarter	Composite
Total Cadmium	---	Report mg/L	1/quarter	Composite
Total Copper	---	Report mg/L	1/quarter	Composite
Total Magnesium	---	Report mg/L	1/quarter	Composite
Total Nickel	---	Report mg/L	1/quarter	Composite
Total Lead	---	Report mg/L	1/quarter	Composite
Total Zinc	---	Report mg/L	1/quarter	Composite

Ambient Characteristic[12]	Reporting Requirements		Monitoring Requirements[1,2,3]	
	Average Monthly	Maximum Daily	Measurement Frequency[4]	Sample Type[5,6]
Hardness	---	Report mg/L	1/quarter	Composite
Alkalinity	---	Report mg/L	1/quarter	Composite
Specific Conductance	---	Report µmhos/cm	1/quarter	Composite
Total Solids	---	Report mg/L	1/quarter	Composite
Total Organic Carbon	---	Report mg/L	1/quarter	Composite
Total Residual Chlorine	---	Report mg/L	1/quarter	Composite
Dissolved Oxygen	---	Report mg/L	1/quarter	Composite
Ammonia Nitrogen	---	Report mg/L	1/quarter	Composite
Total Aluminum	---	Report mg/L	1/quarter	Composite
Total Calcium	---	Report mg/L	1/quarter	Composite
Total Chromium	---	Report mg/L	1/quarter	Composite
Total Cadmium	---	Report mg/L	1/quarter	Composite
Total Copper	---	Report mg/L	1/quarter	Composite
Total Magnesium	---	Report mg/L	1/quarter	Composite
Total Nickel	---	Report mg/L	1/quarter	Composite
Total Lead	---	Report mg/L	1/quarter	Composite

Effluent Characteristic	Effluent Limitation		Monitoring Requirements[1,2,3]	
	Average Monthly	Maximum Daily	Measurement Frequency[4]	Sample Type[5,6]
Total Zinc	---	Report mg/L	1/quarter	Composite
pH[13]	---	Report S.U.	1/quarter	Composite
Temperature[13]	---	Report ^{O}C	1/quarter	Composite

Footnotes:

1. Effluent samples shall yield data representative of the discharge. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at the manhole system, after pumping from the wet well and before commingling with water in the underground culvert. Changes in sampling location must be approved in writing by the Environmental Protection Agency Region 1 (EPA) and the State. The Permittee shall report the results to EPA and the State of any additional testing above that required herein, if testing is done in accordance with 40 C.F.R. § 136.

2. In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the Permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. § 136 or required under 40 C.F.R. Chapter I, Subchapter N or O, for the analysis of pollutants or pollutant parameters limited in this permit (except WET). A method is considered "sufficiently sensitive" when either 1) The method minimum level is at or below the level of the applicable water quality criterion or permit effluent limitation for the measured pollutant or pollutant parameter; or 2) The method has the lowest minimum level of the analytical methods approved under 40 C.F.R. § 136 or required under 40 C.F.R. Chapter I, Subchapter N or O for the measured pollutant or pollutant parameter. The "minimum level" is the lowest level at which the test equipment produces a recognizable signal and acceptable calibration point for a pollutant or pollutant parameter, representative of the lowest concentration at which a pollutant or pollutant parameter can be measured with a known level of confidence.

3. When a parameter is not detected above the minimum level of detection, the Permittee must report the data qualifier signifying less than the minimum level of detection for that parameter (e.g., < 50 μg/L, if the minimum level of detection for a parameter is 50 μg/L). For the purposes of this permit, the "minimum level of detection" is the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions (i.e., the level above which an actual value is reported for a pollutant or pollutant parameter, and the level below which a pollutant or pollutant parameter is reported as non-detect).

4. Measurement frequency of 1/day is defined as the recording of one measurement for each 24-hour period. Measurement frequency of 1/month is defined as the sampling of one discharge event in each calendar month. Measurement frequency of 1/quarter is defined as the sampling of one discharge event in each calendar quarter. Calendar quarters are defined as January through March, inclusive, April through June, inclusive, July through September, inclusive and October through December, inclusive. If no sample is collected during the measurement frequencies defined above, the Permittee must report a No Data Indicator Code (e.g., "C" for "No Discharge").

5. Each composite sample will consist of at least eight grab samples collected at equal intervals over a 24-hour period. These samples shall be taken directly from the wet well.

6. All samples shall be dry weather samples. Dry weather samples are samples taken after 48 consecutive hours without rain.

7. Effluent flow shall be reported in million gallons per day (MGD). MBTA shall measure the total flow per day. From this data, MBTA shall report the maximum flow rate measured for any one day and calculate the monthly average flow rate.

8. A minimum of 14 pumping events shall occur over a 24-hour period. More than 14 pumping events may occur in a 24-hour period.

9. The pH shall be within the specified range at all times. The minimum and maximum pH sample measurement values for the month shall be reported in standard units (S.U.).

10. The Permittee shall conduct acute toxicity tests (LC_{50}) and chronic toxicity tests (C-NOEC) in accordance with test procedures and protocols specified in **Attachment A and B** of this permit. LC_{50} and C-NOEC are defined in Part II.E. of this permit. The Permittee shall test the daphnid, *Ceriodaphnia dubia*, and the fathead minnow, *Pimephales promelas*. The complete report for each toxicity test shall be submitted as an attachment to the monthly DMR submittal by the 15th day of the month following the quarter, as indicated in the table below.

Quarter:	**Submit WET Report By:**
January-March	April 15th
April-June	July 15th
July-September	October 15th
October-December	January 15th

11. For Part I.A.1., Whole Effluent Toxicity Testing, the Permittee shall conduct the analyses specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS for the effluent sample. If toxicity test(s) using the receiving water as diluent show the receiving water to be toxic or unreliable, the Permittee shall follow procedures outlined in **Attachment A and B**, Section IV., DILUTION WATER. Minimum levels and test methods are specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS.

12. For Part I.A.1., Ambient Characteristic, the Permittee shall conduct the analyses specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS for the receiving water sample collected as part of the WET testing requirements. Such samples shall be taken from the receiving water at a point immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location, as specified in **Attachment A and B**. Minimum levels and test methods are specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS.

13. A pH and temperature measurement shall be taken of each receiving water sample at the time of collection and the results reported on the appropriate DMR. These pH and temperature measurements are independent from any pH and temperature measurements required by the WET testing protocols.

Part I.A. continued.

2. The discharge shall not cause a violation of the water quality standards of the receiving water.

3. The discharge shall be free from pollutants in concentrations or combinations that, in the receiving water, settle to form objectionable deposits; float as debris, scum or other matter to form nuisances; produce objectionable odor, color, taste or turbidity; or produce undesirable or nuisance species of aquatic life.

4. The discharge shall be free from pollutants in concentrations or combinations that adversely affect the physical, chemical, or biological nature of the bottom.

5. The discharge shall not result in pollutants in concentrations or combinations in the receiving water that are toxic to humans, aquatic life or wildlife.

6. The discharge shall be free from floating, suspended and settleable solids in concentrations or combinations that would impair any use assigned to the receiving water.

7. The discharge shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life.

8. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe (40 C.F.R. § 122.42):

    a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

        (1) 100 micrograms per liter (µg/L);
        (2) 200 µg/L for acrolein and acrylonitrite; 500 µg/L for 2,4-dinitrophenol; and one milligram per liter (mg/L) for antimony;
        (3) Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. § 122.21(g)(7); or
        (4) Any other notification level established by the Director in accordance with 40 C.F.R. § 122.44(f) and State regulations.

    b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

        (1) 500 µg/L;
        (2) One mg/L for antimony;

(3) 10 times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. § 122.21(g)(7); or
(4) Any other notification level established by the Director in accordance with 40 C.F.R. § 122.44(f) and State regulations.

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

B. UNAUTHORIZED DISCHARGES

1. This permit authorizes discharges only from the outfall(s) listed in Part I.A.1, in accordance with the terms and conditions of this permit. Discharges of wastewater from any other point sources are not authorized by this permit and shall be reported in accordance with Part D.1.e.(1) of the Standard Conditions of this permit (24-hour reporting).

2. The discharge of any sludge and/or bottom deposits from any storage tank or basin at the Facility to the receiving water is prohibited.

C. SPECIAL CONDITIONS

1. Best Management Practices Plan (BMPP)

The permittee shall maintain, update and implement a Best Management Practices Plan (BMPP) to reduce the discharge of pollutants to the receiving waters identified in this permit. The permittee shall update and amend the BMPP when necessary to account for any changes affecting the BMPP including, but not limited to whenever the following occur: a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the United States; a release of reportable quantities of hazardous substances or oil; or the BMPP appears to be ineffective in achieving the general objectives of controlling pollutants in water discharges associated with industrial activity.

An updated and amended BMPP shall be completed and signed by the Permittee within 90 days after the effective date of this Permit. Each amended BMPP shall be certified by the Permittee. The certification shall be signed in accordance with the requirements identified in 40 CFR §122.22, and a copy of the current certification shall be sent each year to EPA and MassDEP within thirty (30) days of the annual anniversary of the effective date of the Final Permit. The certification should document that the previous year's inspections and maintenance activities were conducted, results were recorded, records were maintained, and that the facility is in compliance with the BMPP. The permittee shall keep a copy of the most recent BMPP and certification at the facility and shall make it available for inspection by EPA and MassDEP.

The permittee shall assure that the BMPP is consistent with the requirements outlined in Part 5 of EPA's NPDES Storm Water Multi-Sector General Permit for Industrial Activities,

issued by EPA on June 4, 2015 (See 80 FR 34403-34407). The BMPP shall contain provisions for the outfall, the pollutants listed in Part I.A.1. of this permit, and the monitoring requirements at the outfall. Additionally, the BMPP shall include the best management practices (BMPs) appropriate for this specific facility to control discharges from activities that could contribute pollutants to waters of the United States. Specifically, the BMPP shall contain the elements listed below and practices to minimize pollutants in the discharge. The detailed requirements for most elements listed below can be found in Section 5 of the Storm Water Multi-Sector General Permit (https://www.epa.gov/npdes/final-2015-msgp-documents). Those elements not found in Section 5 of the Storm Water Multi-Sector General permit are detailed below. The BMPP shall include provisions to:

(1) Form a team of qualified facility personnel who will be responsible for updating the BMPP and assisting the site manager in its implementation;
(2) Reassess the potential pollution sources;
(3) Select and implement appropriate management practices and controls for these potential pollution sources; and
(4) Reevaluate, periodically, the effectiveness of the BMPP in preventing water contamination and in complying with the various terms and conditions of the Permit.
(5) Implement and maintain a quarterly scheduled inspection of the facility. During each inspection, a cleaning cycle shall be conducted at the wet-well site which includes, but is not limited to, removing solids contamination from the surface of the commingled storm water and ground water and maintaining the floors of the pump station free of oils which could contaminate the discharge.
(6) Implement pump controls and pump maintenance requirements in order to minimize the potential of pollutants in the discharge.

2. Pump Operation Requirement and Adjustment

The automatically activated pumps in the wet well shall be set to pump a minimum of 14 times each 24-hour day. During the effective period of the permit, the permittee may submit a report to EPA, MassDEP and MassDMF regarding the evaluation of reducing or increasing the number of pumping events per day. Any impact to the receiving water, wetted habitat and rainbow smelt spawning must be included in the evaluation. Based on the results of the report, the permittee may make a recommendation for an adjustment to the required number of pumping events each 24-hours. Taking into consideration the report and other information available to EPA and MassDEP, the two agencies may approve an adjustment in the minimum number of pumping events required per 24-hour period. Such approval must be in writing.

D. REPORTING REQUIREMENTS

Unless otherwise specified in this permit, the Permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

1. Submittal of DMRs Using NetDMR

   a. The Permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and the State no later than the 15th day of the month electronically using NetDMR. When the Permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA or the State. NetDMR is accessed from the internet at https://netdmr.zendesk.com/hc/en-us.

2. Submittal of Reports as NetDMR Attachments

   Unless otherwise specified in this permit, the Permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. *See* Part I.D.5. for more information on State reporting. Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15th day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR with the next DMR due following the particular report due date specified in this permit.

3. Submittal of Requests and Reports to EPA/OEP

   a. The following requests, reports, and information described in this permit shall be submitted to the EPA/OEP NPDES Applications Coordinator in the EPA Office Ecosystem Protection (OEP):

      (1) Transfer of Permit notice;
      (2) Request for changes in sampling location;
      (3) BMPP reports and certifications, if required;
      (4) Request to discharge new chemicals or additives;
      (5) Request for change in WET testing requirements; and
      (6) Report on unacceptable dilution water/request for alternative dilution water for WET testing.
      (7) A Pump Operation Adjustment Report, as detailed in Part I.C.2.

   b. These reports, information, and requests shall be submitted to EPA/OEP electronically at R1NPDES.Notices.OEP@epa.gov or by hard copy mail to the following address:

U.S. Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP NPDES Applications Coordinator
5 Post Office Square - Suite 100 (OEP06-03)
Boston, MA 02109-3912

4. Submittal of Reports in Hard Copy Form

a. The following notifications and reports shall be signed and dated originals, submitted in hard copy, with a cover letter describing the submission:

(1) Written notifications required under Part II.

b. This information shall be submitted to EPA/OES at the following address:

U.S. Environmental Protection Agency
Office of Environmental Stewardship (OES)
Water Technical Unit
5 Post Office Square, Suite 100 (OES04-SMR)
Boston, MA 02109-3912

5. State Reporting

a. Copies of **WET test reports ONLY** shall be submitted to:

Massachusetts Department of Environmental Protection - Central Region
Bureau of Water Resources
Division of Watershed Management
8 New Bond Street
Worcester, Massachusetts 01606

6. Verbal Reports and Verbal Notifications

a. Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to both EPA and to the State. This includes verbal reports and notifications which require reporting within 24 hours (e.g., Part II.B.4.c. (2), Part II.B.5.c. (3), and Part II.D.1.e.).

b. Verbal reports and verbal notifications shall be made to EPA's Office of Environmental Stewardship at:

617-918-1510

E. STATE PERMIT CONDITIONS

1. This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are 1) a Federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33 U.S.C. §§ 1251 et seq.; and 2) an identical State surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53, and 314 CMR 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 CMR 3.19, are hereby incorporated by reference into this state surface water discharge permit.

2. This authorization also incorporates the state water quality certification issued by MassDEP under § 401(a) of the Federal Clean Water Act, 40 C.F.R. 124.53, M.G.L. c. 21, § 27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.

3. Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of this permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared invalid, illegal or otherwise issued in violation of state law such permit shall remain in full force and effect under Federal law as a NPDES Permit issued by the EPA. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

USEPA REGION 1 FRESHWATER ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

The permittee shall conduct acceptable acute toxicity tests in accordance with the appropriate test protocols described below:

- **Daphnid (Ceriodaphnia dubia) definitive 48 hour test.**
- **Fathead Minnow (Pimephales promelas) definitive 48 hour test.**

Acute toxicity test data shall be reported as outlined in Section VIII.

II. METHODS

The permittee shall use 40 CFR Part 136 methods. Methods and guidance may be found at:

http://water.epa.gov/scitech/methods/cwa/wet/disk2_index.cfm

The permittee shall also meet the sampling, analysis and reporting requirements included in this protocol. This protocol defines more specific requirements while still being consistent with the Part 136 methods. If, due to modifications of Part 136, there are conflicting requirements between the Part 136 method and this protocol, the permittee shall comply with the requirements of the Part 136 method.

III. SAMPLE COLLECTION

A discharge sample shall be collected. Aliquots shall be split from the sample, containerized and preserved (as per 40 CFR Part 136) for chemical and physical analyses required. The remaining sample shall be measured for total residual chlorine and dechlorinated (if detected) in the laboratory using sodium thiosulfate for subsequent toxicity testing. (Note that EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection.) Grab samples must be used for pH, temperature, and total residual chlorine (as per 40 CFR Part 122.21).

Standard Methods for the Examination of Water and Wastewater describes dechlorination of samples (APHA, 1992). Dechlorination can be achieved using a ratio of 6.7 mg/L anhydrous sodium thiosulfate to reduce 1.0 mg/L chlorine. If dechlorination is necessary, a thiosulfate control (maximum amount of thiosulfate in lab control or receiving water) must also be run in the WET test.

All samples held overnight shall be refrigerated at 1- 6^{o}C.

IV. DILUTION WATER

A grab sample of dilution water used for acute toxicity testing shall be collected from the receiving water at a point immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location. Avoid collection near areas of obvious road or agricultural runoff, storm sewers or other point source discharges and areas where stagnant conditions exist. In the case where an alternate dilution water has been agreed upon an additional receiving water control (0% effluent) must also be tested.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternate standard dilution water of known quality with a hardness, pH, conductivity, alkalinity, organic carbon, and total suspended solids similar to that of the receiving water may be substituted **AFTER RECEIVING WRITTEN APPROVAL FROM THE PERMIT ISSUING AGENCY(S)**. Written requests for use of an alternate dilution water should be mailed with supporting documentation to the following address:

Director
Office of Ecosystem Protection (CAA)
U.S. Environmental Protection Agency-New England
5 Post Office Sq., Suite 100 (OEP06-5)
Boston, MA 02109-3912

and

Manager
Water Technical Unit (SEW)
U.S. Environmental Protection Agency
5 Post Office Sq., Suite 100 (OES04-4)
Boston, MA 02109-3912

Note: USEPA Region 1 retains the right to modify any part of the alternate dilution water policy stated in this protocol at any time. Any changes to this policy will be documented in the annual DMR posting.

See the most current annual DMR instructions which can be found on the EPA Region 1 website at http://www.epa.gov/region1/enforcement/water/dmr.html *for further important details on alternate dilution water substitution requests.*

It may prove beneficial to have the proposed dilution water source screened for suitability prior to toxicity testing. EPA strongly urges that screening be done prior to set up of a full definitive toxicity test any time there is question about the dilution water's ability to support acceptable performance as outlined in the 'test acceptability' section of the protocol.

V. TEST CONDITIONS

The following tables summarize the accepted daphnid and fathead minnow toxicity test conditions and test acceptability criteria:

EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE DAPHNID, CERIODAPHNIA DUBIA 48 HOUR ACUTE TESTS[1]

1.	Test type	Static, non-renewal
2.	Temperature (^{o}C)	20 $\pm$ 1^{o}C or 25 $\pm$ 1^{o}C
3.	Light quality	Ambient laboratory illumination
4.	Photoperiod	16 hour light, 8 hour dark
5.	Test chamber size	Minimum 30 ml
6.	Test solution volume	Minimum 15 ml
7.	Age of test organisms	1-24 hours (neonates)
8.	No. of daphnids per test chamber	5
9.	No. of replicate test chambers per treatment	4
10.	Total no. daphnids per test concentration	20
11.	Feeding regime	As per manual, lightly feed YCT and Selenastrum to newly released organisms while holding prior to initiating test
12.	Aeration	None
13.	Dilution water[2]	Receiving water, other surface water, synthetic water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q^{R} or equivalent deionized water and reagent grade chemicals according to EPA acute toxicity test manual) or deionized water combined with mineral water to appropriate hardness.
14.	Dilution series	$\geq$ 0.5, must bracket the permitted RWC
15.	Number of dilutions	5 plus receiving water and laboratory water control and thiosulfate control, as necessary. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution

		series.
16.	Effect measured	Mortality-no movement of body or appendages on gentle prodding
17.	Test acceptability	90% or greater survival of test organisms in dilution water control solution
18.	Sampling requirements	For on-site tests, samples must be used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples must first be used within 36 hours of collection.
19.	Sample volume required	Minimum 1 liter

Footnotes:

1. Adapted from EPA-821-R-02-012.
2. Standard prepared dilution water must have hardness requirements to generally reflect the characteristics of the receiving water.

EPA NEW ENGLAND TEST CONDITIONS FOR THE FATHEAD MINNOW (PIMEPHALES PROMELAS) 48 HOUR ACUTE TEST[1]

1.	Test Type	Static, non-renewal
2.	Temperature (^{o}C)	20 $\pm$ 1 ^{o} C or 25 $\pm$ 1^{o}C
3.	Light quality	Ambient laboratory illumination
4.	Photoperiod	16 hr light, 8 hr dark
5.	Size of test vessels	250 mL minimum
6.	Volume of test solution	Minimum 200 mL/replicate
7.	Age of fish	1-14 days old and age within 24 hrs of each other
8.	No. of fish per chamber	10
9.	No. of replicate test vessels per treatment	4
10.	Total no. organisms per concentration	40
11.	Feeding regime	As per manual, lightly feed test age larvae using concentrated brine shrimp nauplii while holding prior to initiating test
12.	Aeration	None, unless dissolved oxygen (D.O.) concentration falls below 4.0 mg/L, at which time gentle single bubble aeration should be started at a rate of less than 100 bubbles/min. (Routine D.O. check is recommended.)
13.	dilution water[2]	Receiving water, other surface water, synthetic water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q^{R} or equivalent deionized and reagent grade chemicals according to EPA acute toxicity test manual) or deionized water combined with mineral water to appropriate hardness.
14.	Dilution series	$\geq$ 0.5, must bracket the permitted RWC

15.	Number of dilutions	5 plus receiving water and laboratory water control and thiosulfate control, as necessary. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution series.
16.	Effect measured	Mortality-no movement on gentle prodding
17.	Test acceptability	90% or greater survival of test organisms in dilution water control solution
18.	Sampling requirements	For on-site tests, samples must be used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples are used within 36 hours of collection.
19.	Sample volume required	Minimum 2 liters

Footnotes:

1. Adapted from EPA-821-R-02-012
2. Standard dilution water must have hardness requirements to generally reflect characteristics of the receiving water.

VI. CHEMICAL ANALYSIS

At the beginning of a static acute toxicity test, pH, conductivity, total residual chlorine, oxygen, hardness, alkalinity and temperature must be measured in the highest effluent concentration and the dilution water. Dissolved oxygen, pH and temperature are also measured at 24 and 48 hour intervals in all dilutions. The following chemical analyses shall be performed on the 100 percent effluent sample and the upstream water sample for each sampling event.

Parameter	Effluent	Receiving Water	ML (mg/l)
Hardness[1]	x	x	0.5
Total Residual Chlorine (TRC)[2, 3]	x		0.02
Alkalinity	x	x	2.0
pH	x	x	--
Specific Conductance	x	x	--
Total Solids	x		--
Total Dissolved Solids	x		--
Ammonia	x	x	0.1
Total Organic Carbon	x	x	0.5
Total Metals			
Cd	x	x	0.0005
Pb	x	x	0.0005
Cu	x	x	0.003
Zn	x	x	0.005
Ni	x	x	0.005
Al	x	x	0.02
Other as permit requires			

Notes:

1. Hardness may be determined by:
   - APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
     - Method 2340B (hardness by calculation)
     - Method 2340C (titration)
2. Total Residual Chlorine may be performed using any of the following methods provided the required minimum limit (ML) is met.
   - APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
     - Method 4500-CL E Low Level Amperometric Titration
     - Method 4500-CL G DPD Colorimetric Method
3. Required to be performed on the sample used for WET testing prior to its use for toxicity testing.

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

- Probit Method
- Spearman-Karber
- Trimmed Spearman-Karber
- Graphical

See the flow chart in Figure 6 on p. 73 of EPA-821-R-02-012 for appropriate method to use on a given data set.

No Observed Acute Effect Level (NOAEL)

See the flow chart in Figure 13 on p. 87 of EPA-821-R-02-012.

VIII. TOXICITY TEST REPORTING

A report of the results will include the following:

- Description of sample collection procedures, site description
- Names of individuals collecting and transporting samples, times and dates of sample collection and analysis on chain-of-custody
- General description of tests: age of test organisms, origin, dates and results of standard toxicant tests; light and temperature regime; other information on test conditions if different than procedures recommended. Reference toxicant test data should be included.
- All chemical/physical data generated. (Include minimum detection levels and minimum quantification levels.)
- Raw data and bench sheets.
- Provide a description of dechlorination procedures (as applicable).
- Any other observations or test conditions affecting test outcome.

FRESHWATER CHRONIC
TOXICITY TEST PROCEDURE AND PROTOCOL
USEPA Region 1

I. GENERAL REQUIREMENTS

The permittee shall be responsible for the conduct of acceptable chronic toxicity tests using three fresh samples collected during each test period. The following tests shall be performed as prescribed in Part 1 of the NPDES discharge permit in accordance with the appropriate test protocols described below. (Note: the permittee and testing laboratory should review the applicable permit to determine whether testing of one or both species is required).

- **Daphnid (Ceriodaphnia dubia) Survival and Reproduction Test.**
- **Fathead Minnow (Pimephales promelas) Larval Growth and Survival Test.**

Chronic toxicity data shall be reported as outlined in Section VIII.

II. METHODS

Methods to follow are those recommended by EPA in: Short Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition. October 2002. United States Environmental Protection Agency. Office of Water, Washington, D.C., EPA 821-R-02-013. The methods are available on-line at http://www.epa.gov/waterscience/WET/ . Exceptions and clarification are stated herein.

III. SAMPLE COLLECTION AND USE

A total of three fresh samples of effluent and receiving water are required for initiation and subsequent renewals of a freshwater, chronic, toxicity test. The receiving water control sample must be collected immediately upstream of the permitted discharge's zone of influence. Fresh samples are recommended for use on test days 1, 3, and 5. However, provided a total of three samples are used for testing over the test period, an alternate sampling schedule is acceptable. The acceptable holding times until initial use of a sample are 24 and 36 hours for on-site and off-site testing, respectively. A written waiver is required from the regulating authority for any hold time extension. All test samples collected may be used for 24, 48 and 72 hour renewals after initial use. All samples held for use beyond the day of sampling shall be refrigerated and maintained at a temperature range of 0-6^{o} C.

All samples submitted for chemical and physical analyses will be analyzed according to Section VI of this protocol.

Sampling guidance dictates that, where appropriate, aliquots for the analysis required in this protocol shall be split from the samples, containerized and immediately preserved, or analyzed as per 40 CFR Part 136. EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection. Testing for the presence of total residual chlorine (TRC) must be analyzed immediately or as soon as possible, for all effluent samples, prior to WET testing. TRC analysis may be performed on-site or by the toxicity testing laboratory and the samples must be dechlorinated, as necessary, using sodium thiosulfate prior to sample use for toxicity testing.

If any of the renewal samples are of sufficient potency to cause lethality to 50 percent or more of the test organisms in any of the test treatments for either species or, if the test fails to meet its permit limits, then chemical analysis for total metals (originally required for the initial sample only in Section VI) will be required on the renewal sample(s) as well.

IV. DILUTION WATER

Samples of receiving water must be collected from a location in the receiving water body immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location. Avoid collection near areas of obvious road or agricultural runoff, storm sewers or other point source discharges and areas where stagnant conditions exist. EPA strongly urges that screening for toxicity be performed prior to the set up of a full, definitive toxicity test any time there is a question about the test dilution water's ability to achieve test acceptability criteria (TAC) as indicated in Section V of this protocol. The test dilution water control response will be used in the statistical analysis of the toxicity test data. All other control(s) required to be run in the test will be reported as specified in the Discharge Monitoring Report (DMR) Instructions, Attachment F, page 2,Test Results & Permit Limits.

The test dilution water must be used to determine whether the test met the applicable TAC. When receiving water is used for test dilution, an additional control made up of standard laboratory water (0% effluent) is required. This control will be used to verify the health of the test organisms and evaluate to what extent, if any, the receiving water itself is responsible for any toxic response observed.

If dechlorination of a sample by the toxicity testing laboratory is necessary a "sodium thiosulfate" control, representing the concentration of sodium thiosulfate used to adequately dechlorinate the sample prior to toxicity testing, must be included in the test.

If the use of an alternate dilution water (ADW) is authorized, in addition to the ADW test control, the testing laboratory must, for the purpose of monitoring the receiving water, also run a receiving water control.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable an ADW of known quality with hardness similar to that of the receiving water may be substituted. Substitution is species specific meaning that the decision to use ADW is made for each species and is based on the toxic response of that particular species. Substitution to an ADW is authorized in two cases. The first is the case where repeating a test due to toxicity in the site dilution water requires an **immediate decision** for ADW use be made by the permittee and toxicity testing laboratory. The second is in the case where two of the most recent documented incidents of unacceptable site dilution water toxicity requires ADW use in future WET testing.

For the second case, written notification from the permittee requesting ADW use **and** written authorization from the permit issuing agency(s) is required **prior to** switching to a long-term use of ADW for the duration of the permit.

Written requests for use of ADW must be mailed with supporting documentation to the following addresses:

Director
Office of Ecosystem Protection (CAA)
U.S. Environmental Protection Agency, Region 1
Five Post Office Square, Suite 100
Mail Code OEP06-5
Boston, MA 02109-3912

and

Manager
Water Technical Unit (SEW)
U.S. Environmental Protection Agency
Five Post Office Square, Suite 100
Mail Code OES04-4
Boston, MA 02109-3912

Note: USEPA Region 1 retains the right to modify any part of the alternate dilution water policy stated in this protocol at any time. Any changes to this policy will be documented in the annual DMR posting.

See the most current annual DMR instructions which can be found on the EPA Region 1 website at http://www.epa.gov/region1/enforcementandassistance/dmr.html for further important details on alternate dilution water substitution requests.

V. TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

Method specific test conditions and TAC are to be followed and adhered to as specified in the method guidance document, EPA 821-R-02-013. If a test does not meet TAC the test must be repeated with fresh samples within 30 days of the initial test completion date.

V.1. Use of Reference Toxicity Testing

Reference toxicity test results and applicable control charts must be included in the toxicity testing report.

If reference toxicity test results fall outside the control limits established by the laboratory for a specific test endpoint, a reason or reasons for this excursion must be evaluated, correction made and reference toxicity tests rerun as necessary.

If a test endpoint value exceeds the control limits at a frequency of more than one out of twenty then causes for the reference toxicity test failure must be examined and if problems are identified corrective action taken. The reference toxicity test must be repeated during the same month in which the exceedance occurred.

If two consecutive reference toxicity tests fall outside control limits, the possible cause(s) for the exceedance must be examined, corrective actions taken and a repeat of the reference toxicity test must take place immediately. Actions taken to resolve the problem must be reported.

V.1.a. Use of Concurrent Reference Toxicity Testing

In the case where concurrent reference toxicity testing is required due to a low frequency of testing with a particular method, if the reference toxicity test results fall slightly outside of laboratory established control limits, but the primary test met the TAC, the results of the primary test will be considered acceptable. However, if the results of the concurrent test fall well outside the established **upper** control limits i.e. ≥3 standard deviations for IC25 values and ≥ two concentration intervals for NOECs, and even though the primary test meets TAC, the primary test will be considered unacceptable and must be repeated.

V.2. For the *C. dubia* test, the determination of TAC and formal statistical analyses must be performed using only the first three broods produced.

V.3. Test treatments must include 5 effluent concentrations and a dilution water control. An additional test treatment, at the permitted effluent concentration (% effluent), is required if it is not included in the dilution series.

VI. CHEMICAL ANALYSIS

As part of each toxicity test's daily renewal procedure, pH, specific conductance, dissolved oxygen (DO) and temperature must be measured at the beginning and end of each 24-hour period in each test treatment and the control(s).

The additional analysis that must be performed under this protocol is as specified and noted in the table below.

Parameter	Effluent	Receiving Water	ML (mg/l)
Hardness[1, 4]	x	x	0.5
Total Residual Chlorine (TRC)[2, 3, 4]	x		0.02
Alkalinity[4]	x	x	2.0
pH[4]	x	x	--
Specific Conductance[4]	x	x	--
Total Solids[6]	x		--
Total Dissolved Solids[6]	x		--
Ammonia[4]	x	x	0.1
Total Organic Carbon[6]	x	x	0.5
Total Metals[5]			
Cd	x	x	0.0005
Pb	x	x	0.0005
Cu	x	x	0.003
Zn	x	x	0.005
Ni	x	x	0.005
Al	x	x	0.02
Other as permit requires			

Notes:

1. Hardness may be determined by:

- APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
  -Method 2340B (hardness by calculation)
  -Method 2340C (titration)

2. Total Residual Chlorine may be performed using any of the following methods provided the required minimum limit (ML) is met.

- APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
  -Method 4500-CL E Low Level Amperometric Titration
  -Method 4500-CL G DPD Colorimetric Method
- USEPA 1983. Manual of Methods Analysis of Water and Wastes
  -Method 330.5

3. Required to be performed on the sample used for WET testing prior to its use for toxicity testing
4. Analysis is to be performed on samples and/or receiving water, as designated in the table above, from all three sampling events.
5. Analysis is to be performed on the initial sample(s) only unless the situation arises as stated in Section III, paragraph 4
6. Analysis to be performed on initial samples only

VII. TOXICITY TEST DATA ANALYSIS AND REVIEW

A. Test Review

1. Concentration / Response Relationship

A concentration/response relationship evaluation is required for test endpoint determinations from both Hypothesis Testing and Point Estimate techniques. The test report is to include documentation of this evaluation in support of the endpoint values reported. The dose-response review must be performed as required in Section 10.2.6 of EPA-821-R-02-013. Guidance for this review can be found at http://water.epa.gov/scitech/methods/cwa/ . In most cases, the review will result in one of the following three conclusions: (1) Results are reliable and reportable; (2) Results are anomalous and require explanation; or (3) Results are inconclusive and a retest with fresh samples is required.

2. Test Variability (Test Sensitivity)

This review step is separate from the determination of whether a test meets or does not meet TAC. Within test variability is to be examined for the purpose of evaluating test sensitivity. This evaluation is to be performed for the sub-lethal hypothesis testing endpoints reproduction and growth as required by the permit. The test report is to include documentation of this evaluation to support that the endpoint values reported resulted from a toxicity test of adequate sensitivity. This evaluation must be performed as required in Section 10.2.8 of EPA-821-R-02-013.

To determine the adequacy of test sensitivity, USEPA requires the calculation of test percent minimum significant difference (PMSD) values. In cases where NOEC determinations are made based on a non-parametric technique, calculation of a test PMSD value**,** for the sole purpose of assessing test sensitivity, shall be calculated using a comparable parametric statistical analysis technique. The calculated test PMSD is then compared to the upper and lower PMSD bounds shown for freshwater tests in Section 10.2.8.3, p. 52, Table 6 of EPA-821-R-02-013. The comparison will yield one of the following determinations.

- The test PMSD exceeds the PMSD upper bound test variability criterion in Table 6, the test results are considered highly variable and the test may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC). If the test results indicate that the discharge is not toxic at the PLC, then the test is considered insufficiently sensitive and must be repeated within 30 days of the initial test completion using fresh samples. If the test results indicate that the discharge is toxic at the PLC, the test is considered acceptable and does not have to be repeated.

- The test PMSD falls below the PMSD lower bound test variability criterion in Table 6, the test is determined to be very sensitive. In order to determine which treatment(s) are statistically significant and which are not, for the purpose of reporting a NOEC, the relative percent difference (RPD) between the control and each treatment must be calculated and compared to the lower PMSD boundary. See *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the NPDES Program*, EPA 833-R-00-003, June 2002, Section 6.4.2. The following link: Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the NPDES Program can be used to locate the USEPA website containing this document. If the RPD for a treatment falls below the PMSD lower bound, the difference is considered statistically insignificant. If the RPD for a treatment is greater that the PMSD lower bound, then the treatment is considered statistically significant.

- The test PMSD falls within the PMSD upper and lower bounds in Table 6, the sub-lethal test endpoint values shall be reported as is.

B. Statistical Analysis

1. General - Recommended Statistical Analysis Method

Refer to general data analysis flowchart, EPA 821-R-02-013, page 43

For discussion on Hypothesis Testing, refer to EPA 821-R-02-013, Section 9.6

For discussion on Point Estimation Techniques, refer to EPA 821-R-02-013, Section 9.7

2. *Pimephales promelas*

Refer to survival hypothesis testing analysis flowchart, EPA 821-R-02-013, page 79

Refer to survival point estimate techniques flowchart, EPA 821-R-02-013, page 80

Refer to growth data statistical analysis flowchart, EPA 821-R-02-013, page 92

3. *Ceriodaphnia dubia*

Refer to survival data testing flowchart, EPA 821-R-02-013, page 168

Refer to reproduction data testing flowchart, EPA 821-R-02-013, page 173

VIII. TOXICITY TEST REPORTING

A report of results must include the following:

- Test summary sheets (2007 DMR Attachment F) which includes:
  - Facility name
  - NPDES permit number
  - Outfall number
  - Sample type
  - Sampling method
  - Effluent TRC concentration
  - Dilution water used
  - Receiving water name and sampling location
  - Test type and species
  - Test start date
  - Effluent concentrations tested (%) and permit limit concentration
  - Applicable reference toxicity test date and whether acceptable or not
  - Age, age range and source of test organisms used for testing
  - Results of TAC review for all applicable controls
  - Test sensitivity evaluation results (test PMSD for growth and reproduction)
  - Permit limit and toxicity test results
  - Summary of test sensitivity and concentration response evaluation

In addition to the summary sheets the report must include:

- A brief description of sample collection procedures
- Chain of custody documentation including names of individuals collecting samples, times and dates of sample collection, sample locations, requested analysis and lab receipt with time and date received, lab receipt personnel and condition of samples upon receipt at the lab(s)
- Reference toxicity test control charts
- All sample chemical/physical data generated, including minimum limits (MLs) and analytical methods used
- All toxicity test raw data including daily ambient test conditions, toxicity test chemistry, sample dechlorination details as necessary, bench sheets and statistical analysis
- A discussion of any deviations from test conditions
- Any further discussion of reported test results, statistical analysis and concentration-response relationship and test sensitivity review per species per endpoint

NPDES PART II STANDARD CONDITIONS
(April 26, 2018)[1]

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[1] Updated July 17, 2018 to fix typographical errors.

A. GENERAL REQUIREMENTS

1. Duty to Comply

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA or Act) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

a. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

b. Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (83 Fed. Reg. 1190-1194 (January 10, 2018) and the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note. See Pub. L.114-74, Section 701 (Nov. 2, 2015)). These requirements help ensure that EPA penalties keep pace with inflation. Under the above-cited 2015 amendments to inflationary adjustment law, EPA must review its statutory civil penalties each year and adjust them as necessary.

(1) Criminal Penalties

(a) *Negligent Violations.* The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of not less than $2,500 nor more than $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation or by imprisonment of not more than 2 years, or both.

(b) *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

(c) *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than $250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing

endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

(d) *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(2) *Civil Penalties*. The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

(3) *Administrative Penalties*. The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty as follows:

(a) *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

(b) *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

2. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit

condition.

3. Duty to Provide Information

The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from responsibilities, liabilities or penalties to which the Permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

5. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

6. Confidentiality of Information

a. In accordance with 40 C.F.R. Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 C.F.R. Part 2 (Public Information).

b. Claims of confidentiality for the following information will be denied:

(1) The name and address of any permit applicant or Permittee;
(2) Permit applications, permits, and effluent data.

c. Information required by NPDES application forms provided by the Director under 40 C.F.R. § 122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

7. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit. The Permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

8. State Authorities

Nothing in Parts 122, 123, or 124 precludes more stringent State regulation of any activity

covered by the regulations in 40 C.F.R. Parts 122, 123, and 124, whether or not under an approved State program.

9. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Bypass

a. Definitions

(1) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.

(2) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. *Bypass not exceeding limitations.* The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this Section.

c. Notice

(1) *Anticipated bypass*. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass. As of December 21, 2020 all notices submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.

(2) *Unanticipated bypass*. The Permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (24-hour notice). As of December 21, 2020 all notices submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or required to do so by law.

d. *Prohibition of bypass.*

(1) Bypass is prohibited, and the Director may take enforcement action against a Permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(c) The Permittee submitted notices as required under paragraph 4.c of this Section.

(2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 4.d of this Section.

5. Upset

a. *Definition*. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or

improper operation.

b. *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph B.5.c. of this Section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. *Conditions necessary for a demonstration of upset.* A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
(2) The permitted facility was at the time being properly operated; and
(3) The Permittee submitted notice of the upset as required in paragraph D.1.e.2.b. (24-hour notice).
(4) The Permittee complied with any remedial measures required under B.3. above.

d. *Burden of proof.* In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

C. MONITORING REQUIREMENTS

1. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. Except for records of monitoring information required by this permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least 5 years (or longer as required by 40 C.F.R. § 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

c. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;
(2) The individual(s) who performed the sampling or measurements;
(3) The date(s) analyses were performed;
(4) The individual(s) who performed the analyses;
(5) The analytical techniques or methods used; and
(6) The results of such analyses.

d. Monitoring must be conducted according to test procedures approved under 40 C.F.R. § 136 unless another method is required under 40 C.F.R. Subchapters N or O.

e. The Clean Water Act provides that any person who falsifies, tampers with, or

knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

2. Inspection and Entry

The Permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

D. REPORTING REQUIREMENTS

1. Reporting Requirements

a. *Planned Changes*. The Permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. § 122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements at 40 C.F.R. § 122.42(a)(1).

(3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. *Anticipated noncompliance*. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. *Transfers.* This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Clean Water Act. *See* 40 C.F.R. § 122.61; in some cases, modification or revocation and reissuance is mandatory.

d. *Monitoring reports*. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices. As of December 21, 2016 all reports and forms submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by State law.

(2) If the Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 C.F.R. § 136, or another method required for an industry-specific waste stream under 40 C.F.R. Subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

e. *Twenty-four hour reporting.*

(1) The Permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written report shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. As of December 21, 2020 all

reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section.

(2) The following shall be included as information which must be reported within 24 hours under this paragraph.

(a) Any unanticipated bypass which exceeds any effluent limitation in the permit. *See* 40 C.F.R. § 122.41(g).
(b) Any upset which exceeds any effluent limitation in the permit.
(c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. *See* 40 C.F.R. § 122.44(g).

(3) The Director may waive the written report on a case-by-case basis for reports under paragraph D.1.e. of this Section if the oral report has been received within 24 hours.

f. *Compliance Schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

g. *Other noncompliance.* The Permittee shall report all instances of noncompliance not reported under paragraphs D.1.d., D.1.e., and D.1.f. of this Section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph D.1.e. of this Section. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in paragraph D.1.e. and the applicable required data in Appendix A to 40 C.F.R. Part 127. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), §122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this Section.

h. *Other information.* Where the Permittee becomes aware that it failed to submit any

relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

i. *Identification of the initial recipient for NPDES electronic reporting data*. The owner, operator, or the duly authorized representative of an NPDES-regulated entity is required to electronically submit the required NPDES information (as specified in Appendix A to 40 C.F.R. Part 127) to the appropriate initial recipient, as determined by EPA, and as defined in 40 C.F.R. § 127.2(b). EPA will identify and publish the list of initial recipients on its Web site and in the FEDERAL REGISTER, by state and by NPDES data group (see 40 C.F.R. § 127.2(c) of this Chapter). EPA will update and maintain this listing.

2. Signatory Requirement

a. All applications, reports, or information submitted to the Director shall be signed and certified. *See* 40 C.F.R. §122.22.

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

3. Availability of Reports.

Except for data determined to be confidential under paragraph A.6. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Director. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

E. DEFINITIONS AND ABBREVIATIONS

1. General Definitions

For more definitions related to sludge use and disposal requirements, see EPA Region 1's NPDES Permit Sludge Compliance Guidance document (4 November 1999, modified to add regulatory definitions, April 2018).

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Applicable standards and limitations means all, State, interstate, and federal standards and limitations to which a "discharge," a "sewage sludge use or disposal practice," or a related activity is subject under the CWA, including "effluent limitations," water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," pretreatment standards, and "standards for sewage sludge use or disposal" under Sections 301, 302, 303, 304, 306, 307, 308, 403 and 405 of the CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions, or modifications to the forms; or forms approved by EPA for use in

"approved States," including any approved modifications or revisions.

Approved program or *approved State* means a State or interstate program which has been approved or authorized by EPA under Part 123.

Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Average weekly discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

Best Management Practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Bypass see B.4.a.1 above.

C-NOEC or *"Chronic (Long-term Exposure Test) – No Observed Effect Concentration" means* the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specified time of observation.

Class I sludge management facility is any publicly owned treatment works (POTW), as defined in 40 C.F.R. § 501.2, required to have an approved pretreatment program under 40 C.F.R. § 403.8 (a) (including any POTW located in a State that has elected to assume local program responsibilities pursuant to 40 C.F.R. § 403.10 (e)) and any treatment works treating domestic sewage, as defined in 40 C.F.R. § 122.2, classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for its sewage sludge use or disposal practice to affect public health and the environment adversely.

Contiguous zone means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

Continuous discharge means a "discharge" which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92-500, as amended by Public Law 95-217, Public Law 95-576, Public Law 96-483and Public Law 97-117, 33 U.S.C. 1251 *et seq*.

CWA and regulations means the Clean Water Act (CWA) and applicable regulations promulgated thereunder. In the case of an approved State program, it includes State program requirements.

Daily Discharge means the "discharge of a pollutant" measured during a calendar day or any

other 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Direct Discharge means the "discharge of a pollutant."

Director means the Regional Administrator or an authorized representative. In the case of a permit also issued under Massachusetts' authority, it also refers to the Director of the Division of Watershed Management, Department of Environmental Protection, Commonwealth of Massachusetts.

Discharge

(a) When used without qualification, *discharge* means the "discharge of a pollutant."

(b) As used in the definitions for "interference" and "pass through," *discharge* means the introduction of pollutants into a POTW from any non-domestic source regulated under Section 307(b), (c) or (d) of the Act.

Discharge Monitoring Report ("DMR") means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by Permittees. DMRs must be used by "approved States" as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Discharge of a pollutant means:

(a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or

(b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Effluent limitation means any restriction imposed by the Director on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.

Effluent limitation guidelines means a regulation published by the Administrator under section 304(b) of CWA to adopt or revise "effluent limitations."

Environmental Protection Agency ("EPA") means the United States Environmental Protection

Agency.

Grab Sample means an individual sample collected in a period of less than 15 minutes.

Hazardous substance means any substance designated under 40 C.F.R. Part 116 pursuant to Section 311 of CWA.

Incineration is the combustion of organic matter and inorganic matter in sewage sludge by high temperatures in an enclosed device.

Indirect discharger means a nondomestic discharger introducing "pollutants" to a "publicly owned treatment works."

Interference means a discharge (see definition above) which, alone or in conjunction with a discharge or discharges from other sources, both:

(a) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

(b) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resources Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SDWA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile.

Land application is the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.

Land application unit means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for agricultural purposes or for treatment and disposal.

LC_{50} means the concentration of a sample that causes mortality of 50% of the test population at a specific time of observation. The LC_{50} = 100% is defined as a sample of undiluted effluent.

Maximum daily discharge limitation means the highest allowable "daily discharge."

Municipal solid waste landfill (MSWLF) unit means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 C.F.R. § 257.2. A MSWLF unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, very small quantity generator waste and industrial solid waste. Such a landfill may be

publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion. A construction and demolition landfill that receives residential lead-based paint waste and does not receive any other household waste is not a MSWLF unit.

Municipality

(a) When used without qualification *municipality* means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of CWA.

(b) As related to sludge use and disposal, *municipality* means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal Agency of two or more of the foregoing entities) created by or under State law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge management; or a designated and approved management Agency under Section 208 of the CWA, as amended. The definition includes a special district created under State law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in Section 201 (e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use or disposal of sewage sludge.

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the CWA. The term includes an "approved program."

New Discharger means any building, structure, facility, or installation:

(a) From which there is or may be a "discharge of pollutants;"

(b) That did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;

(c) Which is not a "new source;" and

(d) Which has never received a finally effective NPDES permit for discharges at that "site."

This definition includes an "indirect discharger" which commences discharging into "waters of the United States" after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a "site" for which it does not have a permit; and any offshore or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a "site" under EPA's permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Director in the issuance of a final permit to be in an area of biological concern. In determining whether an area is an area of biological concern, the Director shall consider the factors specified in 40 C.F.R. §§ 125.122 (a) (1) through (10).

An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a "new discharger" only for the duration of its discharge in an area of biological concern.

New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced:

(a) After promulgation of standards of performance under Section 306 of CWA which are applicable to such source, or

(b) After proposal of standards of performance in accordance with Section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

NPDES means "National Pollutant Discharge Elimination System."

Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES programs.

Pass through means a Discharge (see definition above) which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Pathogenic organisms are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of Parts 122, 123, and 124. "Permit" includes an NPDES "general permit" (40 C.F.R § 122.28). "Permit" does not include any permit which has not yet been the subject of final agency action, such as a "draft permit" or "proposed permit."

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Person who prepares sewage sludge is either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge.

pH means the logarithm of the reciprocal of the hydrogen ion concentration measured at 25° Centigrade or measured at another temperature and then converted to an equivalent value at 25° Centigrade.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 C.F.R. § 122.3).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials

(except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq*.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or

(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well is used either to facilitate production or for disposal purposes is approved by the authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Primary industry category means any industry category listed in the NRDC settlement agreement (*Natural Resources Defense Council et al. v. Train*, 8 E.R.C. 2120 (D.D.C. 1976), *modified* 12 E.R.C. 1833 (D.D.C. 1979)); also listed in Appendix A of 40 C.F.R. Part 122.

Privately owned treatment works means any device or system which is (a) used to treat wastes from any facility whose operator is not the operator of the treatment works and (b) not a "POTW."

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly owned treatment works (POTW) means a treatment works as defined by Section 212 of the Act, which is owned by a State or municipality (as defined by Section 504(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in Section 502(4) of the Act, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

Regional Administrator means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

Secondary industry category means any industry which is not a "primary industry category."

Septage means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Sewage Sludge means any solid, semi-solid, or liquid residue removed during the treatment of municipal waste water or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced waste water treatment, scum, septage, portable toilet pumpings, type III marine sanitation device pumpings (33 C.F.R. Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

Sewage sludge incinerator is an enclosed device in which only sewage sludge and auxiliary fuel are fired.

Sewage sludge unit is land on which only sewage sludge is placed for final disposal. This does

not include land on which sewage sludge is either stored or treated. Land does not include waters of the United States, as defined in 40 C.F.R. § 122.2.

Sewage sludge use or disposal practice means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substance designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

Significant spills includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the CWA (see 40 C.F.R. §§ 110.10 and 117.21) or Section 102 of CERCLA (*see* 40 C.F.R. § 302.4).

Sludge-only facility means any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to section 405(d) of the CWA, and is required to obtain a permit under 40 C.F.R. § 122.1(b)(2).

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, or an Indian Tribe as defined in the regulations which meets the requirements of 40 C.F.R. § 123.31.

Store or storage of sewage sludge is the placement of sewage sludge on land on which the sewage sludge remains for two years or less. This does not include the placement of sewage sludge on land for treatment.

Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant.

Surface disposal site is an area of land that contains one or more active sewage sludge units.

Toxic pollutant means any pollutant listed as toxic under Section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing Section 405(d) of the CWA.

Treatment works treating domestic sewage means a POTW or any other sewage sludge or waste water treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices.

For purposes of this definition, "domestic sewage" includes waste and waste water from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Director may designate any person subject to the standards for sewage sludge use and

disposal in 40 C.F.R. Part 503 as a "treatment works treating domestic sewage," where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 C.F.R. Part 503.

Upset see B.5.a. above.

Vector attraction is the characteristic of sewage sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

Waste pile or *pile* means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

Waters of the United States or waters of the U.S. means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) All interstate waters, including interstate "wetlands;"

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands", sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

    (1) Which are or could be used by interstate or foreign travelers for recreational or other purpose;

    (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

    (3) Which are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 C.F.R. § 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland.

Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Whole Effluent Toxicity (WET) means the aggregate toxic effect of an effluent measured directly by a toxicity test.

*Zone of Initial Dilution (*ZID) means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports, provided that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards.

2. Commonly Used Abbreviations

BOD	Five-day biochemical oxygen demand unless otherwise specified
CBOD	Carbonaceous BOD
CFS	Cubic feet per second
COD	Chemical oxygen demand
Chlorine	
Cl_2	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)
TRO	Total residual chlorine in marine waters where halogen compounds are present
FAC	Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont.	Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc.
Cu. M/day or M^3/day	Cubic meters per day
DO	Dissolved oxygen

kg/day	Kilograms per day
lbs/day	Pounds per day
mg/L	Milligram(s) per liter
mL/L	Milliliters per liter
MGD	Million gallons per day
Nitrogen	
Total N	Total nitrogen
NH_3-N	Ammonia nitrogen as nitrogen
NO_3-N	Nitrate as nitrogen
NO_2-N	Nitrite as nitrogen
NO_3-NO_2	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
Surfactant	Surface-active agent
Temp. °C	Temperature in degrees Centigrade
Temp. °F	Temperature in degrees Fahrenheit
TOC	Total organic carbon
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)
µg/L	Microgram(s) per liter
WET	"Whole effluent toxicity"
ZID	Zone of Initial Dilution

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT NUMBER: MA0033987

PUBLIC NOTICE START AND END DATES: August 24, 2018 – September 22, 2018

NAME AND MAILING ADDRESS OF APPLICANT:

Massachusetts Bay Transportation Authority (MBTA)
10 Park Plaza
Boston, MA 02116

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

MBTA/Quincy Pump Station
Corner of Granite Street and Parking Way
Quincy, MA 02169

RECEIVING WATER AND CLASSIFICATION:

Town Brook (MA74-09) to Weymouth Fore River (MA74-14)
Boston Harbor Watershed
Class B

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Appendices

1.0 Proposed Action

The Massachusetts Bay Transportation Authority (MBTA) (the "Permittee") has applied to the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge from the MBTA Quincy Pump Station (the "Facility" or the "Pump Station") into the designated receiving water.

The permit currently in effect was issued on May 4, 2007, with an effective date of July 3, 2007. The permit expired on July 3, 2012, (the "2007 Permit" or the "Current Permit"). The Permittee filed an application for permit reissuance with EPA dated April 23, 2012, as required by 40 Code of Federal Regulations (C.F.R.) § 122.6. Since the permit application was deemed timely and complete by a letter from EPA, dated July 12, 2012, the Facility's 2007 Permit has been administratively continued pursuant to 40 C.F.R. § 122.6 and § 122.21(d).

This NPDES Permit is issued jointly by EPA and MassDEP under federal and state law, respectively. As such, all the terms and conditions of the permit are, therefore, incorporated into and constitute a discharge permit issued by the Director of the Division of Watershed Management pursuant to M.G.L. Chap. 21, § 43.

2.0 Statutory and Regulatory Authority

Congress enacted the Clean Water Act (CWA), "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." *See* CWA § 101(a). To achieve this objective, the CWA makes it unlawful for any person to discharge any pollutant into the waters of the United States from any point source, except as authorized by specific permitting sections of the CWA, one of which is § 402. *See* CWA §§ 303(a), 402(a). Section 402(a) established one of the CWA's principal permitting programs, the NPDES Permit Program. Under this section, EPA may "issue a permit for the discharge of any pollutant or combination of pollutants" in accordance with certain conditions. *See* CWA § 402(a). NPDES permits generally contain discharge limitations and establish related monitoring and reporting requirements. *See* CWA § 402(a)(1) and (2). The regulations governing EPA's NPDES permit program are generally found in 40 C.F.R. §§ 122, 124, 125, and 136.

Section 301 of the CWA provides for two types of effluent limitations to be included in NPDES permits: "technology-based" effluent limitations (TBELs) and "water quality-based" effluent limitations (WQBELs). *See* CWA §§ 301, 304(b); 40 C.F.R. §§ 122, 125, and 131.

2.1 Technology-Based Requirements

Technology-based treatment requirements represent the minimum level of control that must be imposed under §§ 301(b) and 402 of the CWA to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. *See* 40 C.F.R. § 125 Subpart A.

Subpart A of 40 C.F.R. § 125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under § 301(b) of the CWA, including the application of EPA promulgated Effluent Limitation Guidelines (ELGs) and case-by-case determinations of effluent limitations under § 402(a)(1) of the CWA.

In general, ELGs for non-POTW facilities must be complied with as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989. *See* 40 C.F.R. § 125.3(a)(2). Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit. In the absence of published technology-based effluent guidelines, the permit writer is authorized under § 402(a)(1)(B) of the CWA to establish effluent limitations on a case-by-case basis using best professional judgment (BPJ).

2.2 Water Quality-Based Requirements

The CWA and federal regulations require that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water. This is necessary when less stringent TBELs would interfere with the attainment or maintenance of water quality criteria in the receiving water. *See* § 301(b)(1)(C) of the CWA and 40 C.F.R. §§ 122.44(d)(1) and 122.44(d)(5).

2.2.1 Water Quality Standards

The CWA requires that each state develop water quality standards (WQSs) for all water bodies within the State. *See* CWA § 303 and 40 C.F.R. §§ 131.10-12. Generally, WQSs consist of three parts: 1) beneficial designated use or uses for a water-body or a segment of a water-body; 2) numeric or narrative water quality criteria sufficient to protect the assigned designated use(s); and 3) anti-degradation requirements to ensure that once a use is attained it will not be degraded and to protect high quality and National resource waters. *See* CWA § 303(c)(2)(A) and 40 C.F.R. § 131.12. The applicable State WQSs can be found in Title 314 of the Code of Massachusetts Regulations, Chapter 4 (314 CMR 4.00)

Receiving water requirements are established according to numerical and narrative standards in WQSs adopted under State law for each water body classification. When using chemical-specific numeric criteria to develop permit limits, acute and chronic aquatic life criteria and human health criteria are used and expressed in terms of maximum allowable in-stream pollutant concentrations. In general, aquatic-life acute criteria are considered applicable to daily time periods (maximum daily limit) and aquatic-life chronic criteria are considered applicable to monthly time periods (average monthly limit). Chemical-specific human health criteria are typically based on lifetime chronic exposure and are therefore typically applicable to monthly average limits.

When permit effluent limits are necessary for a pollutant to meet narrative water quality criteria, the permitting authority must establish effluent limits in one of three ways: based on a "calculated numeric criterion for the pollutant which the permitting authority demonstrates will

attain and maintain applicable narrative water quality criteria and fully protect the designated use," on a "case-by-case basis" using CWA § 304(a) recommended water quality criteria, supplemented as necessary by other relevant information; or, in certain circumstances, based on an indicator parameter. *See* 40 C.F.R. § 122.44(d)(1)(vi)(A-C).

2.2.2 Anti-degradation

Federal regulations found at 40 C.F.R. § 131.12 require states to develop and adopt a statewide anti-degradation policy that maintains and protects existing in-stream water uses and the level of water quality necessary to protect these existing uses. In addition, the anti-degradation policy ensures that high quality waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and support recreation in and on the water, are maintained unless the State finds that allowing degradation is necessary to accommodate important economic or social development in the area in which the waters are located.

Massachusetts' statewide anti-degradation policy, entitled "Antidegradation Provisions", is found in the State's WQSs at 314 CMR 4.04. Massachusetts guidance for the implementation of this policy is in an associated document entitled "Implementation Procedure for the Anti-degradation Provisions of the State Water Quality Standards", dated October 21, 2009. According to the policy, no lowering of water quality is allowed, except in accordance with the anti-degradation policy, and all existing in-stream uses and the level of water quality necessary to protect the existing uses of a receiving water must be maintained and protected.

2.2.3 Assessment and Listing of Waters and Total Maximum Daily Loads

The objective of the CWA is to restore and maintain the chemical, physical and biological integrity of the Nation's waters. To meet this goal, the CWA requires states to develop information on the quality of their water resources and report this information to EPA, the U.S. Congress, and the public. To this end, the EPA released guidance on November 19, 2001, for the preparation of an integrated "List of Waters" that could combine reporting elements of both § 305(b) and § 303(d) of the CWA. The integrated list format allows states to provide the status of all their assessed waters in one list. States choosing this option must list each water body or segment in one of the following five categories: 1) Unimpaired and not threatened for all designated uses; 2) Unimpaired waters for some uses and not assessed for others; 3) Insufficient information to make assessments for any uses; 4) Impaired or threatened for one or more uses but not requiring the calculation of a Total Maximum Daily Load (TMDL); and 5) Impaired or threatened for one or more uses and requiring a TMDL.

A TMDL is a planning tool and potential starting point for restoration activities with the ultimate goal of attaining water quality standards. A TMDL is essentially a pollution budget designed to restore the health of an impaired water body. A TMDL typically identifies the source(s) of the pollutant from direct and indirect discharges, determines the maximum load of the pollutant that can be discharged to a specific water body while maintaining WQSs for designated uses, and allocates that load to the various pollutant sources, including point source discharges, subject to NPDES permits. *See* 40 C.F.R. § 130.7.

For impaired waters where a TMDL has been developed for a particular pollutant and the TMDL includes a waste load allocation for a NPDES permitted discharge, the effluent limit in the permit may not exceed the waste load allocation. *See* 40 C.F.R. § 122.44(d)(1)(vii)(B).

2.2.4 Reasonable Potential

Pursuant to 40 C.F.R. § 122.44(d)(1), NPDES permits must contain any requirements in addition to TBELs necessary to achieve water quality standards established under § 303 of the CWA. In addition, limitations "must control any pollutant or pollutant parameter (conventional, non-conventional, or toxic) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any water quality standard, including State narrative criteria for water quality". *See* 40 C.F.R. § 122.44(d)(1)(i). There is reasonable potential to cause or contribute to an excursion if the projected or actual in-stream concentration exceeds the applicable criterion. If the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to such an excursion, the permit must contain WQBELs for the pollutant. *See* 40 C.F.R. § 122.44(d)(1)(iii).

In determining reasonable potential, EPA considers: 1) existing controls on point and non-point sources of pollution; 2) the variability of the pollutant or pollutant parameter in the effluent; 3) the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity); and 4) where appropriate, the dilution of the effluent in the receiving water. EPA typically considers the statistical approach outlined in *Technical Support Document for Water Quality-based Toxics Control* (TSD)[1] to determine if the discharge causes, or has the reasonable potential to cause, or contribute to an excursion above any WQS. *See* 40 C.F.R. § 122.44(d). EPA's quantitative approach statistically projects effluent concentrations based on available effluent data, which are then compared to the applicable water quality criteria.

2.2.5 State Certification

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving water(s) either certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate the State WQSs or it is deemed that the state has waived its right to certify. Regulations governing state certification are set forth in 40 C.F.R. § 124.53 and § 124.55. EPA has requested permit certification by the State pursuant to 40 C.F.R. § 124.53 and expects that the Draft Permit will be certified.

If the State believes that any conditions more stringent than those contained in the Draft Permit are necessary to meet the requirements of either the CWA §§ 208(e), 301, 302, 303, 306 and 307 or the appropriate requirements of State law, the State should include such conditions and, in each case, cite the CWA or State law reference upon which that condition is based. Failure to provide such a citation waives the right to certify as to that condition. The only exception to this

1 March 1991, EPA/505/2-90-001.

is that the sludge conditions/requirements implementing § 405(d) of the CWA are not subject to the § 401 State Certification requirements. Reviews and appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State and may not be made through the applicable procedures of 40 C.F.R. § 124.

In addition, the State should provide a statement of the extent to which any condition of the Draft Permit can be made less stringent without violating the requirements of State law. Since the State's certification is provided prior to permit issuance, any failure by the State to provide this statement waives the State's right to certify or object to any less stringent condition.

It should be noted that under CWA § 401, EPA's duty to defer to considerations of state law is intended to prevent EPA from relaxing any requirements, limitations or conditions imposed by state law. Therefore, "[a] State may not condition or deny a certification on the grounds that State law allows a less stringent permit condition." *See* 40 C.F.R. § 124.55(c). In such an instance, the regulation provides that, "The Regional Administrator shall disregard any such certification conditions or denials as waivers of certification." *Id.* EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 C.F.R. § 122.4(d) and 40 C.F.R. § 122.44(d).

2.3 Effluent Flow Requirements

Generally, EPA uses maximum effluent flow both to determine the necessity for effluent limitations in a permit that comply with the CWA, and to calculate the effluent limitations themselves. EPA practice is to use design flow as a reasonable and important worst-case condition in EPA's reasonable potential and WQBEL calculations to ensure compliance with WQSs under § 301(b)(1)(C) of the CWA. Should the effluent flow exceed the flow assumed in these calculations, the in-stream dilution would decrease and the calculated effluent limitations may not be protective (i.e., meet WQSs). Further, pollutants that do not have the reasonable potential to exceed WQSs at a lower discharge flow may have reasonable potential at a higher flow due to the decreased dilution. In order to ensure that the assumptions underlying EPA's reasonable potential analyses and derivation of permit effluent limitations remain sound for the duration of the permit, EPA may ensure its "worst-case" effluent flow assumption through imposition of permit conditions for effluent flow.[2] In this regard, the effluent flow limit is a component of WQBELs because the WQBELs are premised on a maximum level flow. The effluent flow limit also is necessary to ensure that other pollutants remain at levels that do not have a reasonable potential to exceed WQSs.

The limitation on effluent flow is within EPA's authority to condition a permit in order to carry out the objectives of the CWA. *See* CWA §§ 402(a)(2) and 301(b)(1)(C); 40 C.F.R. §§ 122.4(a) and (d); 122.43 and 122.44(d). A condition on the discharge designed to protect EPA's WQBEL and reasonable potential calculations is encompassed by the references to "condition" and

[2] EPA's reasonable potential regulations require EPA to consider "where appropriate, the dilution of the effluent in the receiving water," which is a function of both the effluent flow and receiving water flow. 40 C.F.R. §122.44(d)(1)(ii). EPA guidance directs that this "reasonable potential" analysis be based on "worst-case" conditions. In *re Washington Aqueduct Water Supply Sys., 11 E.A.D. 565, 584 (EAB 2004).*

"limitations" in §§ 402 and 301 and implementing regulations, as they are designed to assure compliance with applicable water quality regulations, including anti-degradation. Regulating the quantity of pollutants in the discharge through a restriction on the quantity of effluent is consistent with the overall structure and purposes of the CWA.

In addition, as provided in Part II.B.1 of this permit and 40 C.F.R. § 122.41(e), the Permittee is required to properly operate and maintain all facilities and systems of treatment and control. Operating the Facility's wastewater treatment systems as designed includes operating within the Facility's design effluent flow. Thus, the effluent flow limitation is necessary to ensure proper facility operation, which in turn is a requirement applicable to all NPDES permits. *See* 40 C.F.R. § 122.41.

2.4 Monitoring and Reporting Requirements

2.4.1 Monitoring Requirements

EPA has the authority in accordance with several statutory and regulatory requirements established pursuant to the CWA, 33 USC § 1251 et seq., the NPDES program (*see* § 402 and the implementing regulations generally found at 40 C.F.R. §§ 122, 124, 125, and 136), CWA § 308(a), 33 USC § 1318(a), and applicable state regulations to include requirements such as monitoring and reporting in NPDES permits.

The monitoring requirements included in this permit have been established to yield data representative of the discharges under the authority of §§ 308(a) and 402(a)(2) of the CWA, and consistent with 40 C.F.R. §§ 122.41(j), 122.43(a), 122.44(i) and 122.48. The monitoring requirements included in this permit specify routine sampling and analysis, which will provide ongoing, representative information on the levels of regulated constituents in the wastewater discharge streams. The monitoring program is needed to assess effluent characteristics, evaluate permit compliance, and determine if additional permit conditions are necessary to ensure compliance with technology-based and water quality-based requirements, including WQSs. EPA and/or the state may use the results of the chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to § 304(a)(1) of the CWA, state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including, but not limited to, those pollutants listed in Appendix D of 40 C.F.R. § 122. Therefore, the monitoring requirements in this permit are included for specific regulatory use in carrying out the CWA.

NPDES permits require that the approved analytical procedures found in 40 C.F.R. § 136 be used for sampling and analysis unless other procedures are explicitly specified. Permits also include requirements necessary to comply with the *National Pollutant Discharge Elimination System (NPDES): Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting Rule*.[3] This Rule requires that where EPA-approved methods exist, NPDES applicants must use sufficiently sensitive EPA-approved analytical methods when quantifying the presence of

3 Federal Register, Vol. 79, No. 160, Tuesday, August 19, 2014; FR Doc. 2014–19557.

pollutants in a discharge. Further, the permitting authority must prescribe that only sufficiently sensitive EPA-approved methods be used for analyses of pollutants or pollutant parameters under the permit. The NPDES regulations at 40 C.F.R. § 122.21(e)(3) (completeness), 40 C.F.R. § 122.44(i)(1)(iv) (monitoring requirements) and/or as cross referenced at 40 C.F.R. § 136.1(c) (applicability) indicate that an EPA-approved method is sufficiently sensitive where:

- The method minimum level[4] (ML) is at or below the level of the applicable water quality criterion or permit limitation for the measured pollutant or pollutant parameter; or
- In the case of permit applications, the ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or parameter in the discharge; or
- The method has the lowest ML of the EPA-approved analytical methods.

2.4.2 Reporting Requirements

The Draft Permit requires the Permittee to electronically report monitoring results obtained during each calendar month as a Discharge Monitoring Report (DMR) to EPA and the State using NetDMR no later than the 15th day of the month following the completed reporting period.

NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure internet application to EPA through the Environmental Information Exchange Network. NetDMR has allowed participants to discontinue mailing in hard copy forms to EPA under 40 C.F.R. §§ 122.41 and 403.12. NetDMR is accessed from the following website: https://netdmr.zendesk.com/hc/en-us. Further information about NetDMR can be found on the EPA Region 1 NetDMR website.[5]

With the use of NetDMR, the Permittee is no longer required to submit hard copies of DMRs and reports to EPA and the State unless otherwise specified in the Draft Permit. In most cases, reports required under the permit shall be submitted to EPA as an electronic attachment through NetDMR. Certain exceptions are provided in the permit such as for providing written notifications required under the Part II Standard Conditions.

2.5 Anti-backsliding

A permit may not be renewed, reissued or modified with less stringent limitations or conditions than those contained in a previous permit unless in compliance with the anti-backsliding

4 The term "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL). Minimum levels may be obtained in several ways: They may be published in a method; they may be sample concentrations equivalent to the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a lab, by a factor. EPA is considering the following terms related to analytical method sensitivity to be synonymous: "quantitation limit," "reporting limit," "level of quantitation," and "minimum level." *See* Federal Register, Vol. 79, No. 160, Tuesday, August 19, 2014; FR Doc. 2014–19557.

5 https://netdmr.zendesk.com/hc/en-us/articles/209616266-EPA-Region-1-NetDMR-Information.

requirements of the CWA. *See* §§ 402(o) and 303(d)(4) of the CWA and 40 C.F.R. § 122.44(l)(1 and 2). Anti-backsliding provisions apply to effluent limits based on technology, water quality, BPJ and state certification requirements.

All proposed limitations in the Draft Permit are at least as stringent as limitations included in the 2007 Permit unless specific conditions exist to justify one of the exceptions listed in 40 C.F.R. § 122.44(l)(2)(i) and/or in accordance with § 303(d)(4). Discussion of any applicable exceptions are discussed in sections that follow. Therefore, the Draft Permit complies with the anti-backsliding requirements of the CWA.

3.0 Description of Facility and Discharge

3.1 Location and Type of Facility and Effluent Limitation Guidelines

The Quincy Pump Station is located on the corner of Granite Street and Parking Way in Quincy, Massachusetts. A location map is provided in Figure 1. The Pump Station, originally constructed around 1970, was built to prevent the flooding of the MBTA Red Line Subway tracks in Quincy. The Pump Station resides at the low point of the central area of Quincy. Storm water drains from multiple unknown locations throughout the City of Quincy and, along with groundwater from the surrounding area, flows by gravity through a series of pipes along the MBTA train line.

The comingled storm water and ground water is collected in the Pump Station wet well. When the water level in the Pump Station wet well reaches a predetermined level, one of three pumps is activated. The commingled ground water and storm water is routed from the wet-well (concrete tank) structure to a secondary vault structure. The MBTA's vaulted structure is then connected to a series of drainage manholes owned and maintained by the City of Quincy. The point at which the water leaves the MBTA's vaulted structure is designated as Outfall 001. Water then flows by gravity into a series of the City of Quincy's 36" reinforced concrete pipes and flows into Town Brook.

EPA has not promulgated technology-based effluent limitation guidelines (ELGs) for this type collection and pumping station. In accordance with Section 402(a)(1)(B) of the CWA, EPA has established effluent limitations on a case-by-case basis using best professional judgment (BPJ).

3.2 Location and Type of Discharge

The Permittee has requested authorization to discharge ground water and storm water from the Facility through Outfall 001 into Town Brook. Outfall 001, as reported by the permittee, is located at Latitude 42.2487460, Longitude -71.0035081.

Stormwater drains to this facility from multiple unknown locations throughout the City of Quincy. Groundwater also collects into the MBTA wet well from the surrounding urban area and comingles with the stormwater. The intermittent discharge of ground water commingled with storm water takes place when the water collected in the wet well reaches a predetermined level and one of three pumps is activated. When a pump is in operation, the

water is elevated from the wet well to an underground culvert which flows by gravity, via a series of the City's drainage pipes, to Town Brook. The water then flows from Town Brook to Town River to Town River Bay and ultimately discharges into Weymouth Fore River.

Large relative flow spikes in Town Brook resulting from Pump Station activity have had an adverse effect on smelt spawning habitat since the completion of a flood control project, the 1998 Town Brook Local Protection Project (1998 Project). The 1998 Project reduced the base flow of Town Brook by about 50%, thus reducing smelt spawning habitat along the shoreline. This reduced flow has also led to increased amount of sedimentation in the brook, further degrading smelt spawning habitat. Prior to the 1998 Project, the intermittent flows from the Pump Station did not have a marked impact on the base flow of the brook and did not greatly affect the smelt spawning habitat. This was because the base water level was high enough to completely submerge the banks of the brook. However, the reduction in flow caused by the flood control project caused the banks of the brook to be exposed under base flow conditions. From 1998 through 2006, when the Pump Station discharged, the additional flow had a greater relative impact on Town Brook, temporarily flooding the banks of the brook. This allowed smelt to take advantage of this new temporary spawning habitat. When the flow from the Pump Station abruptly stopped, the water level receded from the banks, which lead to a rapidly reduced wetted perimeter. The exposed dry bank caused desiccation and mortality of any smelt eggs which had been laid at this upper zone of the banks when flooded during spawning.

Before 2006, the flow from the Pump Station occurred about every 3.5 hours, lasted about 5 minutes, and caused peaks of about 300% of the base flow of Town Brook, based on field monitoring data from the Massachusetts Department of Marine Fisheries (MassDMF). On average, the base flow in Town Brook was 1 cubic feet per second (cfs) and the spikes increased the flow to about 3-4 cfs. The Pump Station discharged about 7-8 times per 24-hour period.

Beginning in October 2006, in cooperation with MassDMF, MBTA adjusted the controller for the largest pump to allow it to trigger more frequently. The discharge frequency from the Pump Station was targeted to be increased from approximately 7 times in a 24-hour period to 9-18 times in a 24-hour period. This resulted in a measurable reduction in the magnitude of the flow spikes in the brook caused by the Facility's discharge. An examination of Town Brook's flows under predominately dry weather conditions confirmed that more frequent pumping from the Pump Station reduced the magnitude of the daily peaks recorded in Town Brook (USGS Gauge 01105585). For example, in 2007 daily flow peaks were reduced from 3-4 cfs to approximately 2 cfs or lower throughout the month, with the exception of August 8, due to more frequent pumping from the Pump Station (see Figure 4). A review of the number of daily pumping events in August 2007 show a range of 16 to 28 pumping events per day (see Figure 5). This overall approach led to a reduced area of temporary wetted perimeter of the banks of the brook. As mentioned previously, fewer temporary repeated larger scale increases and decreases in wetted perimeter coverage of the banks from the Station's pumping activity negatively impacted smelt spawning activities prior to this adjustment.

When EPA developed permit limits for the 2007 Draft Permit, a minimum of 14 daily pumping events was established as an operational permit requirement. The number of pumping events per day was selected after discussions with both MassDMF and MBTA.

A quantitative description of the discharge in terms of effluent parameters, based on monitoring data submitted by the Permittee, including Discharge Monitoring Reports (DMRs), from January 2013 through December 2017, is provided in Appendix A of this Fact Sheet.

4.0 Description of Receiving Water

The Pump Storage Station discharges collected ground water and storm water from Outfall 001, which commingles with storm water runoff and flows to Town Brook, which then flows to Town River, then to Town River Bay, and ultimately to the Weymouth Fore River. Town Brook (Assessment Unit ID MA74-09) is classified as a Class B water by the State of Massachusetts.

These waters are designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. Where designated in 314 CMR 4.06, they shall be suitable as a source of public water supply with appropriate treatment ("Treated Water Supply"). Class B waters shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value.

According to the *Final Massachusetts Year 2014 Integrated List of Waters,* Town Brook is classified as a water requiring a TMDL due to aquatic macroinvertebrate bioassessments and fecal coliform. Table 1 presents a summary of designated uses and listing status for Town Brook (Weymouth and Weir River Basin 2004 Water Quality Assessment Report, published April 2010).

Table 1: Summary of Designated Uses and Listing Status for Town Brook (MA74-09)

Designated Use	Status
Aquatic Life	Not Supporting
Aesthetics	Not Assessed
Primary Contact Recreation	Not Assessed
Secondary Contact Recreation	Not Assessed
Fish Consumption	Not Assessed

In 1998, the US Army Corps of Engineers and the Massachusetts Department of Conservation and Recreation completed the Town Brook Local Protection Project (1998 Project), which was designed to divert flood flows at several locations throughout the watershed. The Project included a 12 foot diameter tunnel 140-180 feet below ground and approximately 4,000 feet in length, as well as the Burgin Parkway flood relief conduit. Though this project served flood control purposes well, it resulted in the diversion of base flows below levels that would better allow for rainbow smelt migration and spawning. From 1998 through 2013, normal stream flow had been reduced dramatically on a daily, monthly and yearly average basis.

The Town Brook Realignment & Restoration Project, substantially completed in March 2013 (2013 Project), provided 264 linear feet of new open channel with a low flow channel designed to achieve attraction velocities for rainbow smelt. The design included resting pools and spawning substrate (Town Brook Realignment & Restoration Project, 2013: an Urban River Case Study, Davis, H.M. MassDEP Northeast Regional Office).

At the time that the 2007 permit was issued, Town River Bay (Assessment Unit ID MA74-15) was classified as a Class SA water by the State of Massachusetts (Boston Harbor Watershed 1999 Water Quality Assessment Report). However, the Weymouth and Weir River Basin 2004 Water Quality Assessment Report classifies Town River Bay as a Class SB water (published April 2010). SB waters are designated as a habitat for fish, other aquatic life and wildlife and for primary and secondary contact recreation. Where designated, SB waters shall be suitable for shellfish harvesting with depuration. These waters shall have consistently good aesthetic value. According to the *Final Massachusetts Year 2014 Integrated List of Waters,* Town River Bay is classified as a water requiring a TMDL due to impairment by DO, polychlorinated biphenyl (PCB) in fish tissue, fecal coliform and other. Shellfishing is assessed as not supporting in Town River Bay (Weymouth and Weir River Basin 2004 Water Quality Assessment Report). Table 2 presents a summary of designated uses and listing status for Town River Bay.

Table 2: Summary of Designated Uses and Listing Status for Town River Bay (MA74-15)

Designated Use	Status
Aquatic Life	Not Assessed
Aesthetics	Not Assessed
Primary Contact Recreation	Supporting
Secondary Contact Recreation	Supporting
Fish Consumption	Not Supporting
Shellfishing	Not Supporting

The Weymouth Fore River (Assessment Unit ID MA74-14) is classified as a marine water Class SB or fresh water Class B water body by the State of Massachusetts and as such, is designated as a habitat for fish, other aquatic life and wildlife and for primary (e.g., wading and swimming) and secondary (e.g., fishing and boating) contact recreation. These waters shall have consistently good aesthetic value. Class B waters shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. Where designated in 314 CMR 4.06, Class B waters shall be suitable as a source of public water supply with appropriate treatment. In approved areas, Class SB waters shall be suitable for shellfish harvesting with depuration (Restricted Shellfish Areas).

This Draft Permit is being reissued with allowable effluent limits as stringent as or more stringent than the 2007 Permit and accordingly will continue to protect the existing uses of the receiving water. According to the *Final Massachusetts Year 2014 Integrated List of Waters,* Weymouth Fore River is classified as a water requiring a TMDL due to impairment by fecal coliform, PCB in fish tissue and other. Designated uses information is included in Table 3.

Table 3: Summary of Designated Uses and Listing Status for the Weymouth Fore River (MA74-14)

Designated Use	Status
Aquatic Life	Not Assessed
Aesthetics	Not Assessed
Primary Contact Recreation	Supporting
Secondary Contact Recreation	Supporting
Fish Consumption	Not Supporting
Shellfishing	Not Supporting

5.0 Proposed Effluent Limitations and Conditions

The proposed effluent limitations and conditions derived under the CWA and State WQSs are described below. These proposed effluent limitations and conditions, the basis of which is discussed throughout this Fact Sheet, may be found in Part I of the Draft Permit.

5.1 Effluent Limitations and Monitoring Requirements

The State and Federal regulations, data regarding discharge characteristics, and data regarding ambient characteristics described above, were used during the effluent limitations development process. Discharge and ambient data are included in Appendix A and B.

5.1.1 Effluent Flow

From January 1, 2013 through December 31, 2017, the daily maximum effluent flow at Outfall 001 ranged from 0.0 MGD in July and August 2015 to 17.0 MGD in October 2015 (see Appendix A). The average daily maximum effluent flow was 2.14 MGD over the five-year period. Data were not available for January 2015.

The monthly average flow rate ranged from 0.00 MGD in July and August 2015 to 0.067 MGD in April 2017. The average flow rate was 0.18 MGD over the five-year period. Data was not available for January 2015.

The Facility's 2007 Permit does not require limits to the daily maximum and monthly average flow rates. This is because the ground water and storm water infiltration into the Pump Station wet well is based on site hydrological conditions which are subject to fluctuations over time and not under the control of the Facility. A site-specific flow limit is not appropriate in this case. Since these conditions are not expected to change over the duration of the proposed permit, the Draft Permit maintains no flow limits for Outfall 001. The Draft Permit does continue the reporting requirement of the daily maximum flow and the monthly average flow, using a totalizer or similar device, when the Facility is discharging. This information will be used to determine the contribution and impact of the Facility's flow on the aquatic habitat of Town Brook.

The limit on the number of pumping events, explained in detail in Section 5.2.2 of this Fact Sheet, will serve to effectively limit the frequency of flow from the facility over each 24-hour period. Limiting the flow frequency is of much greater concern in this situation than limiting the average amount of flow from the Pump Station per month. A monitoring requirement for daily maximum and average monthly flow is established in the draft permit, measured daily.

5.1.2 Total Suspended Solids

From January 1, 2013 through December 31, 2017, daily maximum total suspended solids (TSS) concentrations have ranged from a low of 2.0 mg/L for seventeen of the 60 months to a high of 290 mg/L (see Appendix A). With the exception of high TSS values for three months, namely 100 mg/L in May 2016, 170 mg/L in October 2014 and the highest TSS value of 290 mg/L in December 2013, the remaining 56 monthly values were 33 mg/L or below. The permittee reported that the three high values were not suspect data points, but rather likely associated with major rain events (C. M. DeCoste, MBTA, personal communication to J.H. Nagle, EPA, November 2017). Data were not available for January 2016.

The 2007 Permit required monthly monitoring of TSS. The Massachusetts Surface Water Quality Standards, 314 CMR 4.06, states that Class B waters "*shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom.*"

In order to protect the quality of the receiving water, a daily maximum effluent limit of 100 mg/L has been proposed in the Draft Permit. 100 mg/L is based on the benchmark monitoring concentration utilized in the 2015 Multi-Sector General Permit stormwater requirements for industrial activity. It is expected that the Permit's TSS monitoring requirements and daily maximum limit will show that the BMPs included in the Best Management Practices Plan (BMPP) are being effectively implemented.

5.1.3 pH

From January 1, 2013 through December 31, 2017, pH has ranged from 6.0 standard units (SU) in August 2013 to 8.5 SU in September 2017, monitored monthly by grab sample when the Facility was discharging (see Appendix A). Monthly pH values were below the permitted 6.5 SU value five times over the 60 months and the monthly pH values were above the 8.3 SU upper limit in one month. Based on these exceedances, the monthly monitoring frequency has been retained.

The pH range limit contained in the existing permit has been retained in the proposed Draft Permit based on anti-backsliding requirements found in 40 C.F.R. §122.44(1). The pH limits are based on the Massachusetts Surface Water Quality Standards, 314 Code of Massachusetts Regulations ("CMR"), Inland Water, Class B at 4.05 (3)(b)3. These standards require that the pH of the receiving water be in the range of 6.5 to 8.3 standard units (SU)

and no more than 0.5 units outside the background range and that there be no change from background conditions that would impair any use assigned to this Class.

5.1.4 Oil and Grease

From January 1, 2013 through December 31, 2017, daily maximum oil and grease samples, collected quarterly, ranged from 0.5 mg/L to 4.0 mg/L (see Appendix A). No values exceeded the 15 mg/L limit contained in the 2007 Permit. The oil and grease limit contained in the 2007 permit has been retained in the proposed Draft Permit based on anti-backsliding requirements found in 40 C.F.R. §122.44(1). The maximum daily limit for oil and grease is based on The Massachusetts Surface Water Quality Standards. These standards under 314 Code of Massachusetts Regulations ("CMR") 4.05(3)(b)(7), state that "*[t]hese waters shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life.*"

An effluent concentration of 15 mg/L is recognized as the concentration at which many oils produce a visible sheen and/or cause an undesirable taste in edible fish. The monitoring frequency of quarterly also remains unchanged.

5.1.5 Whole Effluent Toxicity

Sections 402(a)(2) and 308(a) of the CWA provide EPA and States with the authority to require toxicity testing. Section 308 specifically describes biological monitoring methods as techniques that may be used to carry out objectives of the CWA. Whole effluent toxicity (WET) testing is conducted to ensure that the additivity, antagonism, synergism, and persistence of the pollutants in the discharge do not cause toxicity, even when the pollutants are present at low concentrations in the effluent. The inclusion of WET requirements in the Draft Permit will assure that the Facility does not discharge combinations of pollutants into the receiving water in amounts that would affect aquatic life or human health.

In addition, under § 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on WQSs. Under certain narrative State WQSs, and §§ 301, 303 and 402 of the CWA, EPA and the States may establish toxicity-based limitations to implement the narrative "no toxics in toxic amounts". The Massachusetts WQSs at 314 CMR 4.05(5)(e) state, "*All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.*"

In accordance with current EPA and State policies,[6] whole effluent chronic effects are regulated by limiting the highest measured continuous concentration of an effluent that causes no observed chronic effect on a representative standard test organism, known as the chronic No Observed Effect Concentration (C-NOEC). Whole effluent acute effects are regulated by limiting the

6 *Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters*. February 23, 1990.

concentration that is lethal to 50% of the test organisms, known as the LC_{50}. According to State policy, dischargers having a dilution factor less than 10 are required to conduct acute and chronic toxicity testing four times per year for two species. Additionally, for discharges with dilution factors less than 10, the C-NOEC effluent limit should be greater than or equal to the receiving water concentration and the LC_{50} limit should be greater than or equal to 100%.

The chronic and acute WET limits in the 2007 Permit are C-NOEC greater than or equal to 100% and LC_{50} greater than or equal to 100%, respectively, using daphnids (*Ceriodaphnia dubia*) and fathead minnows (*Pimephales promelas*) as the test species. From January 1, 2013 through December 31, 2017, quarterly WET testing results reported by the Facility consistently met these limits for acute WET tests using daphnids and fathead minnows, as well as the chronic WET test for fathead minnows. All 20 quarterly values for each test were reported as 100%. The chronic WET test limits were not met using daphnids in March 2014 (25%) and March 2015 and December 2017 (50%). The remainder of the 20 quarterly chronic tests using the daphnids did meet the 100% limit (see Appendix A).

From January 1, 2013 through December 31, 2017, quarterly water sample analysis conducted to support the WET testing was also reported. Results for total alkalinity (as CcCo3; mg/L), total aluminum (as Al; mg/L),Total ammonia and ammonium (mg/L), total cadmium (as Cd; mg/L), total calcium (as Ca; mg/L); total organic carbon (TOC; mg/L), total residual chlorine (mg/L), total chromium (as Cr; mg/L), total copper (as Cu; mg/L), total hardness (as CaCo3; mg/L), total lead (as Pb; mg/L), total magnesium (as Mg; mg/L); total nickel (as Ni; mg/L), dissolved oxygen (DO; mg/L), total solids (mg/L), specific conductance (µmhos/cm); total zinc (as Zn; mg/L) and pH (SU) are included in Appendix A. Results were compared, where applicable, with EPA's National Recommended Aquatic Life Criteria (https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table). In only one case did any values exceed the recommended criteria. The total aluminum value of 210 µg/L, reported in June 2013, exceeded the freshwater recommended chronic criterion of 87 µg/L, however the maximum value for total aluminum that month was below the recommended acute criteria of 750 µg/L. The other 19 quarterly total aluminum values were below the acute and chronic recommended aquatic life criteria values.

Based on the potential for toxicity in an effluent which is made up of comingled storm water and ground water from unknown urban sources, as well as the three chronic WET test of C-NOEC not meeting the 100% limit for daphnid, and in accordance with EPA national and regional policy and 40 C.F.R. § 122.44(d),[7] the Draft Permit continues the effluent limits from the 2007 Permit. Toxicity testing must be performed quarterly in accordance with the EPA Region 1 test procedures and protocols specified in **Attachment A,** *Freshwater Acute Toxicity Test Procedure and Protocol* (February, 2011), **and Attachment B,** *Freshwater Chronic Toxicity Test Procedure and Protocol* (March, 2013) of the Draft Permit.

[7] See *Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants*, 49 FR 9016, March 9, 1984, EPA-833-K-10-001, September 2010, EPA/505/2-90-001, March, 1991, and *Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters*. February 23, 1990.

The Draft Permit also proposes, in a more straightforward manner, chemical analysis of the receiving water, by including the requirement in the Part I.A.1. table. The chemical analysis is proposed to be conducted for the same constituents that are proposed for the WET samples. This analysis is necessary to ensure that the water used for dilution of the WET samples is not potentially contributing to mortality of the WET test organisms.

5.2 Special Conditions

5.2.1 Best Management Practices

This Facility engages in activities which could result in the discharge of pollutants to waters of the United States either directly or indirectly. To control these activities and operations, which could contribute pollutants to waters of the United States and potentially violate the State's Water Quality Standards, the Draft Permit proposes to retain the requirement included in the 2007 Permit to maintain, update and implement a Best Management Practices Plan (BMPP) containing BMPs appropriate for this specific Facility (See Sections 304(e) and 402(a)(l) of the CWA and 40 C.F.R. §125.103(b)).

Pursuant to § 304(a) of the Act and 40 C.F.R. § 122.44(k), best management practices (BMPs) may be expressly incorporated into a permit on a case-by-case basis where it is determined they are necessary to carry out the provision of the CWA under § 402(a)(1). These conditions are necessary to meet effluent limitations because the discharge may contain pollutants listed as toxic under § 307(a)(1) of the CWA or pollutants listed as hazardous under § 311 of the CWA.

Therefore, the Draft Permit requires the selection, design, installation, implementation and maintenance of control measures, including BMPs, to meet the effluent limitations included in the Draft Permit. The BMPP planning, assessment, and implementation process involves the following four main steps:

(1) Forming a team of qualified facility personnel who will be responsible for updating the BMPP and assisting the plant manager in its implementation;
(2) Reassessing the potential pollution sources;
(3) Selecting and implementing appropriate management practices and controls for these potential pollution sources; and
(4) Reevaluating, periodically, the effectiveness of the BMPP in preventing water contamination and in complying with the various terms and conditions of the Draft Permit.

The purpose of BMPs is to reduce or eliminate the discharge of pollutants to waters of the United States. They have been selected based on those appropriate for this specific facility. *See* §§ 304(e) and 402(a)(1) of the CWA and 40 C.F.R. § 122.44(k). These requirements will ensure that discharges from the Facility will meet State WQSs. Unless otherwise stated, the Permittee may select, design, install, implement and maintain BMPs as the Permittee deems appropriate to meet the permit requirements. The selection, design, installation, implementation and maintenance of control measures must be in accordance with good engineering practices and manufacturer’s specifications.

The Permittee is required to certify that the BMPP has been prepared, meets the requirements of the permit, and reduces or eliminates the pollutants discharged to the receiving water to the maximum extent practicable and must certify at least annually that the Facility is in compliance with the requirements of the BMPP. The Permittee is also required to amend and update the BMPP if any change occurs at the Facility affecting the BMPP, such as changes in the design, construction, operation, or maintenance of the Facility.

The BMPP is an enforceable element of the permit. If the implementation of any component of the BMPP requirements is impracticable, the BMPP must provide an evaluation and explanation to support this determination. The Permittee is not required to submit the BMPP to EPA or the State for approval. However, the BMPP must be maintained on site at the Facility and provided to EPA and/or the State upon request. Certification of the BMPP must also be maintained on site at the Facility.

5.2.2 Pump Operation Requirement and Adjustment

At times when river flow is low, wetted perimeter areas that are normally dewatered and exposed are naturally excluded as rainbow smelt spawning habitat. Prior to 2006, when the pumps were activated infrequently and for longer periods, these areas became temporarily inundated with water as the flow and Town Brook water levels abruptly increased. This allowed smelt to access these temporary wetted areas and spawn along this part of the bank. However, after the pumps stop discharging, the areas which were previously underwater became dewatered once again, thus increasing mortality of any smelt eggs deposited in this transition area. The change in water levels in the brook caused by the abrupt discharge likely had an adverse environmental impact on existing smelt propagation in the receiving waters. A more frequent, moderated discharge from the pumping station better mitigates this adverse environmental impact. A full description of the characteristics and modification of Town Brook is included in Section 4.0 (Description of Receiving Water) of this Fact Sheet.

In order to ensure that pump operation did not revert to the pre-2006 discharge profile, the 2007 Permit required that there be a minimum of 14 pumping events per 24-hour period. The day each month with the minimum number of pumping events as well as the average monthly number of pumping events was required to be monitored and reported. The data set for these parameters for the last five years is reported below.

From January 1, 2013 through December 31, 2017, each month's lowest number of pumping events per day was reported (see Appendix A). The values ranged from a low of 0 (zero) pumping events for 15 of the 59 months, to a high of 22 pumping events in February 2016. When the 15 months with a low of 0 (zero) were examined, the corresponding monthly average number of pumping events for the same months had an average of 10 or greater pumping events in 8 of the 15 months. The number of daily pumping events was below the minimum required 14 pumping events per day on at least one day for 47 out of 59 months. When the 47 months that did not meet the minimum required pumping events per day were examined, 22 of the corresponding monthly averages were above 10 events. Data was not available for January 2015.

Steps are needed to determine how to better achieve the permit requirement of ensuring that at least 14 pump events take place each day to protect aquatic habitat in the receiving water.

A major modification to Town Brook, the Town Brook Realignment & Restoration Project, substantially completed in March 2013 (2013 Project), was designed, among other objectives, to increase the base flow to Town Brook. See Section 4.0 of this Fact Sheet for more detailed information on this project. While an increased base flow in the receiving water is likely to lessen the negative impacts of infrequent pumping events from the Facility to rainbow smelt spawning habitat, EPA has judged that maintaining a minimum required pumping event level of at least 14 events per 24-hour period is still necessary to maintain overall habitat protection in Town Brook. This minimum limit will support the substantial efforts already underway to restore rainbow smelt spawning habitat in the receiving water. The minimum pumping event level of at least 14 each 24-hour has been retained in the proposed Draft Permit.

The monthly average number of pump events from January 1, 2013 through December 31, 2017 ranged from a low of 0 (zero) monthly average pump events in July and August 2015 to a high of 32 monthly average number of pump events in December 2016 (see Appendix A). Data was not available for January 2015. In order to better characterize the overall pumping profile for a month, EPA judges that it is necessary for the permittee to monitor and report this value. Therefore, the Draft Permit proposes that the reporting of the monthly average number of pump events be retained.

During the effective period of the permit, the permittee may submit a report to EPA, MassDEP and MassDMF regarding the evaluation of reducing or increasing the number of pumping events per day. Any impact to the receiving water, wetted habitat and rainbow smelt spawning must be included in the evaluation. Based on the results of the report, the permittee may make a recommendation for an adjustment to the required number of pumping events each 24-hours. Taking into consideration the report and other information available to EPA and MassDEP, the two agencies may approve an adjustment to the minimum number of pumping events required per 24-hour period. Such approval must be in writing.

5.3 Standard Conditions

The standard conditions of the permit are based on 40 C.F.R. § 122, Subparts A and D and 40 C.F.R. § 124, Subparts A, D, E, and F and are consistent with management requirements common to other permits.

6.0 Federal Permitting Requirements

6.1 Endangered Species Act

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA), grants authority and imposes requirements on Federal agencies regarding endangered or threatened species of fish, wildlife, or plants (listed species) and habitat of such species that has been designated as critical (a “critical habitat”).

Section 7(a)(2) of the ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to ensure that any action it authorizes, funds or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine and anadromous species.

The Federal action being considered in this case is EPA's proposed NPDES permit for the MBTA Quincy Pump Station. The Draft Permit is intended to replace the 2007 Permit in governing the Facility. As the federal agency charged with authorizing the discharge from this Facility, EPA determines potential impacts to federally listed species, and initiates consultation, when required under Section 7(a)(2) of the ESA.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, and plants in Norfolk County to determine if EPA's proposed NPDES permit could potentially impact any such listed species. Two federally listed terrestrial species have been identified for Norfolk County, including the general area of the City of Quincy.[8] The northern long-eared bat (*Myotis septentrionalis*), was identified as threatened. According to the USFWS, the northern long-eared bat is found in "winter – mines and caves, summer – wide variety of forested habitats." This species is not aquatic. Further, the permit action is also expected to have no indirect effect on the species by impacting insects, the primary prey of the northern long-eared bat. Therefore, the proposed permit action will have no impact on this listed species.

The other federally protected terrestrial species, the Roseate Tern (*Sterna dougallii dougallii*), is listed as endangered. This shore bird is expected to be present only along the immediate coast of Massachusetts and is not an aquatic species. It is not expected to be in the action area of Town Brook. Also, the permit action is expected to have no indirect effect on the species prey. Therefore, the proposed permit action will have no impact on this listed species.

The two endangered species of anadromous fish which occur in Massachusetts, shortnose sturgeon (*Acipenser brevirostrom*) and Atlantic sturgeon (*Acipenser oxyrinchus*), have not been identified in Town River, Town River Bay, or the Weymouth Fore River.[9] Based on the expected normal distribution of these species, it is highly unlikely that they would be present in the vicinity of this discharge and the action area of the outfall. Therefore, the proposed permit action will have no impact on this listed species.

Based on the above review, EPA finds that adoption of the proposed permit will have no effect on any threatened or endangered species or its critical habitat. Consultation with NMFS or USFWS under Section 7 of the ESA is not required.

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8 See listing for County in "Federally Listed Endangered and Threatened Species in Massachusetts." Massachusetts Natural Heritage and Endangered Species Program.
9 See Section7 resources for USFWS at https://ecos.fws.gov/ipac/ or NMFS at https://www.greateratlantic.fisheries.noaa.gov/protected/section7/index.html

6.2 Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (*see* 16 U.S.C. § 1801 et seq., 1998), EPA is required to consult with the National Marine Fisheries Service (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat". *See* 16 U.S.C. § 1855(b).

The Amendments broadly define "essential fish habitat" (EFH) as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". *See* 16 U.S.C. § 1802(10). "Adverse impact" means any impact that reduces the quality and/or quantity of EFH, 50 C.F.R. § 600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

EFH is only designated for fish species for which federal Fisheries Management Plans exist.[16] *See* U.S.C. § 1855(b)(1)(A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

A review of the relevant essential fish habitat information provided by NMFS indicates that essential fish habitat has been designated for 10 managed species in near-by Hingham Bay. The area supports 5 of the 10 listed species during three or more of the life stage categories (i.e. eggs, larvae, juveniles, adults, and spawning adults). A copy of the managed species within the EFH is included in Appendix B to this Fact Sheet.

EPA has determined that the Draft Permit has been conditioned in such a way so as to minimize any adverse impacts to EFH for the following reasons:

- This permit action does not constitute a new source of pollutants. It is the reissuance of an existing NPDES permit;
- The Pump Station withdraws no water from Town Brook. Therefore, no life stages of EFH species are vulnerable to impingement or entrainment from this Facility;
- The Station discharges storm water and ground water collected from the area. No industrial process water is discharged;
- The draft permit prohibits the discharge of pollutants or combinations of pollutants in toxic amounts;
- The amount and frequency of the discharge has been regulated to minimize adverse impacts to aquatic habitat in Town Brook; and
- The permit requires toxicity testing four times per year to ensure that the discharge does not present toxicity problems.

EPA believes that the conditions and limitations contained within the proposed permit adequately protect all aquatic life, including those with designated EFH in the receiving water, and that further mitigation is not warranted. If adverse impacts to EFH are detected as a result of this permit action, or if new information is received that changes the basis for these conclusions,

EPA will contact NMFS Habitat Division. During the public comment period, EPA has provided a copy of the Draft Permit and Fact Sheet to NMFS Habitat Division, along with a letter under separate cover.

7.0 Public Comments, Hearing Requests, and Permit Appeals

All persons, including applicants, who believe any condition of the Draft Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to Michelle Kozminski, U.S. EPA, Office of Ecosystem Protection**,** Industrial Permits Branch, 5 Post Office Square, Suite 100, MC OEP06-4, Boston, Massachusetts 02109-3912 or via email to kozminski.michelle@epa.gov.

Any person, prior to the close of the public comment period, may submit a request in writing for a public hearing to consider the Draft Permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the Draft Permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a Final Permit decision, forward a copy of the final decision to the applicant, and provide a copy or notice of availability of the final decision to each person who has submitted written comments or requested notice. Within 30 days following the notice of the Final Permit decision, any interested person may submit a petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 C.F.R. § 124.19 and/or submit a request for an adjudicatory hearing to MassDEP's Office of Appeals and Dispute Resolution consistent with 310 CMR 1.00.

8.0 EPA and MassDEP Contacts

The administrative record on which this Draft Permit is based may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from the EPA and MassDEP contacts below:

Michelle Kozminski
EPA Region 1
5 Post Office Square, Suite 100 (OEP06-4)
Boston, MA 02109-3912
Telephone: (617) 918-1222
FAX: (617) 918-0054
Email: kozminski.michelle@epa.gov

Xiaodan Ruan
MassDEP
Surface Water Discharge Permit Program
One Winter Street, 5th Floor

Boston, MA 02108
Telephone: (617) 654-6517
Email: xiaodan.ruan@state.ma.us

Date

Ken Moraff, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

Figures

Figure 1: Location Map

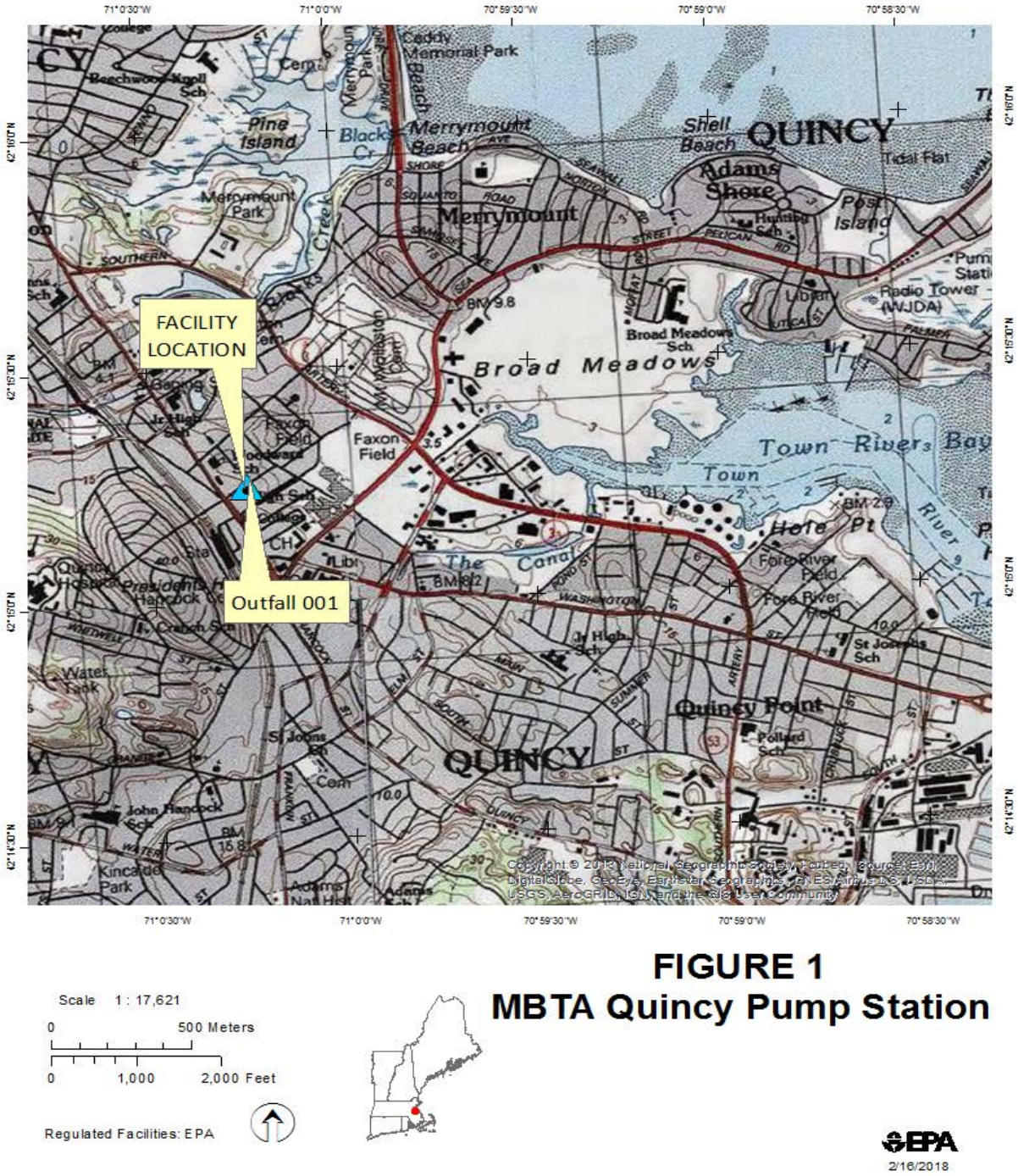


Figure 2: Site Plan

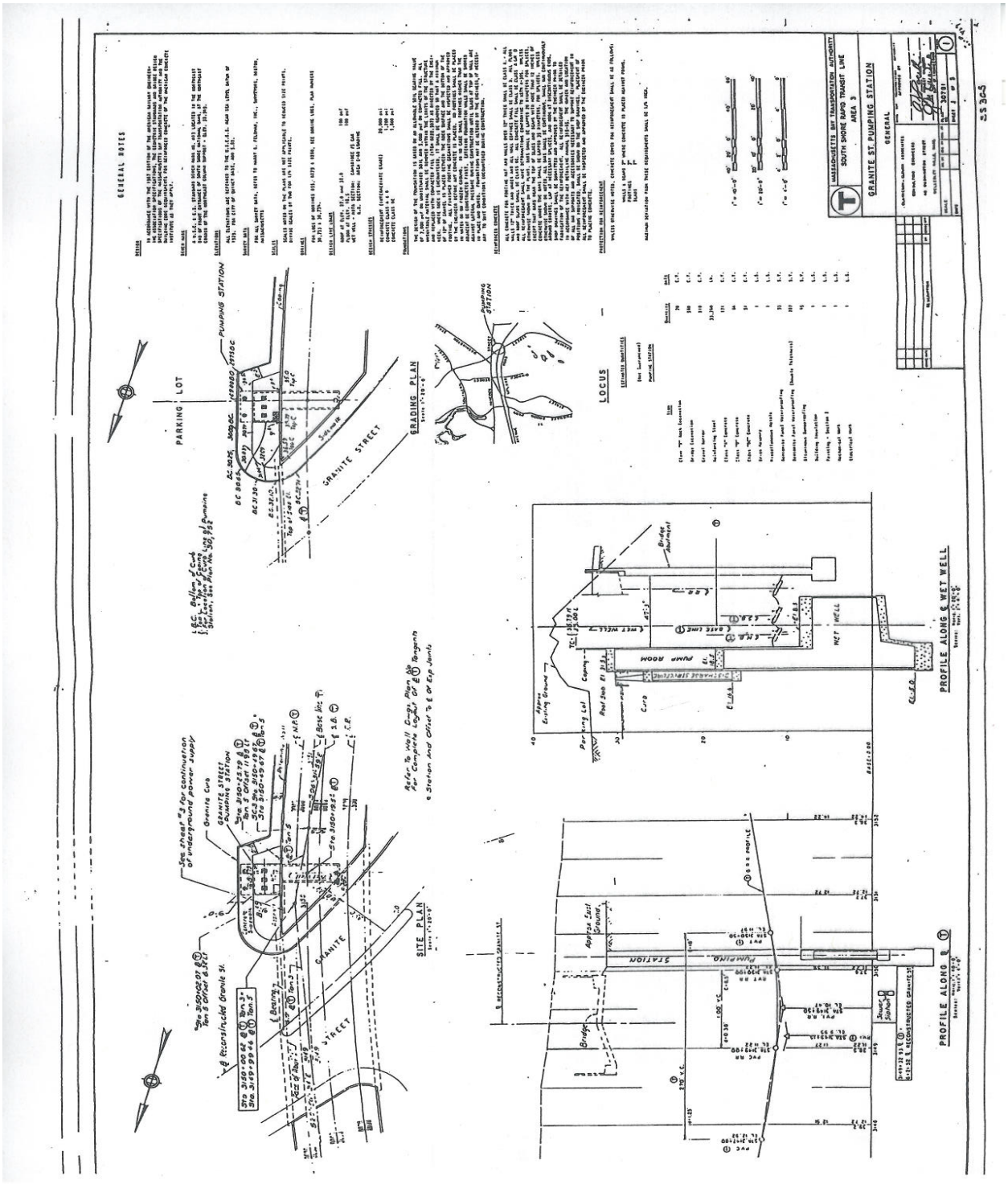
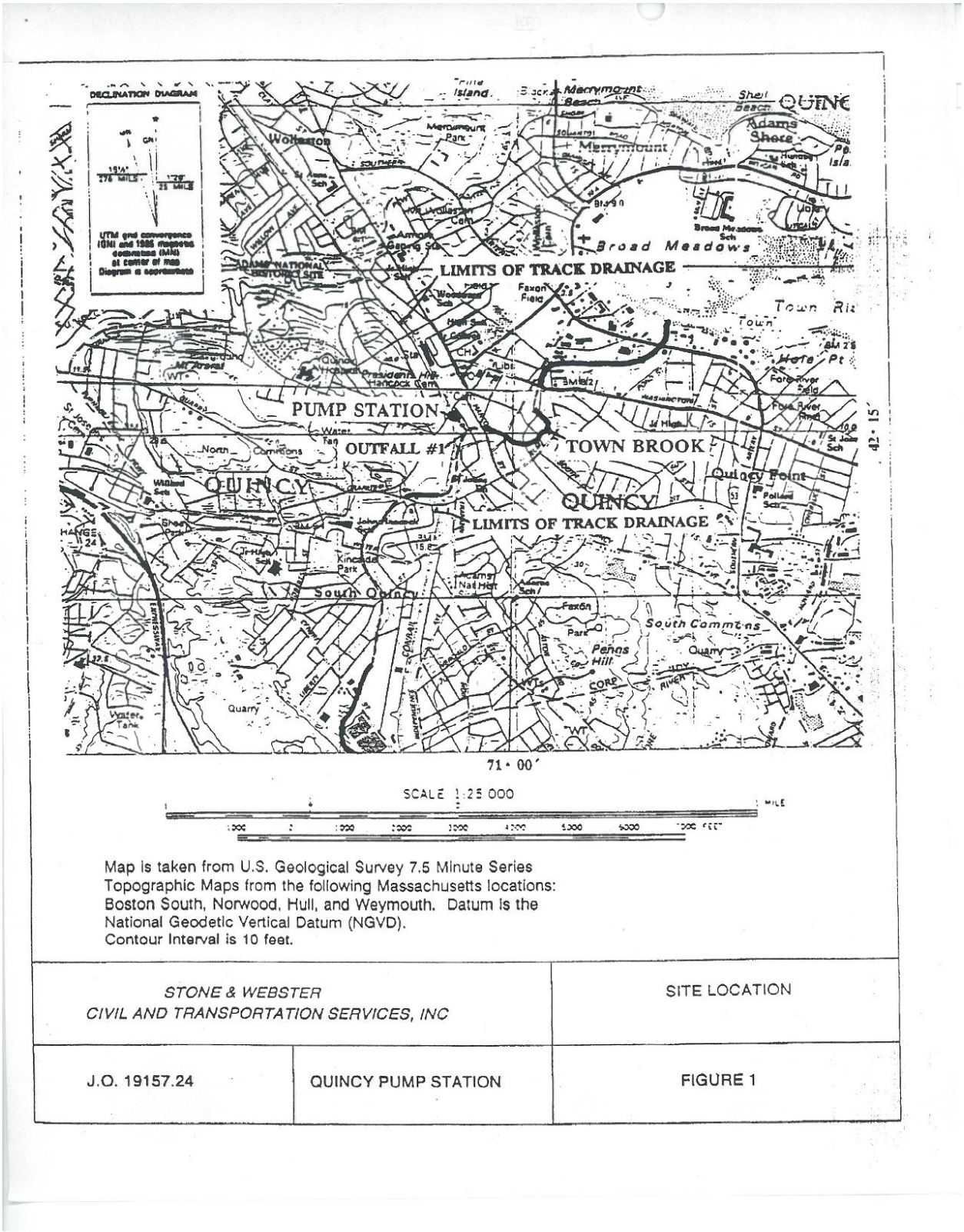


Figure 3: Schematic of Water Flow



Map is taken from U.S. Geological Survey 7.5 Minute Series Topographic Maps from the following Massachusetts locations: Boston South, Norwood, Hull, and Weymouth. Datum is the National Geodetic Vertical Datum (NGVD). Contour Interval is 10 feet.

STONE & WEBSTER *CIVIL AND TRANSPORTATION SERVICES, INC*		SITE LOCATION
J.O. 19157.24	QUINCY PUMP STATION	FIGURE 1

Figure 4: Town Brook Gauge, August 2007

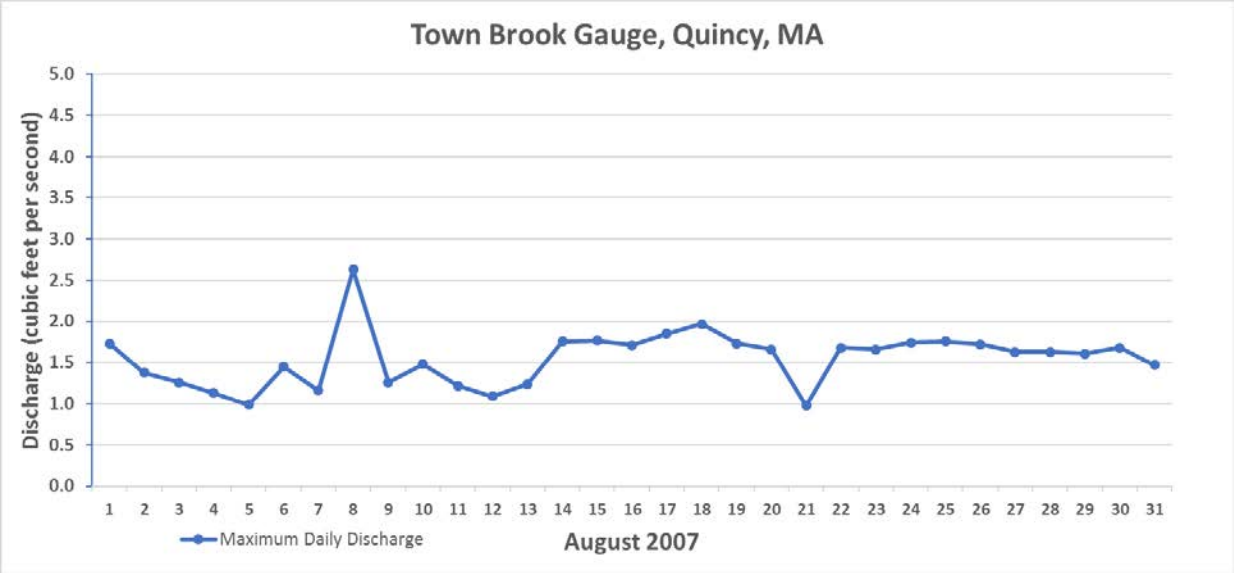
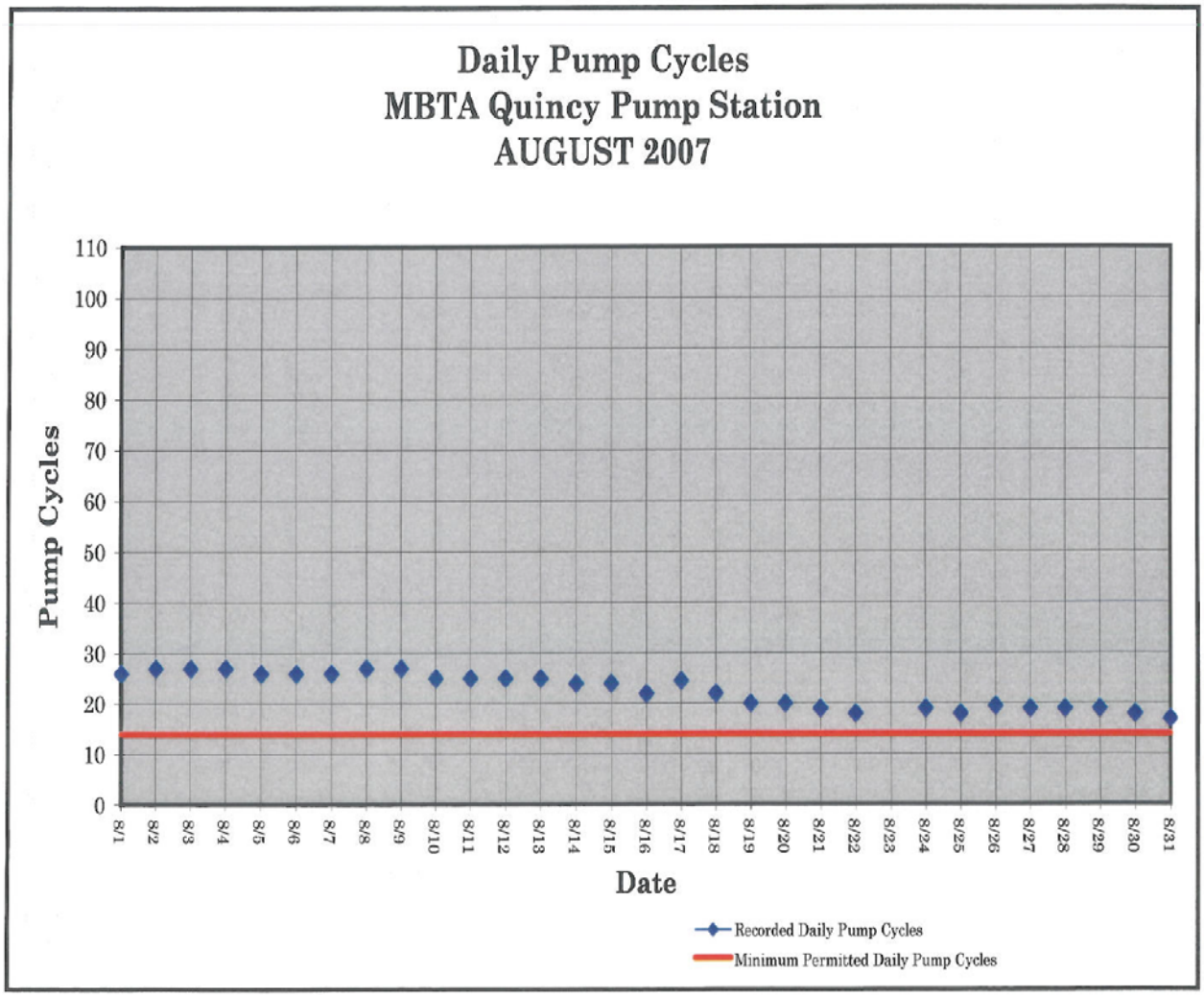


Figure 5: Daily Pump Cycles, August 2007



Appendices

Appendix A: Discharge Monitoring Data

NPDES Permit Factsheet Table													
Search Criteria:													
Monitoring Period Range: 1/01/2013 to 02/01/2018													
Facility ID: MA0033987													
Outfall - Monitoring Location - Limit Set: 001 - 1 - A													
	Flow rate	Flow rate	Solids, total suspended	pH	pH								
	Mon MGD	Mon MGD	Mon mg/L	6.5 SU	8.3 SU								
Mon Pd End Date:	DAILY MX	MO AVG	DAILY MX	MINIMUM	MAXIMUM								
01/31/2013	0.64	0.219	2.0	7.0	7.0								
02/28/2013	1.29	0.257	2.8	7.0	7.0								
03/31/2013	0.77	0.325	2.0	6.1	6.1								
04/30/2013	0.62	0.253	5.0	6.8	6.8								
05/31/2013	0.28	0.153	2.0	6.5	6.5								
06/30/2013	0.49	0.252	5.0	6.8	6.8								
07/31/2013	0.29	0.080	2.0	6.9	6.9								
08/31/2013	0.33	0.151	2.8	6.0	6.0								
09/30/2013	0.61	0.192	2.8	6.9	6.9								
10/31/2013	0.33	0.130	2.0	6.4	6.4								
11/30/2013	0.49	0.130	26.0	6.7	6.7								
12/31/2013	0.45	0.118	290.0	7.4	7.4								
01/31/2014	0.43	0.194	13.0	7.1	7.1								
02/28/2014	0.38	0.216	2.5	7.6	7.6								
03/31/2014	0.45	0.166	2.0	6.9	6.9								
04/30/2014	0.51	0.188	33.0	6.7	6.7								
05/31/2014	0.49	0.191	2.7	7.1	7.1								
06/30/2014	0.46	0.172	7.3	6.9	6.9								
07/31/2014	0.28	0.130	5.7	7.6	7.6								
08/31/2014	0.32	0.210	5.3	7.0	7.0								
09/30/2014	0.42	0.390	4.0	7.3	7.3								
10/31/2014	0.45	0.410	170.0	7.2	7.2								
11/30/2014	0.47	0.420	2.0	6.7	6.7								
12/31/2014	0.44	0.400	25.0	6.6	6.6								
01/31/2015	NODI: 9	NODI: 9	3.7	6.7	6.7								
02/28/2015	0.32	0.160	7.0	6.9	6.9								
03/31/2015	0.72	0.150	5.3	6.9	6.9								
04/30/2015	0.33	0.200	3.3	7.5	7.5								
05/31/2015	0.42	0.380	2.8	6.9	6.9								
06/30/2015	0.41	0.360	2.2	6.6	6.6								
07/31/2015	0.00	0.000	10.0	6.5	6.5								
08/31/2015	0.00	0.000	5.5	7.9	7.9								
09/30/2015	0.02	0.007	10.0	6.8	6.8								
10/31/2015	17.00	0.204	6.3	7.2	7.2								
11/30/2015	15.01	0.211	2.0	6.8	6.8								
12/31/2015	12.30	0.242	10.0	6.8	6.8								
01/31/2016	5.67	0.183	NODI: E	6.8	6.8								
02/29/2016	3.30	0.115	2.0	6.9	6.9								
03/31/2016	7.86	0.254	8.0	7.2	7.2								
04/30/2016	13.54	0.206	3.7	6.9	6.9								
05/31/2016	13.85	0.200	100.0	6.7	6.7								
06/30/2016	0.06	0.200	14.0	6.4	6.4								
07/31/2016	10.02	0.057	14.0	6.4	6.4								
08/31/2016	0.13	0.034	3.7	7.5	7.5								
09/30/2016	0.15	0.008	2.0	7.2	7.2								
10/31/2016	0.31	0.128	3.7	6.9	6.9								
11/30/2016	0.10	0.075	2.7	6.8	6.8								
12/31/2016	9.20	0.045	2.0	6.7	6.7								
01/31/2017	1.69	0.055	2.0	6.9	6.9								
02/28/2017	0.14	0.065	2.0	6.8	6.8								
03/31/2017	0.57	0.145	2.2	6.9	6.9								
04/30/2017	0.20	0.670	2.5	6.7	6.7								
05/31/2017	0.10	0.048	3.7	7.1	7.1								
06/30/2017	0.12	0.050	2.0	6.8	6.8								
07/31/2017	0.11	0.045	2.0	6.8	6.8								
08/31/2017	0.12	0.037	2.0	6.8	6.8								
09/30/2017	0.03	0.020	2.7	8.5	8.5								
10/31/2017	0.11	0.072	3.3	6.9	6.9								
11/30/2017	0.41	0.145	5.7	6.9	6.9								
12/31/2017	0.53	0.246	2.0	6.9	6.9								
Max	17.00	0.67	290.0	8.5	8.5								
Min	0.00	0.00	2.0	6.0	6.0								
Avg	2.14	0.18	14.8	6.9	6.9								

Appendix A: Discharge Monitoring Data (continued)

Outfall - Monitoring Location - Limit Set: 001 - 1 - Q																							
	Alkalinity, total (as CaCO3)	Aluminum, total (as Al)	Ammonia & ammonium-total	Cadmium, total (as Cd)	Calcium, total (as Ca)	Carbon, tot orgnic (TOC)	Chlorine, total residual	Chromium, total (as Cr)	Copper, total (as Cu)	Hardness, total (as CaCO3)	LC50 Static 48Hr Acute Ceriodaphnia	LC50 Static 48Hr Acute Pimephales	Lead, total (as Pb)	Magnesium, total (as Mg)	Nickel, total (as Ni)	Noel Static 7Day Chronic Ceriodaphnia	Noel Static 7Day Chronic Pimephales	Oxygen, dissolved (DO)	Solids, total	Specific Conductance	Zinc, total (as Zn)	pH
	Mon mg/L	Mon mg/L	Mon mg/L	Mon mg/L	Mon mg/L	Mon mg/L	Mon mg/L	Mon mg/L	Mon mg/L	Mon ug/L	100 %	100 %	Mon mg/L	Mon mg/L	Mon mg/L	100 %	100 %	Mon mg/L	Mon mg/L	Mon um/sec	Mon mg/L	Mon SU
Mon Pd End Date:	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	MINIMUM	MINIMUM	DAILY MX	DAILY MX	DAILY MX	MINIMUM	MINIMUM	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX
03/31/2013	60	0.02	0.01	0.0005	45	1.2	0.02	0.002	0.002	190	100	100	0.0005	9.7	0.002	100	100	9.61	950	1.98	0.005	6.99
06/30/2013	0.02	0.21	0.1	0.0005	51	1.4	0.02	0.002	0.011	180	100	100	0.0005	11	0.002	100	100	6.91	960	1681	0.011	7.08
09/30/2013	63	0.02	0.1	0.0005	50	1.4	0.02	0.002	0.002	160	100	100	0.0005	9.7	0.002	100	100	6.15	850	15.3	0.009	6.03
12/31/2013	160	0.02	0.1	0.0005	43	0.8	0.02	0.002	0.002	230	100	100	0.0005	9.6	0.002	100	100	7.59	420	637	0.002	7.72
03/31/2014	61	0.02	0.1	0.0005	55	1.3	0.02	0.002	0.002	200	100	100	0.0005	11	0.002	25	100	3.22	1100	2.217	0.012	6.98
06/30/2014	66	0.02	0.1	0.0005	56	1.2	0.02	0.002	0.003	190	100	100	0.0005	11	0.002	100	100	7.14	1100	1849	0.008	6.85
09/30/2014	60	0.02	0.1	0.0005	55	0.7	0.02	0.002	0.002	140	100	100	0.0005	11	0.002	100	100	6.85	1000	1.79	0.008	7.04
12/31/2014	65	0.02	0.1	0.0005	55	2.4	0.02	0.002	0.002	190	100	100	0.0005	11	0.002	100	100	980	1200	1702	0.009	6.86
03/31/2015	63	0.02	0.14	0.0005	60	2.2	0.02	0.002	0.001	220	100	100	0.0005	12	0.002	50	100	4.31	1100	2102	0.009	7.09
06/30/2015	64	0.02	0.13	0.0005	71	1.6	0.02	0.002	0.002	240	100	100	0.0005	13	0.002	100	100	5.34	1400	2226	0.011	6.9
09/30/2015	64	0.031	0.1	0.0005	67	1.3	0.02	0.002	0.002	210	100	100	0.0005	13	0.002	100	100	4.83	1400	2.03	0.014	7.04
12/31/2015	65	0.02	0.1	0.0005	65	1.5	0.02	0.002	0.001	210	100	100	0.0005	13	0.002	100	100	7.37	1100	1928	0.011	6.96
03/31/2016	60	0.025	0.1	0.0005	59	1.3	0.02	0.002	0.002	210	100	100	0.0005	12	0.002	100	100	7.28	1200	199	0.011	6.85
06/30/2016	60	0.025	0.1	0.0005	59	1.3	0.02	0.002	0.002	210	100	100	0.0005	12	0.002	100	100	7.71	1200	1997	0.011	6.85
09/30/2016	65	0.02	0.1	0.0005	57.4	0.9	0.02	0.002	0.001	190	100	100	0.0005	11.9	0.002	100	100	9.72	1300	1931	0.01	7.19
12/31/2016	68	0.023	0.1	0.0003	52.8	1.5	0.02	0.001	0.0008	180	100	100	0.0003	11.7	0.001	100	100	6.91	1000	1922	0.011	6.83
03/31/2017	190	0.02	0.1	0.0003	59.8	1.4	66	0.001	0.0009	190	100	100	0.0003	12.2	0.001	100	100	9.81	1100	2086	0.012	6.84
06/30/2017	69	0.02	0.1	0.0003	65.8	1.5	0.02	0.001	0.0009	220	100	100	0.0003	13.3	0.001	100	100	8.17	1300	2305	0.013	6.88
09/30/2017	69	0.02	0.1	0.0003	58.3	1.5	0.02	0.001	0.0008	190	100	100	0.0003	11.8	0.001	100	100	4.35	1400	2165	0.0097	6.85
12/31/2017	72	0.02	0.12	0.0003	56.2	1.4	0.02	0.001	0.0009	190	100	100	0.0003	11.8	0.001	50	100	8.79	1200	2.11	0.01	6.99
Max	190	0.21	0.14	0.0005	71	2.4	66	0.002	0.011	240	100	100	0.0005	13.3	0.002	100	100	980	1400	2305	0.014	7.72
Min	0.02	0.02	0.01	0.0003	43	0.7	0.02	0.001	0.0008	140	100	100	0.0003	9.6	0.001	25	100	3.22	420	1.79	0.002	6.03
Avg	72.20	0.03	0.10	0.00	57.07	1.39	3.32	0.00	0.00	197.00	100.00	100.00	0.00	11.59	0.00	91.25	100.00	55.60	1114.00	1237.77	0.01	6.94

Appendix A: Discharge Monitoring Data (continued)

Outfall - Monitoring Location - Limit Set: 001 - 1 - T		Outfall - Monitoring Location - Limit Set: 001 - P - A		
	Oil & grease		Number of	Number of Events
	15 mg/L		14 #	Mon #
Mon Pd End Date:	DAILY MX	Mon Pd End Date:	DAILY MN	MO AVG
03/31/2013	1.3	01/31/2013	10	5.7
06/30/2013	0.7	02/28/2013	10	4.6
09/30/2013	4.0	03/31/2013	9	5.7
12/31/2013	2.0	04/30/2013	12	4.7
03/31/2014	0.5	05/31/2013	10	5.9
06/30/2014	1.2	06/30/2013	16	10.0
09/30/2014	0.5	07/31/2013	7	3.9
12/31/2014	0.5	08/31/2013	7	3.6
03/31/2015	0.5	09/30/2013	6	3.7
06/30/2015	1.0	10/31/2013	14	11.0
09/30/2015	1.5	11/30/2013	10	6.0
12/31/2015	0.8	12/31/2013	11	5.6
03/31/2016	0.5	01/31/2014	5	9.8
06/30/2016	0.6	02/28/2014	2	8.0
09/30/2016	0.6	03/31/2014	0	9.3
12/31/2016	0.5	04/30/2014	0	10.5
03/31/2017	1.7	05/31/2014	0	9.6
06/30/2017	0.5	06/30/2014	0	8.7
09/30/2017	1.8	07/31/2014	0	7.0
12/31/2017	0.5	08/31/2014	0	8.0
Max	4.0	09/30/2014	1	11.0
Min	0.5	10/31/2014	0	11.0
Avg	1.1	11/30/2014	0	12.0
		12/31/2014	0	10.0
		01/31/2015	NODI: 9	NODI: 9
		02/28/2015	0	12.0
		03/31/2015	0	21.0
		04/30/2015	6	14.0
		05/31/2015	1	11.0
		06/30/2015	0	10.0
		07/31/2015	0	0.0
		08/31/2015	0	0.0
		09/30/2015	8	12.0
		10/31/2015	10	15.0
		11/30/2015	14	18.0
		12/31/2015	12	19.0
		01/31/2016	20	23.0
		02/29/2016	22	26.0
		03/31/2016	16	18.0
		04/30/2016	0	17.0
		05/31/2016	6	17.0
		06/30/2016	11	15.0
		07/31/2016	3	11.0
		08/31/2016	6	10.0
		09/30/2016	2	10.0
		10/31/2016	6	10.0
		11/30/2016	6	10.0
		12/31/2016	10	32.0
		01/31/2017	15	23.0
		02/28/2017	9	18.0
		03/31/2017	14	19.0
		04/30/2017	16	26.0
		05/31/2017	15	24.0
		06/30/2017	14	24.0
		07/31/2017	13	20.0
		08/31/2017	13	19.0
		09/30/2017	17	23.0
		10/31/2017	10	17.0
		11/30/2017	11	15.0
		12/31/2017	11	18.0
		Max	22	32.0
		Min	0	0.0
		Avg	7.6	12.9

Appendix B: Essential Fish Habitat Species - Hingham Bay

Map Scale = 1:144,448

Degrees, Minutes, Seconds: Latitude = 42º16'33" N, Longitude = 70º56'16" E Decimal Degrees: Latitude = 42.28, Longitude = -70.94

Species/Management Unit	Life stage(s) Found at Location	Management Council	FMP
Longfin Inshore Squid	Juvenile Adult ALL	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
Atlantic Mackerel	Eggs Larvae Juvenile Adult ALL	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
Bluefish	Adult Juvenile ALL	Mid-Atlantic	Bluefish
Atlantic Butterfish	Eggs Larvae ALL	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
Spiny Dogfish	Sub-Female Adult Male Adult Female ALL	Mid-Atlantic	Amendment 3 to the Spiny Dogfish FMP
Atlantic Surfclam	Juvenile Adult ALL	Mid-Atlantic	Surfclam and Ocean Quahog
Scup	Juvenile Adult ALL	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
Black Sea Bass	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
Bluefin Tuna	Adult ALL	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP:
Sand Tiger Shark	Neonate/Juvenile ALL	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP:

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
COMMONWEALTH OF MASSACHUSETTS
1 WINTER STREET
BOSTON, MASSACHUSETTS 02108

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 1
OFFICE OF ECOSYSTEM PROTECTION
5 POST OFFICE SQUARE
BOSTON, MASSACHUSETTS 02109

JOINT PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO WATERS OF THE UNITED STATES UNDER SECTIONS 301 AND 402 OF THE CLEAN WATER ACT, AS AMENDED, AND SECTIONS 27 AND 43 OF THE MASSACHUSETTS CLEAN WATERS ACT, AS AMENDED, AND REQUEST FOR STATE CERTIFICATION UNDER SECTION 401 OF THE CLEAN WATER ACT.

PUBLIC NOTICE PERIOD: August 24, 2018 – September 22, 2018

PERMIT NUMBER: **MA0033987**

PUBLIC NOTICE NUMBER: MA-016-18

NAME AND MAILING ADDRESS OF APPLICANT:

Massachusetts Bay Transportation Authority (MBTA)
10 Park Plaza
Boston, MA 02116

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

MBTA/Quincy Pump Station
Corner of Granite Street and Parking Way
Quincy, MA 02116

RECEIVING WATER:

Town Brook to Weymouth Fore River
Boston Harbor Watershed
Class B

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) have cooperated in the development of a draft permit for the MBTA Quincy Pump Station, which discharges stormwater and groundwater. The effluent limits and permit conditions imposed have been drafted to assure compliance with the Clean Water Act, 33 U.S.C. sections 1251 et seq., the Massachusetts Clean Waters Act, G.L. c. 21, §§ 26-53, 314 CMR 3.00, and State Surface Water Quality Standards at 314 CMR 4.00. EPA has requested that the State certify this draft permit pursuant to Section 401 of the Clean Water Act and expects that the draft permit will be certified.

INFORMATION ABOUT THE DRAFT PERMIT:

The draft permit and explanatory fact sheet may be obtained at no cost at http://www.epa.gov/region1/npdes/draft_permits_listing_ma.html or by contacting:

Michelle Kozminski
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (OEP06-4)
Boston, MA 02109-3912
Telephone: (617) 918-1222
Kozminski.Michelle@epa.gov

The administrative record containing all documents relating to this draft permit including all data submitted by the applicant may be inspected at the EPA Boston office mentioned above between 9:00 a.m. and 5:00 p.m., Monday through Friday, except holidays.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of this draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by September 22, 2018 to the address or email address listed above. Any person, prior to such date, may submit a request in writing to EPA and MassDEP for a public hearing to consider this draft permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on this draft permit, the Regional Administrator will respond to all significant comments and make the responses available to the public at EPA's Boston office.

FINAL PERMIT DECISION:

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice.

LEALDON LANGLEY, DIRECTOR
WETLANDS AND WASTEWATER PROGRAM
MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION

KEN MORAFF, DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
EPA-REGION 1