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"),

City of Brockton

is authorized to discharge from the facility located at

Brockton Advanced Water Reclamation Facility
303 Oak Hill Way
Brockton, Massachusetts 02301

to receiving water named

Salisbury Plain River

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

The Towns of Abington and Whitman are Co-permittees for Part I.B, Unauthorized Discharges; Part I.C, Operation and Maintenance of the Treatment and Control Facilities, which include conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns; and Part I.D, Alternate Power Source. The permit numbers assigned to the Co-permittees for purposes of reporting (as specified in Part I.H.2 below) in accordance with the requirements in Parts I.B, I.C, and I.D of this permit are listed in the table below.

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the terms and conditions of Part I.B, Part I.C and Part I.D of this permit. The Permittee and each Co-permittee are severally liable under Part I.B, Part I.C and Part I.D for their own activities and required reporting under Part I.H with respect to the portions of the collection system that they own or operate. They are not liable for violations of Part I.B, Part I.C and Part I.D committed by others relative to the portions of the collection system owned and operated by others. Nor are they responsible for any reporting that is required of other Permittees under Part I.B, Part I.C and Part I.D. The responsible departments for each Co-permittee are:

MAC011010	**MAC021010**
Town of Abington Sewer Department 350 Summer Street Abington, MA 02351	Town of Whitman Department of Public Works 100 Essex Street, P.O. Box 454 Whitman, MA 02382

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 January 11, 2017.

This permit consists of **Part I** including the cover page(s), **Attachment A** (Freshwater Acute Toxicity Test Procedure and Protocol, February 2011), **Attachment B** (Freshwater Chronic Toxicity Test Procedure and Protocol, March 2013), **Attachment C** (Reassessment of Technically Based Industrial Discharge Limits), **Attachment D** (NPDES Permit Requirement for Industrial Pretreatment Annual Report); **Attachment E** (PFAS Analyte List) and **Part II (**NPDES Part II Standard Conditions, April 2018).

Signed this day of

_____
Ken Moraff, Director
Water Division
Environmental Protection Agency
Region 1
Boston, MA

[1] Pursuant to 40 Code of Federal Regulations (CFR) § 124.15(b)(3), if no comments requesting a change to the Draft Permit are received, the permit will become effective upon the date of signature. Procedures for appealing EPA's Final Permit decision may be found at 40 CFR § 124.19.

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 treated effluent through Outfall Serial Number 001 to the Salisbury Plain River. The discharge shall be limited and monitored as specified below; the receiving water and the influent shall be monitored as specified below.

Effluent Characteristic	Effluent Limitation			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4]
Rolling Average Effluent Flow[5]	18.0 MGD[5]	---	---	Continuous	Recorder
Effluent Flow[5]	Report MGD	---	Report MGD	Continuous	Recorder
$CBOD_5$ (May 1 - October 31)	5 mg/L 750 lb/day	8 mg/L 1,200 lb/day	15 mg/L 2,250 lb/day	5/Week	Composite
$CBOD_5$ (November 1 - April 30)	15 mg/L 2,250 lb/day	25 mg/L 3,750 lb/day	30 mg/L 4,500 lb/day	5/Week	Composite
$CBOD_5$ Removal	≥ 85 %	---	---	1/Month	Calculation
TSS (May 1 - October 31)	5 mg/L 750 lb/day	8 mg/L 1,200 lb/day	15mg/L 2,250 lb/day	5/Week	Composite
TSS (November 1 - April 30)	15 mg/L 2,250 lb/day	25 mg/L 3,750 lb/day	30 mg/L 4,500 lb/day	5/Week	Composite
TSS Removal	≥ 85 %	---	---	1/Month	Calculation
pH Range[6]	6.5 - 8.3 S.U.			1/Day	Grab
Total Residual Chlorine[7,8]	11 µg/L [Compliance level: 30 µg/L]	---	19 µg/L [Compliance level: 30 µg/L]	1/Day	Grab
Escherichia coli[7,8] (April 1 – October 31)	126 cfu/100 mL	---	409 cfu/100 mL	3/Week	Grab
Total Phosphorus (April 1 – October 31)	101 µg/L 15.2 lb/day	---	Report µg/L	2/Week	Composite

Effluent Characteristic	Effluent Limitation			Monitoring Requirements[1,2,3]	
	Average Monthly	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type[4]**
Total Phosphorus (Nov. 1 – March 31)	1.0 mg/L 150 lb/day	---	Report mg/L	1/Week	Composite
Total Copper	10.3 µg/L	---	13.7 µg/L	1/Month	Composite
Dissolved Oxygen (Apr. 1 – October 31)	≥ 6.0 mg/L			1/Day	Grab
Ammonia Nitrogen (June 1 – October 31)	1 mg/L 150 lb/day	1 mg/L 150 lb/day	1.5 mg/L 225 lb/day	2/Week	Composite
Ammonia Nitrogen (November 1 – November 30)	1.9 mg/L	---	Report mg/L	2/Week	Composite
Ammonia Nitrogen (December 1 – March 31)	4.5 mg/L	---	Report mg/L	2/Week	Composite
Ammonia Nitrogen (April 1 – May 31)	1.9 mg/L	---	Report mg/L	2/Week	Composite
Total Kjeldahl Nitrogen[9,10] (April 1 – October 31) (November 1 – March 31)	 Report mg/L Report mg/L	 --- ---	 Report mg/L Report mg/L	 2/Week 1/Month	 Composite Composite
Nitrate + Nitrite[9,10] (April 1 – October 31) (November 1 – March 31)	 Report mg/L Report mg/L	 --- ---	 Report mg/L Report mg/L	 2/Week 1/Month	 Composite Composite
Total Nitrogen[9,10]	Report mg/L Report lb/day	--- ---	Report mg/L Report lb/day	1/Month	Calculation

Effluent Characteristic	Effluent Limitation			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4]
Rolling Seasonal Average Total Nitrogen[9] (May 1 – October 31)	450 lb/day	---	---	1/Month	Calculation
PFAS Analytes[11]	---	---	Report ng/L	1/Quarter	Grab
Adsorbable Organic Fluorine[12]	---	---	Report ng/L	1/Quarter	Grab
Whole Effluent Toxicity (WET) Testing[13,14]					
LC_{50}	---	---	≥ 100 %	1/Quarter	Composite
C-NOEC	---	---	≥ 98 %	1/Quarter	Composite
Hardness	---	---	Report mg/L	1/Quarter	Composite
Ammonia Nitrogen	---	---	Report mg/L	1/Quarter	Composite
Total Aluminum	---	---	Report mg/L	1/Quarter	Composite
Total Cadmium	---	---	Report mg/L	1/Quarter	Composite
Total Copper	---	---	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
Total Organic Carbon	---	---	Report mg/L	1/Quarter	Composite

Ambient Characteristic[15]	Reporting Requirements			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4]
Hardness	---	---	Report mg/L	1/Quarter	Grab
Ammonia Nitrogen	---	---	Report mg/L	1/Quarter	Grab
Total Aluminum	---	---	Report mg/L	1/Quarter	Grab
Total Cadmium	---	---	Report mg/L	1/Quarter	Grab
Total Copper	---	---	Report mg/L	1/Quarter	Grab
Total Nickel	---	---	Report mg/L	1/Quarter	Grab

Total Lead	---	---	Report mg/L	1/Quarter	Grab
Total Zinc	---	---	Report mg/L	1/Quarter	Grab
Total Organic Carbon	---	---	Report mg/L	1/Quarter	Grab
Dissolved Organic Carbon[16]	---	---	Report mg/L	1/Quarter	Grab
pH[17]	---	---	Report S.U.	1/Quarter	Grab
Temperature[17]	---	---	Report °C	1/Quarter	Grab

Influent Characteristic	**Reporting Requirements**			**Monitoring Requirements[1,2,3]**	
	Average Monthly	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type[4]**
BOD_5	Report mg/L	---	---	2/Month	Composite
TSS	Report mg/L	---	---	2/Month	Composite
PFAS Analytes[11]	---	---	Report ng/L	1/Quarter	Grab
Adsorbable Organic Fluorine[12]	---	---	Report ng/L	1/Quarter	Grab

Sludge Characteristic	**Reporting Requirements**			**Monitoring Requirements[1,2,3]**	
	Average Monthly	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type[4]**
PFAS Analytes[11]	---	---	Report ng/g	1/Quarter	Grab[18]

Footnotes:

1. All samples shall be collected in a manner to yield representative data. A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented as an electronic attachment to the applicable discharge monitoring report. The Permittee shall report the results to the Environmental Protection Agency Region 1 (EPA) and MassDEP ("the State") of any additional testing above that required herein, if testing is in accordance with 40 CFR Part 136.

2. In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is "sufficiently sensitive" when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term "minimum level" refers either to the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in the following ways: they may be published in a method; they may be based on 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 laboratory, by a factor.

3. When a parameter is not detected above the ML, the Permittee must report the data qualifier signifying less than the ML for that parameter (e.g., < 50 µg/L, if the ML for a parameter is 50 µg/L). For reporting an average based on a mix of values detected and not detected, assign a value of "0" to all non-detects for that reporting period and report the average of all the results.

4. A "grab" sample is an individual sample collected in a period of less than 15 minutes.

   A "composite" sample is a composite of at least twenty-four (24) grab samples taken during one consecutive 24-hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportional to flow.

5. The limit is a rolling annual average, reported in million gallons per day (MGD), which will be calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows of the previous eleven months. Also report monthly average and maximum daily flow in MGD.

6. 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.).

7. Monitoring for total residual chlorine (TRC) is only required for discharges which have been previously chlorinated, or which contain residual chlorine and such sampling shall be representative of the effluent under conditions of chlorine addition. In such cases, the Permittee shall minimize the use of chlorine while maintaining adequate bacterial control. TRC sampling is not required if chlorine is not added for disinfection or other purposes that cause chlorine to be present in the plant effluent. The limitations are in effect year-round. If chlorine is not utilized during a particular monitoring period, TRC monitoring is not necessary and the Permittee may enter "NODI" code 9 (*i.e.*, conditional monitoring not required) in the relevant discharge monitoring report.

   Chlorination and dechlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine dosing system that may have resulted in levels of chlorine that were inadequate for achieving effective disinfection, or interruptions or malfunctions of the dechlorination system that may have resulted in excessive levels of chlorine in the final effluent shall be reported with the monthly DMRs. The report shall include the date and time of the interruption or malfunction, the nature of the problem, and the estimated amount of time that the reduced levels of chlorine or dechlorination chemicals occurred.

8. The monthly average limit for *Escherichia coli* (*E. coli*) is expressed as a geometric mean. *E. coli* monitoring shall be conducted concurrently with TRC monitoring, if TRC monitoring is required.

9. Total Kjeldahl nitrogen and nitrate + nitrite samples shall be collected concurrently. The results of these analyses shall be used to calculate both the concentration and mass loadings of total nitrogen, as follows.

   Total Nitrogen (mg/L) = Total Kjeldahl Nitrogen (mg/L) + Nitrate + Nitrite (mg/L)

   Total Nitrogen (lb/day) = [(average monthly Total Nitrogen (mg/L) * total monthly effluent flow (Millions of Gallons (MG)) / # of days in the month] * 8.34

   The total nitrogen values will be calculated by adding the results of the nitrate + nitrite nitrogen and the total Kjeldahl nitrogen (TKN) sampling. The total nitrogen limit is a rolling seasonal average limit, which is effective from May 1 through October 31 of each year. The seasonal average will be reported as the average from that month and the previous five months that the limit was in effect (results do not have to be based on data all from the same calendar year).

10. The Permittee shall optimize the operation of the treatment facility for the removal of total nitrogen during the period November 1 through April 30. All available treatment equipment in place at the facility shall be operated unless equal or better performance can be achieved in a reduced operational mode. The addition of a carbon source that may be necessary to meet the total nitrogen limit from May 1 through October 31 is not required during the period November 1 through April 30.

11. Report in nanograms per liter (ng/L) for effluent and influent samples; report nanograms per gram (ng/g) for sludge samples. Until there is an analytical method approved in 40 CFR Part 136 for PFAS, monitoring shall be conducted using Method 1633. Report in NetDMR the results of all PFAS analytes required to be tested in Method 1633, as shown in Attachment E. This reporting requirement for the listed PFAS parameters takes effect the first full calendar quarter following six months after the effective date of the permit.

12. Report in nanograms per liter (ng/L) for effluent and influent samples. Until there is an analytical method approved in 40 CFR Part 136 for Adsorbable Organic Fluorine, monitoring shall be conducted using Method 1621. This reporting requirement takes effect the first full calendar quarter following six months after the effective date of the permit.

13. The Permittee shall conduct acute toxicity tests (LC50) and chronic toxicity tests (C-NOEC) in accordance with test procedures and protocols specified in Attachment A and B of this permit. LC50 and C-NOEC are defined in Part II.E. of this permit. The Permittee shall test the daphnid, *Ceriodaphnia dubia*. Toxicity test samples shall be collected during the second week of the months of August and November. The complete report for each toxicity test shall be submitted as an attachment to the DMR submittal which includes the results for that toxicity test.

    An additional two samples shall be collected and WET tests completed during days when treatment plant total daily flow exceeds 30 MGD. These two tests may be conducted during any month of the year. The results for these tests shall be submitted by the last day of the month following the completion of the test. See Permit Attachments A and B, Toxicity Test Procedure and Protocols.

14. 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.

15. 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.

16. Monitoring and reporting for dissolved organic carbon (DOC) are not requirements of the Whole Effluent Toxicity (WET) tests but are additional requirements. The Permittee may analyze the WET samples for DOC or may collect separate samples for DOC concurrently with WET sampling.

17. 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.

18. Sludge sampling shall be as representative as possible based on guidance found at https://www.epa.gov/sites/production/files/2018-11/documents/potw-sludge-sampling-guidance-document.pdf.

B. UNAUTHORIZED DISCHARGES

1. This permit authorizes discharges only from the outfall listed in Part I.A.1, in accordance with the terms and conditions of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs), are not authorized by this permit. The Permittee must provide verbal notification to EPA within 24 hours of becoming aware of any unauthorized discharge and a report within 5 days, in accordance with Part II.D.1.e (24-hour reporting). Providing that it contains the information required in Part II.D.1.e, submission of the MassDEP SSO Reporting Form (described in Part I.B.3 below) may satisfy the requirement for a written report. See Part I.H below for reporting requirements.

2. The Permittee must provide notification to the public on a publicly available website within 24 hours of becoming aware of any of the following unauthorized discharges: (a) any discharge of partially treated wastewater, including blended wastewater; (b) any Sanitary Sewer Overflow that discharges through a wastewater outfall, either directly or indirectly, to a surface water of the Commonwealth; (c) any SSO that flows into a surface water of the Commonwealth and is the result of the sanitary sewer system surcharging under high flow conditions when peak flows cannot be conveyed to a POTW due to capacity constraints; and (d) any SSO that flows into a surface water of the Commonwealth and is the result of a failure of a wastewater pump station or associated force main designed to convey peak flows of one million gallons per day or greater. Such notification shall include the location and description of the discharge; the approximate dates and times the discharge or overflow began, and its duration; and the estimated volume. Fulfilling these requirements does not relieve the Permittee of the responsibility of complying with 314 CMR 16.00.

3. Notification of SSOs to MassDEP shall be made on its SSO Reporting Form (which includes MassDEP Regional Office telephone numbers). The reporting form and instruction for its completion may be found on-line at https://www.mass.gov/how-to/sanitary-sewer-overflowbypassbackup-notification.

C. OPERATION AND MAINTENANCE OF THE TREATMENT AND CONTROL FACILITIES

1. Adaptation Planning

   a. *Adaptation Plan*. Within the timeframes described below, the Permittee and Co-permittee(s) shall develop an Adaptation Plan for the Wastewater Treatment System (WWTS) [2] and/or sewer system[3] that they own and operate. Additional information on the procedures and resources to aid permittees in development of the

2 "Wastewater Treatment System" or "WWTS" means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It does not include sewers, pipes and other conveyances to the wastewater treatment facility.
3 "Sewer System" refers to the sewers, pump stations, manholes and other infrastructure use to convey sewage to the wastewater treatment facility from homes or other sources.

Adaptation Plan is provided on EPA's Region 1 NPDES website at https://www.epa.gov/npdes-permits/npdes-water-permit-program-new-england. The Adaptation Plan shall contain sufficient detail for EPA to evaluate the analyses.

Component 1: Identification of Vulnerable Critical Assets. Within 24 months of the effective date of the permit, the Permittee and Co-permittee(s) shall develop and sign, consistent with the signatory requirements in Part II.D.2 of this Permit, an identification of critical assets[4] and related operations[5] within the WWTS and/or sewer system which they own and operate, as applicable, that are most vulnerable due to major storm and flood events[6] under baseline conditions[7] and under future conditions.[8] This information shall be provided to EPA upon request. For these critical assets and related operations, the Permittee and Co-permittee(s) shall assess the ability of each to function properly in the event of impacts[9] from major storm and flood events in terms of effluent flow (e.g., bypass, upset or failure), sewer flow (e.g., overflow, inflow and infiltration), and discharges of pollutants (e.g., effluent limit exceedance).

Component 2: Adaptive Measures Assessment.[10] Within 36 months of the

4 A "critical asset" is an asset necessary to ensure the safe and continued operation of the WWTS or the sewer system and ensure the forward flow and treatment of wastewater in accordance with the limits set forth in this permit.
5 "Asset related operations" are elements of an asset that enable that asset to function. For example, pumps and power supply enable the operation of a pump station.
6 "Major storm and flood events" refer to instances resulting from major storms such as hurricanes, extreme/heavy precipitation events, and pluvial, fluvial, and flash flood events such as high-water events, storm surge, and high-tide flooding, including flooding caused by sea level change. "Extreme/heavy precipitation" refers to instances during which the amount of rain or snow experienced in a location substantially exceeds what is normal according to location and season.
7 "Baseline conditions" refers to the 100-year flood based on historical records.
8 "Future conditions" refers to projected flood elevations using one of two approaches: a) Climate Informed Science Approach (CISA): The elevation and flood hazard area that result from using the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science. These shall include both short term (10-25 years forward-looking) and long term (25-70 years forward-looking) relative to the baseline conditions and must include projections of flooding due to major storm and flood events using federal, state and local data, where available; b) Freeboard Value and 500-year floodplain Approach: The flood elevations that result from adding an additional 2 feet to the 100-year flood elevation for non-critical actions and by adding an additional 3 feet to the 100-year flood elevation for critical actions compared to the flood elevations that result from 500-year flood (the 0.2% -annual-chance flood) and selecting the higher of the two flood elevations.
9 "Impacts" refers to a strong effect on an asset and/or asset-related operation that may include destruction, damage or ineffective operation of the asset and/or asset operation. Impacts may be economic, environmental, or public health related.
10 The Permittee and Co-permittee(s) may complete this component using EPA's Climate Resilience Evaluation and Awareness Tool (CREAT) Risk Assessment Application for Water Utilities, found on EPA's website Creating Resilient Water Utilities (CRWU) (https://www.epa.gov/crwu), or methodology that provides comparable analysis.

effective date of the permit, the Permittee and Co-Permittee(s) shall develop and sign, consistent with the signatory requirements in Part II.D.2 of this Permit, an assessment of adaptive measures,[11] and/or, if appropriate, the combinations of adaptive measures that minimize the impact of future conditions on the critical assets and related operations of the WWTS and/or sewer system(s). This information shall be provided to EPA upon request. The Permittee and Co-permittee(s) shall identify the critical assets and related operations at the highest risk of not functioning properly under such conditions and, for those, select the most effective adaptation measures that will ensure proper operation of the highest risk critical assets and the system as a whole.

C*omponent 3: Implementation and Maintenance Schedule.* Within 48 months of the effective date of the permit, the Permittee and Co-Permittee(s) shall submit to EPA a proposed schedule for implementation and maintenance of adaptive measures. The Implementation and Maintenance Schedule shall summarize the general types of significant risks[12] identified in Component 1, including the methodology and data used to derive future conditions[13] used in the analysis and describe the adaptive measures taken (or planned) to minimize those risks from the impact of major storm and flood events for each of the critical assets and related operations of the WWTS and the sewer system and how those adaptive measures will be maintained, including the rationale for either implementing or not implementing each adaptive measure that was assessed and an evaluation of how each adaptive measure taken (or planned) will be funded.

b. *Credit for Prior Assessment(s) Completed by Permittee and/or Co-permittee(s).* If the Permittee and/or Co-permittee(s) have undertaken assessment(s) that were completed within 5 years of the effective date of this permit, or is [are] currently undertaking an assessment that address some or all of the Adaptation Plan components, such prior assessment(s) undertaken by the Permittee and/or Co-permittee(s) may be used (as long as the reporting time frames (set forth in Part I.C.1.a) and the signatory requirements (set forth in Part II.D.2 of this permit) are

11 "Adaptive Measures" refers to physical infrastructure or actions and strategies that a utility can use to protect their assets and mitigate the impacts of threats. They may include but are not limited to: building or modifying infrastructure, utilization of models (including but not limited to: flood, sea-level rise and storm surge, sewer/collection system, system performance), monitoring and inspecting (including but not limited to: flood control, infrastructure, treatment) and repair/retrofit.

12 In light of security concerns posed by the public release of information regarding vulnerabilities to wastewater infrastructure, the Permittee shall provide information only at a level of generality that indicates the overall nature of the vulnerability but omitting specific information regarding such vulnerability that could pose a security risk.

13 See footnote 8.

met) in satisfaction of some or all of these components, as long as the Permittee and/or Co-permittee(s) explains how its prior assessments specifically meet the requirements set forth in this permit and how the Permittee and/or Co-permittee(s) will address any permit requirements that have not been addressed in its prior or ongoing assessment(s).

c. *Adaptation Plan Progress Report*. The Permittee and Co-Permittee(s) shall submit an Adaptation Plan Progress Report on the Adaptation Plan for the prior calendar year that documents progress made toward completing the Adaptation Plan and, following its completion, any progress made toward implementation of adaptive measures, and any changes to the WWTF or other assets that may impact the current risk assessment. The first Adaptation Progress Report is due the first March 31 following completion of the Identification of Critical Vulnerable Assets (*Component 1*) and shall be included with the annual report required in Part I.C.3 below each year thereafter. The Adaptation Plan shall be revised if on- or off-site structures are added, removed, or otherwise significantly changed in any way that will impact the vulnerability of the WWTS or sewer system.

2. Sewer System

Operation and maintenance (O&M) of the sewer system shall be in compliance with 40 CFR § 122.41 (d) and (e) and the terms and conditions of the Part II Standard Conditions, B. Operation and Maintenance of Pollution Controls which is attached to this Permit. The Permittee and Co-permittees shall complete the following activities for the collection system which it owns:

a. Maintenance Staff

The Permittee and Co-permittees shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit. Provisions to meet this requirement shall be described in the Sewer System O&M Plan required pursuant to Part I.C.2.e. below.

b. Preventive Maintenance Program

The Permittee and Co-permittees shall maintain an ongoing preventive maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges. Plans and programs to meet this requirement shall be described in the Sewer System O&M Plan required pursuant to Part I.C.2.e. below.

c. Infiltration/Inflow

The Permittee and Co-permittees shall control infiltration and inflow (I/I) into the sewer system as necessary to prevent high flow related unauthorized discharges from their collection systems and high flow related violations of the wastewater treatment plant's effluent limitations. Plans and programs to control I/I shall be described in the Sewer System O&M Plan required pursuant to Part I.C.2.e. below.

d. Sewer System Mapping

The Permittee and Co-permittees shall maintain a map of the sewer collection system it owns. The map shall be on a street basemap of the community, with sufficient detail and at a scale to allow easy interpretation. The sewer system information shown on the map shall be based on current conditions and shall be kept up-to-date and available for review by federal, state, or local agencies. If any items listed below, such as the location of all outfalls, are not fully documented, the Permittee and Co-permittees must clearly identify each component of the dataset that is incomplete, as well as the date of the last update of the mapping product. Such map(s) shall include, but not be limited to the following:

(1) All sanitary sewer lines and related manholes;

(2) All combined sewer lines, related manholes, and catch basins;

(3) All combined sewer regulators and any known or suspected connections between the sanitary sewer and storm drain systems (e.g. combination manholes);

(4) All outfalls, including the treatment plant outfall(s), CSOs, and any known or suspected SSOs, including stormwater outfalls that are connected to combination manholes;

(5) All pump stations and force mains;

(6) The wastewater treatment facility(ies);

(7) All surface waters (labeled);

(8) Other major appurtenances such as inverted siphons and air release valves;

(9) A numbering system which uniquely identifies manholes, catch basins, overflow points, regulators and outfalls;

(10) Interconnections with collection systems owned by other entities;

(11) The scale and a north arrow; and

(12) The pipe diameter, date of installation, type of material, distance between manholes, and the direction of flow.

e. Sewer System Operation and Maintenance Plan

The Permittee and Co-permittee shall continue to update and implement a *Sewer System Operation and Maintenance Plan* it has previously submitted to EPA and the State for the portion of the system it owns. The Plan shall be available for review by federal, state and local agencies as requested. The Plan shall include:

(1) A description of the collection system management goals, staffing, information management, and legal authorities;

(2) A description of the collection system and the overall condition of the collection system including a list of all pump stations and a description of recent studies and construction activities;

(3) A preventive maintenance and monitoring program for the collection system;

(4) Description of sufficient staffing necessary to properly operate and maintain the sanitary sewer collection system and how the operation and maintenance program is staffed;

(5) Description of funding, the source(s) of funding and provisions for funding sufficient for implementing the plan;

(6) Identification of known and suspected overflows and back-ups, including manholes. A description of the cause of the identified overflows and back-ups, corrective actions taken, and a plan for addressing the overflows and back-ups consistent with the requirements of this permit;

(7) A description of the Permittee's programs for preventing I/I related effluent violations and all unauthorized discharges of wastewater, including overflows and by-passes and the ongoing program to identify and remove sources of I/I. The program shall include an inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts;

(8) An educational public outreach program for all aspects of I/I control, particularly private inflow; and

(9) An Overflow Emergency Response Plan to protect public health from overflows and unanticipated bypasses or upsets that exceed any effluent limitation in the permit.

3. Annual Reporting Requirement

The Permittee and Co-permittees shall submit a summary report of activities related to the implementation of its O&M Plans during the previous calendar year. The report shall be submitted to EPA and the State annually by March 31 (as an electronic attachment to the DMR). The summary report shall, at a minimum, include:

a. A description of the staffing levels maintained during the year;

b. A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year (including any related to reducing I/I);

c. Expenditures for any collection system maintenance activities and corrective actions taken during the previous year (including any related to reducing I/I);

d. A map with areas identified for investigation/action in the coming year;

e. A summary of unauthorized discharges during the past year and their causes and a report of any corrective actions taken as a result of the unauthorized discharges reported pursuant to the Unauthorized Discharges section of this permit;

f. If the average annual flow in the previous calendar year exceeded 80 percent of the facility's 18.0 MGD design flow (14.4 MGD), or there have been capacity related overflows, the report shall include:

(1) Plans for further potential flow increases describing how the Permittee will maintain compliance with the flow limit and all other effluent limitations and conditions; and

(2) A calculation of the maximum daily, weekly, and monthly infiltration and the maximum daily, weekly, and monthly inflow for the reporting year.

g. The Adaptation Plan Progress Report described in Part I.C.1.c above (beginning the first March 31 following 24 months from the effective date of the permit).

D. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the Permittee and Co-permittees shall provide an alternative power source(s) sufficient to operate the portion

of the publicly owned treatment works it owns and operates, as defined in Part II.E.1 of this permit.

E. INDUSTRIAL USERS AND PRETREATMENT PROGRAM

1. Legal Authority

The Permittee has been delegated primary responsibility for enforcing against discharges prohibited by 40 CFR 403.5 and applying and enforcing any national Pretreatment Standards established by the United States Environmental Protection Agency in accordance with Section 307 (b) and (c) of The Clean Water Act (Act), as amended by The Water Quality Act (WQA), of 1987.

The Permittee shall operate an industrial pretreatment program in accordance with the General Pretreatment Regulations found in 40 CFR Part 403 and the approved pretreatment program submitted by the Permittee. The pretreatment program was approved on July 31, 1982 and has subsequently incorporated substantial modifications as approved by EPA. The approved pretreatment program, and any approved modifications thereto, is hereby incorporated by reference and shall be implemented in a manner consistent with the following procedures, as required by 40 CFR Part 403.

The Permittee must have or develop a legally enforceable municipal code or rules and regulations to authorize or enable the POTW to apply and enforce the requirements of Sections 307(b) and (c) and 402(b)(8) and (9) of the Act and comply with the requirements of § 403.8(f)(1). At a minimum, this legal authority shall enable the POTW to:

a. Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the POTW by Industrial Users where such contributions do not meet applicable Pretreatment Standards and Requirements or where such contributions would cause the POTW to violate its NPDES permit;

b. Require compliance with applicable Pretreatment Standards and Requirements by Industrial Users;

c. Control through Permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users this control shall be achieved through permits or equivalent control mechanism identified as significant under § 403.3(v), as required by § 403.8(f)(1)(iii);

d. Require (a) the development of a compliance schedule by each Industrial User for the installation of technology required to meet applicable Pretreatment Standards and Requirements and (b) the submission of all notices and self-monitoring reports from Industrial Users as are necessary to assess and assure

compliance by Industrial Users with Pretreatment Standards and Requirements, including but not limited to the reports required in § 403.12;

e. Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and Requirements by Industrial Users. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP, but in no case less than once per year, and with adequate maintenance of records, Representatives of the POTW shall be authorized to enter any premises of any Industrial User in which a Discharge source or treatment system is located or in which records are required to be kept under § 403.12(o) to assure compliance with Pretreatment Standards. Such authority shall be at least as extensive as the authority provided under section 308 of the Act;

f. Obtain remedies for noncompliance by any Industrial User with any Pretreatment Standard and Requirement. All POTW's shall be able to seek injunctive relief for noncompliance by Industrial Users with Pretreatment Standards and Requirements. All POTWs shall also have authority to seek or assess civil or criminal penalties in at least the amount of $1,000 a day for each violation by Industrial Users of Pretreatment Standards and Requirements in accordance with § 403.8(f)(1)(vi)(A); and

g. Comply with the confidentiality requirements set forth in § 403.14.

2. Implementation Requirements

The Permittee shall operate a pretreatment program in accordance with the General Pretreatment Regulations found in 40 CFR Part 403 and with the legal authorities, policies, procedures, and financial provisions of the approved Pretreatment program submitted by the Permittee. The approved Pretreatment program, and any approved modifications thereto, is hereby incorporated by reference and shall be implemented in a manner consistent with the following procedures, as required by 40 CFR Part 403:

a. In accordance with 40 CFR § 122.44(j)(1), Identify, in terms of character and volume of pollutants contributed from Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of CWA and 40 CFR Part 403.

b. The Permittee must notify these identified Industrial Users of applicable Pretreatment Standards and any applicable requirements in accordance with 40 CFR § 403.8(f)(2)(iii). Pursuant to 40 CFR § 403.8(f)(6), prepare and maintain a list of significant industrial users and identify the criteria in 40 CFR § 403.3(v)(1)

applicable to each industrial user.

c. The Permittee must carry out inspection procedures and randomly sample and analyze the effluent from Industrial Users and conduct surveillance activities in accordance with 40 CFR § 403.8(f)(2)(v), which will determine independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.

d. The Permittee shall receive and analyze self-monitoring reports and other notices submitted by Industrial Users in accordance with the self-monitoring requirements in 40 CFR § 403.12; This must include timely and appropriate reviews of industrial user reports and notifications to identify all violations of the user's permit, the local ordinance, and federal pretreatment standards and requirements.

e. The Permittee shall evaluate whether each SIU needs a plan to control Slug Discharges in accordance with 40 CFR § 403.8(f)(2)(vi). SIUs must be evaluated within 1 year of being designated an SIU. If required, the Permittee shall require the SIU to prepare or update, and implement a slug prevention plan that contains at least the minimum required elements in 40 CFR § 403.8(f)(2)(vi)(A-D) and incorporate the slug control requirements into the SIU's control mechanism;

f. Pursuant to 40 CFR § 403.8(f)(2)(vii), the Permittee shall investigate instances of non-compliance with Pretreatment Standards and requirements indicated in required reports and notices or indicated by analysis, inspection, and surveillance activities.

g. The Permittee shall publish, at least annually, in a newspaper or newspapers of general circulation that provides meaningful public notice within the jurisdiction(s) served by the POTW, a list of all non-domestic users which, at any time in the previous 12 months, were in significant noncompliance as defined in 40 CFR § 403.8 (f)(2)(viii).

h. The Permittee shall provide sufficient resources and qualified personnel to implement its Pretreatment program in accordance with 40 CFR § 403.8(f)(3);

i. The Permittee shall enforce all applicable Pretreatment Standards and requirements and obtain remedies for noncompliance by any industrial user. The Permittee shall develop, implement, and maintain an enforcement response

plan in accordance with 40 CFR § 403.8(f)(5); and

j. Pursuant to 40 CFR § 403.8(g), the Permittee that chooses to receive electronic documents must satisfy the requirements of 40 CFR Part 3 – (Electronic reporting).

3. Local Limit Development

a. Pollutants introduced into the POTW or facility by a non-domestic source (user) shall not pass through the POTW or facility or interfere with the operation or performance of the works. The Permittee shall develop, continually maintain, and enforce, as necessary, local limits to implement the general and specific prohibitions in 40 CFR § 403.5(c)(1) which prohibit the introduction of any pollutant(s) which cause pass through or interference and the introduction of specific pollutants to the waste treatment system from any source of non-domestic discharge.

b. The Permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW Treatment Plant's Facilities or operation, are necessary to ensure continued compliance with the POTW's NPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond. Within 90 days of the effective date of the permit, the Permittee shall prepare and submit a written technical evaluation to EPA analyzing the need to revise local limits. As part of this evaluation, the Permittee shall assess how the POTW performs with respect to influent and effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety and collection system concerns. In preparing this evaluation, the Permittee shall complete and submit the attached form (see Attachment C – Reassessment of Technically Based Industrial Discharge Limits) with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the Permittee shall complete the revisions within 120 days of notification by EPA and submit the revisions to EPA for approval. The Permittee shall carry out the local limits revisions in accordance with EPA's Local Limit Development Guidance (July 2004).

4. Notification Requirements

a. The Permittee must notify EPA of any new introductions or any substantial change in pollutants from any Industrial User within sixty (60) days following the

introduction or change, as required in 40 CFR 122.42(b)(1-3). Such notice must identify:

(1) Any new introduction of pollutants from an Industrial User which would be subject to Sections 301, 306, and 307 of the Act if it were directly discharging those pollutants; or

(2) Any substantial change in the volume or character of pollutants being discharged by any Industrial User;

(3) For the purposes of this section, adequate notice shall include information on:

i. The identity of the Industrial User;
ii. The nature and concentration of pollutants in the discharge and the average and maximum flow of the discharge; and
iii. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from or biosolids produced at such POTW.

b. The Permittee must notify EPA as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required 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 pursuant to 40 CFR § 122.29 (b);

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged; or

(3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices.

c. The Permittee must notify EPA if the POTW modifies or intends to modify its Pretreatment Program.

d. The Permittee must notify EPA of any instance of pass through or interference, known or suspected to be related to a discharge from an Industrial User. The notification shall be attached to the DMR submitted EPA and shall describe the incident, including the date, time, length, cause, and the steps taken by the Permittee and Industrial User to address the incident.

e. The Permittee shall notify all Industrial Users of the users' obligations to comply with applicable requirements under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA) and that Industrial Users shall certify that

it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical as well as their obligation to notify the EPA Regional Waste Management Division Director, in writing of any discharge into the POTW of a substance, which, if otherwise disposed of, would be a hazardous waste under 40 CFR Part 261. Such notification must include:

(1) the name of the hazardous waste as set forth in 40 CFR Part 261;

(2) the EPA hazardous waste number; and

(3) the type of discharge (continuous, batch, or other).

5. Annual Report Requirements

The Permittee shall provide EPA with an annual report that briefly describes the POTW's program activities, including activities of all participating agencies, if more than one jurisdiction is involved in the local program. The report required by this section shall be submitted no later than one year after approval of the POTW's Pretreatment Program, and at least annually thereafter. The report must include, at a minimum, the applicable required data in Appendix A to 40 CFR Part 127, a summary of changes to the POTW's pretreatment program that have not been previously reported to EPA, and any other relevant information requested by EPA. AllB annual reports submitted in compliance with this section must be submitted electronically by the POTW Pretreatment Program to EPA or initial recipient, as defined in 40 CFR § 127.2(b). Electronic submittals shall be in compliance with this section and 40 CFR Part 3 (including, in all cases, subpart D to Part 3), 40 CFR § 122.22(e), and 40 CFR Part 127 (Part 127 is not intended to undo existing requirements for electronic reporting).

The Permittee shall provide EPA with an annual report describing the Permittee's pretreatment program activities for the twelve (12) month period ending 60 days prior to the due date in accordance with 40 CFR § 403.12(i). The annual report shall be developed via https://cdx.epa.gov/ and shall be submitted by **March 1st** of each year.

6. Beginning the first full calendar quarter following 6 months after the effective date of the permit, the Permittee shall collect or require annual sampling each calendar year for the following types of industrial discharges into the POTW:

- Commercial Car Washes
- Platers/Metal Finishers
- Paper and Packaging Manufacturers
- Tanneries and Leather/Fabric/Carpet Treaters

- Manufacturers of Parts with Polytetrafluoroethylene (PTFE) or teflon type coatings (*e.g.*, bearings)
- Landfill Leachate
- Centralized Waste Treaters
- Known or Suspected PFAS Contaminated Sites
- Fire Fighting Training Facilities
- Airports
- Any Other Known or Expected Sources of PFAS

Sampling shall be conducted using Method 1633 for the PFAS analytes listed in Attachment E. The industrial discharges sampled, and the sampling results shall be summarized and included in the annual report (see Part I.E.5).

F. SLUDGE CONDITIONS

1. The Permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices, including EPA regulations promulgated at 40 CFR § 503, which prescribe "Standards for the Use or Disposal of Sewage Sludge" pursuant to § 405(d) of the CWA, 33 U.S.C. § 1345(d).

2. If both state and federal requirements apply to the Permittee's sludge use and/or disposal practices, the Permittee shall comply with the more stringent of the applicable requirements.

3. The requirements and technical standards of 40 CFR Part 503 apply to the following sludge use or disposal practices:

    a. Land application - the use of sewage sludge to condition or fertilize the soil

    b. Surface disposal - the placement of sewage sludge in a sludge only landfill

    c. Sewage sludge incineration in a sludge only incinerator

4. The requirements of 40 CFR Part 503 do not apply to facilities which dispose of sludge in a municipal solid waste landfill. 40 CFR § 503.4. These requirements also do not apply to facilities which do not use or dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g., lagoons, reed beds), or are otherwise excluded under 40 CFR § 503.6.

5. The 40 CFR Part 503 requirements include the following elements:

    a. General requirements

    b. Pollutant limitations

c. Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)

d. Management practices

e. Record keeping

f. Monitoring

g. Reporting

Which of the 40 CFR Part 503 requirements apply to the Permittee will depend upon the use or disposal practice followed and upon the quality of material produced by a facility.

6. The sludge shall be monitored for pollutant concentrations (all Part 503 methods) and pathogen reduction and vector attraction reduction (land application and surface disposal) at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year, as follows:

less than 290	1/ year
290 to less than 1,500	1 /quarter
1,500 to less than 15,000	6 /year
15,000 +	1 /month

Sampling of the sewage sludge shall use the procedures detailed in 40 CFR § 503.8.

7. Under 40 CFR § 503.9(r), the Permittee is a "person who prepares sewage sludge" because it "is … the person who generates sewage sludge during the treatment of domestic sewage in a treatment works …." If the Permittee contracts with another "person who prepares sewage sludge" under 40 CFR § 503.9(r) – i.e., with "a person who derives a material from sewage sludge" – for use or disposal of the sludge, then compliance with Part 503 requirements is the responsibility of both the Permittee and the contractor engaged for that purpose. If the Permittee does not engage a "person who prepares sewage sludge," as defined in 40 CFR § 503.9(r), for use or disposal, then the Permittee remains responsible to ensure that the applicable requirements in Part 503 are met. 40 CFR § 503.7. If the ultimate use or disposal method is land application, the Permittee is responsible for providing the person receiving the sludge with notice and necessary information to comply with the requirements of 40 CFR § 503 Subpart B.

8. The Permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.10 (land application), § 503.20 (surface disposal), or § 503.40 (incineration)) by February 19 (see also "EPA Region 1 - NPDES Permit Sludge Compliance Guidance"). Reports shall be submitted electronically using EPA's Electronic Reporting tool ("NeTBIO") (see "Reporting Requirements" section below).

G. SPECIAL CONDITIONS

No special conditions.

H. 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

   The Permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and the State electronically using NetDMR no later than the 15th day of the month. When the Permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA or the State. NetDMR is accessible through EPA's Central Data Exchange at https://cdx.epa.gov/.

2. Submittal of Reports as NetDMR Attachments

   Unless otherwise specified in this permit, the Permittee and Co-permittee(s) shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. See Part I.H.7. 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 report due date specified in this permit.

3. Submittal of Industrial User and Pretreatment Related Reports

   All reports and information required of the Permittee in the Industrial Users and Pretreatment Program section of this permit must be done electronically as NetDMR attachments and/or using EPA's NPDES Electronic Reporting Tool ("NeT"), or another approved EPA system, which will be accessible through EPA's Central Data Exchange at https://cdx.epa.gov/. These requests, reports and notices include:

   a. Annual Pretreatment Reports,

   b. Pretreatment Reports Reassessment of Technically Based Industrial Discharge Limits Form,

   c. Revisions to Industrial Discharge Limits,

   d. Report describing Pretreatment Program activities, and

e. Proposed changes to a Pretreatment Program

4. Submittal of Biosolids/Sewage Sludge Reports

   By February 19 of each year, the Permittee must electronically report their annual Biosolids/Sewage Sludge Report for the previous calendar year using EPA's NPDES Electronic Reporting Tool ("NeTBIO"), which is accessible through EPA's Central Data Exchange at https://cdx.epa.gov/.

5. Submittal of Requests and Reports to EPA Water Division (WD)

   a. The following requests, reports, and information described in this permit shall be submitted to the NPDES Applications Coordinator in EPA Water Division (WD):

      (1) Transfer of permit notice;

      (2) Request for changes in sampling location;

      (3) Request for reduction in testing frequency;

      (4) Report on unacceptable dilution water / request for alternative dilution water for WET testing;

   b. These reports, information, and requests shall be submitted to EPA WD electronically at R1NPDESReporting@epa.gov.

6. Submittal of Sewer Overflow and Bypass Reports and Notifications

   The Permittee and Co-permittee(s) shall submit required reports and notifications under Part II.B.4.c, for bypasses, and Part II.D.1.e, for sanitary sewer overflows (SSOs) electronically using EPA's NPDES Electronic Reporting Tool ("NeT"), which will be accessible through EPA's Central Data Exchange at https://cdx.epa.gov/.

7. State Reporting

   Duplicate signed copies of all WET test reports shall be submitted to the Massachusetts Department of Environmental Protection, Division of Watershed Management, at the following address:

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

8. 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 ECAD at 617-918-1510
and
MassDEP Emergency Response at 888-304-1133

I. STATE 401 CERTIFICATION CONDITIONS

This permit is in the process of receiving state water quality certification issued by the State under § 401(a) of the CWA and 40 CFR § 124.53. EPA will incorporate all State water quality certification requirements (if any) into the Final Permit.

[NOTE: See Parts 2.2.5 and 5.7 of the Fact Sheet for more details regarding the State certification requirements.]

Attachment A - 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:

https://www.epa.gov/cwa-methods/whole-effluent-toxicity-methods

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 ADW with supporting documentation must be sent electronically to the NPDES Applications Coordinator in EPA Water Division (WD) at the following email address:

R1NPDESReporting@epa.gov

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 EPA Region 1 website at https://www.epa.gov/aboutepa/epa-region-1-new-england (click on NPDES, EPA Permit Attachments, Self-Implementing Alternate Dilution Water Guidance) for important details on alternate dilution water substitution requests.

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 + 1^{o}C or 25 + 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	≥ 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 + 1 ^{o} C or 25 + 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	> 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.

Attachment B - 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 https://www.epa.gov/cwa-methods/whole-effluent-toxicity-methods. 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 with supporting documentation must be sent electronically to the NPDES Applications Coordinator in EPA Water Division (WD) at the following email address:

R1NPDESReporting@epa.gov

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 https://www.epa.gov/aboutepa/epa-region-1-new-england (click on NPDES, EPA Permit Attachments, Self-Implementing Alternate Dilution Water Guidance) 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 www.epa.gov/cwa-methods/whole-effluent-toxicity-methods

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-1-003, June 2002, Section 6.4.2. This document can be located under Guidance Documents at the following USEPA website location: https://www.epa.gov/aboutepa/epa-region-1-new-england (click on NPDES, EPA Permit Attachments).

  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

ATTACHMENT C

EPA - New England

Reassessment of Technically Based Industrial Discharge Limits

Under 40 CFR §122.21(j)(4), all Publicly Owned Treatment Works (POTWs) with approved Industrial Pretreatment Programs (IPPs) shall provide the following information to the Director: a written evaluation of the need to revise local industrial discharge limits under 40 CFR §403.5(c)(1).

Below is a form designed by the U.S. Environmental Protection Agency (EPA - New England) to assist POTWs with approved IPPs in evaluating whether their existing Technically Based Local Limits (TBLLs) need to be recalculated. The form allows the permittee and EPA to evaluate and compare pertinent information used in previous TBLLs calculations against present conditions at the POTW.

Please read direction below before filling out form.

ITEM I.

* In Column (1), list what your POTW's influent flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present influent flow rate. Your current flow rate should be calculated using the POTW's average daily flow rate from the previous 12 months.

* In Column (1) list what your POTW's SIU flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present SIU flow rate.

* In Column (1), list what dilution ratio and/or 7Q10 value was used in your old/expired NPDES permit. In Column (2), list what dilution ration and/or 7Q10 value is presently being used in your new/reissued NPDES permit.

  The 7Q10 value is the lowest seven day average flow rate, in the river, over a ten year period. The 7Q10 value and/or dilution ratio used by EPA in your new NPDES permit can be found in your NPDES permit "Fact Sheet."

* In Column (1), list the safety factor, if any, that was used when your existing TBLLs were calculated.

* In Column (1), note how your bio-solids were managed when your existing TBLLs were calculated. In Column (2), note how your POTW is presently disposing of its biosolids and how your POTW will be disposing of its biosolids in the future.

ITEM II.

* List what your existing TBLLs are - as they appear in your current Sewer Use Ordinance (SUO).

ITEM III.

* Identify how your existing TBLLs are allocated out to your industrial community. Some pollutants may be allocated differently than others, if so please explain.

ITEM IV.

* Since your existing TBLLs were calculated, identify the following in detail:

  (1) if your POTW has experienced any upsets, inhibition, interference or pass-through as a result of an industrial discharge.

  (2) if your POTW is presently violating any of its current NPDES permit limitations - include toxicity.

ITEM V.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in pounds per day) received in the POTW's influent. Current sampling data is defined as data obtained over the last 24 month period.

  All influent data collected and analyzed must be in accordance with 40 CFR §136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace.

* Based on your existing TBLLs, as presented in Item II., list in Column (2), for each pollutant the Maximum Allowable Headwork Loading (MAHL) values derived from an applicable environmental criteria or standard, e.g. water quality, sludge, NPDES, inhibition, etc. For more information, please see EPA's Local Limit Guidance Document (July 2004).

Item VI.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in micrograms per liter) present your POTW's effluent. Current sampling data is defined as data obtained during the last 24 month period.

(Item VI. continued)

All effluent data collected and analyzed must be in accordance with 40 CFR §136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace.

* List in Column (2A) what the Water Quality Standards (WQS) were (in micrograms per liter) when your TBLLs were calculated, please note what hardness value was used at that time. Hardness should be expressed in milligram per liter of Calcium Carbonate.

  List in Column (2B) the current WQSs or "Chronic Gold Book" values for each pollutant multiplied by the dilution ratio used in your new/reissued NPDES permit. For example, with a dilution ratio of 25:1 at a hardness of 25 mg/l - Calcium Carbonate (copper's chronic WQS equals 6.54 ug/l) the chronic NPDES permit limit for copper would equal 156.25 ug/l.

ITEM VII.

* In Column (1), list all pollutants (in micrograms per liter) limited in your new/reissued NPDES permit. In Column (2), list all pollutants limited in your old/expired NPDES permit.

ITEM VIII.

* Using current sampling data, list in Column (1) the average and maximum amount of pollutants in your POTW's biosolids. Current data is defined as data obtained during the last 24 month period. Results are to be expressed as total dry weight.

  All biosolids data collected and analyzed must be in accordance with 40 CFR §136.

  In Column (2A), list current State and/or Federal sludge standards that your facility's biosolids must comply with. Also note how your POTW currently manages the disposal of its biosolids. If your POTW is planing on managing its biosolids differently, list in Column (2B) what your new biosolids criteria will be and method of disposal.

In general, please be sure the units reported are correct and all pertinent information is included in your evaluation. If you have any questions, please contact your pretreatment representative at EPA - New England.

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

POTW Name & Address : _____

NPDES PERMIT # : _____

Date EPA approved current TBLLs : _____

Date EPA approved current Sewer Use Ordinance : _____

ITEM I.

In Column (1) list the conditions that existed when your current TBLLs were calculated. In Column (2), list current conditions or expected conditions at your POTW.		
	Column (1) EXISTING TBLLs	Column (2) PRESENT CONDITIONS
POTW Flow (MGD)		
Dilution Ratio or 7Q10 (from NPDES Permit)		
SIU Flow (MGD)		
Safety Factor		N/A
Biosolids Disposal Method(s)		

ITEM II.

EXISTING TBLLs			
POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)	POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)

ITEM III.

Note how your existing TBLLs, listed in Item II., are allocated to your Significant Industrial Users (SIUs), i.e. uniform concentration, contributory flow, mass proportioning, other. Please specify by circling.

ITEM IV.

Has your POTW experienced any upsets, inhibition, interference or pass-through from industrial sources since your existing TBLLs were calculated?
If yes, explain.

_____

_____

Has your POTW violated any of its NPDES permit limits and/or toxicity test requirements?

If yes, explain.

_____

_____

ITEM V.

Using current POTW influent sampling data fill in Column (1). In Column (2), list your Maximum Allowable Headwork Loading (MAHL) values used to derive your TBLLs listed in Item II. In addition, please note the Environmental Criteria for which each MAHL value was established, i.e. water quality, sludge, NPDES etc.				
Pollutant	Column (1) Influent Data Analyses Maximum (lb/day)	Average (lb/day)	Column (2) MAHL Values (lb/day)	Criteria
Arsenic				
Cadmium				
Chromium				
Copper				
Cyanide				
Lead				
Mercury				
Nickel				
Silver				
Zinc				
Other (List)				

ITEM VI.

Using current POTW effluent sampling data, fill in Column (1). In Column (2A) list what the Water Quality Standards (Gold Book Criteria) were at the time your existing TBLLs were developed. List in Column (2B) current Gold Book values multiplied by the dilution ratio used in your new/reissued NPDES permit.

Pollutant	Column (1) Effluent Data Analyses		Columns (2A) (2B) Water Quality Criteria (Gold Book) From TBLLs Today	
	Maximum (ug/l)	Average (ug/l)	(ug/l)	(ug/l)
Arsenic				
*Cadmium				
*Chromium				
*Copper				
Cyanide				
*Lead				
Mercury				
*Nickel				
Silver				
*Zinc				
Other (List)				

*Hardness Dependent (mg/l - CaCO3)

ITEM VII.

In Column (1), identify all pollutants limited in your new/reissued NPDES permit. In Column (2), identify all pollutants that were limited in your old/expired NPDES permit.			
Column (1) NEW PERMIT Pollutants Limitations (ug/l)		Column (2) OLD PERMIT Pollutants (ug/l)	Limitations

ITEM VIII.

Using current POTW biosolids data, fill in Column (1). In Column (2A), list the biosolids criteria that was used at the time your existing TBLLs were calculated. If your POTW is planing on managing its biosolids differently, list in Column (2B) what your new biosolids criteria would be and method of disposal.

Pollutant	Column (1) Biosolids Data Analyses Average (mg/kg)	Columns (2A) (2B) Biosolids Criteria From TBLLs New (mg/kg)	(mg/kg)
Arsenic			
Cadmium			
Chromium			
Copper			
Cyanide			
Lead			
Mercury			
Nickel			
Silver			
Zinc			
Molybdenum			
Selenium			
Other (List)			

ATTACHMENT D

NPDES PERMIT REQUIREMENT
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

The information described below shall be included in the pretreatment program annual reports:

1. An updated list of all industrial users by category, as set forth in 40 C.F.R. 403.8(f)(2)(i), indicating compliance or noncompliance with the following:
   - baseline monitoring reporting requirements for newly promulgated industries
   - compliance status reporting requirements for newly promulgated industries
   - periodic (semi-annual) monitoring reporting requirements,
   - categorical standards, and
   - local limits;

2. A summary of compliance and enforcement activities during the preceding year, including the number of:
   - significant industrial users inspected by POTW (include inspection dates for each industrial user),
   - significant industrial users sampled by POTW (include sampling dates for each industrial user),
   - compliance schedules issued (include list of subject users),
   - written notices of violations issued (include list of subject users),
   - administrative orders issued (include list of subject users),
   - criminal or civil suits filed (include list of subject users) and,
   - penalties obtained (include list of subject users and penalty amounts);

3. A list of significantly violating industries required to be published in a local newspaper in accordance with 40 C.F.R. 403.8(f)(2)(vii);

4. A narrative description of program effectiveness including present and proposed changes to the program, such as funding, staffing, ordinances, regulations, rules and/or statutory authority;

5. A summary of all pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus threshold inhibitory concentrations for the Wastewater Treatment System and effluent sampling results versus water quality standards. Such a comparison shall be based on the sampling program described in the paragraph below or any similar sampling program described in this Permit.

At a minimum, annual sampling and analysis of the influent and effluent of the Wastewater Treatment Plant shall be conducted for the following pollutants:

a.) Total Cadmium	f.) Total Nickel
b.) Total Chromium	g.) Total Silver
c.) Total Copper	h.) Total Zinc
d.) Total Lead	i.) Total Cyanide
e.) Total Mercury	j.) Total Arsenic

The sampling program shall consist of one 24-hour flow-proportioned composite and at least one grab sample that is representative of the flows received by the POTW. The composite shall consist of hourly flow-proportioned grab samples taken over a 24-hour period if the sample is collected manually or shall consist of a minimum of 48 samples collected at 30 minute intervals if an automated sampler is used. Cyanide shall be taken as a grab sample during the same period as the composite sample. Sampling and preservation shall be consistent with 40 CFR Part 136.

6. A detailed description of all interference and pass-through that occurred during the past year;

7. A thorough description of all investigations into interference and pass-through during the past year;

8. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying parameters and frequencies;

9. A description of actions being taken to reduce the incidence of significant violations by significant industrial users; and,

10. The date of the latest adoption of local limits and an indication as to whether or not the permittee is under a State or Federal compliance schedule that includes steps to be taken to revise local limits.

Attachment E: PFAS Analyte List

Target Analyte Name	Abbreviation	CAS Number
Perfluoroalkyl carboxylic acids		
Perfluorobutanoic acid	PFBA	375-22-4
Perfluoropentanoic acid	PFPeA	2706-90-3
Perfluorohexanoic acid	PFHxA	307-24-4
Perfluoroheptanoic acid	PFHpA	375-85-9
Perfluorooctanoic acid	PFOA	335-67-1
Perfluorononanoic acid	PFNA	375-95-1
Perfluorodecanoic acid	PFDA	335-76-2
Perfluoroundecanoic acid	PFUnA	2058-94-8
Perfluorododecanoic acid	PFDoA	307-55-1
Perfluorotridecanoic acid	PFTrDA	72629-94-8
Perfluorotetradecanoic acid	PFTeDA	376-06-7
Perfluoroalkyl sulfonic acids		
Acid Form		
Perfluorobutanesulfonic acid	PFBS	375-73-5
Perfluoropentansulfonic acid	PFPeS	2706-91-4
Perfluorohexanesulfonic acid	PFHxS	355-46-4
Perfluoroheptanesulfonic acid	PFHpS	375-92-8
Perfluorooctanesulfonic acid	PFOS	1763-23-1
Perfluorononanesulfonic acid	PFNS	68259-12-1
Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluorododecanesulfonic acid	PFDoS	79780-39-5
Fluorotelomer sulfonic acids		
1*H*,1*H*, 2*H*, 2*H*-Perfluorohexane sulfonic acid	4:2FTS	757124-72-4
1*H*,1*H*, 2*H*, 2*H*-Perfluorooctane sulfonic acid	6:2FTS	27619-97-2
1*H*,1*H*, 2*H*, 2*H*-Perfluorodecane sulfonic acid	8:2FTS	39108-34-4
Perfluorooctane sulfonamides		
Perfluorooctanesulfonamide	PFOSA	754-91-6
N-methyl perfluorooctanesulfonamide	NMeFOSA	31506-32-8
N-ethyl perfluorooctanesulfonamide	NEtFOSA	4151-50-2
Perfluorooctane sulfonamidoacetic acids		
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	2355-31-9
N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA	2991-50-6
Perfluorooctane sulfonamide ethanols		
N-methyl perfluorooctanesulfonamidoethanol	NMeFOSE	24448-09-7
N-ethyl perfluorooctanesulfonamidoethanol	NEtFOSE	1691-99-2
Per- and Polyfluoroether carboxylic acids		
Hexafluoropropylene oxide dimer acid	HFPO-DA	13252-13-6
4,8-Dioxa-3*H*-perfluorononanoic acid	ADONA	919005-14-4
Perfluoro-3-methoxypropanoic acid	PFMPA	377-73-1
Perfluoro-4-methoxybutanoic acid	PFMBA	863090-89-5
Nonafluoro-3,6-dioxaheptanoic acid	NFDHA	151772-58-6

Target Analyte Name	Abbreviation	CAS Number
Ether sulfonic acids		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9Cl-PF3ONS	756426-58-1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	763051-92-9
Perfluoro(2-ethoxyethane)sulfonic acid	PFEESA	113507-82-7
Fluorotelomer carboxylic acids		
3-Perfluoropropyl propanoic acid	3:3FTCA	356-02-5
2H,*2H*,*3H*,*3H*-Perfluorooctanoic acid	5:3FTCA	914637-49-3
3-Perfluoroheptyl propanoic acid	7:3FTCA	812-70-4

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
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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: MA0101010

PUBLIC NOTICE START AND END DATES: January 22, 2025 to February 21, 2025

NAME AND MAILING ADDRESS OF APPLICANT:

City of Brockton
45 School Street
Brockton, MA

The Massachusetts municipalities of Abington and Whitman are Co-permittees for specific activities required by the permit. See Sections 5.4 and 5.5 of this Fact Sheet and Sections I.B., I.C., I.D. of the Draft Permit. The responsible Town departments are:

Town of Abington Sewer Department 350 Summer Street Abington, MA 02351	Town of Whitman Department of Public Works 100 Essex Street, P.O. Box 454 Whitman, MA 02382

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Brockton Advanced Water Reclamation Facility
303 Oak Hill Way
Brockton, MA

RECEIVING WATER AND CLASSIFICATION:

Salisbury Plain River (Segment MA62-06)
Taunton River Watershed
Class B – Warm Water Fishery

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Appendix D – EPA Region 1 NPDES Permitting Approach for Publicly Owned Treatment Works that Include Municipal Satellite Sewage Collection Systems

Appendix E – List for Pollutant Scans

1.0 Proposed Action

The above-named applicant (the Permittee) has applied to the U.S. Environmental Protection Agency (EPA) for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge from the Brockton Advanced Water Reclamation Facility (the Facility) into the Salisbury Plain River.

The permit currently in effect was issued on January 11, 2017, with an effective date of April 1, 2017 and expired on March 31, 2022 (the 2017 Permit). The Permittee filed an application seeking NPDES permit reissuance from EPA dated September 17, 2021, as required by 40 Code of Federal Regulations (CFR) § 122.6. Since the permit application was deemed timely and complete by EPA on October 7, 2021, the Facility's 2017 Permit has been administratively continued pursuant to 40 CFR § 122.6 and § 122.21(d). EPA and the State conducted a site visit on November 19, 2024.

2.0 Statutory and Regulatory Authority for Setting NPDES Permit Requirements

Congress enacted the Federal Water Pollution Control Act, codified at 33 U.S.C. § 1251-1387 and commonly known as the Clean Water Act (CWA), "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 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 to the extent authorized under specific provisions of the CWA, one of which is § 402. *See* CWA §§ 301(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" on the condition that the discharge will comply with the standards specified in certain other provisions of the statute (e.g., CWA §§ 301, 306 and 403). CWA § 402(a)(1). 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 CFR Parts 122, 124, 125, and 136.

"Congress has vested in the Administrator [of EPA] broad discretion to establish conditions for NPDES permits" in order to achieve the statutory mandates of Sections 301 and 402 of the CWA. *Arkansas v. Oklahoma,* 503 U.S. 91, 105 (1992). Technology=based effluent limitations (TBELs) represent the minimum level of pollutant discharge control that must be satisfied under Sections 301(b) and 402(a)(1) of the CWA. *See also* 40 CFR § 125.3(a). When limits more stringent than technology=based limits are needed to maintain or achieve compliance with state water quality standards (WQS), then NPDES permit must include water quality-based limitations. See CWA §§ 301(b)(1)(C) and 401; 40 CFR §§ 122.4(d), 122.44(d)(1) and (5), 124.53, and 124.55.

2.1 Technology-Based Requirements

Technology-based limitations, generally developed on an industry-by-industry basis, reflect a specified level of pollutant reducing technology available and economically achievable for the type of facility being permitted. *See* CWA § 301(b). As a class, publicly owned treatment works (POTWs) must meet performance-based requirements based on available wastewater treatment technology. *See* CWA § 301(b)(1)(B). The performance level for POTWs is referred to as "secondary treatment." Secondary treatment is comprised of technology-based requirements expressed in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS) and pH. *See* 40 CFR Part 133.

Under CWA § 301(b)(1), POTWs must have achieved effluent limits based upon secondary treatment technology by July 1, 1977. Since all statutory deadlines for meeting various treatment technology-based effluent limitations established pursuant to the CWA have expired, when technology-based effluent limits are included in a permit, compliance with those limitations is from the date the issued permit becomes effective. *See* 40 CFR § 125.3(a)(1).

2.2 Water Quality-Based Requirements

The CWA and federal regulations also require that permit limits 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* CWA § 301(b)(1)(C) and 40 CFR §§ 122.44(d)(1), 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 CFR § 131.10-12. Generally, WQSs consist of three parts: 1) the designated use or uses assigned 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) antidegradation 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 CFR § 131.12. The applicable State WQSs can be found in Title 314 of the Code of Massachusetts Regulations, Chapter 4 (314 CMR 4.00)

As a matter of state law, state WQSs specify different water body classifications, each of which is associated with certain designated uses and particular numeric and narrative water quality criteria intended to help attain the designated uses. Then the state assigns one of the water body classifications to each water body in the state. When using chemical-specific numeric criteria to develop permit limitations, 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, therefore, are typically applicable to average monthly limits.

When permit effluent limitation(s) are necessary to ensure that the receiving water meets narrative water quality criteria, the permitting authority must establish effluent limits in one of the following three ways: 1) 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," 2) based on a "case-by-case basis" using CWA § 304(a) recommended water quality criteria, supplemented as necessary by other relevant information; or, 3) in certain circumstances, based on use of an indicator parameter. *See* 40 CFR § 122.44(d)(1)(vi)(A-C).

2.2.2 Antidegradation

Federal regulations found at 40 CFR § 131.12 require states to develop and adopt a statewide antidegradation 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 antidegradation policy ensures maintenance of high quality waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water, 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 antidegradation 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 Procedures for the Antidegradation Provisions of the Massachusetts Surface Water Quality Standards, 314 CMR 4.00." dated October 21, 2009. According to the policy, no lowering of water quality is allowed, except in accordance with the antidegradation policy, and all existing in-stream uses, and the level of water quality necessary to protect the existing uses of a receiving water body must be maintained and protected.

This permit is being reissued with effluent limitations sufficiently stringent to satisfy the State's antidegradation requirements, including the protection of the existing uses of the receiving water.

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, 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 essentially provides a pollution budget designed to restore the health of an impaired water body. A TMDL typically identifies the source(s) of the pollutant from point sources and non-point sources, determines the maximum load of the pollutant that the water body can tolerate while still attaining WQSs for the designated uses, and allocates that load among to the various sources, including point source discharges, subject to NPDES permits. *See* 40 CFR § 130.7.

For impaired waters where a TMDL has been developed for a particular pollutant and the TMDL includes a waste load allocation (WLA) for a NPDES permitted discharge, the effluent limitation in the permit must be "consistent with the assumptions and requirements of any available WLA". 40 CFR § 122.44(d)(1)(vii)(B).

2.2.4 Reasonable Potential

Pursuant to CWA § 301(b)(1)(C), 33 U.S.C. § 1311(b)(1)(C), and 40 CFR § 122.44(d)(1), NPDES permits must contain any requirements in addition to TBELs that are necessary to achieve water quality standards established under § 303 of the CWA. In addition, permit limits "must control any pollutant or pollutant parameter (conventional, non-conventional, or toxic) which the permitting authority 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." 40 CFR § 122.44(d)(1)(i). To determine if the discharge causes, or has the reasonable potential to cause, or contribute to an excursion above any WQS, 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 by the receiving water. *See* 40 CFR § 122.44(d)(1)(ii).

If the permitting authority determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to an excursion above WQSs, the permit must contain WQBELs for that pollutant. *See* 40 CFR § 122.44(d)(1)(i).

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 the State waives, or is deemed to have waived, its right to certify. *See* 33 U.S.C. § 1341(a)(1). Regulations governing state certification are set forth in 40 CFR § 124.53 and § 124.55. EPA has requested permit certification by the State pursuant to 40 CFR § 124.53 and expects that the Draft Permit will be certified.

If the State believes that conditions more stringent than those contained in the Draft Permit are necessary to meet the requirements of either CWA §§ 208(e), 301, 302, 303, 306 and 307, or applicable requirements of State law, the State should include such conditions in its certification. The only exception to this is that the permit conditions/requirements regulating sewage sludge management and implementing CWA § 405(d) are not subject to the 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 EPA's permit appeal procedures of 40 CFR Part 124.

In addition, the State may 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.

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." 40 CFR § 124.55(b). EPA regulations pertaining to permit limitations based upon WQSs and State requirements are contained in 40 CFR §§ 122.4(d) and 122.44(d).

See Section 5.7 below for a detailed discussion of the expected state certification conditions and the potential impact to the permit. Note that the draft state certification will also be made available for public comment[1] by the State separately from this Draft Permit as part of the permit reissuance process. EPA does not have authority to make changes to the state certification conditions. Any comments regarding the draft state certification conditions should be made directly to MassDEP as part of that separate public notice.

[1] Once the public notice period for the MassDEP's draft 401 certification begins, it will be posted here: https://www.mass.gov/info-details/massdep-permits-approvals-for-comment. Following MassDEP's public notice period, the draft certification will be moved to here: https://www.mass.gov/info-details/massachusetts-draft-individual-surface-water-discharge-permits-and-associated-documents.

2.3 Effluent Flow Requirements

Sewage treatment plant discharge is encompassed within the definition of "pollutant" and is subject to regulation under the CWA. The CWA defines "pollutant" to mean, *inter alia*, "municipal...waste" and "sewage…discharged into water." 33 U.S.C. § 1362(6).

Generally, EPA uses a discharger's effluent flow volume both to determine whether an NPDES permit needs certain effluent limitations and to calculate the limitations themselves. EPA practice is to use effluent flow as a reasonable and important worst-case condition in its reasonable potential and WQBEL calculations to ensure compliance with WQSs under CWA § 301(b)(1)(C). Should a facility's effluent flow exceed the flow assumed in these calculations, the in-stream dilution would be reduced, and the calculated effluent limitations might not be sufficiently protective (i.e. might not meet WQSs). Further, pollutants that do not have the reasonable potential to exceed WQSs at a lower discharge flow may have a reasonable potential to do so at a higher flow due to the decreased dilution in the receiving water (which, conversely, means there will be a higher concentration of the pollutants). In order to ensure that the assumptions underlying EPA's reasonable potential analyses and permit effluent limitation derivations remain sound for the duration of the permit, EPA may ensure the validity of its "worst-case" effluent flow assumptions through imposition of permit conditions for effluent flow.[2] In this regard, the effluent flow limitation is a component of an WQBELs because the WQBELs are premised on a maximum level flow. The effluent flow limit may also be necessary to ensure that other pollutants remain at levels that do not have a reasonable potential to exceed WQSs.

The limitation on wastewater effluent flow is within EPA's authority to condition a permit to carry out the objectives of the Act. *See* CWA §§ 402(a)(2) and 301(b)(1)(C); 40 CFR §§ 122.4(a) and (d), 122.43 and 122.44(d). A condition on the discharge designed to ensure the WQBEL and reasonable potential calculations account for "worst case" conditions is encompassed by the references to "condition" and "limitations" in CWA §§ 402 and 301 and implementing regulations, as they are designed to assure compliance with applicable water quality regulations, including antidegradation. Regulating the quantity of pollutants in the discharge through a restriction on the quantity of wastewater effluent is consistent with the overall structure and purposes of the CWA.

Setting limits on effluent flow volumes is within EPA's authority to condition a permit to carry out the objectives and satisfy the requirements of the CWA. *See* CWA §§ 402(a)(2) and 301(b)(1)(C); 40 CFR §§ 122.4(a) and (d), 122.43 and 122.44(d). Regulating the quantity of pollutants in the discharge through a restriction on the quantity of effluent is also consistent with EPA's authorities under the CWA.

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[2] EPA's regulations regarding "reasonable potential" require EPA to consider "where appropriate, the dilution of the effluent in the receiving water," *id* 40 CFR §122.44(d)(1)(ii). *Both* the effluent flow and receiving water flow may be considered when assessing reasonable potential. *In re Upper Blackstone Water Pollution Abatement Dist.,* 14 E.A.D. 577. 599 (EAB 2010). EPA guidance directs that this "reasonable potential: analysis be based on "worst-case" conditions. *See In re Washington Aquaduct Water Supply Sys.* 11 E.A.D. 565, 584 (EAB 2004).

As provided in Part II.B.1 (Standard Conditions) of the proposed permit and 40 CFR § 122.41(e), the Permittee is required to properly operate and maintain all facilities and systems of treatment and control. Improper operation and maintenance may result in non-compliance with permit effluent limitations. Consequently, an effluent flow limit is a permit condition that relates to the Permittee's duty to mitigate (*i.e.*, minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment) and to properly operate and maintain the treatment works. *See* 40 CFR §§ 122.41(d), (e).

EPA has also included the effluent flow limit in the permit to minimize or prevent infiltration and inflow (I/I) that may result in unauthorized discharges and compromise proper operation and maintenance of the facility. Improper operation and maintenance may result in non-compliance with permit effluent limitations. Infiltration is groundwater that enters the collection system through physical defects such as cracked pipes or deteriorated joints. Inflow is extraneous flow added to the collection system that enters the collection system through point sources such as roof leaders, yard and area drains, sump pumps, manhole covers, tide gates, and cross connections from storm water systems. Significant I/I in a collection system may displace sanitary flow, reducing the capacity available for treatment and the operating efficiency of the treatment works and to properly operate and maintain the treatment works.

Furthermore, the extraneous flow due to significant I/I greatly increases the potential for sanitary sewer overflows (SSOs) in separate systems. Consequently, the effluent flow limit is a permit condition that relates to the permittee's duty to mitigate (*i.e.*, minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment) and to properly operate and maintain the treatment works. *See* 40 CFR §§ 122.41(d), (e).

2.4 Monitoring and Reporting Requirements

2.4.1 Monitoring Requirements

Sections 308(a) and 402(a)(2) of the CWA and the implementing regulations at 40 CFR Parts 122, 124, 125, and 136 authorize EPA to include monitoring and reporting requirements in NPDES permits.

The monitoring requirements included in this permit have been established to yield data representative of the Facility's discharges in accordance with CWA §§ 308(a) and 402(a)(2), and consistent with 40 CFR §§ 122.41(h), (j), and (l)(9), 122.43(a), 122.44(i) and 122.48. The Draft Permit specifies routine sampling and analysis requirements to provide ongoing, representative information on the levels of regulated constituents in the discharges. The monitoring program is needed to enable EPA and the State to assess the characteristics of the Facility's effluent, whether Facility discharges are complying with permit limits, and whether different permit conditions may be necessary in the future to ensure compliance with technology-based and

water quality-based standards under the CWA. 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 CWA § 304(a)(1), 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 CFR Part 122.

NPDES permits require that the approved analytical procedures found in 40 CFR Part 136 be used for sampling and analysis unless other procedures are explicitly specified. *See* 40 CFR § 122.41 (j)(4). 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 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 CFR § 122.21(e)(3) (completeness), 40 CFR § 122.44(i)(1)(iv) (monitoring requirements) and/or as cross referenced at 40 CFR § 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 effluent limitation established in the permit 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 analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

2.4.2 Reporting Requirements

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

[3] Fed. Reg. 49,001 (Aug 19, 2014).

[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* Fed. Reg. 49,001 (Aug. 19, 2014).

NetDMR is a national web-based tool enabling regulated CWA permittees to submit DMRs electronically via a secure internet application to EPA through the Environmental Information Exchange Network. NetDMR has eliminated the need for participants to mail in paper forms to EPA under 40 CFR §§ 122.41 and 403.12. NetDMR is accessible through EPA's Central Data Exchange at https://cdx.epa.gov/. Further information about NetDMR can be found on EPA's NetDMR support portal webpage.[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 Final 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 Standard Conditions

The Standard Conditions, included as Part II of the Draft Permit, are based on applicable regulations found in the EPA's NPDES permitting regulations. *See* 40 CFR Part 122.41 *See also, generally,* 40 CFR Part 122.

2.6 Anti-backsliding

The CWA's anti-backsliding requirements prohibit a permit from being renewed, reissued or modified to include with less stringent limitations or conditions than those contained in a previous permit except in compliance with one of the specified exceptions to those requirements. *See* CWA §§ 402(o) and 303(d)(4) and 40 CFR § 122.44(l). Anti-backsliding provisions apply to effluent limits based on technology, water quality and/or state certification requirements.

All proposed limitations in the Draft Permit are at least as stringent as limitations included in the 2017 Permit unless specific conditions exist to justify relaxation in accordance with CWA § 402(o) or § 303(d)(4). Discussion of any less stringent limitations and corresponding exceptions to anti-backsliding provisions is provided in the sections that follow.

3.0 Description of Facility and Discharge

3.1 Location and Type of Facility

The location of the treatment plant and Outfall 001 to Salisbury Plain River are shown in Figure 1. The latitude and longitude of the outfall is 42° 2' 47" N and 71° 0' 21" W.

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

The Brockton Advanced Water Reclamation Facility (WWTF) is an advanced wastewater treatment facility that is engaged in the collection and treatment of municipal, commercial, and industrial wastewater. Currently, the Facility serves approximately 105,643 residents in the Town of Brockton, 10,000 residents in the Town of Whitman and 10,000 residents in the Town of Abington.

The limits and conditions in the 2017 Permit were based on a design flow of 18 MGD. The annual average daily flow reported in the 2021 application was 16.5 MGD and the median annual rolling average flow for the last 5 years has been 16.05 MGD.

The system is a separate system with no combined sewers. Wastewater is comprised of mostly domestic sewage with some industrial wastewater. There are 13 significant industrial users (SIUs) that discharge to the POTW. Pollutants introduced into POTWs by a non-domestic source shall not pass through the POTW or interfere with the operation or performance of the treatment works. The industrial users are:

COMPANY	**CATEGORY**	**FLOW TO WWTF (gpd)**
Categorical Industrial Users (CIUs)		
Barbour Corporation	Plastics Manufacturing	3,332
GTR Finishing	Metal Finishing	344
GTR Manufacturing	Metal Fabrication	0 (zero discharge)
Lyne Laboratories	Pharmaceuticals	10,858
Atrenne Computing Solutions	Electronics	1,267
Non-Categorical Significant Industrial Users (SIUs)		
Bay State Linen	Commercial Laundry	2,100
Churchill Linen	Commercial Linen	998
Concord Foods	Food Industry	45,029
Crown Uniform and Linen	Commercial Laundry	62,178
PAM Health-Stoughton	Hospital	6,495
Good Samaritan Medical Center	Hospital	70,000
Signature Healthcare/Brockton Hospital	Hospital	50,000
Veterans Administration Hospital	Hospital	441,000
	Total Flow	**692,700 gpd**

A quantitative description of the discharge in terms of effluent parameters, based on monitoring data submitted by the Permittee from September 2019 through August 2024 is provided in Appendix A of this Fact Sheet.

Additionally, EPA is retaining two Co-permittees to the Draft Permit. The Towns of Abington and Whitman, Massachusetts own and operate sanitary wastewater collection systems that discharge flows to the Facility for treatment. These municipalities are Co-permittees for certain

activities pertaining to proper operation and maintenance of their respective collection systems (See Parts I.B, I.C. and I.D of the Draft Permit). Including them in the Draft Permit ensures that they comply with requirements to operate and maintain the collection systems to avoid discharges of sewage from the collection systems. These Co-permittees did not apply for permit coverage; with letters sent November 13, 2024, EPA waived application requirements for these co-permittees. The legal basis for including municipal satellite collection systems as co-permittees is described in *In re Charles River Pollution Control District*, 16 E.A.D. 623 (EAB 2015)[6].

3.1.1 Treatment Process Description

The Brockton Advanced Water Reclamation Facility is an advanced secondary wastewater treatment plant that was originally constructed in 1963 with a design flow of 18 MGD. The facility was upgraded in 2010 which included the conversion of the existing aeration basins into a biological nitrogen removal system; replacement of sludge collection equipment in the primary clarifiers; expansion of the existing effluent filter capacity; installation of chemical systems to achieve chemical phosphorus removal; replacement of the sodium hypochlorite disinfection system with a new ultraviolet (UV) disinfection system; new electrical feed/distribution systems; and odor control. According to the City's application[7], this upgrade increased the capacity of the facility to 20.49 MGD. However, the City has not received authorization for an increased flow limit above the 18 MGD flow limit pursuant to the State's antidegradation policy.[8]

At the headworks wastewater is screened and passes through grit removal, then flows to the influent pump station and a distribution structure to one of four primary clarification tanks. After settling in the primary clarifiers, the flow continues through one of two parallel treatment trains. The north train consists of four aeration basins and three secondary clarifiers. The south treatment train consists of three aeration basins and three secondary clarifiers. Each set of aeration basins was upgraded as of 2010 to a biological nitrogen removal system with chemical phosphorus removal. Flows to the south treatment train pass through the primary effluent lift station and in extremely high flow conditions primary effluent is occasionally diverted directly from the primary effluent lift station to UV disinfection (secondary bypass; see restrictions on such practices at Draft Permit Part II.B.4). After settling in the secondary clarifiers, the flow is recombined at the Filter Building, containing four AquaDiamond® cloth media filters and two sand filters. The effluent then flows to UV disinfection and passes over a reaeration cascade to the Salisbury Plain River. A flow diagram of the Treatment Facility is shown in Figure 2.

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[6] The decision is available at: https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Published%20and%20Unpublished%20Decisions/F89699D1A0710BCF85257DE200717A93/$File/Charles%20River%20Decision%20Vol%2016.pdf

[7] NPDES Application Form 2A, Section 1.10. September 17, 2021

[8] EPA regulation at 40 CFR § 131.12 requires states to develop and adopt an antidegradation policy and methods for implementing such policy. Massachusetts' Antidegradation Provisions are set forth in the Massachusetts Surface Water Quality Standards, 314 CMR 4.04.

Raw sludge is gravity thickened, passed through a pair of centrifuges and treated with polymer. Processed sludge is transported to the Naugatuck Water Pollution Control Facility for incineration. The average mass of sludge shipped for incineration in 2020 was 4,413 dry metric tons.

3.1.2 Collection System Description

The Brockton AWRF is served by a separate sewer system. A separate sanitary sewer conveys domestic, industrial and commercial sewage, but not stormwater. It is part of a "two pipe system" consisting of separate sanitary sewers and storm sewers. The two systems have no interconnections; the sanitary sewer leads to the wastewater treatment plant and the storm sewers discharge to a local water body.

4.0 Description of Receiving Water and Dilution

4.1 Receiving Water

The Brockton AWRF discharges through Outfall 001 into the Salisbury Plain River within segment MA62-06. This segment is 2.3 miles in length and extends from the Facility to the confluence with Beaver Brook, forming the headwaters of the Matfield River in East Bridgewater. The Matfield River joins with the Town River in Bridgewater to become the Taunton River, which then flows into Mount Hope Bay at Fall River. Estuarine conditions extend as far upstream as the Taunton River in the City of Taunton.

The Salisbury Plain River is classified as a Class B warm water fishery in the Massachusetts WQSs, 314 Code of Massachusetts Regulations ("CMR") 4.06(6)(b). The MA WQS at 314 CMR 4.05(3)(b) state that Class B, "*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(1)(d)6. and (6)(b) as a "Treated Water Supply", they shall be suitable as a source of public water supply with appropriate treatment. 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."*

The Salisbury Plain River is listed in the final *Massachusetts Integrated List of Waters for the Clean Water Act 2022 Reporting Cycle* ("303(d) List") as a Category 5 "Waters Requiring a TMDL.[9] The pollutants requiring a TMDL are algae, benthic macroinvertebrates, dissolved oxygen, *Escherichia coli* (*E. coli*), fecal coliform, odor, total phosphorus and turbidity. To date,

[9] Final *Massachusetts Integrated List of Waters for the Clean Water Act 2022 Reporting Cycle,* MassDEP Division of Watershed Management Watershed Planning Program, Worcester, Massachusetts, May 2023.

the only TMDL that has been developed for this segment for any of the listed impairments is for bacteria.[10] The status of each designated use is presented in Table 1.

Table 1 – Summary of Designated Uses and Listing Status

Designated Use	Status
Aquatic Life	Not Supporting (Dissolved oxygen, excess algal growth, benthic macroinvertebrates bioassessments, harmful algal growth and total phosphorus)
Aesthetics	Not Supporting (excess algal growth, turbidity, odor, and trash/debris
Primary Contact Recreation	Not Supporting (bacteria, excess algal growth, turbidity, odor, and trash/debris)
Secondary Contact Recreation	Not Supporting (bacteria, excess algal growth, turbidity odor, and trash/debris)
Fish Consumption	Not Assessed

In 1981, the Massachusetts Department of Environmental Quality Engineering (DEQE), predecessor to the MassDEP, published the Taunton River Basin – 1981 Water Quality Management Plan Update[11] (1981 WQMPU). This document included a wasteload allocation (WLA) for the Brockton ARWF. Given the limited assimilative capacity of the receiving water, seasonal limits more stringent than secondary treatment were required for the parameters carbonaceous Biochemical oxygen demand ($CBOD_5$) and total suspended solids (TSS). See Section 5.12 and 5.13 of this Fact Sheet for a description of these limits.

4.2 Ambient Data

A summary of the ambient data collected in the receiving water in the vicinity of the outfall that is referenced in this Fact Sheet can be found in Appendix A of this Fact Sheet.

4.3 Available Dilution

To ensure that discharges do not cause or contribute to violations of WQS under all expected conditions, WQBELs are derived assuming critical conditions for the receiving water[12]. The critical flow in rivers and streams is some measure of the low flow of that river or stream. State WQSs require that for rivers and streams, the lowest condition is the lowest mean flow for seven consecutive days, recorded once in 10 years, or 7-day 10-year low flow (7Q10). See 314 CMR 4.03(3)(a).

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[10]The *Final Pathogen TMDL for the Taunton River Watershed* (June 2011) is available at: https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/40307/107198

[11] Taunton River Basin – 1981 Water Quality Management Plan Update, Massachusetts DEQE/Division of Water Pollution Control, September 1981.

[12] EPA Permit Writer's Manual, Section 6.2.4

The plant design flow used to calculate the dilution factor for the current permit was 18.0 MGD. The City in its application stated that the current design flow rate of the (upgraded) facility is 20.49 MGD, and requested by letter that the increased flow capacity be used in calculation of permit limits. Because such an increase must first be approved by MassDEP through their antidegradation review process (which has not occurred), EPA has used 18.0 MGD in these calculations. If MassDEP completes an antidegradation review during the permit term which indicates a flow increase is allowable, the City may request that EPA reopen and modify the permit accordingly.

There is no stream gaging information available on the Salisbury Plain River. The prior permit calculated a 7Q10 based on the Wading River, stating that the Wading River is a nearby river with similar hydrologic characteristics. This produced an in-stream 7Q10 flow of 0.39 MGD that was used to determine the dilution factor at that time. In this permit reissuance, EPA utilized a tool developed by UMass called the Calculation Assistant for Flow Extremes (CAFE)[13]. This tool is designed to help resource managers throughout the Northeast United States analyze and calculate both extreme low and high streamflow metrics. Based on the relatively small drainage basin (18 square miles) and the absence of a gage station on the Salisbury Plain River, EPA has chosen the option within CAFE of calculating the 7Q10 low flow using logarithmic regression (*i.e.*, the same methodology as StreamStats) only using the most recent 30 years of flow data (to account for any more recent hydrologic changes). The resulting 7Q10 was determined to be 0.47 cfs (0.30 MGD).

The dilution factor (DF) was calculated using the design flow (Q_e) and the critical flow in the receiving water upstream of the discharge (Q_s) as follows:

$$DF = (Q_s + Q_e)/Q_e$$

Where:

Q_s = 7Q10 low flow of receiving water (MGD)
Q_e = Effluent design flow of facility (MGD)

Therefore:

DF = (Qs + Qe) / Qe = (0.30 + 18) / 18 = 1.02

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 are discussed throughout this Fact Sheet, may be found in Part I of the Draft Permit.

[13] Available at: https://andrewdelsanto.shinyapps.io/LowFlowDSS/

5.1 Effluent Limitations and Monitoring Requirements

In addition to the State and Federal regulations described in Section 2, data submitted by the permittee in its permit application, in monthly discharge monitoring reports (DMRs) and in WET test reports from September 2019 to August 2024 (the "review period") were used to identify the pollutants of concern and to evaluate the discharge during the effluent limitations development process (*See* **Appendix A)**.The reasonable potential analysis is included in Appendix B and results are discussed in the sections below.

5.1.1 Effluent Flow

The effluent flow limit in the 2017 Permit is 18.0 MGD, as a rolling annual average flow. The DMR data during the review period shows a maximum rolling annual average flow of 19.0 MGD. There have been seven exceedances of the flow limit during the review period. See Section 3.1.1 for more details regarding the flow limit and design flow of the facility.

The Draft Permit continues the 18.0 MGD flow limit from the 2017 Permit. The Draft Permit requires that flow be measured continuously and that the rolling annual average flow, as well as the average monthly and maximum daily flow for each month be reported. The rolling annual average flow is calculated as the average of the flow for the reporting month and 11 previous months.

5.1.2 Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)

5.1.2.1 $CBOD_5$ Concentration Limits

The summer $CBOD_5$ limits in the 2017 Permit (effective May 1 through October 31) were established in a prior permit for water quality considerations (*See 1981 WQMPU)*. The average monthly limit is 5 mg/L, the average weekly limit is 8 mg/L, and the daily maximum limit is 15 mg/L. The winter $CBOD_5$ limits in the 2017 Permit (effective November 1 through April 30) were also based on water quality considerations and are more stringent than secondary treatment standards in 40 CFR § 133.102; the average monthly limit is 15 mg/L and the average weekly limit is 25 mg/L, and the daily maximum limit is 30 mg/L. The DMR data during the review period shows that there have been no violations of $CBOD_5$ concentration limits.

The Draft Permit proposes the same $CBOD_5$ concentration limits as in the 2017 Permit as no new WLAs have been established. The monitoring frequency has been revised from once per day to five times per week to be consistent with other similarly-sized WWTFs in the Region.

5.1.2.2 $CBOD_5$ Mass Limits

The summer mass-based $CBOD_5$ limits in the 2017 Permit of 750 lb/day (average monthly), 1,200 lb/day (average weekly), and 2,250 lb/day (daily maximum) were based on the 2017 permit. The winter mass-based limits of 2,250 lb/day (average monthly), 3,750 lb/day (average weekly), and 4,500 lb/day (daily maximum) are also carried forward from the 2017 permit.

The DMR data from the review period shows that there have been no exceedances of $CBOD_5$ mass limits.

The $CBOD_5$ mass limits must be based on the Facility's design flow prior to the recent plant upgrades, rather than the Facility's current design flow. Therefore, the mass based $CBOD_5$ limits have been calculated at the design flow of 18.0 MGD, as shown below.

BOD_5 Mass Loading Calculations:

Calculations of maximum allowable loads for average monthly and average weekly BOD_5 are based on the following equation:

$$L = C_d * Q_d * 8.34$$

Where:
L = Maximum allowable load in lb/day
C_d = Maximum allowable effluent concentration for reporting period in mg/L (reporting periods are average monthly and average weekly)
Q_d = Annual average design flow of Facility at the time of the 2017 Permit, in MGD
8.34 = Factor to convert effluent concentration in mg/L and design flow in MGD to lb/day

Summer Limits:
Average Monthly: 5 mg/L * 18.0 MGD * 8.34 = 750 lb/day
Average Weekly: 8 mg/L * 18.0 MGD * 8.34 = 1,200 lb/day
Daily Maximum: 15 mg/L * 18.0 MGD * 8.34 = 2,250 lb/day

Winter Limits:
Average Monthly: 15 mg/L * 18.0 MGD * 8.34 = 2,250 lb/day
Average Weekly: 25 mg/L * 18.0 MGD * 8.34 = 3,750 lb/day
Daily Maximum: 30 mg/L * 18.0 MGD * 8.34 = 4,500 lb/day

These mass-based $CBOD_5$ limits are carried forward from the 2017 Permit.

5.1.3 Total Suspended Solids (TSS)

5.1.3.1 TSS Concentration Limits

The summer TSS limits in the 2017 Permit (effective May 1 through October 31) were established were established in a prior permit for water quality considerations (*See 1981 WQMPU)*. The average monthly limit is 5 mg/L, the average weekly limit is 8 mg/L, and the daily maximum limit is 15 mg/L. The winter $CBOD_5$ limits in the 2017 Permit (effective November 1 through April 30) were also based on water quality considerations and are more

stringent than secondary treatment standards in 40 CFR § 133.102. The average monthly limit is 15 mg/L, the average weekly limit is 25 mg/L, and the daily maximum limit is 30 mg/L. The DMR data during the review period shows that there have been no exceedances of TSS concentration limits.

The Draft Permit proposes the same TSS concentration limits as in the 2017 Permit as no new WLAs have been established. The monitoring frequency has been revised from once per day to five times per week to be consistent with other similarly-sized WWTFs in the Region.

5.1.3.2 TSS Mass Limits

The summer mass-based TSS limits in the 2017 Permit of 750 lb/day (average monthly), 1200 lb/day (average weekly), and 2,250 lb/day (daily maximum) were based on the 2017 permit. The winter mass-based limits of 2,250 lb/day (average monthly), 3,750 lb/day (average weekly), and 4,500 lb/day (daily maximum) are also carried forward from the 2017 permit.

The DMR data from the review period shows that there have been no exceedances of TSS mass limits.

The TSS mass limits must be based on the Facility's design flow prior to the recent plant upgrades, rather than the Facility's current design flow. Therefore, the mass based TSS limits have been calculated at the design flow of 18.0 MGD, as shown below.

TSS Mass Loading Calculations:

Calculations of maximum allowable loads for average monthly and average weekly TSS are based on the following equation:

$$L = C_d * Q_d * 8.34$$

Where:

L = Maximum allowable load in lb/day
C_d = Maximum allowable effluent concentration for reporting period in mg/L (reporting periods are average monthly and average weekly)
Q_d = Annual average design flow of Facility at the time of the 2017 Permit, in MGD
8.34 = Factor to convert effluent concentration in mg/L and design flow in MGD to lb/day

Summer Limits:
Average Monthly: 5 mg/L * 18.0 MGD * 8.34 = 750 lb/day
Average Weekly: 8 mg/L * 18.0 MGD * 8.34 = 1,200 lb/day
Daily Maximum: 15 mg/L * 18.0 MGD * 8.34 = 2,250 lb/day

Winter Limits:
Average Monthly: 15 mg/L * 18.0 MGD * 8.34 = 2,250 lb/day
Average Weekly: 25 mg/L * 18.0 MGD * 8.34 = 3,750 lb/day
Daily Maximum: 30 mg/L * 18.0 MGD * 8.34 = 4,500 lb/day

These mass-based TSS limits are carried forward from the 2017 Permit.

5.1.4 Eighty-Five Percent (85%) BOD_5 and TSS Removal Requirement

In accordance with the provisions of 40 CFR § 133.102(a)(4), and (b)(3), the 2017 Permit requires that the 30-day average percent removal for $CBOD_5$ and TSS be not less than 85%. The DMR data during the review period shows that the median $CBOD_5$ and TSS removal percentages are both 99.6%. There were no exceedances of the 85% removal requirement for $CBOD_5$ or TSS during that period.

The requirement to achieve 85% $CBOD_5$ and TSS removal has been carried forward into the Draft Permit.

5.1.5 pH

Consistent with the requirements of Massachusetts WQS at 314 CMR 4.05(3)(b)(3), the Permit requires that the pH of the effluent is not less than 6.5 or greater than 8.3 standard units at any time. The monitoring frequency is once per day. The DMR data during the review period show that there have been no exceedances of the pH limitations.

The pH requirements in the 2017 Permit are carried forward into the Draft Permit as there has been no change in the WQSs with regards to pH. The limitations are based on CWA 301(b)(1)(C) and 40 CFR § 122.44(d).

5.1.6 Bacteria

The 2017 Permit includes effluent limitations for bacteria using *E. Coli* bacteria as the indicator bacteria with a monthly limit of 126 colony forming units (cfu)/100 ml and a daily maximum limit of 409 cfu/100 ml, in effect seasonally from April 1 through October 1. There have been no exceedances of these limits during the monitoring period.

Updated Massachusetts WQS with respect to bacteria, 314 CMR 4.05(5)(f)1, were approved by EPA on March 31, 2022. Permit limits based on the new 2022 WQS for *E. Coli* would be 126 colonies/100 ml as a geometric mean (same as the current limit) and 410 colonies/100 ml as a maximum daily value (slightly less stringent than the current limit). Given that the more stringent limit of 409 colonies/100 ml (compared to 410 colonies/100 ml as described above) is already effective under the 2017 Permit, it will be carried forward based on anti-backsliding regulations discussed in Section 2.6 above. The MA WQS at 314 CMR 4.05(5)(f)4 allow for a seasonal exception for bacteria limits, generally for the period of November through March.

The 2017 Permit required that these bacteria limits be met for the period of April 1 through October 1. Therefore, this permit extends the requirement to meet the bacteria limit through the end of October. The same *E. Coli* limits and monitoring frequency of three times per week from the 2017 Permit are carried forward in the Draft Permit.

5.1.7 Dissolved Oxygen

The 2017 Permit includes a dissolved oxygen minimum limit of 6.0 mg/L. This requirement was established to ensure that dissolved oxygen levels remain above the state water quality standard of 6.0 mg/L, particularly during low flow periods. This limit applies during the period of April 1 through October 31 with a daily monitoring frequency.

The DMR data during the review period show that there have been no exceedances of the minimum DO limitation. The Draft Permit proposes a dissolved oxygen limit of 6.0 mg/L to be consistent with the State WQS.

5.1.8 Total Residual Chlorine

The Brockton AWRF uses ultraviolet (UV) disinfection. The 2017 Permit includes effluent limitations for total residual chlorine (TRC) of 11 µg/L (average monthly) and 19 µg/L (maximum daily). These limits were included in the event that chlorine compounds are used in the treatment process such as when the UV system may be inoperable. No monitoring is required during periods when no chlorine compounds are used, and no monitoring was reported in the reporting period.

The TRC permit limits are based on the instream chlorine criteria defined in *National Recommended Water Quality Criteria: 2002*, EPA 822R-02-047 (November 2002), as adopted by the MassDEP into the state water quality standards at 314 CMR 4.05(5)(e). These freshwater instream criteria for chlorine are 11 µg/L (chronic) and 19 µg/L (acute). Because the upstream chlorine is assumed to be zero in this case, the water quality-based chlorine limits are calculated as the criteria times the dilution factor, as follows:

Chronic criteria * dilution factor = Chronic limit
11 µg/L * 1.02 = 11 µg/L (average monthly)

Acute criteria * dilution factor = Acute limit
19 µg/L * 1.02 = 19 µg/L (maximum daily)

These limits are included in the Draft Permit and are the same as the limits in the 2017 Permit.

5.1.9 Ammonia

The 2015 Permit includes the following mass and concentration seasonal effluent limitations for ammonia:

June 1 – October 31: Average monthly limit = 150 lb/day; 1.0 mg/L
Average weekly limit = 150 lb/day; 1.0 mg/L
Daily max limit = 225 lb/day; 1.5 mg/L

November 1 – November 30: Average monthly limit = 946 lb/day; 6.3 mg/L
Daily max limit = Report mg/L

December 1 – April 30: Average monthly limit = 1,426 lb/day; 9.5 mg/L
Daily max limit = Report mg/L

May 1 – May 31: Average monthly limit = 480 lb/day, 3.2 mg/L
Daily max limit = Report mg/L

These limits were carried forward from the prior permit and are consistent with the 1981 WLA.

The DMR data during the review period shows there were no exceedances of any of the ammonia limits in the 2015 permit.

Ambient data, taken upstream of the Brockton outfall in the Salisbury Plain River, is presented in Appendix A and shows the median concentration for the warm weather period (April 1 through October 31) is 0.1 mg/L and for the cold weather period (November 1 through March 31) is 0.75 mg/L.

The ammonia criteria based upon Massachusetts WQS at 314 CMR 4.06 Table 29a. The freshwater acute criterion is dependent on pH, temperature and whether early life stages of fish are present in the receiving water and the freshwater chronic criterion is dependent on pH and temperature.

In determining whether the discharge has the reasonable potential to cause or contribute to excursions above the instream water quality criteria for ammonia, EPA used the mass balance equation presented in Appendix B for both warm and cold weather conditions to project the ammonia concentration downstream of the discharge. If there is reasonable potential, this mass balance equation is also used to determine the limit that is required in the permit.

EPA notes that since the 2015 Permit already contained a limit for ammonia, the same mass balance equation is used to determine if a more stringent limit would be required to continue to meet WQS under current conditions. The limit is determined to be the more stringent of either (1) the existing limit or (2) the calculated effluent concentration (C_d) allowable to meet WQS based on current conditions.

To determine the applicable ammonia criteria for each season, EPA must make assumptions regarding the critical water temperature that could occur in each month. Given that there is not enough site-specific temperature data available, these assumptions are based on typical water

temperatures seen in southeastern Massachusetts and Rhode Island[14] during these months and represent a reasonable worst-case condition during the permit term. Given that the receiving water is designated as warm water, salmonids are presumed absent.

December 1 – March 31: 5° C
June 1 – October 31: 25° C
November1 – November 30: 20° C
April 1 – April 30: 20° C
May 1 – May 31: 20° C

EPA used the ambient pH monitoring shown in Appendix A, which indicates that the median pH is 6.9 S.U. Additionally, the Salisbury Plain River in the vicinity of the Brockton WWTF discharge is a warm weather fishery and is not within Essential Fish Habitat (EFH) for Atlantic salmon (*Salmo salar*), so EPA has assumed that salmonids are not present in the receiving waters.

Based on the information and assumptions described above, Appendix B presents the applicable ammonia criteria, the details of the mass balance equation, the reasonable potential determination, and, if necessary, the limits required in the Draft Permit.

As shown, EPA determined that there is no need for a more stringent limit to continue to protect WQS from June 1- October 31, so the existing limits are being carried forward for the reasons specified in Appendix B. However, the 2015 Permit had an average monthly limit of 9.5 mg/L that was in effect from December 1 – April 30, and EPA determined that a more stringent average monthly limit of 4.5 mg/L is necessary to continue to protect WQS from December 1 – March 30 for the reasons specified in Appendix B. The 2015 Permit had an average monthly limit of 6.3 mg/L that was in effect from November 1 – November 30, and EPA determined that a more stringent average monthly limit of 1.9 mg/L is necessary to continue to protect WQS based on the critical temperature and for the reasons specified in Appendix B. The 2015 Permit had average monthly limits of 9.5 mg/L and 3.2 mg/L for the months of April and May, respectively, and EPA determined that a more stringent average monthly limit of 1.9 mg/L is necessary in these two months to continue to protect WQS based on the critical temperature and for the reasons specified in Appendix B.

For any more stringent limits described above, the corresponding mass-based limit from the 2017 Permit is not carried forward because the new concentration-based limits are more stringent than the existing mass-based limits. Given that the concentration-based limits are fully protective of water quality standards, calculating new mass-based limits that correspond to the new concentration-based limits is also not necessary.

Effluent and ambient monitoring for ammonia will continue to be required in the quarterly WET tests.

[14] EPA also found recent temperature data from a USGS gage in RI (# 01115098) located approximately 34 miles from the discharge used to verify that these temperature assumptions are reasonable in this region of New England. Data are available at: https://waterdata.usgs.gov/monitoring-location/01115098.

5.1.10 Nutrients

Nutrients are compounds containing nitrogen and phosphorus. Although nitrogen and phosphorus are essential for plant growth, high concentrations of these nutrients can cause eutrophication, a condition in which aquatic plant and algal growth is excessive. Plant and algae respiration and decomposition reduce dissolved oxygen in the water, creating poor habitat for fish and other aquatic animals. Recent studies provide evidence that both phosphorus and nitrogen can play a role in the eutrophication of certain ecosystems. However, typically phosphorus is the limiting nutrient triggering eutrophication in freshwater ecosystems and nitrogen in marine or estuarine ecosystems. Thus, for the receiving waters downstream of Brockton, both phosphorus and nitrogen are concerns and are evaluated below.

5.1.10.1 Total Phosphorus

While phosphorus is an essential nutrient for the growth of aquatic plants, it can stimulate rapid plant growth in freshwater ecosystems when it is present in high quantities.

The excessive growth of aquatic plants and algae within freshwater systems negatively impacts water quality and can interfere with the attainment of designated uses by: 1) increasing oxygen demand within the water body to support an increase in both plant respiration and the biological breakdown of dead organic (plant) matter;[15] 2) causing an unpleasant appearance and odor; 3) interfering with navigation and recreation, for instance, by fouling engines and propellers, making waters unappealing to swimmers, and interfering with fishing lures and equipment; 4) reducing water clarity; 5) reducing the quality and availability of suitable habitat for aquatic life; and 6) producing toxic cyanobacteria during certain algal blooms. Cultural (or accelerated) eutrophication is the term used to describe dense and excessive plant growth in a water body that results from nutrients entering the system as a result of human activities. Discharges from municipal and industrial wastewater treatment plants, agriculture runoff, and stormwater are examples of human-derived (*i.e.*, anthropogenic) sources of nutrients in surface waters. See generally, *Nutrient Criteria Technical Guidance Manual – Rivers and Streams*, EPA July 2000 [EPA-822-B-00-002], Chapters 1 and 3.

The MA WQS under 314 CMR 4.05(5)(c) requires that, unless naturally occurring, surface waters must be free from nutrients that cause or contribute to impairment of the existing or designated uses, and the concentration of phosphorus may not exceed site specific criteria developed in a TMDL. Nutrients are also prohibited in concentrations that would cause or contribute to cultural eutrophication. Cultural eutrophication also results in exceedances of

[15] "Algae" includes phytoplankton (microscopic algae measured by levels of chlorophyll a), macroalgae (commonly referred to as seaweed), and other plants stimulated by nutrient over-enrichment. Excessive algal growth contributes to low levels of dissolved oxygen through increased plant respiration and decomposition of dead plant matter. Notably, during the day, algae provide oxygen to the water as a by-product of photosynthesis. At night, however, when photosynthesis ceases but plant respiration continues, dissolved oxygen levels decline. Additionally, as these algae die, they are decomposed by bacteria that consume yet more oxygen. When dissolved oxygen levels are low, aquatic organisms become stressed and die, and overall aquatic health is degraded.

other nutrient-related water quality standards such as low dissolved oxygen, decreased water clarity, objectionable odors, and surface scum. The MA WQS at 314 CMR 4.05(3)(b)(1) requires that dissolved oxygen not be less than 6.0 mg/L in cold water fisheries or 5.0 mg/L in warm water fisheries. Further, the MA WQS at 4.05(3)(b)(5), (6) and (8) state that waters must be free from "floating, suspended, and settleable solids," free from "color and turbidity in concentrations or combinations that are aesthetically objectionable…", and have no taste and odor "in such concentrations or combinations that are aesthetically objectionable, that would impair any use assigned to this Class, or that would cause tainting or undesirable flavors in the edible portions of aquatic life." To prevent cultural eutrophication, the MA WQS at 4.05(5)(c) states that "Any existing point source discharge containing nutrients in concentrations that would cause or contribute to cultural eutrophication, including the excessive growth of aquatic plants or algae, in any surface water shall be provided with the most appropriate treatment as determined by the Department, including, where necessary, highest and best practical treatment (HBPT) for POTWs and BAT for non POTWs, to remove such nutrients to ensure protection of existing and designated uses." Also see Part 2.2.2 of this Fact Sheet above regarding antidegradation and existing uses which may be impacted by nutrient over-enrichment.

When permitting nutrient discharges, EPA analyzes available information from a reasonably conservative standpoint, as it regards one key function of a nutrient limit as preventative. This protective approach is appropriate because, once begun, the cycle of eutrophication can be difficult to reverse due to the tendency of nutrients to be retained in the sediments. For this reason, time is of the essence when permitting for nutrients, so EPA acts on the best information reasonably available when developing the draft permit and does not generally delay permit issuance pending collection of new data or development of new models. This approach is also consistent with the requirement for NPDES permits to be revisited and reissued at regular intervals, with permit terms not to exceed five years.

When translating narrative phosphorus criteria into numeric values (and establishing WQBELs, if necessary), EPA looks to a wide range of materials, including nationally recommended criteria and other relevant materials, such as EPA nutrient technical guidance and information published under Section 304(a) of the CWA, peer-reviewed scientific literature and site-specific surveys and data to determine instream targets that are protective of water quality. See 40 CFR § 122.44(d)(1)(vi)(A), (B).

EPA has produced several guidance documents, described below, that recommend a range of total ambient phosphorus concentrations that are sufficiently stringent to control cultural eutrophication and other adverse nutrient-related impacts, with 0.1 mg/L representing the upper end of this range. These guidance documents recommend protective in-stream phosphorus concentrations based on two different analytical approaches. An effects-based approach provides a threshold value above which adverse effects (*i.e.*, water quality impairments) are likely to occur. This approach applies empirical observations of a causal variable (*i.e.*, phosphorus) and a response variable (*i.e.*, chlorophyll-a as a measure of algal biomass) associated with designated use impairments. Alternatively, reference-based values

are statistically derived from a comparison within a population of rivers in the same ecoregion class. They are a quantitative set of river characteristics (physical, chemical and biological) that represent conditions in waters in that ecoregion that are minimally impacted by human activities (*i.e.*, reference conditions), and thus by definition representative of water without cultural eutrophication. Dischargers in Massachusetts and New Hampshire are located within either Ecoregion VIII, Nutrient-Poor, Largely Glaciated Upper Midwest and Northeast or Ecoregion XIV, Eastern Coastal Plains. The recommended total phosphorus criteria for these ecoregions are 10 µg/L and 31.25 µg/L, respectively. While reference conditions reflect in-stream phosphorus concentrations that are sufficiently low to meet the requirements necessary to support designated uses, they may also represent levels of water quality beyond what is necessary to support such uses.

EPA follows an effects-based approach. EPA's 1986 *Quality Criteria for Water* (the "Gold Book") recommends maximum threshold concentrations that are designed to prevent or control adverse nutrient-related impacts from occurring. Specifically, the Gold Book recommends in-stream phosphorus concentrations of no greater than 0.1 mg/L for any stream not discharging directly to lakes or impoundments 0.05 mg/L in any stream entering a lake or reservoir, and 0.025 mg/L within a lake or reservoir. In this case, EPA is applying a target concentration of 0.1 mg/L because the receiving water is a stream/river not discharging directly to a lake or impoundment.

As the Gold Book notes, there are natural conditions of a water body that can result in either increased or reduced eutrophic response to phosphorus inputs; in some waters more stringent phosphorus reductions may be needed, while in some others a higher total phosphorus threshold could be assimilated without inducing a eutrophic response. In this case, EPA is not aware of any site-specific factors relevant to the receiving water that would result in it being unusually more or less susceptible to phosphorus loading.

EPA notes that since the 2015 Permit already contained seasonal limits for phosphorus, EPA uses the mass balance equation presented in Appendix B to determine if a more stringent limit would be required to continue to meet WQS under current conditions. The limit is determined to be the more stringent of either (1) the existing limit or (2) the calculated effluent concentration (C_d) allowable to meet WQS based on current conditions.

Based on the phosphorus criterion described above, the upstream 7Q10 flow, and the design flow of the Facility, Appendix B presents the details of the mass balance equation, the determination of whether the existing limit needs to be more stringent to continue to protect WQS. As shown, there is no need for a more stringent limit to continue to protect WQS so the existing seasonal limits are being carried forward for the reasons specified in Appendix B. The Draft Permit also maintains the corresponding load limits from the 2015 Permit, which were calculated using the concentration limit and the permitted design flow of the facility. Given that the discharge is in compliance with its permit limits and already consistently below the growing season threshold of 0.1 mg/L described above, EPA finds that this discharge is not causing or contributing to any excursion of water quality standards downstream and more stringent limits

are not necessary for this facility. As described in section 4.1 above, EPA recognizes that the receiving water downstream of the discharge is still listed as impaired for phosphorus and other nutrient impacts in the State's 2022 303(d) list. However, EPA notes that this receiving water was last assessed by MassDEP in 2020, which pre-dates the completion of Brockton's facility upgrade to come into full compliance with the 0.1 mg/L phosphorus limit in 2022. EPA expects water quality to continue to improve as Brockton maintains phosphorus levels below the 0.1 mg/L threshold during the growing season.

Finally, the 2017 Permit includes a monthly average limit of 1.0 mg/L from November through March based on the potential for phosphorus discharges in the winter months to accumulate in the sediment and then be taken up and contribute to eutrophication in the warmer months. EPA evaluated Brockton's discharge in these colder, non-growing season months. As shown in Appendix A, the highest monthly average discharge during these colder months in the most recent 3 years (*i.e.*, since the phosphorus limits have become fully effective in 2022) was 0.11 mg/L. Based on this evaluation, EPA finds that the discharge is in compliance with this limit and is also not causing any excess accumulation of phosphorus in the receiving water. This limit is carried forward in the Draft Permit.

5.1.10.2 Total Nitrogen

The 2015 Permit included a rolling seasonal average total nitrogen limit of 450 lb/day, which was in effect from May 1 – October 31, and a total nitrogen reporting requirement from November 1 – April 30. The 2015 Permit also included year-round average monthly and maximum daily reporting requirements for total Kjeldahl nitrogen (TKN), nitrate and nitrite.

As shown in Attachment A, the facility consistently achieved the total nitrogen limit in the permit.

The Draft Permit maintains the rolling seasonal average total nitrogen limit of 450 lb/day for the Brockton AWRF, in effect for the months of May through October, that was included in the 2015 Permit. Additionally, the Draft Permit also maintains the requirement in the 2015 Permit for the Brockton AWRF to optimize the treatment facility operations for the removal of total nitrogen during the months of November through April using all available treatment equipment at the facility. This limit and optimization requirement are included in the Draft Permit to address cultural eutrophication in Mount Hope Bay.

Given that the facility is in compliance with this TN limit, which is based on the limit of technology (*i.e.*, 3 mg/L), EPA does not consider that any further reductions in the TN limit are appropriate at this facility. To the extent further nitrogen reductions in the watershed are necessary to protect designated uses downstream (*e.g.*, in Mount Hope Bay), those reductions must come from other sources (*e.g.*, the ongoing facility upgrade at the Taunton WWTF as well as future upgrades at the Somerset WWTF and Fall River WWTF). For these reasons, this Fact Sheet does not contain a detailed analysis of downstream impacts due to nitrogen.

5.1.11 Metals

5.1.11.1 Applicable Metals Criteria

State water quality criteria for cadmium, copper, lead, nickel and zinc are established in terms of dissolved metals. However, many inorganic components of domestic wastewater, including metals, are in particulate form, and differences in the chemical composition between the effluent and the receiving water affects the partitioning of metals between the particulate and dissolved fractions as the effluent mixes with the receiving water, often resulting in a transition from the particulate to dissolved form (*The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion* (USEPA 1996 [EPA-823-B96-007]). Consequently, quantifying only the dissolved fraction of metals in the effluent prior to discharge may not accurately reflect the biologically-available portion of metals in the receiving water. Regulations at 40 CFR § 122.45(c) require, with limited exceptions, that effluent limits for metals in NPDES permits be expressed as total recoverable metals.

The criteria for cadmium, copper, lead, nickel and zinc are hardness-dependent using the equations found at 314 CMR 4.06 Appendix C. The estimated hardness of Salisbury Plain River downstream of the treatment plant is calculated using the critical low flow (7Q10), the design flow of the treatment plant, and the median hardness for both the receiving water upstream of the discharge and the treatment plant effluent. Effluent and receiving water data are presented in Appendix A. Using the mass balance equation discussed in Appendix B, the resulting downstream hardness is 153.5 mg/L and the corresponding criteria are also presented in Appendix B.

Based on the 2022 MA WQS update, the aluminum criteria are dependent on hardness, pH and dissolved organic carbon (DOC) as described at 314 CMR 4.06 Table 29. Given that there is limited site-specific data available, the watershed default values are used in the analysis below.

5.1.11.2 Reasonable Potential Analysis and Limit Derivation

To determine whether the effluent has the reasonable potential to cause or contribute to an exceedance above the in-stream water quality criteria for each metal, EPA uses the mass balance equation presented in Appendix B to project the concentration downstream of the discharge and, if applicable, to determine the limit required in the permit.

For any metal with an existing limit in the 2017 Permit, the same mass balance equation is used to determine if a more stringent limit would be required to continue to meet WQS under current conditions. The limit is determined to be the more stringent of either (1) the existing limit or (2) the calculated effluent concentration (C_e) allowable to meet WQS based on current conditions.

Based on the information described above, the results of this analysis for each metal are presented in Appendix B.

As shown, there is no reasonable potential to cause or contribute to an excursion of WQS for aluminum, cadmium, lead, nickel, and zinc, so the Draft Permit does not propose any new limits for these metals. Additionally, there is no need for more stringent copper limits to continue to protect WQS so the existing limits are being carried forward for the reasons specified in Appendix B.

Effluent and ambient monitoring for each of these metals will continue to be required in the WET tests.

5.1.12 Toxicity

As discussed in Section 2, under CWA § 301(b)(1)(C), discharges are subject to effluent limitations based on WQSs, including not only numeric criteria but also narrative criteria to protect designated uses. Under CWA §§ 301, 303 and 402, EPA and the States may establish toxicity-based limitations to implement the narrative water quality criteria calling for "no toxics in toxic amounts". *See also* 40 CFR § 122.44(d)(1). 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."

Whole Effluent Toxicity Testing

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 be toxic to aquatic life or human health.

National studies conducted by EPA have demonstrated that domestic sources, as well as industrial sources, contribute toxic constituents to POTWs. These constituents include metals, chlorinated solvents, aromatic hydrocarbons and others. Some of these constituents may cause synergistic effects, even if they are present in low concentrations. Because of the source variability and contribution of toxic constituents in domestic and industrial sources, reasonable potential may exist for this discharge to cause or contribute to an exceedance of the "no toxics in toxic amounts" narrative water quality standard.

In accordance with current EPA guidance and State policy[16], 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

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

limiting the concentration that is lethal to 50% of the test organisms, known as the LC_{50}. This policy recommends that permits for discharges having a dilution factor less than 10 require 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 2017 Permit required 4 WET tests per year, with two of these tests required to be conducted during periods when the total plant flow was greater than 30 MGD.

The chronic and acute WET limits in the 2017 Permit are C-NOEC greater than or equal to 98% and LC_{50} greater than or equal to 100%, using the daphnid (*Ceriodaphnia dubia*) as the test specie. During the monitoring period, these have been four (4) exceedances of the C-NOEC limit and three (3) exceedances of the LC_{50} limit. All but one of these exceedances occurred during a high flow period WET testing (See Appendix A).

Based on the potential for toxicity from domestic and industrial contributions, the state narrative water quality criterion, the dilution factor of 1.0, and in accordance with EPA national and regional policy and 40 CFR § 122.44(d), the Draft Permit continues the effluent limits from the 2017 Permit including the test organism and the testing frequency. Toxicity testing must be performed in accordance with the updated EPA Region 1 WET test procedures and protocols specified in Attachments 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.

In addition, EPA's 2018 *National Recommended Water Quality Criteria* for aluminum are calculated based on water chemistry parameters that include dissolved organic carbon (DOC), hardness and pH. Since aluminum monitoring is required as part of each WET test, an accompanying new testing and reporting requirement for DOC, in conjunction with each WET test, is warranted to assess potential impacts of aluminum in the receiving water.

5.1.13 Per- and polyfluoroalkyl substances (PFAS)

As explained at https://www.epa.gov/pfas, PFAS are a group of synthetic chemicals that have been in use since the 1940s. PFAS are found in a wide array of consumer and industrial products. PFAS manufacturing and processing facilities, facilities using PFAS in production of other products, airports, and military installations can be contributors of PFAS releases into the air, soil, and water. Due to their widespread use and persistence in the environment, most people in the United States have been exposed to PFAS. Exposure to some PFAS above certain levels may increase risk of adverse health effects.[17] EPA is collecting information to evaluate the potential impacts that discharges of PFAS from wastewater treatment plants may have on downstream drinking water, recreational and aquatic life uses.

[17] EPA, *EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan,* EPA 823R18004, February 2019. Available at: https://www.epa.gov/sites/production/files/2019-02/documents/pfas_action_plan_021319_508compliant_1.pdf

Background Information for Massachusetts

On October 20, 2020, MassDEP published final regulations establishing a drinking water standard, or a Maximum Contaminant Level (MCL) of 20 parts per trillion (ppt) for the sum of the following six PFAS. *See* 310 CMR 22.00.

- Perfluorohexanesulfonic acid (PFHxS)
- Perfluoroheptanoic acid (PFHpA)
- Perfluorononanoic acid (PFNA)
- Perfluorooctanesulfonic acid (PFOS)
- Perfluorooctanoic acid (PFOA)
- Perfluorodecanoic acid (PFDA)

Although the Massachusetts water quality standards do not include numeric criteria for PFAS, the Massachusetts narrative criterion for toxic substances at 314 CMR 4.05(5)(e) states:

> All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.

The narrative criterion is further elaborated at 314 CMR 4.05(5)(e)2 which states:

> Human Health Risk Levels. Where EPA has not set human health risk levels for a toxic pollutant, the human health-based regulation of the toxic pollutant shall be in accordance with guidance issued by the Department of Environmental Protection's Office of Research and Standards. The Department's goal is to prevent all adverse health effects which may result from the ingestion, inhalation or dermal absorption of toxins attributable to waters during their reasonable use as designated in 314 CMR 4.00.

Since PFAS chemicals are persistent in the environment and may lead to adverse human health and environmental effects, and consistent with recent EPA guidance,[18] the Draft Permit requires that the Facility conduct quarterly influent, effluent and sludge sampling for PFAS chemicals and annual sampling of certain industrial users. The quarterly monitoring shall begin the first full calendar quarter beginning six months after the effective date of the permit. The annual monitoring for certain industrial users shall begin the first full calendar year following the effective date of the permit.

The purpose of this monitoring and reporting requirement is to better understand potential discharges of PFAS from this facility and to inform future permitting decisions, including the

[18] Radhika Fox, Assistant Administrator, EPA to Water Division Directors, EPA Regions 1-10, December 5, 2022, Subject: "Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs." Available at: https://www.epa.gov/system/files/documents/2022-12/NPDES_PFAS_State%20Memo_December_2022.pdf

potential development of water quality-based effluent limits on a facility specific basis. EPA is authorized to require this monitoring and reporting by CWA § 308(a), which states:

> "SEC. 308. (a) Whenever required to carry out the objective of this Act, including but not limited to (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this Act; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, pretreatment standard, or standard of performance; (3) any requirement established under this section; or (4) carrying out sections 305, 311, 402, 404 (relating to State permit programs), 405, and 504 of this Act—
>
> (A) the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require;".

(See 40 CFR § 122.21(e)(3)(ii) and 40 CFR § 122.44(i)(1)(iv)(B)).

In the absence of a final 40 CFR § 136 method for measuring PFAS in wastewater and sludge, the Draft Permit requires the use the multi-lab validated Method 1633[19]. Monitoring should include each of the 40 PFAS parameters detectable by Method 1633 (see Draft Permit Attachment B for list of PFAS parameters) and the monitoring frequency is quarterly. Reporting of all 40 PFAS analytes is necessary to address the emerging understanding and remaining uncertainties regarding sources and types of analytes of PFAS in wastewater and their impacts. While MassDEP has currently adopted MCLs for only 6 of these analytes as described above, it is possible that MCLs, water quality criteria and/or effluent limitation guidelines could be adopted for many of the other 34 analytes measured by Method 1633 during the life of the permit. Therefore, EPA considers it prudent to require reporting for all 40 analytes that are measured using Method 1633 to ensure EPA has sufficient data to address each of these PFAS analytes in the future. This level of monitoring is recommended in EPA's *October 2021 PFAS Strategic Roadmap*[20] and in an EPA memo dated December 5, 2022, called *Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs.*[21]

All PFAS results must be reported on DMRs (see 40 CFR § 122.41)(l)(4)(i)). This approach is consistent with 40 CFR § 122.44(i)(1)(iv)(B) which states that in the case of pollutants or

[19] https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas#method-1633
[20] https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf
[21] https://www.epa.gov/system/files/documents/2022-12/NPDES_PFAS_State%20Memo_December_2022.pdf

pollutant parameters for which there are no approved methods under 40 CFR Part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters.

Additionally, EPA has recently published Method 1621[22] to screen for organofluorines in wastewater. Organofluorines (molecules with a carbon-fluorine bond) are rarely naturally occuring and the most common source of organofluorines are PFAS and non-PFAS fluorinated compounds such as pesticides and pharmaceuticals. The Permittee shall monitor Adsorbable Organic Fluorine using Method 1621 once per quarter concurrently with PFAS monitoring to screen for a broader range of these types of emerging contaminants. This requirement also takes effect the first full calendar quarter following six months after the effective date of the permit.

All monitoring results may be used by EPA in the next permit reissuance to ensure the discharge continues to protect designated uses.

5.2 Industrial Pretreatment Program

The Permittee is required to administer a pretreatment program under 40 CFR Part 403. *See also* CWA § 307; 40 CFR § 122.44(j). The Permittee's pretreatment program received EPA approval on July 31, 1982 and, as a result, appropriate pretreatment program requirements were incorporated into the previous permit, which were consistent with that approval and federal pretreatment regulations in effect when the permit was issued.

The Federal Pretreatment Regulations in 40 CFR part 403 were amended in October 1988, in July 1990, and again in October 2005. Those amendments established new requirements for implementation of pretreatment programs. Upon reissuance of this NPDES permit, the permittee is obligated to modify its pretreatment program to be consistent with current Federal Regulations. The activities that the permittee must address include, but are not limited to, the following: 1) develop and enforce EPA-approved specific effluent limits (technically-based local limits); 2) revise the local sewer-use ordinance or regulation, as appropriate, to be consistent with Federal Regulations; 3) develop an enforcement response plan; 4) implement a slug control evaluation program; 5) track significant noncompliance for industrial users; and 6) establish a definition of and track significant industrial users.

These requirements are necessary to ensure continued compliance with the POTW's NPDES permit and its sludge use or disposal practices.

In addition to the requirements described above, the Draft Permit requires the Permittee to submit to EPA in writing, within 180 days of the permit's effective date, a description of

[22] https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas#method-1621

proposed changes to permittee's pretreatment program deemed necessary to assure conformity with current federal pretreatment regulations. These requirements are included in the Draft Permit to ensure that the pretreatment program is consistent and up-to-date with all pretreatment requirements in effect. Lastly, the Permittee must continue to submit, annually by **March 1**, a pretreatment report detailing the activities of the program for the twelve-month period ending 60 days prior to the due date. These submittals must be done electronically as NetDMR attachments and/or using EPA's NPDES Electronic Reporting Tool ("NeT"), or another approved EPA system, which will be accessible through EPA's Central Data Exchange at https://cdx.epa.gov/.

5.3 Sludge Conditions

Section 405(d) of the Clean Water Act requires that EPA develop technical standards regarding the use and disposal of sewage sludge. On February 19, 1993, EPA promulgated technical standards. These standards are required to be implemented through permits. The conditions in the permit satisfy this requirement.

5.4 Infiltration/Inflow (I/I)

Infiltration is groundwater that enters the collection system though physical defects such as cracked pipes, or deteriorated joints. Inflow is extraneous flow entering the collection system through point sources such as roof leaders, yard and area drains, sump pumps, manhole covers, tide gates, and cross connections from storm water systems. Significant I/I in a collection system may displace sanitary flow, reducing the capacity and the efficiency of the treatment works and may cause bypasses to secondary treatment. It greatly increases the potential for sanitary sewer overflows (SSOs) in separate systems, and combined sewer overflows (CSOs) in combined systems.

The Draft Permit includes a requirement for the permittee and co-permittees to control infiltration and inflow (I/I) within the sewer collections systems they own and operate. The permittee and co-permittees shall develop an I/I removal program commensurate with the severity of I/I in the collection system. This program may be scaled down in sections of the collection system that have minimal I/I.

5.5 Operation and Maintenance

5.5.1 Adaptation Planning for the Wastewater Treatment System (WWTS) and/or Sewer System

The Draft Permit, in Part I.C.1. requires the Permittee and Co-permittee(s) to develop an Adaptation Plan to address major storm and flood events as part of their operation and maintenance planning for the part of the WWTS and/or sewer systems that they each own and operate. These requirements are new. EPA has determined that these additional requirements

are necessary to ensure the proper operation and maintenance of the WWTS and/or sewer system and has included a schedule in the Draft Permit for completing these requirements.

See Appendix C for a further rationale regarding this Adaptation Plan.

5.5.2 Operation and Maintenance of the Sewer System

The standard permit conditions for 'Proper Operation and Maintenance', found at 40 CFR § 122.41(e), require the proper operation and maintenance of permitted wastewater systems and related facilities to achieve permit conditions. The requirements at 40 CFR § 122.41(d) impose a 'duty to mitigate' upon the permittee, which requires that "all reasonable steps be taken to minimize or prevent any discharge violation of the permit that has a reasonable likelihood of adversity affecting human health or the environment. EPA and MassDEP maintain that an I/I removal program is an integral component of ensuring permit compliance with the requirements of the permit under the provisions at 40 CFR § 122.41(d) and (e).

General requirements for proper operation and maintenance, and mitigation have been included in Part II of the permit. Specific permit conditions have also been included in Part I.C. and I.D. of the Draft Permit. These requirements include mapping of the wastewater collection system, preparing and implementing a collection system operation and maintenance plan, reporting of unauthorized discharges including SSOs, maintaining an adequate maintenance staff, performing preventative maintenance, controlling inflow and infiltration to separate sewer collection systems (combined systems are not subject to I/I requirements) to the extent necessary to prevent SSOs and I/I related effluent violations at the Wastewater Treatment Facility and maintaining alternate power where necessary. These requirements are included to minimize the occurrence of permit violations that have a reasonable likelihood of adversely affecting human health or the environment.

Because Abington and Whitman own and operates a collection system that discharges to the Brockton ARWF, they have been included as Co-permittees for the specific permit requirements discussed in the paragraph above. The historical background and legal framework underlying this co-permittee approach is set forth in Appendix D to this Fact Sheet, *EPA Region 1 NPDES Permitting Approach for Publicly Owned Treatment Works that Include Municipal Satellite Sewage Collection Systems*.

5.6 Standard Conditions

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

5.7 Potential Alternative Permit Conditions

Part I.A.1 of the 2017 Permit includes narrative water quality-based requirements to protect designated uses in accordance with state water quality standards. In the development of this 2025 permit, the Region considered a variety of alternative permit conditions and monitoring requirements in lieu of narrative requirements, as described in greater detail below. To ensure compliance with these applicable state narrative water quality standards, the State has indicated that it will include narrative requirements in its draft water quality certification. Specifically, the State has notified EPA that it will propose the following narrative water quality-based requirements as state certification conditions in accordance with § 401(a) of the CWA and 40 CFR § 124.53:

- The discharge shall be free from pollutants in concentrations or combinations that 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.
- The discharge shall be free from pollutants in concentrations or combinations that adversely affect the physical or chemical nature of the bottom, interfere with the propagation of fish or shellfish, or adversely affect populations of non-mobile or sessile benthic organisms.
- The discharge shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to the receiving water, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom.
- The discharge shall be free from color and turbidity in concentrations or combinations that are aesthetically objectionable or would impair any use assigned to the receiving water.
- The discharge shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the receiving water, impart an oily 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.
- The discharge shall be free from taste and odor in such concentrations or combinations that are aesthetically objectionable, that would impair any use assigned to the receiving water, or that would cause tainting or undesirable flavors in the edible portions of aquatic life.
- The discharge shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.

Based on the State's intent to include these requirements in the state certification, EPA does not find it necessary to include the alternative permit conditions and monitoring requirements in the Draft Permit. However, if some or all of these narrative conditions are not included in the final state certification, EPA will include the applicable alternative permit conditions and monitoring requirements in the Final Permit. Therefore, EPA has described these alternative permit conditions and monitoring requirements in detail below and is soliciting public comments on the inclusion of these if the state certification does not include the applicable narrative conditions.

The alternative permit conditions and monitoring requirements described below relate to reasonable potential analyses, WET testing, annual chemical monitoring, visual inspections of the receiving water, and benthic surveys. Each of these are related to compliance with specific narrative state water quality standards. It should also be noted that if any of these alternative requirements and monitoring requirements were to be included in this permit reissuance, EPA may remove or reduce these in the future and/or implement an alternative permitting approach if EPA finds that these are no longer necessary to protect designated uses in accordance with state water quality standards.

To be clear, each of the items described in this section below are not included in the Draft Permit and EPA intends to include them in the Final Permit only if the corresponding narrative condition is not included in the State's final certification of this permit and pursuant to any changes based on public comments.

Reasonable Potential Analyses

Given that EPA guidance[23] directs that reasonable potential analyses should be based on critical conditions, EPA uses the pollutant concentrations based on all available information provided to EPA during the development of the permit. As discussed in more detail in the pollutant-specific sections above, this information includes data from the Permittee's most recent application, DMR data during the review period, and any other available information included in the administrative record.

If the permitting authority, in this case EPA, determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to an excursion above WQSs, the permit must contain WQBELs for that pollutant. *See* 40 CFR § 122.44(d)(1)(i).

If the permitting authority determines that the discharge of a pollutant will not cause, have the reasonable potential to cause, or contribute to an excursion above WQSs, the permit does not need to contain WQBELs for that pollutant. However, the permitting authority must ensure that the discharge of that pollutant does not increase during the permit term to the point that would violate water quality standards. Therefore, Part I.B.1 (Unauthorized Discharges) of the

[23] See 2010 NPDES Permit Writer's Manual, chapter 6 available at: https://www.epa.gov/sites/default/files/2015-09/documents/pwm_chapt_06.pdf

permit may include the following provision to ensure that EPA's reasonable potential analyses (for all pollutants) remain protective throughout the life of the permit, and which would also clearly articulate the scope of the protections afforded to the Permittee pursuant to CWA section 402(k):

> "For any pollutant without an effluent limitation in this permit, any pollutant loading greater than the proposed discharge (the "proposed discharge" is based on the chemical-specific data and the facility's design flow as described in the permit application, or any other information provided to EPA during the permitting process) is not authorized by this permit."

EPA notes that such increases may be allowable, but the Permittee must first submit a request to EPA to authorize such an increase. This request will allow EPA to conduct an updated reasonable potential analysis to reassess whether a WQBEL is needed for the newly proposed discharge. Permit modification or reissuance may be required before the proposed discharge would be authorized.

Toxicity

Under CWA §§ 301, 303 and 402, EPA and the States may establish toxicity-based limitations to implement the narrative water quality criteria calling for "no toxics in toxic amounts". See also 40 CFR § 122.44(d)(1). 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." To ensure the receiving water is free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife, throughout the permit term, EPA may incorporate additional Whole Effluent Toxicity (WET) requirements described below.

Under the following circumstances, the Permittee would be required to conduct at least two accelerated re-tests at 14-day intervals which must be started within 14 days and 28 days of receiving the following results:

- If any WET test results are in violation of any WET limit and the test acceptability criteria were met (only re-test for the species that failed); or
- If the Permittee identifies or is provided notice of a sudden and significant death of large numbers of fish and/or shellfish in the vicinity of the discharge (test for all species identified in permit).

If the receiving water was used as the dilution water and is suspected to be toxic (*e.g.*, based on results from the initial test), the Permittee would be required to conduct the accelerated WET tests using laboratory water as the dilution water with a similar pH and hardness as the receiving water. If the WET tests using laboratory water do not violate any WET limits, the Permittee would return to a normal monitoring frequency but may request continued use of laboratory water as the dilution water based on these results. If either accelerated WET test

violates any WET limits (and the test acceptability criteria were met), the discharge would be considered to have persistent toxicity and the Permittee would be required to immediately initiate a Toxicity Identification Evaluation and Toxicity Reduction Evaluation (TIE/TRE) as described below to resolve any toxic impacts on the receiving water.

The specific proposed TIE/TRE requirements are presented below and were developed based on guidance available in EPA's *2024 NPDES WET Permit Writers' Manual*[24]. EPA notes that the results of the TIE/TRE might also lead to additional, future NPDES permit controls, such as additional WET permit limits, chemical-specific permit limits, or a compliance requirement to reduce or eliminate toxicity.

(1) If the WET re-test described above results in a violation of the WET limits, the Permittee must immediately initiate a TIE/TRE designed to identify and reduce toxicity in the discharge. Notice of TIE/TRE study implementation is to be submitted to EPA (via email: R1NPDESReporting@epa.gov) and the State within 10 days of receiving notification of WET re-test failure.

(2) A TIE/TRE schedule and action plan must be submitted to EPA and the State as an electronic attachment to the DMR within 60 days of receipt of WET re-test failure.

The TIE/TRE schedule (from the initiation date to the termination date) should be as short as possible, and no longer than 24 months as follows: The "TIE/TRE initiation date" is the date of the receipt of results for the toxicity test that confirms persistent toxicity and the "TIE/TRE termination date" is the date corrective actions to resolve toxicity are identified and a schedule for completing these corrective actions is proposed.

The objective of the action plan is to identify the source(s) of toxicity by analyzing toxicity testing samples for any toxicant identified as being a potential source of toxicity and ascertaining whether the same level of toxicity occurs when any suspected toxicant level varies. This information might lead to finding one or more toxicants or confirming or eliminating suspected toxicants and possibly their source(s).

(3) Quarterly "TIE/TRE Progress Reports" shall be submitted to EPA and the State as an electronic attachment to the DMR at the end of each quarter after the TIE/TRE initiation date. The progress report must list all activities and findings related to resolving toxicity, including all WET and chemical test data. The data summaries of the TIE/TRE must also be provided in a tabulated format with explanations of the procedures used and the recorded findings from the study.

[24] Available at: https://www.epa.gov/system/files/documents/2024-06/npdes-wet-permit-writers-manual.pdf

(4) A "Final TIE/TRE Report" shall be submitted to EPA and the State within 45 days of the TIE/TRE termination date (as an electronic attachment to the DMR) and should summarize the TIE/TRE activities and findings, propose the corrective action(s) to be taken, and propose a schedule to complete any identified corrective action(s).

(5) After submission of the "Final TIE/TRE Report," the Permittee shall continue to submit quarterly "Toxicity Reduction Progress Reports" (as an electronic attachment to the DMR) documenting progress on the corrective actions being taken to reduce toxicity in accordance with the proposed schedule.

(6) Upon completion of all corrective actions identified in the "Final TIE/TRE Report," the Permittee shall submit a "Toxicity Reduction Completion Report" (as an electronic attachment to the DMR) summarizing the corrective actions taken based on the TIE/TRE and shall include all information necessary to demonstrate that the discharge is no longer toxic and consistently complies with all WET limits.

Annual Chemical Monitoring

Massachusetts Water Quality Standards at 314 CMR 4.05(5)(e) states, "All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife."

Given that there are other sources of toxic effects (including to human health) that may not be captured by WET testing, EPA would include additional chemical monitoring in the permit. To ensure that the Permittee and EPA are aware of any changes in the chemical characteristics of the discharge that might merit a review of the water quality-based effluent limits, as authorized by Section 402(a)(2) of the CWA and 40 CFR § 122.48, the permit would require additional monitoring requirements for a broad range of contaminants. Specifically, the permit would include requirements for annual monitoring of both the effluent and the receiving water immediately upstream of the discharge (taken on the same day during the third calendar quarter to capture relatively low flow conditions) for all the pollutants in Appendix E of the Fact Sheet (which is based on the current NPDES Application Form 2A Tables B and C). All effluent and ambient results shall be reported in NetDMR for the quarterly DMR report due by October 15 of each year.

These data would provide assurance that the pollutant loading from the WWTF outfall characterized in the most recent permit application, and the ambient conditions upon which the analyses in this permit reissuance were based, have not changed to a degree that would merit new or more stringent water quality-based effluent limits (WQBELs) during the permit term based on numeric or narrative WQS effective at that time.

In addition, the broad range of pollutants in this monitoring requirement includes many common toxic pollutants. This monitoring would ensure that the sublethal effects of pollutants that are present in the effluent can be considered by the Permittee and by EPA in future permitting decisions or, as necessary to support a TIE/TRE.

Visual Inspection of the Receiving Water

Massachusetts Surface Water Quality Standards include several narrative requirements related to aesthetics, solids and oil & grease, as follows:

> (314 CMR 4.05(5)(a)) **Aesthetics**. All surface waters shall be free from pollutants in concentrations or combinations that 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.
>
> (314 CMR 4.05(3)(a)5.; (3)(b)5.; (3)(c)5.; (4)(a)5.; (4)(b)5.; and (4)(c)5.) **Solids**. These waters shall be free from floating, suspended and settleable solids in concentrations or 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.
>
> (314 CMR 4.05(3)(b)7. and (4)(b)7.) **Oil and Grease**. These 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.

To ensure compliance with these narrative water quality standards, Table A.1 of the permit would include a reporting requirement for "Aesthetics," and a footnote which more specifically requires the following monitoring requirements:

> Once per month, the Permittee shall conduct a visual inspection of the receiving water in the vicinity of the outfall and report any changes that may be caused by the discharge as follows:
>
> 1) any observable change in odor,
> 2) any visible change in color,
> 3) any visible change in turbidity,
> 4) the presence or absence of any visible floating materials, scum or foam,
> 5) the presence or absence of any visible settleable solids, or
> 6) the presence or absence of any visible film or sheen on the surface of the water or coating the banks of the water course.

Although there is no objective means to measure the impact of the discharge on the taste of the receiving water, the Permittee shall report to EPA and MassDEP any complaints it receives from the public regarding taste and/or odor and document what remedial actions, if any, it took to address such complaints.

The results do not need to be submitted each month. Rather, a summary of the 12 monthly visual inspections as well as any complaints received from the public regarding the taste of the receiving water shall be submitted as an electronic attachment to the December DMR, which is due each January 15th for the previous calendar year.

If an oily sheen is observed on the surface of the water in the vicinity of the outfall during the monthly visual inspection, the Permittee shall follow the procedures described above related to accelerated WET testing and potentially (if the accelerated tests demonstrate toxicity) conduct a TIE/TRE.

The Massachusetts "aesthetics" narrative water quality standard also seeks to protect against any discharge that, "produce[s] undesirable or nuisance species of aquatic life." Because the production of undesirable or nuisance species of aquatic life is most commonly caused by the discharge of excess nutrients, this portion of the standard is addressed in this Draft Permit through compliance with the requirements described in the nitrogen and phosphorus sections of the Fact Sheet above.

The "solids" narrative water quality standard also requires that waters shall be "free from floating, suspended and settleable solids…that would impair the benthic biota or degrade the chemical composition of the bottom." A Benthic Survey requirement, as discussed below, would address this portion of the standard particularly with respect to settleable solids. In addition, total suspended solids (TSS) requirements in the Draft Permit are proposed based on secondary treatment standards as described in Section 5.1.3 of this Fact Sheet above.

The "oil & grease" narrative water quality standard also prohibits the receiving water from being deleterious or toxic to aquatic life. This portion of the standard is addressed in the Toxicity section of the Fact Sheet above.

Benthic Survey

Massachusetts Surface Water Quality Standards address bottom pollutants at 314 CMR 4.05(5)(b), which requires that "[a]ll surface waters shall be free from pollutants in concentrations or combinations or from alterations that adversely affect the physical or chemical nature of the bottom, interfere with the propagation of fish or shellfish, or adversely affect populations of non-mobile or sessile benthic organisms."

To ensure compliance with these standards, the permit would require that the Permittee conduct a benthic survey to assess impacts from the discharge to aquatic life in the benthic environment. The permit would include a requirement of one such survey this permit term

during the third calendar quarter (*i.e.*, July through September) that begins at least 12 months from the effective date of the permit. The third calendar quarter represents the season of relatively low flow when the discharge has less dilution and is, therefore, more likely to impact the benthic population. The initial 12 months of the permit term allows the Permittee sufficient time to plan for this survey after permit issuance while ensuring results are available relatively soon in case further action is needed to protect the benthic population. The results of the benthic survey will assist EPA in the development of any future permit conditions needed to ensure compliance with 314 CMR 4.05(5)(b).

The specific proposed requirements would include:

> Benthic grab samples shall be taken at three locations sited along each of two transects (one immediately upstream/upgradient of the discharge at a location considered to be unimpacted by the discharge, and one downstream/downgradient of the discharge immediately outside of the estimated zone of initial dilution). Along each transect, duplicate samples shall be taken in the thalweg along with sites near each shoreline, for a total of six samples along each transect and 12 samples total. Organisms shall be sorted and identified to the lowest possible taxonomic level. Counts shall be standardized to densities per square meter of bottom. To characterize the bottom, grain size samples shall be collected at each grab site.
>
> Taxonomy must be performed by a professional freshwater macroinvertebrate taxonomist who, at a minimum, holds and maintains for the duration of the contract a certification from the Society of Freshwater Science for eastern genera in group 1 (Crustacea and Arthropods other than EPT and Chironomidae), group 2 (Ephemeroptera, Plecoptera, and Trichoptera nymphs and larvae only) and group 3 (Chironomidae larvae only).
>
> A report summarizing the results and comparing the upstream and downstream benthic populations shall be submitted by the following January 15 as an electronic attachment to the DMR.

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 to and imposes requirements on Federal agencies regarding species of fish, wildlife, or plants that have been federally listed as endangered or threatened (listed species) and regarding habitat of such species that has been designated as critical (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 and the Secretary of Commerce, 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 federally protected bird, terrestrial and freshwater species, while the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) administers Section 7 consultations for listed species of marine organisms (including marine mammals and reptiles), as well as for anadromous fish species.

The federal action being considered in this case is EPA's proposed reissuance of an NPDES permit for the Facility's discharge of pollutants. The Draft Permit is intended to replace the 2017 Permit in authorizing discharges from the Facility. As the federal agency charged with authorizing the Facility's pollutant discharges, EPA assesses potential impacts to federally listed species and critical habitat and initiates consultation to the extent required, under Section 7(a)(2) of the ESA.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, and plants in the expected action area of the outfalls to determine if EPA's proposed NPDES permit could potentially impact any such listed species.

6.1.1 Terrestrial and Avian Species (US Fish and Wildlife Service)

Regarding protected species under the jurisdiction of USFWS, one species may be present in the action area of the Facility's discharge,[25] the proposed endangered tricolored bat (*Perimyotis subflavus*).

According to the USFWS, the tricolored bat "primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees" in the warm season. "In addition, tricolored bats have been observed roosting during summer among pine needles, within artificial roosts like barns, beneath porch roofs, bridges, concrete bunkers, and rarely within caves. Female tricolored bats exhibit high site fidelity, returning year after year to the same summer roosting locations. Female tricolored bats form maternity colonies and switch roost trees regularly. Males roost singly."

This species is not considered aquatic. However, because the Facility's projected action area overlaps with the general statewide range of the tricolored bat, EPA submitted an evaluation on potential effects of the project to the Information for Planning and Consultation (IPaC) system provided by the USFWS. The USFWS system confirmed by letter that, based on the specific project information submitted, the project would have "no effect" on the tricolored bat.[26]

[25] *See* https://ecos.fws.gov/ipac/
[26] USFWS IPaC Project code: 2025-0023062, November 22, 2024

This concluded EPA's consultation responsibilities for this NPDES permitting action under ESA section 7(a)(2) with respect to the tricolored bat. No ESA section 7 consultation is required with USFWS for these species.

6.1.2 Marine and Anadromous Species (National Marine Fisheries Service)

Regarding protected species under the jurisdiction of NOAA Fisheries, several anadromous and marine species and life stages are present in Massachusetts waters. However, the action area is located approximately 16 miles from the coast and overlaps a first order stream in the Taunton River Watershed, far from anadromous species habitat. No protected species under the jurisdiction of NOAA Fisheries overlap with the action area. Therefore, no consultation is required.

Although the proposed permit action is deemed to have no effect on listed species, EPA notified USFWS and NOAA Fisheries Protected Resources Division at the beginning of the public comment period that the Draft Permit and Fact Sheet were available for review and provided a link to the EPA NPDES Permit website to allow direct access to the documents.

Initiation of consultation is required and shall be requested by EPA or by USFWS/NOAA Fisheries where discretionary federal involvement or control over the action has been retained or is authorized by law and if: 1) new information reveals that the action may affect listed species or critical habitat in a manner or to an extent not previously considered in the analysis; 2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the previous analysis; 3) a new species is listed or critical habitat designated that may be affected by the identified action; or 4) there is any incidental taking of a listed species that is not covered by an incidental take statement.

6.2 Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. §§ 1801, et seq., EPA is required to consult with NOAA Fisheries if proposed actions that EPA 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 CFR § 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.

Essential fish habitat is only designated for species for which federal fisheries management plans exist (16 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 New England Fishery Management

Council's Omnibus Essential Fish Habitat Amendment in 2017 updated the descriptions. The information is included on the NOAA Fisheries website at: https://www.fisheries.noaa.gov/topic/habitat-conservation. In some cases, a narrative identifies rivers and other waterways that should be considered EFH due to present or historic use by federally managed species.

EPA has determined that the Salisbury Plain River is not covered by the EFH designation for riverine systems at the location of the Facility as determined by the NOAA EFH Mapper.[27] EPA's review of available EFH information indicated that this water body is not designated EFH for any federally managed species. Therefore, consultation with NMFS under the Magnuson-Stevens Fishery Conservation and Management Act is not required.

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 the permit writer, Meridith Finegan at the following email address: finegan.meridith@epa.gov.
Prior to the close of the public comment period, any person may submit a written request to EPA for a public hearing to consider the Draft Permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held if the criteria stated in 40 CFR § 124.12 are satisfied. In reaching a final decision on the Draft Permit, EPA will respond to all significant comments in a Response to Comments document attached to the Final Permit and make these responses available to the public on EPA's website.

Following the close of the comment period, and after any public hearings, if such hearings are held, 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 submitted written comments or requested notice. Within 30 days after EPA serves notice of the issuance of the Final Permit decision, an appeal of the federal NPDES permit may be commenced by filing a petition for review of the permit with the Clerk of EPA's Environmental Appeals Board in accordance with the procedures at 40 CFR § 124.19.

If for any reason, comments on the Draft Permit and/or a request for a public hearing cannot be emailed to the permit writer specified above, please contact them at telephone number: (617) 918-1533.

[27] NOAA EFH Mapper available at http://www.habitat.noaa.gov/protection/efh/efhmapper/

8.0 Administrative Record

The administrative record on which this Draft Permit is based may be accessed by contacting Meridith Finegan at 617-918-1533 or via email to finegan.meridith@epa.gov.

January 2025
Date

Ken Moraff, Director
Water Division
U.S. Environmental Protection Agency

Figure 1: Location Map

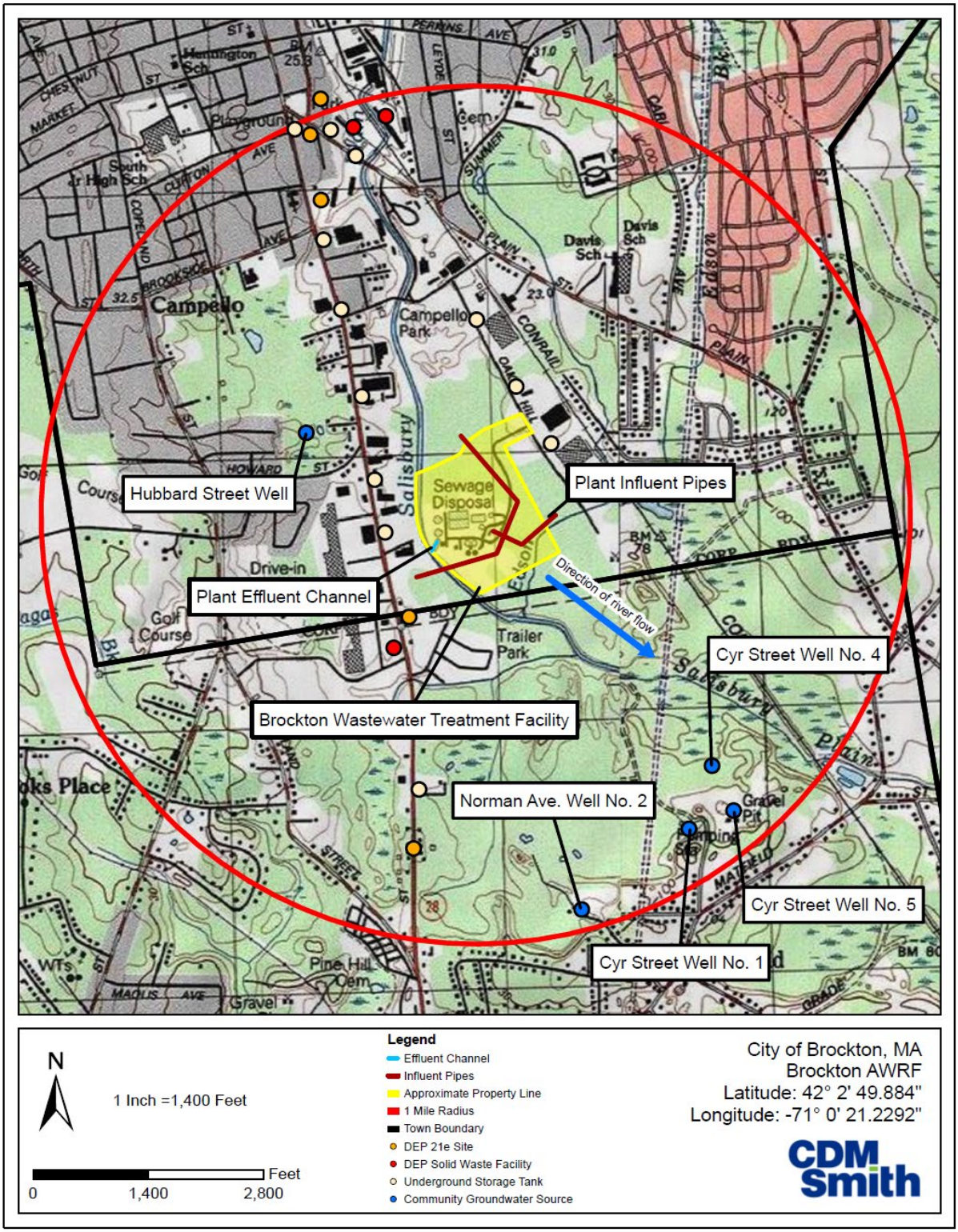
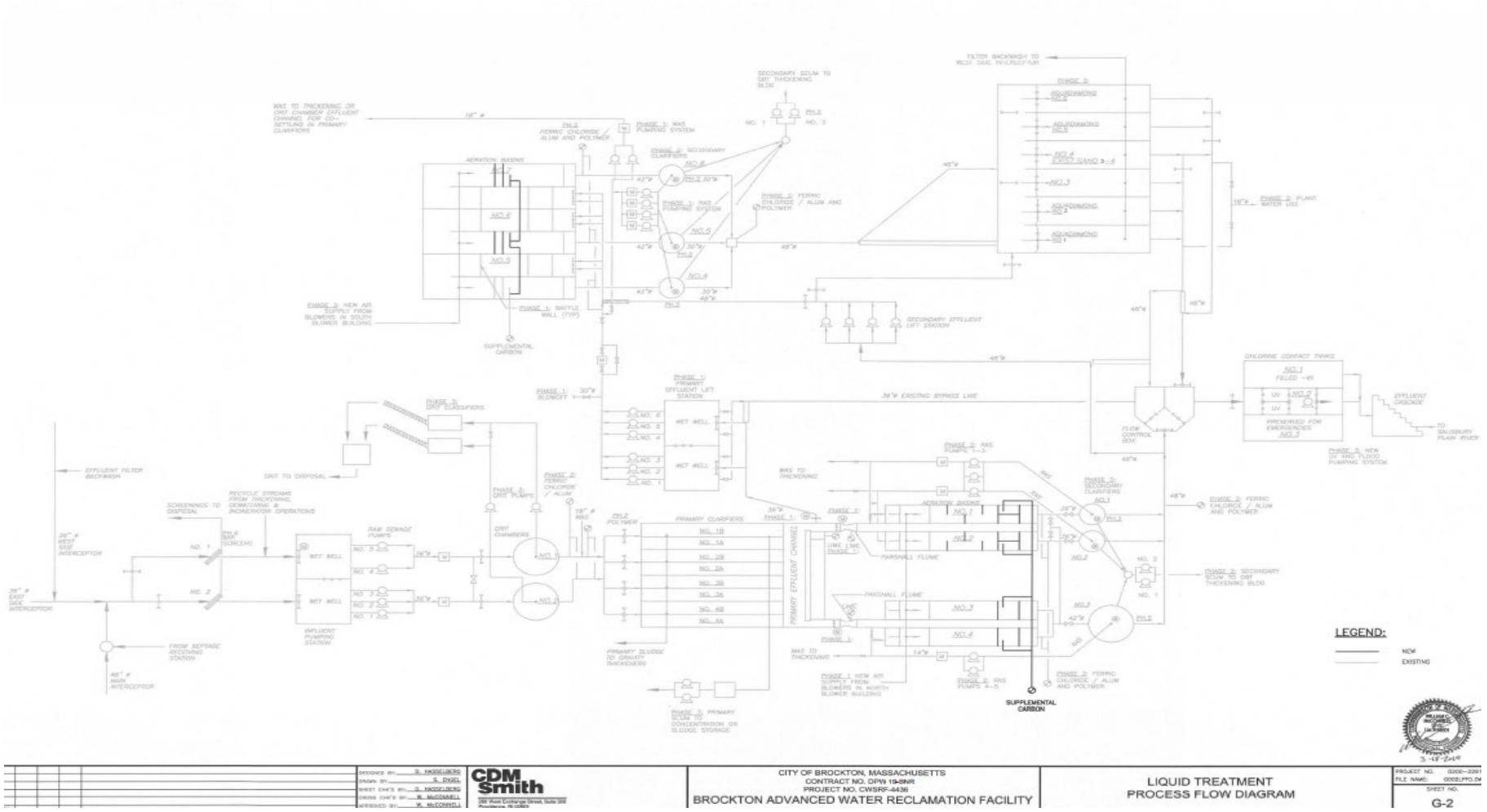


Figure 2: Flow Diagram



Outfall 001

Parameter	Flow	Flow	Flow	CBOD5	CBOD5	CBOD5	CBOD5	CBOD5
	Annual Rolling Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Weekly Ave
Units	MGD	MGD	MGD	lb/d	lb/d	mg/L	mg/L	lb/d
Effluent Limit	18	Report	Report	2250	750	15	5	1200
Minimum	14.0	9.5	10.4	93.7	79.3	1	1	80.3
Maximum	19.0	48.2	55.6	388.5	169	1.8	1.3	241.3
Median	16.05	15.75	20.65	150.75	110.15	1	1	124.55
No. of Violations	7	N/A	N/A	0	0	0	0	0
9/30/2019	19	11	12.8		94		1.03	102
10/31/2019	18.3	11.7	14.9		98		1	99
11/30/2019	17	14.1	17.8	117		1		
12/31/2019	17	22.8	35.1	198		1		
1/31/2020	16.5	17.3	22.6	144.7		1		
2/29/2020	16.1	16.1	17.9	138.7		1		
3/31/2020	15.7	16.5	23	143.4		1		
4/30/2020	15.9	25.5	37	219.7		1		
5/31/2020	15.9	19.2	27.6		160		1	208.9
6/30/2020	15.8	13.3	15.2		138.6		1.3	165.1
7/31/2020	15.9	12.1	13.5		100.6		1	122.3
8/31/2020	15.9	11.1	17		92.6		1	102.3
9/30/2020	15.9	10.9	12.5		91.2		1	93.8
10/31/2020	15.8	11.3	15.2		94.4		1	101.5
11/30/2020	15.8	13.3	15.2	111		1		
12/31/2020	15.6	20.3	32.1	169		1		
1/31/2021	15.6	17.4	20.1	145		1		
2/28/2021	15.8	18.3	20.4	152.2		1		
3/31/2021	15.7	16.3	21.2	140.1		1		
4/30/2021	15.1	17.8	20.9	164		1.1		
5/31/2021	14.8	15.5	18.5		129.5		1	143.4
6/30/2021	14.8	13.7	21.6		147.4		1.3	213.3
7/31/2021	15.4	19	28.4		169		1.1	241.3
8/31/2021	15.8	15.4	23.8		132.1		1	141
9/30/2021	16.3	46.5	46.5		144.4		1	NODI: 9
10/31/2021	16.9	18.1	31.9		151.2		1	185.8
11/30/2021	17.3	18.8	29.5	156.6		1		
12/31/2021	16.8	14.3	19.7	119.3		1		
1/31/2022	16.6	15.1	17.9	125.7		1		
2/28/2022	17.1	23.4	32.1	388.5		1.8		
3/31/2022	17.4	20.4	23	187.3		1.1		
4/30/2022	17.2	15.5	20	129.4		1		

Outfall 001

Parameter	Flow	Flow	Flow	CBOD5	CBOD5	CBOD5	CBOD5	CBOD5
	Annual Rolling Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Weekly Ave
Units	MGD	MGD	MGD	lb/d	lb/d	mg/L	mg/L	lb/d
Effluent Limit	18	Report	Report	2250	750	15	5	1200
5/31/2022	16.9	12.2	14.3		102.1		1	109.9
6/30/2022	16.7	11.4	13.5		98.9		1	113.1
7/31/2022	16	10.2	12.1		84.8		1	98.7
8/31/2022	15.5	9.5	10.4		79.3		1	80.3
9/30/2022	15	10.9	13.7		90.7		1	93.8
10/31/2022	14.6	13.5	21.1		112.4		1	131.4
11/30/2022	14	12.2	13.5	102		1		
12/31/2022	14.5	19.4	28.4	161.4		1		
1/31/2023	15.5	35.77	44.2	238.4		1		
2/28/2023	15	17.6	25.5	146.5		1		
3/31/2023	15.1	29.5	41	182.4		1		
4/30/2023	15.1	15.6	17.7	130		1		
5/31/2023	15.5	16.6	22		138.9		1	162.1
6/30/2023	15.7	13.8	15.6		118.9		1	127.4
7/31/2023	16.2	15.9	26.3		132.8		1	168.9
8/31/2023	16.5	12.9	14.7		107.9		1	119
9/30/2023	16.8	14.6	18.1		122.1		1	134.5
10/31/2023	16.7	12.7	16.8		105.7		1	126.8
11/30/2023	16.6	11.2	12.7	93.7		1		
12/31/2023	16.6	19	33.9	158.8		1		
1/31/2024	16.6	48.2	48.2	229.2		1		
2/29/2024	16.6	17.9	26.1	149.3		1		
3/31/2024	17.4	30.3	55.6	253.1		1		
4/30/2024	18.4	28.1	48.5	234.6		1		
5/31/2024	18.7	20	25.5		166.5		1	198.5
6/30/2024	18.98	16.2	23		135		1	185.3
7/31/2024	18.5	11.7	14		101		1	116.3
8/31/2024	18.4	11.7	14.5		97.9		1	102.1

Outfall 001

Parameter	CBOD5	CBOD5	CBOD5	CBOD5	CBOD5	CBOD5	CBOD5	CBOD5
	Weekly Ave	Weekly Ave	Weekly Ave	Daily Max	Daily Max	Daily Max	Daily Max	Monthly Ave Min
Units	lb/d	mg/L	mg/L	lb/d	lb/d	mg/L	mg/L	%
Effluent Limit	3750	25	8	2250	4500	15	30	85
Minimum	96.6	1	1	86.8	105.6	1	1	99
Maximum	797.2	3	2	387.6	2818.3	3	11	99.8
Median	162	1	1	165.1	255.7	1	1	99.6
No. of Violations	0	0	0	0	0	0	0	0
9/30/2019			1	153		2		99.72
10/31/2019			1	124		1		99.7
11/30/2019	140	1			148		1	99.69
12/31/2019	266.6	1			496.4		2	99.5
1/31/2020	175.7	1			188.5		1	99.6
2/29/2020	146.9	1			265.2		2	99.7
3/31/2020	177.7	1			348.6		2	99.7
4/30/2020	252.2	1			425.5		2	99.6
5/31/2020			1	230.1		1		99.6
6/30/2020			2	221.3		2		99.6
7/31/2020			1	112.2		1		99.8
8/31/2020			1	141.5		1		99.8
9/30/2020			1	104.3		1		99.8
10/31/2020			1	126.4		1		99.8
11/30/2020	117	1			126.4		1	99.7
12/31/2020	183.7	1			267.4		1	99.6
1/31/2021	195.3	1			176.1		1	99.6
2/28/2021	159.6	1			170		1	99.5
3/31/2021	164.4	1			271.4		2	99.6
4/30/2021	189.9	1			348.1		2	99.4
5/31/2021			1	154.1		1		99.6
6/30/2021			2	360.5		3		99.5
7/31/2021			1	337.1		2		99.3
8/31/2021			1	234.5		2		99.5
9/30/2021			1	387.6		1		99.5
10/31/2021			1	266.4		1		99.6
11/30/2021	215.1	1			246.2		1	99.6
12/31/2021	127.7	1			164.5		1	99.6
1/31/2022	135	1			149.1		1	99.7
2/28/2022	797.2	3			2818.3		11	99
3/31/2022	254.6	1			371.8		2	99.3
4/30/2022	154.5	1			166.4		1	99.6

Outfall 001

Parameter	CBOD5	CBOD5	CBOD5	CBOD5	CBOD5	CBOD5	CBOD5	CBOD5
	Weekly Ave	Weekly Ave	Weekly Ave	Daily Max	Daily Max	Daily Max	Daily Max	Monthly Ave Min
Units	lb/d	mg/L	mg/L	lb/d	lb/d	mg/L	mg/L	%
Effluent Limit	3750	25	8	2250	4500	15	30	85
5/31/2022			1	119.4		1		99.7
6/30/2022			1	224.5		2		99.7
7/31/2022			1	100.7		1		99.7
8/31/2022			1	86.8		1		99.8
9/30/2022			1	114.6		1		99.7
10/31/2022			1	176.1		1		99.7
11/30/2022	105.8	1			112.8		1	99.7
12/31/2022	193.2	1			236.9		1	99.5
1/31/2023	NODI: 9	1			669.5		2	99.2
2/28/2023	218.8	1			212.3		1	99.5
3/31/2023	NODI: 9	1			341.5		1	99.4
4/30/2023	155.5	1			147.9		1	99.6
5/31/2023			1	183.1		1		99.6
6/30/2023			1	224.3		2		99.7
7/31/2023			1	219.4		1		99.6
8/31/2023			1	122.3		1		99.7
9/30/2023			1	151.1		1		99.7
10/31/2023			1	140		1		99.7
11/30/2023	96.6	1			105.6		1	99.7
12/31/2023	220.8	1			282.8		1	99.5
1/31/2024	NODI: 9	1			401.9		1	99.3
2/29/2024	226.7	1			217.8		1	99.5
3/31/2024	NODI: 9	1			464		1	99.2
4/30/2024	NODI: 9	1			404.7		1	99.2
5/31/2024			1	212.3		1		99.5
6/30/2024			1	191.7		1		99.6
7/31/2024			1	199.7		2		99.6
8/31/2024			1	120.9		1		99.7

Outfall 001

Parameter	TSS	TSS	TSS	TSS	TSS	TSS	TSS	TSS
	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave	Weekly Ave	Weekly Ave
Units	lb/d	lb/d	mg/L	mg/L	lb/d	lb/d	mg/L	mg/L
Effluent Limit	2250	750	15	5	1200	3750	25	8
Minimum	109.5	89.3	1	1	97	152.4	1	1
Maximum	687.2	264.6	2.5	2.3	406.7	440.9	5	4
Median	165.75	139.45	1.15	1.15	160.3	184.3	1	1
No. of Violations	0	0	0	0	0	0	0	0
9/30/2019		112		1.21	179			2
10/31/2019		98		1	99			1
11/30/2019	130		1			159	1	
12/31/2019	219.4		1.1			361.5	2	
1/31/2020	146.7		1			175.7	1	
2/29/2020	139.3		1			161.1	1	
3/31/2020	160.4		1.2			216.3	1	
4/30/2020	243.8		1.1			252.2	1	
5/31/2020		182		1.1	215.6			1
6/30/2020		183.2		1.7	242.3			2
7/31/2020		150.2		1.5	216.5			2
8/31/2020		95.5		1	142.6			1
9/30/2020		94.2		1	99.8			1
10/31/2020		104.1		1.1	123.2			1
11/30/2020	141.8		1.3			163.6	1	
12/31/2020	169		1			183.7	1	
1/31/2021	158.9		1.1			195.3	1	
2/28/2021	152.2		1			159.6	1	
3/31/2021	161.4		1.2			189	1	
4/30/2021	163.3		1.1			191.7	1	
5/31/2021		171.6		1.4	264.1			2
6/30/2021		264.6		2.3	406.7			4
7/31/2021		190.6		1.2	261.9			1
8/31/2021		136.5		1.1	151.1			1
9/30/2021		162.1		1.1	NODI: 9			1
10/31/2021		165.6		1.1	185.8			1
11/30/2021	168.2		1.1			247.2	1	
12/31/2021	139.8		1.2			168.8	1	
1/31/2022	175		1.4			206	2	
2/28/2022	329.6		1.6			440.9	2	
3/31/2022	175		1			187.9	1	
4/30/2022	133.3		1			154.5	1	

Outfall 001

Parameter	TSS	TSS	TSS	TSS	TSS	TSS	TSS	TSS
	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave	Weekly Ave	Weekly Ave
Units	lb/d	lb/d	mg/L	mg/L	lb/d	lb/d	mg/L	mg/L
Effluent Limit	2250	750	15	5	1200	3750	25	8
5/31/2022		110.9		1.1	112.4			1
6/30/2022		184.2		1.9	236.3			2
7/31/2022		93.1		1.1	121.8			1
8/31/2022		89.3		1.1	97			1
9/30/2022		107.3		1.2	124.9			1
10/31/2022		118.1		1	139.5			1
11/30/2022	128.6		1.3			170.4	2	
12/31/2022	194.8		1.2			259.9	1	
1/31/2023	262.3		1.2			NODI: 9	1	
2/28/2023	163.3		1.1			218.8	1	
3/31/2023	199.8		1.1			NODI: 9	1	
4/30/2023	159.2		1.2			184.9	2	
5/31/2023		212.3		1.5	297.1			2
6/30/2023		164.6		1.4	216			2
7/31/2023		140.3		1.1	168.9			1
8/31/2023		115.2		1.1	135.7			1
9/30/2023		138.6		1.1	164.9			1
10/31/2023		124.2		1.2	134.1			1
11/30/2023	109.5		1.2			152.4	2	
12/31/2023	258.7		1.6			409.6	2	
1/31/2024	687.2		2.5			NODI: 9	5	
2/29/2024	189.4		1.3			236.3	1	
3/31/2024	398.3		1.5			NODI: 9	3	
4/30/2024	239.8		1			NODI: 9	1	
5/31/2024		214		1.3	239.3			2
6/30/2024		156.9		1.2	213.6			1
7/31/2024		141.5		1.5	151.3			2
8/31/2024		122.6		1.3	155.7			2

Outfall 001

Parameter	TSS	TSS	TSS	TSS	TSS	pH	pH
	Daily Max	Daily Max	Daily Max	Daily Max	Monthly Ave Min	Minimum	Maximum
Units	lb/d	lb/d	mg/L	mg/L	%	SU	SU
Effluent Limit	**2250**	**4500**	**15**	**30**	**85**	**6.5**	**8.3**
Minimum	**124**	**170**	**1**	**1**	**98**	**6.5**	**6.9**
Maximum	**802**	**4421**	**5.4**	**11**	**99.8**	**6.8**	**7.8**
Median	**272.8**	**356.55**	**2**	**2**	**99.6**	**6.6**	**7.1**
No. of Violations	**0**	**0**	**0**	**0**	**0**	**0**	**0**
9/30/2019	321		3		99.67	6.8	7.4
10/31/2019	124		1		99.72	6.7	7.2
11/30/2019		322		3	99.7	6.7	7.3
12/31/2019		943.2		3.8	99.5	6.5	7.1
1/31/2020		222.3		1.4	99.6	6.5	7
2/29/2020		298.4		2	99.7	6.7	7
3/31/2020		348.6		2	99.7	6.7	7
4/30/2020		617.5		2	99.7	6.6	7
5/31/2020	547.9		3.2		99.6	6.7	7.1
6/30/2020	401.1		3.6		99.6	6.7	7.2
7/31/2020	269.2		2.4		99.7	6.6	7.3
8/31/2020	178.1		2		99.8	6.7	7.1
9/30/2020	175.5		2		99.8	6.7	7.2
10/31/2020	191.8		2		99.8	6.6	7.1
11/30/2020		364.8		3	99.7	6.6	7.2
12/31/2020		267.4		1	99.6	6.6	7.1
1/31/2021		343.8		2	99.6	6.7	7.1
2/28/2021		170		1	99.5	6.6	7.1
3/31/2021		343.9		2	99.5	6.5	7
4/30/2021		328.3		2	99.2	6.5	7.1
5/31/2021	450		4		99.5	6.7	7.2
6/30/2021	594.5		5.4		99.3	6.7	7
7/31/2021	802		4.5		99.3	6.6	7.1
8/31/2021	274.2		2		99.6	6.7	7.1
9/30/2021	387.6		2		99.6	6.6	7.1
10/31/2021	271.4		2		99.7	6.6	7.1
11/30/2021		449.4		2	99.6	6.5	7
12/31/2021		333.3		3	99.6	6.7	7
1/31/2022		365.8		3	99.7	6.5	7
2/28/2022		1069.2		4.1	99.2	6.6	6.9
3/31/2022		317.9		2	99.5	6.6	7.1
4/30/2022		237.5		2	99.7	6.6	7.8

Outfall 001

Parameter	TSS	TSS	TSS	TSS	TSS	pH	pH
	Daily Max	Daily Max	Daily Max	Daily Max	Monthly Ave Min	Minimum	Maximum
Units	lb/d	lb/d	mg/L	mg/L	%	SU	SU
Effluent Limit	**2250**	**4500**	**15**	**30**	**85**	**6.5**	**8.3**
5/31/2022	184.5		2		99.7	6.8	7.1
6/30/2022	380.3		4		99.5	6.8	7
7/31/2022	180.3		2		99.8	6.8	7
8/31/2022	173.6		2		99.7	6.7	7
9/30/2022	229.2		2		99.6	6.6	7
10/31/2022	352.3		2		99.7	6.7	7.1
11/30/2022		492.5		5	99.7	6.7	7.1
12/31/2022		420.2		2.5	99.4	6.6	7
1/31/2023		525.8		2	99	6.6	7
2/28/2023		364.5		2	99.4	6.7	7
3/31/2023		683		2	99.3	6.6	6.9
4/30/2023		289.1		2	99.5	6.6	7
5/31/2023	462.6		3		99.4	6.6	6.9
6/30/2023	254.9		2		99.6	6.6	6.9
7/31/2023	237.7		2		99.7	6.5	7.1
8/31/2023	234.9		2		99.6	6.7	7
9/30/2023	296.1		2		99.7	6.6	6.9
10/31/2023	207.2		2		99.7	6.7	7.2
11/30/2023		293.5		3	99.7	6.7	7.2
12/31/2023		565.6		2	99.1	6.6	7
1/31/2024		4421		11	98	6.5	7
2/29/2024		337.1		2	99.3	6.6	7
3/31/2024		1391.9		4	98.4	6.5	7.2
4/30/2024		404.7		2	99	6.5	7
5/31/2024	424.5		2		99.2	6.6	7
6/30/2024	345.6		2		99.4	6.6	7.1
7/31/2024	322.5		3		99.4	6.7	7.1
8/31/2024	210.7		2		99.5	6.6	7.2

Outfall 001

Parameter	E. coli	E. coli	TRC	TRC	DO	Ammonia	Ammonia
	Monthly Geometric Mean	Daily Max	Monthly Ave	Daily Max	Minimum	Monthly Ave	Monthly Ave
Units	CFU/100mL	CFU/100mL	ug/L	ug/L	mg/L	lb/d	lb/d
Effluent Limit	126	409	11	19	6	1426	150
Minimum	1	0	No Data	No Data	6.43	4.3	2.1
Maximum	7	124	No Data	No Data	8.9	1096.4	38.7
Median	0.5	0	No Data	No Data	7.2	154.6	9.4
No. of Violations	0	0	No Data	No Data	0	0	0
9/30/2019	6	25	NODI: 9	NODI: 9	6.43		12
10/31/2019	NODI: 9	NODI: 9	NODI: 9	NODI: 9	7.09		7
11/30/2019	NODI: 9	NODI: 9	NODI: 9	NODI: 9			
12/31/2019	NODI: 9	NODI: 9	NODI: 9	NODI: 9		135.9	
1/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9		76.2	
2/29/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9		55.2	
3/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9		288.4	
4/30/2020	2	93	NODI: 9	NODI: 9	8.3	336.4	
5/31/2020	1	10	NODI: 9	NODI: 9	8.7		
6/30/2020	3	9	NODI: 9	NODI: 9	8.1		19.4
7/31/2020	5	20	NODI: 9	NODI: 9	7.2		6.6
8/31/2020	4	12	NODI: 9	NODI: 9	7.1		4.3
9/30/2020	6	43	NODI: 9	NODI: 9	7.5		16.2
10/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	7.2		27.8
11/30/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9			
12/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9		60.9	
1/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9		94.7	
2/28/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9		179.7	
3/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9		172.2	
4/30/2021	3	124	NODI: 9	NODI: 9	8	108	
5/31/2021	1	5	NODI: 9	NODI: 9	6.9		
6/30/2021	3	21	NODI: 9	NODI: 9	6.6		38.7
7/31/2021	3	67	NODI: 9	NODI: 9	7.2		16.3
8/31/2021	5	21	NODI: 9	NODI: 9	6.9		27.8
9/30/2021	7	66	NODI: 9	NODI: 9	7		16
10/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	7.9		4.1
11/30/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9			
12/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9		4.3	
1/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9		113.4	
2/28/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9		933.1	
3/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9		1096.4	
4/30/2022	1.4	10	NODI: 9	NODI: 9	8.6	43.9	

Outfall 001

Parameter	E. coli	E. coli	TRC	TRC	DO	Ammonia	Ammonia
	Monthly Geometric Mean	Daily Max	Monthly Ave	Daily Max	Minimum	Monthly Ave	Monthly Ave
Units	CFU/100mL	CFU/100mL	ug/L	ug/L	mg/L	lb/d	lb/d
Effluent Limit	126	409	11	19	6	1426	150
5/31/2022	2.7	8	NODI: 9	NODI: 9	8.1		
6/30/2022	1.4	5	NODI: 9	NODI: 9	6.7		4.9
7/31/2022	1	1	NODI: 9	NODI: 9	6.6		5.3
8/31/2022	3	22	NODI: 9	NODI: 9	7		4.3
9/30/2022	6.2	45	NODI: 9	NODI: 9	7.3		2.1
10/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	7.5		4.7
11/30/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9			
12/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9		154.6	
1/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9		393.6	
2/28/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9		167.6	
3/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9		155.3	
4/30/2023	1.3	11	NODI: 9	NODI: 9	8.9	50.4	
5/31/2023	2.2	36	NODI: 9	NODI: 9	8		
6/30/2023	1.5	5	NODI: 9	NODI: 9	7.5		4.9
7/31/2023	2.1	12	NODI: 9	NODI: 9	6.8		9.4
8/31/2023	4.2	30	NODI: 9	NODI: 9	7		12.2
9/30/2023	2	20	NODI: 9	NODI: 9	7.1		10.6
10/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	7.5		9.5
11/30/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9			
12/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9		150	
1/31/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9		217.7	
2/29/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9		61.2	
3/31/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9		205.7	
4/30/2024	1.5	12	NODI: 9	NODI: 9	7.9	158.6	
5/31/2024	1.5	10	NODI: 9	NODI: 9	8		
6/30/2024	2.6	15	NODI: 9	NODI: 9	7.6		9.6
7/31/2024	3.8	50	NODI: 9	NODI: 9	6.9		7.2
8/31/2024	1	0	NODI: 9	NODI: 9	6.9		7.5

Outfall 001

Parameter	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia
	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave
Units	lb/d	lb/d	mg/L	mg/L	mg/L	mg/L	lb/d	mg/L
Effluent Limit	**480**	**946**	**1**	**3.2**	**6.3**	**9.5**	**150**	**1**
Minimum	**11.9**	**3.9**	**0.02**	**0.11**	**0.03**	**0.03**	**4.1**	**0.04**
Maximum	**90.8**	**23.3**	**0.34**	**0.6**	**0.25**	**6.48**	**76**	**0.7**
Median	**39.4**	**10.5**	**0.08**	**0.25**	**0.1**	**0.76**	**13.1**	**0.13**
No. of Violations	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
9/30/2019			0.13				29	0.35
10/31/2019			0.07				10	0.11
11/30/2019		8			0.06			
12/31/2019						0.6		
1/31/2020						0.5		
2/29/2020						0.4		
3/31/2020						1.9		
4/30/2020						1.5		
5/31/2020	90.8			0.6				
6/30/2020			0.2				17.8	0.2
7/31/2020			0.1				49.3	0.4
8/31/2020			0.05				6.2	0.07
9/30/2020			0.18				36.4	0.41
10/31/2020			0.3				64.4	0.7
11/30/2020		18.6			0.2			
12/31/2020						0.3		
1/31/2021						0.7		
2/28/2021						1.2		
3/31/2021						1.2		
4/30/2021						0.75		
5/31/2021	56.5			0.42				
6/30/2021			0.34				70.9	0.68
7/31/2021			0.1				31.5	0.21
8/31/2021			0.18				76	0.42
9/30/2021			0.09				NODI: 9	0.2
10/31/2021			0.03				5.5	0.05
11/30/2021		3.9			0.03			
12/31/2021						0.03		
1/31/2022						0.86		
2/28/2022						4.79		
3/31/2022						6.48		
4/30/2022						0.29		

Outfall 001

Parameter	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia
	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave
Units	lb/d	lb/d	mg/L	mg/L	mg/L	mg/L	lb/d	mg/L
Effluent Limit	**480**	**946**	**1**	**3.2**	**6.3**	**9.5**	**150**	**1**
5/31/2022	11.9			0.11				
6/30/2022			0.05				7.6	0.08
7/31/2022			0.07				12.7	0.17
8/31/2022			0.05				7.9	0.1
9/30/2022			0.02				4.1	0.04
10/31/2022			0.04				7.4	0.06
11/30/2022		10.5			0.1			
12/31/2022						0.92		
1/31/2023						1.69		
2/28/2023						1.09		
3/31/2023						0.76		
4/30/2023						0.38		
5/31/2023	39.4			0.25				
6/30/2023			0.04				6	0.05
7/31/2023			0.07				13.1	0.1
8/31/2023			0.11				17.8	0.18
9/30/2023			0.08				16.8	0.12
10/31/2023			0.09				16.7	0.13
11/30/2023		23.3			0.25			
12/31/2023						0.85		
1/31/2024						1		
2/29/2024						0.42		
3/31/2024						0.75		
4/30/2024						0.6		
5/31/2024	18.8			0.12				
6/30/2024			0.08				41.7	0.24
7/31/2024			0.07				9.8	0.1
8/31/2024			0.08				11.1	0.12

Outfall 001

Parameter	Ammonia	Ammonia	Ammonia	TKN	TKN	TKN	TKN	TN
	Daily Max	Daily Max	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Daily Max	Monthly Ave
Units	lb/d	mg/L	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d
Effluent Limit	225	1.5	Report	Report	Report	Report	Report	450
Minimum	6.2	0.05	0.07	93.4	0.7	114.4	0.7	288.2
Maximum	107.2	1.1	8.96	1265.9	7.1	481.7	7.1	393.3
Median	15.4	0.15	1.2	141.2	1.2	156.75	1.3	337.25
No. of Violations	0	0	N/A	N/A	N/A	N/A	N/A	0
9/30/2019	50	0.6		126	1.37	214	2.52	
10/31/2019	15	0.15		102	1.06	127	1.22	
11/30/2019			0.23	97	0.85		0.85	
12/31/2019			2	212.5	1.2		1.2	
1/31/2020			0.9	180.9	1		1	
2/29/2020			0.7	153.8	1.2		1.3	
3/31/2020			2.6	281.7	2.2		2.2	
4/30/2020			2.7	481.6	2.2		2.2	
5/31/2020			1.1	216.5	1.4	481.7	2.5	
6/30/2020	70.2	0.6		145.2	1.3	158.6	1.5	
7/31/2020	15.2	0.1		125.3	1.2	146	1.4	
8/31/2020	7.7	0.08		108.9	1.2	142.9	1.6	
9/30/2020	55.6	0.62		129.7	1.4	286.3	3	
10/31/2020	103.5	1.1		108.1	1.2	196.6	2.1	
11/30/2020			0.4	151.9	1.3		1.3	
12/31/2020			1	154.3	1		1	
1/31/2021			1.2	158.4	1		1	
2/28/2021			2.4	248.2	1.5		1.5	
3/31/2021			1.9	377.6	2.2		2.2	
4/30/2021			1.09	304.6	2		2	
5/31/2021			0.81	221	1.7	303.6	2	
6/30/2021	73.1	0.79		193.1	1.7	247.7	2	
7/31/2021	58.8	0.38		135.3	0.9	189.1	1	
8/31/2021	107.2	0.54		135.3	1	278.7	2.2	
9/30/2021	69.8	0.21		131	0.9	294.5	1.1	
10/31/2021	6.8	0.05		127.8	0.8	213.5	0.9	
11/30/2021			0.07	146	0.7		0.7	
12/31/2021			0.11	104.1	0.9		0.9	
1/31/2022			1.9	104.1	0.9		0.9	
2/28/2022			7.85	1064.6	4.9		4.9	
3/31/2022			8.96	1265.9	7.1		7.1	
4/30/2022			1.3	342.7	2.1		2.1	

Outfall 001

Parameter	Ammonia	Ammonia	Ammonia	TKN	TKN	TKN	TKN	TN
	Daily Max	Daily Max	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Daily Max	Monthly Ave
Units	lb/d	mg/L	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d
Effluent Limit	225	1.5	Report	Report	Report	Report	Report	450
5/31/2022			0.33	118.5	1.1	135.2	1.5	393.3
6/30/2022	9.9	0.1		125.7	1.3	171.8	1.7	378.7
7/31/2022	16.9	0.22		94.4	1.1	114.4	1.3	354.6
8/31/2022	14.9	0.19		104	1.3	123.7	1.6	338.8
9/30/2022	6.2	0.06		106.2	1.2	137.8	1.3	313.6
10/31/2022	8.3	0.09		98.2	0.9	120.3	1.1	288.2
11/30/2022			0.35	93.4	0.9		0.9	
12/31/2022			2.74	137.2	1.1		1.1	
1/31/2023			2.98	423.1	2.5		2.5	
2/28/2023			2.8	320.9	2		2	
3/31/2023			1.74	207.9	1.3		1.3	
4/30/2023			0.6	145.6	1.2		1.2	
5/31/2023			0.85	178.4	1.3	300.5	1.8	312.4
6/30/2023	7.3	0.06		112.7	1	123.9	1	316.8
7/31/2023	15.4	0.13		112.7	0.9	130.7	1.1	327.8
8/31/2023	30.8	0.31		106	1	134.8	1.3	330.8
9/30/2023	26.6	0.18		130.7	1	154.9	1.1	342.1
10/31/2023	18.2	0.14		111	1.1	145.1	1.5	341.9
11/30/2023			0.59	120.3	1.3		1.3	
12/31/2023			1.88	101.8	1		1	
1/31/2024			2	189.7	1.2		1.2	
2/29/2024			0.79	200.6	1.2		1.2	
3/31/2024			1.4	165.6	0.9		0.9	
4/30/2024			1.26	341.3	1.2		1.2	
5/31/2024			0.31	155.6	1	203.5	1.2	335.7
6/30/2024	11.1	0.1		148.8	1.1	197.7	1.2	340.3
7/31/2024	12.7	0.12		120.5	1.2	141.8	1.4	334.6
8/31/2024	12.4	0.13		118.8	1.2	151	1.5	339.4

Outfall 001

Parameter	TN	TN	TN	Nitrate	Nitrate	Nitrate	Nitrite	Nitrite
	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave
Units	lb/d	mg/L	mg/L	lb/d	mg/L	mg/L	lb/d	mg/L
Effluent Limit	Report	Report	Report	Report	Report	Report	Report	Report
Minimum	**232.7**	**2**	**2**	**89.7**	**0.5**	**0.5**	**0.9**	**0**
Maximum	**1388.2**	**7.7**	**7.7**	**634.2**	**4.2**	**5.2**	**90.4**	**0.58**
Median	**473.95**	**3.3**	**3.795**	**243.8**	**1.9**	**2.3**	**4.55**	**0.04**
No. of Violations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9/30/2019	411	4.42	5.95	283	3.04	3.75	1	0.02
10/31/2019	383	4	4.6	279	2.92	3.47	2	0.02
11/30/2019	431	3.79	3.79	332	2.92	2.92	2	0.02
12/31/2019	873.9	5.1	5.1	634.2	3.7	3.7	27.1	0.2
1/31/2020	621.8	3.3	3.3	412.8	2.2	2.2	28.1	0.1
2/29/2020	482.9	3.7	4	291.3	2.2	2.3	37.7	0.3
3/31/2020	629.8	4.8	4.8	328.9	2.5	2.5	19.3	0.1
4/30/2020	936.1	4.2	4.2	417.6	1.9	1.9	36.9	0.2
5/31/2020	645	4.2	5.9	418.4	2.8	4	10.1	0.1
6/30/2020	604.5	5.5	6.7	455.4	4.2	5.2	3.9	0
7/31/2020	531.9	5.2	6.2	403.2	3.9	4.8	3.4	0.03
8/31/2020	432.7	4.8	5.4	321.5	3.6	4.2	2.3	0.03
9/30/2020	475.7	5.1	5.8	340.2	3.7	4.4	5.7	0.06
10/31/2020	409.8	4.3	5.1	291.5	3.1	4	5.3	0.06
11/30/2020	494	4.3	4.3	337.3	2.9	2.9	4.8	0.04
12/31/2020	653	4.1	4.1	491.3	3.1	3.1	7.4	0.05
1/31/2021	553.9	3.4	3.4	387	2.4	2.4	8.5	0.05
2/28/2021	828.3	4.9	4.9	559.2	3.3	3.3	20.9	0.12
3/31/2021	614.4	3.6	3.6	207.3	1.2	1.2	29.5	0.18
4/30/2021	472.2	3.1	3.1	129.4	0.9	0.9	38.2	0.25
5/31/2021	448.9	3.4	4	213.6	1.6	2.2	14.4	0.1
6/30/2021	403.3	3.4	4.2	205.9	1.7	2.4	4.3	0.04
7/31/2021	418	2.6	3	278.4	1.8	1.9	4.3	0.02
8/31/2021	360.1	2.8	3.7	223.3	1.7	2.3	1.5	0.01
9/30/2021	437.4	2.8	3.3	304.3	1.9	2.5	2.2	0.01
10/31/2021	432.4	2.7	3.4	303.7	1.9	2.5	0.9	0.01
11/30/2021	551.6	2.5	2.5	404.4	1.8	1.8	1.1	0.01
12/31/2021	352.8	3.1	3.1	247.5	2.1	2.1	1.2	0.01
1/31/2022	463.3	3.8	3.8	357.2	3	3	1.9	0.02
2/28/2022	1329.4	6.1	6.1	215.1	1	1	49.8	0.23
3/31/2022	1388.2	7.7	7.7	89.7	0.5	0.5	32.6	0.18
4/30/2022	652.6	3.9	3.9	242.9	1.5	1.5	66.9	0.4

Outfall 001

Parameter	TN	TN	TN	Nitrate	Nitrate	Nitrate	Nitrite	Nitrite
	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave
Units	lb/d	mg/L	mg/L	lb/d	mg/L	mg/L	lb/d	mg/L
Effluent Limit	Report	Report	Report	Report	Report	Report	Report	Report
5/31/2022		3	3.5	186	1.8	2.1	4.3	0.04
6/30/2022		3.2	4.1	187.4	1.9	2.4	2.6	0.03
7/31/2022		3.2	4.7	176.1	2.1	3.5	2.6	0.03
8/31/2022		3.3	4	158.5	2	2.5	2.7	0.03
9/30/2022		3.1	4	178.3	1.9	2.6	2	0.02
10/31/2022		2.6	3.1	179.9	1.7	2.1	1.7	0.02
11/30/2022	232.7	2.2	2.2	137.1	1.3	1.3	2.2	0.02
12/31/2022	379.9	3.1	3.1	234	1.9	1.9	8.7	0.07
1/31/2023	899.2	5.2	5.2	433.4	2.5	2.5	42.7	0.25
2/28/2023	600.1	3.8	3.8	188.8	1.2	1.2	90.4	0.58
3/31/2023	537.5	3.4	3.4	313.5	2	2	16	0.1
4/30/2023	462.2	3.8	3.8	310.5	2.6	2.6	6.1	0.05
5/31/2023		3.3	3.8	267.9	1.9	2.5	7.6	0.05
6/30/2023		2.9	3.3	228.5	1.9	2.3	1	0.01
7/31/2023		2.6	3.5	224.2	1.7	2.5	1.9	0.01
8/31/2023		2.6	3.1	174.3	1.6	1.9	3	0.03
9/30/2023		2.8	3.4	219	1.7	2.3	4.7	0.04
10/31/2023		2.6	2.8	164.2	1.5	1.9	3.3	0.03
11/30/2023	285.7	3	3	161.1	1.7	1.7	4.4	0.05
12/31/2023	253.8	2.4	2.4	143.3	1.4	1.4	8.7	0.08
1/31/2024	458.8	3	3	237.9	1.5	1.5	31.2	0.2
2/29/2024	424.2	2.5	2.5	163.5	1	1	60.2	0.36
3/31/2024	420.3	2.2	2.2	244.7	1.3	1.3	10	0.05
4/30/2024	538.3	2	2	184.4	0.7	0.7	12.7	0.05
5/31/2024		2.7	3.1	257.4	1.6	1.9	3.8	0.02
6/30/2024		2.8	3	219	1.7	1.9	2	0.02
7/31/2024		3.1	3.9	182.3	1.8	2.8	2.1	0.02
8/31/2024		3.2	3.4	190.9	2	2.2	2.5	0.03

Outfall 001

Parameter	Nitrite	TP	TP	TP	TP	TP	TP	TP
	Daily Max	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Annual Rolling Ave	Daily Max
Units	mg/L	lb/d	lb/d	lb/d	mg/L	mg/L	mg/L	mg/L
Effluent Limit	Report	15.2	150	Report	0.101	1	0.2	Report
Minimum	0.01	5	6	5.2	0.061	0.05	0.06	0.06
Maximum	0.58	15.5	23.5	23.9	0.09	0.2	0.1	0.3
Median	0.055	8.3	11.6	10.4	0.074	0.1	0.09	0.1
No. of Violations	N/A	1	0	N/A	0	0	0	N/A
9/30/2019	0.04			6			0.09	0.09
10/31/2019	0.06			8			0.07	0.12
11/30/2019	0.02		15			0.13		0.2
12/31/2019	0.2		23.5			0.1		0.2
1/31/2020	0.1		7.6			0.1		0.1
2/29/2020	0.4		17.5			0.1		0.2
3/31/2020	0.1		20.8			0.2		0.2
4/30/2020	0.2			23.9			0.1	0.3
5/31/2020	0.1			15.8			0.1	0.2
6/30/2020	0.1			18.4			0.1	0.3
7/31/2020	0.07			10.8			0.1	0.1
8/31/2020	0.05			8.1			0.1	0.1
9/30/2020	0.24			5.6			0.08	0.1
10/31/2020	0.2			5.2			0.1	0.1
11/30/2020	0.04		10.4			0.1		0.1
12/31/2020	0.05		21.5			0.1		0.1
1/31/2021	0.05		11.7			0.1		0.1
2/28/2021	0.12		14.4			0.1		0.1
3/31/2021	0.18		10.8			0.1		0.1
4/30/2021	0.25			14.8			0.07	0.12
5/31/2021	0.18			10.9			0.08	0.12
6/30/2021	0.08			12.1			0.09	0.1
7/31/2021	0.05			12.3			0.09	0.1
8/31/2021	0.02			7.1			0.07	0.08
9/30/2021	0.02			10			0.06	0.09
10/31/2021	0.01			9.1			0.07	0.1
11/30/2021	0.01		11.5			0.1		0.1
12/31/2021	0.01		6			0.05		0.06
1/31/2022	0.02		7.8			0.06		0.08
2/28/2022	0.23		19.4			0.1		0.2
3/31/2022	0.18		8.6			0.05		0.07
4/30/2022	0.4	7.7			0.07			0.09

Outfall 001

Parameter	Nitrite	TP	TP	TP	TP	TP	TP	TP
	Daily Max	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Monthly Ave	Annual Rolling Ave	Daily Max
Units	mg/L	lb/d	lb/d	lb/d	mg/L	mg/L	mg/L	mg/L
Effluent Limit	Report	15.2	150	Report	0.101	1	0.2	Report
5/31/2022	0.08	7.3			0.061			0.1
6/30/2022	0.03	7.8			0.07			0.1
7/31/2022	0.04	5			0.075			0.08
8/31/2022	0.04	7.1			0.071			0.1
9/30/2022	0.04	7.3			0.08			0.1
10/31/2022	0.03	7.8			0.08			0.09
11/30/2022	0.02		10.6			0.11		0.2
12/31/2022	0.07		16.6			0.1		0.14
1/31/2023	0.25		13.3			0.06		0.07
2/28/2023	0.58		8.7			0.06		0.09
3/31/2023	0.1		10.6			0.06		0.07
4/30/2023	0.05	9.5			0.074			0.1
5/31/2023	0.1	13.3			0.079			0.11
6/30/2023	0.02	11.5			0.09			0.19
7/31/2023	0.03	9			0.09			0.09
8/31/2023	0.08	7.5			0.073			0.1
9/30/2023	0.05	9.6			0.07			0.1
10/31/2023	0.05	7.3			0.073			0.09
11/30/2023	0.05		7.6			0.08		0.09
12/31/2023	0.08		11.6			0.07		0.08
1/31/2024	0.2		15.4			0.07		0.1
2/29/2024	0.36		9.6			0.07		0.1
3/31/2024	0.05		15.2			0.06		0.1
4/30/2024	0.05	15.5			0.069			0.09
5/31/2024	0.06	13.5			0.073			0.09
6/30/2024	0.03	9.9			0.078			0.09
7/31/2024	0.04	8.5			0.078			0.1
8/31/2024	0.04	8.3			0.08			0.1

Outfall 001

Parameter	Copper	Copper
	Monthly Ave	Daily Max
Units	ug/L	ug/L
Effluent Limit	10.3	13.7
Minimum	1.9	1.9
Maximum	34.6	94.6
Median	4.7	5
No. of Violations	1	1
9/30/2019	5.4	5.4
10/31/2019	5.8	6.4
11/30/2019	5.9	6.7
12/31/2019	5.8	6.9
1/31/2020	3.4	5
2/29/2020	5.4	5.9
3/31/2020	4.7	5.1
4/30/2020	2.9	3.6
5/31/2020	3.5	3.6
6/30/2020	5.6	6.2
7/31/2020	7.3	7.8
8/31/2020	8.4	10.4
9/30/2020	7.5	8
10/31/2020	5.8	5.8
11/30/2020	5.1	6.5
12/31/2020	4.9	5.1
1/31/2021	4.6	5.1
2/28/2021	6.7	8
3/31/2021	4.8	4.8
4/30/2021	5.1	5.6
5/31/2021	5.2	5.6
6/30/2021	7.5	7.5
7/31/2021	5.5	5.5
8/31/2021	6.3	10.4
9/30/2021	3.9	4.5
10/31/2021	6.6	6.7
11/30/2021	7.4	10.2
12/31/2021	5.8	5.9
1/31/2022	4.9	4.9
2/28/2022	5.4	7.1
3/31/2022	3.9	4.5
4/30/2022	4.7	5

Outfall 001

Parameter	Copper	Copper
	Monthly Ave	Daily Max
Units	ug/L	ug/L
Effluent Limit	10.3	13.7
5/31/2022	3.4	5
6/30/2022	7.7	7.8
7/31/2022	5.2	7.1
8/31/2022	34.6	94.6
9/30/2022	4.3	5
10/31/2022	3.2	3.9
11/30/2022	2.9	3.3
12/31/2022	4	4.2
1/31/2023	3.7	4
2/28/2023	3.8	3.8
3/31/2023	3.9	3.9
4/30/2023	3.6	3.6
5/31/2023	3.3	3.3
6/30/2023	3.1	3.1
7/31/2023	2.8	2.8
8/31/2023	3.1	3.1
9/30/2023	6	6
10/31/2023	4	4
11/30/2023	4.8	5.7
12/31/2023	3.6	3.6
1/31/2024	2	2
2/29/2024	1.9	1.9
3/31/2024	3.9	3.9
4/30/2024	2.5	2.5
5/31/2024	3.4	4
6/30/2024	2.6	2.6
7/31/2024	3.7	3.7
8/31/2024	3.8	3.8

WET Effluent

Parameter	LC50 Acute Ceriodaphnia	C-NOEC Chronic Ceriodaphnia	Ammonia	Aluminum	Cadmium	Copper	Lead
	Daily Min	Daily Min	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max
Units	%	%	mg/L	mg/L	mg/L	mg/L	mg/L
Effluent Limit	100	98	Report	Report	Report	Report	Report
Minimum	100	50	0	0	0	0.00304	0
Maximum	100	100	0.53	0.029	0.0003	0.0946	0.0031
Median	100	100	Non-Detect	Non-Detect	Non-Detect	0.00435	Non-Detect
No. of Violations	0	1	N/A	N/A	N/A	N/A	N/A
11/30/2019	100	100	<0.1	<0.02	<0.0003	0.0048	<0.0003
8/31/2020	100	100	<0.1	<0.02	<0.0003	0.0068	<0.0003
11/30/2020	100	100	<0.1	0.029	<0.0003	0.0051	<0.0003
8/31/2021	100	100	<0.1	<0.04	<0.0001	0.00304	<0.0002
11/30/2021	100	100	<0.1	<0.04	<0.0001	0.00369	<0.0002
8/31/2022	100	100	0.19	0.019	<0.0001	0.0946	0.0031
11/30/2022	100	100	0.35	0.02	<0.0002	0.0033	<0.0003
8/31/2023	100	100	<0.05	0.018	<0.0001	0.0039	<0.0003
11/30/2023	100	100	0.53	<0.020	<0.0002	0.0057	<0.0003
8/31/2024	100	50	0.11	<0.010	0.0003	0.0033	<0.0003

WET Effluent

Parameter	Nickel	Zinc	Hardness
	Daily Max	Daily Max	Daily Max
Units	mg/L	mg/L	mg/L
Effluent Limit	Report	Report	Report
Minimum	**0.00157**	**0.017**	**101**
Maximum	**0.004**	**0.077**	**418**
Median	**0.003**	**0.0255**	**152.5**
No. of Violations	N/A	N/A	N/A
11/30/2019	0.002	0.033	180
8/31/2020	0.0036	0.037	160
11/30/2020	0.0033	0.039	150
8/31/2021	0.00241	0.017	418
11/30/2021	0.00157	0.0181	122
8/31/2022	0.004	0.077	101
11/30/2022	0.002	0.024	141
8/31/2023	0.003	0.02	155
11/30/2023	0.003	0.027	139
8/31/2024	0.003	0.018	156

WET Ambient

Parameter	Ammonia	Aluminum	Cadmium	Copper	Lead	Nickel	Zinc	Hardness
	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Effluent Limit	Report	Report	Report	Report	Report	Report	Report	Report
Minimum	**0**	**0.03**	**0**	**0.0021**	**0.0008**	**0.0014**	**0.01**	**53.4**
Maximum	**0.34**	**0.38**	**0.0005**	**0.0045**	**0.0069**	**0.0022**	**0.026**	**74**
Median	**0.115**	**0.06455**	**Non-Detect**	**0.00305**	**0.0024**	**0.002**	**0.016**	**60**
11/30/2019	0.13	0.033	<0.0003	0.003	0.0016	0.002	0.026	74
8/31/2020	<0.1	0.12	<0.0003	0.0041	0.0069	0.0014	0.016	70
11/30/2020	ND	0.38	ND	0.0031	0.0034	0.0022	0.025	62
8/31/2021	ND	0.0671	ND	0.00332	0.00301	0.00143	0.0133	57.6
11/30/2021	ND	0.108	ND	0.00268	0.00509	0.00169	0.0204	55.7
8/31/2022	0.34	0.036	ND	0.0021	0.0022	0.002	0.01	63.7
11/30/2022	0.22	0.055	ND	0.0022	0.0015	0.002	0.017	53.4
8/31/2023	0.1	0.069	ND	0.0038	0.0026	0.002	0.012	58
11/30/2023	0.19	0.03	ND	0.0045	0.0008	0.002	0.015	66.1
8/31/2024	0.15	0.062	0.0005	0.0028	0.0018	ND	0.016	54.4

WET Ambient

Parameter	pH
	Daily Max
Units	S.U.
Effluent Limit	Report
Minimum	6.7
Maximum	7.37
Median	7.03
11/30/2019	7.08
8/31/2020	7.36
11/30/2020	
8/31/2021	6.87
11/30/2021	7.1
8/31/2022	7.37
11/30/2022	6.7
8/31/2023	6.83
11/30/2023	6.98
8/31/2024	

WET Effluent - High Flow

Parameter	LC50 Acute Ceriodaphnia	C-NOEC Chronic Ceriodaphnia	Ammonia	Aluminum	Cadmium	Copper	Lead
	Daily Min	Daily Min	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max
Units	%	%	mg/L	mg/L	mg/L	mg/L	mg/L
Effluent Limit	100	98	Report	Report	Report	Report	Report
Minimum	71.5	12.5	0.05	0.01	0.00005	0.0028	0.00001
Maximum	100	100	2.04	0.485	0.00015	3.4	0.0044
Median	Non-Detect	Non-Detect	Non-Detect	Non-Detect	Non-Detect	Non-Detect	Non-Detect
No. of Violations	3	3	N/A	N/A	N/A	N/A	N/A
9/30/2019	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
10/31/2019	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
11/30/2019	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2019	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
1/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
2/29/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
4/30/2020	71.5	50	2.04	0.01	0.00015	0.0028	0.00015
5/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
7/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
8/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
9/30/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
10/31/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
11/30/2020	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2020	73.5	98	0.39	0.01	0.00015	0.005	0.00015
1/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
2/28/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
4/30/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
5/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
7/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
8/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
9/30/2021	100	100	0.1	0.02	0.00005	0.00302	0.00001
10/31/2021	79.4	50	0.05	0.02	0.00005	0.00423	0.00005
11/30/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2021	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
1/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
2/28/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
4/30/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
5/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9

WET Effluent - High Flow

Parameter	LC50 Acute Ceriodaphnia	C-NOEC Chronic Ceriodaphnia	Ammonia	Aluminum	Cadmium	Copper	Lead
	Daily Min	Daily Min	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max
Units	%	%	mg/L	mg/L	mg/L	mg/L	mg/L
Effluent Limit	100	98	Report	Report	Report	Report	Report
6/30/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
7/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
8/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
9/30/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
10/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
11/30/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2022	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
1/31/2023	100	100	1.61	0.01	0.0001	3.4	0.00015
2/28/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
3/31/2023	100	100	1.1	0.01	0.0001	0.0038	0.00015
4/30/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
5/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
7/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
8/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
9/30/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
10/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
11/30/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
12/31/2023	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
1/31/2024	100	12.5	0.71	0.043	0.00015	0.782	0.0044
2/29/2024	100	100	1.6	0.485	0.00005	0.0039	0.00015
3/31/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
4/30/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
5/31/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
6/30/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
7/31/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9
8/31/2024	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9	NODI: 9

WET Effluent - High Flow

Parameter	Nickel	Zinc	Hardness
	Daily Max	Daily Max	Daily Max
Units	mg/L	mg/L	mg/L
Effluent Limit	Report	Report	Report
Minimum	0.00105	0.0125	2.52
Maximum	0.003	0.063	126
Median	Non-Detect	Non-Detect	Non-Detect
No. of Violations	N/A	N/A	N/A
9/30/2019	NODI: 9	NODI: 9	NODI: 9
10/31/2019	NODI: 9	NODI: 9	NODI: 9
11/30/2019	NODI: 9	NODI: 9	NODI: 9
12/31/2019	NODI: 9	NODI: 9	NODI: 9
1/31/2020	NODI: 9	NODI: 9	NODI: 9
2/29/2020	NODI: 9	NODI: 9	NODI: 9
3/31/2020	NODI: 9	NODI: 9	NODI: 9
4/30/2020	0.0013	0.026	98
5/31/2020	NODI: 9	NODI: 9	NODI: 9
6/30/2020	NODI: 9	NODI: 9	NODI: 9
7/31/2020	NODI: 9	NODI: 9	NODI: 9
8/31/2020	NODI: 9	NODI: 9	NODI: 9
9/30/2020	NODI: 9	NODI: 9	NODI: 9
10/31/2020	NODI: 9	NODI: 9	NODI: 9
11/30/2020	NODI: 9	NODI: 9	NODI: 9
12/31/2020	0.0025	0.028	120
1/31/2021	NODI: 9	NODI: 9	NODI: 9
2/28/2021	NODI: 9	NODI: 9	NODI: 9
3/31/2021	NODI: 9	NODI: 9	NODI: 9
4/30/2021	NODI: 9	NODI: 9	NODI: 9
5/31/2021	NODI: 9	NODI: 9	NODI: 9
6/30/2021	NODI: 9	NODI: 9	NODI: 9
7/31/2021	NODI: 9	NODI: 9	NODI: 9
8/31/2021	NODI: 9	NODI: 9	NODI: 9
9/30/2021	0.00171	0.0145	2.52
10/31/2021	0.00105	0.0125	85.5
11/30/2021	NODI: 9	NODI: 9	NODI: 9
12/31/2021	NODI: 9	NODI: 9	NODI: 9
1/31/2022	NODI: 9	NODI: 9	NODI: 9
2/28/2022	NODI: 9	NODI: 9	NODI: 9
3/31/2022	NODI: 9	NODI: 9	NODI: 9
4/30/2022	NODI: 9	NODI: 9	NODI: 9
5/31/2022	NODI: 9	NODI: 9	NODI: 9

WET Effluent - High Flow

Parameter	Nickel	Zinc	Hardness
	Daily Max	Daily Max	Daily Max
Units	mg/L	mg/L	mg/L
Effluent Limit	Report	Report	Report
6/30/2022	NODI: 9	NODI: 9	NODI: 9
7/31/2022	NODI: 9	NODI: 9	NODI: 9
8/31/2022	NODI: 9	NODI: 9	NODI: 9
9/30/2022	NODI: 9	NODI: 9	NODI: 9
10/31/2022	NODI: 9	NODI: 9	NODI: 9
11/30/2022	NODI: 9	NODI: 9	NODI: 9
12/31/2022	NODI: 9	NODI: 9	NODI: 9
1/31/2023	0.002	0.021	100
2/28/2023	NODI: 9	NODI: 9	NODI: 9
3/31/2023	0.003	0.021	126
4/30/2023	NODI: 9	NODI: 9	NODI: 9
5/31/2023	NODI: 9	NODI: 9	NODI: 9
6/30/2023	NODI: 9	NODI: 9	NODI: 9
7/31/2023	NODI: 9	NODI: 9	NODI: 9
8/31/2023	NODI: 9	NODI: 9	NODI: 9
9/30/2023	NODI: 9	NODI: 9	NODI: 9
10/31/2023	NODI: 9	NODI: 9	NODI: 9
11/30/2023	NODI: 9	NODI: 9	NODI: 9
12/31/2023	NODI: 9	NODI: 9	NODI: 9
1/31/2024	0.003	0.063	102
2/29/2024	0.003	0.036	112
3/31/2024	NODI: 9	NODI: 9	NODI: 9
4/30/2024	NODI: 9	NODI: 9	NODI: 9
5/31/2024	NODI: 9	NODI: 9	NODI: 9
6/30/2024	NODI: 9	NODI: 9	NODI: 9
7/31/2024	NODI: 9	NODI: 9	NODI: 9
8/31/2024	NODI: 9	NODI: 9	NODI: 9

A reasonable potential analysis is completed using a single set of critical conditions for flow and pollutant concentration that will ensure the protection of water quality standards. To determine the critical condition of the effluent, EPA projects an upper bound of the effluent concentration based on the observed monitoring data and a selected probability basis. EPA generally applies the quantitative approach found in Appendix E of EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD)[1] to determine the upper bound of the effluent data. This methodology accounts for effluent variability based on the size of the dataset and the occurrence of non-detects (*i.e.*, sample results in which a parameter is not detected above laboratory detection limits). For datasets of 10 or more samples, EPA uses the upper bound effluent concentration at the 95th percentile of the dataset. For datasets of less than 10 samples, EPA uses the maximum value of the dataset.

EPA uses the calculated upper bound of the effluent data, along with a concentration representative of the parameter in the receiving water, the critical effluent flow, and the critical upstream flow to project the downstream concentration after complete mixing using the following simple mass-balance equation:

$$C_s Q_s + C_e Q_e = C_d Q_d$$

Where:

C_s = upstream concentration (median value of available ambient data)
Q_s = upstream flow (7Q10 flow upstream of the outfall)
C_e = effluent concentration (95th percentile or maximum of effluent concentration)
Q_e = effluent flow of the facility (design flow)
C_d = downstream concentration
Q_d = downstream flow (Q_s + Q_e)

Solving for the downstream concentration results in:

$$C_d = \frac{C_s Q_s + C_e Q_e}{Q_d}$$

When both the downstream concentration (C_d) and the effluent concentration (C_e) exceed the applicable criterion, there is reasonable potential for the discharge to cause, or contribute to an excursion above the water quality standard. *See* 40 C.F.R. §

122.44(d). When EPA determines that a discharge causes, has the reasonable potential to cause, or contribute to such an excursion, the permit must contain WQBELs for the parameter. *See* 40 C.F.R. § 122.44(d)(1)(iii). Limits are calculated by using the criterion as the downstream concentration (C_d) and rearranging the mass balance equation to solve for the effluent concentration (C_e).

For any pollutant(s) with an existing WQBEL, EPA notes that the analysis described in 40 CFR § 122.44(d)(1)(i) has already been conducted in a previous permitting action demonstrating that there is reasonable potential to cause or contribute to an excursion of WQS. Given that the permit already contains a WQBEL based on the prior analysis and the pollutant(s) continue to be discharged from the facility, EPA has determined that there is still reasonable potential for the discharge of this pollutant(s) to cause or contribute to an excursion of WQS. Therefore, the WQBEL will be carried forward unless it is determined that a more stringent WQBEL is necessary to continue to protect WQS or that a less stringent WQBEL is allowable based on anti-backsliding regulations at CWA §§ 402(o) and 303(d)(4) and 40 CFR § 122.44(l). For these pollutant(s), if any, the mass balance calculation is not used to determine whether there is reasonable potential to cause or contribute to an excursion of WQS, but rather is used to determine whether the existing limit needs to be more stringent to continue to protect WQS.

From a technical standpoint, when a pollutant is already being controlled as a result of a previously established WQBEL, EPA has determined that it is not appropriate to use new effluent data to reevaluate the need for the existing limit because the reasonable potential to cause or contribute to an excursion of WQS for the uncontrolled discharge was already established in a previous permit. If EPA were to conduct such an evaluation and find no reasonable potential for the controlled discharge to cause or contribute to an excursion of WQS, that finding could be interpreted to suggest that the effluent limit should be removed. However, the new permit without the effluent limit would imply that existing controls are unnecessary, that controls could be removed and then the pollutant concentration could rise to a level where there is, once again, reasonable potential for the discharge to cause or contribute to an excursion of WQS. This could result in an illogical cycle of applying and removing pollutant controls with each permit reissuance. EPA's technical approach on this issue is in keeping with the Act generally and the NPDES regulations specifically, which reflect a precautionary approach to controlling pollutant discharges.

The table below presents the reasonable potential calculations and, if applicable, the calculation of the limits required in the permit. Refer to the pollutant-specific section of the Fact Sheet for a detailed discussion of these calculations, any assumptions that were made and the resulting permit requirements.

Pollutant	Conc. Units	Q_s (MGD)	C_s [1]	Q_e (MGD)	C_e [2]		Q_d (MGD)	C_d		Criteria		Reasonable Potential		Limits	
					Acute	Chronic		Acute	Chronic	Acute	Chronic	C_e & C_d > Acute Criteria	C_e & C_d > Chronic Criteria	Acute	Chronic
Aluminum	µg/L	0.3	39.5	18	27.1	27.1	18.3	27.3	27.3	750.0	87.0	N	N	N/A	N/A
Cadmium	µg/L	0.3	0	18	0.0	0.0	18.3	0.0	0.0	2.9	1.1	N	N	N/A	N/A
Copper	µg/L	0.3	3.05	18	13.7	10.3	18.3	13.5	10.2	21.0	13.5	**Y**	**Y**	**13.7**	**10.3**
Lead	µg/L	0.3	2.4	18	0.0	0.0	18.3	0.0	0.0	140.9	5.5	N	N	N/A	N/A
Nickel	µg/L	0.3	2	18	4.4	4.4	18.3	4.3	4.3	674.1	74.9	N	N	N/A	N/A
Zinc	µg/L	0.3	16	18	60.2	60.2	18.3	59.5	59.5	172.2	172.2	N	N	N/A	N/A
Ammonia (June 1 – Oct 31)	mg/L	0.3	0.1	18	1.5	1.0	18.3	1.5	1.0	11.2	1.4	**Y**	**Y**	**1.5**	**1.0**
Ammonia (November)	mg/L	0.3	0.13	18	0.3	6.3	18.3	0.2	6.2	16.9	1.9	N	**Y**	N/A	**1.9**
Ammonia (Dec 1 – Mar 31)	mg/L	0.3	0	18	4.9	9.5	18.3	4.8	9.3	38.0	4.4	N	**Y**	N/A	**4.5**
Ammonia (April)	mg/L	0.3	0	18	1.5	9.5	18.3	1.5	9.3	16.9	1.9	N	**Y**	N/A	**1.9**
Ammonia (May)	mg/L	0.3	0	18	0.6	3.2	18.3	0.6	3.1	16.9	1.9	N	**Y**	N/A	**1.9**
Phosphorus	mg/L	0.3	0	18	0.1	0.1	18.3	0.1	0.1		0.10	N	**Y**	N/A	**0.101**

[1]Median concentration for the receiving water just upstream of the facility's discharge taken from the WET testing data during the review period (see Appendix A).

[2]Values represent the 95th percentile (for n ≥ 10) or maximum (for n < 10) concentrations from the DMR data and/or WET testing data during the review period (see Appendix A). If the pollutant already has a limit (for either acute or chronic conditions), the value represents the existing limit.

[3]The "Reasonable Potential" column is marked "Y" if both Ce & Cd are above the respective criterion or if there is an existing WQBEL in the current permit.

APPENDIX C

I. Rationale on the Appropriateness of, and the Authority for, the Inclusion of the Wastewater Treatment System and Sewer System Adaptation Plan Requirements

The adaptation planning requirements proposed in the Draft Permit are new requirements that build on existing operation and maintenance practices. EPA provides this appendix to further explain the basis for and importance of these provisions.

In Section A below, EPA discusses the necessity for requiring the development of Adaptation Plans at wastewater treatment systems ("WWTS") and sewer systems[1] and provides some examples of how major storm and flood events can impact facility operations. In Section B below, EPA discusses the various components and proper scope of an Adaptation Plan. In Section C below, EPA sets forth the legal basis for its decision to require wastewater treatment systems and sewer systems to develop an Adaptation Plan.

A. Necessity for Wastewater Treatment System and Sewer System Adaptation Planning

Wastewater treatment systems and sewer systems are crucial in helping protect human health and the environment and providing critical services to the communities that they serve. Many wastewater treatment facilities and associated sewer system pump stations are located at low elevations (to maximize flow via gravity) within riverine or coastal floodplains and are at risk of increased flooding and other impacts from major storm events. As noted in a 2016 report by the New England Interstate Water Pollution Control Commission[2] wastewater systems are already facing severe effects due to major storm and flood events and need to better adapt to this new reality:

> In the Northeast and throughout the world, extreme storm events are growing in frequency and force. Hurricanes and blizzards threaten the operation of wastewater infrastructure and in some cases the infrastructure itself. Consequently, wastewater facilities should be made more resilient though preparedness planning and physical upgrades.

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[1] The Clean Water Act authorizes EPA, as permit issuer, to issue permits for "publicly owned treatment works" (POTWs). CWA § 402. POTWs comprise wastewater treatment systems and sewer systems. 40 C.F.R. §§ 122.2, 403.3(q); *In re Charles River Pollution Control District*, 16 EAD 623, 635 (EAB 2015) ("POTW treatment plants, like the satellite sewage collection systems that convey wastewater to the plants, are components of a POTW.") To more precisely and accurately describe the permit requirements, the Permit and this Response to Comments refer to "wastewater treatment system(s)" and "sewer system(s)" or, in some instances, both.

"Wastewater Treatment System" or "WWTS" means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It does not include sewers, pipes and other conveyances to the wastewater treatment facility.

[2] "Preparing for Extreme Weather at Wastewater Utilities: Strategies and Tips, New England Interstate Water Pollution Control Commission" (September 2016) pg. 2, https://www.neiwpcc.org/neiwpcc_docs/9-20-2016%20NEIWPCC%20Extreme%20Weather%20Guide%20for%20web.pdf

> In the Northeast in the last five years Hurricanes Irene (2011) and Sandy (2012), and winter blizzards such as the February 2013 northeaster, produced widespread economic harm. Sandy caused nearly 11 billion gallons of sewage to be released into coastal waters, rivers, and other bodies of water as power outages and storm surge overwhelmed wastewater-treatment plants. 94% of these releases were a result of flooding and storm surge as waters overwhelmed sewage-treatment plants.

As a result, addressing the ongoing challenges and the increasing risks faced by wastewater infrastructure systems nationwide - reduction or failure of system services resulting in discharges of untreated or partially treated sewage, flooding, physical damage to assets, impacts to personnel, to name just some of the possible outcomes - are a priority for EPA and a host of federal and state agencies, as well as regional and local governmental bodies. Addressing these challenges is also a priority for many wastewater treatment managers across the country. As noted in a 2019 study,[3] which surveyed wastewater treatment systems in Connecticut, 78% of wastewater managers had made adaptive changes that ranged from low-cost temporary adaptive changes to a few who described major changes that addressed redesign or the rebuilding of WWTPs; of those who had made changes, half "did so to improve resiliency to withstand the worst storm experienced by the wastewater system to date."[4]

Flooding and other major storm events can lead to a variety of, and more frequent, WWTS and sewer system failures. One recent analysis suggests that one-third of 5,500 wastewater treatment plants analyzed from around the country would be at risk of flooding in the event of a major storm.[5] System failures, such as backups of untreated wastewater into the collection system and potentially into buildings and connections, bypasses of pollution treatment, and/or discharges of raw sewage into the environment are some of the potential impacts that may become more frequent.[6]

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[3] "Kirchhoff, C.J. and P.L. Watson. 2019. "Are Wastewater Systems Adapting to Climate Change?" *Journal of the American Water Resources Association*, 1-12. pg.1. https://doi.org/10.1111/1752-1688.12748. (Citations omitted in quote).

[4] Id. at pgs. 5, 8.

[5] "Rising Flood Risks Threaten Many Water and Sewage Treatment Plants Across the U.S."(August 10, 2023), https://apnews.com/article/climate-change-flood-risks-infrastructure-vermont-7bd953f513035468ee74f8f7c619bb8e

[6] See EPA's Resilient Strategies Guide (noting that "[u]tilities are increasingly recognizing that future extreme weather events, energy prices and ecological conditions may not be predictable based on historical observations. These shifts may require utilities to change how they operate and manage their resources.") https://www.epa.gov/crwu/resilient-strategies-guide-water-utilities#/resources/646; EPA Memorandum, "Re-Instatement of Federal Flood Risk Management Standard for State Revolving Fund Programs," Thompkins, Anita Maria and Stein, Raffael to Water Division Directors (April, 2022) https://www.epa.gov/dwsrf/federal-flood-risk-management-standard-srf-programs (noting that "[f]looding is one of the most common hazards in the United Stated accounting for roughly $17 billion in damage annually between 2010-1018 according to [FEMA], and it will continue to be an ongoing challenge for water infrastructure" with impacts that "can include physical damage to assets, soil and streambank erosion and contamination of water sources, loss of power and communication, loss of access to facilities, saltwater intrusion, and dangerous conditions for personnel."). See also, National Association of Clean Water Agencies ("NACWA"), "NACWA Principles on Climate Adaptation and Resiliency" (noting that "[f]or many clean water agencies, changing weather patterns have become a management reality and responsibility.") https://www.nacwa.org/docs/default-source/conferences-events/2018-ulc/nacwa-statement-of-principles-on-climate_.pdf?sfvrsn=2

In New England, as well as elsewhere throughout the country,[7] storms and flooding have caused damage to, and in some cases total failure of, wastewater treatment systems and sewer systems. Implementing adaptive measures so that a wastewater treatment plant's wastewater infrastructure may withstand increasingly frequent heavy precipitation and major storm and flood events is, therefore, a critical step in a system's maintenance. Additionally, EPA notes that sometimes, mitigation measures based on adaptation/mitigation plans that were at one point sufficient and that were based on historic, local major storm and flood predictions, may now be insufficient given actual experience with major storms and flooding, the emergence of new data that was not previously available, and more recent projections. And while EPA also acknowledges that it may not always be possible to anticipate all future events (i.e., speed or direction of the wind, temperature fluctuations, the uprooting of trees, etc.) that can exacerbate, or alleviate, the outcomes of major storm and flood events, as illustrated in the examples below, it is important to ensure that existing adaptation plans reflect, as best as possible, all relevant data.

Many New England WWTSs have been negatively impacted by major storm and flood events in recent years. In one notable example from Rhode Island in 2010, historically high flood waters (known as "the Great Flood of 2010") severely impacted several wastewater treatment facilities, including the Warwick Rhode Island Wastewater Treatment Facility.[8] After repetitive flood damages to the WWTS, the City of Warwick had constructed a protective berm, or levee, in the mid-1980s to protect the WWTS from future damages. The levee, originally designed for the 100-year flood at that time, plus three feet of freeboard, was breached by repeated heavy rain events in March 2010. The flooding caused catastrophic impacts to the WWTS which led to the "unthinkable" - the decision to evacuate the plant as the Pawtuxet River crested at 20.79 feet.[9] The impact to the treatment plant was extreme:

> While the flood waters caused no structural damages to the facility's tanks or buildings, anything electrical and everything that was not metal or concrete was ruined. It was at least two days before the river had subsided to the point where staff could begin to access the facility.[10]

With a tremendous amount of work and rebuilding, the facility was dewatered, and primary and then secondary treatment were restored. The facility was unable to achieve full compliance with its permit limits for a period of about 80 days.[11] Due to this flooding, the facility updated their flood protection plans based on local storm and flooding data and implemented improvements

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[7] National Association of Clean Water Agencies ("NACWA") Fact Sheet: "10 Extreme Rain and Flood Events in the US – All in 2022" (listing the "top 10 flood events of 2022" and their effects on water infrastructure from across the country, including the devastating impacts that include loss of life, estimated damages in the range of millions to billions of dollars, and extreme impacts to system services.)

[8] Holbrook, Nicolas Q., The Flood Crews of 2010: A History of Rhode Island's 2010 Floods as Told By The State's Wastewater Collection and Treatment Operators, Rhode Island DEM, Office of Water Resources (2017) https://dem.ri.gov/sites/g/files/xkgbur861/files/programs/benviron/water/pdfs/floodcrews2010.pdf

[9] Id. at 13.

[10] Id.

[11] Burke, Janine L., Executive Director, Warwick Sewer Authority, "The Great Flood of 2010: A Municipal Response," pg. 237 Journal NEWEA (September 2012) https://www.warwicksewerauthority.com/pdfs/floodmitgation/NEWWA%20Journal%20Article%20on%20WSA%20Flood%20Response.pdf

for the WWTS, including raising the levee to protect the WWTS from inundation caused by a 500-year flood event.[12]

Figure 1: The flooded Warwick wastewater facility on Wednesday, March 31, 2010. (State of Rhode Island)

More recently, in July 2023, Vermont experienced a major storm and flooding event characterized by the National Weather Service as "catastrophic flash flooding and river flooding" with upwards of three to nine inches of rain falling in 48 hours, an amount that in some places of Vermont, amounted to the "greatest calendar day rainfall "since records began in 1948.[13] According to local reporting, operations at 33 wastewater treatment systems were disrupted, and several facilities, like those in the towns of Ludlow and Johnson, were rendered inoperable and will need significant reconstruction.[14] As one news outlet reported about the conditions in Ludlow:

> [t]he facility that keeps the village's drinking water safe was built at elevation and survived. But its sewage plant fared less well. Flooding tore through it, uprooting chunks of road, damaging buildings and sweeping sewage from treatment tanks into the river.

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[12] Preliminary Design Report, Wastewater Treatment Facility Flood Protection and Mitigation Design, Warwick, Rhode Island (Prepared by AECOM for Warwick Sewer Authority, July 12, 2012) https://www.warwicksewerauthority.com/pdfs/floodmitgation/Warwick%20Flood%20Mitigation%20PDR%207-24-12%20with%20Appendices.pdf,; Warwick Wastewater Treatment Facility – Climate Vulnerability Summary https://dem.ri.gov/sites/g/files/xkgbur861/files/programs/benviron/water/pdfs/cvswarwick.pdf

[13] Banacos, Peter, "The Great Vermont Flood of 10-11 July 2023: Preliminary Meteorological Summary" National Oceanic and Atmospheric Administration, National Weather Service, pg. 2 (August 5, 2023) https://www.weather.gov/btv/The-Great-Vermont-Flood-of-10-11-July-2023-Preliminary-Meteorological-Summary (noting that damage "rivaled and in some areas exceeded – Tropical Storm Irene in 2011")

[14] Robinson, Shaun, "Total Destruction:' Flooding Knocks Out Johnson's Wastewater Plant, Disrupts Operations Elsewhere" (July 18, 2023); https://vtdigger.org/2023/07/18/total-destruction-flooding-knocks-out-johnsons-wastewater-plant-disrupts-operations-elsewhere/ ("Across Vermont, 33 wastewater treatment facilities were impacted by the flooding …according to Michelle Kolb, a supervisor in the state Department of Environmental Conservation's wastewater program.")

Even [over three weeks after the storm event] the plant can only handle half its normal load.[15]

Figure 2: Ludlow Wastewater Treatment Plant (photo August 2, 2023, taken after July storm event) [16]

The wastewater treatment plant in Johnson, Vermont was similarly devastated with the Assistant Plant Manager reporting to a local news outlet, "'Total destruction. The only thing we have left is the shell of a building.'" [17]

According to officials from Vermont DEC, both the Ludlow and Johnson WWTSs had some flood protections in place prior to this event: Ludlow built a new influent pump station designed to withstand a 500-year flood event in 2020-21.[18] While its plant was rendered inoperable immediately after the early July flood, it came back on-line in late July. For the Johnson Wastewater Treatment Plant, this was the 6th flooding event at the plant since it was built in 1995. In the assessment that occurred by state and federal officials after the most recent flood, long-term recommendations ranged from more minor fixes (i.e., replacing the gravity line with a pump station and force main) to undertaking an assessment that would compare the cost of moving the facility against the already-significant cost of just repair and construction, estimated

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[15] Naishadham, Suman, Peterson, Brittany, Fassett, Carnille, "Rising Flood Risks Threaten Many Water and Sewage Treatment Plants Across the US," Vermont Public, https://www.vermontpublic.org/local-news/2023-08-10/ludlow-vermont-rising-flood-risks-threaten-many-water-and-sewage-treatment-plants-across-the-us

[16] https://apnews.com/article/climate-change-flood-risks-infrastructure-vermont-7bd953f513035468ee74f8f7c619bb8e] (picture captions: Joe Gaudiana, the Ludlow, VT. Chief Water and Sewer Operator, left, surveys damage with Elijah Lemieux, of the Vermont Rural Water Association, at the wastewater treatment plant following July flooding, Wednesday, Aug. 2, 2023, in Ludlow. (AP Photo/Charles Krpa))

[17]Robinson, Shaun, "Total Destruction: "Flooding Knocks Out Johnson's Wastewater Plant, Disrupts Operations Elsewhere" (July 18, 2023); https://vtdigger.org/2023/07/18/total-destruction-flooding-knocks-out-johnsons-wastewater-plant-disrupts-operations-elsewhere/

[18] Telephone conversation with Vermont Department of Conservation officials, Heather Collins and Michelle Kolb (September 25, 2023).

to be at least $2 million.[19] As the officials emphasized, short of relocating, or finding significant additional resources, for some of Vermont's impacted facilities, there are no easy fixes and future adaptations might mean preparing "to-go bags," and installing "redundant pipes," submersible pumps, waterproof electrical boxes or, in some cases, possibly building a second story on an existing plant.

Even more recently, in September 2023 the City of Leominster in central Massachusetts experienced a flash flooding event.[20] Previously, the city had identified a riverbank section of the North Nashua River, near the WWTS, that had eroded and was continuing to be eroded and was heading towards a buried sewer main. As detailed in the summary of work report,[21] "[l]eft unabated, the stream would likely carve a new path into the sewer line, potentially causing a break." To mitigate this potential problem, the city completed a riverbank stabilization project under FEMA's Hazard Mitigation Grant Program to protect the main sewer line that was identified as vulnerable to flooding and failure. That line was unimpacted by the recent flash flooding in September and the stabilization work is still intact while other infrastructure in the area suffered significant flood damages. In addition to illustrating the potential impacts of a recent flooding event on a WWTF, this example - of identifying a risk to increased flooding and consequent mitigation measure - exemplifies the process that EPA envisions for the Adaptation Plan.

EPA acknowledges and appreciates that many WWTSs and sewer systems are currently designed with some flood protections to combat the increasing frequency of major storm and flood events and the resulting impacts to wastewater treatment systems and sewer systems. To address the current and future risks associated with these more frequent and intense storms occuring in the region, EPA finds that the development of an Adaptation Plan is necessary in order to ensure the proper operation and maintenance of WWTSs and sewer systems.

B. Requirement to Develop an Adaptation Plan

To support the Permittee's[22] development of an Adaptation Plan, EPA Region 1 has developed a companion document: *Recommended Procedures and Resources for the Development of Adaptation Plans* ("Recommended Procedures")[23] to assist owners and operators of wastewater treatment systems and/or sewer systems to develop adaptation plans that meet the requirements included in Region 1 NPDES permits. The document provides recommendations and procedures for the use of a free EPA tool developed specifically for water utilities. Permittees may use the recommended tool and the associated procedures, or they may use other approaches providing comparable analyses, as discussed in more detail below, to satisfy permit requirements.

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[19] Johnson Village Wastewater Post July 2023 Flood Treatment Plant Assessment Lamoille County, Vermont, NPDES Permit Number Vermont 0100901 (August 9, 2023)

[20] Derrick Bryson Taylor and Johnny Diaz, "Massachusetts Cities Declare Emergency After 'Catastrophic' Flash Flooding" https://www.nytimes.com/2023/09/12/us/leominster-massachusetts-flash-flooding.html

[21] City of Leominster, North Nashua River Riverbank Stabilization Project: Summary of Work (prepared by GZA GeoEnvironmental, Inc.) (February 2023)

[22] For brevity, this document refers to "Permittee" throughout; however, this reference also includes all "Co-Permittee(s)" subject to the applicable permit requirements.

[23] Available at: https://www.epa.gov/npdes-permits/npdes-water-permit-program-new-england

In the permit, the three components of the Adaptation Plan include the following (additional detail, including definitions of certain terms, is included in the permit):

- Component #1: Requires the Permittee to develop and sign, within 24 months of the effective date of the permit, an identification of critical assets and related operations within the WWTS and/or sewer system which they own and/or operate that are most vulnerable to major storm and flood events under baseline and future conditions and to assess the ability of each to function properly in the event of major storm and flood events in terms of effluent flow, sewer flow, and discharges of pollutants;

- Component #2: Requires the Permittee to develop and sign, within 36 months of the effective date of the permit, an assessment of adaptive measures, and/or, if appropriate, the combination of adaptative measures that minimize the impact of future conditions on the critical assets and related operations of the WWTS and/or sewer system(s); and

- Component #3: Requires the Permittee to submit a summary of the work completed in Components #1 and #2 with a proposed schedule for implementation and maintenance of adaptive measures within 48 months of the effective date of the permit.

The rationale for specific revisions and definitions is provided in more detail below.

- The permit requires the Permittee to develop an implementation schedule rather than specify a particular schedule for implementation. EPA notes that the permit also requires that the Permittee report annually on "any progress made toward implementation of adaptive measures." This leaves the Permittee free to evaluate other considerations when determining when and how to implement adaptive measures. EPA encourages Permittees to move forward with implementation actions that address the vulnerabilities identified as part of its Adaptation Plan in as timely a manner as possible and to prioritize addressing the most impactful vulnerabilities.[24]

- Permittees who wish to comply with this permit requirement through prior assessments must explain how its prior assessments specifically meet the requirements of the permit. The permit allows such assessments that were undertaken in the last 5 years to be used, as long as they meet certain conditions specified in the permit.

- EPA uses certain minimum standards (e.g., use of FEMA Flood Standards) and other terminology that is defined in and consistent with the federal flood standards, to ensure

[24] EPA notes that there are many aspects involved in addressing adaptation planning and associated implementation measures, including regional considerations and that region-wide planning is appropriate. Permittees are encouraged to engage in regional planning and EPA understands this may impact proposed schedules for implementation measures. EPA expects, however, that for most Permittees there will be many implementation measures that do not require regional planning or collaboration. To the extent this is not the case, the Permittee may document its analysis supporting such a conclusion and base its implementation schedule accordingly.

eligibility for federal funding as well as SRF funding.[25] The permit requires that the Permittee evaluate asset vulnerability using "baseline conditions" and "future conditions." The permit defines baseline conditions as the 100-year flood based on historical records and future conditions as projected flood elevations using one of two approaches consistent with the federal flood standards.

This clearly defines what minimum conditions must be used to assess vulnerability under the Adaptation Plan, and EPA has provided tools and data references a Permittee may use to evaluate these conditions and meet the permit requirements. The flood elevations specified account for many of the storm and flood conditions; however, EPA notes that these data may not account for all potential instances of extreme precipitation. Currently, data sets or mapping tools that model changes to flood elevations in response to varying storm sizes are not readily available or simple to use. Therefore, EPA is not requiring facilities to identify or use such data in their analysis. However, EPA notes that there may be site-specific data available for use in a given municipality, and EPA encourages facilities to consider impacts from site-specific events for planning purposes if possible. One or more of the resources provided in the Recommended Procedures document, referenced above, may also account for impacts of extreme precipitation to an extent that is useful to facilities.

- The permit requires evaluating the vulnerability of assets once during the permit term (during the development of the Adaptation Plan). Additional revisions of the Adaptation Plan during the permit term would only be required during the permit term if there has been a significant change to the infrastructure of the system to update the description of the assets removed or updated, to incorporate any new assets into the documentation, and describe any effects these changes have on the asset and/or system vulnerability.

- In light of security concerns posed by the public release of information regarding vulnerabilities to wastewater infrastructure, Permittees are not required to submit Component 1 and 2 and instead must keep that documentation on file and available for inspection or review by EPA upon request. In all other submittals (Component 3 and future annual reports), the Permittee shall provide information only at a level of generality that indicates the overall nature of the vulnerability but omitting specific information regarding such vulnerability that could pose a security risk.

- Regarding timing, EPA considers that the permit allows adequate time to initiate the necessary funding and procurement processes (which EPA understands must line-up with local requirements which can take place over many months or even years) in order to develop the plans (either in-house or through professional engineering services) without significantly impacting other ongoing municipal projects.

[25] "Re-Instatement of Federal Flood Risk Management Standard for State Revolving Fund Programs," Thompkins, Anita Maria and Stein, Raffael to Water Division Directors (April, 2022) https://www.epa.gov/dwsrf/federal-flood-risk-management-standard-srf-programs

- Regarding annual reporting, the first report is due on March 31 following the completion of Component 1 of the Adaptation Plan. As described above, flood and major storm events are a significant threat to water quality. An annual reporting requirement is therefore appropriate to facilitate Adaptation Planning and, ideally, the implementation of an Adaptation Plan occurring as promptly and as efficiently as possible.

- Regarding the cost of developing the Adaptation Plan, there are costs and other resources that Permittees must allocate to comply with all permit requirements. EPA considers proper operation and maintenance of the WWTS as well as the collection system to include addressing major storm and flood events that would impair operation of the system. EPA acknowledges that the Permittee will incur costs and other potential resource expenditures to develop a plan related to these events but considers these expenditures to be necessary in order to prevent impacts during such events (e.g., bypass, upset or failure of the WWTS, overflow, or increased inflow and infiltration in the sewer system, and discharges of pollutants that exceed effluent limits), which would adversely affect human health or the environment.

  However, EPA appreciates the regulated community's concerns regarding costs as described below.

  1. In order to minimize costs and provide additional clarity to Permittees, EPA has developed a companion document, *Recommended Procedures and Resources for the Development of Adaptation Plans for Wastewater Treatment Systems and/or Sewer Systems,* ("Recommended Procedures"), which a Permittee could elect to use to guide it through development of the Adaptation Plan. The document instructs Permittees on the use of EPA's CREAT tool, which is free to use by Permittees and will help Permittees navigate through much of the analysis needed to develop an Adaptation Plan. It is EPA's intention that a Permittee could use these tools to develop an Adaptation Plan in an effort to reduce costs and possibly to eliminate or reduce the need to hire external contractors.

  2. As mentioned above, the permit that allows credit for prior work to eliminate potentially costly duplication of efforts.

  3. It is EPA's intention to provide Permittees with technical assistance for the development of the Adaptation Plan. EPA has many on-line training tools, [26] some of which have been utilized by New England WWTSs[27] and also plans (in accordance with available funding and agency priorities) to offer: a New England-based virtual workshop training series for WWTS operators and others on the use of the CREAT tool which EPA expects will commence in early 2024 (which will be recorded to maximize its utility for those who may want to access the information at a later date);

[26] https://www.epa.gov/crwu/training-and-engagement-center; see also, the Resources Section in the Recommended Procedures for additional resources that Permittees might find useful.

[27] See https://toolkit.climate.gov/sites/default/files/Manchester-by-the-Sea_March_2016.pdf;]; see also, the Resources Section of the Recommended Procedures document for more New England case studies and other useful resources.

in-person technical assistance sometime in mid-2024 and telephone assistance on the use of the CREAT tool. In recommending Permittees use this tool and by providing procedures for using it, EPA hopes to both enable Permittees to develop robust Adaptation Plans themselves, but also to reduce the costs, including the costs associated with outside contractors.

4. Additionally, EPA notes that there may be federal, state or local funding sources available to assist entities with adaptation planning.[28]

- With regards to the cost of implementing adaptation measures, the selection and deadlines for implementing specific adaptation measures are not included as requirements in the permit since those will only be known after the completion of the Adaptation Plan. EPA expects that the Permittee will begin implementation of those measures in the coming years. However, since the Permittee will be setting the prioritizations and scheduling for implementing the measures based on their own risks and vulnerabilities to major storm and flood events, they may incorporate affordability and funding availability into their considerations.

  EPA notes, that in developing the Adaptation Plan, the Permittee may, as part of the process, be comparing the potential economic costs of the baseline condition, or "no action alternative," with those of possible adaptation measures, under current and predicted risks of major storm and flood events. This option is available in the use of the adaptation planning approach as outlined in the companion document to this permit entitled *Recommended Procedures and Resources for the Development of Adaptation Plans for Wastewater Treatment Systems and/or Sewer Systems.*[29] Depending on site-specific circumstances, the Permittee may find that the cost of not implementing adaptation measures is greater than the cost of implementing them.

C. Legal Authority

The Adaptation Plan permit conditions are necessary to further the overarching goal of the CWA[30] "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" and derive from the same authorities as all other standard operation and maintenance requirements. CWA § 101(a), 40 C.F.R. §§ 122.41(d), (e), (n). The Adaptation Plan requirements are an iterative update to EPA's standard O&M permit provisions and intend to address serious and increasingly prevalent threats to Permittees' compliance with permit effluent limitations. As illustrated by the recent examples detailed in Section A, major storm and flood events can

[28] See EPA's website for Federal Funding for Water and Wastewater Utilities in National Disasters (Fed FUNDS). https://www.epa.gov/fedfunds. Potential resources may also be available through the State.
[29] Available at: https://www.epa.gov/npdes-permits/npdes-water-permit-program-new-england
[30] Congress has recently expressly affirmed that natural hazard adaptation measures for POTWs appropriately fall within the scope of the CWA: Congress added section 223 to the CWA via the Infrastructure Investment and Jobs Act, creating a grant program to support, *inter alia*, "the modification or relocation of an existing publicly owned treatment works, conveyance, or discharge system component that is at risk of being significantly impaired or damaged by a natural hazard[ ]." Pub. L. 117-58, 135 Stat. 1162 (codified at 33 U.S.C. § 1302a(c)(4))(2021).

gravely impact discharges from WWTSs and thus water quality. That is, plant and/or sewer system failure due to storms, increased precipitation/floods, storm surge, and sea level rise can and do lead to bypasses, upsets, and violations of some or all of the permit limits, including water quality-based limits and limits based on secondary treatment standards. The Adaptation Plan is designed to reduce and/or eliminate noncompliant discharges that result from impacts of major storm or flood events through advanced planning and adaptation measures and is authorized by both EPA regulations and the CWA.

EPA recognizes that larger scale planning may be necessary to address some issues and that requiring the same would be beyond the scope of this NPDES permit. This NPDES permit does not intend to address all issues caused by major storm and flood events. To the contrary, the Adaptation Plan O&M requirements intend to address one specific issue that EPA has witnessed in New England, as described in Section A: the operability of the WWTS and/or sewer system during and after major storm and flood events. This issue is appropriate for an NPDES permit because it is central to the Permittee's compliance with the Permit's effluent limitations and other Permit conditions, and thus central to EPA's obligation to issue permits that assure compliance with Water Quality Standards and other applicable laws. For the reasons described in this Section, EPA is well within its CWA-based authority to impose the Adaptation Plan requirements.

EPA's O&M regulations authorize EPA to impose the Adaptation Plan requirement. 40 C.F.R. § 122.41(e) ("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 of the permitted facilities and systems inherently includes adaptation planning. As illustrated in the examples in Section A, if a WWTS is unable to operate properly as designed due to impacts from a major storm or flood event, the discharge of pollutants in violation of both its permit and applicable water quality standards is highly likely to occur and with increasing frequency. In other words, the Permittee cannot satisfy its obligation to operate properly "at all times" if it cannot do so during and after major storms or flooding events. The new Adaptation Plan requirements are an iterative extension of the previous permit's requirements that "The permittee will maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure." Major storm and flood events represent an increasing cause of WWTS malfunctions and failures and thus EPA added the Adaptation Plan requirements to the O&M requirements to more specifically address this issue.

EPA is well within its CWA-based authority to include these permit conditions which are necessary to reduce the frequency or likelihood of bypass or upset and otherwise achieve compliance with the permit's effluent limits, and thus also assure compliance with water quality standards and other CWA requirements. CWA § 402(a)(2) ("[EPA] shall prescribe conditions for [NPDES] permits to assure compliance with the [applicable CWA] requirements…as he deems appropriate."); CWA §§ 301(b)(1)(C), 401(a)(1)-(2); *see also* 40 C.F.R. § 122.4(d) ("No permit may be issued… When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States"); *See also* 40 C.F.R. § 122.44(d)(1). The provisions are reasonable measures rooted in the permitting requirements to properly operate

and maintain all facilities and the duty to take all reasonable steps to minimize or prevent any discharge in violation of the permit. 40 C.F.R. § 122.41(d), (e).

The Agency relied on the same CWA-based authority when it promulgated the O&M regulations:

> Many commenters expressed doubt whether EPA is legally authorized to require proper operation and maintenance of facilities. This requirement is clearly authorized for NPDES permittees by section 402(a)(2) of CWA which requires the Administrator to prescribe permit conditions which will assure compliance with the requirements of CWA section 402(a)(1).

45 Fed. Reg. 33290, 33303-04 (May 19, 1980). In 1980 and now, the proper operation and maintenance of a facility – including the Adaptation Plan requirements – effectuates the permit limits on all addressed pollutants and protects all applicable water quality standards, as they assure that such limits will be met, even in times of major storms or during flood events. CWA § 402(a)(2). It is well-established that EPA may include specific permit conditions that ensure the preconditions or assumptions underlying EPA's pollutant effluent flow calculations remain constant, thus ensuring the permit, as a whole, assures compliance with WQS and other applicable CWA requirements. *See In re: City of Lowell,* 2020 WL 3629979 at *35,18 E.A.D. 115, 156 (EAB 2020) (affirming effluent flow limit as a proper exercise of the Agency's 40 C.F.R. § 122.41(e) authority in part on the basis that the permit's pollutant effluent limits were calculated based on a presumed maximum wastewater effluent discharge from the facility, and thus "If flow limits exceed the assumed maximum flow, … then the Region may have erroneously concluded that a pollutant did not have a reasonable potential to cause or contribute to an exceedance of water quality standards or that the permit's pollutant effluent limits assure compliance with Massachusetts' water quality standards.") Likewise, the Adaptive Plan O&M requirements ensure the basic, necessary preconditions (i.e., the plant's operability) to compliance with the permit's effluent limits and other requirements of the CWA. Given the importance of WWTS and sewer system operability to compliance with this NPDES permit, it is not unreasonable for EPA to impose the Adaptation Plan O&M requirements. *C.f. In re Avon Custom Mixing Services, Inc.*, 17 E.A.D. 700, 709 (EAB 2002) ("Given the importance of monitoring to the integrity of NPDES permits, and the broad authority the CWA confers on the Region to impose monitoring requirements in NPDES permits, it does not strike us as unreasonable that the Region has decided to include new monitoring requirements in the reissued permit.")

The EAB has affirmed the Agency's authority to require the preparation and submission of a plan as part of the Operation & Maintenance requirements of an NPDES permit. *In Re City of Moscow, Idaho*, 10 E.A.D. 135, 169-172 (EAB 2001) (affirming O&M permit provision that required development and submission of a quality assurance project plan,"[t]he primary purpose of [which] shall be to assist in planning for the collection and analysis of samples in support of the permit…"[31] under the O&M regulations, stating "it seems plain that the CWA and its implementing regulations authorize the Region to include permit requirements like the QAPP here in conjunction with the ultimate goal of assuring compliance with the CWA."). Like the

[31] NPDES Permit issued to City of Moscow, Idaho, Part I.E (March 12, 1999) (available at: https://www2.deq.idaho.gov/admin/LEIA/api/document/download/15509)

O&M planning requirement in *Moscow,* the primary purpose of the Adaptation Plan in this permit is to assist in planning for compliance with the permit – in this instance, by ensuring the facility remains operable even during flooding or other major storm events – and the ultimate goal of the requirement is to assure compliance with the CWA.

40 C.F.R. § 122.41(d) also authorizes EPA to impose the Adaptation Plan requirement. ("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.") It is a reasonable step for EPA to require a Permittee to create an Adaptation Plan to minimize facility disruptions during major storm and flood events. For example, if a Permittee identifies that an asset critical to its WWTS is extremely vulnerable to a major storm and that loss of the asset would result in the inoperability of the WWTS and thus discharges in violation of permit limits, then mitigating those risks reasonably minimizes or prevents harmful discharges in violation of the permit.

EPA also has broad authority for data and information collection, reporting, and "such other requirements as [the delegated permit authority] deems appropriate" to carry out the objectives of the Act." CWA § 402(a)(2). *See also In re Moscow*, 10 E.A.D. at 171. Components 1 and 2 of the Adaptation Plan require the Permittee to collect and report to EPA data and information that are appropriate to carry out the objectives of the CWA. This information and data will allow the Permittee to identify assets which are vulnerable to flooding and adaptive measures appropriate to address those vulnerabilities. As described elsewhere in this Appendix, facility vulnerabilities threaten compliance with permit requirements and thus CWA objectives. Conversely, information about appropriate adaptive measures will facilitate compliance with both.

EPA notes that although the CWA limits the terms of NPDES permits to five years, CWA § 402(b)(1)(B), such a limitation does not logically constrain the permitting authority from requiring the Permittee to consider future conditions beyond the five-year term. EPA expects Permittees to fully comply with the Adaptation Plan provision within the five-year term of the permit, meaning it does not impose any obligations on the Permittee beyond the five-year permit term. One directly relevant example for WWTSs are Combined Sewer Overflow Long-Term Control Plans (LTCPs). The CSO Policy, 59 Fed. Reg. 18688 (April 19, 1994), which Congress expressly incorporated directly into the CWA at § 402(q), requires the development of LTCPs to ultimately come into compliance with the Act, recognizing that such schedules will (and have) in many instances span multiple permit terms. That Congress directly amended the CWA to require compliance with the CSO Policy, including its long-term permitting approaches, demonstrates that the Act does not constrain permitting authorities from considering timeframes outside of the five-year permit term. Another example of permissible permit timeframes that extend beyond the five-year permit term are compliance schedules, which may go beyond the expiration date of the permit if consistent with applicable state law. *See In Re Moscow,* 10 E.A.D. at 153 ("…a Region's authority to provide for compliance schedules in EPA-issued permits is limited to those circumstances in which the State's water quality standards or its implementing regulations 'can be fairly construed as authorizing a schedule of compliance.'") (citations omitted). The WWTS Adaptation Plan reasonably also requires *consideration* of long-term horizons as the planning and actions needed to address increasing major storms and flood events will be in many instances long-term as well.

Further, EPA does not consider the expected life or design life the appropriate recurrence interval to evaluate future risks. Namely, while a particular facility can be designed initially for an expected period of operation and the design storm at a given point in time, material changes often occur over time to operate and maintain a facility, thus extending its design life, and with the impacts of increased severity and frequency of major storm and flood events, the original design storm may no longer represent likely discharge conditions. EPA asserts that a forward-looking evaluation of the risks to a facility relative to its current operational state is important to selection and implementation of the control measures necessary to minimize discharges that result from impacts of major storm and flood events.

EPA acknowledges that there are many possible approaches and that there are other programs that require resiliency planning. However, because adaptation planning is a critical step in complying with the permit's effluent limitations, EPA has determined that it is appropriate to include the Adaptation Plan requirements in the permit itself even if similar requirements also derive from other obligations. Major storm and flood events are of urgent concern, and EPA does not believe it would be sufficient to rely entirely on non-Permit obligations to address these threats to the proper operation and maintenance of WWTSs and/or sewer systems, especially because not all Permittees may otherwise be obligated to engage in adaptation planning, or may not be required to do so at this time. EPA has determined that planning for major storm and flood events must be done by all facilities now to avoid negative impacts. In recognition of the fact that Permittees may complete similar assessments to satisfy other obligations, the permit allows the Permittee to use qualifying assessments done for other programs or obligations to satisfy some or all of the components of the Adaptation Plan requirements. EPA considers its approach to be appropriate and reasonable to ensure consistent operation and maintenance of permitted facilities. Therefore, EPA will require Adaptation Plans be developed under NPDES permits for all wastewater treatment plants in Massachusetts and New Hampshire.

Appendix D

EPA REGION 1 NPDES PERMITTING APPROACH FOR PUBLICLY OWNED TREATMENT WORKS THAT INCLUDE MUNICIPAL SATELLITE SEWAGE COLLECTION SYSTEMS

This regional interpretative statement provides notice to the public of EPA Region 1's interpretation of the Clean Water Act ("CWA" or "Act") and implementing regulations, and advises the public of relevant policy considerations, regarding the applicability of the National Pollutant Discharge Elimination System ("NPDES") program to publicly owned treatment works ("POTWs") that include municipal satellite sewage collection systems ("regionally integrated POTWs"). When issuing NPDES permits to these types of sanitary sewer systems, it is EPA Region 1's practice to include and regulate the owners/operators of the municipal satellite collection systems through a co-permitting structure. This interpretative statement is intended to explain, generally, the basis for this practice. EPA Region 1's decision in any particular case will be made by applying the law and regulations on the basis of specific facts when permits are issued.

EPA has set out a national policy goal for the nation's sanitary sewer systems to adhere to strict design and operational standards:

> "Proper [operation and maintenance] of the nation's sewers is integral to ensuring that wastewater is collected, transported, and treated at POTWs; and to reducing the volume and frequency of …[sanitary sewer overflow] discharges. Municipal owners and operators of sewer systems and wastewater treatment facilities need to manage their assets effectively and implement new controls, where necessary, as this infrastructure continues to age. Innovative responses from all levels of government and consumers are needed to close the gap."[1]

Because ownership/operation of a regionally integrated POTW is divided among multiple parties, the owner/operator of the treatment plant many times lacks the means to implement comprehensive, system-wide operation and maintenance ("O&M") procedures. Failure to properly implement O&M measures in a POTW can cause, among other things, excessive extraneous flow (*i.e.*, inflow and infiltration) to enter, strain and occasionally overload treatment system capacity. This failure not only impedes EPA's national policy goal concerning preservation of the nation's wastewater infrastructure assets, but also frustrates achievement of the water quality- and technology-based requirements of CWA § 301 to the extent it results in sanitary sewer overflows and degraded treatment plant performance, with adverse impacts on human health and the environment.

In light of these policy objectives and legal requirements, it is EPA Region 1's permitting practice to subject all portions of the POTW to NPDES requirements in order to ensure that the treatment system as a whole is properly operated and maintained and that human health and

[1] *See Report to Congress: Impacts and Control of CSOs and SSOs* (EPA 833-R-04-001) (2004), at p. 10-2. *See also* "1989 National CSO Control Strategy," 54 Fed. Reg. 37371 (September 8, 1989).

water quality impacts resulting from excessive extraneous flow are minimized. The approach of addressing O&M concerns in a regionally integrated treatment works by adding municipal satellite collection systems as co-permittees is consistent with the definition of "publicly owned treatment works," which by definition includes sewage collection systems. Under this approach, the POTW in its entirety is subject to NPDES regulation as a point source discharger under the Act. This entails imposition of permitting requirements applicable to the POTW treatment plant along with a more limited set of conditions applicable to the connected municipal satellite collection systems.

The factual and legal basis for the Region's position is set forth in greater detail in *Attachment A*.

Attachment A

**ANALYSIS SUPPORTING EPA REGION 1
NPDES PERMITTING APPROACH FOR PUBLICLY OWNED TREATMENT WORKS THAT INCLUDE MUNICIPAL SATELLITE SEWAGE COLLECTION SYSTEMS**

Exhibit A	List of regional centralized POTW treatment plants and municipal satellite collection systems subject to the co-permittee policy
Exhibit B	Analysis of extraneous flow trends for representative systems
Exhibit C	Form of Regional Administrator's waiver of permit application requirements for municipal satellite collection systems

Introduction

On May 28, 2010, the U.S. EPA Environmental Appeals Board ("Board") issued a decision remanding to the Region certain NPDES permit provisions that included and regulated satellite collection systems as co-permittees. *See In re Upper Blackstone Water Pollution Abatement District*, NPDES Appeal Nos. 08-11 to 08-18 & 09-06, 14 E.A.D. __ (*Order Denying Review in Part and Remanding in Part*, EAB, May 28, 2010).[2] While the Board "did not pass judgment" on the Region's position that its NPDES jurisdiction encompassed the entire POTW and not only the treatment plant, it held that "where the Region has abandoned its historical practice of limiting the permit only to the legal entity owning and operating the wastewater treatment plant, the Region had not sufficiently articulated in the record of this proceeding the statutory, regulatory, and factual bases for expanding the scope of NPDES authority beyond the treatment plant owner/operator to separately owned/operated collection systems that do not discharge directly to waters of the United States, but instead that discharge to the treatment plant." *Id., slip op.* at 2, 18. In the event the Region decided to include and regulate municipal satellite collection systems as co-permittees in a future permit, the Board posed several questions for the Region to address in the analysis supporting its decision:

(1) Is the scope of NPDES authority limited to owners/operators of the treatment plant, or does the authority extend to owners/operators of the municipal satellite collection systems that comprise the wider POTW?

(2) If the latter, how far up the collection system does NPDES jurisdiction reach, *i.e.*, where does the "collection system" end and the "user" begin?

(3) Do municipal satellite collection systems "discharge [ ] a pollutant" within the meaning of the statute and regulations?

[2] The decision is available on the Board's website via the following link: http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/30b93f139d3788908525706c005185b4/34e841c87f346d9485257360068976f!OpenDocument.

(4) Are municipal satellite collection systems "indirect dischargers" and thus excluded from NPDES permitting requirements?

(5) Is the Region's rationale for regulating municipal satellite collection systems as co-permittees consistent with the references to "municipality" in the regulatory definition of POTW, and the definition's statement that "[t]he term also means the municipality…which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works"?

(6) Is the Region's rationale consistent with the permit application and signatory requirements under NPDES regulations?

See *Blackstone, slip op.* at 18, 20, n. 17.

This regional interpretative statement is, in part, a response to the Board's decision. It details the legal and policy bases for regulating as co-permittees publicly owned treatment works ("POTWs") that include municipal satellite collection systems. Region 1's analysis is divided into five sections. First, the Region provides context for the co-permitting approach by briefly describing the health and environmental impacts associated with poorly maintained sanitary sewer systems. Second, the Region outlines its evolving permitting practice regarding regionally integrated POTWs, particularly its attempts to ensure that such entity's municipal satellite collection systems are properly maintained and operated. Third, the Region explains the legal authority to include municipal satellite collection systems as co-permittees when permitting regionally integrated POTWs. In this section, the Region answers the questions posed by the Board in the order presented above. Fourth, the Region sets forth the basis for the specific conditions to which the municipal satellite collection systems are subject as co-permittees. Finally, the Region discusses other considerations informing its decision to employ a co-permittee structure when permitting regionally integrated POTWs.

I. Background

A sanitary sewer system (SSS) is a wastewater collection system owned by a state or municipality that is designed to collect and convey only sanitary wastewater (domestic sewage from homes as well as industrial and commercial wastewater).[3] The purpose of these systems is to transport wastewater uninterrupted from its source to a treatment facility. Developed areas that are served by sanitary sewers often also have a separate storm sewer system (*e.g.*, storm drains) that collects and conveys runoff, street wash waters and drainage and discharges them directly to a receiving water (*i.e.*, without treatment at a POTW). While sanitary sewers are not designed to collect large amounts of runoff from precipitation events or provide widespread drainage, they typically are built with some allowance for higher flows that occur

[3] A combined sewer, on the other hand, is a type of sewer system that collects and conveys sanitary sewage and stormwater runoff in a single-pipe system to a POTW treatment plant. *See generally* Report to Congress: Impacts and Control of CSOs and SSOs (EPA 833-R-04-001) (2004), from which EPA Region 1 has drawn this background material.

during periods of high groundwater and storm events. They are thus able to handle minor and controllable amounts of extraneous flow (*i.e.*, inflow and infiltration, or I/I) that enter the system. Inflow generally refers to water other than wastewater—typically precipitation like rain or snowmelt— that enters a sewer system through a direct connection to the sewer. Infiltration generally refers to other water that enters a sewer system from the ground, for example through defects in the sewer.

Municipal sanitary sewer collection systems can consist of a widespread network of pipes and associated components (*e.g.*, pump stations). These systems provide wastewater collection service to the community in which they are located. In some situations, the municipality that owns the collector sewers may not provide treatment of wastewater, but only conveys its wastewater to a collection system that is owned and operated by a different municipal entity (such as a regional sewer district). This is known as a satellite community. A "satellite" community is a sewage collection system owner/operator that does not have ownership of the treatment facility and a specific or identified point of discharge but rather the responsibility to collect and convey the community's wastewater to a POTW treatment plant for treatment. *See* 75 Fed. Reg. 30395, 30400 (June 1, 2010).

Municipal sanitary sewer collection systems play a critical role in protecting human health and the environment. Proper operation and maintenance of sanitary sewer collection systems is integral to ensuring that wastewater is collected, transported, and treated at POTW treatment plants. Through effective operation and maintenance, collection system operators can maintain the capacity of the collection system; reduce the occurrence of temporary problem situations such as blockages; protect the structural integrity and capacity of the system; anticipate potential problems and take preventive measures; and indirectly improve treatment plant performance by minimizing deterioration due to I/I-related hydraulic overloading.

Despite their critical role in the nation's infrastructure, many collection systems exhibit poor performance and are subjected to flows that exceed system capacity. Untreated or partially treated overflows from a sanitary sewer system are termed "sanitary sewer overflows" (SSOs). SSOs include releases from sanitary sewers that reach waters of the United States as well as those that back up into buildings and flow out of manholes into city streets.

There are many underlying reasons for the poor performance of collection systems. Much of the nation's sanitary sewer infrastructure is old, and aging infrastructure has deteriorated with time. Communities also sometimes fail to provide capacity to accommodate increased sewage delivery and treatment demand from increasing populations. Furthermore, institutional arrangements relating to the operation of sewers can pose barriers to coordinated action, because many municipal sanitary sewer collection systems are not entirely owned or operated by a single municipal entity.

The performance and efficiency of municipal collection systems influence the performance of sewage treatment plants. When the structural integrity of a sanitary sewer collection system deteriorates, large quantities of infiltration (including rainfall-induced infiltration) and inflow can enter the collection system, causing it to overflow. These extraneous flows are among the

most serious and widespread operational challenges confronting treatment works.[4]

Infiltration can be long-term seepage of water into a sewer system from the water table. In some systems, however, the flow characteristics of infiltration can resemble those of inflow, *i.e.*, there is a rapid increase in flow during and immediately after a rainfall event, due, for example, to rapidly rising groundwater. This phenomenon is sometimes referred to as rainfall-induced infiltration.

Sanitary sewer systems can also overflow during periods of normal dry weather flows. Many sewer system failures are attributable to natural aging processes or poor operation and maintenance. Examples include years of wear and tear on system equipment such as pumps, lift stations, check valves, and other moveable parts that can lead to mechanical or electrical failure; freeze/thaw cycles, groundwater flow, and subsurface seismic activity that can result in pipe movement, warping, brittleness, misalignment, and breakage; and deterioration of pipes and joints due to root intrusion or other blockages.

Inflow and infiltration impacts are often regional in nature. Satellite collection systems in the communities farthest from the POTW treatment plant can cause sanitary sewer overflows ("SSOs") in communities between them and the treatment plant by using up capacity in the interceptors. This can cause SSOs in the interceptors themselves or in the municipal sanitary sewers that lead to them. The implication of this is that corrective solutions often must also be regional in scope to be effective.

The health and environmental risks attributed to SSOs vary depending on a number of factors including location and season (potential for public exposure), frequency, volume, the amount and type of pollutants present in the discharge, and the uses, conditions, and characteristics of the receiving waters. The most immediate health risks associated with SSOs to waters and other areas with a potential for human contact are associated with exposure to bacteria, viruses, and other pathogens.

Human health impacts occur when people become ill due to contact with water or ingestion of water or shellfish that have been contaminated by SSO discharges. In addition, sanitary sewer systems can back up into buildings, including private residences. These discharges provide a direct pathway for human contact with untreated wastewater. Exposure to land-based SSOs typically occurs through the skin via direct contact. The resulting diseases are often similar to those associated with exposure through drinking water and swimming (*e.g.*, gastroenteritis), but may also include illness caused by inhaling microbial pathogens. In addition to pathogens, raw sewage may contain metals, synthetic chemicals, nutrients, pesticides, and oils, which also can be detrimental to the health of humans and wildlife.

[4] In a 1989 Water Pollution Control Federation survey, 1,003 POTWs identified facility performance problems. Infiltration and inflow was the most frequently cited problem, with 85 percent of the facilities reporting I/I as a problem. I/I was cited as a major problem by 41 percent of the facilities (32 percent as a periodic problem).

II. EPA Region 1 Past Practice of Permitting POTWs that Include Municipal Satellite Collection Systems

EPA Region 1's practice in permitting regionally integrated POTWs has developed in tandem with its increasing focus on addressing I/I in sewer collection systems, in response to the concerns outlined above. Up to the early 1990s, POTW permits issued by Region 1 generally did not include specific requirements for collection systems. When I/I and the related issue of SSOs became a focus of concern both nationally and within the region in the mid-1990s, Region 1 began adding general requirements to POTW permits that required the permittees to "eliminate excessive infiltration and inflow" and provide an annual "summary report" of activities to reduce I/I. As the Region gathered more information and gained more experience in assessing these reports and activities, it began to include more detailed requirements and reporting provisions in these permits.

MassDEP also engaged in a parallel effort to address I/I, culminating in 2001 with the issuance of MassDEP Policy No. BRP01-1, "Interim Infiltration and Inflow Policy." Among other provisions, this policy established a set of standard NPDES permit conditions for POTWs that included development of an I/I control plan (including funding sources, identification and prioritization of problem areas, and public education programs) and detailed annual reporting requirements (including mapping, reporting of expenditures and I/I flow calculations). Since September 2001, these requirements have been the basis for the standard operation and maintenance conditions related to I/I.

Regional treatment plants presented special issues as I/I requirements became more specific, as it is generally the member communities, rather than the regional sewer district, that own the collection systems that are the primary source of I/I. Before the focus on I/I, POTW permits did not contain specific requirements related to the collection system component of POTWs. Therefore, when issuing NPDES permits to authorize discharges from regionally integrated treatment POTWs, EPA Region 1 had generally only included the legal entity owning and/or operating the regionally centralized wastewater treatment plant. As the permit conditions were focused on the treatment plant itself, this was sufficient to ensure that EPA had authority to enforce the permit requirements.

In implementing the I/I conditions, Region 1 initially sought to maintain the same structure, placing the responsibility on the regional sewer district to require I/I activities by the contributing systems and to collect the necessary information from those systems for submittal to EPA. MassDEP's 2001 Interim I/I Policy reflected this approach, containing a condition for regional systems:

> ((FOR REGIONAL FACILITIES ONLY)) The permittee shall require, through appropriate agreements, that all member communities develop and implement infiltration and inflow control plans sufficient to ensure that high flows do not cause or contribute to a violation of the permittees effluent limitations, or cause overflows from the permittees collection system.

As existing NPDES permittees, the POTW treatment plants were an obvious locus of regulation. The Region assumed the plants would be in a position to leverage preexisting legal and/or contractual relationships with the satellite collection systems they serve to perform a coordinating function, and that utilizing this existing structure would be more efficient than establishing a new system of direct reporting to EPA by the collection system owners. The Region also believed that the owner/operator of the POTW treatment plant would have an incentive to reduce flow from contributing satellite systems because doing so would improve treatment plant performance and reduce operation costs. While relying on this cooperative approach, however, EPA Region 1 also asserted that it had the authority to require that POTW collection systems be included as NPDES permittees and that it would do so if it proved necessary. Indeed, in 2001 Region 1 acceded to Massachusetts Water Resources Authority's ("MWRA") request that the contributing systems to the MWRA Clinton wastewater treatment plant ("WWTP") be included as co-permittees, based on evidence provided by MWRA that its specific relationship with those communities would not permit it to run an effective I/I reduction program for these collection systems. EPA Region 1 also put satellite collection systems on notice that they would be directly regulated through legally enforceable permit requirements if I/I reductions were not pursued or achieved.

In time, the Region realized that its failure to assert direct jurisdiction over municipal satellite dischargers was becoming untenable in the face of mounting evidence that cooperative (or in some cases non-existent) efforts on the part of the POTW treatment plant and associated satellites were failing to comprehensively address the problem of extraneous flow entering the POTW. The ability and/or willingness of regional sewer districts to attain meaningful I/I efforts in their member communities varied widely. The indirect structure of the requirements also tended to make it difficult for EPA to enforce the implementation of meaningful I/I reduction programs.

It became evident to EPA Region 1 that a POTW's ability to comply with CWA requirements depended on successful operation and maintenance of not only the treatment plant but also the collection system. For example, the absence of effective I/I reduction and operation/maintenance programs was impeding the Region's ability to prevent or mitigate the human health and water quality impacts associated with SSOs. Additionally, these excess flows stressed POTW treatment plants from a hydraulic capacity and performance standpoint, adversely impacting effluent quality. *See Exhibit B* (Analysis of extraneous flow trends for representative systems). Addressing these issues in regional systems was essential, as these include most of the largest systems in terms of flow, population served and area covered, and serve the largest population centers.

The Region's practice of imposing NPDES permit conditions on the municipal collection systems in addition to the treatment plant owner/operator represents a necessary and logical progression in its continuing effort to effectively address the serious problem of I/I in sewer collection systems.[5] In light of its past permitting experience and the need to effectively address

[5] Although EPA Region 1 has in the past issued NPDES permits only to the legal entities owning and operating the wastewater

the problem of extraneous flow on a system-wide basis, Region 1 decided that it was necessary to refashion permits issued to regionally integrated POTWs to encompass all owners/operators of the treatment works (*i.e.*, the regional centralized POTW treatment plant and the municipal satellite collection systems.[6] Specifically, Region 1 determined that the satellite systems should be subject as co-permittees to a limited set of O&M-related conditions on permits issued for discharges from regionally integrated treatment works. These conditions pertain only to the portions of the POTW collection system that the satellites own. This ensures maintenance and pollution control programs are implemented with respect to all portions of the POTW. Accordingly, since 2005, Region 1 has generally included municipal satellite collection systems as co-permittees for limited purposes, in addition to the owner/operator of the treatment plant as the main permittee subject to the full array of NPDES requirements, including secondary treatment and water-quality based effluent limitations. The Region has identified 36 permits issued by the Region to POTWs in New Hampshire and Massachusetts that include municipal satellite collection systems as co-permittees. *See Exhibit A*. The 36 permits include a total of 81 satellite collection systems as co-permittees.

III. Legal Authority

The Region's prior and now superseded practice of limiting the permit only to the legal entity owning and/or operating the wastewater treatment plant had never been announced as a regional policy or interpretation. Similarly, the Region's practice of imposing NPDES permit conditions on the municipal collection systems in addition to the treatment plant owner/operator has also never been expressly announced as a uniform, region-wide policy or interpretation. Upon consideration of the Board's decision, described above, EPA Region 1 has decided to supply a clearer, more detailed explanation regarding its use of a co-permittee structure when issuing NPDES permits to regionally integrated POTWs. In this section, the Region addresses the questions posed by the Board in the *Upper Blackstone* decision referenced above.

(1) Is the scope of NPDES authority limited to owners/operators of the treatment plant, or does the authority extend to owners/operators of the municipal satellite collection systems that comprise the wider POTW?

The scope of NPDES authority extends beyond the owners/operators of the treatment plant to include to owners/operators of portions of the wider POTW, for the reasons discussed below.

The CWA prohibits the "discharge of any pollutant by any person" from any point source to

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treatment plant (*i.e.*, only a portion of the "treatment works"), the Region's reframing of permits to include municipal satellite collection systems does not represent a break or reversal from its historical legal position. EPA Region 1 has never taken the legal position that the satellite collection systems are beyond the reach of the CWA and the NPDES permitting program. Rather, the Region as a matter of discretion had merely never determined it necessary to exercise its statutory authority to directly reach these facilities in order to carry out its NPDES permitting obligations under the Act.

[6] EPA has "considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges." *Natural Resources Defense Council, Inc. v. Costle*, 568 F.2d 1369, 1380 (D.C.Cir.1977). ("[T]his ambitious statute is not hospitable to the concept that the appropriate response to a difficult pollution problem is not to try at all.").

waters of the United States, except, *inter alia,* in compliance with an NPDES permit issued by EPA or an authorized state pursuant to Section 402 of the CWA. CWA § 301, 402(a)(1); 40 C.F.R. § 122.1(b). Where there is a discharge of pollutants, NPDES regulations require the "operator" of the discharging "facility or activity" to obtain a permit in circumstances where the operator is different from the owner. *Id.* § 122.21(b). "Owner or operator" is defined as "the owner or operator of any 'facility or activity' subject to regulation under the NPDES program," and a "facility or activity" is "any NPDES 'point source' or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program." *Id.* § 122.2.

"Publicly owned treatment works" are facilities subject to the NPDES program. Statutorily, POTWs as a class must meet performance-based requirements based on available wastewater treatment technology. *See* CWA § 402(a)(1) ("[t]he Administrator may…issue a permit for the discharge of any pollutant….upon condition that such discharge will meet (A) all applicable requirements under [section 301]…"); § 301(b)(1)(B) ("In order to carry out the objective of this chapter there shall be achieved…for publicly owned treatment works in existence on July 1, 1977...effluent limitations based upon secondary treatment[.]"); *see also* 40 C.F.R. pt 133. In addition to secondary treatment requirements, POTWs are also subject to water quality-based effluent limits if necessary to achieve applicable state water quality standards. *See* CWA § 301(b)(1)(C). *See also* 40 C.F.R. § 122.44(a)(1) ("…each NPDES permit shall include…[t]echnology-based effluent limitations based on: effluent limitations and standards published under section 301 of the Act") and (d)(1) (same for water quality standards and state requirements). NPDES regulations similarly identify the "POTW" as the entity subject to regulation. *See* 40 C.F.R. § 122.21(a), (requiring "new and existing POTWs" to submit information required in 122.21(j)," which in turn requires "all POTWs," among others, to provide permit application information).

A municipal satellite collection system is part of a POTW under applicable law. The CWA and its implementing regulations broadly define "POTW" to include not only wastewater treatment plants but also the sewer systems and associated equipment that collect wastewater and convey it to the plants. Under NPDES regulations at 40 C.F.R. §§ 122.2 and 403.3(q), the term "Publicly Owned Treatment Works" or "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 502(4) of the Act)." Under section 212 of the Act,

> "(2)(A) The term 'treatment works' means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature to implement section 1281 of this title, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, outfall sewers, *sewage collection systems* [emphasis added], pumping, power, and other equipment, and their appurtenances; extensions, improvements, remodeling, additions, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including site acquisition of the land that will be an integral part of the treatment process (including land used for the storage of treated

wastewater in land treatment systems prior to land application) or is used for ultimate disposal of residues resulting from such treatment.

(B) In addition to the definition contained in subparagraph (A) of this paragraph, 'treatment works' means any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of municipal waste, including storm water runoff, or industrial waste, including waste in combined storm water and *sanitary sewer systems* [emphasis added]. Any application for construction grants which includes wholly or in part such methods or systems shall, in accordance with guidelines published by the Administrator pursuant to subparagraph (C) of this paragraph, contain adequate data and analysis demonstrating such proposal to be, over the life of such works, the most cost efficient alternative to comply with sections 1311 or 1312 of this title, or the requirements of section 1281 of this title."

Under the NPDES program regulations, this definition has been interpreted as follows:

"The term *Publicly Owned Treatment Works* or *POTW* [emphasis in original]…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."

See 40 C.F.R. § 122.2, cross-referencing 403.3(q).

The statutory and regulatory definitions plainly encompass both the POTW treatment plant and municipal satellite collection systems. Municipal satellite collection systems are part of a POTW by definition (*i.e.*, they are "sewage collection systems" under section 212(A) and "sanitary sewer systems" under section 212(B)). They are also conveyances that send wastewater to a POTW treatment plant for treatment under 40 C.F.R. 403.3(q)). The preamble to the rule that created the regulatory definition of POTW supports the reading that the treatment plant comprises only a portion of the POTW. *See* 44 Fed. Reg. 62260, 62261 (Oct. 29, 1979).[7]

Consistent with EPA Region 1's interpretation, courts have similarly taken a broad reading of the terms treatment works and POTW.[8]

[7] "A new provision…defining the term 'POTW Treatment Plant' has been added to avoid an ambiguity that now exists whenever a reference is made to a POTW (publicly owned treatment works). …[T]he existing regulation defines a POTW to include both the treatment plant and the sewer pipes and other conveyances leading to it. As a result, it is unclear whether a particular reference is to the pipes, the treatment plant, or both. The term "POTW treatment plant" will be used to designate that portion of the municipal system which is actually designed to provide treatment to the wastes received by the municipal system."

[8] *See, e.g.*, *United States v. Borowski, 977 F.2d 27, 30 n.5* (1st Cir. 1992) ("We read this language [POTW definition] to refer to such sewers, pipes and other conveyances that are publicly owned. Here, for example, the City of Burlington's sewer is

(2) If the latter, how far up the collection system does NPDES jurisdiction reach, i.e., where does the "collection system" end and the "user" begin?

NPDES jurisdiction extends beyond the treatment plant to the outer boundary of the municipally-owned sewage collection systems, which are defined as sewers whose purpose is to be a common carrier of wastewater for others to a POTW treatment plant for treatment, as explained below.

As discussed in response to Question 1 above, the term "treatment works" is defined to include "sewage collection systems." CWA § 212. In order to define the extent of the sewage collection system for purposes of co-permittee regulation—*i.e.*, to identify the boundary between the portions of the collection system that are subject to NPDES requirements and those that are not—Region 1 is relying on EPA's regulatory interpretation of the term "sewage collection system." In relevant part, EPA regulations define "sewage collection system" at 40 C.F.R. § 35.905 as:

> " ....each, and all, of the common lateral sewers, within a publicly owned treatment system, which are primarily installed to receive waste waters directly from facilities which convey waste water from individual structures or from private property and which include service connection "Y" fittings designed for connection with those facilities. The facilities which convey waste water from individual structures, from private property to the public lateral sewer, or its equivalent, are specifically excluded from the definition…."

Put otherwise, a municipal satellite collection system is subject to NPDES jurisdiction under the Region's approach insofar as its purpose is to be a common carrier of wastewater for others to a POTW treatment plant for treatment. The use of this primary purpose test (i.e., common sewer installed as a recipient and carrier waste water from others) allows Region 1 to draw a principled, predictable and readily ascertainable boundary between the POTW's collection system and user. This test would exclude, for example, branch drainpipes that collect and transport wastewater from fixtures in a commercial building or public school to the common lateral sewer. This type of infrastructure would not be considered part of the collection system, because it is not designed to be a common recipient and carrier of wastewaters from other users. Rather, it is designed to transport its users' wastewater to such a common collection system at a point further down the sanitary sewer system.

EPA's reliance on the definition of "sewage collection system" from outside the NPDES

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included in the definition because it conveys waste water to the Massachusetts Water Resource Authority's treatment works."); *Shanty Town Assoc. v. Envtl. Prot. Agency, 843 F.2d 782, 785* (4th Cir. 1988) ("As defined in the statute, a 'treatment work' need not be a building or facility, but can be any device, system, or other method for treating, recycling, reclaiming, preventing, or reducing liquid municipal sewage and industrial waste, including storm water runoff.") (citation omitted); *Comm. for Consideration Jones Fall Sewage System v. Train,* 375 F. Supp. 1148, 1150-51 (D. Md. 1974) (holding that NPDES wastewater discharge permit coverage for a wastewater treatment plant also encompasses the associated sanitary sewer system and pump stations under § 1292 definition of "treatment work").

regulations for interpretative guidance is reasonable as the construction grants regulations at 40
C.F.R. Part 35, subpart E pertain to grants for POTWs, the entity that is the subject of this NPDES policy. Additionally, the term "sewage collection systems" expressly appears in the definition of treatment works under section 212 of the Act as noted above. Finally, this approach is also consistent with EPA's interpretation in other contexts, such as the SSO listening session notice, published in the Federal Register on June 1, 2010, which describes wastewater collection systems as those that "collect domestic sewage and other wastewater from homes and other buildings and convey it to wastewater sewage treatment plants for proper treatment and disposal." *See* "Municipal Sanitary Sewer Collection Systems, Municipal Satellite Collection Systems, Sanitary Sewer Overflows, and Peak Wet Weather Discharges From Publicly Owned Treatment Works Treatment Plants Serving Separate Sanitary Sewer Collection Systems," 75 Fed. Reg. 30395.[9]

(3) Do municipal satellite collection systems "discharge [] a pollutant" within the meaning of the statute and regulations?

Yes, because they are a part of the POTW, municipal satellite collection systems discharge pollutants to waters of the United States through one or more outfalls (point sources).

The "discharge of a pollutant," triggers the need for a facility to obtain an NPDES permit. A POTW "discharges [ ] pollutant[s]" if it adds pollutants from a point source to waters of the U.S. (See 40 C.F.R. § 122.2, section (a) of the definition of "discharge of a pollutant.") As explained above, municipal satellite collection systems are part of the POTW. The entire POTW is the entity that discharges pollutants to waters of the U.S. through point source outfalls typically located at the treatment plant but also occasionally through other outfalls within the overall system. The fact that a collection system may be located in the upstream portions of the POTW and not necessarily near the ultimate discharge point at the treatment plant is not material to the question of whether it "discharges" a pollutant and consequently may be subject to conditions of an NPDES permit issued for discharges from the POTW.[10]

"Discharge of a pollutant" at 40 C.F.R. § 122.2 is also defined to include "… discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person *which do not lead to a treatment works.*"(emphasis added). Some municipal collection systems have argued that this sentence means that only municipal discharges that do not lead to a "treatment plant" fall within the scope of "discharge of a pollutant." They further argue that because discharges through satellite collection systems do lead to a treatment plant, such systems do not "discharge [] pollutant[s]" and therefore are not subject to the NPDES permit

[9] That EPA has in the past looked for guidance from Part 35 when construing the NPDES permitting program, for instance, in the context of storm water permitting, provides further support to the Region that its practice in this regard is sound. *See, e.g.*, "National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges," 55 Fed. Reg. 47990, 47955 (looking to the definition of "storm sewer" at 40 C.F.R. § 35.2005(b)(47) when defining "storm water" under the NDPES program).

[10] This position differs from that taken by the Region in the *Upper Blackstone* litigation. There, the Region argued that the treatment plant was the sole discharging entity for regulatory purposes. The Region has revised this view upon further consideration of the statute, regulations and case law and determined that the POTW as a whole is the discharging entity.

requirements. This argument is flawed in that it incorrectly equates "treatment works," the term used in the definition above, with "treatment plant." To interpret "treatment works" as it appears in the regulatory definition of "discharge of a pollutant" as consisting of only the POTW treatment plant would be inconsistent with the definition of "treatment works" at 40 C.F.R. § 403.3(q), which expressly includes the collection system. *See also* § 403.3(r) (defining "POTW Treatment Plant" as "*that portion* [emphasis added] of the POTW which is designed to provide treatment (including recycling and reclamation) of municipal sewage and industrial waste").

(4) Are municipal satellite collection systems "indirect dischargers" and thus excluded from NPDES permitting requirements?

No, municipal satellite collection systems are part of the POTW, not "indirect dischargers" to the POTW.

Section 307(b) of the Act requires EPA to establish regulatory pretreatment requirements to prevent the "introduction of pollutants into treatment works" that interfere, pass through or are otherwise incompatible with such works. Section 307 is implemented through the General Pretreatment Regulations for Existing and New Sources of Pollution (40 C.F.R. Part 403) and categorical pretreatment standards (40 C.F.R. Parts 405-471). Section 403.3(i) defines "indirect discharger" as "any non-domestic" source that introduces pollutants into a POTW and is regulated under pretreatment standards pursuant to CWA § 307(b)-(d). The source of an indirect discharge is termed an "industrial user." *Id*. at § 403.3(j). Under regulations governing the NPDES permitting program, the term "indirect discharger" is defined as "a non-domestic discharger introducing 'pollutants' to a 'publicly owned treatment works.'" 40 C.F.R. § 122.2. Indirect dischargers are excluded from NPDES permit requirements by the indirect discharger rule at 40 C.F.R. § 122.3(c), which provides, "The following discharges do not require an NPDES permit: . . . The introduction of sewage, industrial wastes or other pollutants into publicly owned treatment works by indirect dischargers."

Municipal satellite collection satellite systems are not indirect dischargers as that term is defined under part 122 or 403 regulations. Unlike indirect dischargers, municipal satellite collection systems are not "introducing pollutants" to POTWs under 40 C.F.R. § 122.2; they are, instead, part of the POTW by definition. Similarly, they are not a non-domestic *source* that introduces pollutants into a POTW within the meaning of § 403.3(j), but as part of the POTW collect and convey municipal sewage from industrial, commercial and domestic users of the POTW.

The Region's determination that municipal satellite collection systems are not indirect dischargers is, additionally, consistent with the regulatory history of the term indirect discharger.

The 1979 revision of the part 122 regulations defined "indirect discharger" as "a non-municipal, non-domestic discharger introducing pollutants to a publicly owned treatment works, which introduction does not constitute a 'discharge of pollutants'…" *See* National Pollutant Discharge Elimination System, 44 Fed. Reg. 32854, 32901 (June 7, 1979). The term "non-municipal" was removed in the Consolidated Permit Regulations, 45 Fed. Reg. 33290, 33421 (May 19, 1980) (defining "indirect discharger" as "a nondomestic discharger…"). Although the change was not explained in detail, the substantive intent behind this provision remained the same. EPA characterized the revision as "minor wording changes." 45 Fed. Reg. at 33346 (Table VII: "Relationship of June 7[, 1979] Part 122 to Today's Regulations"). The central point again is that under any past or present regulatory incarnation, municipal satellite collection systems, as POTWs, are not within the definition of "indirect discharger," which is limited to dischargers that introduce pollutants to POTWs.

The position that municipal satellite collection systems are part of, rather than discharge to, the POTW also is consistent with EPA guidance. EPA's 1994 Multijurisdictional Pretreatment Programs Guidance Manual, (EPA 833-B94-005) (June 1994), at p. 19, asserts that EPA has the authority to require municipal satellite collection systems to develop pretreatment programs by virtue of their being part of the POTW.

(5) How is the Region's rationale consistent with the references to "municipality" in the regulatory definition of POTW found at 40 C.F.R. § 403.3(q), and the definition's statement that "[t]he term also means the municipality….which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works?"

There is no inconsistency between the Region's view that municipally-owned satellite collection systems are part of a POTW, and the references to municipality in 40 C.F.R. § 403.3(q), including the final sentence of the regulatory definition of POTW in the pretreatment regulations.

The Region's co-permitting rationale is consistent with the first part of the pretreatment program's regulatory definition of POTW, because the Region is only asserting NPDES jurisdiction over satellite collection systems that are owned by a "State or municipality (as defined by section 502(4) of the Act)." The term "municipality" as defined in CWA § 502(4) "means a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes…" Thus, in order to qualify under this definition, a wastewater collection system need only be "owned by a State or municipality." There is no requirement that the constituent components of a regionally integrated POTW, *i.e.*, the collection system and regional centralized POTW treatment plant, be owned by the same State or municipal entity.

Furthermore, there is no inconsistency between the Region's view that a satellite collection system is part of a POTW, and the final sentence of the regulatory definition of POTW in the pretreatment regulations. As noted above, the sentence provides that "POTW" may "also" mean a municipality which has jurisdiction over indirect discharges to and discharges from the treatment works. This is not a limitation because of the use of the word "also" (contrast this

with the "only if" language in the preceding sentence of the regulatory definition).

(6) How does the Region's rationale comport with the permit application and signatory requirements under NPDES regulations?

EPA's authority to require municipal satellite collection systems to separately comply with the permit application requirements, or to provide waivers from these requirements where appropriate, is consistent with NPDES regulations, which provide that all POTWs must submit permit application information set forth in 40 C.F.R. § 122.21(j) unless otherwise directed, and municipal satellite collection systems are part of the POTW.

EPA has the authority to require municipal satellite collection systems to submit permit applications. These entities are operators of parts of the POTW. NPDES regulations characterize the operator "of the POTW" (which by definition includes the sewage collection system) as opposed to the operator "of the POTW treatment plant" as an appropriate applicant. *Id.* § 122.21(a), (requiring applicants for "new and existing POTWs" to submit information required in 122.21(j)," which in turn requires "all POTWs," among others, to provide permit application information). This reading of the regulation is in keeping with the statutory text, which subjects the POTW writ large to the secondary treatment and water quality-based requirements. *See* CWA § 301(b)(1)(B), (C). In fact, the NPDES permit application for POTWs solicits information concerning portions of the POTW beyond the treatment plant itself, including the collection system used by the treatment works. *See* 40 C.F.R. 122.21(j)(1).

Notwithstanding that EPA could require applications for all the municipal satellite collection systems, requiring such applications may result in duplicative or immaterial information. The Regional Administrator ("RA") may waive any requirement of this paragraph if he or she has access to substantially identical information. 40 C.F.R. § 122.21(j). *See generally*, 64 Fed. Reg. 42440 (August 4, 1999). The RA may also waive any application requirement that is not of material concern for a specific permit. Region 1 believes that it will typically receive information sufficient for NPDES permitting purposes from the POTW treatment plant operator's application.

In most cases, EPA Region 1 believes that having a single permit application from the POTW treatment plant operator will be more efficient in carrying out the regulation's intent than multiple applications from the satellite systems. (The treatment plant operator would of course be required to coordinate as necessary with the constituent components of the POTW to ensure that the information provided to EPA is accurate and complete). EPA Region 1 therefore intends to issue waivers to exempt municipal satellite collection systems from permit application and signatory requirements in accordance with 40 C.F.R. § 122.21(j). To the extent the Region requires additional information, it intends to use its information collection authority under CWA § 308.

IV. Basis for the Specific Conditions to which the Municipal Satellite Collection Systems are Subject as Co-permittees

The legal authority for extending NPDES conditions to all portions of the municipally-owned treatment works to ensure proper operation and maintenance and to reduce the quantity of extraneous flow into the POTW is Section 402(a) of the CWA. This section of the Act authorizes EPA to issue a permit for the "discharge of pollutants" and to prescribe permit conditions as necessary to carry out the provisions of the CWA, including Section 301 of the Act. Among other things, Section 301 requires POTWs to meet performance-based requirements based on secondary treatment technology, as well as any more stringent requirements of State law or regulation, including water quality standards. *See* CWA § 301(b)(1)(B),(C).

The co-permittee requirements are required to assure continued achievement of secondary treatment requirements and water quality standards in accordance with sections 301 and 402 of the Act and to prevent unauthorized discharges of sewage from collection systems. With respect to secondary treatment, the inclusion of the satellite systems as co-permittees is necessary because high levels of I/I dilute the strength of influent wastewater and increase the hydraulic load on treatment plants, which can reduce treatment efficiency (*e.g.*, result in violations of technology-based percent removal limitations for BOD and TSS due to less concentrated influent, or violation of other technology effluent limitations due to reduction in treatment efficiency), lead to bypassing a portion of the treatment process, or in extreme situations make biological treatment facilities inoperable (*e.g.*, wash out the biological organisms that treat the waste).

As to water quality standards, the addition of the satellite systems as co-permittees is necessary to ensure collection system operation and maintenance, which will reduce extraneous flow entering the system and free up available capacity. This will facilitate compliance with water quality-based effluent limitations—made more difficult by reductions in treatment efficiency and also reduce water quality standard violations that result from the occurrence of SSOs. *See Exhibits B* (Municipal satellite collection systems with SSOs) and *C* (Analysis of extraneous flow trends for representative systems). SSOs that reach waters of the U.S. are discharges in violation of section 301(a) of the CWA to the extent not authorized by an NPDES permit.

Subjecting portions of an NPDES-regulated entity upstream of the ultimate discharge point is consistent with EPA's interpretation of the CWA in other contexts. For example, it is well established that EPA has the ability to apply discharge limitations and monitoring requirements to internal process discharges, rather than to outfalls, on the grounds that compliance with permit limitations "may well involve controls applied at points other than the ultimate point of discharge." *See Decision of the General Counsel No. 27 (In re Inland Steel Company)*, August 4, 1975 ("Limitations upon internal process discharges are proper, if such discharges would ultimately be discharged into waters of the United States, and if such limitations are necessary to carry out the principal regulatory provisions of the Act."). In the case of regionally integrated POTWs, placing conditions on satellite collection systems—though located farther up the

system than the point of discharge—is a logical implication of the regulations and serves to effectuate the statute.

Without imposing conditions on the satellite communities, standard permit conditions applicable to all NPDES permits by regulation cannot be given full effect. To illustrate, there is no dispute that the operator of the POTW treatment plant and outfall is discharging pollutants within the meaning the CWA and, accordingly, is subject to the NPDES permit program. NPDES permitting regulations require standard conditions that "apply to all NPDES permits," pursuant to 40 C.F.R. § 122.41, including a duty to mitigate and to 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 the permit." *Id.* at § 122.41(d), (e). EPA regulations also require additional conditions applicable to specified categories of NPDES permit, including "Publicly owned treatment works." *See id.* at § 122.42(b). A municipal satellite collection system, as demonstrated above, falls within the regulatory definition of a POTW. In light of EPA's authority to require appropriate operation and maintenance of collection systems necessary to achieve compliance with an NPDES permit, and because the operator of the POTW treatment plant may not own or operate a significant portion of the wider treatment works (*i.e.*, the collection systems that send flow to the POTW treatment plant), it is appropriate, and in some cases necessary, to extend pertinent, mandated standard conditions to all portions of the POTW, which is subject to regulation in its entirety.

The alternative of allowing state and local jurisdictional boundaries to place significant portions of the POTW beyond the reach of the NPDES permitting program would not only be inconsistent with the broad statutory and regulatory definition of the term POTW but would impede Region 1 from carrying out the objectives of the CWA. It would also, illogically, preclude the Region from imposing on POTWs standard conditions EPA has by regulation mandated for those entities.

Other Considerations Informing EPA Region 1's Decision to Use a Co-permittee Permitting Structure for Regionally Integrated POTWs

In addition to consulting the relevant statutes, regulations, and preambles, Region 1 also considered other EPA guidance in coming to its determination to employ a co-permittee structure for regionally integrated POTWs. EPA's 1994 Multijurisdictional Pretreatment Programs Guidance Manual, p. 19, asserts that EPA has the authority to include municipal satellite collection systems as co-permittees by virtue of their being part of the POTW:

> If the contributing jurisdiction owns or operates the collection system within its boundaries, then it is a co-owner or operator of the POTW. As such, it can be included on the POTW's NPDES permit and be required to develop a pretreatment program. Contributing jurisdictions should be made co-permittees where circumstances or experience indicate that it is necessary to ensure adequate pretreatment program implementation.

The same logic that led EPA to conclude it had authority to require municipal satellite collection systems to develop a pretreatment program pursuant to an NPDES permit supports EPA Region 1's decision to impose permit conditions on such facilities to undertake proper O & M and to reduce inflow and infiltration.

EPA Region 1 also took notice of federal listening session materials on the June 2010 proposed SSO rule and associated model permits and fact sheet. The position articulated by EPA in these model documents—specifically the application of standard NPDES conditions to municipal satellite collection systems—generally conform to Region 1's co-permitting approach.

Finally, in addition to federal requirements, EPA Region 1 considered the co-permittee approach in light of state regulations and policy pertaining to wastewater treatment works. The Region found its approach to be consistent with such requirements. Under Massachusetts law, "Any person operating treatment works shall maintain the facilities in a manner that will ensure proper operation of the facilities or any part thereof," where "treatment works" is defined as "any and all devices, processes and properties, real or personal, used in the collection, pumping, transmission, storage, treatment, disposal, recycling, reclamation or reuse of waterborne pollutants, but not including any works receiving a hazardous waste from off the site of the works for the purpose of treatment, storage or disposal, or industrial wastewater holding tanks regulated under 314 CMR 18.00" *See* 314 CMR 12.00 ("Operation and Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers"). MassDEP has also prioritized this area, issuing detailed operation and maintenance guidelines entitled "Optimizing Operation, Maintenance and Rehabilitation of Sanitary Sewer Collection Systems."

Exhibit A

Permit Number	Permittee	Co-permittees	Issue Date with Co-permittees
MA0100404	Massachusetts Water Resources Authority – Clinton	Town of Clinton Lancaster Sewer District	September 27, 2000
MA0101010	City of Brockton	Town of Abington Town of Whitman	May 11, 2005
MA0100412	Westborough Wastewater Treatment Plant	Town of Westborough Town of Shrewsbury Town of Hopkinton	May 20, 2005
MA0100480	City of Marlborough	Town of Northborough	May 26, 2005
MA0100447	Greater Lawrence Sanitary District	City of Lawrence, Town of Andover, Town of North Andover, Town of Methuen, Town of Salem, NH	August 11, 2005
MA0100633	Lowell Regional Wastewater Utilities	Town of Chelmsford, Town of Dracut Town of Tewksbury Town of Tyngsborough	September 1, 2005
MA0100064	Pepperell Wastewater Treatment Plant	Town of Groton	December 22, 2005
MA0100439	Town of Webster Sewer Department	Town of Dudley	March 24, 2006
MA0100455	Town of South Hadley, Board of Selectmen	Town of Granby, Town of Chicopee	June 12, 2006
MA0100617	City of Leominster (NPDES Permit No. MA0100617)	Town of Lunenberg Town of Lancaster	September 28, 2006
MA0100510	Hoosac Water Quality District	Town of Williamstown Town of North Adams Town of Clarksburg	September 28, 2006
MA0101036	Board of Public Works, North Attleborough	Town of Plainville	January 4, 2007
NH0100544	Town of Sunapee	New London Sewer Commission	February 21, 2007
MA0100552	Lynn Water and Sewer Commission (NPDES Permit No. MA0100552)	Town of Nahant Town of Swampscott Town of Saugus	March 3, 2007

Permit Number	Permittee	Co-permittees	Issue Date with Co-permittees
NH0100331	City of Concord	Boscawen Board of Selectmen	June 29, 2007
NH0100790	City of Keene (NPDES Permit No. NH0100790)	Town of Marlborough, NH Swanzey Sewer Commission	August 24, 2007
NH0100625	Town of Hampton	Rye Sewer Commission	August 28, 2007
NH0100161	Town of Merrimack, NH	Town of Bedford	September 25, 2007
MA0101621	City of Haverhill	Town of Groveland	December 5, 2007
MA0101681	City of Pittsfield, Department of Public Works	Town of Dalton Town of Lenox Town of Hinsdale Town of Lanesborough Town of Richmond	August 22, 2008
NH0100447	City of Manchester	Town of Goffstown Town of Bedford Town of Londonderry	September 25, 2008
MA0100781	City of New Bedford	Town of Acushnet Town of Dartmouth	September 28, 2008
MA0101818	City of Northhampton	Town of Williamsburg	September 30, 2008
NH0100960	Winnipesaukee River Basin Program Wastewater Treatment Plant	Town of Belmont Town of Center Harbor City of Franklin Town of Gilford City of Laconia Town of Meredith Town of Northfield Town of Tilton	June 19, 2009
MA0101800	City of Westfield	Town of Southwick	September 30, 2009
MA0101231	Hull Permanent Sewer Commission	Cohasset Sewer Commission Hingham Sewer Commission	September 1, 2009
MA0100994	Gardner Department of Public Works	Town of Ashburnham	September 30, 2009
MA0102598	Charles River Pollution Control District	Town of Franklin Town of Medway Town of Millis Town of Bellingham	July 23, 2014

Permit Number	Permittee	Co-permittees	Issue Date with Co-permittees
MA0101702	MFN Region Wastewater District	Town of Mansfield Town of Norton Town of Foxboro	September 11, 2014
MA0100897	Taunton Wastewater Treatment Plant	Town of Raynham Town of Dighton	April 10, 2015
NH0100366	City of Lebanon, NH	Town of Enfield	September 30, 2015
NH0100099	Town of Hanover, NH	City of Lebanon	November 18, 2015
MA0100501	South Essex Sewerage District	City of Beverly, Town of Danvers Town of Marblehead City of Peabody City of Salem	May 5, 2016
NH0100471	Town of Milford, NH	Town of Wilton Sewer Commission	August 31, 2020
MA0101613	Springfield Regional Wastewater Treatment Facility	Town of Agawam Town of East Longmeadow Town of Longmeadow Town of Ludlow Town of West Springfield Town of Wilbraham	September 30, 2020
NH0101390	Town of Allenstown, NH	Town of Pembroke Sewer Commission	November 29, 2021
NH0100901	Town of Concord - Concord Hall Street Wastewater Treatment Facility	Town of Bow	July 1, 2022
MAG590000	2022 Medium Wastewater Treatment Facilities General Permit	(as authorized)	September 28, 2022

Exhibit B

I/I Flow Analysis for Sample Regional Publicly Owned Treatment Works

I. Representative POTWS

The **South Essex Sewer District (SESD)** is a regional POTW with a treatment plant in Salem, Massachusetts. The SESD serves a total population of 174,931 in six communities: Beverly, Danvers, Marblehead, Middleton, Peabody and Salem. The **Charles River Pollution Control District (CRPCD)** is a regional POTW with a treatment plant in Medway, Massachusetts. The CRPCD serves a total population of approximately 28,000 in four communities: Bellingham, Franklin, Medway and Millis. Both of these facilities have been operating since 2001 under permits that place requirements on the treatment plant to implement I/I reduction programs with the satellite collection systems, in contrast to Region 1's current practice of including the satellite collection systems as co-permittees.

II. Comparison of flows to standards for nonexcessive infiltration and I/I

Flow data from the facilities' discharge monitoring reports (DMRs) are shown in comparison to the EPA standard for nonexcessive infiltration/inflow (I/I) of 275 gpcd wet weather flow and the EPA standard for nonexcessive infiltration of 120 gallons per capita per day (gpcd) dry weather flow; the standards are multiplied by population served for comparison with total flow from the facility. See *I/I Analysis and Project Certification*, EPA Ecol. Pub. 97-03 (1985); 40 CFR 35.2005(b)(28) and (29).

Figures 1 and 2 show the Daily Maximum Flows (the highest flow recorded in a particular month) for the CRPCD and SESD, respectively, along with monthly precipitation data from nearby weather stations. Both facilities experience wet weather flows far exceeding the standard for nonexcessive I/I, particularly in wet months, indicating that these facilities are receiving high levels of inflow and wet weather infiltration.

Figure 1. CRPCD Daily Maximum Flow Compared to Nonexcessive I/I Standard

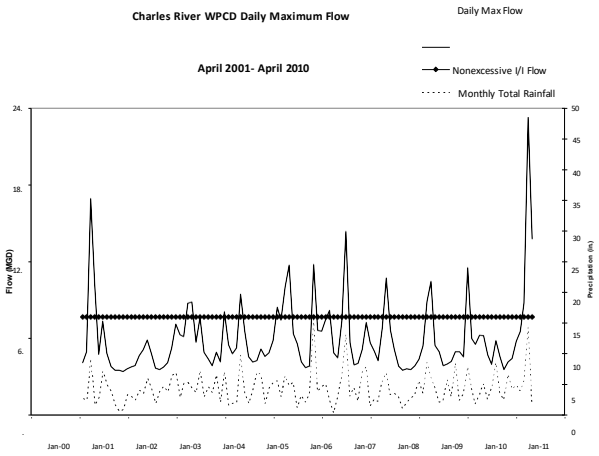
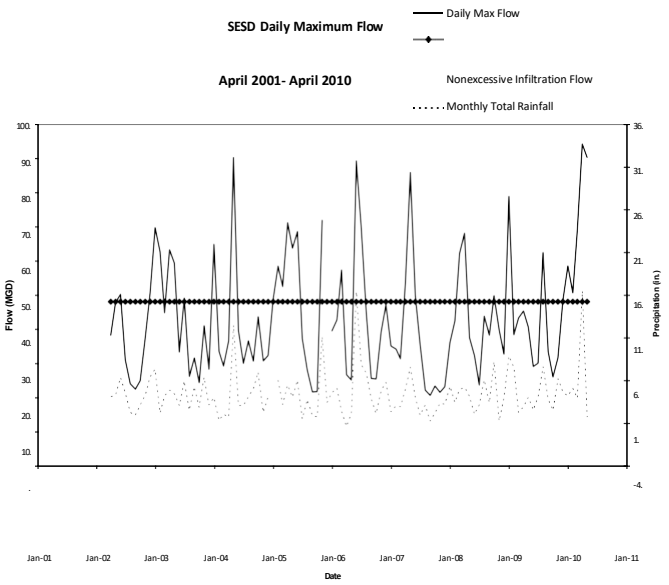


Figure 2. SESD Daily Maximum Flow Compared to Nonexcessive I/I Standard



Figures 3 and 4 shows the Average Monthly Flows for the CRPCD and SESD, which exceed the nonexcessive infiltration standard for all but the driest months. This indicates that these systems experience high levels of groundwater infiltration into the system even during dry weather.

Figure 3. CRPCD Monthly Average Flow Compared to Nonexcessive Infiltration Standard

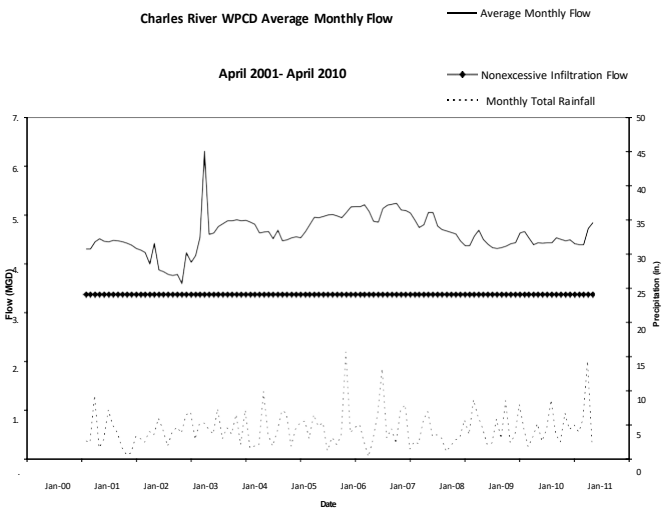
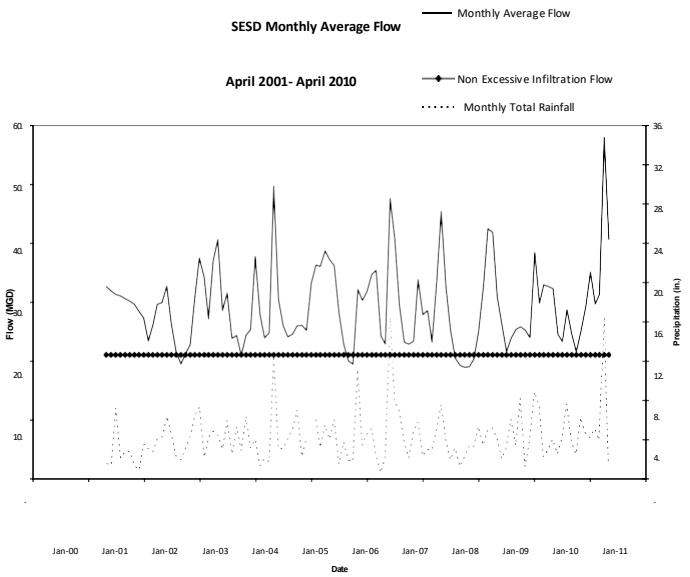


Figure 4. SESD Monthly Average Flow Compared to Nonexcessive Infiltration Standard



II. Flow Trends

Figures 5 and 6 show the trend in Maximum Daily Flows over the period during which these regional facilities have been responsible for implementing cooperative I/I reduction programs with the satellite collection systems. The Maximum Daily Flow reflects the highest wet weather flow for each month. The trend over this time period has been of increasing Maximum Daily Flow, indicating that I/I has not been reduced in either system despite the permit requirements.

Figure 5. CRPCD Daily Maximum Flow Trend

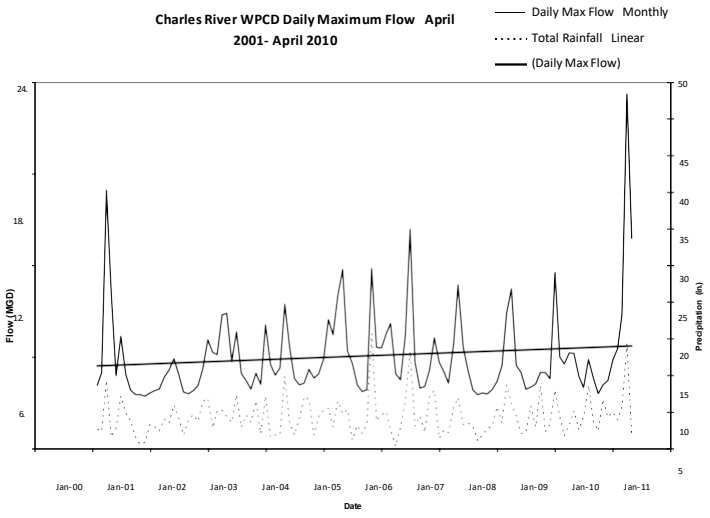
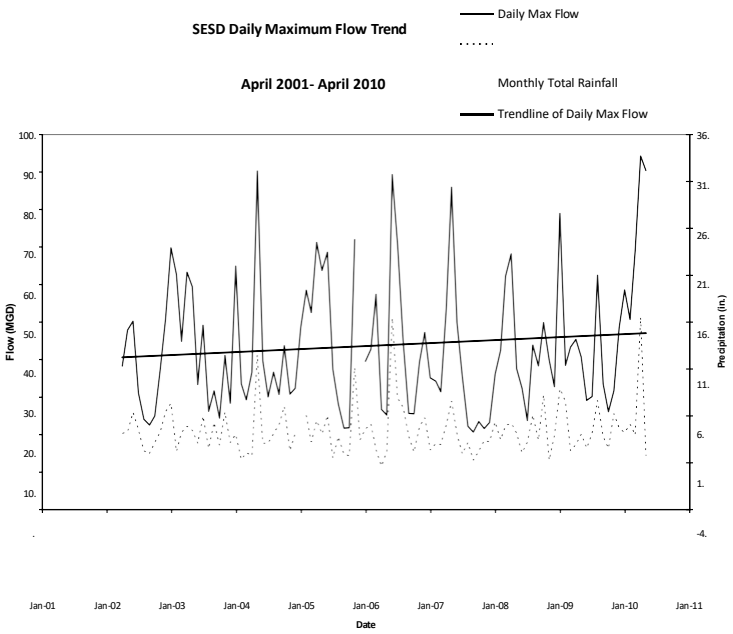


Figure 6. SESD Daily Maximum Flow Trend



III. Violations Associated with Wet Weather Flows

Both the CRPCD and SESD have experienced permit violations that appear to be related to I/I, based on their occurrence during wet weather months when excessive I/I standards are exceeded. Figure 7 shows violations of CRPCD's effluent limits for CBOD (concentration) and TSS (concentration and percent removal). Twelve of the sixteen violations occurred during months when daily maximum flows exceeded the EPA standard.

Figure 7. CRPCD CBOD and TSS Effluent Limit Violations

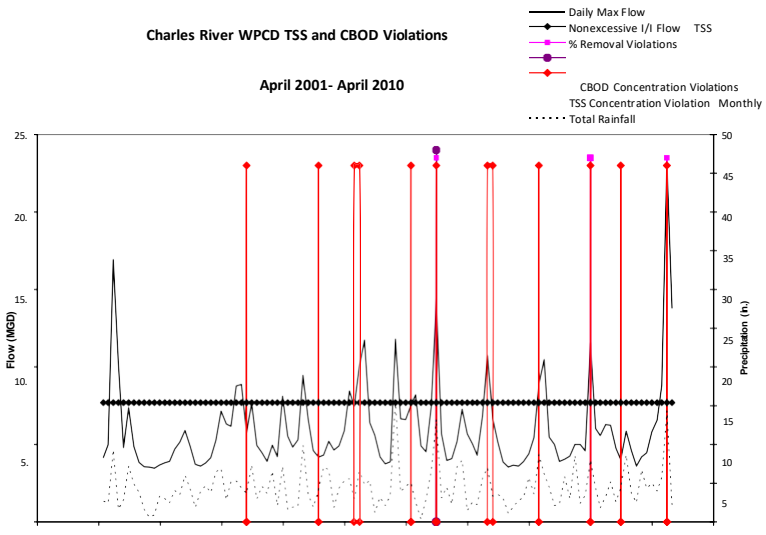
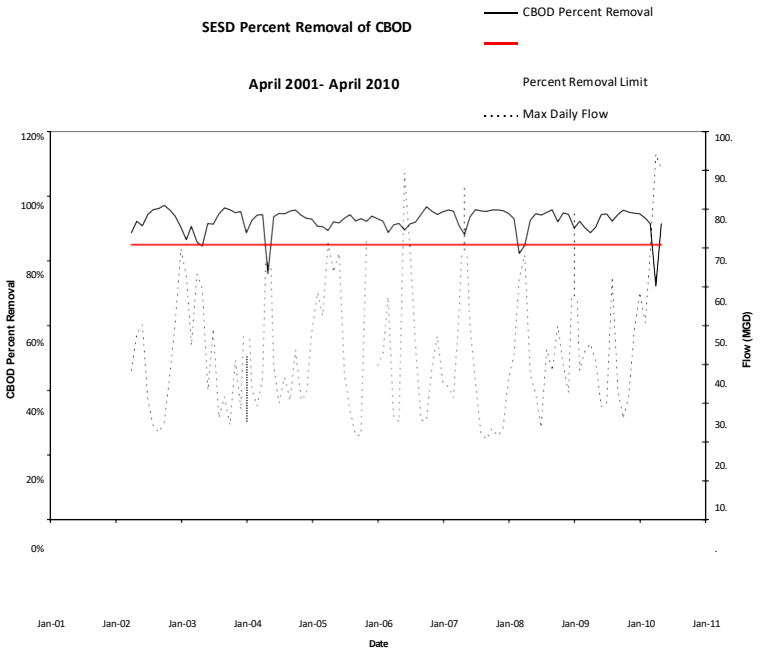


Figure 8 shows SESD's results for removal of CBOD, in percentage, as compared to maximum daily flow. SESD had three permit violations where CBOD removal fell below 85%, all during months with high Maximum Daily Flows.

Figure 8. SESD CBOD Percent Removal



In addition, both of these regional POTWs have experienced SSOs within the municipal satellite collection systems. In the SESD system, Beverly, Danvers, Marblehead and Peabody have reported SSOs between 2006 and 2008, based on data provided by MassDEP. In the CRPCD system, both Franklin and Bellingham have reported SSOs between 2006 and 2009.

Exhibit C

Form of Regional Administrator's waiver of permit application requirements
for municipal satellite collection systems

REGION 1

BOSTON, MA 02109

Re: Waiver of Permit Application and Signatory Requirements for [Municipal Satellite Sewage Collection System]

Dear _____:

Under NPDES regulations, all POTWs must submit permit application information set forth in 40 C.F.R. § 122.21(j) unless otherwise directed. Where the Region has "access to substantially identical information," the Regional Administrator may waive permit application requirements for new and existing POTWs. *Id.* Pursuant to my authority under this regulation, I am waiving NPDES permit application and signatory requirements applicable to the above-named municipal satellite collection systems.

Although EPA has the authority to require municipal satellite collection systems to submit individual permit applications, in this case I find that requiring a single permit application executed by the regional POTW treatment plant owner/operator will deliver "substantially identical information," and will be more efficient, than requiring separate applications from each municipal satellite collection system owner/operator. Municipal satellite collection system owners/operators are expected to consult and coordinate with the regional POTW treatment plant operators to ensure that any information provided to EPA about their respective entities is accurate and complete. In the event that EPA requires additional information, it may use its information collection authority under CWA § 308. 33 U.S.C. § 1318.

This notice reflects my determination based on the specific facts and circumstances in this case. It is not intended to bind the agency in future determinations where a separate permit for municipal satellites would not be duplicative or immaterial.

If you have any questions or would like to discuss this decision, please contact [EPA Permit Contact] at mailto:permit.writer@epa.gov or 617-918-XXXX.

Sincerely,

Regional Administrator

APPENDIX E: LIST FOR POLLUTANT SCANS

	NPDES Permit Number	Facility Name	Outfall Number

EFFLUENT PARAMETERS FOR POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Ammonia (as N)							☐ ML ☐ MDL
Chlorine (total residual, TRC)[2]							☐ ML ☐ MDL
Dissolved oxygen							☐ ML ☐ MDL
Nitrate/nitrite							☐ ML ☐ MDL
Kjeldahl nitrogen							☐ ML ☐ MDL
Oil and grease							☐ ML ☐ MDL
Phosphorus							☐ ML ☐ MDL
Total dissolved solids							☐ ML ☐ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See 40 CFR 122.21(e)(3).

[2] Facilities that do not use chlorine for disinfection, do not use chlorine elsewhere in the treatment process, and have no reasonable potential to discharge chlorine in their effluent are not required to report data for chlorine.

	NPDES Permit Number	Facility Name	Outfall Number

EFFLUENT PARAMETERS FOR POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Metals, Cyanide, and Total Phenols							
Hardness (as $CaCO_3$)							☐ ML ☐ MDL
Antimony, total recoverable							☐ ML ☐ MDL
Arsenic, total recoverable							☐ ML ☐ MDL
Beryllium, total recoverable							☐ ML ☐ MDL
Cadmium, total recoverable							☐ ML ☐ MDL
Chromium, total recoverable							☐ ML ☐ MDL
Copper, total recoverable							☐ ML ☐ MDL
Lead, total recoverable							☐ ML ☐ MDL
Mercury, total recoverable							☐ ML ☐ MDL
Nickel, total recoverable							☐ ML ☐ MDL
Selenium, total recoverable							☐ ML ☐ MDL
Silver, total recoverable							☐ ML ☐ MDL
Thallium, total recoverable							☐ ML ☐ MDL
Zinc, total recoverable							☐ ML ☐ MDL
Cyanide							☐ ML ☐ MDL
Total phenolic compounds							☐ ML ☐ MDL
Volatile Organic Compounds							
Acrolein							☐ ML ☐ MDL
Acrylonitrile							☐ ML ☐ MDL
Benzene							☐ ML ☐ MDL
Bromoform							☐ ML ☐ MDL

	NPDES Permit Number	Facility Name	Outfall Number

EFFLUENT PARAMETERS FOR POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Carbon tetrachloride							☐ ML ☐ MDL
Chlorobenzene							☐ ML ☐ MDL
Chlorodibromomethane							☐ ML ☐ MDL
Chloroethane							☐ ML ☐ MDL
2-chloroethylvinyl ether							☐ ML ☐ MDL
Chloroform							☐ ML ☐ MDL
Dichlorobromomethane							☐ ML ☐ MDL
1,1-dichloroethane							☐ ML ☐ MDL
1,2-dichloroethane							☐ ML ☐ MDL
trans-1,2-dichloroethylene							☐ ML ☐ MDL
1,1-dichloroethylene							☐ ML ☐ MDL
1,2-dichloropropane							☐ ML ☐ MDL
1,3-dichloropropylene							☐ ML ☐ MDL
Ethylbenzene							☐ ML ☐ MDL
Methyl bromide							☐ ML ☐ MDL
Methyl chloride							☐ ML ☐ MDL
Methylene chloride							☐ ML ☐ MDL
1,1,2,2-tetrachloroethane							☐ ML ☐ MDL
Tetrachloroethylene							☐ ML ☐ MDL
Toluene							☐ ML ☐ MDL
1,1,1-trichloroethane							☐ ML ☐ MDL
1,1,2-trichloroethane							☐ ML ☐ MDL

	NPDES Permit Number	Facility Name	Outfall Number

EFFLUENT PARAMETERS FOR POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Trichloroethylene							☐ ML ☐ MDL
Vinyl chloride							☐ ML ☐ MDL
Acid-Extractable Compounds							
p-chloro-m-cresol							☐ ML ☐ MDL
2-chlorophenol							☐ ML ☐ MDL
2,4-dichlorophenol							☐ ML ☐ MDL
2,4-dimethylphenol							☐ ML ☐ MDL
4,6-dinitro-o-cresol							☐ ML ☐ MDL
2,4-dinitrophenol							☐ ML ☐ MDL
2-nitrophenol							☐ ML ☐ MDL
4-nitrophenol							☐ ML ☐ MDL
Pentachlorophenol							☐ ML ☐ MDL
Phenol							☐ ML ☐ MDL
2,4,6-trichlorophenol							☐ ML ☐ MDL
Base-Neutral Compounds							
Acenaphthene							☐ ML ☐ MDL
Acenaphthylene							☐ ML ☐ MDL
Anthracene							☐ ML ☐ MDL
Benzidine							☐ ML ☐ MDL
Benzo(a)anthracene							☐ ML ☐ MDL
Benzo(a)pyrene							☐ ML ☐ MDL
3,4-benzofluoranthene							☐ ML ☐ MDL

	NPDES Permit Number	Facility Name	Outfall Number

EFFLUENT PARAMETERS FOR POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Benzo(ghi)perylene							☐ ML ☐ MDL
Benzo(k)fluoranthene							☐ ML ☐ MDL
Bis (2-chloroethoxy) methane							☐ ML ☐ MDL
Bis (2-chloroethyl) ether							☐ ML ☐ MDL
Bis (2-chloroisopropyl) ether							☐ ML ☐ MDL
Bis (2-ethylhexyl) phthalate							☐ ML ☐ MDL
4-bromophenyl phenyl ether							☐ ML ☐ MDL
Butyl benzyl phthalate							☐ ML ☐ MDL
2-chloronaphthalene							☐ ML ☐ MDL
4-chlorophenyl phenyl ether							☐ ML ☐ MDL
Chrysene							☐ ML ☐ MDL
di-n-butyl phthalate							☐ ML ☐ MDL
di-n-octyl phthalate							☐ ML ☐ MDL
Dibenzo(a,h)anthracene							☐ ML ☐ MDL
1,2-dichlorobenzene							☐ ML ☐ MDL
1,3-dichlorobenzene							☐ ML ☐ MDL
1,4-dichlorobenzene							☐ ML ☐ MDL
3,3-dichlorobenzidine							☐ ML ☐ MDL
Diethyl phthalate							☐ ML ☐ MDL
Dimethyl phthalate							☐ ML ☐ MDL
2,4-dinitrotoluene							☐ ML ☐ MDL
2,6-dinitrotoluene							☐ ML ☐ MDL

	NPDES Permit Number	Facility Name	Outfall Number

EFFLUENT PARAMETERS FOR POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
1,2-diphenylhydrazine							☐ ML ☐ MDL
Fluoranthene							☐ ML ☐ MDL
Fluorene							☐ ML ☐ MDL
Hexachlorobenzene							☐ ML ☐ MDL
Hexachlorobutadiene							☐ ML ☐ MDL
Hexachlorocyclo-pentadiene							☐ ML ☐ MDL
Hexachloroethane							☐ ML ☐ MDL
Indeno(1,2,3-cd)pyrene							☐ ML ☐ MDL
Isophorone							☐ ML ☐ MDL
Naphthalene							☐ ML ☐ MDL
Nitrobenzene							☐ ML ☐ MDL
N-nitrosodi-n-propylamine							☐ ML ☐ MDL
N-nitrosodimethylamine							☐ ML ☐ MDL
N-nitrosodiphenylamine							☐ ML ☐ MDL
Phenanthrene							☐ ML ☐ MDL
Pyrene							☐ ML ☐ MDL
1,2,4-trichlorobenzene							☐ ML ☐ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See 40 CFR 122.21(e)(3).

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY – REGION 1 (EPA)
WATER DIVISION
5 POST OFFICE SQUARE
BOSTON, MASSACHUSETTS 02109

EPA PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO WATERS OF THE UNITED STATES UNDER SECTION 402 OF THE CLEAN WATER ACT (CWA), AS AMENDED.

PUBLIC NOTICE PERIOD: **January 22, 2025 to February 21, 2025**

NAME AND MAILING ADDRESS OF APPLICANT:

City of Brockton
45 School Street
Brockton, MA

NAMES AND MAILING ADDRESSES OF CO-PERMITTEES:

MAC011010	**MAC021010**
Town of Abington Sewer Department 350 Summer Street Abington, MA 02351	Town of Whitman Department of Public Works 100 Essex Street, P.O. Box 454 Whitman, MA 02382

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Brockton Advanced Water Reclamation Facility (AWRF)
303 Oak Hill Way
Brockton, MA

RECEIVING WATER AND CLASSIFICATION:

Salisbury Plain River (Segment MA62-06)
Class B – Warm Water Fishery

PREPARATION OF THE DRAFT PERMIT AND EPA REQUEST FOR CWA § 401 CERTIFICATION:

EPA is issuing for public notice and comment the Draft NPDES Permit for the Brockton AWRF, which discharges treated domestic and industrial wastewater. The Towns of Abington and Whitman are co-Permittees for certain parts of the Permit. Sludge from this facility is hauled to the Naugatuck (CT) Water Pollution Control Facility for incineration. The effluent limits and permit conditions have been drafted pursuant to, and assure compliance with, the CWA, including EPA-approved State Surface Water Quality Standards at 314 CMR 4.00. MassDEP cooperated with EPA in the development of the Draft NPDES Permit. MassDEP retains independent authority under State law to publish for public notice their CWA § 401 certification and a separate state Surface Water Discharge Permit for the discharge, not the subject of this notice, under the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53.

INFORMATION ABOUT THE DRAFT PERMIT:

The Draft Permit and explanatory Fact Sheet may be obtained at no cost at https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits or by contacting:

Meridith Finegan
U.S. Environmental Protection Agency – Region 1
Telephone: (617) 918-1533
Email: finegan.meridith@epa.gov.

Any electronically available documents that are part of the administrative record can be requested from the EPA contact above.

PUBLIC COMMENT AND REQUESTS FOR PUBLIC HEARINGS:

All persons, including applicants, who believe any condition of this Draft Permit is inappropriate must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by **February 21, 2025**, which is the close of the public comment period. Comments, including those pertaining to EPA's request for CWA § 401 certification, should be submitted to the EPA contact at the address or email listed above. Upon the close of the public comment period, EPA will make all comments available to MassDEP. All commenters who want MassDEP to consider their comments in the state decision-making processes (i.e., the separate state permit and the CWA § 401 certification) must submit such comments to MassDEP during the state comment period for the state Draft Permit and CWA § 401 certification. For information on submitting such comments to MassDEP, please follow the instructions found in the state public notice at: https://www.mass.gov/service-details/massdep-public-hearings-comment-opportunities.

Any person, prior to the close of the EPA public comment period, may submit a request in writing to EPA for a public hearing on the Draft Permit under 40 CFR § 124.10. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held if 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.

If comments are submitted in hard copy form, please also email a copy to the EPA contact above.

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 notify the applicant and each person who has submitted written comments or requested notice.

KEN MORAFF, DIRECTOR
WATER DIVISION
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY – REGION 1