AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

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

City of Chicopee, Massachusetts

is authorized to discharge from the facility located at

Chicopee Water Pollution Control Facility (Outfall 010)
80 Medina Street, Chicopee, MA 01013
and from
15 Combined Sewer Overflow ("CSO") Discharge Outfalls

to receiving waters named

Connecticut River (Connecticut River Watershed) (Outfall 010)
and
Connecticut River (7 CSOs), Willimansett Brook (1 CSO) (Connecticut River Watershed), Chicopee River (7 CSOs) (Chicopee River Watershed)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein. This permit shall become effective on the first day of the calendar month immediately following 60 days after signature.[1]

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

This permit supersedes the permit issued on August 15, 2012.

This permit consists of **Part I** with 32 pages, **Attachment A** (Freshwater Acute Toxicity Test Procedure and Protocol, February 2011), **Attachment B** (Combined Sewer Overflow Outfalls), **Attachment C** (Reassessment of Technically Based Industrial Discharge Limits), **Attachment D** (NPDES Permit Requirement for Industrial Pretreatment Annual Report) and **Part II (**NPDES Part II Standard Conditions, April 2018).

Signed this day of

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Ken Moraff, Director
Water Division
U.S. Environmental Protection Agency
Region 1
Boston, MA

[1] Pursuant to 40 Code of Federal Regulations (C.F.R.) § 124.15(b)(3), if no comments requesting a change to the Draft Permit are received, the permit will become effective upon the date of signature. Procedures for appealing EPA's Final Permit decision may be found at 40 C.F.R. § 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 the combined treated effluent through Outfall Serial Number **010** (i.e., secondary treated effluent + bypass effluent) to Connecticut River. The discharge shall be limited and monitored as specified below and shall represent the total flow (Outfall 010 secondary treatment effluent + Internal Outfall BYP bypass effluent). Additionally, the influent, the receiving water, the sludge, and the Internal Outfall BYP bypass effluent discharged to the river (by itself), shall be monitored as specified below (see pages 4-11).

Effluent Characteristic (Outfall 010 + BYP effluent)	**Effluent Limitation**			**Monitoring Requirements[1,2,3]**	
	Average Monthly	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type[4,5,6]**
Rolling Average Effluent Flow[7]	15.5 MGD[7]	---	---	Continuous	Recorder
Effluent Flow[7]	Report MGD	---	Report MGD	Continuous	Recorder
BOD_5	30 mg/L 3878 lb/day	45 mg/L 5817 lb/day	Report mg/L	5/week	Composite
BOD_5 influent	Report mg/L and lb/d	---	Report mg/L	5/week	Composite
TSS	30 mg/L 3878 lb/day	45 mg/L 5817 lb/day	Report mg/L	5/week	Composite
TSS influent	Report mg/L and lb/d	---	Report	5/week	Composite
pH Range[8]	6.0 - 8.3 S.U.			5 days/week	Grab
Total Residual Chlorine[9,10] (after dechlorination)	0.89 mg/L	---	1.0 mg/L	3/day	Grab
Escherichia coli[9,10] (April 1 – October 31) (at end of chlorine contact tank, prior to dechlorination)	126 cfu/100 mL	---	409 cfu/100 mL	1/week	Grab
Total Phosphorus (April 1 – October 31)	Report mg/L	---	Report mg/L	1/month	Composite

Aluminum	87 µg/L	---	Report ug/L	2/month	Composite
Total Ammonia as Nitrogen	Report mg/L Report lb/day	Report mg/L Report lb/day	Report mg/L	1/week	Composite
Total Kjeldahl Nitrogen[11]	Report mg/L	---	Report mg/L	1/week	Composite
Total Nitrate + Nitrite[11]	Report mg/L	---	Report mg/L	1/week	Composite
Total Nitrogen[11,12]	Report mg/L Report lb/day	---	Report mg/L	1/week	Composite
Total Nitrogen Rolling Average	647 lb/day[13]	---	Report mg/L	1/week	Composite
Perfluorohexanesulfonic acid (PFHxS)[14]	---	---	Report ng/L	1/quarter	Composite
Perfluoroheptanoic acid (PFHpA)[14]	---	---	Report ng/L	1/quarter	Composite
Perfluorononanoic acid (PFNA)[14]	---	---	Report ng/L	1/quarter	Composite
Perfluorooctanesulfonic acid (PFOS)[14]	---	---	Report ng/L	1/quarter	Composite
Perfluorooctanoic acid (PFOA)[14]	---	---	Report ng/L	1/quarter	Composite
Perfluorodecanoic acid (PFDA)[14]	---	---	Report ng/L	1/quarter	Composite
Whole Effluent Toxicity ("WET") Testing[16,17]					
LC_{50}	---	---	≥ 100 %	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
Dissolved Organic Carbon	---	---	Report mg/l	1/quarter	Composite
Total Organic Carbon	---	---	Report mg/L	1/quarter	Composite

Influent Characteristic	Reporting Requirements			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4,5,6]
BOD_5	Report mg/L	---	---	2/month	Composite
TSS	Report mg/L	---	---	2/month	Composite
Perfluorohexanesulfonic acid (PFHxS)[14]	---	---	Report ng/L	1/quarter	Composite
Perfluoroheptanoic acid (PFHpA)[14]	---	---	Report ng/L	1/quarter	Composite
Perfluorononanoic acid (PFNA)[14]	---	---	Report ng/L	1/quarter	Composite
Perfluorooctanesulfonic acid (PFOS)[14]	---	---	Report ng/L	1/quarter	Composite
Perfluorooctanoic acid (PFOA)[14]	---	---	Report ng/L	1/quarter	Composite
Perfluorodecanoic acid (PFDA)[14]	---	---	Report ng/L	1/quarter	Composite

Ambient Characteristic[18]	Reporting Requirements			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4,5,6]
Total Phosphorus	See Part I.G.2. Special Conditions				
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
Dissolved Organic Carbon	---	---	Report mg/l	1/quarter	Grab
Total Organic Carbon	---	---	Report mg/L	1/quarter	Grab
pH[19]	---	---	Report S.U.	1/quarter	Grab
Temperature[19]	---	---	Report °C	1/quarter	Grab
Rainfall[20]	Report inches of rainfall/day			Each rain event	Rain Gauge Recorder

Sludge Characteristics	Reporting Requirements			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4,5,6]
Perfluorohexanesulfonic acid (PFHxS)[15]	---	---	Report ng/g	1/quarter	Composite
Perfluoroheptanoic acid (PFHpA)[15]	---	---	Report ng/g	1/quarter	Composite
Perfluorononanoic acid (PFNA)[15]	---	---	Report ng/g	1/quarter	Composite
Perfluorooctanesulfonic acid (PFOS)[15]	---	---	Report ng/g	1/quarter	Composite
Perfluorooctanoic acid (PFOA)[15]	---	---	Report ng/g	1/quarter	Composite
Perfluorodecanoic acid (PFDA)[15]	---	---	Report ng/g	1/quarter	Composite

Parameter (Internal Outfall BYP Bypass Flow)	**Monitoring Requirements[1,2,3]**			
	Average Monthly	**Maximum Daily**	**Measurement Frequency**	**Sample Type[4,5,6]**
Total Residual Chlorine (at end of chlorine contact tank, prior to dechlorination)	Report mg/l	Report mg/l	1/event bypass flow	Grab
Escherichia coli[9,10] (April 1 – October 31) (at end of chlorine contact tank, prior to dechlorination)	126 cfu/100 mL	409 cfu/100 mL	1/week bypass flow	Grab
BOD_5	Report mg/l	Report mg/l	1/week bypass flow	Grab
TSS	Report mg/l	Report mg/l	1/week bypass flow	Grab
pH Range[8]	6.0 - 8.3 S.U.		5 days/week	Grab
Effluent Total Flow[7] (from bypass facility to River)	Report Gallons		Daily, when discharging	Continuous Recorder
Effluent Total Flow[7] (from bypass facility drained back to secondary treatment)	Report Gallons		Daily, when discharging	Continuous Recorder
Maximum Hourly Flow[7]	Report Gallons/Minute		Daily, when discharging	Continuous Recorder
Total Flow Duration[7] (Duration of flow to River)	Report Hours		Daily, when discharging	Continuous Recorder
Total Flow Duration[7] (Duration of flow from the bypass facility drained back to secondary treatment)	Report Hours		Daily, when discharging	Continuous Recorder
Number of Bypass Events[7]	Report Monthly Count		Daily, when discharging	Count
Note: Flow drained from the Jones Ferry CSO disinfection facility to the WPCF's secondary treatment may only occur when the Water Pollution Control Facility ("WPCF") flows are below 25 million gallons per day ("MGD").				

Footnotes:

1. All sampling shall be representative of the effluent that is discharged through outfall 010 and internal outfall BYP to the Connecticut River. Effluent samples shall yield data representative of the discharge. 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. The Permittee shall report the results to the Environmental Protection Agency Region 1 ("EPA") and the State of any additional testing above that required herein, if testing is in accordance with 40 C.F.R. Part 136.

   A bypass of secondary treatment is subject to the requirements of Part II.B.4.c. and Part II.D.1.e. of this permit.

   The permittee shall not discharge septage during any calendar day in which a bypass of secondary treatment is occurring.

2. In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 or required under 40 C.F.R. 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 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O for the measured pollutant or pollutant parameter. 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"), whichever is higher. Minimum levels may be obtained in several 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. For each day that there is a discharge from internal outfall BYP, 24-hour samples will consist of hourly grab samples taken from internal outfall BYP for the duration of the discharge, either collected at equal intervals and combined proportional to flow or continuously collected proportionally to flow, and combined proportional to flow with the 24-hour composite sample from outfall 010. The first sample shall be taken within the first hour of the discharge of bypass flow from internal outfall BYP.

6. If internal outfall BYP is not active, a grab sample shall consist of a single grab sample taken from outfall 010 in accordance with the routine sampling program.

7. The limit is a rolling annual average of the combined flow limit for outfalls 010 and BYP, which will be calculated as the arithmetic mean of the average monthly flow for the reporting monthly and the average monthly flows of the previous eleven months.

$$\text{Average Monthly Flow (MGD)} = \frac{\text{Total Monthly Flow 010 + BYP (MG)}}{\text{Days in the month}}$$

   The monthly average and maximum daily combined flows for each month shall also be reported.

   For each month that internal outfall BYP is activated, the flow volume and duration for each event and the number of bypass events each month for the BYP bypass flow shall be reported on the permittee's monthly DMR.

8. 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.).

   For pH Study option, see Part I.G.4. Special Conditions

9. The Permittee shall minimize the use of chlorine while maintaining adequate bacterial control. Monitoring for total residual chlorine ("TRC") is only required for discharges which have been previously chlorinated or which contain residual chlorine. For the purposes of this permit, TRC analysis must be completed using a test method in 40 C.F.R. Part 136 that achieves a minimum level no greater than 20 µg/L.

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.

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

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

    (total nitrogen = total kjeldahl nitrogen + total nitrate nitrogen + total nitrite nitrogen)

    The total nitrogen loading values reported each month shall be calculated as follows:

    Total Nitrogen (lbs/day) = [(average monthly total nitrogen concentration (mg/l) * total monthly effluent flow (Millions of Gallons ("MG")) / # of days in the month] *8.345

12. See Part I.G.1. Special Conditions

13. The total nitrogen limit is an annual average mass-based limit (lb/day), which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average total nitrogen for the reporting month and the monthly average total nitrogen of the previous eleven months.

    Report both the rolling annual average and the monthly average each month.

14. Report in nanograms per liter (ng/L). This reporting requirement for the listed PFAS parameters takes effect the first full calendar quarter beginning 6 months after EPA notifies the permittee that an EPA multi-lab validated method for wastewater is available.

15. Report in nanograms per liter (ng/L). This reporting requirement for the listed PFAS parameters takes effect the first full calendar quarter beginning 6 months after EPA notifies the permittee that an EPA multi-lab validated method for biosolids is available.

16. The Permittee shall conduct acute toxicity tests ("LC_{50}") in accordance with test procedures and protocols specified in **Attachment A** of this permit. LC_{50} is defined in Part II.E. of this permit. The Permittee shall conduct the LC_{50} test quarterly using the fathead minnow ("*Pimephales promelas").* Toxicity test samples shall be collected and tests completed during the same weeks each time of calendar quarters ending February 28th, May 31st, August 31th, and November 30st ("LC_{50}"). The complete report for each toxicity test shall be submitted as an attachment to the monthly DMR submittal immediately following the completion of the test.

    See Part I.G.3. Special Conditions

17. For Part I.A.1., Whole Effluent Toxicity Testing, the Permittee shall conduct the analyses specified in **Attachment A**, 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**, Section IV., DILUTION WATER. Minimum levels and test methods are specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS.

18. For Part I.A.1., Ambient Characteristic, the Permittee shall conduct the analyses specified in **Attachment A**, 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**. Minimum levels and test methods are specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS.

19. 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.

20. The permittee shall report a "9" code on its DMR to report each day that is absent of rainfall.

Part I.A. continued.

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

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

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

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

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

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

8. The Permittee must provide adequate notice to EPA-Region 1 and the State of the following:

    a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Part 301 or Part 306 of the Clean Water Act if it were directly discharging those pollutants or in a primary industry category (see 40 C.F.R. Part 122 Appendix A as amended) discharging process water; and

    b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

    c. For purposes of this paragraph, adequate notice shall include information on:

        (1) The quantity and quality of effluent introduced into the POTW; and

        (2) Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

9. Pollutants introduced into the POTW by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.

B. UNAUTHORIZED DISCHARGES

1. This permit authorizes discharges only from the outfalls listed in Part I.A.1 (secondary treatment effluent outfall 010 and bypass effluent internal outfall BYP), and the fifteen (15) combined sewer overflow outfalls ("CSOs") of this permit 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 in accordance with Part II.D.1.e.(1) (24-hour reporting). See Part J. below for reporting requirements.

2. Starting December 21, 2020, the Permittee must provide notification to the public within 24 hours of becoming aware of any unauthorized discharge on a publicly available website and shall remain on the website for a minimum of 12 months. Such notification shall include the location and description of the discharge, estimated volume, start date and time, expected duration, whether the discharge is ongoing including exact dates and times, the anticipated time it is expected to continue (i.e., if the noncompliance has not been corrected), and all public notifications must be communicated in English and Spanish.

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 SEWER SYSTEM

Operation and maintenance ("O&M") of the sewer system shall be in compliance with the Standard Conditions of Part II and the following terms and conditions. The Permittee shall complete the following activities for the collection system which it owns:

1. Maintenance Staff

   The Permittee 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 Collection System O&M Plan required pursuant to Part I.C.5. below.

2. Preventive Maintenance Program

   The Permittee 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 Collection System O&M Plan required pursuant to Part I.C.5. below.

3. Infiltration/Inflow

   The Permittee 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 Collection System O&M Plan required pursuant to Part I.C.5. below.

4. Collection System Mapping

   Within 30 months of the effective date of this permit, the Permittee shall prepare a map of the sewer collection system it owns. The map shall be on a street map of the community, with sufficient detail and at a scale to allow easy interpretation. The collection 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. Such map(s) shall include, but not be limited to the following:

   a. All sanitary sewer lines and related manholes;
   b. All combined sewer lines, related manholes, and catch basins;
   c. All combined sewer regulators and any known or suspected connections between the sanitary sewer and storm drain systems (e.g. combination manholes);
   d. All outfalls, including the treatment plant outfall(s), CSOs, and any known or suspected SSOs, including stormwater outfalls that are connected to combination manholes;
   e. All pump stations and force mains;
   f. The wastewater treatment facility(ies);
   g. All surface waters (labeled);
   h. Other major appurtenances such as inverted siphons and air release valves;
   i. A numbering system which uniquely identifies manholes, catch basins, overflow points, regulators and outfalls;
   j. The scale and a north arrow; and
   k. The pipe diameter, date of installation, type of material, distance between manholes, and the direction of flow.

5. Collection System O&M Plan

   The Permittee shall develop and implement a Collection System O&M Plan.

   a. Within six (6) months of the effective date of the permit, the Permittee shall submit to EPA and the State

      (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; and
      (3) A schedule for the development and implementation of the full Collection System O&M Plan including the elements in paragraphs b.1. through b.8. below.

   b. The full Collection System O&M Plan shall be completed, implemented and submitted to EPA and the State within twenty-four (24) months from the effective date of this permit. The Plan shall include:

(1) The required submittal from paragraph 5.a. above, updated to reflect current information;
(2) A preventive maintenance and monitoring program for the collection system;
(3) Description of sufficient staffing necessary to properly operate and maintain the sanitary sewer collection system and how the operation and maintenance program is staffed;
(4) Description of funding, the source(s) of funding and provisions for funding sufficient for implementing the plan;
(5) 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;
(6) 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;
(7) An educational public outreach program for all aspects of I/I control, particularly private inflow; and
(8) An Overflow Emergency Response Plan to protect public health from overflows and unanticipated bypasses or upsets that exceed any effluent limitation in the permit.

6. Annual Reporting Requirement

The Permittee shall submit a summary report of activities related to the implementation of its Collection System O&M Plan during the previous calendar year. The report shall be submitted to EPA and the State annually by March 31st. The first annual report is due the first March 31st following submittal of the collection system O&M Plan required by Part I.C.5.b. of this permit. 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;

c. Expenditures for any collection system maintenance activities and corrective actions taken during the previous year;

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; and

f. If the average annual flow in the previous calendar year exceeded 80 percent of the facility's 15.5 MGD design flow (12.4 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.

D. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the Permittee 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. 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 this permit, the Permittee shall prepare and submit a written technical evaluation to the 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).

2. The Permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the Permittee's approved Pretreatment Program, and the General Pretreatment Regulations, 40 C.F.R. Part 403. At a minimum, the Permittee must perform the following duties to properly implement the Industrial Pretreatment Program ("IPP"):

a. Carry out inspection, surveillance, and monitoring procedures 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.

b. Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.

c. Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement.

d. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.

3. The Permittee shall provide the EPA and the State 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 403.12(i). The annual report shall be consistent with the format described in **Attachment D** (NPDES Permit Requirement for Industrial Pretreatment Annual Report) of this permit and shall be submitted no later than **March 1** of each year.

4. The Permittee must obtain approval from EPA prior to making any significant changes to the industrial pretreatment program in accordance with 40 C.F.R. 403.18(c).

5. The Permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the Federal Regulations at 40 C.F.R. Part 405 et seq.

6. The Permittee must modify its pretreatment program, if necessary, to conform to all changes in the Federal Regulations that pertain to the implementation and enforcement of the industrial pretreatment program. The Permittee must provide EPA, in writing, within 180 days of this permit's effective date proposed changes, if applicable, to the Permittee's pretreatment program deemed necessary to assure conformity with current Federal Regulations. At a minimum, the Permittee must address in its written submission the following areas: (1) Enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The Permittee will implement these proposed changes pending EPA Region I's approval under 40 C.F.R. § 403.18. This submission is separate and distinct from any local limits analysis submission described in Part I.E.1.

7. Beginning the first full calendar quarter following 6 months after EPA has notified the Permittee that a multi-lab validated method for wastewater is available, the Permittee shall commence annual sampling of the following types of industrial discharges into the POTW:

- Platers/Metal Finishers
- Paper and Packaging Manufacturers
- Tanneries and Leather/Fabric/Carpet Treaters
- Manufacturers of Parts with Polytetrafluroethlylene (PTFE) or teflon type coatings (i.e. bearings)
- Landfill Leachate
- Centralized Waste Treaters
- Contaminated Sites
- Fire Fighting Training Facilities
- Airports
- Any Other Known or Expected Sources

Sampling shall be for the following PFAS chemicals:

Industrial User Effluent Characteristic	Maximum Daily	Monitoring Requirements	
		Frequency	Sample Type
Perfluorohexanesulfonic acid (PFHxS)	Report ng/L	1/year	Composite
Perfluoroheptanoic acid (PFHpA)	Report ng/L	1/year	Composite
Perfluorononanoic acid (PFNA)	Report ng/L	1/year	Composite
Perfluorooctanesulfonic acid (PFOS)	Report ng/L	1/year	Composite
Perfluorooctanoic acid (PFOA)	Report ng/L	1/year	Composite
Perfluorodecanoic (PFDA)	Report ng/L	1/year	Composite

The Industrial discharges sampled, and the sampling results shall be summarized and included in the annual report (see Part I.E.3).

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 C.F.R. Part 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 C.F.R. 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 C.F.R. Part 503 do not apply to facilities which dispose of sludge in a municipal solid waste landfill. 40 C.F.R. § 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 C.F.R. § 503.6.

5. The 40 C.F.R. Part 503 requirements include the following elements:

    - General requirements
    - Pollutant limitations
    - Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
    - Management practices
    - Record keeping
    - Monitoring
    - Reporting

    Which of the 40 C.F.R. 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. The EPA Region 1 Guidance document, "EPA Region 1 - NPDES Permit Sludge Compliance Guidance" (November 4, 1999), may be used by the Permittee to assist it in determining the applicable requirements.[2]

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 C.F.R. § 503.8.

7. Under 40 C.F.R. § 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 C.F.R. § 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 the contractor engaged for that purpose. If the Permittee does not engage a "person who prepares sewage sludge," as defined in 40 C.F.R. § 503.9(r), for use or disposal, then the Permittee remains responsible to ensure that the applicable requirements in Part 503

[2] This guidance document is available upon request from EPA Region 1 and may also be found at: http://www.epa.gov/region1/npdes/permits/generic/sludgeguidance.pdf

are met. 40 C.F.R. § 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 C.F.R. § 503 Subpart B.

8. The Permittee shall submit an annual report containing the information specified in the 40 C.F.R. Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (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 ("NeT") (see "Reporting Requirements" section below).

G. SPECIAL CONDITIONS

1. Total Nitrogen

   a. Within one year of the effective date of the permit, the permittee shall complete an evaluation of alternative methods of operating the existing wastewater treatment facility to optimize the removal of nitrogen in order to minimize the annual average mass discharge of total nitrogen, and submit a report to EPA and MassDEP documenting this evaluation and presenting a description of recommended operational changes. The permittee shall implement the recommended operational changes in order to minimize the discharge loading of nitrogen. The methods to be evaluated include, but are not limited to, operational changes designed to enhance nitrification (seasonal and year-round), incorporation of anoxic zones, septage receiving policies and procedures, and side stream management. This report may be combined with the permittees' annual nitrogen report under Part I.B.1.b, if both reports are submitted to EPA and MassDEP by February 1st.

   b. The permittee shall also submit an annual report to EPA and the MassDEP, by February 1 each year, that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous year. If, in any year, the treatment facility discharges of TN on an average annual basis have increased, the annual report shall include a detailed explanation of the reasons why TN discharges have increased, including any changes in influent flows/loads and any operational changes. The report shall also include all supporting data.

2. Total Phosphorus Ambient Monitoring

   The Permittee shall develop and implement a sampling and analysis plan for biannually collecting monthly samples from the Connecticut River at a location upstream of the facility. Samples shall be collected during even numbered years, once per month, from April through October, during dry weather. Dry weather is defined as any calendar day that is preceded by at least 72 hours without rainfall, following the last rainfall of 0.1 inch of rainfall or greater. The sampling plan shall be submitted to EPA and DEP as part of a Quality Assurance Project Plan for review and approval at least three months prior to the

first planned sampling date. The ambient monitoring results shall be submitted as an attachment to the January DMR of the same year.

3. Toxicity Reduction Evaluation/Toxicity Identification Evaluation ("TRE/TIE")

The Permittee shall initiate a retest of any quarterly WET test when there is an excursion of an acute permit limit within one week of receiving the results of the quarterly WET test. The Permittee shall notify EPA and the MassDEP that a WET retest is being initiated. If the retest fails, the Permittee shall identify and take steps to mitigate the source of toxicity within 30 days. A second retest shall be conducted within 30 days after receiving the results of the first retest. If the second retest fails or if the Permittee does not identify the source of the toxicity of the previous two WET tests, the Permittee shall prepare a Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE) in accordance with the EPA Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (August 1999)[3].

The TRE/TIE goal is to reduce or eliminate toxicity to consistently achieve the LC50 WET limit in this permit. EPA may use the monitoring results of the toxicity tests or the results of the TRE/TIE to develop numerical effluent limitations for any pollutants in the future, as necessary.

The Permittee shall notify EPA and MassDEP that a WET retest is being initiated by calling:

EPA's ECAD at 617-918-1510
and
MassDEP's Emergency Response at 888-304-1133

The permittee shall submit its TRE/TE Report(s) to EPA and MassDEP **within 30 days** following completion of the Report, to the following addresses:

EPA WD electronically at R1NPDESReporting@epa.gov

and

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

3 EPA's Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, August 1999. EPA Document Number: EPA/833B-99/002.

4. pH Study

   In order to continue the pH limit of 6.0-8.3 in future permits, within 3 years of the effective date of the permit, the Permittee shall conduct a study to demonstrate that the pH in the receiving water does not exceed the range of 6.5-8.3. At least 6 months prior to beginning to conduct the study, the Permittee shall contact Jennifer Wood (jennifer.wood@mass.gov) at MassDEP for guidance on completing the study. The completed pH study shall be submitted in accordance with Part I.J.2. and Part I.J.6.

H. COMBINED SEWER OVERFLOWS ("CSO")

Effluent Limitations

1. During wet weather (including snowmelt), the Permittee is authorized to discharge storm water/wastewater from the following CSO outfalls: 003, 004, 005, 007, 008, 009, 024, 026, 027, 32B, 32A, 034, 037, 040 and 042 (See Attachment B of this Permit).

2. The effluent discharged from these CSOs is subject to the following limitations:

   a. The discharges shall receive treatment at a level providing Best Practicable Control Technology Currently Available ("BPT"), Best Conventional Pollutant Control Technology ("BCT") to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants. The EPA has made a Best Professional Judgment ("BPJ") determination that BPT, BCT, and BAT for combined sewer overflow ("CSO") control includes the implementation of Nine Minimum Controls ("NMC") specified below. These Nine Minimum Controls and the Nine Minimum Controls Minimum Implementation Levels which are detailed further in Part I.H.3. are requirements of this permit.

      (1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows;

      (2) Maximum use of the collection system for storage;

      (3) Review and modification of the pretreatment program to assure CSO impacts are minimized;

      (4) Maximization of flow to the POTW for treatment;

      (5) Prohibition of dry weather overflows from CSOs;

      (6) Control of solid and floatable materials in CSOs;

      (7) Pollution prevention programs that focus on contaminant reduction activities;

(8) Public notification to ensure that the public receives adequate notification of CSO occurrences and impacts;

(9) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

b. The discharges shall not cause or contribute to violations of federal or state Water Quality Standards.

3. Nine Minimum Controls Minimum Implementation Levels

a. The Permittee must implement the nine minimum controls in accordance with the documentation provided to EPA and MassDEP or as subsequently modified to enhance the effectiveness of the controls. This implementation must include the controls identified in Part I.H.3.b-g of this permit plus other controls the Permittee can reasonably undertake as set forth in the documentation.

b. Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to ensure that they are in good working condition and adjusted to minimize combined sewer discharges (NMC # 1, 2 and 4). The following inspection results shall be recorded: the date and time of inspection, the general condition of the facility, and whether the facility is operating satisfactorily. If maintenance is necessary, the Permittee shall record: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The Permittee shall maintain all records of inspections for at least three years.

c. **Annually, no later than March 31st,** the Permittee shall submit a certification to MassDEP and EPA which states that the previous calendar year's monthly inspections were conducted, results recorded, and records maintained. MassDEP and EPA have the right to inspect any CSO related structure or outfall at any time without prior notification to the Permittee. Discharges to the combined system of septage, holding tank wastes, or other material which may cause a visible oil sheen or containing floatable material are prohibited during wet weather when CSO discharges may be active (NMC # 3, 6, and 7).

d. Dry weather overflows ("DWOs") are prohibited (NMC # 5). All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and MassDEP orally within 24 hours of the time the Permittee becomes aware of the circumstances and a written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. See also Paragraph D.1.e. of Part II of this permit.

e. The Permittee shall quantify and record all discharges from combined sewer outfalls (NMC # 9). Quantification shall be through direct measurement. The following information must be recorded for each combined sewer outfall for each discharge event, as set forth in Part I.H.4.:

- Duration (hours) of discharge;
- Volume (gallons) of discharge;
- National Weather Service precipitation data from the nearest gage where precipitation is available at daily (24-hour) intervals and the nearest gage where precipitation is available at one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

The Permittee shall maintain all records of discharges for at least six years after the effective date of this permit.

f. The Permittee shall install and maintain identification signs for all combined sewer outfall structures (NMC # 8). The signs must be located at or near the combined sewer outfall structures and easily readable by the public from the land and water. These signs shall be a minimum of 12 x 18 inches in size, with white lettering against a green background, and shall contain the following information:

CITY OF CHICOPEE
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

The permittee shall place signs in English, and in Spanish or include a universal wet weather sewage discharge symbol.

Where there are easements over property not owned by the Permittee that must be obtained to meet this requirement, the Permittee shall identify the appropriate landowners and obtain the necessary easements, to the extent practicable.

g. Public Notification Plan

(1) Within 180 days of the effective date of the permit, the Permittee shall submit to EPA and MassDEP a Public Notification Plan describing the measures that will be taken to meet NMC#8 in Part I.H.2 of this permit (NMC #8). The public notification plan shall include the means for disseminating information to the public, including communicating the initial and supplemental notifications required in Part I.H.3.g.(2) and (3) of this permit, as well as procedures for communicating with public health departments, including downstream communities, whose waters may be affected by discharges from the Permittee's CSOs.

(2) Initial notification of a probable CSO activation shall be provided to the public as soon as practicable, but no later than, two (2) hours after becoming aware by monitoring, modeling or other means that a CSO discharge has occurred. In addition to posting this notification to a website, this information may also be communicated using other electronic means. The initial notification shall include the following information:

- Date and time of probable CSO discharge
- CSO number and location

(3) Supplemental notification shall be provided to the public as soon as practicable, but no later than, twenty-four (24) hours after becoming aware of the termination of any CSO discharge(s). In addition to posting this notification to a website, this information may also be communicated using other electronic means. The supplemental notification shall include the following information:

- CSO number and location
- Confirmation of CSO discharge
- Date, start time and stop time of the CSO discharge

(4) Annual notification - **Annually, by March 31st**, the Permittee shall post information on the locations of CSOs, a summary of CSO activations and volumes, status and progress of CSO abatement work, the impacts of CSOs on water quality of the receiving water, and contacts for additional information on CSOs.

(5) The initial, supplemental, and annual public notification requirements shall become effective 180 days following the effective date of the Permit.

(6) The Public Notification Plan shall be implemented no later than 24 months following the effective date of the Permit.

(7) All notifications to the Public will be communicated in English and Spanish.

4. Nine Minimum Controls Reporting Requirement

Annually, no later than March 31st, the Permittee shall submit a report summarizing activities during the previous calendar year relating to compliance with the nine minimum controls. The annual report shall include the CSO outfall monitoring data required by Part I.H.5. of this permit.

5. Combined Sewer Overflow Outfall Monitoring

For each combined sewer overflow outfall listed in Part I.H.1 of this permit, the Permittee must monitor the following:

Parameters	**Reporting Requirements**	**Monitoring Requirements**	
	Total Monthly	**Measurement Frequency**	**Sample Type**
Total Flow	Report Gallons	Daily, when discharging	Continuous
Total Flow Duration (Duration of flow through CSO)	Report Hours	Daily, when discharging	Continuous

Number of CSO Discharge Events	Report Monthly Count	Daily, when discharging	Count

a. For Total Flow, measure the total flow discharged from each CSO outfall during the month. For Total Flow Duration, report the total duration (hours) of discharges for each CSO outfall during the month.

b. For those months when a CSO discharge does not occur, the Permittee must indicate "no discharge" for the outfall for which data was not collected.

c. This information shall be submitted with the annual report required by Part I.H.4. of this permit.

6. Combined Sewer Overflow Outfall Limitations and Monitoring for the Jones Ferry CSO Treatment Facility (Outfall 007)

In addition to the requirements for all CSOs listed above, during the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge treated effluent from the **Jones Ferry CSO** Treatment Facility through Outfall Serial Number 007 to Connecticut River and the discharge shall be limited and monitored as specified below. The receiving water and the influent shall also be monitored as specified below.

Effluent Characteristic (Outfall 007)	**Monitoring Requirements[1,2,3]**			
	Average Monthly[4]	**Maximum Daily**	**Measurement Frequency**	**Sample Type[5]**
Escherichia coli[1,2,4]	126 cfu/100 mL	409 cfu/100 mL	1 event/month, hourly	Grab
Total Residual Chlorine[3,4]	0.89 mg/L	1.0 mg/L	1 event/month, hourly	Grab
pH Range	Report Maximum and Minimum, S.U.		1/month	Grab
BOD_5[6]	Report mg/L and lb/day	Report mg/L and lb/day	2/year	Event Composite[5]
TSS[6]	Report mg/L and lb/day	Report mg/L and lb/day	2/year	Event Composite[5]
Total Kjeldahl Nitrogen[7]	Report mg/L Report lb/day	---	2/year	Event Composite[5]
Nitrate[7]	Report mg/L Report lb/day	---	2/year	Event Composite[5]
Nitrite[7]	Report mg/L Report lb/day	---	2/year	Event Composite[5]
Ammonia as Nitrogen[7]	Report mg/L Report lb/day	---	2/year	Event Composite[5]

Effluent Characteristic (Outfall 007)	Monitoring Requirements[1,2,3]			
	Average Monthly[4]	**Maximum Daily**	**Measurement Frequency**	**Sample Type[5]**
Total Nitrogen[7]	Report mg/L Report lb/day	---	2/year	Event Composite[5]
Whole Effluent Toxicity ("WET") Testing[8,9]				
LC_{50}	≥ 100 %		2/year	Event Composite[5]
Hardness	---	Report mg/L	2/year	Event Composite[5]
Ammonia Nitrogen	---	Report mg/L	2/year	Event Composite[5]
Total Aluminum	---	Report mg/L	2/year	Event Composite[5]
Total Cadmium	---	Report mg/L	2/year	Event Composite[5]
Total Copper	---	Report mg/L	2/year	Event Composite[5]
Total Nickel	---	Report mg/L	2/year	Event Composite[5]
Total Lead	---	Report mg/L	2/year	Event Composite[5]
Total Zinc	---	Report mg/L	2/year	Event Composite[5]
Dissolved Organic Carbon	---	Report mg/l	2/year	Event Composite[5]

Parameter	Total Monthly	Maximum Hourly	Duration	Frequency	Measurement Frequency	Sample Type
Flow (Treated Flow from Facility)[9]	Report MG	Report MGD	Report total hours	Report number of events	Every Event	Continuous
Flow (Untreated Flow to River)[9]	Report MG	Report MGD	Report total hours	Report number of events	Every Event	Continuous
Flow (Drained back to WPCF)[9,10]	Report MG	---	---	Report number of events	Every Event	Continuous

Ambient Characteristic[11]	Reporting Requirements			Monitoring Requirements[1,2,3]	
	Average Monthly	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type[4,5,6]**
Total Phosphorus	See Part I.G.2. Special Conditions				
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
Dissolved Organic Carbon	---	---	Report mg/l	1/quarter	Grab
Total Organic Carbon	---	---	Report mg/L	1/quarter	Grab
pH[12]	---	---	Report S.U.	1/quarter	Grab
Temperature[12]	---	---	Report °C	1/quarter	Grab

Footnotes:

1. The *E.coli* effluent limits apply for flows up to a maximum hourly flow rate of 35.2 MGD. Samples collected when flow exceeds 35.2 MGD shall not be used to calculate compliance with the effluent limitations. During high flow conditions, at least one grab sample/month is to be collected and analyzed for monitoring purposes only. This distinction is made because, while the facility is required to meet *E.coli* limits for flows up to a 35.2 MGD flow rate (the estimated peak CSO flow rate from CSO diversion structure 7.1 during a 3-month design flow), it is equipped to pump flow at rates greater than 35.2 MGD to allow disinfection of larger storms. The permittee is required to operate the treatment facility at flow rates greater than 35.2 MGD to the extent practicable.

2. Hourly sampling for *E.coli* will be performed for a four-hour duration. If the event lasts longer than four (4) hours, no further sampling is required. If hourly sampling is started and the event does not last at least four hours, another event during that month will be used for the hourly testing.

3. Hourly sampling for total residual chlorine will be performed for a four-hour duration. If the event lasts longer than four (4) hours, no further sampling is required. If hourly sampling is started and the event does not last at least four hours, another event during that month will be used for the hourly testing.

4. The *E.coli* monitoring shall be conducted concurrently with total residual chlorine monitoring.

5. Event composite must represent an event duration of at least four hours. An event composite is considered to represent an event duration of at least four hours where (i) the composite represents at least four consecutive hours of flow through the facility; or (ii) the composite represents at least four hours of flow during a 24 hour period starting at approximately 8:00 am each day (+/- 2 hours) coinciding with the permittee's composite sampling schedule, if flow through the facility is discontinuous.

6. The permittee shall conduct sampling two times per year in April and September. If the weather does not permit collection of a four hour composite in these months, the tests may be delayed to the first available event of four hour or more duration.

7. The permittee shall conduct sampling two times per year in April and September. If the weather does not permit collection of a four hour composite in these months, the tests may be delayed to the first available event of four hour or more duration.

The total Kjeldahl nitrogen, nitrite, nitrate and ammonia samples shall be collected concurrently. The results of the total Kjeldahl nitrogen, nitrite, and nitrate analyses may be used to determine the concentration and mass loading of total nitrogen. The permittee shall report the monitoring results for each species of nitrogen as well as total nitrogen.

8. The permittee shall conduct acute toxicity tests two times per year in May and November. If the weather does not permit collection of a four hour composite in these months, the tests may be delayed to the first available event of four hour or more duration. The permittee shall test the fathead minnow ("*Pimephales promelas")* only. The tests must be performed in accordance with test procedures and protocols specified in Attachment A of this permit.

9. Permittee shall also submit monthly operating reports for the Jones Ferry CSO Treatment Facility (Outfall 007). The monthly operating reports shall contain:

   (i) Total precipitation for each day (whether or not there was flow through facility);
   (ii) Dates on which flow through facility occurred;
   (iii) Duration of flow through facility;
   (iv) Treated flow from facility;
   (v) Untreated flow to river;
   (vi) Flow drained back to WPCF;
   (vii) Monitoring results for each event.

10. Flow drained from facility back to collection system to WPCF shall occur only when WPCF flows are below 25 MGD. The permittee shall report "9" on its DMR when flow is absent.

11. For Part I.A.1., Ambient Characteristic, the Permittee shall conduct the analyses specified in Attachment A, 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. Minimum levels and test methods are specified in Attachment A, Part VI. CHEMICAL ANALYSIS.

12. 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.

I. 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 no later than the 15th day of the month electronically using NetDMR. When the Permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA or the State. NetDMR is 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 shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies.

3. Submittal of Industrial User and Pretreatment Related Reports

   a. All reports and information required of the Permittee in the Industrial Users and Pretreatment Program section of this permit shall be submitted to the Pretreatment Coordinator in Region 1 EPA Water Division ("WD"). Starting on 21 December 2025, 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/. These requests, reports and notices include:

      (1) Annual Pretreatment Reports,
      (2) Pretreatment Reports Reassessment of Technically Based Industrial Discharge Limits Form,
      (3) Revisions to Industrial Discharge Limits,
      (4) Report describing Pretreatment Program activities, and
      (5) Proposed changes to a Pretreatment Program

   b. This information shall be submitted to EPA WD as a hard copy at the following address:

U.S. Environmental Protection Agency
Water Division
Regional Pretreatment Coordinator
5 Post Office Square - Suite 100 (06-03)
Boston, MA 02109-3912

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 ("NeT"), or another approved EPA system, 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) Request for change in WET testing requirement; and
      (5) 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 Reports to EPA ECAD in Hard Copy Form

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

      (1) Written notifications required under Part II.B.4.c, for bypasses, and Part II.D.1.e, for sanitary sewer overflows ("SSOs"). Starting on 21 December 2025, such notifications must be done electronically 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/.

   b. This information shall be submitted to EPA Enforcement and Compliance Assurance ("ECAD") at the following address:

      U.S. Environmental Protection Agency
      Enforcement and Compliance Assurance Division
      Water Compliance Section
      5 Post Office Square, Suite 100 (04-SMR)
      Boston, MA 02109-3912

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's ECAD at 617-918-1510
   and
   MassDEP's Emergency Response at 888-304-1133

J. STATE 401 CERTIFICATION CONDITIONS

1. 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 appropriate State water quality certification requirements (if any) into the Final Permit.

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:

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

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

III. SAMPLE COLLECTION

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

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

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

IV. DILUTION WATER

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

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

Director
Water Division (WD)
U.S. Environmental Protection Agency-New England
5 Post Office Sq., Suite 100 (Mail Code: WD)
Boston, MA 02109-3912

and

Manager
Enforcement & Compliance Assurance Division (ECAD)
U.S. Environmental Protection Agency
5 Post Office Sq., Suite 100 (Mail Code: ECAD))
Boston, MA 02109-3912

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

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

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

V. TEST CONDITIONS

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

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

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

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

Footnotes:

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

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

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

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

Footnotes:

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

VI. CHEMICAL ANALYSIS

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

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

Notes:

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

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

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

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

No Observed Acute Effect Level (NOAEL)

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

VIII. TOXICITY TEST REPORTING

A report of the results will include the following:

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

Attachment B
City of Chicopee, MA
NPDES Permit No. MA0101508

Receiving Water	CSO Diversion Structure	Location	CSO Outfall Number	Outfall Location
Connecticut River	3	Power Line ROW S of James St	003	Power Line ROW of James St
	4	Riverview Pumping Station	004	Riverview Pumping Station
	5	Leslie St Pumping Station	005	Leslie Street Pumping Station
	7.1	Jones Ferry Rd Pumping Station	007	Jones Ferry Road
	7.2	Jones Ferry Rd Pumping Station		
	8	Easement S of Jones Ferry Rd P.S.	008	South of Jones Ferry Road
	9	Paderewski St Pumping Station	009	Paderewski Street
	24.4	Exchange St and Depot St	024	Exchange Street
	24.5	Front and Depot St Area		
Chicopee River	26.1	Bell St and Front St	026	Bell and Front Streets
	27.1	Parking Lot, Topors Garage, Front St	027	West End of Riverview Terrace
	27.2	West End of Riverview Terrace		
	32.3	Broadway and Belcher St	32B	Main Street West of Deadly Memorial Bridge
	32.4	Maple St and Belcher St		
	32.5	Church St and Walnut St	32A	West Main and Oak Streets
	34.1	Grattan St and Hearthstone Terrace	034	Grattan St and Hearthstone
	37	East Main St #227	037	227 East Main Street
	40	Chicopee St, manhole #11	040	Chicopee Street near Route 116 Bridge
Willimansett Brook	42	Robert's Pond	042	Robert's Pond

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	Limitations (ug/l)

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.

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

TABLE OF CONTENTS

[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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BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

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

NPDES PERMIT NUMBER: MA0101508

PUBLIC NOTICE START AND END DATES: June 28, 2021 – July 27, 2021

NAME AND MAILING ADDRESS OF APPLICANT:

City of Chicopee
Department of Public Works
80 Medina Street
Chicopee, MA 01013

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Chicopee Water Pollution Control Facility (WPCF)
80 Medina Street
Chicopee, MA 01013
and
from 15 Combined Sewer Overflow (CSO) Discharge Outfalls

RECEIVING WATER AND CLASSIFICATION:

Discharges to the Connecticut River: WPCF, secondary bypass (BYP), and 7 CSOs
Discharges to Willimansett Brook: 1 CSO (Connecticut River Watershed[1])
Discharges to Chicopee River: 7 CSOs (Chicopee River Watershed[2])

Connecticut River and Willimansett Brook (MA34-05): Class B – Warm Water Fishery, CSO
Chicopee River (MA36-24 and MA36-25) – Warm Water Fishery, CSO

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[1] Connecticut Watershed - USGS Code: 01080201.
[2] Chicopee Watershed – USGS Code: 01080204.

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1 Proposed Action

The above-named applicant (the "Permittee") has applied to the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for

reissuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge from the Treatment Plant (the "Facility") into the designated receiving water.

The permit currently in effect was issued on August 15, 2012 with an effective date of October 14, 2012 and expired on October 14, 2017 (the "2012 Permit"). The Permittee filed an application for permit reissuance with EPA dated May 1, 2017, as required by 40 Code of Federal Regulations (C.F.R.) § 122.6. Since the permit application was deemed timely and complete by EPA on July 6, 2017, the Facility's 2012 Permit has been administratively continued pursuant to 40 C.F.R. § 122.6 and § 122.21(d). EPA and the MassDEP conducted a site visit on July 24, 2019.

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

2 Statutory and Regulatory Authority

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

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

2.1 Technology-Based Requirements

Technology-based 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 BOD_5, TSS and pH. *See* 40 C.F.R. § 133.

Under § 301(b)(1) of the CWA, 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 C.F.R. § 125.3(a)(1).

2.2 Water Quality Based Requirements

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

2.2.1 Water Quality Standards

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

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

When permit effluent limits are necessary for a pollutant to meet narrative water quality criteria, the permitting authority must establish effluent limits in one of three ways: based on a "calculated numeric criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and fully protect the designated use," on a "case-by-case basis" using CWA § 304(a) recommended water quality criteria, supplemented as necessary by other relevant information; or, in certain circumstances, based on an indicator parameter. *See* 40 C.F.R. § 122.44(d)(1)(vi)(A-C).

2.2.2 Antidegradation

Federal regulations found at 40 C.F.R. § 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 that high quality waters which exceed levels necessary to support propagation of fish,

shellfish, and wildlife and support recreation in and on the water, are maintained unless the State finds that allowing degradation is necessary to accommodate important economic or social development in the area in which the waters are located.

Massachusetts' statewide 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 State 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 must be maintained and protected.

This permit is being reissued with effluent limitations sufficiently stringent to protect 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, the EPA released guidance on November 19, 2001, for the preparation of an integrated "List of Waters" that could combine reporting elements of both § 305(b) and § 303(d) of the CWA. The integrated list format allows states to provide the status of all their assessed waters in one list. States choosing this option must list each water body or segment in one of the following five categories: 1) Unimpaired and not threatened for all designated uses; 2) Unimpaired waters for some uses and not assessed for others; 3) Insufficient information to make assessments for any uses; 4) Impaired of threatened for one or more uses but not requiring the calculation of a Total Maximum Daily Load (TMDL); and 5) Impaired or threatened for one or more uses and requiring a TMDL.

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

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

2.2.4 Reasonable Potential

Pursuant to 40 C.F.R. § 122.44(d)(1), NPDES permits must contain any requirements in addition

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

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

2.2.5 State Certification

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

If the State believes that any conditions more stringent than those contained in the Draft Permit are necessary to meet the requirements of either the CWA §§ 208(e), 301, 302, 303, 306 and 307 or the appropriate requirements of State law, the State should include such conditions and, in each case, cite the CWA or State law reference upon which that condition is based. Failure to provide such a citation waives the right to certify as to that condition. The only exception to this is that the sludge conditions/requirements implementing § 405(d) of the CWA are not subject to the § 401 State Certification requirements. Reviews and appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State and may not be made through the applicable procedures of 40 C.F.R. § 124.

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

[3] March 1991, EPA/505/2-90-001

statement waives the State's right to certify or object to any less stringent condition.

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

2.3 Effluent Flow Requirements

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." *See* 33 U.S.C. § 1362(6).

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

Using a facility's design flow in the derivation of pollutant effluent limitations, including conditions to limit wastewater effluent flow, is consistent with, and anticipated by NPDES permit regulations. Regarding the calculation of effluent limitations for POTWs, 40 C.F.R. § 122.45(b)(1) provides, "permit effluent limitations…shall be calculated based on design flow." POTW permit applications are required to include the design flow of the treatment facility. *Id.* § 122.21(j)(1)(vi).

Similarly, EPA's reasonable potential regulations require EPA to consider "where appropriate, the dilution of the effluent in the receiving water," 40 C.F.R. § 122.44(d)(1)(ii), which is a function of *both* the wastewater effluent flow and receiving water flow. EPA guidance directs that this "reasonable potential" analysis be based on "worst-case" conditions. EPA accordingly is authorized to carry out its reasonable potential calculations by presuming that a plant is operating at its design flow when assessing reasonable potential.

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

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

EPA has also included the wastewater 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 though 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 C.F.R. §§ 122.41(d) and (e).

2.4 Monitoring and Reporting Requirements

2.4.1 Monitoring Requirements

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

The monitoring requirements included in this permit have been established to yield data representative of the discharges under the authority of §§ 308(a) and 402(a)(2) of the CWA, and consistent with 40 C.F.R. §§ 122.41(j), 122.43(a), 122.44(i) and 122.48. The monitoring

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

NPDES permits require that the approved analytical procedures found in 40 C.F.R. § 136 be used for sampling and analysis unless other procedures are explicitly specified. Permits also include requirements necessary to comply with the *National Pollutant Discharge Elimination System (NPDES): Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting Rule*.[4] 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 C.F.R. § 122.21(e)(3) (completeness), 40 C.F.R. § 122.44(i)(1)(iv) (monitoring requirements) and/or as cross referenced at 40 C.F.R. § 136.1(c) (applicability) indicate that an EPA-approved method is sufficiently sensitive where:

- The method minimum level[5] (ML) is at or below the level of the applicable water quality criterion or permit limitation for the measured pollutant or pollutant parameter; or
- In the case of permit applications, the ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or parameter in the discharge; or
- The method has the lowest ML of the EPA-approved analytical methods under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

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

2.4.2 Reporting Requirements

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

NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure internet application to EPA through the Environmental Information Exchange Network. NetDMR has allowed participants to discontinue mailing in hard copy forms to EPA under 40 C.F.R. §§ 122.41 and 403.12. NetDMR is accessed from the following website: https://netdmr.zendesk.com/hc/en-us. Further information about NetDMR can be found on the EPA Region 1 NetDMR website.[6]

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

2.5 Anti-backsliding

A permit may not be renewed, reissued or modified with less stringent limitations or conditions than those contained in a previous permit unless in compliance with the anti-backsliding requirements of the CWA. See §§ 402(o) and 303(d)(4) of the CWA and 40 C.F.R. § 122.44(l)(1 and 2). Anti-backsliding provisions apply to effluent limits based on technology, water quality, Best Professional Judgment (BPJ) and state certification requirements.

All proposed limitations in the Draft Permit are at least as stringent as limitations included in the 2012 Permit unless specific conditions exist to justify one of the exceptions listed in 40 C.F.R. § 122.44(l)(2)(i) and/or in accordance with § 303(d)(4). Discussion of any applicable exceptions are discussed in sections that follow. Therefore, the Draft Permit complies with the anti-backsliding requirements of the CWA.

3 Description of Facilities and Discharge

3.1 Location, Type of Facilities, and Treatment Process Description

3.1.1 Water Pollution Control Facility

The Chicopee Water Pollution Control Facility's (WPCF) effluent through Outfall 010 discharges to the Connecticut River are shown in Figure 1. The location of Outfall 010 is Latitude 42 º 9' 39" N, Longitude 72º 36' 54" W.

The Chicopee WPCF is a secondary wastewater treatment facility that is engaged in the collection and treatment of municipal and industrial wastewater. Currently, this Facility serves

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

approximately 57,000 residents in the City of Chicopee via a collection system that is approximately 65% separate storm water and 35% combined storm water/municipal/industrial wastewater. There are 15 combined sewer overflow outfalls and 18 industrial users that contribute wastewater to this facility.

The Facility has a design flow of 15.5 MGD, the annual average daily flow reported in the 2017 application was 5.9 MGD and the average flow during the last 5 years was 7.77 MGD. The facility's wastewater treatment process flow diagram is attached as Figure 2.

Wastewater entering the plant passes through a bar screen, followed by an aerated grit chamber, eight rectangular primary clarifiers, and a Parshall flume for flow measurement. (Three comminutors, shown on Figure 2 after the aerated grit chamber, are being taken out of service.) Flow is then pumped to the secondary treatment facilities, which consists of two trains of UNOX pure oxygen activated sludge reactors, four secondary clarifiers, and chlorination facilities. Sludge is transported offsite by Casella Organics and is incinerated or sent to a landfill. Flow from the chlorine contact tanks normally discharge by gravity to the Connecticut River through outfall 010, a 200-foot-long, 36" pipe discharging to the Connecticut River. During high river stages, effluent flow is pumped through outfall 010 via a 32 MGD capacity pumping station.

The facility may receive up to 40 MGD in wet weather flows related to the combined sewer system. While all the flow receives primary treatment, the maximum capacity of the secondary treatment system is 25 MGD. When influent flow exceeds 25 MGD, up to 15 MGD is directed to a bypass with seasonal chlorination/dechlorination. The bypass effluent is blended with the secondary effluent prior to discharge through outfall 010. This bypass is considered an interim measure per the 2006 Consent Decree and use of this bypass was governed solely by the terms of the 2006 Consent Decree. Use of this bypass is governed solely by the terms of the 2006 Consent Decree, which establishes conditions, monitoring requirements and effluent limitations. EPA is proposing this Draft Permit with conditions, monitoring requirements and effluent limitation for the combined flow through outfall 010, and the newly numbered bypass internal outfall BYP, in order to be consistent with the wet weather bypass regulations at 40 C.F.R. § 122.41(m)(1). Separate flow reporting requirements and disinfection limitations are included for the wet weather-related bypass flow through internal outfall BYP. The permit authorizes effluent flow from the Jones Ferry CSO primary treatment facility to the secondary WPCF when the combined flow to the WPCF is below 25 MGD. See: Part I.H.6. footnote 10 of the Draft Permit.

WPCF Compliance Status

EPA issued an Administrative Order (AO) on November 14, 2018 to the City of Chicopee for BOD_5, TSS, and aluminum water quality exceedances at the wastewater treatment plant. The City upgraded its secondary clarifiers and other areas of its facility in order to address the water quality exceedances. The City's WPCF upgrades and previous interim limits are listed below.

The City's previous interim limits and expiration dates:

- Interim limits for BOD_5, 41 monthly avg, 47 weekly avg (mg/l); order expired on 3/2019
- Interim limits for TSS, 36 monthly avg, 49 weekly avg (mg/l); order expired on 3/2019

- Interim limit AL, 125 (ug/l) monthly avg; order expired on 12/31/2019

The City's WPCF upgrades and associated reports:

Upgrade Description	Completion Date
• Secondary clarifier upgrades	11/2018
• Sludge magnetic meter installation	2/2019
• Sludge dewatering centrifuge installation	3/2019
• Submitted aluminum report with schedule	4/30/2019

There are sixteen Significant Industrial Users (SIUs) that discharge to the POTW. See: Table 1.

Table 1. Significant Industrial Users

Company Name	Process Average Flow Rate (gpd)	Non-Process Average Flow Rate (gpd)
Allied Waste Services of Springfield	2600	0
Callaway Golf Ball Operations	15,000	2,500
Chicopee Provision Corporation	5,600	500
Commonwealth Packaging Company	660	450
Danaher Tool Group Groundwater Remediation Project	17,100	0
Dow Jones and Company	1,780	1,200
Eastern Etching and Manufacturing	670	1,030
International Metals Products	6,400	300
Leoni Wire, Incorporated	0	1,500
Marey Industries	7,900	0
Medtronic PLC	1,250	3,000
Mold Tech Incorporated	0	230
Polyplating Corporation	0	240
Solenis, LLC	200,000	500
US Tsubaki Automotive Division	47,100	4,500
Waste Management Incorporated	27,000	150

A quantitative description of the discharge in terms of effluent parameters, based on monitoring data submitted by the permittee from April 2014 through March 2019 is provided in **Appendix A** of this Fact Sheet.

3.1.2 Collection System and CSOs Description

The Chicopee WPCF is served by a combined sewer system. A combined sanitary sewer conveys domestic, industrial, commercial sewage, and stormwater.

The Chicopee sewer collection system includes approximately 200 miles of pipe, approximately 35% of which is a combined sewer system collecting both sanitary wastewater and stormwater flows. Part of Chicopee's collection system discharges to the South Hadley Wastewater Treatment Plant (WWTP), and part of its collection system discharges to the Springfield WWTP. Currently, untreated CSOs occur at 19 diversion structures that lead to 15 outfalls and are shown in Figure 3. The 15 CSO outfalls discharge to the following three receiving waters: Connecticut River (7 CSOs), Chicopee River (7 CSOs), and the Willimansett Brook (1 CSO), which are listed below and in Appendix E[7].

Receiving Water	CSO Outfall Number	Outfall Location	Latitude	Longitude

[7] Some CSOs discharge flow from more than one diversion structure. For these structures, the inventory convention is to use the outfall number, a decimal point, and then the number of the diversion structure. For example, CSO diversion structure 24.2 is a specific diversion structure discharging flow through outfall 024. CSO outfalls are denoted using a three digit number without a decimal (e.g., 005; 024).

Connecticut River	003	Power Line ROW of James St	42º 12’ 18.3” N	72 º 35’ 6.3” W
	004	Riverview Pumping Station	42º 11’ 29.8” N	72 º 36’ 10” W
	005	Leslie St Pumping Station	42º 11’ 22.5” N	72 º 36’ 24.1” W
	007	Jones Ferry Road	42º 10’ 16.19” N	72 º 37’ 36.11” W
	008	South of Jones Ferry Road	42º 10’ 0.9” N	72 º 37’ 36.7” W
	009	Paderewski Street	42º 9’ 17.6” N	72 º 37’ 30.8” W
	024	Exchange Street	42º 8’ 42.8” N	72 º 36’ 46.8” W
Chicopee River	026	Bell and Front Streets	42º 8’ 53” N	72 º 35’ 59.8” W
	027	West End of Riverview Terrace	42º 8’ 53.9” N	72 º 35’ 49.1” W
	32B	Main Street West of Deadly Memorial Bridge	42º 9’ 35” N	72 º 34’ 58” W
	32A	West Main and Oak Streets	42º 9’ 20” N	72 º 35’ 20” W
	034	Near Rattan Street and Hearthstone Terrace	42º 9’ 43.0” N	72 º 35’ 10” W
	037	227 East Main Street	42º 9’ 33” N	72 º 34’ 41” W
	040	Chicopee St near Rte 116 Bridge	42º 9’ 19.65” N	72 º 36’ 40.92” W
Willimansett Brook	042	Robert’s Pond	42º 11’ 38.6 N	72 º 35’ 5.8” W

Outfall 011

EPA is proposing to remove permit coverage for Outfall 011 from the Chicopee NPDES Draft Permit because the storm water and fire-fighting foam discharge to Cooley Brook from the Westover Reserve Air Force Base (AFB) and the Westover MDC airport, is already covered under the Westover AFB’s Multi-Sector General Permit (MSGP). Monitoring the discharge from this outfall is the responsibility of the Westover AFB, since the City does not contribute flow through this outfall or through the oil/water separator, although the City of Chicopee owns the oil/water separator. The City of Chicopee and the Westover AFB are responsible for working out the maintenance of the oil/water separator associated with this outfall outside of this permitting action. For clarification purposes, this outfall’s designation is “Outfall 003” or “WMDC Outfall” under the Westover AFB’s MSGP.

3.1.3 Jones Ferry Combined Sewer Overflow (CSO) / Outfall 007 Description

The Jones Ferry CSO Treatment Facility (Outfall 007) is shown in Figure 3 and its flow diagram is attached as Figure 4. The location of this outfall is Latitude 42 º 10’16.19” N, Longitude 72º 37’ 36.11” W.

The Jones Ferry CSO Treatment Facility is located on Jones Ferry Road in Chicopee and provides screening and year-round chlorination/dechlorination for flows up to 35.2 MGD. Flows exceeding the capacity of this treatment facility are diverted to the secondary WPCF located at 80 Medina Street in Chicopee when the combined flow to the WPCF is below 25 MGD, or the excess flow is discharged directly to the Connecticut River without treatment, although this rarely occurs. The annual average daily flow reported in the 2017 permit application was 1.25 MGD and the average for the last 5 years has been 3.87 MGD.

The total residual chlorine effluent limits are technology-based BCT/BAT effluent limitations using EPA’s best professional judgement (BPJ) that are consistent with the design parameters for

this facility as set forth in the 2006 Consent Order. The *E coli* bacteria limitations are water quality based effluent limitations and are as stringent as the bacteria limitations set forth in the 2006 Consent Order. The permittee is required to treat flows beyond the flow to which bacteria limits are applied (35.2 MGD) to the extent practicable, consistent with EPA and MassDEP's understanding of the design intent and the permittee's current practice. The proposed limits in the Draft Permit are:

E. coli bacteria	126 cfu/100 mL average monthly 409 cfu/mL maximum daily
Total Residual Chlorine	0.89 mg/L average monthly 1.0 mg/L maximum daily

The Draft Permit also requires reporting of flow, BOD_5, TSS, pH, Whole Effluent Toxicity (WET) and nitrogen parameters. The CSO requirements included in the Draft Permit are expected to improve the overall aquatic habitat for all species in the Connecticut River, Chicopee River, and the Willimansett Brook during wet weather events.

4 Description of Receiving Waters and Dilution

4.1 Connecticut River (Segment MA34-05)

The Chicopee WPCF discharges through outfall 010 and internal outfall BYP into the Connecticut River, within Segment MA34-05. This segment is 15.9 miles in length and travels from the Holyoke Dam in Holyoke, Mass. to the Massachusetts/Connecticut border. The Connecticut River discharges to the Long Island Sound Estuary near Old Saybrook, Connecticut.

The Connecticut River is classified as a Class B warm water fishery where the Chicopee WPCF discharges. Under the Massachusetts WQSs, 314 Code of Massachusetts Regulations (CMR) 4.05(3)(b), "*waters are designated as 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. They shall be a source of public water supply (i.e., where designated and with appropriate treatment). They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. They shall also have consistently good aesthetic value."*

A warm water fishery is defined in the MA SWQS (314 CMR 4.02) as waters in which the maximum mean temperature over a seven-day period generally exceeds 20° Celsius (68º Fahrenheit) during the summer months and are not capable of supporting a year-round population of cold water stenothermal aquatic life.

The City of Chicopee's CSO long term control plan (LTCP) has been approved; however, this plan has not been fully implemented for the CSO discharges[8].

[8] Massachusetts Water Quality Standards at 314 CMR 4.06(1)(d)(10).

The relevant CSO areas include not only Chicopee, MA, but also Holyoke, MA (upstream on the Connecticut River) and Springfield, MA (upstream on the Chicopee River and downstream on the Connecticut River), inter alia.

The Connecticut River is listed in the final Massachusetts Year 2016 Integrated List of Waters (303(d) List) as a Category 5, "Waters Requiring a [total maximum daily load] TMDL assessment due to *Escherichia coli*, and polychlorinated biphenyls in fish tissue[9]. This assessment is based on the sampling results of the 2003 Connecticut River Water Quality Assessment conducted by the MassDEP. To date, no TMDL has been developed for this segment for any of the listed impairments.

4.2 Connecticut River Water Management Plan (dated 1982)

In 1982, the Massachusetts Department of Environmental Quality Engineering (DEQE) published the Connecticut River Water Quality Management Plan, which included a wasteload allocation (WLA) for the Chicopee WWTP. Given the limited assimilative capacity of the receiving waters, limits more stringent than secondary treatment requirements were required for the parameters in Table 2.

Table 2: Limits in 1981 MA DEQE Wasteload Allocation

Flow	BOD_5 (Monthly Average)	TSS (Monthly Average)	pH	Settleable Solids	Fecal Coliform	Total Coliform
15.5 MGD	30 mg/L 3,880 lb/day	30 mg/L 3,880 lb/day	6-9	0.1 mL/L	200/100 mL	1,000/100 mL

*WLA apply the limits only April 1-October 15. MassDEP has revised the "summer" or "growing season" as May 1 through October 31. EPA has adopted these dates in applying the WLA limits.

EPA has proposed effluent limits for the Chicopee WPCF discharge in the Draft Permit that will ensure any increased discharge results in no more than an insignificant degradation of water quality in the Connecticut River and the downstream waters.

4.3 Chicopee River (Segment MA36-24)

Outfall 037 discharges untreated CSO effluent to the Chicopee River (Segment MA36-24), which is a Class B Water Warm Water Fishery[10]. This segment is 8.8 miles in length and travels from the Wilbraham Pumping Station in Wilbraham, MA to the Chicopee Falls Dam in Chicopee, MA. The Chicopee River flows into the Connecticut River in Chicopee, MA.

The final Massachusetts 2016 Integrated List includes Segment MA36-24 as a Massachusetts Category 5 Water and in need of a TMDL assessment due to *Escherichia coli* and fecal coliform[11]. To date, no TMDL has been developed for Segment MA36-24 for any of the listed impairments.

[9] Massachusetts Year 2016 Integrated List of Waters, MassDEP Division of Watershed Management Watershed Planning Program, Worcester, Massachusetts, December 2019.
[10] Massachusetts Water Quality Standards at 314 CMR 4.06(7).
[11] Massachusetts Year 2016 Integrated List of Waters, MassDEP Division of Watershed Management Watershed Planning Program, Worcester, Massachusetts, December 2019.

4.4 Chicopee River (Segment MA36-25)

Outfalls 034, 032A, 032B, 026, 027, and 040 discharges untreated CSO effluent to the Chicopee River (Segment MA36-25), which is a Class B Water Warm Water Fishery[12]. This segment is 3 miles in length and travels from the Chicopee Falls Dam in Chicopee, MA. to the confluence with the Connecticut River in Chicopee, MA.

The final Massachusetts 2016 Integrated List includes Segment MA36-25 as a Massachusetts Category 5 Water and in need of a TMDL assessment due to *Escherichia coli*[13]. To date, no TMDL has been developed for Segment MA36-25 for any of the listed impairments.

4.5 Willimansett Brook (Segment MA34-60)

Outfall 042 discharges untreated CSO effluent to Willimansett Brook, which is a Class B Water. It is 2.3 miles in length and travels from its headwaters in Chicopee, MA to the confluence with the Connecticut River in Chicopee, MA.

This segment is newly included in the final Massachusetts 2016 Integrated List, where it is listed as a Category 5 Water and in need of a TMDL assessment due to *Escherichia coli*[14]. To date, no TMDL has been developed for any of the listed impairments.

4.6 Available Dilution

7-Day, 10-Year Low Flow

To ensure that discharges do not cause or contribute to violations of WQS under all expected circumstances, WQBELs are derived assuming critical conditions for the receiving water (*See* EPA Permit Writer's Manual, Section 6.2.4). For most pollutants and criteria, the critical flow in rivers and streams is some measure of the low flow of that river or stream. Massachusetts water quality regulations require that the available effluent dilution be based on the 7-day, 10-year low flow (7Q10 flow) of the receiving water (314 CMR 4.03(3)(a)). The 7Q10 low flow is the mean low flow over 7 consecutive days, recurring every 10 years.

The 7Q10 flow used in the Draft Permit was extrapolated using flow and drainage area data from the downstream U.S. Geological Survey (USGS) gage station 01184000, Connecticut River at Thompsonville, CT. The most recent 30 years of data was used.[15] The discharge is located

[12] Massachusetts Water Quality Standards at 314 CMR 4.06(7).
[13] Massachusetts Year 2016 Integrated List of Waters, MassDEP Division of Watershed Management Watershed Planning Program, Worcester, Massachusetts, December 2019.
[14] Massachusetts Year 2016 Integrated List of Waters, MassDEP Division of Watershed Management Watershed Planning Program, Worcester, Massachusetts, December 2019.

[15]Although there is another active USGS gage station 01172010 (Connecticut River at I-391 Bridge at Holyoke, MA) that is close to and upstream of the facility, this Fact Sheet used data from USGS 01184000 instead because this gage has a longer data period, which is preferred for computing 7Q10 flows. *See* EPA handbook "Low Flow

upstream from confluence of the Chicopee River, which joins the Connecticut River about 1,700 feet downstream of the discharge. The total drainage area for the Connecticut River watershed is approximately 11,000 square miles; the drainage area upstream of the discharge is approximately 8,320 square miles.

7Q10 at USGS 01184000, Connecticut River near Thompsonville, Connecticut - period of record from April 1, 1989 - March 31, 2019

= 2,766 cubic feet per second (cfs)

Drainage Area = 9,660 square miles

$$\text{Flow factor for USGS 01184000} = \frac{2{,}766 \text{ cfs}}{9{,}660 \text{ square miles}} = 0.286 \text{ cfs/sq. mi.}$$

Using a low-flow factor of 0.28 cfs per square mile yields a receiving water 7Q10 flow of about 2,382 cfs or 1,539 million gallons per day (MGD).

The dilution factor (DF) at the 7Q10 flow of 1,539 MGD in the receiving water upstream of the discharge, Q_s, and the Facility's design flow of 15.5 MGD, Q_d, was calculated as shown below:

$$DF = (Q_s + Q_d)/Q_d = (1{,}539 \text{ MGD} + 15.5 \text{ MGD})/15.5 \text{ MGD} = 100.3$$

Proposed Effluent Limitations and Conditions:

The proposed limitations and conditions, the bases of which are discussed throughout this Fact Sheet, may be found in Part I of the Draft Permit. EPA determined the pollutants of concern based on EPA's technology-based effluent requirements, pollutants believed present in the permit application, and other information.

5 Effluent Limitations and Monitoring Requirements

In addition to the State and Federal regulations described in Section 2, data submitted by the permittee in their permit application as well as in monthly discharge monitoring reports (DMRs) and in WET test reports from January 2014 to December 2018 (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)**.

5.1 Wastewater Effluent Flow

The effluent flow limit in the 2012 Permit is 15.5 MGD, calculated and reported as a rolling annual average flow, based on the Facility's design flow. The DMR data during the review period shows that there have been no violations of the flow limit.

Statistics Tools (October 2018, EPA-833-B-18-001, page 4-1)": https://www.epa.gov/sites/production/files/2018-11/documents/low_flow_stats_tools_handbook.pdf. This handbook recommends using at least 15-20 years of data. EPA Region I prefers using a 30-year data window to adequately capture variations in climate. USGS gage station 01172010 has only 16 years of flow data, while USGS gage station 01184000 has 90 years of data.

The Draft Permit continues the rolling annual average flow limit of 15.5 MGD from the 2012 Permit with a clarification that the limit includes all of the flow through the treatment facility, including flow that bypasses secondary treatment. 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. The Draft Permit also includes volume, duration, and frequency flow monitoring requirements for the bypass effluent.

5.1.1 Biochemical Oxygen Demand (BOD_5)

5.1.1.1 BOD_5 Concentration Limits

The BOD_5 limits in the 2012 Permit were based on the secondary treatment standards in 40 C.F.R. § 133.102; the average monthly limit is 30 mg/L and the average weekly limit is 45 mg/L.

From April 2014 through March 2019, there were 59 BOD_5 concentration values as shown in the DMR summary in Appendix A. Fourteen BOD_5 monthly average concentration exceedances and three BOD_5 weekly average exceedances occurred between June 2015 and October 2018. EPA issued an Administrative Order (AO) on November 14, 2018 to the City of Chicopee for BOD_5 water quality exceedances at the wastewater treatment plant. See Section 3.1.1. of this fact sheet regarding this AO, interim limits, and upgrade completion dates.

The Draft Permit proposes the same BOD_5 concentration limits for Outfall 010 as in the 2012 Permit since no new WLAs have been established and there have been no changes to the secondary treatment standards. The monitoring frequency remains five times per week. The Draft Permit proposes new BOD_5 monitoring requirements for bypass internal Outfall BYP.

5.1.1.2 BOD_5 Mass Limits

The year-round mass-based BOD_5 limits in the 2012 Permit of 3,878 lb/day (average monthly) and 5,817 lb/day (average weekly) were based on EPA's secondary treatment standards and the design flow of the Facility.
The DMR data from the review period shows that there have been no violations of BOD_5 mass limits.

The Draft Permit proposes the same BOD_5 mass limits as in the 2012 Permit as no new WLAs have been established and there have been no changes to the secondary treatment standards. The monitoring frequency remains five times per week.

5.1.2 Total Suspended Solids (TSS)

5.1.2.1 TSS Concentration Limits

The year-round TSS limits in the 2012 Permit were based on the secondary treatment standards in 40 C.F.R. § 133.102; the average monthly limit is 30 mg/L and the average weekly limit is 45 mg/L.

From April 2014 through October 2018 there were 24 exceedances of TSS concentration limits. EPA issued an Administrative Order (AO) on November 14, 2018 to the City of Chicopee for TSS water quality exceedances at the wastewater treatment plant. See Section 3.1.1. of this fact sheet regarding this AO, interim limits, and upgrade completion dates.

The Draft Permit proposes the same TSS concentration limits for Outfall 010 as in the 2012 Permit since no new WLAs have been established and there have been no changes to the secondary treatment standards. The monitoring frequency remains five times per week. The Draft Permit proposes new TSS monitoring requirements for bypass internal Outfall BYP.

5.1.2.2 TSS Mass Limits

The year-round mass-based TSS limits in the 2012 Permit of 3,878 lb/day (average monthly) and 5,817 lb/day (average weekly) were based on EPA's secondary treatment standards and the design flow of the Facility.

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

The Draft Permit proposes the same TSS mass limits as in the 2012 Permit as no new WLAs have been established and there have been no changes to the secondary treatment standards. The monitoring frequency remains five times per week.

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

The provisions of 40 C.F.R. § 133.102(a)(3), (4) and (b)(3) requires that the 30-day average percent removal for BOD_5 and TSS be not less than 85%. However, combined sewer systems may receive case-by-case consideration under § 133.103, which states:

> *"Treatment works subject to this part may not by capable of meeting the percentage removal requirements…during wet weather where the treatment works receive flows from combined sewers (i.e., sewers which are designed to transport both storm water and sanitary sewage). For such treatment works, the decision must be made on a case-by-case basis as to whether any attainable percentage removal level can be defined, and if so, what the level should be."*

The 2012 Permit suspended the 85% removal requirement. The Draft Permit continues the suspension of this requirement based on the continued weak strength of the influent under both wet and dry conditions. The discharge monitoring data from April 2014 through March 2019 shows an average monthly BOD_5 of 136 mg/L and an average monthly TSS of 159 mg/L, which is considered a weak strength compared to the medium strength of 220 mg/L typically found at wastewater treatment facilities. Although the influent strength currently only demonstrates a 20% increase since 2012, this trend is expected to continue concurrently with the City's sewer separation projects. EPA expects that sewer separation work described in the facility's CSO Long Term Control Plan will result in reduced inflow and infiltration (I/I) to the system. The Draft Permit includes a requirement for the facility to evaluate the impact of planned CSO measures on I/I as part of its I/I reporting pursuant to Part.I.C.3. of the Draft Permit, in order to assess this expectation. See also: United States Environmental Protection Agency NPDES Permit

Writers' Manual, Chapter 5, page 5-11-13, 2010.

5.1.4 pH

The hydrogen ion concentration in an aqueous solution is represented by the pH using a logarithmic scale of 0 to 14 standard units (S.U.). Solutions with pH 7.0 S.U. are neutral, while those with pH less than 7.0 S.U. are acidic and those with pH greater than 7.0 S.U. are basic. Discharges with pH values markedly different from the receiving water pH can have a detrimental effect on the environment. Sudden pH changes can kill aquatic life. pH can also have an indirect effect on the toxicity of other pollutants in the water.

The Massachusetts WQS at 314 CMR 4.05(3)(b)(3) require that instream pH is not less than 6.5 or greater than 8.3 standard units (S.U.). The 2012 permit has a pH limit of 6.0 – 8.3 S.U. because the aeration system can oxidize the ammonia-nitrogen thereby reducing the oxygen demand exerted in the river, but also consume alkalinity resulting in reduced effluent pH. EPA and the MassDEP note that the available dilution in the receiving stream likely provides sufficient buffering for instream pH to maintain compliance with water quality standards. It is preferable to avoid adding chemicals to raise the pH if there are no associated risks of water quality problems. Consequently, these pH limits are maintained in the Draft Permit. To confirm that the available dilution is sufficient to prevent exceedance of the Massachusetts WQS, the Draft Permit includes an option to conduct a study to demonstrate that the instream pH is meeting MA WQS. The results of the study will be used to determine the pH limit in future permits. If the Permittee chooses not to conduct the study, the pH limit in future permits will be aligned with the MA WQS (i.e., 6.5-8.3 S.U.).

The pH requirements in the 2012 Permit are carried forward into the Draft Permit. The limitations are based on CWA 301(b)(1)(C) and 40 CFR § 122.44(d).

5.1.5 Bacteria

The 2012 Permit includes monthly average and daily maximum effluent limitations for Escherichia coli (*E.coli*) bacteria of 126 cfu/100 ml and 409 cfu/100 ml, respectively, to protect seasonal recreational uses in the receiving water from April 1st through October 31st. Monthly averages are calculated as a geometric mean and sampling frequency is weekly. The DMR data during the review period shows that there were 2 exceedances of the *E.coli* daily maximum limitations.

Consistent with Massachusetts' bacteria criteria, which were approved by EPA on September 19, 2007, the bacteria limits proposed in the Draft Permit for Outfall 010 are 126 colony forming units (cfu) of *E.coli* per 100 milliliters (mL) as a geometric mean and 409 cfu of *E.coli* per 100 mL maximum daily value (this is the 90% distribution of the geometric mean of 126 cfu/100 mL[16]). The *E.coli* limits apply from April 1st through October 31st and the monitoring frequency is once per week for Outfalls 010 and bypass internal Outfall BYP.

[16] MassDEP, "Draft 6/25/2007 Guidance on Implementation of Proposed Primary Contact Recreation Bacteria Criteria in Massachusetts Surface Water Quality Standards, 314 CMR 4.00," 2007, p.11, Table 2.

The 2012 Permit also included an effluent limit for Fecal Coliform at Outfall 007 (Jones Ferry CSO Treatment Facility) of 200 cfu /100 mL monthly average and 400 cfu/100 mL daily maximum, with required hourly monitoring for one CSO event per month. The DMR data during the review period shows that there have been no exceedances of the Fecal Coliform limitations. Because the *E.coli* bacteria limits and monitoring requirements included in the Draft Permit are sufficient to characterize the discharge, the Fecal Coliform limits and monitoring requirements have been removed from the permit.

5.1.6 Total Residual Chlorine

The 2012 Permit includes effluent limitations for total residual chlorine (TRC) of 0.89 mg/L (monthly average) and 1.0 mg/L (maximum daily) at both Outfalls 010 and 007. The DMR data during the review period show that there was one daily max violation at Outfall 010 (1.05 mg/L), and one daily max violation at Outfall 007 (2.98 mg/L).

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 ug/L (chronic) and 19 ug/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 ug/L * 100.3 = 1.1 mg/L (average monthly)

Acute criteria * dilution factor = Acute limit
19 ug/L * 100.3 = 1.9 mg/L (maximum daily)

The calculations show higher limits than the 2012 permit, due to an increase in the dilution factor at the outfalls. However, to comply with anti-backsliding, the limits are not raised for this permit.

In addition, MassDEP has determined that effluent concentrations of chlorine should not exceed 1.0 mg/L, even where dilution analysis may indicate a higher allowable concentration. *See* Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters (1990).

Therefore, the effluent limits from the 2012 Permit are continued in the Draft Permit. The monitoring frequency for Outfall 010 remains at 3/week, and for Outfall 007 at hourly during one event per month.

5.1.7 Ammonia

Nitrogen in the form of ammonia can reduce the receiving stream's dissolved oxygen (DO) concentration through nitrification and can be toxic to aquatic life, particularly at elevated temperatures. The toxicity level of ammonia depends on the temperature and pH of the receiving water (USEPA 1999). The applicable ammonia water quality criteria are pH and, for the chronic

criteria, temperature dependent and can be derived using EPA-recommended ammonia criteria from the document: *Update of Ammonia Water Quality Criteria for Ammonia,* 1999 (EPA 822-R-99-014). These are the freshwater ammonia criteria in EPA's *National Recommended Water Quality Criteria,* 2002 (EPA 822-R-02-047) document, which are included by reference in the Massachusetts WQS (*See* 314 CMR 4.05(5)(e)). The chronic criteria are also dependent on whether early life stages of fish are present. EPA has assumed that salmonids could be present in the receiving waters.

The 2012 Permit does not include ammonia limits, but it does require the permittee to monitor weekly and report effluent ammonia concentrations on the monthly DMR. Ambient data, taken upstream of the Chicopee outfall in the Connecticut River, is presented in Appendix B and shows ammonia concentrations that range from non-detect to 0.995 mg/L. The median concentration for the warm weather period (April 1 through October 31) is 0.15 mg/L and for the cold weather period (November 1 through March 31) is 0.10 mg/L. Ambient sampling included pH monitoring as well, which indicates that the median pH is 7.6 S.U. in warm weather and 7.4 S.U. in cold weather. Ambient temperature data is not available, so EPA has assumed a warm weather temperature of 26° C and a cold weather temperature of 5° C. Based on this information, the applicable ammonia criteria are summarized in Table 3 below.

In determining whether the discharge has the reasonable potential to cause or contribute to excursions above the instream water quality criteria for ammonia, the following mass balance equation is used to project the instream ammonia concentrations downstream from the discharge under 7Q10 conditions during both warm and cold weather.

$$Q_d C_d + Q_s C_s = Q_r C_r$$

Solving for the downstream pollutant concentration (C_r) gives:

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

Where:

Q_s = 7Q10 flow upstream of Facility (1,539 MGD)
Q_d = design flow of Facility (15.5 MGD)
Q_r = combined stream flow (7Q10 + design flow = 1,554 MGD)
C_s = median upstream ammonia concentration
= 0.15 mg/L in warm weather
= 0.10 mg/L in cold weather
C_d = effluent ammonia concentration
= 95th percentile[17] of summer data (N=34) = 34.6 mg/L
= 95th percentile[18] of winter data (N=30) = 35.2 mg/L

Reasonable potential is then determined by comparing this resultant in-stream concentration with

[17] The Facility's effluent concentrations (*See* Appendix A) were characterized assuming a lognormal distribution to determine the estimated 95th percentile of the daily maximum (*See* Appendix C).
[18] *Ibid*

the relevant acute and chronic criteria. In EPA's Technical Support Document for Water Quality Based Toxics Control, EPA/505/2-90-001, March 1991, commonly known as the "TSD", box 3-2 describes the statistical approach in determining if there is reasonable potential for an excursion above the maximum allowable concentration. The discharge is determined to have the reasonable potential to cause or contribute to a violation of water quality standards if both the effluent concentration (C_d) and the downstream concentration (C_r) exceed the criteria. If there is reasonable potential, the appropriate limit is then calculated by rearranging the above mass balance to solve for the effluent concentration (C_d) using the relevant criterion as the resultant in-stream concentration (C_r). Table 3 shows the results of the reasonable potential analysis and the resulting limits, if necessary.

Table 3: Ammonia Reasonable Potential Analysis and Limit Derivation

Season	Q_s	C_s	Q_d	C_d	Q_r	C_r	Criteria	Reasonable Potential	Limits
	cfs	mg/L	cfs	mg/L	cfs	mg/L	mg/L	C_d & C_r > Criteria	mg/L
Warm Weather – Chronic	1,539	0.15	15.5	34.6	1,554	0.494	1.90	N	N/A
Warm Weather – Acute		0.15		34.6		0.494	11.4	N	N/A
Cold Weather – Chronic		0.10		35.2		0.450	4.73	N	N/A
Cold Weather - Acute		0.10		35.2		0.450	15.4	N	N/A

Based on this analysis, there is no reasonable potential for the discharge to cause or contribute to an exceedance of the ammonia criteria and no ammonia limits are proposed. The Draft Permit is proposing to continue both the effluent discharge monitoring on a weekly basis and ambient monitoring for ammonia in the permittee's quarterly WET tests.

5.1.8 Nutrients

Nutrients are compounds containing nitrogen and phosphorus. Although nitrogen and phosphorus are essential for plant growth, even moderately elevated concentrations of these nutrients can cause eutrophication, a condition in which aquatic plant and algal growth is excessive. Plant and algae respiration and decomposition reduces dissolved oxygen in the water, creating poor habitat for fish and other aquatic animals. Phosphorus is typically the limiting nutrient triggering eutrophication in freshwater ecosystems and nitrogen in marine or estuarine ecosystems.[19] For this permit, both phosphorus and nitrogen are nutrients of concern as described below.

5.1.8.1 Total Nitrogen [Long Island Sound Watershed]

The Chicopee WPCF discharges to the Connecticut River, which drains to Long Island Sound

[19] However, recent studies provide evidence that *both* phosphorus and nitrogen can play a role in the eutrophication of certain ecosystems, whether freshwater or marine.

(LIS). The 2012 Permit required weekly monitoring for total Kjeldahl nitrogen, nitrate and nitrite, the sum of which provide the total nitrogen (TN) concentration. Using the TN concentration data and average monthly flow data, the calculated annual average total nitrogen loading from the Chicopee facility ranged from 1,518 to 2,199 lb/day from 2014 to 2019 and averaged 1,880 lb/day during the review period. As explained below, since 2019 EPA has adopted a systemic, state-by-state approach to control nitrogen pollution discharging from "out-of-basin" point sources in Massachusetts, New Hampshire and Vermont into tributaries of LIS, a severely impaired water body shared by New York and Connecticut. EPA's methodology for establishing TN limitations for out-of-basin POTWs in Massachusetts and New Hampshire has been challenged in the United States Environmental Appeals Board, where the case is now pending. EPA's Response to the Petition was filed on December 11, 2020, and EPA incorporates that filing herein, inclusive of attachments (*e.g.*, Exhibit S, Response to the Comments, as it relates to TN.[20]

In 2000, New York and Connecticut finalized a Total Maximum Daily Load[21] (TMDL) that addressed dissolved oxygen impairments in Long Island Sound due to excessive nitrogen loading. It was approved by EPA in 2001. While the TMDL included waste load allocations (WLAs) for point sources in Connecticut and New York, out-of-basin facilities were not assigned WLAs. However, the Connecticut and New York WLAs included in the TMDL were based on an assumption that out-of-basin point source loads of total nitrogen would be reduced in aggregate by 25% from the baseline through enforceable permit requirements imposed by permitting authorities in the out-of-basin states to protect downstream waters.

EPA implemented optimization requirements in many out-of-basin permits issued in the LIS watershed from 2007 through early 2019 in accordance with an agreement forged in 2012 among the five LIS watershed states, known as the "Enhanced Implementation Plan" (EIP).[22] However, concerns raised in recent public comments by the downstream state (Connecticut) and citizens highlighted the need for clearly enforceable, numeric, loading-based effluent limits to ensure that the annual aggregate nitrogen loading from out-of-basin point sources are consistent with the assumptions of the TMDL WLA of 19,657 lb/day and to ensure that current aggregate loadings do not increase. This is in accordance with the State of Connecticut's antidegradation policy, which requires existing uses to be fully maintained and protected. These uses are already being compromised given the continued, severe nitrogen-driven impairments in LIS. After further review of federal and state requirements, EPA agreed with the concerns raised by the downstream affected state and the public and noted that optimization requirements, by themselves, do not prevent further increases in nitrogen due to population growth (and consequent flow increases) or new industrial dischargers.

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[20] https://yosemite.epa.gov/OA/EAB_WEB_Docket.nsf/Filings%20By%20Appeal%20Number/11443A888232A1C88525863B006D4491/$File/Springfield%20Response%20to%20Petition_Final_12_11_2020.pdf.

[21] Connecticut Department of Environmental Protection and New York State Department of Environmental Conservation, *A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound* (LIS TMDL), December 2000.

[22] Long Island Sound Study Steering Committee, NY, CT, MA, NH, VT, *Enhanced Implementation Plan for the Long Island Sound Total Maximum Daily Load*, 2012. Available at: https://neiwpcc.org/our-programs/pollution-control/lis-tmdl/.

Scientific, Statutory and Regulatory Implementation Considerations

As discussed in Section 2 of this Fact Sheet, statutory and regulatory requirements regarding the development of water quality-based effluent limits include: (1) consideration of applicable water quality requirements of downstream states, including provisions to prevent further degradation of receiving waters that are already impaired, pursuant to a state's antidegradation policy, and provisions to implement other applicable water quality standards, including translation of narrative water quality criteria, and (2) provisions to ensure consistency with the assumptions of any available WLAs.

LIS covers about 1,300 square miles and borders Connecticut and New York. It drains a densely populated watershed area of over 16,000 square miles, including portions of Maine, Vermont, New Hampshire and Massachusetts. About 613 square miles of LIS fall within Connecticut. Connecticut classifies LIS as Class SA and Class SB and designates these waters as, *inter alia,* suitable for recreation and aquatic life habitat. R.C.S.A. § 22a-426-4(f), (j).

Connecticut regulations establish DO, biological condition, and nutrient criteria for each water class. For Class SA and SB waters, DO must not be less than 3 mg/L and may be less than 4.8 mg/L for only limited periods of time. R.C.S.A. § 22a-426-9(a)(1). Regarding biologic condition, "Surface waters… shall be free from…constituents…which…can reasonably be expected to…impair the biological integrity of aquatic or marine ecosystems…" *Id*. at § 22a-426-4(a)(5). "The loading of…nitrogen…to any surface water body shall not exceed that which supports maintenance or attainment of designated uses." *Id*. at § 22a-426-9; *see also* § 22a-426-4(a)(11) (authorizing "imposition of discharge limitations or other reasonable controls… for point…sources of …nitrogen…which have the potential to contribute to the impairment of any surface water, to ensure maintenance and attainment of existing and designated uses, restore impaired waters, and prevent excessive anthropogenic inputs of nutrients or impairment of downstream waters.")

Connecticut regulations mandate protection of "existing" and "designated" uses. R.C.S.A. § 22a-426-8(a)(1). "Tier 1" antidegradation review provides:

> *"The Commissioner shall determine whether the discharge or activity is consistent with the maintenance, restoration, and protection of existing and designated uses assigned to the receiving water body by considering all relevant available data and the best professional judgment of department staff. All narrative and numeric water quality standards, criteria and associated policies contained in the Connecticut Water Quality Standards shall form the basis for such evaluation considering the discharge or activity both independently and in the context of other discharges and activities in the affected water body and considering any impairment listed pursuant to 33 USC 1313(d) or any Total Maximum Daily Load (TMDL) established for the water body".*

R.C.S.A. § 22a-426-8(f) (emphasis added). The standards further provide, "The procedures for review outlined in this policy apply to any discharge or activity that is affecting or *may affect* [emphasis added] water quality in Connecticut, including but not limited to any existing, new or increased activity or discharge requiring a permit, water quality certificate or authorization pursuant to chapters 439, 440, 445 or 446i to 446k, inclusive of the Connecticut General

Statutes."

Although nitrogen driven impairments in LIS have been reduced in recent years, they have not been eliminated, and they remain significant. In EPA's technical and scientific judgment, the current quantity of nitrogen in LIS exceeds the narrative and numeric nutrient-related criteria applicable to LIS, and designated aquatic life uses are not being protected, based on analyses of water quality data and information in the administrative record.[23] While there have been significant reductions in the size of the hypoxic zone in LIS due largely to in-basin point source TN reductions, LIS continues to be impaired.[24] It is undisputed that significant amounts of nitrogen from out-of-basin facilities are discharged to the LIS watershed (as much as 6 million pounds per year, based on the sum of the maximum annual discharge from each out-of-basin discharger from 2013 to 2017). The out-of-basin loads in the aggregate necessarily contribute, or have the reasonable potential to contribute, to these violations.

Since the LIS TMDL was approved by EPA in 2001, the study of water quality conditions in LIS and the nitrogen loadings that contribute to hypoxia and other impairments there has continued. Annual monitoring of hypoxia and dissolved oxygen conditions in Long Island continues, as most recently documented in the *2019 Long Island Sound Hypoxia Season Review*[25] which notes that while the area of hypoxia has been reduced, water quality standards have not yet been met.[26]

In 2015, the Long Island Sound Study (LISS)[27] updated its Long Island Sound Comprehensive Conservation and Management Plan (CCMP)[28] which sets watershed targets, implementation actions to meet those targets, and monitoring strategies. One of the objectives of the CCMP is to improve water quality by further reducing nitrogen pollution from sources that are more distant from the Sound, [29] such as wastewater treatment plants in Massachusetts.

A study published in 2008 used both measurements and mass-balance modeling to evaluate the potential for nitrogen attenuation in the main stem of the Connecticut River in April and August 2005. One of the reaches studied was a 55 km stretch of the Connecticut River in Massachusetts. The study found no nitrogen loss in that reach either in April or August, most likely due to the depth and higher velocities in the main stem of the river compared to the shallower, slower tributaries where previous models and studies had demonstrated varying degrees of nitrogen

[23] *See* e.g. Long Island Sound Report Card 2018, at https://www.ctenvironment.org/wp content/uploads/2018/09/ReportCard2018-BestView.pdf
[24] Long Island Sound Study, *A Healthier Long Island Sound: Nitrogen Pollution*, 2019, page 2.
[25] CTDEEP, Interstate Environmental Commission, EPA, *2019 Long Island Sound Hypoxia Season Review*, available at: http://www.iec-nynjct.org/sites/default/files/2020-07/FINAL_LISound-Hypoxia-2019-Combined-Report_april2020.pdf
[26] *2019 Long Island Sound Hypoxia Season Review* (page 13)
[27] The Long Island Sound Study (LISS) is a bi-state partnership, formed by EPA, New York and Connecticut in 1985, consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to restoring and protecting the Long Island Sound. For more information see https://longislandsoundstudy.net/
[28] LISS, Long Island Sound Comprehensive Conservation and Management Plan 2015 Returning the Urban Sea to Abundance (CCMP), 2015.
[29] CCMP, page 19.

attenuation.[30]

In addition, subsequent studies refined the understanding of out-of-basin baseline nitrogen loading which suggest lower out-of-basin baseline point source loading to the Connecticut River than the 21,672 lb/day assumed in the 2000 TMDL. In 2013, the United States Geological Survey (USGS) published an estimation of the total nitrogen load to Long Island Sound from Connecticut and contributing areas to the north for October 1998 to September 2009.[31] Available total nitrogen and continuous flow data from 37 water-quality monitoring stations in the LIS watershed, for some or all of these years, were used to compute total annual nitrogen yields and loads. In order to extract the non-point source loadings from the total nitrogen measured, the authors relied on point source estimates from the SPARROW model of nutrient delivery to waters in the Northeastern and Mid-Atlantic states in 2002, including the Connecticut River, that was published by Moore and others in 2011.[32] The SPARROW model estimated that 1,776.7 metric tons per year (MT/yr) (or annual average 10,820 lb/day) of total nitrogen was discharged to the Connecticut River from Massachusetts, New Hampshire and Vermont in 2002[33]. These estimates were based on an approach by Maupin and Ivahnenko, published the same year, which used discharge monitoring data available from EPA's Permit Compliance System (PCS) database for 2002.[34,35] Where no data was available, an estimated typical pollutant concentration (TPC) and flow was used to approximate nitrogen loading from point sources according to their industrial category.[36]

Finally, Long Island Sound continues to be listed as impaired on Connecticut's latest EPA-approved list of impaired waters and is experiencing ongoing effects of eutrophication, including low DO, although the system has experienced improvements since the TMDL was approved.

In light of the foregoing, EPA is establishing water quality-based effluent limitations for total nitrogen on three grounds: (1) to ensure compliance with the State of Connecticut's antidegradation provisions, a downstream affected state under 401(a)(2) of the Act and 40 CFR § 122.4(d); (2) to translate and fully implement the state's narrative water quality criterion for nutrients, pursuant to 40 CFR § 122.44(d)(1)(vi)(A); and (3) to ensure consistency with the assumptions and requirements of the available WLA, pursuant to 40 CFR § 122.44(d)(1)(vii)(B).

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[30] Smith, Thor E., et al, *Nitrogen Attenuation in the Connecticut River, Northeastern USA; A Comparison of Mass Balance and N_2 Production Modeling Approaches, Biogeochemistry*, Mar., 2008, Vol. 87, No. 3 (Mar., 2008), pp. 311-323

[31] Mullaney, J.R., and Schwarz, G.E., 2013, Estimated Nitrogen Loads from Selected Tributaries in Connecticut Draining to Long Island Sound, 1999–2009: U.S. Geological Survey Scientific Investigations Report 2013–5171, 65

[32] Moore, Richard B., Craig M. Johnston, Richard A. Smith, and Bryan Milstead, 2011. Source and Delivery of Nutrients to Receiving Waters in the Northeastern and Mid-Atlantic Regions of the United States. Journal of the American Water Resources Association (JAWRA) 47(5):965-990. DOI: 10.1111/j.1752-1688.2011.00582.x

[33] Extrapolated from Moore, et.al 2011, Table 3 on page 977 which estimated that for 2002 an 33.2 % of the total 4,553 MT/yr Massachusetts nitrogen load was from point sources, 2.5% of the total 3,795 MT/yr Vermont nitrogen load was from point sources and 6.1 percent of the total 2,790 MT/yr New Hampshire nitrogen load was from point sources.

[34] Moore (2011), page 968.

[35] Maupin, Molly A. and Tamara Ivahnenko, 2011. Nutrient Loadings to Streams of the Continental United States From Municipal and Industrial Effluent. *Journal of the American Water Resources Association* (JAWRA) 47(5):950-964.

[36] Maupin (2011), page 954.

Compliance with Antidegradation Requirements of Downstream Affected State

One of the principal objectives of the CWA, articulated in CWA § 101(a) is to "maintain the chemical, physical and biological integrity of the Nation's waters." The antidegradation requirements in federal regulations at 40 CFR § 131.12 provide a framework for maintaining and protecting water quality that has already been achieved and require states to adopt provisions in their water quality standards that prevent further degradation of both degraded waters and waters which are meeting or exceeding the water quality necessary to protect designated and existing uses. As noted above, antidegradation provisions of Connecticut's water quality standards require that existing uses be fully maintained and protected. They expressly required consideration of any applicable TMDL, as well as narrative and numeric water quality criteria. EPA therefore undertakes Tier 1 review in light of the LIS TMDL, which has still not resulted in attainment of water quality standards in LIS, as well as Connecticut's numeric water quality criteria for dissolved oxygen, which are routinely violated, and its narrative water quality criteria nutrients, which is likewise not being met. Authorizing a significantly increased nitrogen loading into an impaired water body that is suffering the ongoing effects of cultural eutrophication would further compromise receiving water conditions and uses and be inconsistent with applicable antidegradation requirements. In arriving at this conclusion, EPA also notes that Connecticut's antidegradation procedures are precautionary in nature and apply to discharges that "may affect" water quality.

To ensure that the out-of-basin point-source load does not violate Connecticut's antidegradation standards, the new total nitrogen loading limits (for dischargers with design flows greater than 1 MGD) along with the requirement to minimize nitrogen discharge by facility optimization (for all dischargers with design flow greater than 0.1 MGD) are intended to ensure that nitrogen loads are held at current loadings. As can be seen from the summary in Table 4, 92 % of this load is from POTWs with design flow > 1 MGD. The impact of the new TN effluent limits will be to cap that load at approximately the same average loading. Table 5 summarizes the five-year average out-of-basin loads generated by Massachusetts non-stormwater point sources, based on data provided in Appendix D. While the sum of effluent limited loads for POTWs with design flow greater than 1 MGD is somewhat higher than the average loads observed in recent years, actual effluent limited loads can be expected be lower than the limits in order to avoid permit violations. EPA will continue to track out-of-basin loads as new data becomes available and will re-evaluate permit requirements for nitrogen for all out-of-basin dischargers in future permit actions.

Table 4 - Summary of Massachusetts Out-of-Basin Non-Stormwater Point Source Loads

	Sum of Average Loads 2013-2017 (lb/day)	Sum of Average Load 2014-2018 (lb/day)	Sum of Effluent Limited Loads (lb/day)
POTWs with design Flow > 1 MGD	10,023 (92%)	9,865 (92%)	10,907

POTWs with design Flow 0.1 to 1 MGD	869 (8%)	859 (8%)	
POTWs with design Flow < 0.1 MGD and Industrial Sources.	19 (0.02%)	20 (0.02%)	
TOTAL	10,911 (Range 9,767 to 11,528)	10,744 (Range 9,767 to 11,528)	

Translation of Narrative Nutrient Criteria

Using the TMDL as the "calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use" under the regulatory provision used to translate narrative water quality criteria into numeric effluent limitations, 40 CFR § 122.44(d)(1)(vi)(A), EPA has determined that an effluent limitation is necessary to ensure compliance with the State's narrative water quality criterion for nutrients. In order to assure compliance with water quality standards, and fully implement and translate the states' narrative nutrient and related criteria, out-of-basin loads in EPA's judgment should not be increased, because water quality data indicates that the assimilative capacity for nitrogen has been reached in portions of LIS and cultural eutrophication, the impacts of which include hypoxia, is ongoing. It is reasonable, in EPA's view, to issue permits to out-of-basin dischargers that hold loads constant and in so doing curtail the potential for these out-of-basin loadings to contribute to further impairment and degradation of a water that is already beyond its assimilative capacity for nitrogen. The TN effluent limits and optimization requirements are necessary to assure that the out-of-basin load does not cause or contribute to further violation of water quality criteria in the downstream LIS. Holding these loads level, in conjunction with significant nitrogen pollution reduction efforts being pursued by in-basin dischargers will, under EPA's analysis, be sufficient to make a finding that the out-of-basin permits taken as a whole contain nutrient controls sufficient to ensure that the discharges comply with water quality standards under Section 301 of the Act, based on information in the record currently before EPA. EPA acknowledges the complexity of the system and the receiving water response, and EPA recognizes that work that is currently ongoing with regards to additional water quality modeling, point source load reductions and WWTP upgrades in other states, particularly New York and Connecticut. In order to ensure that water quality standards are met, EPA has determined that, at most, TN should be no greater than that resulting from nitrogen currently being discharged from all sources. Holding the load from out-of-basin sources, along with reductions resulting from the nitrogen optimization special condition, combined with other ongoing work to further reduce in-basin loadings, are in EPA's judgment together sufficient to assure that the discharge is in compliance with standards.

Consistency with Assumptions of Available WLA

Finally, EPA is imposing an enforceable total nitrogen limitation to ensure consistency with the assumptions and requirements of the applicable WLA, which calls for out-of-basin loads to be capped at 25% of the baseline in fact at the time of TMDL approval. A WQBEL for a discharge must ensure compliance with WQS and be "consistent with the assumptions and requirements" of an available WLA. 40 CFR § 122.44(d)(1)(vii)(B). Capping the aggregate out-of-basin load at current levels will ensure that this requirement is met.

In sum, the permit conditions at issue here have been fashioned to ensure full implementation of CWA §§ 301(b)(1)(C), 401(a)(2) and 402, as well as consistency with the assumptions of the LIS WLA. A permitting authority has wide discretion to determine appropriate effluent limits for a permit. "Congress has vested in the Administrator [of EPA] broad discretion to establish conditions for NPDES permits" in order to achieve these statutory mandates of establishing effluent limitations, including narrative permit conditions, to attain and maintain water quality standards. *Arkansas v. Oklahoma*, 503 U.S. 91, 105 (1992). Section 402 provides that a permit may be issued upon condition "that such discharge will meet either all applicable requirements under sections 301, 302, 306, 307, 308 and 403 of this Act, or prior to taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this Act." 33 U.S.C. §1342(a). "This provision gives EPA considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges." *Id.* An increased discharge of nitrogen beyond current loads into nitrogen-degraded waters experiencing the effects of cultural eutrophication (*e.g.*, DO impairments) under the circumstances here would not be consistent with the Act. Holding the load from these facilities will maintain and protect existing uses. This allows EPA to ensure that the nitrogen limits are applied fairly and in a technologically feasible manner while ensuring that antidegradation provisions of Connecticut's water quality standards are being met.

EPA's decision to cap the out-of-basin TN loads in the aggregate was consistent with a gross approach to pollutant control, which is appropriate here given the need to ensure reasonable further progress toward restoration of uses in LIS based on reductions that have already occurred and whose impact is still being realized. It is also appropriate in light of the fact that more sophisticated models to precisely define the exact level of pollutant controls needed are not available. EPA has explained that when permitting for nutrients, time is of the essence, because of the tendency of nutrients to recycle in the ecosystem and exacerbate existing impairments, as outlined in EPA's Nutrient Technical Guidance Manual. Rather than wait for the development of that information, a daunting task because of the size and complexity of LIS and vast areal extent of loading, EPA determined that it would be reasonable to move forward. This decision is also reasonable because the permit for Chicopee and many other contributing sources are long expired. The D.C. Circuit has described the CWA's balance when confronted with a difficult situation and the obligation to eliminate water quality impairments: "EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels. This may well mean opting for a gross reduction in pollutant discharge rather than the fine-tuning suggested by numerical limitations. *But this ambitious statute is not hospitable to the concept that the appropriate response to a difficult pollution problem is not to try at all.*" *Natural Resources Defense Council, Inc. v. Costle,* 568 F.2d 1369, 1380 (D.C. Cir. 1977) (emphasis added) (finding unlawful a rule that would have exempted certain discharges from permitting requirements based on the difficulty in setting limits).

Derivation of Effluent Limits

As mentioned above, the TMDL did not assign each out-of-basin POTW a specific WLA but instead specifies an aggregate reduction target. Therefore, the task of allocating nitrogen loads among these facilities in a manner that ensures compliance with water quality standards, as required under Section 301 of the Act, falls to EPA. That EPA would implement any necessary reductions through the issuance and oversight of NPDES permits was expressly assumed by the TMDL. EPA notes that as much as 6 million pounds of nitrogen per year from out-of-basin facilities are discharged to the LIS watershed and that ongoing nitrogen-driven water quality impairments exist in LIS.

In developing allocations for Massachusetts and New Hampshire dischargers, EPA began with two facts: first, that significant amounts of nitrogen from out-of-basin facilities are discharged to the LIS watershed (as much as 6 million pounds per year, based on the sum of the sum of the maximum annual discharge from each out-of-basin discharger from 2013 to 2017) and, second, that ongoing nitrogen water quality impairments exist in LIS.

When confronting the difficult environmental regulatory problem of controlling or accounting for dozens of discharges into a complex water body like Long Island Sound, EPA was presented with a variety of potential permitting approaches. Long Island Sound is a nitrogen-impaired water body spanning 1,268 square miles that implicates the sometimes-divergent interests of five states, dozens of municipalities and numerous non-governmental organizations (NGOs), along with interested members of the public. In developing its overarching permitting approach, as well as each individual permit, EPA carefully considered, but ultimately rejected, several possible alternatives, on two principal grounds: (1) that they were not sufficiently protective to assure that all the applicable requirements of the Act would be met (*i.e.*, they lacked enforceable TN effluent limitations to *ensure* as a matter of law that nitrogen loads would be maintained at protective levels), or (2) that they would entail unwarranted uncertainty and delay (*i.e.*, they called for the development of new or revised TMDLs or for development of extensive new data collection or modelling in an attempt refine or pinpoint necessary targets and loads, even though the permits at issue have long-since expired and water quality impairments are ongoing).

Rather than approach this complex permitting task on an *ad hoc* basis, EPA instead fashioned a systemic permitting approach designed to comprehensively regulate nitrogen loading from out-of-basin nitrogen sources on a gross, basin-level scale. EPA addressed the existing TN loading to ensure achievement of the following overarching objectives:

- the overall out-of-basin TN load does not increase in accordance with antidegradation requirements, given that the LIS is already nitrogen impaired, through the imposition of enforceable effluent limits that are annual average mass-based, consistent with the assumptions of the TMDL;
- no individual facility is left with an effluent limit that is not achievable using readily available treatment technology at the facility's design flow; and
- smaller facilities can achieve their limits through optimization.

EPA's derivation of effluent limitations to implement these objectives, based on its best

professional judgment and information reasonably available to the permit writer at the time of permit issuance, consists of three essential parts:

- First, EPA *identified* the existing aggregate load from all contributing facilities in a given state.
- Second, because Long Island Sound is already nitrogen impaired and failing to achieve applicable water quality standards,[37] EPA *capped* that load to avoid contributing to further impairments and fully protect existing uses.
- Third, EPA *allocated* the load according to a water quality-related consideration rationally related to achieving water quality standards in Long Island Sound and carrying out the objectives of the Act.

In the case of Massachusetts and New Hampshire, that consideration was facility *size*, with loads distributed based on the design flow of the POTW treatment plants. In deriving design-flow-based effluent limitations, EPA utilized the following methodology:

- EPA estimated the current maximum out-of-basin annual point source load using data for the five years prior to the year of the Draft Permit, consistent with Region 1's ordinary practice of using the most recent five years of data in the derivation of effluent limits for permits, which is in accordance with the recommendation in EPA guidance to use three to five years and, by use of the longer timeframe, is intended to more fully capture a representative data set[38] (see estimate of recent effluent loadings in Appendix D);
- It prioritized effluent limits for major POTW facilities with design flow greater than 1 MGD, consistent with the definition of major facility in 40 CFR § 122.2;[39]
- It developed mass-based rolling annual average TN effluent limits based on design flow (consistent with 40 CFR § 122.45(b)(1)) and effluent concentrations that can achieved by means of currently available nitrogen removal technology for all facilities and the design flow for each facility, where effluent limit (lb/day) = Concentration (mg/L) x Design Flow (MGD) x 8.34;
- EPA based limits on concentrations that can typically be achieved through optimization for POTW facilities with design flow less than 10 MGD, with more aggressive optimization expected for facilities with design flow greater than 5 MGD; and,

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[37] CTDEEP, Interstate Environmental Commission, EPA, *2019 Long Island Sound Hypoxia Season Review*, available at: http://www.iec-nynjct.org/sites/default/files/2020-07/FINAL_LISound-Hypoxia-2019-Combined-Report_april2020.pdf

[38] NPDES Permit Writer's Manual, EPA-833-K-10-001, September 2010, page 5-30, available at: https://www.epa.gov/sites/production/files/2015-09/documents/pwm_2010.pdf.

[39] *NPDES Permit Writer's Manual*, EPA-833-K-10-001, September 2010, page 2-17, available at: https://www.epa.gov/sites/production/files/2015-09/documents/pwm_2010.pdf.

- For the four POTW facilities with design flow greater than 10 MGD (which together comprise more than half of the total Massachusetts load to LIS), EPA based limits on concentrations achievable through optimization or upgrades.

Although EPA considered caps for individual dischargers at their current loadings, that approach was rejected because these effluent limits are subject to statutory anti-backsliding requirements of CWA § 402(o) which would prevent a limit from being increased if flows increase due to new residential or industrial development. Therefore, a facility currently discharging well below its design flow, could be put in a position of having a load limit that is below the limit of technology at its design flow. For example, if a new industrial discharger was to tie in, even if that discharger was willing to invest in readily available treatment technology, the load would preclude the facility from operating at its design flow.

Instead, EPA examined out-of-basin loads across the watershed and developed effluent limits that are achievable through optimization or readily available treatment technologies for all facilities, even if they are operating at their design flow. EPA has determined that this approach will be protective of water quality and will carefully monitor receiving water response over the permit term and adjust as necessary. EPA recognizes that Connecticut and New York have very substantially reduced their nitrogen loadings into LIS and water quality conditions have improved, although LIS is not yet fully achieving water quality standards. Additional work is being undertaken in New York and Connecticut to further reduce nitrogen loadings into LIS. It will take time to allow the impact of these reductions to be fully realized and for designated uses to be fully restored. EPA believes that this approach reasonably balances the need to hold overall TN loadings constant to avoid exacerbating ongoing nitrogen-driven environmental degradation against the inherent scientific and technical uncertainty associated with receiving water response in a water body as complex as LIS. More stringent limitations on the out-of-basin dischargers are therefore not necessitated at this time.

Based on the approach described above, Table 5 summarizes the TN requirements implemented for this and other permits in the LIS watershed in Massachusetts since 2019. EPA is also working with the States of New Hampshire and Vermont to ensure that comparable requirements are included in NPDES permits issued in those states.

Table 5 - Annual Average Total Nitrogen Limits for Massachusetts WWTP Dischargers to the Long Island Sound Watershed

Facility Design Flow, Q_D (MGD)	**Number of Facilities**	**Annual Average TN Limit (lb/day)**
$Q_D > 10$	4	Q_D (MGD) * 5 mg/L * 8.34 + optimize
$5 < Q_D \leq 10$	5	Q_D (MGD) * 8 mg/L * 8.34 + optimize
$1 \leq Q_D \leq 5$	20	Q_D (MGD) * 10 mg/L * 8.34 + optimize
$0.1 \leq Q_D < 1$	17	Optimize
$Q_D < 0.1$	8	TN monitoring only

The basis for establishing mass-based effluent limits using facility design flow and 5, 8 and 10 mg/L as total nitrogen concentrations that facilities can meet by means of optimization or, for the four largest facilities, readily available treatment technology, meets the legal requirements of the CWA but was derived in order to balance the burden of treatment with the four largest facilities (currently generating more than half of the Massachusetts out-of-basin load) required to meet 5 mg/L concentration at design flow, and the remaining facilities with effluent limits that can be achieved through system optimization. In tiering the facilities, EPA considered the relative magnitude of flows from these facilities and observed that there was a significant divide between the four largest facilities and the remaining facilities (67 MGD for Springfield, 17.5 MGD for Holyoke, 17 MGD for Pittsfield and 15.5 MGD for Chicopee compared to the next largest at 8.6 MGD for North Hampton). The four largest facilities contribute 53% of the design flow for the out-of-basin watershed. EPA also observed that three of these facilities are on the main stem of the Connecticut River and Pittsfield is on the mainstem of the Housatonic, so there is little or no attenuation of nitrogen. All these factors, in EPA's technical judgment, warranted the further additional assurance of meeting water quality standards provided by a more stringent numeric cap in loading that may necessitate a facility upgrade, as opposed to limits achievable through optimization only. EPA also notes that the four larger facilities will be able to spread the cost of any upgrade over a much larger user base.

EPA established the next tier at 5 MGD partly on the assumption POTWs of greater than that size are likely to already possess the technical capability, operator sophistication and administrative capacity needed to achieve more stringent effluent limitations via optimization requirements. To this point, EPA took notice of the fact that the 5 MGD threshold has some regulatory significance under EPA's regulations implementing the NPDES program, specifically pretreatment, where EPA determined that facilities of that size are significantly large enough to require a pretreatment program. EPA, of course, also took into account the relatively large magnitude of the loads associated with these facilities. Finally, EPA also took note of the fact that these facilities, though not serving communities as large as Springfield, Holyoke, Pittsfield and Chicopee, still have considerable ability to spread costs over user bases of considerable size. EPA chose the 1 MGD tier because that corresponds to the definition of major POTW under NPDES regulations. Facilities above 1 MGD account for approximately 80% of the total out-of-basin load. Because the many facilities smaller than 1 MGD collectively account for a relatively small amount of the total load, EPA believes that optimization is reasonable for these facilities, given their comparatively small loads and user bases.

Finally, those facilities under 0.1 MGD are required to monitor and report data that may be used in future permitting cycles.

Thus, in arriving at its tiering determination, EPA considered a series of technical and environmental factors within its expertise, and also took into account equitable considerations. EPA acknowledges that the chosen tiers are not the only way to divide the out-of-basin TN allocations, but was not presented with any alternatives that capped the existing load based on design flow through the imposition of enforceable permit limits. For example, EPA considered, and rejected, the option to apply a limit based on 8 mg/L effluent limit for all facilities with design flow greater than 1 MGD (at their respective design flows) because that would result in an increase in the current loading and place a greater burden on facilities that service relatively small communities. The combined design flow for the 29 MA POTW facilities with design flow

greater than 1 MGD is 196 MGD. Of this combined design flow, 60%, or 117 MGD consists of the design flow for the four largest POTWs. Under the selected permitting approach, the proportion of the permitted load from the four largest facilities will be 60% of the combined permitted load for all 29 MA facilities, consistent with the proportion of design flow. If all POTWs with design flow over 1 MGD had a concentration-based limit of 8 mg/L (or a load based limit based on 8 mg/L and design flow), the proportion of the permitted load coming from the four largest facilities would increase from 60% of the total permitted load to 90%, shifting the burden of treatment significantly from larger to smaller facilities. In addition, the total permitted TN loading from those 29 facilities would increase from 8,100 lb/day under the chosen approach to 8,600 lb/day.

In addition to the effluent limits described above, EPA is also requiring all POTWs with a design flow of 0.1 MGD or greater to optimize for nitrogen removal to ensure that the aggregate 25% reduction is maintained or increased. The optimization condition in the Draft Permit requires the Permittee to evaluate alternative methods of operating their treatment plant to optimize the removal of nitrogen, and to describe previous and ongoing optimization efforts. Specifically, the Draft Permit requires an evaluation of alternative methods of operating the existing wastewater treatment facility to control total nitrogen levels, including, but not limited to, operational changes designed to enhance nitrification (seasonal and year-round), incorporation of anoxic zones, septage receiving policies and procedures, and side stream management. This evaluation is required to be completed and submitted to EPA and MassDEP within one year of the effective date of the permit, along with a description of past and ongoing optimization efforts. The permit also requires implementation of optimization methods to ensure that the facility is operated in such a way that discharges of total nitrogen are minimized. The permit requires annual reports to be submitted that summarize progress and activities related to optimizing nitrogen removal efficiencies and track trends relative to previous years.

In addition to the rolling annual average total nitrogen effluent limit and optimization requirements, the Draft Permit includes weekly monitoring and average monthly reporting requirements for total nitrogen (TN), total Kjeldahl nitrogen (TKN), and total nitrite/nitrate nitrogen (NO_2/NO_3).

Since the design flow for the Chicopee facility is greater than 10 MGD (15.5 MGD), the annual loading TN limit calculated for the Draft Permit is:

15.5 MGD * 5 mg/L * 8.34 = 647 lb/day.

The effluent limit is a rolling annual average based on the average of the current average monthly and the average monthly of the previous 11 months. The monitoring frequency in the Draft Permit is once per week.

The Chicopee WPCF does not currently meet the proposed total nitrogen limit in the Draft Permit. EPA will be working with the City on a compliance schedule after the permit becomes effective, and the Draft Permit includes the following requirements: 1) submit an evaluation within one year that describes alternative methods of operating the existing wastewater treatment facility to optimize the removal of nitrogen, 2) implement the recommended operational changes

in order to minimize the discharge loading of nitrogen, and 3) submit an annual report to EPA and the MassDEP, by February 1 each year, that summarizes activities related to optimizing nitrogen removal efficiencies and document the annual nitrogen discharge load from the facility along with the observed trends relative to the previous year. The 647 lb/day total nitrogen limit is a 12-month rolling average limit calculated as the arithmetic mean of the monthly average total nitrogen load for each reporting month and the previous eleven months. Therefore, compliance will be measured beginning in July 2024 and will be based on the arithmetic mean of the 12 monthly average total nitrogen loads for July 2023 through June 2024. Compliance will continue to be measured each month following.

Future Nitrogen Limits

The new nitrogen annual loading limit in this Draft Permit is intended to meet the requirements of the 2001 LIS TMDL, which was developed to address hypoxic conditions in the bottom waters of LIS. In December 2015, EPA signed a letter detailing a post-TMDL EPA nitrogen reduction strategy for waters in the LIS watershed. The strategy recognizes that more work may need to be done to reduce nitrogen levels, further improve DO conditions, and attain other related water quality standards in LIS, particularly in coastal embayments and the estuarine portions of rivers that flow into the Sound. EPA is working to establish nitrogen thresholds for Western LIS and several coastal embayments, including the mouth of the Connecticut River. Documents regarding the EPA Nitrogen Reduction Strategy are available for public review on EPA's Long Island Sound website (http://longislandsoundstudy.net/issues-actions/water-quality/nitrogen-strategy/). Upon completion of establishing thresholds and assessing the water quality conditions of the estuarine waters of the Connecticut River, allocations of total nitrogen loadings may be lowered if further reductions are necessary. If further reductions are needed for the Chicopee discharge, a lower water quality-based effluent limit will be added in a future permit action. If so, EPA anticipates exploring possible trading approaches for nitrogen loading in the Massachusetts portion of the Connecticut River watershed.

Although not a permit requirement, it is strongly recommended that any facilities planning that might be conducted for this facility should consider alternatives for further enhancing nitrogen reduction.

5.1.8.2 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;[40] 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 violations of 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

[40] "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.

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 100 µg/L (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 VII, 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 0.05 mg/L in any stream entering a lake or reservoir, 0.1 mg/L for any stream not discharging directly to lakes or impoundments, and 0.025 mg/L within a lake or reservoir.

The Gold Book recommended value of 0.1 mg/L is coterminous with the range of published, peer-review values presented in a more recent EPA technical guidance manual, *Nutrient Criteria Technical Guidance Manual – Rivers and Streams*, EPA July 2000 [EPA-822-B-00-002], Chapter 7 Table 4 (a simplified version of this table is shown as Table 6 below), which contains recommended threshold ambient concentrations (all more stringent than 0.1 mg/L) drawn from

the scientific literature that are sufficiently stringent to control periphyton and plankton (two types of aquatic plant growth associated with eutrophication). This guidance indicates that in-stream phosphorus concentrations between 0.01 mg/L and 0.09 mg/L will be sufficient to control periphyton growth and concentrations between 0.035 mg/L and 0.070 mg/L will be sufficient to control plankton.

Table 6. Recommended Nutrient Levels to Prevent Eutrophic Impairment

PERIPHYTON Maximum			
TP (µg/L)	**Chlorophyll a (µg/L)**	**Impairment Risk**	**Source**
38-90	100-200	nuisance growth	Dodds et al. 1997
75	200	eutrophy	Dodds et al. 1998
20	150	nuisance growth	Clark Fork River Tri-State Council, MT
20		*Cladophora* nuisance growth	Chetelat et al. 1999
10-20		*Cladophora* nuisance growth	Stevenson unpubl. Data
PLANKTON Mean			
TP (µg/L)	**Chlorophyll a (µg/L)**	**Impairment Risk**	**Source**
42	8	eutrophy	Van Nieuwenhuyse and Jones 1996
70	15	chlorophyll action level	OAR 2000
35	8	eutrophy	OECD 1992 (for lakes)

The published, peer-reviewed phosphorus targets are thus 100 µg/L (0.1 mg/L) or below, irrespective of the methodological approach employed. In addition to opting for the less stringent of the available approaches (*i.e.*, effects-based in favor of reference-based), EPA has chosen to apply the upper end of the range of all available published nutrient thresholds. However, 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. 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.

In determining whether the discharge has the reasonable potential to cause or contribute to excursions above the instream water quality criteria for phosphorus, EPA uses a mass balance equation to project the phosphorus concentration downstream of the discharge. If there is reasonable potential, the mass balance equation is used to determine the limit that is required in the permit. Previous permits have not included phosphorus testing requirements. With a dilution factor of 100.3 it is very unlikely that the facility's phosphorous discharges have a reasonable potential to cause or contribute to a water quality standards exceedance. However, with lack of data, a reasonable potential calculation for the discharge to exceed the Gold Book criterion of 100 µg/L (0.1 mg/l) could not be performed. To be able to quantitatively determine the potential that phosphorus discharges from the Chicopee Water Pollution Control Facility may cause or contribute to the development of excessive plant growth in the Connecticut River in the next permit cycle, the Draft Permit includes the requirement to monitor phosphorus monthly on a seasonal basis, from April 1st through October 31st.

5.1.9 Metals

Dissolved fractions of certain metals in water can be toxic to aquatic life. Therefore, there is a need to limit toxic metal concentrations in the effluent where aquatic life may be impacted. For the development of the Draft Permit, analyses were completed to evaluate whether there is reasonable potential for effluent discharges to cause or contribute to exceedances of the water quality criteria for aluminum, cadmium, copper, lead, nickel and zinc and/or to evaluate whether any existing limits in the 2012 Permit for these metals continue to be protective, given the updated upstream hydrologic and chemical characteristics of the receiving water. The 2012 Permit included monthly average effluent limits, and a daily max reporting requirement, for aluminum at outfall 010. A summary of recent metals compliance and monitoring results is provided in Appendix A.

5.1.9.1 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 C.F.R. § 122.45(c) require, with limited exceptions, that effluent limits for metals in NPDES permits be expressed as total recoverable metals.

Additionally, the criteria for cadmium, copper, lead, nickel and zinc are hardness-dependent using the equations in EPA's National Recommended Water Quality Criteria: 2002, which are incorporated into the Massachusetts WQS by reference. The estimated hardness of the Connecticut 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 the next section (substituting hardness for metal concentration), the resulting downstream hardness is 34.1 mg/L and the corresponding criteria are presented in **Appendix C**.

Massachusetts aluminum criteria are not hardness-dependent and are expressed as total recoverable aluminum.

5.1.9.2 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, the following mass balance is used to project in-stream metal concentrations downstream from the discharge.

$$Q_s C_s + Q_d C_d = Q_r C_r$$

Solving for the receiving water metal concentration downstream of the discharge (C_r) yields:

$$C_r = \frac{Q_s C_s + Q_d C_d}{Q_r}$$

Where:

Q_s = 7Q10 flow upstream of Facility
Q_d = design flow of Facility
Q_r = combined stream flow (7Q10 + design flow)
C_s = median upstream metal concentration
C_d = effluent metals concentration (95th percentile[41])

Reasonable potential is then determined by comparing this resultant in-stream concentration with the acute and chronic criteria for each metal. The discharge is determined to have the reasonable potential to cause or contribute to a violation of water quality standards if both the effluent concentration (C_d) and the downstream concentration (C_r) exceed the criteria. In EPA's Technical Support Document for Water Quality Based Toxics Control, EPA/505/2-90-001, March 1991, commonly known as the "TSD", box 3-2 describes the statistical approach in determining if there is reasonable potential for an excursion above the maximum allowable concentration. If there is reasonable potential for either acute or chronic conditions, the appropriate limit is then calculated by rearranging the above mass balance to solve for the effluent concentration (C_d) using the relevant criterion as the resultant in-stream concentration (C_r).

For metals with an existing limit in the Permit, a reasonable potential determination is not applicable, so the table indicates "N/A" for reasonable potential. In such cases, the same mass balance equation is used to determine if a more stringent limit would be required 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. However, if the mass balance indicates that a less stringent effluent concentration (C_d) would meet WQS under current conditions, a case-by-case analysis must be done to determine if backsliding is allowable based on the exceptions found at 40 CFR § 122.44(l)(2)(i).

The results of this analysis for each metal are presented in Appendix C. As shown in Appendix C, the Draft Permit must include a chronic limit for aluminum of 87.0 µg/L at both outfalls 010 and 007. The chronic (monthly average) aluminum limit is carried forward from the 2012 Permit.

[41] The Facility's effluent concentrations (from Appendix A) were characterized assuming a lognormal distribution to determine the estimated 95th percentile of the daily maximum (*See* Appendix E).

Outfall 010

The 2012 Permit includes a chronic (monthly average) aluminum concentration limit and a reporting requirement for acute (daily max), based on the instream aluminum 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). The freshwater instream criteria for aluminum is 87 ug/L (chronic).

Review of the monitoring data from 2014 to 2019, provided in Appendix A, shows that the monthly average aluminum in the effluent exceeded the 87 µg/L chronic criteria ten times. The aluminum criteria is not hardness dependent.

EPA issued an Administrative Order (AO) on November 14, 2018 to the City of Chicopee for aluminum water quality exceedances at the wastewater treatment plant. See Section 3.1.1. of this fact sheet regarding this AO, interim limits, and upgrade completion dates.

The analysis in Appendix C shows that the 87 µg/L limit is protective of water quality criteria; therefore, this permit continues the monthly average effluent limit of 87 µg/L and a monitoring frequency of 2/month. The acute aluminum concentration monitoring requirement is also continued.

5.1.10 Whole Effluent Toxicity

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

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

National studies conducted by the 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, EPA

assumes that there is a reasonable potential for this discharge to cause or contribute to an exceedance of the "no toxics in toxic amounts" narrative water quality standard.

Further, EPA Region 1 and MassDEP[42] current toxic policies require toxicity testing for all dischargers such as the Chicopee WWTF. In accordance with these policies, whole effluent chronic effects are regulated by limiting the highest measured continuous concentration of an effluent that causes no observed chronic effect on a representative standard test organism, known as the chronic No Observed Effect Concentration (C-NOEC). Whole effluent acute effects are regulated by limiting the concentration that is lethal to 50% of the test organisms, known as the LC_{50}. According to this policy dischargers having a dilution factor more than 100 are required to conduct acute and chronic toxicity testing twice per year for two species, and the LC_{50} limit should be greater than or equal to 50%.

The acute WET limit in the 2012 Permit was LC_{50} greater than or equal to 100%, using the fathead minnow (*Pimephales promelas*). The 2012 Permit also required the Facility to conduct a chronic WET test with the brook trout (*Salvinus fontinalis*) twice per year during the first two years of the permit and report the C-NOEC. The Facility violated the acute WET limit five times between February 2014 to February 2019.

The Draft Permit continues the acute WET limit of LC_{50} greater than or equal to 100% using the fathead minnow (*Pimephales promelas*) and discontinues the two year study that was conducted during the first two years of the 2012 permit using brook trout (*Salvinus fontinalis*), given that the WET test results show an increased sensitivity using the fathead minnow (*Pimephales promelas*) test species.

The permittee is required to initiate a retest when there is an excursion of the acute permit limit within one week of receiving the results of the initial WET test. If the retest fails, the permittee is required to identify and take steps to mitigate the source of the toxicity within 30 days. A second retest is required within 30 days after receiving the results of the first retest. If the second retest fails or if the Permittee does not identify the source of the toxicity of the previous two WET tests, the Permittee shall prepare a Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE) in accordance with EPA Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (August 1999). This is a new requirement for this permit. https://www.epa.gov/sites/production/files/2016-02/documents/tre.pdf.

The TRE goal is to reduce or eliminate toxicity to consistently achieve the LC50 WET limits in this permit. EPA may use the monitoring results of the toxicity tests or the results of the TRE/TIE to develop numerical effluent limitations for any pollutants in the future, as necessary.

Based on the potential for toxicity from domestic and industrial contributions, the state narrative water quality criterion, the dilution factor of 100.3, and in accordance with anti-backsliding regulations and EPA national and regional policy and 40 C.F.R. § 122.44(d), the Draft Permit continues the effluent limits from the 2012 Permit including the test organism and the testing frequency. Toxicity testing must be performed in accordance with the updated EPA Region 1

[42] *Implementation Policy for the Control of Toxic Pollutants in Surface Waters*, MassDEP 1990

WET test procedures and protocol specified in **Attachment A** of the Draft Permit (USEPA Region 1 Freshwater Acute Toxicity Test Procedure and Protocol, February 2011).

5.1.11 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.[43] 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.

On January 27, 2020, Massachusetts DEP established an Office of Research and Standards Guideline (ORSG) level for drinking water that applies to the sum of the following PFAS[44,45]:

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

Based on the ORSG, MassDEP recommends that:

1 Consumers in sensitive subgroups (pregnant women, nursing mothers and infants) not consume water when the level of the six PFAS substances, individually or in combination, is above 20 parts per trillion (ppt).

2 Public water suppliers take steps expeditiously to lower levels of the six PFAS individually or in combination, to below 20 ppt for all consumers.

In December 2019, MassDEP proposed revisions to 310 CMR 22.00: Drinking Water Regulation that would set a new PFAS Maximum Contaminant Level (MCL) of 20 ppt (ng/L) for the sum of the concentrations of six PFAS compounds, including all six compounds addressed by the ORSG

[43] 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
[44] https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas
[45] https://www.mass.gov/doc/massdep-ors-guideline-for-pfas/download

(listed above).

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, 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 first full calendar quarter beginning 6 months after EPA notifies the Permittee that appropriate, multi-lab validated test methods are made available to the public.

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 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;".

Since an EPA method for sampling and analyzing PFAS in wastewater and sludge is not

currently available, the PFAS sampling requirement in the Draft Permit includes a compliance schedule which delays the effective date of this requirement until the first full calendar quarter beginning 6 months after EPA notifies the Permittee that a multi-lab validated method for wastewater and biosolids is available. For wastewater see https://www.epa.gov/cwa-methods/other-clean-water-act-test-methods-chemical and https://www.epa.gov/cwa-methods. For biosolids, see https://www.epa.gov/cwa-methods/other-clean-water-act-test-methods-biosolids. EPA expects these methods will be available by the end of 2021. This approach is consistent with 40 CFR 122.44(i)(1)(iv)(B) which states that in the case of pollutants or 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.

5.2 Industrial Pretreatment Program

The permittee is required to administer a pretreatment program based on the authority granted under 40 C.F.R. 122.44(j), 40 C.F.R. Part 403 and Section 307 of the Act. The permittee's pretreatment program received EPA approval on September 28, 1990 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 C.F.R. 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 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 1st, a pretreatment report detailing the activities of the program for the twelve-month period ending 60 days prior to the due date.

Additionally, see monitoring requirement for industrial users related to PFAS as described in Section 5.1.11 above.

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 infiltration/inflow 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 to control infiltration and inflow within the sewer collections system it owns and operates. The permittee 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.

5.4 Operation and Maintenance of the Sewer System

The standard permit conditions for 'Proper Operation and Maintenance', found at 40 C.F.R. § 122.41(e), require the proper operation and maintenance of permitted wastewater systems and related facilities to achieve permit conditions. The requirements at 40 C.F.R. § 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 C.F.R. § 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.
Several of the requirements in the Draft Permit are not included in the 2012 Permit, including collection system mapping, and preparation of a collection system operation and maintenance plan. EPA has determined that these additional requirements are necessary to ensure the proper operation and maintenance of the collection system and has included schedules for completing these requirements in the Draft Permit.

5.6 Combined Sewer Overflows

Description

Approximately 35% of Chicopee's sewer collection system consists of combined sewers that convey both sanitary and stormwater runoff during rain events. During wet weather, the combined flow exceeds the capacity of the interceptor sewers and the wastewater treatment plant, and a portion of the combined flow is discharged to the Connecticut and Chicopee Rivers and the Willimansett Brook through the City's combined sewer overflows (CSOs). CSOs have been identified as a significant source of pollution to the Connecticut and Chicopee Rivers. *See* 2003 Connecticut River WQA; 2003 Chicopee River WQA.

The City of Chicopee has significantly reduced its CSO discharges. Prior to 1977, all wastewater-related flows discharged into receiving waters within the Connecticut Watershed. The City's WPCF opened in 1978 and the remaining flow discharged through 40 CSO outfalls. The City constructed the Jones Ferry CSO disinfection treatment facility and has been working diligently to separate its sewer collection system. The City currently has 19 active CSO diversion structures in its system, leading to 15 CSO outfalls where the CSOs discharge to receiving waters. *See* Figure 3. This is a reduction from the 2012 Permit, which identified 28 active CSO diversion structures and 18 CSO outfalls. Since the last permitting action, CSOs 006, 029, 031, 32A, 034, and CSO diversion structures 6, 24.2, 24.3, 29, 31.1, 31.3, 32.2, 34.2, 34.3 have been eliminated in conjunction with Phase I of the City's Draft Long Term Control Plan (2001) and the 2006 Consent Order. These projects have reduced the volume of untreated CSO discharges from 220 MGD in 2012 to the current level of 176 MGD.

While the City has achieved significant reduction in CSO discharges, the remaining discharges are still substantial.

SWSC CSO Permitting History

On October 31, 2006, the MassDEP approved the City of Chicopee's plans for the construction of the Jones Ferry Combined Sewer Overflow (CSO) Treatment Facility.

Regulatory Framework

CSOs are point sources subject to NPDES permit requirements for both water-quality based and technology-based requirements but are not subject to the secondary treatment regulations applicable to publicly owned treatment works in accordance with 40 C.F.R. §133.103(a). Section

301(b)(1)(C) of the Clean Water Act of 1977 mandated compliance with water quality standards by July 1, 1977. Technology-based permit limits must be established for best conventional pollutant control technology (BCT) and best available technology economically achievable (BAT) based on best professional judgment (BPJ) in accordance with Section 301(b) and Section 402(a) of the Water Quality Act Amendments of 1987 (WQA). The framework for compliance with Clean Water Act requirements for CSOs is set forth in EPA's National CSO Control Policy, 59 Fed. Reg. 18688 (1994). It sets the following objectives:

1) To ensure that if the CSO discharges occur, they are only as a result of wet weather;

2) To bring all wet weather CSO discharge points into compliance with the technology-based requirements of the CWA and applicable federal and state water quality standards; and

3) To minimize water quality, aquatic biota, and human health impacts from wet weather flows.

Among the elements established to achieve these objectives, the CSO Policy set forth the minimum BCT/BAT controls (i.e., technology-based limits) that represent the BPJ of the Agency on a consistent, national basis. These are the Nine Minimum Controls (NMCs) defined in the CSO Policy and set forth in Part I.F. of the Draft Permit: 1) proper operation and regular maintenance programs for the sewer system and the combined sewer overflows; 2) maximum use of the collection system for storage; 3) review and modification of the pretreatment programs to assure CSO impacts are minimized; 4) maximization of flow to the POTW for treatment; 5) prohibition of dry weather overflows; 6) control of solid and floatable materials in CSOs; 7) pollution prevention programs which focus on contaminant reduction activities; 8) public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts; and 9) monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

This initial notification shall be followed by supplemental notification within twenty-four hours of the cessation of a discharge event to confirm whether an actual discharge occurred, and if so, to include information specific to each discharge, including the CSO outfall number and location, the date of the discharge, as well as the time the discharge commenced and ceased.

The CSO Policy also recommended that each community that has a combined sewer system develop and implement a CSO Long-Term Control Plan (CSO LTCP) that will ultimately result in compliance with the requirements of the CWA. The permittee is implementing various projects to reduce or eliminate CSO discharges as set forth in the 2017 Integrated Final LTCP.

Permit Requirements

In accordance with the National CSO Policy, the Draft Permit contains the following conditions for the CSO discharges:

(i) Dry weather discharges from CSO outfalls are prohibited. Dry weather discharges must be immediately reported to EPA and MassDEP.

(ii) During wet weather, the discharges must not cause any exceedance of water quality standards.

(iii) The permittee shall meet the technology-based NMCs described above and shall comply with the implementation levels as set forth in Part I.B. of the Draft Permit.

(iv) The permittee shall review its entire NMC program and revise it as necessary. Documentation of this review and any resultant revisions made to the NMC program shall be submitted to EPA and MassDEP within 6 months of the effective date of the permit. An annual report shall be provided by **April 30th** of each year which describes any subsequent revisions made to the NMC program and shall also include monitoring results from CSO discharges, and the status of CSO abatement projects.

5.7 Standard Conditions

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

6 Federal Permitting Requirements

6.1 Endangered Species Act

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

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

The federal action being considered in this case is EPA's proposed NPDES permit for the Chicopee Water Pollution Control Facility (WPCF) and 15 CSOs. The Draft Permit is intended to replace the 2012 Permit in governing this Facility. As the federal agency charged with authorizing the discharge from this Facility, EPA determines potential impacts to federally listed species, and initiates consultation, when required under Section 7(a)(2) of the ESA.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, or plants in the expected action area of the outfalls to determine if EPA's proposed NPDES permit could potentially impact any such listed species in the segments of the Connecticut River, Chicopee River, or the Willimansett Brook.[46]

Two listed species under the jurisdiction of the USFWS, the small whorled pogonia (*Isotria medeoloides*) and the northern long-eared bat, a mammal, (*Myotis septentrionalis*) were identified as potentially present in the vicinity of the Facility. The threatened small whorled pogonia, which is a member of the orchid family, is a terrestrial species that grows in upland forested sites with sparse to moderate ground cover and a relatively open understory canopy. Since this habitat does not overlap with the action area of the riverine discharge of the Facility, the small whorled pogonia is not present in the action area and no consultation is required.

According to the USFWS, the threatened northern long-eared bat is found in the following habitats based on seasons, "winter – mines and caves; summer – wide variety of forested habitats." This species is not considered aquatic. However, because the Facility's projected action area in the Connecticut River and the town of Chicopee area overlaps with the general statewide range of the northern long-eared bat, EPA prepared an Effects Determination Letter for the Chicopee WPCF NPDES Permit Reissuance and submitted it to USFWS. Based on the information submitted by EPA, the USFWS notified EPA by letter, dated March 10, 2021, that the permit reissuance is consistent with activities analyzed in the USFWS January 5, 2016, Programmatic Biological Opinion (PBO)[47]. The PBO outlines activities that are excepted from "take" prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.). The USFWS consistency letter concluded EPA's consultation responsibilities for the Chicopee WPCF NPDES permitting action under ESA Section 7(a)(2) with respect to the northern long-eared bat. No further ESA Section 7 consultation is required with USFWS.

For protected species under the jurisdiction of NOAA Fisheries, the following life stages of Atlantic sturgeon (*Acipenser oxyrinchus*) are likely present in the Chicopee WPCF action area of the Connecticut River: adult (migrating, foraging and spawning); subadult (migrating and foraging); juvenile (migrating and foraging); young-of-year (migrating and foraging); post yolk-sac larvae (migrating and foraging); and eggs and yolk-sac larvae. The following life stages of shortnose sturgeon (*Acipenser brevirostrom*) are likely also present in the action area: adult (migrating, foraging and overwintering); juvenile (migrating, foraging and overwintering); young-of-year (migrating and foraging); and post yolk-sac larvae (migrating and foraging). In addition, areas of the Connecticut River in the vicinity of the action area have been designated as critical habitat for Atlantic sturgeon.[48] These protected species life stages, as well as the listed Atlantic sturgeon critical habitat, may be influenced by the discharges from this Facility.

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[46] See §7 resources for USFWS at https://ecos.fws.gov/ipac/ or NMFS at https://www.greateratlantic.fisheries.noaa.gov/protected/section7/index.html

[47] USFWS Event Code: 05E1NE00-2021-E-05530, March 10, 2021.

[48] See §7 resources for NMFS at https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=1bc332edc5204e03b250ac11f9914a27

Because these species may be affected by the discharges authorized by the proposed permit, EPA has thoroughly evaluated the potential impacts of the permit action on these anadromous species through the preparation of a Biological Assessment (BA). EPA is in the process of finalizing the BA. On the basis of the evaluation, EPA's preliminary determination is that this action may affect, but is not likely to adversely affect, the life stages of Atlantic sturgeon and shortnose sturgeon which are expected to inhabit the Connecticut River in the vicinity of the action area of the discharge. In addition, EPA has made the preliminary determination that the proposed action may affect, but is not likely to adversely affect, the designated critical habitat that overlaps with the action area. Therefore, EPA has judged that a formal consultation pursuant to Section 7 of the ESA is not required. EPA is seeking concurrence from NOAA Fisheries regarding this determination through the information in the Draft Permit, this Fact Sheet, as well as the detailed BA that will be sent to NOAA Fisheries Protected Resources Division during the Draft Permit's public comment period.

Reinitiation of consultation will not need to take place unless: (a) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) 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 consultation; or (c) a new species is listed or critical habitat is designated that may be affected by the identified action. As part of the pre-consultation process, NOAA Fisheries and EPA agreed that the use of rainbow trout as a test species under the whole effluent toxicity testing program in the previous permit did not need to be carried forward to this Draft Permit.[49]

6.2 Essential Fish Habitat

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

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

EFH is only designated for fish species for which federal Fisheries Management Plans exist. *See* 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.

[49] The permittee provided the results of a 2-year toxicity study using rainbow trout (See Appendix A). The WET test results show that fathead minnow can be used solely to represent this discharge, since both test species have similar sensitivity. EPA consulted with NOAA Fisheries Protected Resources prior to discontinuing the trout testing.

Anadromous Atlantic salmon (*Salmo Salar*) is the only managed species believed to be present during one or more lifestages within the area which encompasses the discharge site[50]. Although the last remnant stock of Atlantic salmon indigenous to the Connecticut River was believed to have been extirpated over 200 years ago, an active effort was underway throughout the Connecticut River system from 1967 to 2013 in order to restore this historic run (HG&E/MMWEC, 1997). Remanent stocks of Atlantic salmon may pass in the vicinity of the discharge either during the migration of juveniles downstream to Long Island Sound or on the return of adults to upstream areas. The area of the discharge on the river mainstem is not suitable for spawning, which is likely to occur in tributaries where the appropriate gravel or cobble riffle substrate can be found.

EPA has concluded that the limits and conditions contained in the Chicopee WPCF Draft Permit minimize adverse effects to Atlantic Salmon EFH for the following reasons:

- This Draft permit action does not constitute a new source of pollutants. It is the reissuance of an existing NPDES permit.
- The dilution factor (100.3) is high.
- The Connecticut River is over 800 feet wide in the vicinity of the discharge, providing a large zone of passage for migrating Atlantic salmon that is unaffected by the discharges.
- WPCF limits specifically protective of aquatic organisms have been established for chlorine, based on EPA water quality criteria.
- The facility withdraws no water from the Connecticut River, the Chicopee River, Willimansett Brook or Cooley Brook, so no life stages of Atlantic salmon are vulnerable to impingement or entrainment from this facility.
- Acute toxicity tests will be conducted four times per year and a TRE/TIE requirement is included in the Draft Permit to ensure that the discharge does not present toxicity problems.
- CSO discharges have been significantly reduced in accordance with permit requirements.
- Enhanced treatment of CSO discharges from regulator 7.1, Jones Ferry CSO Treatment Facility, includes dechlorination of the effluent.
- The Draft Permit prohibits the discharge of pollutants or combination of pollutants in toxic amounts.

[50] https://www.habitat.noaa.gov/application/efhmapper/index.html

- The effluent limitations and conditions in the Draft Permit were developed to be protective of all aquatic life.
- The Draft Permit prohibits violations of the state water quality standards.

EPA believes that the Draft Permit limits adequately protect Atlantic Salmon EFH, and therefore additional mitigation is not warranted. If adverse impacts to EFH are detected as a result of this permit action, or if new information is received that changes the basis for our conclusion, NOAA Fisheries will be notified and an EFH consultation will be re-initiated.

7 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:

Janet Deshais at deshais.janet@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 at EPA's Boston office and 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.

8 Administrative Record

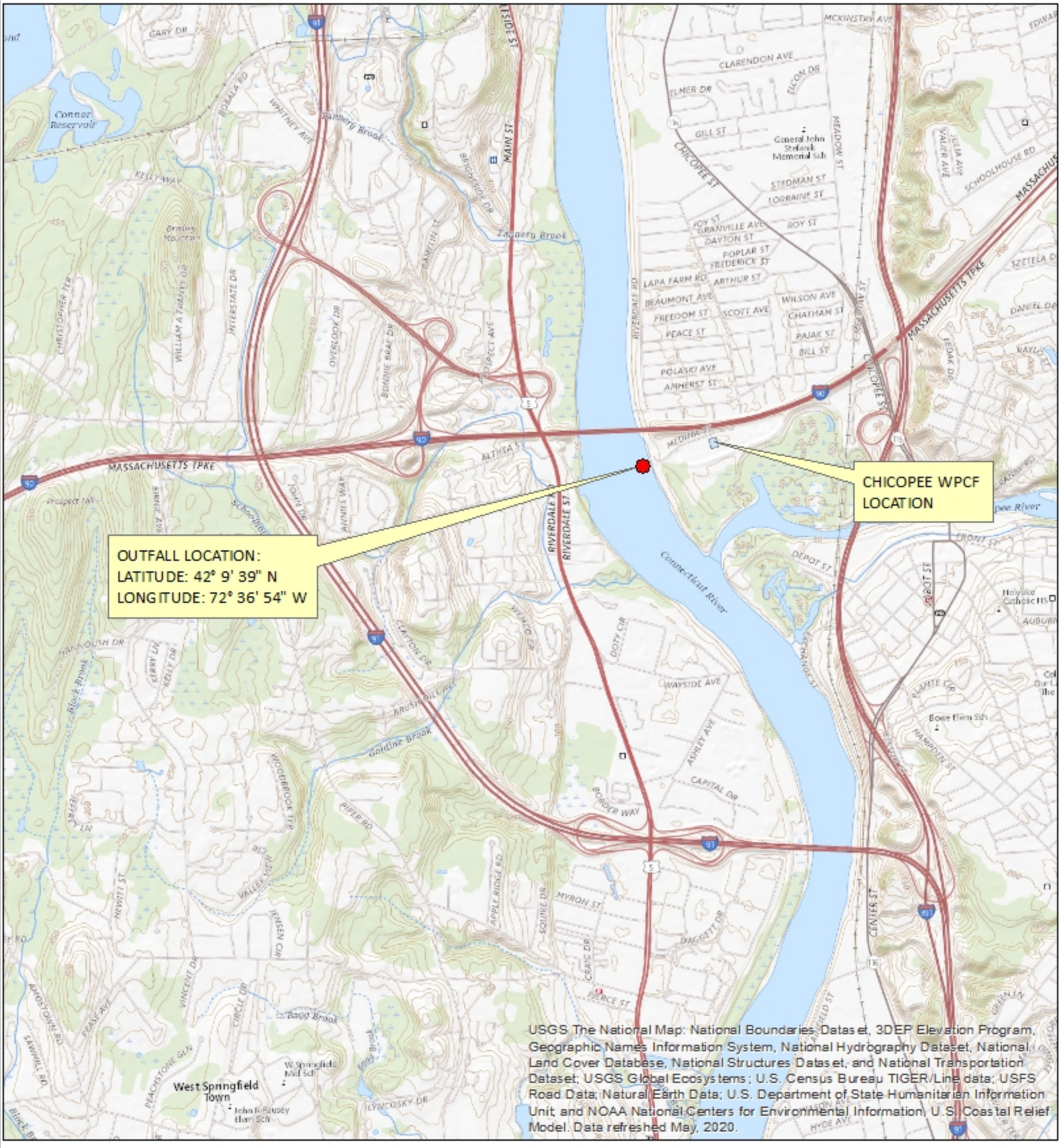
Following U.S. Centers for Disease Control and Prevention (CDC) and U.S. Office of Personnel Management (OPM) guidance and specific state guidelines impacting our regional offices, EPA's workforce has been directed to telework to help prevent transmission of the coronavirus. While in this workforce telework status, there are practical limitations on the ability of Agency personnel to allow the public to review the administrative record in person at the EPA Boston office. However, any documents relating to this draft can be requested from the individual listed above.

The administrative record on which this Draft Permit is based may be accessed at EPA's Boston

office by appointment, Monday through Friday, between the hours of 9:00 a.m. and 5:00 p.m., excluding holidays from: Janet Deshais, 617-918-1667 or deshais.janet@epa.gov.

June 2021
Date

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



1 : 24,000 Scale

0 500 Meters

0 1,000 2,000 Feet

Regulated Facilities: EPA

FIGURE 1
LOCATION MAP
CHICOPEE, MA

Chicopee, Massachusetts

EPA

3/11/2021

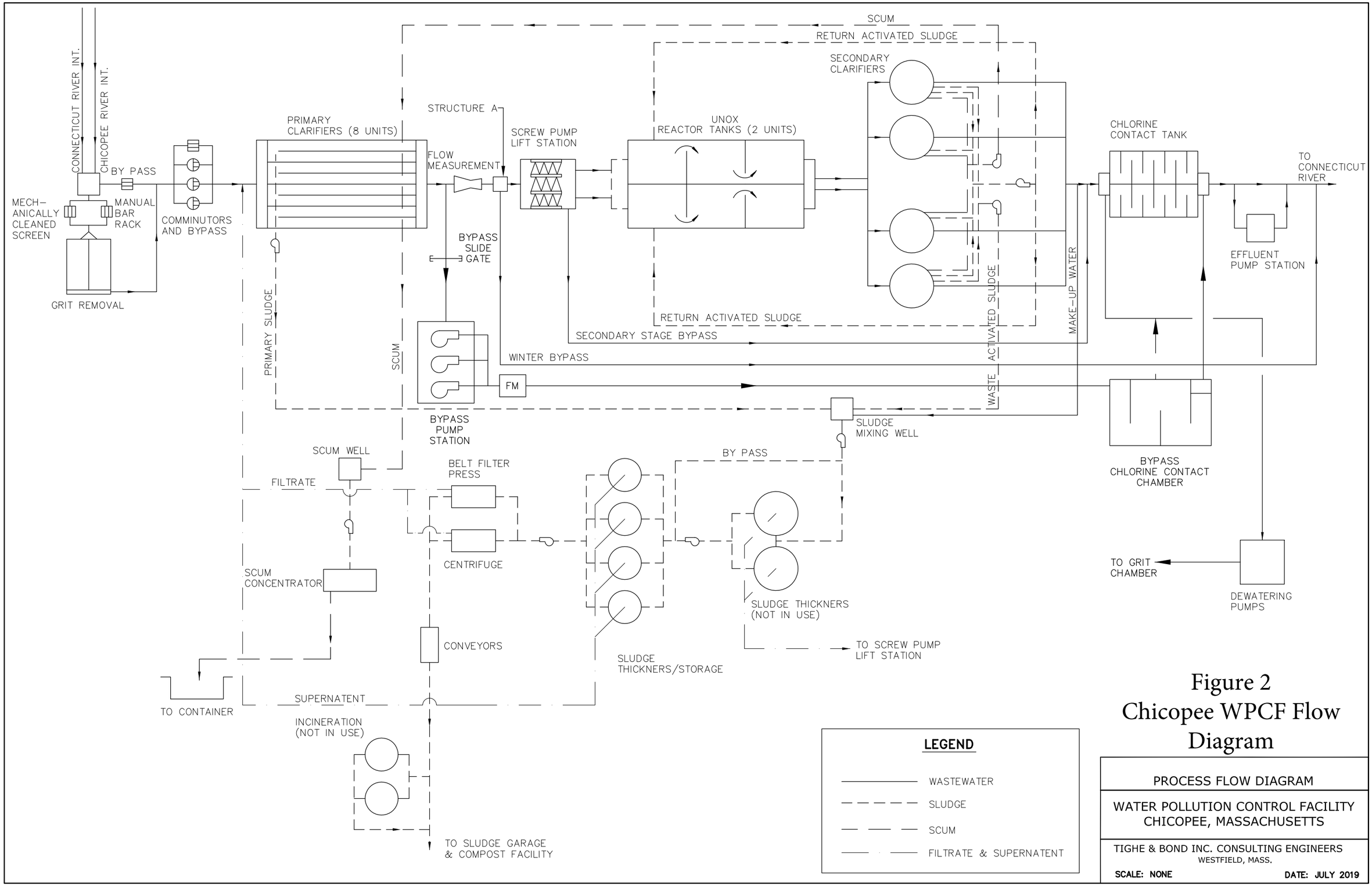


Figure 2
Chicopee WPCF Flow Diagram

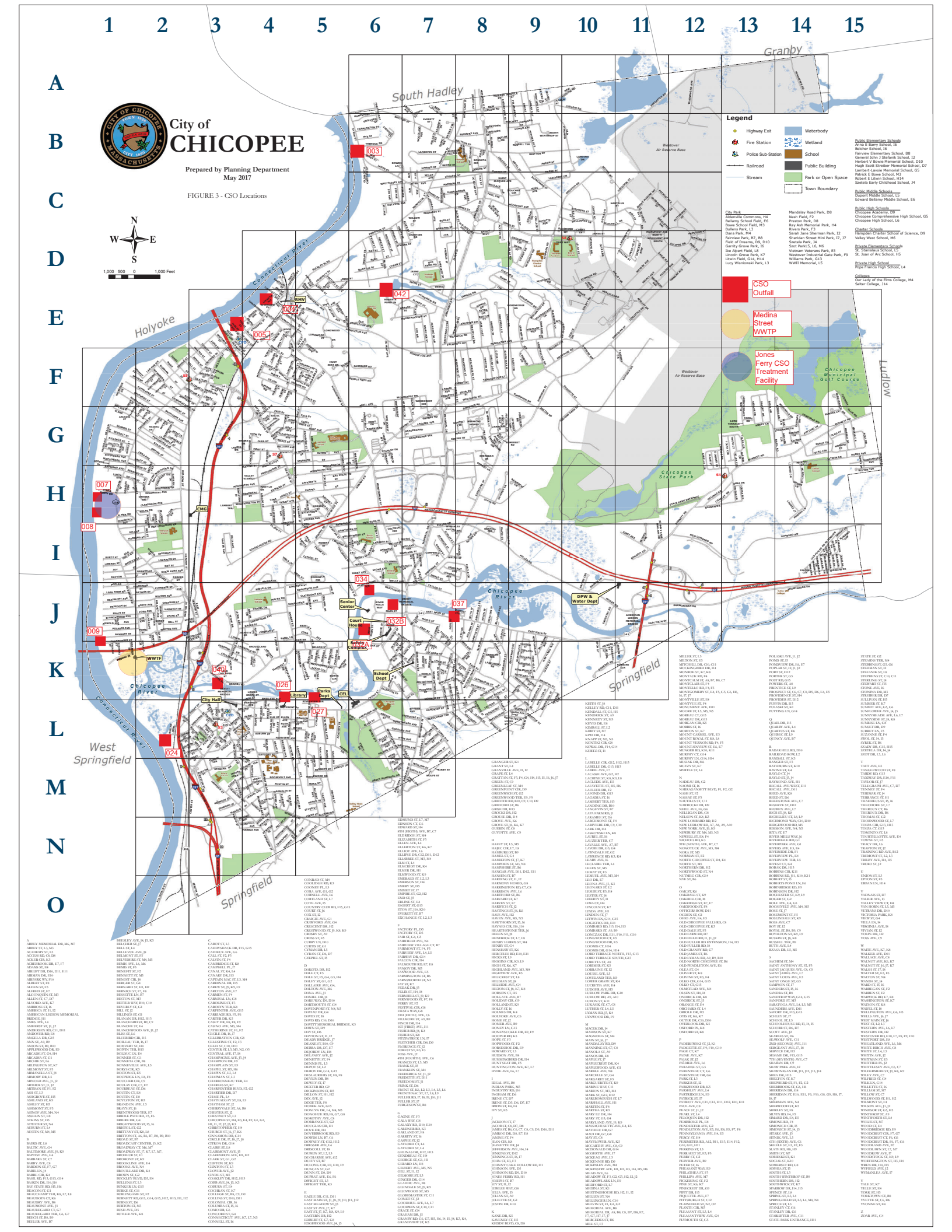
PROCESS FLOW DIAGRAM

WATER POLLUTION CONTROL FACILITY
CHICOPEE, MASSACHUSETTS

TIGHE & BOND INC. CONSULTING ENGINEERS
WESTFIELD, MASS.

SCALE: NONE **DATE: JULY 2019**

C0488\REPORT FIGS\FIG 1–1


City of
CHICOPEE
Prepared by Planning Department
May 2017
FIGURE 3 - CSO Locations
Legend
Highway Exit
Fire Station
Police Sub-Station
Railroad
Stream
Waterbody
Wetland
School
Public Building
Park or Open Space
Town Boundary
CSO Outfall
Medina Street WWTP
Jones Ferry CSO Treatment Facility
Connecticut River
Chicopee River
Springfield
West Springfield
South Hadley
Granby
Holyoke
Westover Air Reserve Base
Chicopee State Park
Chicopee Municipal Golf Course
Senior Center
Court House
Safety Complex
City Hall
Library
Parks Dept
School Dept
DPW & Water Dept
CEL
CMG
MWTF
RMV
1,000 500 0 1,000 Feet

City of Chicopee, MA

Figure 4 - Flow Diagram of Jones Ferry CSO Facility

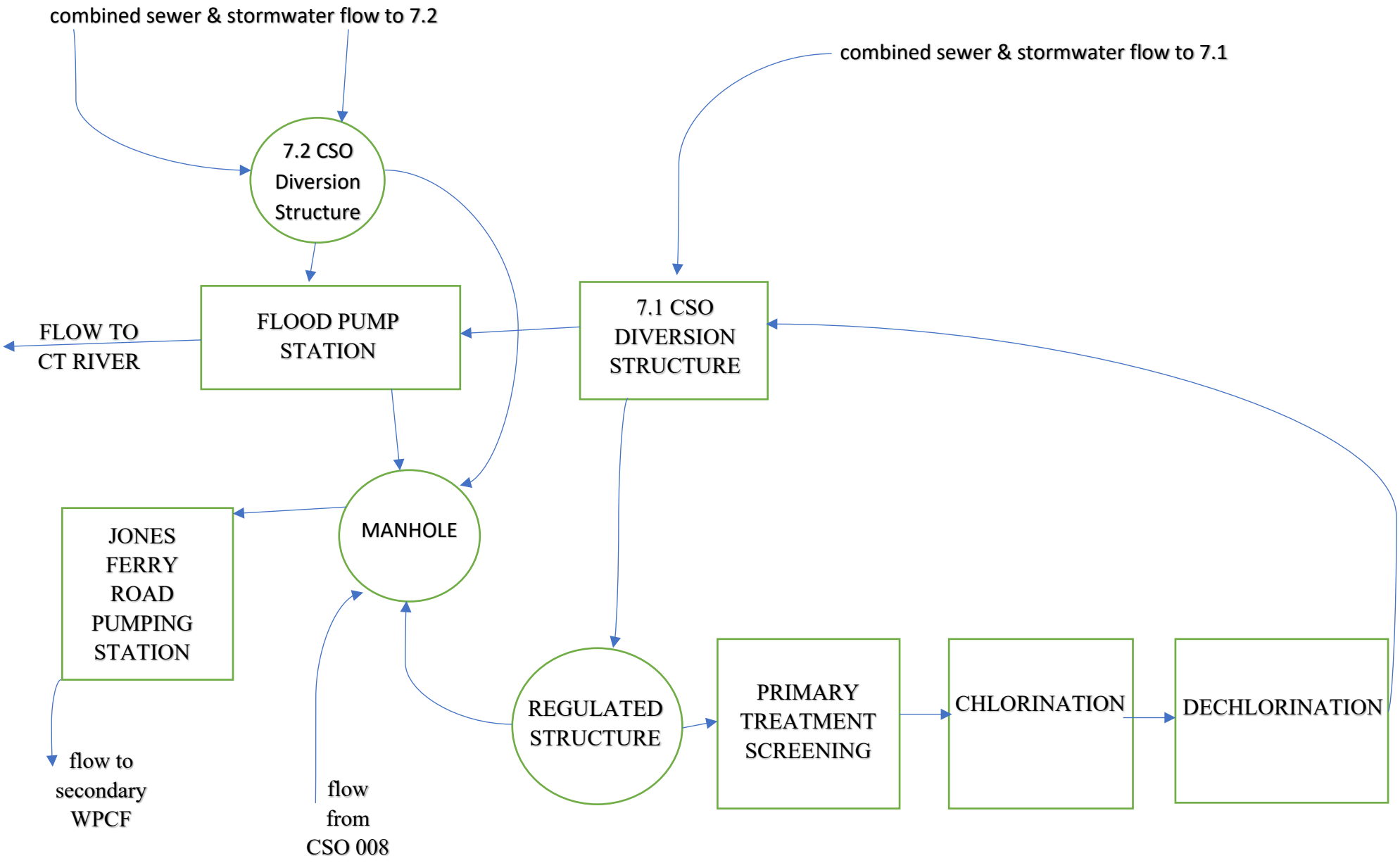


Diagram by Janet Deshais, USEPA, April 15, 2021

DMR SUMMARY
CHICOPEE WPCF

Outfall - Monitoring Location - Limit Set: 010 - 1 - A

Parameter	Flow	Flow	BOD_5	BOD_5	BOD_5	BOD_5	BOD_5
	Annual Rolling Ave	Daily Max	Monthly Ave	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave
Units	MGD	MGD	lb/d	mg/L	mg/L	lb/d	mg/L
Effluent Limit	15.5	Report	3878	30	41	5817	45
Minimum	5.7	6.8	650	11	23	761	14.9
Maximum	10.92	35	3635	50	30	5185	50
Average	7.77	14.5	1510	24	26.8	2010	29.8
No. of Violations	0	N/A	0	14	0	0	3
4/30/2014	8.3	20.1	1760	18		2083	22.9
5/31/2014	8.6	17.6	1793	18		2240	21.7
6/30/2014	8.8	11.8	1428	19		1961	24
7/31/2014	8.2	12.3	911	12		1445	18.2
8/31/2014	8.1	16.2	819	13		1066	14.9
9/30/2014	8.1	8.8	973	18		1219	24.1
11/30/2014	8.2	13.1	907	15		1126	17.3
12/31/2014	8.5	19.8	1324	16		1582	19
1/31/2015	8.5	19.8	1351	18		2336	23.3
2/28/2015	8.4	6.8	874	17		987	19
3/31/2015	8.4	14.6	1369	18		1794	19.7
4/30/2015	8.3	15.8	1902	22		2228	24.6
5/31/2015	7.9	8.2	1282	22		1606	28.6
6/30/2015	7.84	16.7	2143	32		2725	40.5
7/31/2015	7.8	10.6	1283	21		1450	23
8/31/2015	7.6	9.7	1366	26		2729	49
9/30/2015	7.64	13.7	650	11		1133	15.2
10/31/2015	7.5	15	843	15		1540	20.7
11/30/2015	7.5	11.2	827	16		1324	24
12/31/2015	7.2	15.1	1695	29		2517	45
1/31/2016	7.2	14.5	1736	29		2188	39
2/29/2016	7.1	19.1	1813	34		2334	37.5
3/31/2016	6.9	9.9	1591	33		2124	40
4/30/2016	6.6	9.1	1873	39		2119	45
5/31/2016	6.5	9.6	1345	24		1521	26.4
6/30/2016	6.3	10.3	1561	32		1863	38
7/31/2016	6.15	7.8	1063	23		1747	39
8/31/2016	6.09	8.2	680	14		1105	22.4
9/30/2016	6.01	8.1	690	15		761	16.1
10/31/2016	5.93	9.7	934	22		1187	26.6

DMR SUMMARY
CHICOPEE WPCF

Parameter	Flow	Flow	BOD_5	BOD_5	BOD_5	BOD_5	BOD_5
	Annual Rolling Ave	Daily Max	Monthly Ave	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave
Units	MGD	MGD	lb/d	mg/L	mg/L	lb/d	mg/L
Effluent Limit	15.5	Report	3878	30	41	5817	45
Minimum	5.7	6.8	650	11	23	761	14.9
Maximum	10.92	35	3635	50	30	5185	50
Average	7.77	14.5	1510	24	26.8	2010	29.8
No. of Violations	0	N/A	0	14	0	0	3
11/30/2016	5.9	14.6	1014	20		1110	23
12/31/2016	5.78	9	882	19		1624	22.9
1/31/2017	7.5	27.7	1634	24		2139	37.7
2/28/2017	7.04	10.5	1701	31		1985	37.7
3/31/2017	6.98	35	1180	20		2089	25
4/30/2017	9.4	15.5	1838	24		2243	31.7
5/31/2017	9	16.5	1492	19		1834	23.2
6/30/2017	8.2	10.7	1453	21		1699	23.1
7/31/2017	7.8	10.9	1017	17		1307	21.5
8/31/2017	7.61	10.7	1146	21		1883	29.5
9/30/2017	6	11.4	1172	23		1759	27
10/31/2017	7.34	16.7	1804	31		2203	39
11/30/2017	7.25	7	1647	29		2963	33
12/31/2017	5.7	10	1201	25		1464	31
1/31/2018	7.4	25.6	2056	32		2755	38.8
2/28/2018	8.11	21.9	2586	33		3091	40
3/31/2018	8.22	32	2318	33		2482	38
4/30/2018	8.9	14.3	3635	50		5185	50
5/31/2018	8.21	10.3	2534	39		2852	42.2
6/30/2018	8.02	13.6	2621	44		3022	50
7/31/2018	7.9	11.4	1752	29		2218	33.3
8/31/2018	7.95	12.5	1245	17		1573	19.4
9/30/2018	8.05	16.1	1716	21		2876	27.7
10/31/2018	8.32	17	2911	32		3985	42
11/30/2018	8.73	19.5			26		
12/31/2018	8.99	23.2			30		
1/31/2019	10.8	25.6			23		
2/28/2019	10.3	15			26		
3/31/2019	10.92	8.3			29		

DMR SUMMARY
CHICOPEE WPCF

Outfall - Monitoring

Parameter	BOD_5	BOD_5	TSS	TSS	TSS	TSS	TSS
	Weekly Ave	Daily Max	Monthly Ave	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave
Units	mg/L	mg/L	lb/d	mg/L	mg/L	lb/d	mg/L
Effluent Limit	47	Report	3878	30	36	5817	45
Minimum	29	24	757	13	17	988	15.1
Maximum	46	80	3298	58	24	5627	89
Average	35.2	48.5	1610	26.1	19.8	2270	33.8
No. of Violations	0	N/A	0	14	0	0	10
4/30/2014		28	1911	19		2456	23.3
5/31/2014		27	1766	18		2818	22.7
6/30/2014		32	1173	16		1397	17
7/31/2014		39	1451	19		1842	23
8/31/2014		25	880	13		1290	15.6
9/30/2014		30	810	15		1036	17.1
11/30/2014		25	922	16		1160	18.6
12/31/2014		31	1572	19		2151	20.3
1/31/2015		56	1716	23		2952	27.6
2/28/2015		24	971	18		988	19
3/31/2015		34	1495	20		1814	22.7
4/30/2015		55	1745	21		2012	22.3
5/31/2015		78	1250	21		1472	25
6/30/2015		73	3298	51		5627	89
7/31/2015		46	1563	26		1688	27
8/31/2015		80	1710	33		3866	71.4
9/30/2015		31	872	14		1215	15.1
10/31/2015		44	857	16		1277	18
11/30/2015		56	958	19		1450	26.1
12/31/2015		75	2494	39		3636	45
1/31/2016		58	3046	53		4536	81
2/29/2016		71	3165	58		5140	76.1
3/31/2016		52	2355	49		3270	62
4/30/2016		75	1865	39		2511	54
5/31/2016		47	1313	24		1469	23
6/30/2016		79	2185	44		2692	55
7/31/2016		51	1667	35		2603	57
8/31/2016		37	757	16		1200	24.4
9/30/2016		35	872	18		1047	21
10/31/2016		48	1100	26		1390	32.4

DMR SUMMARY
CHICOPEE WPCF

Parameter	BOD_5	BOD_5	TSS	TSS	TSS	TSS	TSS
	Weekly Ave	Daily Max	Monthly Ave	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave
Units	mg/L	mg/L	lb/d	mg/L	mg/L	lb/d	mg/L
Effluent Limit	**47**	**Report**	**3878**	**30**	**36**	**5817**	**45**
Minimum	**29**	**24**	**757**	**13**	**17**	**988**	**15.1**
Maximum	**46**	**80**	**3298**	**58**	**24**	**5627**	**89**
Average	**35.2**	**48.5**	**1610**	**26.1**	**19.8**	**2270**	**33.8**
No. of Violations	**0**	**N/A**	**0**	**14**	**0**	**0**	**10**
11/30/2016		41	1336	25		1046	26
12/31/2016		38	1191	26		2826	37.4
1/31/2017		55	1913	29		2487	39.2
2/28/2017		48	1342	25		2077	39.2
3/31/2017		43	1214	21		2300	30
4/30/2017		39.7	1641	21		2345	28.7
5/31/2017		36	1448	18		1835	22
6/30/2017		51	1537	22		1954	24
7/31/2017		31	1217	20		1407	21.5
8/31/2017		43	1167	21		1911	29.3
9/30/2017		40	1145	22		1639	25.4
10/31/2017		70	1940	**33**		2437	37
11/30/2017		51	1557	30		2371	38
12/31/2017		37	1383	29		1768	34
1/31/2018		50	2324	**36**		3411	**46.9**
2/28/2018		60	2288	29		2912	38.9
3/31/2018		44	1755	25		2438	30
4/30/2018		73	2624	**35**		4207	**46.9**
5/31/2018		48	2165	**33**		2630	39.7
6/30/2018		77	1859	**31**		2147	41.5
7/31/2018		42	1128	18		1626	19.9
8/31/2018		26	1492	21		2058	25.9
9/30/2018		68.5	1495	18		1825	20.1
10/31/2018		65	2171	24		2868	29.7
11/30/2018	32				24		
12/31/2018	46				22		
1/31/2019	29				18		
2/28/2019	34				18		
3/31/2019	35				17		

DMR SUMMARY
CHICOPEE WPCF

Outfall - Monitoring

Parameter	TSS	TSS	pH	pH	E. coli	E. coli	TRC	TRC	Ammonia Effluent
	Weekly Ave	Daily Max	Minimum	Maximum	Monthly Geometric Mean	Daily Max	Monthly Ave	Daily Max	Monthly Ave
Units	mg/L	mg/L	SU	SU	CFU/100mL	CFU/100m	mg/L	mg/L	lb/d
Effluent Limit	49	Report	6	8.3	126	409	0.89	1	Report
Minimum	19.3	26	6.07	6.76	0.11	0.5	0.38	0.55	1046
Maximum	33	296	7.23	7.75	17.83	800	0.63	1.05	2139
Average	24.7	71.2	6.5	7.08	3.02	77.8	0.526	0.756	1410
No. of Violations	0	N/A	0	0	0	2	0	1	N/A
4/30/2014		43	6.48	7	2.1	10	0.58	0.7	1439
5/31/2014		30	6.36	7.17	1.26	2.5	0.58	0.82	1468
6/30/2014		57	6.47	7.06	1.78	10	0.58	0.78	1462
7/31/2014		62	6.5	7.5	1.76	10	0.56	0.67	1427
8/31/2014		33	6.57	7	6.51	36	0.56	0.66	1401
9/30/2014		28	6.39	6.8	2.27	4	0.56	0.68	1332
11/30/2014		26	6.39	6.9					1279
12/31/2014		46	6.48	7.01					1589
1/31/2015		82	6.6	7.01					1331.5
2/28/2015		28	6.42	6.96					1503
3/31/2015		38	6.43	6.82					1483
4/30/2015		35	6.35	6.95	0.5	0.5	0.55	0.55	1453
5/31/2015		52	6.48	6.81	0.5	0.5	0.52	0.64	1273
6/30/2015		248	6.51	7	4.26	9	0.5	0.65	1361
7/31/2015		79	6.5	6.8	1.6	3	0.5	0.62	1605
8/31/2015		150	6.54	6.93	7.9	340	0.48	0.63	1731.8
9/30/2015		41	6.42	7	1.27	5	0.5	0.83	1617
10/31/2015		40	6.46	7.3	1.19	4	0.55	0.76	1509
11/30/2015		47	6.2	7.4					1537
12/31/2015		115	6.46	6.8					1830
1/31/2016		296	6.38	7.04					1503
2/29/2016		158	6.3	7.1					1408
3/31/2016		191	6.3	7.3					1046
4/30/2016		86	6.4	7.2	4.15	410	0.57	0.81	1360
5/31/2016		73	6.32	6.98	2.09	40	0.53	0.72	1589
6/30/2016		160	6.25	6.88	9.12	30	0.45	0.82	1488
7/31/2016		135	6.4	7	3.76	10	0.59	0.59	1476
8/31/2016		46	6.56	6.84	1.48	7	0.63	0.8	1402
9/30/2016		65	6.46	6.88	3.3	17	0.51	0.82	1302
10/31/2016		56	6.38	6.9	2.65	7	0.52	0.73	1414

DMR SUMMARY
CHICOPEE WPCF

Parameter	TSS	TSS	pH	pH	E. coli	E. coli	TRC	TRC	Ammonia Effluent
	Weekly Ave	Daily Max	Minimum	Maximum	Monthly Geometric Mean	Daily Max	Monthly Ave	Daily Max	Monthly Ave
Units	mg/L	mg/L	SU	SU	CFU/100mL	CFU/100m	mg/L	mg/L	lb/d
Effluent Limit	49	Report	6	8.3	126	409	0.89	1	Report
Minimum	19.3	26	6.07	6.76	0.11	0.5	0.38	0.55	1046
Maximum	33	296	7.23	7.75	17.83	800	0.63	1.05	2139
Average	24.7	71.2	6.5	7.08	3.02	77.8	0.526	0.756	1410
No. of Violations	0	N/A	0	0	0	2	0	1	N/A
11/30/2016		73	6.46	6.76					1542
12/31/2016		42	6.52	6.99					1397
1/31/2017		57	7.23	7.75					2139
2/28/2017		49	7.16	7.62					1411.23
3/31/2017		56	6.71	7.53					1341.41
4/30/2017		38	6.96	7.68	1.057	10	0.52	0.72	1298.12
5/31/2017		37	7.2	7.74	0.5	0.5	0.53	0.79	1263
6/30/2017		76	6.31	7.31	0.84	10	0.54	0.81	1103.15
7/31/2017		42	6.19	7.15	0.59	10	0.54	0.86	1286
8/31/2017		46	6.07	7.21	0.71	4	0.5	0.82	1477.83
9/30/2017		38	6.17	7.01	2.47	10	0.48	0.8	1456
10/31/2017		61	7.03	7.38	2.82	7	0.38	0.77	1413.08
11/30/2017		58	6.51	6.81					1344
12/31/2017		45	7.1	7.15					1552.2
1/31/2018		63	6.48	6.9					1399.57
2/28/2018		85	7	7.56					1254.08
3/31/2018		34	6.48	6.97					1382.91
4/30/2018		100	6.34	7.22	17.83	400	0.46	0.81	1427.02
5/31/2018		63	6.31	6.76	0.11	0.5	0.55	0.76	1466.26
6/30/2018		70	6.24	6.94	0.5	0.5	0.57	0.82	1214.93
7/31/2018		47	6.18	6.77	0.91	3	0.53	0.88	1309.41
8/31/2018		36	6.2	6.88	5.79	400	0.48	0.81	1416.55
9/30/2018		45	6.18	6.84	2.02	33	0.52	1.05	1183.67
10/31/2018		37	6.55	6.96	7	800	0.48	0.73	1346.51
11/30/2018	29.2		6.61	7.02					1208.49
12/31/2018	33		6.62	7.1					1227.11
1/31/2019	21.1		6.61	7.01					1103.55
2/28/2019	21.1		6.58	7.09					1187.45
3/31/2019	19.3		6.57	7.04					1388.15

DMR SUMMARY
CHICOPEE WPCF

Outfall - Monitoring

Parameter	Ammonia Effluent	Ammonia Effluent	Nitrite+Nitrate Effluent	Nitrite+ Nitrate Effluent	Nitrite+Nitrate Effluent	Nitrogen, Kjeldahl, total (TKN) Effluent	Nitrogen, Kjeldahl, total (TKN) Effluent	Nitrogen, Kjeldahl, total (TKN) Effluent	TN effluent
	Monthly Ave Min	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave
Units	mg/L	mg/L	lb/d	mg/L	mg/L	lb/d	mg/L	mg/L	lb/d
Effluent Limit	Report	Report	Report	Report	Report	Report	Report	Report	Report
Minimum	**10.19**	**13.1**	**5.48**	**0.11**	**0.078**	**1395**	**14.4**	**17.5**	**1424**
Maximum	**35.35**	**40.3**	**7689**	**1.34**	**4.5**	**2751**	**44.65**	**74**	**2775**
Average	**23.2**	**27.5**	**172**	**0.616**	**0.984**	**1840**	**29.9**	**35.6**	**1890**
No. of Violations	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
4/30/2014	14.4	19	113	1.07	1.94	2094	20.6	26	2207
5/31/2014	16.5	18	115.9	1.29	1.86	2025.8	22.75	25	2142
6/30/2014	17.3	20	59	0.69	0.74	2203	26	28	2262
7/31/2014	20.8	24	34.4	0.47	1.19	1844	26.6	28	1879
8/31/2014	23.2	26	28.9	0.48	0.078	2081.5	34.4	55	2110
9/30/2014	25.5	30	68.95	1.34	2.2	1638.2	31.25	33	1707
11/30/2014	24.3	29	43	0.81	1.26	1586	30	35	1628.5
12/31/2014	18.2	22	77.4	0.67	1.1	2124	23.3	28	2259
1/31/2015	22.3	27	32.2	0.53	0.9	1629	27.3	32	1661
2/28/2015	28.5	29	40.5	0.78	2.2	1845	35	37	1886
3/31/2015	21.4	29	40	0.53	0.76	1999	28.6	36	2040
4/30/2015	18	21	55.2	0.66	0.88	1993	24.75	31	2048
5/31/2015	21	30	10.9	0.17	0.26	1953	31.5	35	1964
6/30/2015	18.3	22	88.4	1.2	4.5	2375	31.8	42	2464
7/31/2015	26	30	21	0.33	0.46	1993	32	35	2014
8/31/2015	29.7	32	16.7	0.29	0.39	1906.5	33	37	1923
9/30/2015	27.25	33	12.48	0.18	0.3	2122	34	37	2135
10/31/2015	33.5	34	30.7	0.68	1.1	1733	38.5	40	1764
11/30/2015	33.3	34	27.7	0.61	0.88	1797	39	41	1825
12/31/2015	29.2	35	64.3	1.1	1.5	2444	38.8	43	2508
1/31/2016	27	32	38	0.68	0.87	1900	34	40	1939
2/29/2016	27.25	32	24.94	0.42	0.71	2086	42.25	74	2111
3/31/2016	21.2	26	29.3	0.6	0.69	1395	28.4	35	1424
4/30/2016	23.2	28	34.4	0.6	0.7	2068.1	36	43	2102.6
5/31/2016	27.83	31	30.5	0.52	1.06	1997	35	41	2028
6/30/2016	30.75	36	21.4	0.44	0.73	1906	39.5	50	1927
7/31/2016	33.5	38	23.9	0.54	0.62	1798	40.75	46	1822
8/31/2016	31.6	37	10.15	0.2	0.45	1631	36.6	43	1641
9/30/2016	29.75	36	9.77	0.22	0.26	1525	34.75	42	1535
10/31/2016	35.35	40.3	22.44	0.56	0.82	1790	44.65	52.8	1812

DMR SUMMARY
CHICOPEE WPCF

Parameter	Ammonia Effluent	Ammonia Effluent	Nitrite+Nitrate Effluent	Nitrite+ Nitrate Effluent	Nitrite+Nitrate Effluent	Nitrogen, Kjeldahl, total (TKN) Effluent	Nitrogen, Kjeldahl, total (TKN) Effluent	Nitrogen, Kjeldahl, total (TKN) Effluent	TN effluent
	Monthly Ave Min	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave
Units	mg/L	mg/L	lb/d	mg/L	mg/L	lb/d	mg/L	mg/L	lb/d
Effluent Limit	Report	Report	Report	Report	Report	Report	Report	Report	Report
Minimum	**10.19**	**13.1**	**5.48**	**0.11**	**0.078**	**1395**	**14.4**	**17.5**	**1424**
Maximum	**35.35**	**40.3**	**7689**	**1.34**	**4.5**	**2751**	**44.65**	**74**	**2775**
Average	**23.2**	**27.5**	**172**	**0.616**	**0.984**	**1840**	**29.9**	**35.6**	**1890**
No. of Violations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11/30/2016	33	37	19	0.4	0.85	1840	39	44	1860
12/31/2016	29.78	36	27.46	0.6	1.02	1638	34.87	41.3	1659
1/31/2017	26.44	31.9	23.38	0.27	0.33	2751	34.16	40.2	2775
2/28/2017	25.78	29.8	20.88	0.36	0.92	1833.53	33.48	37.6	1854
3/31/2017	25.67	27.9	12.51	0.24	0.39	1603.53	30.63	31.9	1616
4/30/2017	15.53	21.7	65.87	0.72	1.04	1817.56	21.85	31.5	1883.43
5/31/2017	19.3	22.5	30.6	0.47	0.59	1562	23.9	27.7	1593
6/30/2017	15.36	19	45.34	0.6	0.73	1584.22	21.7	26.5	1630
7/31/2017	21.28	24.2	40.78	0.67	0.75	1608	26.48	28.4	1649
8/31/2017	25.85	30.4	30.34	0.54	0.99	1789.7	31.4	35.5	1820
9/30/2017	30.3	35.9	54.21	1.13	1.35	1724	35.85	41.8	1778
10/31/2017	24.88	35.3	61.84	1.02	1.28	1805.84	30.92	41	1867.68
11/30/2017	25.7	29	55.93	1.09	1.52	1768	33.85	39.2	1824
12/31/2017	28.63	33	5.48	0.11	0.31	1896.12	34.93	40.6	1901.1
1/31/2018	24.38	32.8	24.81	0.38	0.51	1887.93	32.06	40.9	1912.73
2/28/2018	19.05	26.5	21.09	0.31	0.38	1730.15	26.15	33.4	1751.25
3/31/2018	19.5	20	30.53	0.43	0.49	1855.17	26	27.9	1885
4/30/2018	19.63	22.2	7689	0.89	2.34	2014.94	27.58	31.4	2091.83
5/31/2018	21.26	23.2	27.46	0.4	0.73	2110.42	30.54	35.6	2137.88
6/30/2018	22.3	26.8	35.46	0.66	0.87	1592	29.18	34.6	1627.46
7/31/2018	21.14	26.5	31.38	0.5	0.77	1744.23	27.2	31.3	1775.61
8/31/2018	18.7	20.9	11.82	0.16	0.36	1741.98	22.83	26.4	1753.8
9/30/2018	14.37	22.2	50.17	0.52	0.7	1547.42	18.18	26	1597.6
10/31/2018	15.44	20.2	65.14	0.68	0.87	1746.51	19.72	24.8	1811.28
11/30/2018	10.19	13.1	150.86	1.24	1.9	1714.22	14.4	17.5	1865.08
12/31/2018	14.25	17.5	114.16	1.28	1.59	1582.19	18.3	21.2	1696.35
1/31/2019	13	17.1	108.98	1.23	1.67	1492.53	17.6	24.3	1601.5
2/28/2019	14.8	16.3	16.59	0.2	0.37	1495.95	18.63	19.9	1512.54
3/31/2019	18.2	21.2	42.78	0.56	1.02	1765.76	23.13	27.7	1808.53

DMR SUMMARY
CHICOPEE WPCF

Outfall - Monitoring

Parameter	TN effluent	TN effluent	TN influent	TN influent	TN influent	Ammonia Influent	Ammonia Influent	Ammonia Influent	Nitrite+ Nitrate Influent
	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave
Units	mg/L	mg/L	lb/d	mg/L	mg/L	lb/d	mg/L	mg/L	lb/d
Effluent Limit	Report	Report	Report	Report	Report	Report	Report	Report	Report
Minimum	**15.64**	**18.34**	**1971**	**24.28**	**35.74**	**1286**	**13.86**	**19.4**	**3**
Maximum	**45.21**	**74.3**	**2879**	**53.64**	**5019**	**1761**	**35.52**	**58.6**	**165**
Average	**30.5**	**36.7**	**2430**	**39.2**	**291**	**1510**	**24.7**	**33.7**	**34.4**
No. of Violations	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
4/30/2014	21.7	26.8	2608	40.87	56.21	1527	24.25	33	30
5/31/2014	24.04	25.8							
6/30/2014	26.7	28.7	2730	29.85	43.03	1576	17.28	27	69
7/31/2014	27.1	28.1							
8/31/2014	34.9	55.4							
9/30/2014	32.59	34.67	2340	38.68	47.15	1470	24.31	30	9
11/30/2014	30.81	35.67							
12/31/2014	23.9	29.1	2879	41.6	48.5	1761	25.7	32	26
1/31/2015	27.8	32.6							
2/28/2015	35.8	39.2							
3/31/2015	29.13	36.3	2268	37.8	52	1435	24.3	34	27
4/30/2015	25.41	31.34							
5/31/2015	31.7	35.3							
6/30/2015	33	42.3	2773	38.9	67.1	1691	23.6	30	35
7/31/2015	33	36							
8/31/2015	33.3	37.3							
9/30/2015	34.18	37.08	2741	45.03	51.06	1545	26.75	37	7
10/31/2015	39.2	41							
11/30/2015	39.6	41.8							
12/31/2015	39.9	44.2	2605	49.8	67.1	1605	30.3	47	5
1/31/2016	34	41							
2/29/2016	42.7	74.3							
3/31/2016	29	35.6	1996	38.8	47.2	1337	26.1	33	20
4/30/2016	36.6	43.7							
5/31/2016	32.52	41.55							
6/30/2016	40	50	2386	43.8	55	1499	27.54	33	7
7/31/2016	41.3	46.6							
8/31/2016	36.8	43							
9/30/2016	34.9	42.17	2235	48.6	56.04	1471	32.07	41	3
10/31/2016	45.21	53.54							

DMR SUMMARY
CHICOPEE WPCF

Parameter	TN effluent	TN effluent	TN influent	TN influent	TN influent	Ammonia Influent	Ammonia Influent	Ammonia Influent	Nitrite+ Nitrate Influent
	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave
Units	**mg/L**	**mg/L**	**lb/d**	**mg/L**	**mg/L**	**lb/d**	**mg/L**	**mg/L**	**lb/d**
Effluent Limit	**Report**	**Report**	**Report**	**Report**	**Report**	**Report**	**Report**	**Report**	**Report**
Minimum	**15.64**	**18.34**	**1971**	**24.28**	**35.74**	**1286**	**13.86**	**19.4**	**3**
Maximum	**45.21**	**74.3**	**2879**	**53.64**	**5019**	**1761**	**35.52**	**58.6**	**165**
Average	**30.5**	**36.7**	**2430**	**39.2**	**291**	**1510**	**24.7**	**33.7**	**34.4**
No. of Violations	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
11/30/2016	40	44							
12/31/2016	35.34	42.32	2447	53.64	97.62	1608	35.52	58.6	3
1/31/2017	34.43	40.38							
2/28/2017	33.84	37.66							
3/31/2017	30.88	32.29	2340	44.54	5019	1559	30	32.2	28.4
4/30/2017	22.57	31.96							
5/31/2017	24.37	28.11							
6/30/2017	22.3	27.23	2363	32.6	43.24	1467	20.34	29.2	62
7/31/2017	27.14	29.15							
8/31/2017	31.94	36.05							
9/30/2017	36.98	42.95	2528	46.84	67.88	1632	30.32	42.4	12
10/31/2017	31.94	42.09							
11/30/2017	34.94	40.64							
12/31/2017	35.05	40.91	2637	46.76	54.22	1595	29.23	36	14
1/31/2018	32.44	41.17							
2/28/2018	26.46	33.71							
3/31/2018	26.63	28.39	2248	35.28	54.19	1425	22.5	34.6	33
4/30/2018	28.47	31.69							
5/31/2018	30.94	35.63							
6/30/2018	29.83	65.44	2407	36.55	55.4	1484	22.82	30	19
7/31/2018	27.71	32.07							
8/31/2018	22.99	26.43							
9/30/2018	18.69	26.7	1971	24.52	36.62	1286	16.49	25.6	50
10/31/2018	20.4	25.41							
11/30/2018	15.64	18.34							
12/31/2018	19.58	22.4	2422	24.28	55.32	1378	13.86	19.4	165
1/31/2019	18.83	25.3							
2/28/2019	18.83	20.01							
3/31/2019	23.69	28.19	2060	25.5	35.74	1316	16.33	21.9	99

DMR SUMMARY
CHICOPEE WPCF

Outfall - Monitoring

Parameter	Nitrite+ Nitrate Influent	Nitrite+ Nitrate Influent	Nitrogen, Kjeldahl, total (TKN) Influent	Nitrogen, Kjeldahl, total (TKN) Influent	Nitrogen, Kjeldahl, total (TKN) Influent	Aluminum, total (as Al)	Aluminum, total (as Al)	Aluminum, total (as Al)
	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Monthly Ave
Units	mg/L	mg/L	lb/d	mg/L	mg/L	ug/L	ug/L	ug/L
Effluent Limit	Report	Report	Report	Report	Report	125	87	Report
Minimum	0.06	0.15	1921	22.84	34.2	43	14.67	39
Maximum	20.34	29.2	2853	53.58	97.6	95	180.25	239
Average	1.35	2.24	2400	38.8	54.1	75.7	89.3	75.1
No. of Violations	N/A	N/A	N/A	N/A	N/A	0	10	N/A
4/30/2014	0.44	0.92	2577	40.44	56			73.2
5/31/2014								64
6/30/2014	0.68	1.86	2661	29.17	43			58.7
7/31/2014								186
8/31/2014								50
9/30/2014	0.14	0.64	2331	38.54	47			50
11/30/2014								67.5
12/31/2014	0.34	0.57	2853	41.3	48			102
1/31/2015								50
2/28/2015								50
3/31/2015	0.39	0.95	2241	37.5	52			50
4/30/2015								50
5/31/2015								50
6/30/2015	0.45	1.05	2739	38.5	67			239
7/31/2015								50
8/31/2015								51.75
9/30/2015	0.12	0.4	2734	44.92	51			97.5
10/31/2015								53
11/30/2015								107
12/31/2015	0.09	0.15	2600	49.7	67			50
1/31/2016								53
2/29/2016								98
3/31/2016	0.37	0.63	1976	38.38	47			51.6
4/30/2016								65.7
5/31/2016								45.2
6/30/2016	0.13	0.47	2378	43.7	55			50
7/31/2016								50
8/31/2016								42.2
9/30/2016	0.07	0.34	2232	48.53	56			210
10/31/2016								39

DMR SUMMARY
CHICOPEE WPCF

Parameter	Nitrite+ Nitrate Influent	Nitrite+ Nitrate Influent	Nitrogen, Kjeldahl, total (TKN) Influent	Nitrogen, Kjeldahl, total (TKN) Influent	Nitrogen, Kjeldahl, total (TKN) Influent	Aluminum, total (as Al)	Aluminum, total (as Al)	Aluminum, total (as Al)
	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Monthly Ave
Units	mg/L	mg/L	lb/d	mg/L	mg/L	ug/L	ug/L	ug/L
Effluent Limit	Report	Report	Report	Report	Report	125	87	Report
Minimum	0.06	0.15	1921	22.84	34.2	43	14.67	39
Maximum	20.34	29.2	2853	53.58	97.6	95	180.25	239
Average	1.35	2.24	2400	38.8	54.1	75.7	89.3	75.1
No. of Violations	N/A	N/A	N/A	N/A	N/A	0	10	N/A
11/30/2016							38	
12/31/2016	0.06	0.34	2443	53.58	97.6		30	
1/31/2017							105.2	
2/28/2017							74.75	
3/31/2017	0.54	0.58	2312	44	49.7		14.67	
4/30/2017							84.75	
5/31/2017							35.2	
6/30/2017	20.34	29.2	2301	31.84	42.4		128.75	
7/31/2017							59.5	
8/31/2017							47.5	
9/30/2017	0.21	0.49	2516	46.63	67.4		50.5	
10/31/2017							132.6	
11/30/2017							72.75	
12/31/2017	0.24	0.54	2664	46.52	54.2		74.5	
1/31/2018							132	
2/28/2018							99.5	
3/31/2018	0.43	1.19	2215	34.85	54.1		75	
4/30/2018							180.25	
5/31/2018							136	
6/30/2018	0.24	1.49	2388	36.32	55		85.5	
7/31/2018							67.2	
8/31/2018							144.5	
9/30/2018	0.42	0.77	1921	24.1	36.6		126.7	
10/31/2018							147.07	
11/30/2018						87		
12/31/2018	1.44	2.65	2257	22.84	55.1	95		
1/31/2019						93		
2/28/2019						43		
3/31/2019	1.21	1.8	1960	24.29	34.2	60.33		

Outfall - Monitoring

Parameter	Aluminum, total (as Al)	LC50 Static 48Hr Acute Pimephales	LC50 Static 48Hr Acute Salvel. Salmonid
	Daily Max	Daily Min	Daily Min
Units	ug/L	%	%
Effluent Limit	Report	100	Report
Minimum	21	28.2	No Data
Maximum	960	100	No Data
Average	167	91.4	No Data
No. of Violations	N/A	5	N/A
4/30/2014	130	100	
5/31/2014	82	100	
6/30/2014	76		
7/31/2014	730		
8/31/2014	50	100	
9/30/2014	50		
11/30/2014	120	100	
12/31/2014	340		NODI:
1/31/2015	50		
2/28/2015	50	100	
3/31/2015	50		
4/30/2015	50		
5/31/2015	50	96.6	
6/30/2015	960		
7/31/2015	50		
8/31/2015	57	100	
9/30/2015	240		
10/31/2015	62		
11/30/2015	220	65	
12/31/2015	50		NODI:
1/31/2016	62		
2/29/2016	230	50	
3/31/2016	58		
4/30/2016	86		
5/31/2016	50	100	
6/30/2016	50		
7/31/2016	50		
8/31/2016	50	100	
9/30/2016	690		
10/31/2016	60		

DMR SUMMARY
CHICOPEE WPCF

Parameter	Aluminum, total (as Al)	LC50 Static 48Hr Acute Pimephales	LC50 Static 48Hr Acute Salvel. Salmonid	LC50 Static 48Hr Acute Oncorhynchus Mykiss	A-NOEL 48Hr Acute Oncorhynchus Mykiss	Date (for Oncorhynchus Mykiss only)
	Daily Max	Daily Min	Daily Min	Daily Min	Daily Min	
Units	ug/L	%	%	%	%	
Effluent Limit	Report	100	Report			
Minimum	21	28.2	No Data	69.5	50	
Maximum	960	100	No Data	100	100	
Average	167	91.4	No Data	90.8	60.0	
No. of Violations	N/A	5	N/A	N/A	N/A	
11/30/2016	74	79.4				
12/31/2016	34		NODI:			
1/31/2017	223					
2/28/2017	110	28.2				
3/31/2017	21					
4/30/2017	106	100				
5/31/2017	47					
6/30/2017	355					
7/31/2017	141					
8/31/2017	76	100				
9/30/2017	66					
10/31/2017	317					
11/30/2017	98	100				
12/31/2017	102		NODI:			
1/31/2018	345					
2/28/2018	135	100				
3/31/2018	100					
4/30/2018	349					
5/31/2018	231	100				
6/30/2018	161					
7/31/2018	180					
8/31/2018	393	100				
9/30/2018	208					
10/31/2018	313					
11/30/2018		100				
12/31/2018			NODI:			
1/31/2019						
2/28/2019		100				
3/31/2019						

Chicopee Wastewater Treatment
Bypass Outfall 010A

Date:	Total Flow: MGD	CSO Hours	Tank Drainage: MG	Bisulfite Total gallons	Rain:	Fecal Coliform #/100 mls #1	#2	#3	#4	E. Coli #/100 mls #1	#2	#3	#4	pH	BOD mg	TSS
4/15/2014	1.64	5		173	1.7	< 1	< 1	10	< 1	6	4	8	11	7	43	60.5
4/30/2014	4.60	12		393	2.7	10				< 1				6.85		
5/1/2014	0.51	1.3	0.20	3	0.3	< 1	60	< 1	< 1	17	33	28	4	7.34	15	49
5/10/2014	0.52	0.5	0.20	30	0.6	132				88				6.74		
5/17/2014						< 1				10				6.9		
5/23/2014	2.83	4.8	0.20	33	0.75	< 1				32				7.22		
5/30/2014	0.32	0.6	0.20	19	0.15									6.76		
6/13/2014	0.40	0.5	0.20		0.5									7.4		
7/2/2014	0.77	1.8	0.20	58	0.8	10	16			< 1	20			7.33		
7/3/2014	0.96	1.8	0.20	74	0.9	< 1	76			< 1	32			7.12		
7/4/2014	0.29	0.5	0.20	14	0.4									6.83		
7/14/2014			0.20		0.1	10	< 1			12	20			6.64		
7/16/2014	0.55	1.7	0.20	55	0.2	< 1	10			42	164			6.77		
7/23/2014	0.54	1.4	0.20	17	0.6	4				< 1				9.6		
7/27/2014	1.20	2.7	0.20	77	1.4	< 1	< 1			11	100			6.76		
8/13/2014	3.36	5.7	0.20	149	3.2	12	16	24	16	12	20	12	12	6.73	47	55
10/4/2014	0.35	0.3	0.20	19	1	< 1				33				7		
10/16/2014	0.50	1.1	0.20	2	0.6	5	< 1			25	40			6.8		
10/22/2014	1.28	4.5	0.20	124	1.35	8	< 1	< 1	< 1	8	56	36	32	7.02	82	65
10/23/2014	0.42	1.4	0.20	69	0.35	12				4				7.2		
4/8/2015	0.62	1.7	0.20	17	0.75	< 1				28				7.38		
4/21/2015	0.64	2	0.20	66		< 1				16				7		
6/1/2015	2.35	5.1	0.20	143	2.15	8	< 1	4	4	21	32	20	28	6.75		
6/2/2015		0.1	0.20	11		12				44				6.58		
6/9/2015	0.49	0.6	0.20		0.75											
6/14/2015	1.95	3.3		91	1.2	12				38				6.2		
6/15/2015	1.09	2.8	0.20	69	0.95	10				40				6.6		
6/21/2015	0.04		0.20		0.3	28				16				6.56		
6/23/2015	0.59	0.4	0.20	39	0.7	20				17				6.49		
6/27/2015	1.49	4.5		124	1.7	< 1	4			23	28			6.4		
7/1/2015	0.14	1	0.20	39		< 1				36				6.7		
7/9/2015	0.66	1	0.20	30	0.9	30				30				6.4		
7/18/2015	0.39	0.8	0.20	28	0.45											
7/27/2015	0.47	1	0.20	41	0.8											
8/11/2015	0.99	2.3	0.20	69	1	< 1	4			36	64			6.64		
9/10/2015	1.70	4.9	0.20	113	1.7	360	4	12	< 1	15	55	75	95	6.4	72	62.5
9/13/2015	0.47	1.2	0.20	33	0.5	11				120				6.64		
9/29/2015	1.94	2.8	0.20	72	2.6	10				< 1				5.75		
10/28/2015	1.57	3.2	0.20	107	2.35	20	< 1	< 1	< 1	8	56	68	32	7.1		

Chicopee Wastewater Treatment
BypassOutfall 010A

Date:	Total Flow: MGD	CSO Hours	Tank Drainage: MG	Bisulfite Total gallons	Rain:	Fecal Coliform #/100 mls #1	Fecal Coliform #/100 mls #2	Fecal Coliform #/100 mls #3	Fecal Coliform #/100 mls #4	E. Coli #/100 mls #1	E. Coli #/100 mls #2	E. Coli #/100 mls #3	E. Coli #/100 mls #4	pH	BOD mg	TSS
4/25/2016																
5/2/2016	0.48	0.9	0.20		0.75	8				14				6.95		
6/5/2016	1.00	1.7	0.20	30	1.25	73				55				6.62		
7/14/2016	0.47	1.3	0.20	0	0.55									6.36		
7/30/2016	0.37	0.3		27	0.5	105				20						
8/2/2016	0.42	1.5		36		62	10			20	35			6.36		
8/22/2016	0.52	1.2		8		< 1				92				6.65		
9/11/2016	0.02															
9/26/2016	0.50	0.37	0.20		0.5											
4/1/2017	0.30	0.4		6	0.25									7.1		
4/4/2017	0.44		0.20		0.25	< 1	12			24	28			7.02		
4/6/2017	1.02	2.2	0.20	2	0.85	12				44				7.35		
4/21/2017			0.20		0.2	4				72				7.18		
5/5/2017	1.04	2.6	0.20	3	1.5	10	30			16	> 80			7.13		
5/13/2017	1.48	4.3		192	1.35	< 1	< 1	< 1		70	40	4		6.99		
5/25/2017	2.05	6	0.20	8	1.85	10	< 1	< 1	< 1	16	36	33	43	7		
5/31/2017	0.58	2	0.20	1	0.8	< 1				60				6.82		
6/5/2017	0.75	1.5	0.20		0.75	8				10				6.41		
6/6/2017	2.51	6.3	0.20	8	1.2	20	96	4	< 1	10	41	20	35	6.89		
6/19/2017	0.94	1.9	0.20	77	1.1	13				30				6.21		
7/7/2017	0.56	0.8	41.00		0.6									6.78		
7/12/2017	0.83	1.5	0.20	38	1.35	4				16				6.98		
7/18/2017	0.72	1.1	0.20	33	0.75	< 1				29				6.3		
7/24/2017	1.03	1.8	0.20	47	0.95	60	120			< 1	60			6.91		
8/5/2017	0.61	1.6		44	0.5	< 1	< 1			20	8			6.83		
8/23/2017			0.20			16				60				6.79		
9/3/2017	0.84	1.4		30	1.15	< 1				28				6.23		
10/24/2017	4.11	8		74	4	12	48	16	12	40	168	76	140	7.28	43	54
10/29/2017	2.30	5.7		2365	2.25	< 1				28				6.3		
4/16/2018	2.97	6.4		165	1	< 1	< 1	< 1	10	80	80	40	20	6.95	87	213
4/25/2018	1.45	1.2	0.20		1.2	128				< 1				6.38		
5/15/2018					0.6	< 1	< 1			42	32			7.14		
6/4/2018	1.09	2.1			0.8	20	4			60	40			6.9		
6/28/2018	0.56	1.6	0.20	2	1.1	< 1	< 1	< 1	< 1	30	20	8	4	6.9	48	48
7/17/2018	1.86	3.4		77	2.5	20	< 1	< 1	< 1	14	26	20	8	6.95	87	82
7/22/2018	0.86	1.6		110	1.5	10				40				6.6		
7/23/2018	0.70	1.1	0.20	25	0.65	10				60				6.4		
8/4/2018	1.06	2.4	0.20	72	1	220	7			240	50			6.3		
8/14/2018	0.54	1.6	0.20	1	0.7	30				10				9.78		

Chicopee Wastewater Treatment
Bypass Outfall 010A

Date:	Total Flow: MGD	CSO Hours	Tank Drainage: MG	Bisulfite Total gallons	Rain:	Fecal Coliform #/100 mls #1	#2	#3	#4	E. Coli #/100 mls #1	#2	#3	#4	pH mg	BOD	TSS
8/17/2018	0.54	1.1	0.20	2	0.9	< 1				< 26				6.51		
8/18/2018	0.77	1.5	0.20	69	1.2	10				< 1				6.51		
9/10/2018	1.87	5.5		283	1.75	< 1	< 1	< 1	< 1	24	16	24	31	6.31		
9/12/2018	0.91	2.4		44	1	< 1				16				6.86		
9/18/2018	2.44	4.2		168	2.2	112				16				6.34	35	45
9/25/2018	2.60	7.9		151	1.9	< 1				< 1				6.7		
9/26/2018	1.23	1.8	0.20	55	1	< 1				< 1				6.09		
10/2/2018	3.16	5.6	0.20	248	2.9	< 1	8	8	4	32	16	< 1	40	6.15		
10/11/2018	1.71	3.1	0.20	113	1.8	20				12				6.5		
10/27/2018	0.75	1.9	0.20	72	1.2	< 1				< 1				6.92		
4/15/2019	0.40	0.8	0.20	2	1.1	< 1				12				6.96		
4/19/2019	0.36	1.2	0.05		0.6	< 1				10				6.9		
4/20/2019	1.13	2.8	0.20		0.6	20	8	< 1	< 1	< 1	< 1	< 1	< 1	7.48	67	55
4/22/2019	1.57	3.2	0.20	7	1.1	20				8				6.65		
4/26/2019	3.04	7.1	0.20	6	2	20				4				7.1		
5/12/2019	1.08	4.3		184	1.1	4	< 1	< 1	4	40	16	24	36	6.88		
7/22/2019	1.97	4.4		201	2.1	17	< 1	6		< 1	< 1	< 1		6.8		
9/2/2019					1.5	< 1				23				6.7		
Min	0.02	0.1	0.05	0.3		1	1	1	1	1	1	1	1	5.75	15	45
Max	4.6	12	41	2365		360	120	24	16	240	168	76	140	9.78	87	213
Avg	1.15	2.59	0.8	98.5		21.9	15.7	5	3.59	28.3	43.4	26.3	33.6		56.9	71.7
Total	101	223	54.3	7483												

Chicopee Wastewater Treatment

Bypass Outfall 010A

Date:	Chlorination													Dechlorination											
	mg/l													mg/l											
	#1	2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	Daily Avg	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	Daily Avg
4/15/2014	8.7	8.8	8.8	8.8	8.8	8.80	8.80	8.80						0.3	0.3	0.3	0.3	0.2	0.20	0.40	0.00					0.25
4/30/2014	8.8	8.8	8.8	6.5										0.1	0.2	0.2	0.1									0.15
5/1/2014	8.8	8.8	8.8	8.8	8.8									0.1	0.1	0.1	0.1	0.1								0.10
5/10/2014	8.8													0.2												0.20
5/17/2014	8.8													0.3												0.30
5/23/2014	8.8	8.8	8.8	8.8	8.8	8.80								0.1	0.1	0.1	0	0	0.00							0.05
5/30/2014	8.8	8.8												0.1	0.3											0.20
6/13/2014																										
7/2/2014	8.8	6.7												0.4	0.4											0.40
7/3/2014	8.8	6.3												0.2	0.2											0.20
7/4/2014																										
7/14/2014	5.1	6.4	7	7.7	8.8									0	0	0	0	0								0.00
7/16/2014	2.1	8.3	8.8											0.4	0	0.7										0.37
7/23/2014	7.6													0.4												0.40
7/27/2014	7.6	7.1												0.2	0.3											0.25
8/13/2014	8.8	5.9	7.7	8.8										0.2	0.1	0	0.1									0.10
10/4/2014	8.8													0.4												0.40
10/16/2014	7	8.8	8.8											0.2	0.4	0.7										0.43
10/22/2014	6.6	6.1	7.6	8.8	8.8	8.80	8.80							0.1	0.1	0	0.1	0	0.00	0.00						0.04
10/23/2014	8.8													0.4												0.40
4/8/2015	8.8	8.8	8.8	8.8										0.1	0	0.1	0									0.05
4/21/2015	7.6	8.8	8.5	8.8										0.1	0.3	0	0									0.10
6/1/2015	8.8	8.8	8.1	7.8	7.2									0	0	0.2	0	0								0.04
6/2/2015	7.9													0.2												0.20
6/9/2015	5.5	6.2	6.4											0.1	0	0										0.03
6/14/2015	6.6													0												0.00
6/15/2015	8.8													0.3												0.30
6/21/2015	7.7	7.1	6.5	5.2										0.2	0.2	0.1	0									0.13
6/23/2015	8.8													0.2												0.20
6/27/2015	8.8	4.6												0	0.2											0.10
7/1/2015	6.9	7.4												0	0.1											0.05
7/9/2015	5.9													0												0.00
7/18/2015	7.3	6.9	7											0	0	0										0.00
7/27/2015	0.3	0	3.7											0	0	0										0.00
8/11/2015	6.5	8.8												0	0.3											0.15
9/10/2015	0.5	0.7	2.4	7.5	8.8	8.80								0.4	0.1	0	0	0.4	0.10							0.17
9/13/2015	5.4	4	5	5.4										0	0	0	0									0.00
9/29/2015	4.2													0												0.00
10/28/2015	5.3	5.8	8.8	8.8										0.3	0.2	0.2	0.2									0.23

Chicopee Wastewater Treatment

Bypass Outfall 010A

Date:	Chlorination													Dechlorination											
	mg/l													mg/l											
	#1	2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	Daily Avg	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	Daily Avg
4/25/2016																										
5/2/2016	6.9													0.2												0.20
6/5/2016	6.9	8.1												5.5	0.5											3.00
7/14/2016	3.2													0.1												0.10
7/30/2016	8.8													0												0.00
8/2/2016	0.7	1.9	7.5	5.7										0.4	0.7	2.3	0.1									0.88
8/22/2016	8.8													0.2												0.20
9/11/2016																										
9/26/2016																										
4/1/2017	8.8													0												0.00
4/4/2017	8.8	8.8												0.8	0											0.40
4/6/2017	8.8	8.8	8.8	8.8										2.9	0.74	0	0									0.91
4/21/2017	8.8													0.01												0.01
5/5/2017	8.8	8.8	8.8											0.4	0.4	0.1										0.30
5/13/2017	0.4	8.8	8.8	8.3	8.8	8.80								0	0	0.2	0	0.6	0.00							0.13
5/25/2017	8.8	8.8	8.8	8.8										0.3	0	0.1	0									0.10
5/31/2017	8.8	8.8	8.8	8.8										0.2	0.1	0.1	0									0.10
6/5/2017	8.8													0												0.00
6/6/2017	8.8	8.8	6.9	5.7	5.4	5.50	5.50	8.80						0	0	0	0.1	0.1	0.10	0.10	0.20					0.08
6/19/2017	8.8													0												0.00
7/7/2017	6.3													0.5												0.50
7/12/2017	7.1													0												0.00
7/18/2017	8.8													0.3												0.30
7/24/2017	8.2	8.4	4.7											0.4	0.2	0										0.20
8/5/2017	7.4	8.7												0	0.1											0.05
8/23/2017	8.8													0												0.00
9/3/2017	8.8													0.2												0.20
10/24/2017	8.9	8.8	8.8	8.8	8.8	8.80	8.80	8.80						0	0.3	0	0	0	0.20	0.20	0.10					0.10
10/29/2017	6.3	8.8												0	0.4											0.20
4/16/2018	8.8	8.8	8.8	8.8										0.5	0.77	0	0.66									0.48
4/25/2018	8.8													0.7												0.70
5/15/2018	8.8	8.8												0.4	0.4											0.40
6/4/2018	0	2.1	8.2											0	0	0.3										0.10
6/28/2018	8.8	8.8	8.6	8.8	8.8									0.1	0.3	0.6	0	0								0.20
7/17/2018	3.9	8.8	8.8	8.8										0.5	0	0	0									0.13
7/22/2018	8.8													0.3												0.30
7/23/2018	8.8	8.8												0	0											0.00
8/4/2018	8.8	8.8												0.85	0.4											0.63
8/14/2018	5.2													0.2												0.20

Chicopee Wastewater Treatment

Bypass Outfall 010A

Date:	Chlorination mg/l													Dechlorination mg/l											
	#1	2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	Daily Avg	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	Daily Avg
8/17/2018	5.3	5.9	8.8	8.8										0	0.1	0.1	0									0.05
8/18/2018	7.5	8.8	8.8	8.8										0.3	0	0.4	0.1									0.20
9/10/2018	8.8	8.8	8.8	8.8										0.3	0.4	0.2	0.5									0.35
9/12/2018	8.8	8.8	8.8											0.1	0.1	0.1										0.10
9/18/2018	8.8	8.8	8.8	8.8										0.4	0.7	0.2	0									0.33
9/25/2018	5.9	8.8	8.8											0.2	0.88	0.1										0.39
9/26/2018	8.8													0.4												0.40
10/2/2018	8.8	8.8	8.8	8.8										0.2	0.2	1.2	0.1									0.43
10/11/2018	8.8	8.8	8.8											0.2	0	0.1										0.10
10/27/2018	8.8	8.8	8.8											0.3	0.2	0.2										0.23
4/15/2019	2.2	2.2	2.2	2.2										0.1	0.14	0.35	0.13									0.18
4/19/2019	2.2	2.2	2.2	2.2										0.17	0.02	0.22	0.61									0.26
4/20/2019	2.2	2.2	2.2	2.2	2.2									0.2	0.02	0.02	0.2	0								0.09
4/22/2019	2.2													0.38												0.38
4/26/2019	8.8	8.8	8.8											0.4	0.1	0.3										0.27
5/12/2019	8.8	8.8	8.8	8.8	8.5									0.1	0.2	0.2	0.3	0.2								0.20
7/22/2019	2.4	6.4	4.1	8.8	8.8	8.80								0.1	0.1	0.4	0.2	0	0.20							0.17
9/2/2019	3.5	2.5	3	4.4										0.7	0	0.6	0									0.33
Min																										0.00
Max																										3.00
Avg																										0.24

Appendix B - Ambient Data

Date		Aluminum (mg/L)	Ammonia as N (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Lead (mg/L)	Nickel (mg/L)	Tot Org Carbon (mg/L)	Zinc (mg/L)	Hardness (mg/L)	pH
2/12/2014		0.089	<.05	<.002	<.002	<.002	<.002	4	0.0062	37	7.4
4/14/2014		0.16	0.1	<.002	<.002	0.015	<.002	11	0.0093	34	
5/14/2014		0.46	0.13	<.002	<.002	<.002	<.002	4.6	0.0082	28	7.48
11/12/2014		0.056	0.095	<.002	0.0021	<.002	<.002	4	0.0052	34	6.84
1/12/2015											
5/13/2015		0.096	0.093	<.002	<.002	<.003	<.005	4.90	<.005	35	7.51
8/12/2015		0.11	1.3	<.002	<.002	<.003	<.005	5.8	0.024	42	7.62
11/10/2015		0.14	0.08	<.002	<.002	<.002	<.005	5.9	0.008	42	7.55
2/10/2016		0.2	0.05	<.002	<.002	<.003	0.005	2.20	0.0054	29	7.36
5/11/2016		0.081	<.05	<.002	<.002	0.0074	<.005		<.005	30	7.63
8/10/2016		0.054	0.15	<.002	<.002	<.003	<.005	3.4	<.005	46	7.6
11/9/2016		0.029	0.1	<.001	<.005	<.002	<.001	4.80	<.002	50	7.43
3/22/2017										37	7.39
5/10/2017		0.232	0.09	<.001	<.005	<.002	<.001	3.95	<.002	24	7.41
8/9/2017		0.064	0.17	<.001	<.005	<.002	0.001	3.6	<.002	42	7.72
11/15/2017		0.221	0.38	<.001	<.005	<.002	<.001	6.8	<.002	31	7.41
2/14/2018		0.392	0.2	<.001	<.005	<.002	<.001	4.1	0.0030	26	7.47
5/9/2018		0.953	0.21	<.001	<.005	<.002	<.001	4.8	0.004	27	7.56
7/12/2018											
11/7/2018											
1/10/2019											
median		0.125	0.115	<.002	0.0021	0.0112	0.003	4.6	0.0062	34	7.475

APPENDIX C
METALS REASONABLE POTENTIAL AND LIMITS CALCULATIONS

Metal	Q_d	C_d [1]		Q_s	C_s [2]	Q_r	C_r		Criteria		Acute Reasonable Potential	Chronic Reasonable Potential	Limits	
	cfs	Acute (µg/l)	Chronic (µg/l)	cfs	µg/l	cfs	Acute (µg/l)	Chronic (µg/l)	Acute (µg/l)	Chronic (µg/l)	C_d & C_r > Criteria	C_d & C_r > Criteria	Acute (µg/l)	Chronic (µg/l)
Aluminum	23.99	975.3	87.0	2382.35	125.0	2406.35	133.48	124.6	750	87	N	N/A	N/A	**87.0**
Cadmium		0.0	0.0		0.0		0.00	0.00	0.71	0.12	N	N	N/A	N/A
Copper		69.3	69.3		0.0		0.69	0.69	5.08	3.72	N	N	N/A	N/A
Lead		39.7	39.7		0.0		0.40	0.40	20.75	0.81	N	N	N/A	N/A
Nickel		25.1	25.1		0.0		0.25	0.25	188.77	20.99	N	N	N/A	N/A
Zinc		183.6	183.6		3.5		5.30	5.3	48.14	48.14	N	N	N/A	N/A

[1]Values represent the 95th percentile (for $n \geq 10$) or maximum (for $n < 10$) concentrations from the DMR data and/or WET testing data during the review period (see Attachments B & F). If the metal already has a limit (for either acute or chronic conditions), the value represents the existing limit.

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

APPENDIX D

NH, VT, MA Nitrogen Discharges to Long Island Sound Watershed

Summary of Massachusetts Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2014-2018 Avg Flow (MGD)	2014 Average Load (lb/day)	2015 Average Load (lb/day)	2016 Average Load (lb/day)	2017 Average Load (lb/day)	2018 Average Load (lb/day)	2014-2018 Avg Load (lb/year)
Total Massachusetts Out-of-Basin Load			**262**	**146**	**11,528**	**11,215**	**9,767**	**10,557**	**10,631**	**10,740**
Total Massachusetts Connecticut River Load			**179.6**	**98**	**9,184**	**8,945**	**7,695**	**8,390**	**8,341**	**8,511**
MA0101613	SPRINGFIELD REGIONAL WTP	POTW	67.00	36.26	2,303	2,377	1,643	1,953	1,684	1,992
MA0101508	CHICOPEE WPC	POTW	15.50	7.83	2,220	2,092	1,854	1,872	1,895	1,987
MA0101630	HOLYOKE WPCF	POTW	17.50	8.05	584	644	687	747	593	651
MA0101214	GREENFIELD WPCF	POTW	3.20	3.23	436	467	460	386	482	446
MA0100994	GARDNER WWTF	POTW	5.00	2.89	413	470	377	455	404	424
MA0101818	NORTHAMPTON WWTP	POTW	8.60	3.85	489	412	355	393	453	420
MA0100218	AMHERST WWTP	POTW	7.10	3.76	456	411	335	342	377	384
MA0100455	SOUTH HADLEY WWTF	POTW	4.20	2.37	393	325	288	364	315	337
MA0101478	EASTHAMPTON WWTP	POTW	3.80	3.44	202	186	262	329	639	324
MA0101800	WESTFIELD WWTP	POTW	6.10	2.88	276	225	221	189	211	224
MA0110264	AUSTRALIS AQUACULTURE, LLC	IND	0.30	0.13	149	138	116	107	74	117
MA0101168	PALMER WPCF	POTW	5.60	1.47	142	92	84	100	125	109
MA0100137	MONTAGUE WWTF	POTW	1.80	0.84	107	78	55	215	78	107
MA0100099	HADLEY WWTP	POTW	0.54	0.38	73	76	65	109	67	78
MA0100889	WARE WWTP	POTW	1.00	0.55	62	89	87	72	78	77
MA0101257	ORANGE WWTP	POTW	1.10	0.98	72	62	58	91	91	75
MA0003697	BARNHARDT MANUFACTURING	IND	0.89	0.33	58	78	49	54	96	67
MA0103152	BARRE WWTF	POTW	0.30	0.19	77	81	50	50	49	61
MA0101567	WARREN WWTP	POTW	1.50	0.26	45	42	124	38	55	61
MA0000469	SEAMAN PAPER OF MASSACHUSETTS	IND	1.10	0.83	26	97	53	62	46	57
MA0100005	ATHOL WWTF	POTW	1.75	0.79	76	56	40	39	44	51
MA0101061	NORTH BROOKFIELD WWTP	POTW	0.62	0.32	62	51	40	47	50	50
MA0110043	MCLAUGHLIN STATE TROUT HATCHERY	IND	7.50	7.12	39	44	43	41	37	41
MA0100919	SPENCER WWTP	POTW	1.08	0.35	28	33	31	29	71	38

NH, VT, MA Nitrogen Discharges to Long Island Sound Watershed

Summary of Massachusetts Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2014-2018 Avg Flow (MGD)	2014 Average Load (lb/day)	2015 Average Load (lb/day)	2016 Average Load (lb/day)	2017 Average Load (lb/day)	2018 Average Load (lb/day)	2014-2018 Avg Load (lb/year)
MA0100862	WINCHENDON WPCF	POTW	1.10	0.50	25	33	29	48	40	35
MA0101290	HATFIELD WWTF	POTW	0.50	0.17	51	37	28	28	27	34
MA0101052	ERVING WWTP #2	POTW	2.70	1.78	35	38	38	33	25	34
MA0100340	TEMPLETON WWTF	POTW	2.80	0.27	19	35	18	21	35	26
MAG580004	SOUTH DEERFIELD WWTP	POTW	0.85	0.37	15	33	18	18	27	22
MA0040207	CHANG FARMS INC	IND	0.65	0.22	22	15	34	20	20	22
MA0110035	MCLAUGHLIN/SUNDERLAND STATE FISH HATCHERY	IND	2.10	2.16	25	22	19	20	25	22
MA0102148	BELCHERTOWN WRF	POTW	1.00	0.36	61	13	11	11	5.6	20
MAG580002	SHELBURNE WWTF	POTW	0.25	0.16	15	13	17	17	21	17
MAG580005	SUNDERLAND WWTF	POTW	0.50	0.17	20	12	13	10	9.3	13
MAG580001	OLD DEERFIELD WWTP	POTW	0.25	0.068	13	14	13	12	12	13
MA0110051	MCLAUGHLIN/BITZER STATE TROUT HATCHERY	IND	1.43	1.70	23	12	12	8.2	8.2	13
MA0032573	NORTHFIELD MT HERMON SCHOOL WWTP	POTW	0.45	0.072	22	7.6	15	10	10	13
MA0100102	HARDWICK WPCF	POTW	0.23	0.12	8.2	5.9	13	4.3	17	10
MA0100200	NORTHFIELD WWTF	POTW	0.28	0.080	3.8	6.8	6.5	10	14	8.1
MA0101516	ERVING WWTP #1	POTW	1.02	0.14	7.2	6.1	3.7	10	7.5	6.9
MA0102776	ERVING WWTP #3	POTW	0.010	0.0049	6.1	2.9	6.9	8.0	7.5	6.3
MA0102431	HARDWICK WWTP	POTW	0.040	0.016	7.4	1.5	11	6.9	2.3	5.9
MAG580003	CHARLEMONT WWTF	POTW	0.050	0.016	7.5	4.2	4.8	4.8	4.8	5.2
MA0101265	HUNTINGTON WWTP	POTW	0.20	0.067	4.6	4.1	5.6	4.3	5.2	4.7
MA0100188	MONROE WWTF	POTW	0.020	0.013	*1.4*	1.4	1.2	2.3	1.7	1.6
MA0000272	PAN AM RAILWAYS YARD	IND	0.015	0.011	0.06	0.13	0.12	0.47	0.18	0.19
MA0001350	LS STARRETT PRECISION TOOLS	IND	0.025	0.014	0.03	0.0	0.08	0.07	0.04	0.05
MA0100161	ROYALSTON WWTP	POTW	0.039	0.01298	*0.9*	0.49	0.43	0.49	0.60	0.59
Total Massachusetts Housatonic Load			**29.4**	**18**	**1,667**	**1,605**	**1,509**	**1,612**	**1,707**	**1,626**
MA0101681	PITTSFIELD WWTF	POTW	17.00	10.55	1,179	1,176	1,145	1,245	1,319	1,213
MA0000671	CRANE WWTP	POTW	3.10	3.07	155	142	108	116	107	126

NH, VT, MA Nitrogen Discharges to Long Island Sound Watershed

Summary of Massachusetts Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2014-2018 Avg Flow (MGD)	2014 Average Load (lb/day)	2015 Average Load (lb/day)	2016 Average Load (lb/day)	2017 Average Load (lb/day)	2018 Average Load (lb/day)	2014-2018 Avg Load (lb/year)
MA0101524	GREAT BARRINGTON WWTF	POTW	3.20	0.97	110	120	100	99	124	111
MA0100935	LENOX CENTER WWTF	POTW	1.19	0.61	49	67	59	71	78	65
MA0001848	ONYX SPECIALTY PAPERS INC - WILLOW MILL	IND	1.10	0.94	51	39	44	33	22	38
MA0005011	PAPERLOGIC TURNERS FALLS MILL(6)	IND	0.70	0.73	85	17	12	6.5	Term	30
MA0100153	LEE WWTF	POTW	1.25	0.64	18	17	14	15	35	20
MA0101087	STOCKBRIDGE WWTP	POTW	0.30	0.15	10	15	16	13	10	13
MA0103110	WEST STOCKBRIDGE WWWTF	POTW	0.076	0.014	*5.3*	*3.8*	4.3	5.0	3.7	4.4
MA0001716	MEADWESTVACO CUSTOM PAPERS LAUREL MILL	IND	1.5	0.34	4.3	7.9	5.7	7.2	7.8	6.6
Total Massachusetts Thames River Load			**11.8**	**6**	**677**	**666**	**564**	**556**	**583**	**609**
MA0100439	WEBSTER WWTF	POTW	6.00	2.97	389	393	328	292	344	349
MA0100901	SOUTHBRIDGE WWTF	POTW	3.77	1.97	*178*	149	154	151	130	152
MA0101141	CHARLTON WWTF	POTW	0.45	0.21	40	75	41	68	70	59
MA0100421	STURBRIDGE WPCF	POTW	0.75	0.51	44	21	18	19	20	24
MA0101796	LEICESTER WATER SUPPLY WWTF	POTW	0.35	0.19	24	27	22	26	19	24
MA0100170	OXFORD ROCHDALE WWTP	POTW	0.50	0.24	2.4	1.0	0.23	0.57	0.49	0.9

NOTES:

1) italics = estimated load based on average conc & flow from other years, or if no data for any years, assumed concentration of 19.6 mg/L.

2) The loads represent annual totals, based on annual daily average flow and daily average nitrogen concentration.

3) Term = Permit was terminated in that year

4) This summary only includes POTWs and Industrial sources for which there was nitrogen monitoring at the outfalls for treated effluent and/or process wastewater.

NH, VT, MA Nitrogen Discharges to Long Island Sound Watershed

Summary of New Hampshire Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2014-2018 Avg Flow (MGD)	2014 Average Load (lb/day)	2015 Average Load (lb/day)	2016 Average Load (lb/day)	2017 Average Load (lb/day)	2018 Average Load (lb/day)	2014-2018 Avg Load (lb/day)
Total New Hampshire Out-of-Basin Load			**31.5**	**18.6**	**1,662**	**1,457**	**1,370**	**1,555**	**1,154**	**1,440**
NH0000621	BERLIN STATE FISH HATCHERY	IND	6.1	6.30	8.8	13	13	15	8.7	12
NH0000744	NH DES (TWIN MTN STATE FISH HATCHERY)	IND	1.0	0.78	2.0	5.8	6.2	5.5	5.1	4.9
NH0100099	HANOVER WWTF	POTW	2.3	1.30	*341*	*341*	313	350	361	341
NH0100145	LANCASTER WWTF	POTW	1.2	0.79	84	78	45	72	63	68
NH0100153	LITTLETON WWTP	POTW	1.5	0.69	32	36	24	31	45	34
NH0100200	NEWPORT WWTF	POTW	1.3	0.59	97	63	80	80	79	80
NH0100366	LEBANON WWTF	POTW	3.2	1.49	*136*	*136*	132	127	152	137
NH0100382	HINSDALE WWTP	POTW	0.3	0.19	*18*	17	11	20	16	16
NH0100510	WHITEFIELD WWTF	POTW	0.2	0.08	35	22	15	18	24	23
NH0100544	SUNAPEE WWTF	POTW	0.6	0.40	*32*	*32*	*32*	50	33	35
NH0100765	CHARLESTOWN WWTP	POTW	1.1	0.28	22	13	12	19	22	17
NH0100790	KEENE WWTF	POTW	6.0	2.89	*533*	*397*	*394*	*452*	40	363
NH0101052	TROY WWTF	POTW	0.3	0.08	23	15	12	13	25	18
NH0101150	WEST SWANZEY WWTP	POTW	0.2	0.07	6.1	6.4	7.8	7.8	15	8.7
NH0101168	MERIDEN VILLAGE WATER DISTRICT	POTW	0.1	0.03	0.53	2.5	1.4	2.9	1.3	1.7
NH0101257	CLAREMONT WWTF	POTW	3.9	1.51	*161*	*161*	*161*	163	146	158
NH0101392	BETHLEHEM VILLAGE WWTP (1)	POTW	0.3	0.21	25	26	25	29	25	26
NHG580226	GROVETON WWTP	POTW	0.4	0.12	18	13	10	12	14	13
NHG580315	COLEBROOK WWTP	POTW	0.5	0.22	26	23	21	31	31	26
NHG580391	CHESHIRE COUNTY MAPLEWOOD NURSING HOME	POTW	0.040	0.02	2.1	1.6	1.3	1.5	1.3	1.5
NHG580404	WINCHESTER WWTP	POTW	0.28	0.14	6.1	11	3.9	13	8.3	8.3
NHG580421	LISBON WWTF	POTW	0.3	0.12	26	23	19	17	17	20
NHG580536	STRATFORD VILLAGE SYSTEM	POTW	0.1	0.01	2.2	1.9	3.9	2.5	2.8	2.7
NHG580978	WOODSVILLE WWTF	POTW	0.3	0.19	22	15	19	19	13	18
NHG581206	NORTHUMBERLAND VILLAGE WPCF	POTW	0.1	0.04	2.7	3.3	3.5	2.6	3.1	3.0
NHG581214	STRATFORD-MILL HOUSE	POTW	0.0	0.01	1.4	1.5	2.2	1.8	2.3	1.8
NHG581249	LANCASTER GRANGE WWTP	POTW	0.0	0.00	0.45	0.53	0.45	0.49	0.44	0.47

NOTES:

1) italics = estimated load based on average conc & flow from other years, or if no data for any years, assumed concentration of 19.6 mg/L.

2) The loads represent annual totals, based on annual daily average flow and daily average nitrogen concentration.

3) Term = Permit was terminated in that year

4) This summary only includes POTWs and Industrial sources for which there was nitrogen monitoring at the outfalls for treated effluent and/or process wastewater.

NH, VT, MA Nitrogen Discharges to Long Island Sound Watershed

Summary of Vermont Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2014-2018 Avg Flow (MGD)	2014 load (lb/day)	2015 load (lb/day)	2016 load (lb/day)	2017 load (lb/day)	2018 load (lb/day)	2014-2018 Avg Load (lb/day)
	Total Vermont Out-of-Basin Load		**18.3**	**7.8**	**1,273**	**1,255**	**1,146**	**1,221**	**1,421**	**1,263**
VT0000019	WEIDMANN ELECTRICAL TECHNOLOGY INC	IND	0.25	0.15	2.4	1.4	1.4	1.2	1.7	1.6
VT0000108	PUTNEY PAPER COMPANY MILL & LAGOONS	IND	0.28	0.16	22	26	20	22	17	22
VT0000248	FIBERMARK	IND	2.00	1.06	117	82	89	106	92	97
VT0100013	BELLOWS FALLS WWTF	POTW	1.40	0.44	136	136	136	102	179	138
VT0100048	BETHEL	POTW	0.13	0.06	10.4	4.0	2.4	6.5	3.5	5.4
VT0100064	BRATTLEBORO WWTF	POTW	3.01	1.27	487	487	446	501	421	469
VT0100081	CHESTER MTP	POTW	0.19	0.16	16	5.0	4.5	5.6	7.6	7.6
VT0100145	LUDLOW WWTF	POTW	0.71	0.37	35	27	35	41	42	36
VT0100277	PUTNEY	POTW	0.09	0.05	16	16	11	16	21	16
VT0100285	RANDOLPH	POTW	0.41	0.17	23	23	21	20	28	23
VT0100374	SPRINGFIELD WWTF	POTW	2.20	0.98	133	133	133	120	130	130
VT0100447	WINDSOR-WESTON HEIGHTS	POTW	0.02	0.01	0.40	0.53	1.2	0.88	1.0	0.8
VT0100579	ST JOHNSBURY	POTW	1.60	0.83	34	23	13	24	146	48
VT0100595	LYNDON WWTP	POTW	0.76	0.15	21	21	16	24	21	20
VT0100625	CANAAN MTP	POTW	0.19	0.10	17	15	16	19	17	17
VT0100633	DANVILLE WPCF	POTW	0.07	0.03	2.9	3.5	7.6	4.4	4.3	4.5
VT0100706	WILMINGTON WWTP	POTW	0.15	0.08	3.8	15.9	10.0	4.7	17.2	10
VT0100731	READSBORO WPC	POTW	0.76	0.04	3.6	3.2	2.8	3.8	4.0	3.5
VT0100749	S. WOODSTOCK WWTF	POTW	0.06	0.01	1.9	1.9	0.7	1.2	3.9	1.9
VT0100757	WOODSTOCK WWTP	POTW	0.46	0.22	25	23	24	26	22	24
VT0100765	WOODSTOCK - TAFTSVILLE	POTW	0.02	0.00	0.32	0.24	0.20	0.55	0.87	0.44
VT0100803	BRADFORD WPCP	POTW	0.15	0.08	9.1	9.1	7.7	9.4	8.5	8.8
VT0100846	BRIDGEWATER WWTF	POTW	0.05	0.01	1.1	0.91	1.0	1.1	1.1	1.1
VT0100854	ROYALTON WWTF	POTW	0.08	0.02	5.2	4.6	4.7	7.7	5.0	5.4
VT0100862	CAVENDISH WWTF	POTW	0.16	0.06	15	10	9	11	15	12
VT0100919	WINDSOR WWTF	POTW	1.13	0.25	69	69	66	65	71	68
VT0100943	CHELSEA WWTF	POTW	0.07	0.02	8.2	8.2	4.8	8.9	9.9	8.0
VT0100951	RYEGATE FIRE DEPARTMENT .#2	POTW	0.01	0.00	0.55	1.1	1.9	2.1	0.76	1.3
VT0100978	HARTFORD - QUECHEE	POTW	0.31	0.22	24	53	12	12	10	22
VT0101010	HARTFORD WWTF	POTW	1.23	0.61	11	31	30	34	89	39
VT0101044	WHITINGHAM(JACKSONVILLE)	POTW	0.06	0.02	3.2	3.5	3.4	2.8	3.1	3.2
VT0101061	LUNENBURG FIRE DISTRICT #2	POTW	0.09	0.06	7.6	6.9	5.6	3.2	7.8	6.2
VT0101109	WHITINGHAM	POTW	0.02	0.01	1.2	1.4	1.5	1.2	3.0	1.7
VT0101141	SHERBURNE WPCF	POTW	0.31	0.08	8.9	8.3	7.7	10	16	10

NOTES:

1) italics = estimated load based on average conc & flow from other years, or if no data for any years, assumed concentration of 19.6 mg/L.

2) The loads represent annual totals, based on annual daily average flow and daily average nitrogen concentration.

3) Term = Permit was terminated in that year

4) This summary only includes POTWs and Industrial sources for which there was nitrogen monitoring at the outfalls for treated effluent and/or process wastewater.

Attachment E
City of Chicopee, MA
NPDES Permit No. MA0101508

Receiving Water	CSO Diversion Structure	Location	CSO Outfall Number	Outfall Location
Connecticut River	3	Power Line ROW S of James St	003	Power Line ROW of James St
	4	Riverview Pumping Station	004	Riverview Pumping Station
	5	Leslie St Pumping Station	005	Leslie St Pumping Station
	7.1	Jones Ferry Rd Pumping Station	007	Jones Ferry Road
	7.2	Jones Ferry Rd Pumping Station		
	8	Easement S of Jones Ferry Rd P.S.	008	South of Jones Ferry Road
	9	Paderewski St Pumping Station	009	Paderewski Street
	24.4	Exchange St and Depot St	024	Exchange Street
	24.5	Front and Depot St Area		
Chicopee River	26.1	Bell St and Front St	026	Bell St and Front
	27.1	Parking Lot, Topors Garage, Front St	027	West End of Riverview Terrace
	27.2	West End of Riverview Terrace		
	32.3	Broadway and Belcher St	32B	Main Street West of Deadly Memorial Bridge
	32.4	Maple St and Belcher St		
	32.5	Church St and Walnut St	32A	West Main and Oak Streets
	34.1	Grattan St and Hearthstone Terrace	034	Near Rattan Street and Hearthstone Terrace
	37	East Main St #227	037	227 East Main Street
	40	Chicopee St, manhole #11	040	Chicopee St near Rte 116 Bridge
Willimansett Brook	42	Robert's Pond	042	Robert's Pond

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

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

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, AND MASSDEP PUBLIC NOTICE OF EPA REQUEST FOR STATE CERTIFICATION UNDER SECTION 401 OF THE CWA.

PUBLIC NOTICE PERIOD: **June 28, 2021 – July 27, 2021**

PERMIT NUMBER: **MA0101508**

PUBLIC NOTICE NUMBER: **MA-20-21**

NAME AND MAILING ADDRESS OF APPLICANT:

City of Chicopee
Department of Public Works
80 Medina Street
Chicopee, MA 01013

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Chicopee Water Pollution Control Facility
80 Medina Street
Chicopee, MA 01013

and from
15 Combined Sewer Overflow (CSO) Discharge Outfalls

RECEIVING WATER AND CLASSIFICATION:

Connecticut River and Willimansett Brook (Connecticut River Watershed USGS Code: 01080201), and Chicopee River (Chicopee River Watershed USGS Code: 01080204)

Connecticut River and Williamsett Brook (MA34-05): Class B – Warm Water Fishery, CSO
Chicopee River (MA36-24 and MA36-25) – Warm Water Fishery, CSO

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 Chicopee WPCF, which discharges treated domestic wastewater, industrial wastewater, commercial wastewater, and stormwater. The permittee's sludge is transported offsite by Casella Organics and is incinerated or sent to a landfill. The effluent limits and permit conditions imposed have been drafted pursuant to, and assure compliance with, the CWA, including EPA-approved State Surface Water Quality Standards at 314 CMR 4.00. The Massachusetts Department of Environmental Protection (MassDEP) cooperated with EPA in the development of the Draft NPDES Permit. MassDEP retains independent authority under State law to issue a separate 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.

In addition, EPA has requested that MassDEP grant or deny certification of this Draft Permit pursuant to Section 401 of the CWA and implementing regulations. Under federal regulations governing the NPDES program at 40 Code of Federal Regulations (CFR) § 124.53(e), state certification shall contain conditions that are necessary to assure compliance with the applicable provisions of CWA sections 208(e), 301, 302, 303, 306, and 307 and with appropriate requirements of State law, including any conditions more stringent than those in the Draft Permit that MassDEP finds necessary to meet these requirements. In addition, MassDEP may provide a statement of the extent to which each

condition of the Draft Permit can be made less stringent without violating the requirements of State law.

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:

Janet Deshais
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (06-4)
Boston, MA 02109-3912
Telephone: (617) 918-1667
deshais.janet@epa.gov

Following U.S. Centers for Disease Control and Prevention (CDC) and U.S. Office of Personnel Management (OPM) guidance and specific state guidelines impacting our regional offices, EPA's workforce has been directed to telework to help prevent transmission of the coronavirus. While in this workforce telework status, there are practical limitations on the ability of Agency personnel to allow the public to review the administrative record in person at the EPA Boston office. However, 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 any of the Draft Permit is inappropriate must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by , 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 also submit such comments to MassDEP during the comment period for this Draft Permit. Commenters should access the following link which includes instructions within each public notice posting on how to submit such comments: https://www.mass.gov/service-details/massdep-public-hearings-comment-opportunities.

Any person, prior to the close of the 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 after at least thirty days public notice 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.

Due to the COVID-19 National Emergency, 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

LEALDON LANGLEY, DIRECTOR
DIVISION OF WATERSHED MANAGEMENT
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION