

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION I**

IN THE MATTER OF	)	
	)	
City of Rochester, New Hampshire	)	DOCKET NO.
	)	CWA-AO-R01-FY21-10
NPDES Permit No. NHG58A001	)	
	)	ADMINISTRATIVE ORDER
Proceedings under Sections 308(a) and	)	ON CONSENT
309(a)(3) of the Clean Water Act,	)	
as amended, 33 U.S.C. §§ 1318 and	)	
1319(a)(3)	)	

**I. STATUTORY AUTHORITY**

The following Findings are made and Administrative Order on Consent (“Consent Order”) issued pursuant to Sections 308(a) and 309(a)(3) of the Clean Water Act, as amended (the “Act” or “CWA”), 33 U.S.C. §§ 1318(a) and 1319(a)(3). Section 309(a)(3), 33 U.S.C. § 1319(a)(3), of the Act grants to the Administrator of the U.S. Environmental Protection Agency (“EPA”) the authority to issue orders requiring persons to comply with Sections 301, 302, 306, 307, 308, 318 and 405 of the Act and any permit condition or limitation implementing any of such sections in a National Pollutant Discharge Elimination System (“NPDES”) permit issued under Section 402 of the Act, 33 U.S.C. § 1342, including any permit issued under an authorized state NPDES program. Section 308(a), 33 U.S.C. § 1318(a), of the Act authorizes EPA to require the submission of any information required to carry out the objectives of the Act. These authorities have been delegated to the EPA, Region I Administrator, and in turn to the Director of the EPA, Region I Enforcement and Compliance Assurance Division (“Director”).

The Consent Order herein is based on findings of violation of Section 301 of the Act, 33 U.S.C. § 1311, and the conditions of NPDES Permit No. NHG58A001. Pursuant to Section 309(a)(5)(A) of the Act, 33 U.S.C. § 1319(a)(5)(A), the Consent Order provides a schedule which the Director has determined to be reasonable.

## **II. DEFINITIONS**

Unless otherwise defined herein, terms used in this Consent Order shall have the meaning given to those terms in the Act, 33 U.S.C. §§ 1251 *et seq.*, the regulations promulgated thereunder, and any applicable NPDES permit. For the purposes of this Consent Order, “NPDES Permit” means the City of Rochester NPDES Permit, No. NHG58A001 and all amendments and modifications thereto, and renewals thereof, as are applicable and in effect at the time.

## **III. FINDINGS**

The Director makes the following findings of fact:

1. The City of Rochester (the “City”), established under the laws of the State of New Hampshire, is a “municipality” as defined in Section 502(4) of the Act, 33 U.S.C. § 1362(4).
2. The City is a person under Section 502(5) of the Act, 33 U.S.C. § 1362(5). The City is the operator of a Publicly Owned Treatment Works (“POTW”) from which it discharges pollutants, as defined in Sections 502(6) and (12) of the Act, 33 U.S.C. §§ 1362(6) and (12), from a point source, as defined in Section 502(14) of the Act, 33 U.S.C. § 1362(14), to the Cocheco River.
3. The Cocheco River is a “navigable water” under Section 502(7) of the Act, 33 U.S.C. § 1362(7).
4. On November 24, 2020, EPA Region 1 issued the Great Bay Total Nitrogen General Permit (NPDES Permit No. NHG58A000) (the “General Permit”) for 13 eligible wastewater treatment facilities (“WWTFs”) that discharge treated wastewater containing nitrogen within the Great Bay watershed in New Hampshire. The General Permit became effective beginning on February 1, 2021.
5. The General Permit establishes total nitrogen effluent limitations, monitoring requirements, reporting requirements and standard conditions for 13 eligible WWTFs in New Hampshire. The discharge of all pollutants other than nitrogen from these WWTFs continued to be authorized by each WWTF’s respective individual NPDES permit.

6. The City has indicated to EPA that it will submit a notice of intent to be covered under the General Permit.
7. By obtaining coverage under the General Permit, the City is authorized to discharge nitrogen from Outfall 001 of its WWTF subject to the effluent limitations, monitoring requirements and other conditions specified in the General Permit.
8. Part 2.1 of the General Permit establishes a rolling seasonal average effluent limit for the City for Total Nitrogen of 198 lbs/day.
9. Information provided by the City demonstrates that as currently configured, the WWTF will not be able to meet the rolling seasonal average for Total Nitrogen, until upgrades to the WWTF are completed.
10. The City has also indicated to EPA that infiltration and inflow contributes a significant percentage of flow into the WWTF at certain times.
11. The City provided to EPA a list of three projects that would contribute to the reduction of Total Nitrogen discharges from the WWTF (see Attachment 1). These projects consist of: 1) completion of a septage receiving facility upgrade, 2) completion of a carbon storage and feed building project, and 3) completion of an aeration automation project.
12. Section 301(a) of the Act, 33 U.S.C. § 1311(a), makes unlawful the discharge of pollutants to waters of the United States except in compliance with, among other things, the terms and conditions of an NPDES permit issued pursuant to Section 402 of the Act, 33 U.S.C. § 1342.

#### **IV. ORDER**

Accordingly, pursuant to Sections 308 and 309(a)(3) of the Act, the Parties agree, and it is hereby ordered:

1. By October 31, 2021, the City shall complete implementation of the pilot septage receiving facility upgrade as described in Attachment 1 and conduct an evaluation of the efficacy of the pilot.
2. By December 31, 2022, based upon the results of the pilot and evaluation, the City shall design, bid and construct the full septage facility upgrade. The City shall evaluate the efficacy of the constructed, permanent septage facility upgrade and report results in the Nitrogen Reduction Report set forth in Paragraph 6 below.

3. By October 31, 2022, the City shall complete the carbon storage and feed building project as described in Attachment 1. The City shall evaluate the efficacy of the carbon storage and feed building project and report results in the Nitrogen Reduction Report set forth in Paragraph 6 below.
4. By October 31, 2022, the City shall complete the aeration automation project as described in Attachment 1.
5. The City has selected a contractor and is currently negotiating a scope of work for a Sewer System Master Plan. Once finalized, the City will submit the scope of work to EPA and NHDES for comments by September 1, 2021. The City anticipates the Sewer System Master Plan study will be conducted over the next two to three years. The Sewer System Master Plan shall include a description of flow metering and modelling efforts to fully evaluate and reduce sources of inflow and infiltration in the POTW. The City shall report the findings and recommendations of the Sewer System Master Plan in the Nitrogen Reduction Report set forth in Paragraph 6 below.
6. By October 31, 2024, the City shall submit a Nitrogen Reduction Report to EPA and NHDES. The Nitrogen Reduction Report shall indicate what actions the City will take to further reduce Nitrogen discharges in order to ensure consistent compliance with the rolling seasonal average effluent limit for Total Nitrogen of 198 lbs/day. Upon submission of the Nitrogen Reduction Report, the City shall begin to implement the recommended actions set forth in the Report pursuant to this Order, subject to any comments on the recommended actions provided to the City by EPA or NHDES.
7. The schedules described in Part IV of this Consent Order shall be incorporated and enforceable hereunder, and as amended by the Parties or EPA as described in Part VI.3.
8. All work pursuant to this Consent Order shall be performed using sound engineering practices to ensure that construction, management, operation and maintenance of the City's POTW, including the collection system, complies with the CWA.

#### **Interim Limits and Monitoring Requirements**

9. From the effective date of this Consent Order through October 31, 2025, the City shall optimize for nutrient removal utilizing all available treatment options and comply with the Interim Effluent Limitations and Monitoring Requirements contained in Attachment 2

of this Consent Order. After October 31, 2025, the Interim Effluent Limitations and Monitoring Requirements in Attachment 2 are terminated.

10. The City shall comply with all other effluent limitations, monitoring requirements and other conditions specified in the Permit for the parameters not covered in Part IV of this Order or Attachment 2.

#### **Reporting Requirements**

11. The City shall submit semi-annual reports to EPA and NHDES summarizing its compliance with the provisions of this Consent Order. Progress reports shall be submitted on, or before, June 1<sup>st</sup> and December 1<sup>st</sup> of each year. Each progress report submitted pursuant to this paragraph shall: a) describe activities undertaken during the reporting period directed at achieving compliance with this Consent Order; b) identify all plans, reports, and other deliverables required by this Consent Order that have been completed and submitted during the reporting period; c) describe the expected activities to be taken during the next reporting period in order to achieve compliance with this Consent Order; and d) identify any anticipated or potential areas of noncompliance with this Consent Order.

#### **V. NOTIFICATION PROCEDURES**

1. Where this Consent Order requires a specific action to be performed within a certain time frame, the City shall submit a written notice of compliance or noncompliance with each deadline. This includes providing notice for each item identified in Part IV. Notification shall be mailed or emailed within 14 days after each required deadline. The timely submission of a required report shall satisfy the requirement that a notice of compliance be submitted.
2. If noncompliance is reported, notification should include the following information:
  - a. A description of the noncompliance;
  - b. A description of any actions taken or proposed by the City to comply with the lapsed schedule requirements;
  - c. A description of any factors that explain or mitigate the noncompliance; and
  - d. An approximate date by which the City will perform the required action.

3. After a notification of noncompliance has been filed, compliance with the past-due requirement shall be reported by submitting all required documents or providing EPA and NHDES with a written report indicating that the required action has been achieved. Submissions required by this Consent Order shall be in writing and sent via email to the addresses below. EPA or NHDES may request that some items, such as design reports, to be sent in hard copy as well to the following addresses:

U.S. Environmental Protection Agency  
Region 1, New England  
Enforcement and Compliance Assurance Division  
5 Post Office Square – Suite 100  
Boston, MA 02109-3912  
Attn: Solanch Pastrana-Del Valle (Mail Code: 04-4)  
[Pastrana-Del-Valle.Solanch@epa.gov](mailto:Pastrana-Del-Valle.Solanch@epa.gov)

and

New Hampshire Department of Environmental Services  
Wastewater Engineering Bureau  
Water Division, NHDES  
29 Hazen Drive, PO Box 95, Concord, NH 03302  
Attn: Teresa Ptak  
[Teresa.ptak@des.nh.gov](mailto:Teresa.ptak@des.nh.gov)

## **VI. GENERAL PROVISIONS**

1. This Order does not constitute a waiver or a modification of the terms and conditions of the City's NPDES Permit. The City's NPDES Permit remains in full force and effect. EPA reserves the right to seek any and all remedies available under Section 309 of the Act, 33 U.S.C. § 1319, as amended, for any violation cited in this Order.
2. This Order shall become binding on the Parties upon receipt by the City. The requirements in Part IV of this Order and Interim Effluent Limits and Monitoring Requirements described in Attachment #2 shall become effective upon the date that the General Permit becomes effective with respect to the City.
3. The City agrees to accept service of this Order by electronic mail to the City Manager.
4. Any material modification to the terms of this Order shall be by written agreement of the Parties. Any nonmaterial modifications to the terms of this Order, such as approval of

modifications to submissions to EPA or the due dates of such submissions, shall be effective upon written approval from EPA.

5. The City waives any and all claims for relief and otherwise available rights or remedies to judicial or administrative review which the City might have with respect to any issue of fact or law set forth in this Consent Order, including, but not limited to, any right of judicial review of this Consent Order under the Administrative Procedure Act, 5 U.S.C. §§ 701-708.
6. This Order shall terminate on October 31, 2025.

\_\_\_\_\_  
Date

3-3-2021

Date

\_\_\_\_\_  
James Chow, Deputy Director *for* Karen McGuire, Director  
Enforcement and Compliance Assurance Division  
EPA Region 1

Blaine Cox

Blaine Cox, City Manager  
City of Rochester, New Hampshire

## ATTACHMENT #2

### Interim Effluent Limitations and Monitoring Requirements

The City shall comply with the following interim effluent limits and monitoring requirements from the effective date of the Order until its termination.

Effluent Limitations	Year-Round Reporting Requirements				Year-Round Monitoring Requirements	
	Total Nitrogen		Total Kjeldahl Nitrogen	Nitrate + Nitrite Nitrogen	Measurement Frequency	Sample Type
Total Nitrogen	Monthly Average (lb/day)	Monthly Average (mg/L)	Monthly Average (mg/L)	Monthly Average (mg/L)	1/Week	Composite*
Rolling Seasonal Average (lb/day)	Report	Report	Report	Report		

\* Each composite sample will consist 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.



## **Attachment #1**

### **Project Name:** WWTF Carbon Storage & Feed Building

**Project Description:** The Carbon Storage & Feed Building was designed to provide a permanently installed building at the WWTF to house four (4) 10,000 gallon storage tanks, feed pumps, piping, controls and appurtenances for supplemental carbon to support the simultaneous nitrification/denitrification (SND) system that the City is currently operating to reduce effluent total nitrogen. Because the influent biochemical oxygen demand (BOD) to nitrogen ratio is low, there is insufficient carbon (BOD) in the influent to support the SND process. Carbon, in the form of acetic acid, was previously stored in two (2) 5,000 gallon tanks located outside, adjacent to the aeration basins. Upwards of 18,000 gallons of acetic acid is delivered to the WWTF on weekdays. The temporary storage system does not have sufficient capacity for the total volume of acetic acid delivered, nor does the system have a means to precisely meter the acetic acid into the treatment process. And, since the current storage tanks are located outside and open to the elements, the storage system was subject to freezing from mid-October to mid-May. Currently, acetic acid delivered to the WWTF is discharged directly into the aeration tank (anoxic zone), which does not provide for the best use of the product.

**Projected Results:** The dedicated carbon storage and feed system will provide a means to store the full volume of acetic acid delivered to the WWTF and meter it into the process over a 24-hour period, providing much more stable process control. Since the storage and feed system will be enclosed in a climate-controlled environment, the acetic acid can be stored and metered into the process year-round. This will allow denitrification to continue beyond mid-fall, until such time as the wastewater temperature is too low to support denitrification. This project will provide better process control to maintain the SND process and provide for reduced effluent nitrogen over a longer time frame than is currently practical.

**Project Schedule:** The Carbon Storage & Feed Building commenced construction in October 2019; however, the City recently terminated the contractor and is in the process of engaging an alternative contractor to complete construction of the Carbon Storage & Feed Building. Due to the termination of the contractor, the current schedule for completion is indeterminate, but the City still anticipates construction completion by October 31, 2022. Optimization of feed rates will begin immediately upon commencement of operation and could take up to one year or more.

**Cost Estimate:** The WWTF receives acetic acid from a NH-based food manufacturer at no cost, provided the City receives the product year-round. In 2018, the WWTF also began receiving brewery waste as a carbon source from a regional brewery at no cost, provided the City receives the product year-round. The engineering and construction costs of the Carbon Storage & Feed Building will total in excess of \$3,300,000.

**Project Name:** Aeration Automation Project

**Project Description:** Aeration System Automation was conceptualized in a 2016 WWTF Master Plan Update. Since then an aeration diffuser replacement project has been completed and a Bioprocess Aeration Control System (BioChem® Technology, Inc.) has been installed. This system uses process-based calculations to combine the control of aeration blowers and control valve actuators to achieve proper levels of DO in each aeration basin zone. Electric valve actuators, in-basin analyzers (ORP, DO, nitrate) and mechanical mixers were required to help maximize benefits. Also, to enhance the denitrification process, an aeration timer has been added to the program to aid in stabilizing anoxic conditions in the anoxic selectors and sidewall zones.

**Projected Results:** The construction and installation of this project was completed in the summer of 2020 and is currently going through commissioning and start-up testing. Optimization for full system benefits will be closely tied to the optimization of the Carbon Storage and Feed Building operation. It is anticipated that the automation of aeration control, coupled with the metering of a carbon source, will improve the ability to remove total nitrogen at the WWTF.

**Project Schedule:** Optimization is anticipated to occur from late summer 2021 and thru a full growing season of April-October 2022.

**Cost Estimate:** Engineering, Construction, Equipment purchases, Installation, and Programming costs of both the diffuser replacement & BioChem® BACS total approximately \$400,000.

**Project Name:** Septage Receiving Facility Upgrade

**Project Description:** Currently the WWTF receives septage from Rochester residents only. The current septage receiving facility at the WWTF location is very rudimentary and is designed to have all septage flows go through a manual bar rack to the equalization basins. This flow pattern does not allow the City to utilize the natural readily available carbon source in the septage to support the simultaneous nitrification/denitrification (SND) system. The project involves relocating and upgrading the septage receiving facilities, including automation and adding some grit/solids removal.

**Projected Results:** One location for the new septage receiving facility under consideration by the City is at the Headworks Facility. Pilot testing of septage quantities and process response conditions when adding septage at this location need to be evaluated. Introducing septage at the Headworks Facility would add an additional carbon source to the influent of the aeration basin and SND system. It is anticipated that additional carbon in the influent will improve the ability to remove total nitrogen at the WWTF.

**Project Schedule:** The City plans to implement the septage receiving pilot at its Headworks Facility and evaluate the efficacy of the pilot through October 31, 2021. Utilizing the results of the pilot, City will design, bid and construct a permanent septage receiving facility update by December 31, 2022.

**Cost Estimate:** Total cost of the upgrades could be \$800,000 or more.