

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act as amended, 33 U.S.C. §§ 1251 et seq. (the “CWA”),

City of Manchester, New Hampshire

is authorized to discharge from the facility located at

**Manchester Wastewater Treatment Facility
300 Winston Street
Manchester, NH 03103 and 15 Combined Sewer Overflow (CSO) Outfalls**

to receiving water named

**Merrimack River (NHRIV700060803-14-02 and NHIMP700060802-04)
Piscataquog River (NHRIV700060607-22)
Baker Brook (NHRIV700060803-08)
Rays Brook (NHRIV700060802-15)
Unnamed Brook (NHRIV700060803-17)**

Merrimack River watershed – All Class B

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

The Towns of Goffstown, Bedford and Londonderry, New Hampshire are Co-permittees for: Part I.B, Unauthorized Discharges; Part I.C, Operation and Maintenance of the Treatment and Control Facilities (which include conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns); and Part I.D, Alternate Power Source. The permit number assigned to the Towns for purposes of reporting (using NetDMR through EPA’s Central Data Exchange, as specified in Part I.I below) in accordance with the requirements in Parts I.B, I.C, and I.D of this permit are as follows: Bedford: **NHC010447**; Goffstown: **NHC020447**; and Londonderry: **NHC030447**.

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

The responsible departments for the Co-permittees are:

Town of Goffstown Goffstown Sewer Commission 16 Main Street Goffstown, NH 03045	Town of Bedford 24 North Amherst Road Bedford, NH 03110	Town of Londonderry 268 B Mammoth Road Londonderry, NH 03053
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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 revised draft permit is issued pursuant to 40 CFR § 124.19(j) and 40 CFR § 124.6, and revises and supersedes the relevant portions of the permit that was issued on November 3, 2025. The revised portions of the permit are in **bold red** font.

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

Signed this day of

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

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

PART I**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge treated effluent through Outfall Serial Number 001 to Merrimack River. The discharge shall be limited and monitored as specified below; the receiving water and the influent shall be monitored as specified below.

Effluent Characteristic	Effluent Limitation			Monitoring Requirements ^{1,2,3}	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type ⁴
Total Ammonia Nitrogen (June 1 – September 30) ¹¹	3,407 lb/day Report mg/L	---	Report mg/L	2/Week	Composite

Footnotes:

11. See Part I.G.2 for the compliance schedule applicable to the ammonia limit.

...

G. SPECIAL CONDITIONS

...

2. Compliance Schedule

The Permittee shall evaluate and implement optimization measures to reduce the amount of ammonia nitrogen in the discharge to achieve compliance with the ammonia limit (*i.e.*, 3,407 lb/day from June 1 through September 30). The Permittee shall submit a status report to EPA within 12 months of the effective date of this revised permit regarding progress in achieving the ammonia limit through optimization. The monthly average ammonia limit shall go into effect the first June following 24 months after the effective date of this revision. During the compliance schedule, the Permittee shall monitor for ammonia twice per week from June through September and shall report both the average monthly ammonia concentration (mg/L) and load (lb/day).

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

STATEMENT OF BASIS

**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: NH0100447

PUBLIC NOTICE START AND END DATES: October 1, 2026 – November 2, 2026

NAME AND MAILING ADDRESS OF APPLICANT:

City of Manchester
300 Winston Street
Manchester, NH 03103 and 15 Combined Sewer Overflow (CSO) Outfalls

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Manchester Wastewater Treatment Facility
300 Winston Street
Manchester, NH 03103

The Towns listed below are Co-permittees for activities required in Part I.B. (Unauthorized Discharges), Part I.C. (Operation and Maintenance of the Sewer System) and Part I.D. (Alternate Power Source):

NHC010447	NHC020447	NHC030447
Town of Bedford 24 North Amherst Road Bedford, NH 03110	Town of Goffstown Goffstown Sewer Commission 16 Main Street Goffstown, NH 03045	Town of Londonderry 268 B Mammoth Road Londonderry, NH 03053

RECEIVING WATER AND CLASSIFICATION:

Merrimack River (NHRIV700060803-14-02 and NHIMP700060802-04)
Piscataquog River (NHRIV700060607-22)
Baker Brook (NHRIV700060803-08)
Rays Brook (NHRIV700060802-15)
Unnamed Brook (NHRIV700060803-17)
Merrimack River Watershed - All Class B

1.0 PROPOSED ACTION

On November 3, 2025, the U.S. Environmental Protection Agency, Region 1 (“Region”) issued a NPDES Permit (“2025 Permit”) to the City of Manchester (“Permittee” or “City”) for discharges from the Manchester Wastewater Treatment Facility to the Merrimack River via Outfall 001.

On December 3, 2025, the City petitioned the Environmental Appeals Board (EAB) for review of several conditions in the 2025 Permit, including the new ammonia limit of 10.4 mg/L (applicable from June through September). Pursuant to 40 CFR § 124.16(a)(1), the permit was initially stayed.¹

The parties agreed to participate in settlement negotiations, during which the City provided EPA with new information regarding the costs and feasibility of achieving the new, concentration-based ammonia limit in the 2025 Permit through optimization of the treatment facility due to operational challenges that the current treatment system faces in treating both ammonia and other pollutants of concern (*e.g.*, phosphorus). Pursuant to those discussions, EPA withdrew² the ammonia limit from the 2025 Permit on September 25, 2026, in accordance with 40 CFR § 124.19(j), and is now proposing to establish a new mass-based ammonia limit through this 2026 Revised Draft Permit. EPA notes that both the concentration-based limit in the 2025 Permit and the mass-based limit in this 2026 Revised Draft Permit are fully protective of New Hampshire’s ammonia water quality standard (*i.e.*, NH WQS at Env-Wq 1703.25 & 1703.26), but, in this case, the mass-based limit will allow increased operational flexibility under average flows. The revised limit will, therefore, better ensure compliance with not only the ammonia limit but also limits and conditions required for phosphorus and other pollutants.

This Revised Draft Permit is narrow and only addresses the limit and compliance schedule for ammonia. No other conditions of the 2025 Permit are addressed by this permit action. See 40 CFR § 124.19(j). Thus, only the proposed ammonia limit is open for public notice and comment. EPA is seeking, and will accept, only comments that address this proposed provision.³

¹ EPA later issued its Notice of Uncontested and Severable Conditions, *available at* <https://www.epa.gov/system/files/documents/2026-09/epa-notice-of-uncontested-and-severable-permit-conditions-npdes-25-05-09-25-2026.pdf>, which puts all uncontested conditions into effect on November 1, 2026.

² See Notice of Partial Withdrawal, September 25, 2026, *available at* <https://www.epa.gov/system/files/documents/2026-09/epa-notice-of-partial-withdrawal-npdes-25-05-09-25-2026.pdf>.

³ EPA notes that the Conservation Law Foundation separately contested aspects of the permit. See Environmental Appeals Board Docket No. NH0100447. The Board has since rendered a decision in that docket partially remanding the permitting decision to the Region “to correct the erroneous statements in the response to comments document, and to evaluate whether PFAS ‘are or may be discharged a level which will cause, have the reasonable potential to cause, or contribute to an excursion’ of [applicable water quality standards],” without remanding or vacating any particular permit condition. 19 E.A.D. 269, 300-301 (EAB 2026). Consistent with the EAB decision, EPA will be reevaluating its approach to PFAS in the permit as it responds to the remand, which will be conducted through a separate future action. EPA Region 1 is not addressing the remand in this 2026 Revised Draft Permit.

1.1 Facility

The Manchester WWTF provides preliminary, primary, and secondary treatment of municipal wastewater with a design flow of 34 million gallons per day (MGD). Wastewater is comprised of mostly domestic sewage with some commercial sewage and some septage.

1.2 Receiving Water

The WWTF discharges through Outfall 001 into the Merrimack River. The Merrimack River is classified as a Class B water by the State of New Hampshire. According to New Hampshire's WQS (RSA 485-A:8), *"Class B waters shall be of the second highest quality and shall have no objectionable physical characteristics, shall contain a dissolved oxygen content of at least 75 percent of saturation, and shall contain not more than either a geometric mean based on at least 3 samples obtained over a 60-day period of 126 Escherichia coli per 100 milliliters, or greater than 406 Escherichia coli per 100 milliliters in any one sample; and for designated beach areas shall contain not more than a geometric mean based on at least 3 samples obtained over a 60-day period of 47 Escherichia coli per 100 milliliters, or 88 Escherichia coli per 100 milliliters in any one sample; unless naturally occurring. There shall be no disposal of sewage or waste into said waters except those which have received adequate treatment to prevent the lowering of the biological, physical, chemical or bacteriological characteristics below those given above, nor shall such disposal of sewage or waste be inimical to aquatic life or to the maintenance of aquatic life in said receiving waters. The pH range for said waters shall be 6.5 to 8.0 except when due to natural causes. Any stream temperature increase associated with the discharge of treated sewage, waste or cooling water, water diversions, or releases shall not be such as to appreciably interfere with the uses assigned to this class."*

The Merrimack River AUID NHRIV700060803-14-02 is listed in the final *New Hampshire Integrated List of Waters for the Clean Water Act 2020-2022 Reporting Cycle* ("303(d) List") as a Category 5 "Waters Requiring a TMDL."⁴ The pollutants requiring TMDLs are aluminum and pH.

Additional facts concerning the Facility and the receiving water that are relevant for the purpose of NPDES permitting are discussed in detail in the 2024 Draft Permit and Fact Sheet, the 2024 Revised Draft Permit and Statement of Basis, and the 2025 Final Permit and Response to Comments.⁵ The relevant portions from these documents are referenced specifically in the discussion below and, to the extent necessary, have been reproduced in this Statement of Basis.

⁵ These documents are available at: <https://www.epa.gov/npdes-permits/new-hampshire-draft-individual-npdes-permits> and <https://www.epa.gov/npdes-permits/new-hampshire-final-individual-npdes-permits>.

2.0 BASIS OF THE PROPOSED REVISIONS

2.1 Ammonia Data

The 2015 Permit does not include ammonia limits, but the Permittee was required to monitor and report effluent and ambient ammonia concentrations on a quarterly basis as part of the Whole Effluent Toxicity (WET) testing. For purposes of this 2026 Revised Draft Permit, EPA has established the review period as the most recent 5-year period from July 1, 2021 through June 30, 2026. In addition to the WET testing data available during this period, Manchester also provided supplemental effluent ammonia data (via email) on February 13, 2024, that they had collected from 2019 through 2023, outside of the permit's WET testing requirement. Comparing the WET ammonia data with the supplemental ammonia data, EPA determined that the supplemental data are more representative of the discharge for the purpose of determining reasonable potential given that they are monthly data rather than quarterly WET data. EPA did not combine the quarterly WET data for the years when both data sets were available (*i.e.*, 2021-2023) because most of the WET data were taken in the same months as the supplemental data. If the monthly and quarterly WET datasets were combined, EPA would need to average multiple results from different sampling efforts within the same month to determine monthly average values, which may incorporate unnecessary bias based on the timing of each sample relative to the other samples. Therefore, the monthly average ammonia data from the supplemental dataset (for 2021-2023) and from the WET tests (for 2024-2026) are summarized in Table 1 below.

Table 1: Effluent Monthly Average Ammonia Data (mg/L)

	2021	2022	2023	2024	2025	2026
January		15.00	9.40	10		
February		11.00	13.00		25	
March		12.00	12.00			11
April		11.50	9.90	9.7		16
May		16.00	14.00		12	
June		14.00	12.50			
July	5.30	8.6	9.00		21	
August	11.00	6.20	6.40	2.7		
September	6.80	3.7	4.00			
October	4.90	15.00	7.30			
November	11.00	9.10	12.00	13	--	
December	5.70	13.00	8.20			

Ambient ammonia data was only available from the quarterly WET tests taken upstream of the Manchester outfall in the Merrimack River and are presented in Table 2 below.

Table 2: Ambient Monthly Average Ammonia Data (mg/L)

Monitoring Period End Date	Sample Date	Ammonia (mg/L)
9/30/2021	7/20/2021	0.85
12/31/2021	10/19/2021	0.093
3/31/2022	2/28/2022	0.16
6/30/2022	4/26/2022	0.074
9/30/2022	9/13/2022	0.45
12/31/2022	10/18/2022	0.12
3/31/2023	1/17/2023	0.09
6/30/2023	4/25/2023	0.11
9/30/2023	7/31/2023	< 0.06
12/31/2023	11/28/2023	0.1
3/31/2024	1/22/2024	< 0.06
6/30/2024	4/23/2024	< 0.06
9/30/2024	8/6/2024	< 0.06
12/31/2024	10/29/2024	0.07
3/31/2025	2/11/2025	0.28
6/30/2025	5/6/2025	< 0.06
9/30/2025	7/15/2025	< 0.06
12/31/2025	11/3/2025	--
3/31/2026	3/17/2026	< 0.08
6/30/2026	4/21/2026	< 0.08

The median ambient concentration for the warm weather period (June through September) is 0 mg/L and for the cold weather period (November through April) is 0.08 mg/L. The median for May is 0 mg/L and for October is 0.093 mg/L.

These effluent and ambient data are used in the reasonable potential analysis below.

2.2 Ammonia Water Quality Criteria

The freshwater ammonia criteria are presented in the NH WQS at Env-Wq 1703.25 & 1703.26 and are dependent on pH and temperature; the acute criterion is also dependent on whether Salmonids are present in the receiving water.

To determine the applicable ammonia criteria, EPA assumes a warm weather (June through September) temperature of 25° C and a cold weather (November through April) temperature of 5° C. The critical temperature during the shoulder months (May and October) was estimated to be 20° C based on data provided by the City on June 10, 2024 as a comment on the 2024 Draft

Permit, consistent with the 2025 Response to Comments (Response 16 at pp. 37-41). These data are from the Goffs Falls USGS gage from 1951 to 1998 and are reproduced below.

Table 3: Historical Merrimack River Temperature Data, Goffs Falls USGS Gage

Date	May	October
5/7/1952	10.5	
5/12/1953	16.5	
5/6/1954	9	
10/6/1955		15
5/7/1956	8	
10/3/1956		12
5/3/1957	13	
11/1/1979		5
10/23/1980		10
10/27/1981		7
5/25/1982	14	
10/27/1983		9.5
5/8/1986	11	
5/23/1989	16	
10/10/1995		17.1
10/2/1996		17.9
Average	12.3	11.7
Min	8.0	5.0
Max	16.5	17.9
Count	8	8

Given that each month includes only one temperature value, EPA considers that the temperatures in Table 3 represent the monthly average and are appropriate for use in deriving monthly average ammonia criteria. However, given that these data are limited (*i.e.*, only 8 measurements within each month over a span of 40+ years) and the most recent value is over 25 years old, EPA has included a safety factor and has rounded the maximum up to 20°C from 16.5°C in May and 17.9°C in October.

As noted in the 2025 Response to Comments (Response 16 at pp. 37-41), EPA recognizes that the temperature data are limited and notes that the Permittee is welcome to collect additional data and provide it for use in the future. Given that it would be considered “new information” that was not available at the time of this permit issuance, it would likely satisfy the anti-degradation exception regarding “new information”, meaning that the limit could permissibly “backslide”, if justified by the data and legal standard. *See* 33 U.S.C. § 1342(o)(2)(B)(i). However,

EPA notes that such data may also result in a more stringent limit if critical temperatures in any month are shown to be higher than the values used in this analysis.

EPA used the median ambient pH data from the WET monitoring upstream of the Facility. These data were presented in Appendix A of the 2024 Fact Sheet and are reproduced in Table 4 below. The median pH of 7.5 S.U. is used to derive the ammonia criteria.

Table 4: Ambient pH Data from the Merrimack River

Monitoring Period End Date	pH
9/30/2021	7.4
12/31/2021	7.7
3/31/2022	7.5
6/30/2022	7.8
9/30/2022	7.5
12/31/2022	7.8
3/31/2023	7.7
6/30/2023	7.6
9/30/2023	7.5
12/31/2023	7.6
3/31/2024	7.2
6/30/2024	6.9
9/30/2024	8
12/31/2024	7.1
3/31/2025	7.4
6/30/2025	7.3
9/30/2025	7.5
12/31/2025	--
3/31/2026	6.8
6/30/2026	7.1

Finally, given that the Merrimack River in the vicinity of the Manchester WWTF discharge is within Essential Fish Habitat (EFH) for Atlantic salmon (*Salmo salar*), EPA has assumed that salmonids could be present in the receiving water (as noted in Section 6.2 of the 2024 Fact Sheet). EPA notes that the habitat must be protected even if the species itself is not present during a given season.

The applicable ammonia criteria for each month were calculated based on these factors and are presented in Table 5 and are used as part of the reasonable potential analysis in the next section below.

Table 5: Ammonia Criteria (mg/L)

	Cold Weather (Nov-Apr)	Warm Weather (June-Sept)	Shoulder Months (May, Oct)
Acute	13.3	6.1	9.2
Chronic	3.2	1.0	1.4

2.3 Ammonia Reasonable Potential Analysis

In determining whether the discharge has the reasonable potential to cause or contribute to excursions above the instream water quality criteria for ammonia, EPA used the mass balance equation presented below to project the ammonia concentration downstream of the discharge.

To determine the critical condition of the effluent, EPA projects an upper bound of the effluent concentration based on the observed monitoring data and a selected probability basis. EPA generally applies the quantitative approach found in Appendix E of EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD)⁶ to determine the upper bound of the effluent data. As presented in the TSD, the following formula is used to calculate the 95th percentile value:

$$E(X_n) + 1.645[V(X_n)]^{1/2}$$

Where:

X_i = daily pollutant measurement i

$Y_i = \ln(x_i)$

K = sample size of data set

$\mu_y = \sum (Y_i)/k; \quad 1 \leq i \leq k$

$\sigma_y^2 = (\text{SUM}[(y_i - \mu_y)^2]) / (k-1); \quad 1 \leq i \leq k$

$E(X) = \exp(\mu_y + \sigma_y^2)$

$V(X) = \exp(2 \mu_y + \sigma_y^2)[\exp(\sigma_y^2) - 1]$

$E(X_n) = E(X)$

$V(X_n) = V(X)/n$

$cv(X_n) = V(X_n)^{1/2}/X_n$

This methodology accounts for effluent variability based on the size of the dataset and the occurrence of non-detects (*i.e.*, samples results in which a parameter is not detected above laboratory detection limits). For datasets of 10 or more samples, EPA uses the upper bound effluent concentration at the 95th percentile of the dataset. For datasets of less than 10 samples, EPA uses the maximum value of the dataset.

⁶ Available at: <https://www.epa.gov/system/files/documents/2024-07/technical-support-document-for-water-quality-based-toxics-control.pdf>

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

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

Where:

C_s = upstream concentration (median value of available ambient data)

Q_s = upstream flow (7Q10 flow upstream of the outfall)

C_e = effluent concentration (95th percentile or maximum of effluent concentration)

Q_e = effluent flow of the facility (design flow)

C_d = downstream concentration

Q_d = downstream flow ($Q_s + Q_e$)

Solving for the downstream concentration results in:

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

When both the downstream concentration (C_d) and the effluent concentration (C_e) exceed the applicable criterion, there is reasonable potential for the discharge to cause, or contribute to an excursion above the water quality standard. See 40 CFR § 122.44(d). When EPA determines that a discharge causes, has the reasonable potential to cause, or contribute to such an excursion, the permit must contain WQBELs for the parameter. See 40 CFR § 122.44(d)(1)(iii).

Table 6 below presents the reasonable potential calculations.

Table 6: Reasonable Potential Calculations

Pollutant	Conc. Units	Q _s (MGD)	C _s ¹	Q _e (MGD)	C _e ²		Q _d (MGD)	C _d		Criteria * 0.9		Reasonable Potential	
					Acute	Chronic		Acute	Chronic	Acute	Chronic	Acute	Chronic
Ammonia (Nov-Apr)	mg/L	436	0.08	34	18.4	18.4	470	1.4	1.4	12.0	2.9	N	N
Ammonia (June-Sept)	mg/L	436	0	34	19.0	19.0	470	1.4	1.4	5.5	0.9	N	Y
Ammonia (May)	mg/L	436	0	34	16.0	16.0	470	1.2	1.2	8.3	1.3	N	N
Ammonia (Oct)	mg/L	436	0.093	34	15.0	15.0	470	1.2	1.2	8.3	1.3	N	N

¹Median concentration for the receiving water just upstream of the facility's discharge taken from the WET testing data.

²Values represent the 95th percentile (for n ≥ 10) or maximum (for n < 10) concentrations from the effluent data.

Based on the information and assumptions described above, there is reasonable potential to exceed the chronic ammonia criterion for the warm weather season (June through September) resulting in the need for a monthly average limit. There is no reasonable potential to exceed the acute ammonia criterion during any period, the chronic criterion during the cold weather season (November through April) or the chronic criterion during the months of May or October. A monthly average limit for June through September is calculated below.

2.4 Ammonia Limit Calculation

Based on the reasonable potential analysis above, the permit must include a monthly average limit for ammonia from June through September. Based on the information provided by the Permittee and EPA's assessment of this and other relevant information, this limit is derived as a mass-based limit rather than a concentration-based limit.

To ensure a mass-based limit is fully protective of water quality standards even under critical conditions, EPA calculates the limit using the lowest expected receiving water flow and effluent flow which will result in the lowest downstream flow that would be available to dilute the allowable mass loading. In this case, these values are the upstream 7Q10 receiving water flow and the lowest monthly average effluent flow (*i.e.*, 12.4 MGD from August 2022). The numeric mass-based limit that would comply with water quality standards under these critical conditions is determined based on the following equations:

$$Q_s C_s + Q_e C_e = Q_d C_d \times (0.90)$$

and

$$M_e = Q_e C_e \times 8.345$$

Substituting ($Q_d C_d$) with ($M_e/8.345$) in the first equation and solving for M_e results in:

$$M_e = (Q_d C_d \times (0.90) - Q_s C_s) \times 8.345$$

where:

M_e = mass-based effluent limit

Q_s = upstream 7Q10 flow, in MGD

C_s = upstream median river phosphorus concentration, in mg/L

Q_e = lowest monthly average effluent flow, in MGD

C_e = effluent phosphorus concentration, in mg/L

Q_d = downstream critical low ($Q_e + Q_s$), in MGD

C_d = downstream river concentration (chronic criterion = 1.01 mg/L)

0.90 = factor to reserve 10% assimilative capacity

8.345 = factor to convert from MGD * mg/L to lb/day

Solving for M_e gives the maximum allowable mass the Facility may discharge without violating water quality standards under critical conditions. In this case, the mass-based limit is:

$$M_e = ([436.7 \text{ MGD} + 12.4 \text{ MGD}] \times 1.01 \text{ mg/L} \times 0.90 - 436.7 \text{ MGD} \times 0 \text{ mg/L}) \times 8.345$$

$$M_e = \mathbf{3,407 \text{ lb/day}}$$

The proposed monthly average limit in the 2026 Revised Draft Permit is 3,407 lb/day, applicable from June through September. The monitoring frequency is twice per week.

2.5 Ammonia Compliance Schedule

Based on discussions with the Permittee, it is unclear whether the facility will be able to achieve full compliance with this proposed limit immediately. Although the available data presented above indicate that the facility will likely comply with this limit even without any process changes most of the time, EPA recognizes that the WWTF completed a major upgrade recently to achieve the total phosphorus limit that was included in the 2015 Permit and that upgrade was not designed to remove ammonia. Based on the design of the facility, the process optimization efforts needed for ammonia removal and for phosphorus removal are fundamentally in tension. Specifically, an increase in the aerobic solids retention time would enhance ammonia removal but would inhibit phosphorus removal. Given this dynamic and the limited effluent data available after the upgrade was completed, EPA has determined that it is appropriate to include a compliance schedule in the 2026 Revised Draft Permit to allow time for such optimization efforts.

Federal regulations at 40 CFR § 122.47(a)(1) require that “Any schedules of compliance under this section shall require compliance as soon as possible....” Based on discussions with the Permittee, information provided regarding the treatment capacity, and the comparison described above, EPA has determined that consistent compliance through optimization alone is likely possible. Therefore, the 2026 Revised Draft Permit includes a compliance schedule requiring the Permittee to evaluate and implement optimization measures to reduce the amount of ammonia nitrogen in the discharge to achieve compliance with the ammonia limit. The Permittee must submit a status report to EPA within 12 months of the effective date of this revised permit regarding progress in achieving the ammonia limit through optimization. The monthly average ammonia limit will go into effect the first June following 24 months after the effective date of this revised permit. As mentioned above, EPA expects that the Permittee will continue to discharge below the mass-based limits most of the time during the compliance schedule, but EPA is providing this time to allow the Permittee to fully optimize the treatment process and achieve consistent compliance by the time the limit takes effect. During the compliance schedule, the Permittee shall monitor for ammonia twice per week from June through September and shall report both the average monthly ammonia concentration (mg/L) and load (lb/day) to allow EPA to track the results of these optimization efforts.

Given that optimization alone may be effective in achieving the limit, EPA considers that any schedule longer than what is proposed above would not be “as soon as possible” based on all available information at this time. However, if the Permittee determines (*e.g.*, based on the initial 12-month optimization study) that a major facility upgrade is necessary, the Permittee may contact EPA’s Enforcement and Compliance Assurance Division (ECAD) to discuss the timing of such an upgrade through an administrative order. Any request for an extended compliance schedule must be accompanied by a financial analysis consistent with EPA’s Clean Water Act Financial Capability Assessment Guidance (Revised March 2024).⁷

⁷ Available at: <https://www.epa.gov/waterfinancecenter/clean-water-act-financial-capability-assessment-guidance>

3.0 STATE CERTIFICATION

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving water(s) either certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate the State WQSs, or the State waives, or is deemed to have waived, its right to certify. *See* 33 U.S.C. § 1341(a)(1). Regulations governing state certification are set forth in 40 CFR § 124.53 and § 124.55. EPA has requested permit certification by the State pursuant to 40 CFR § 124.53 and expects that the 2026 Revised Draft Permit will be certified.

If the State believes that conditions more stringent than those contained in the 2026 Revised Draft Permit are necessary to meet the requirements of either CWA §§ 208(e), 301, 302, 303, 306 and 307, or applicable requirements of State law, the State should include such conditions in its certification. The only exception to this is that the permit conditions/requirements regulating sewage sludge management and implementing CWA § 405(d) are not subject to the State certification requirements. Reviews and appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State and may not be made through EPA's permit appeal procedures of 40 CFR Part 124.

In addition, the State may provide a statement of the extent to which any condition of the 2026 Revised Draft Permit can be made less stringent without violating the requirements of State law.

It should be noted that under CWA § 401, EPA's duty to defer to considerations of State law is intended to prevent EPA from relaxing any requirements, limitations or conditions imposed by State law. Therefore, "[a] State may not condition or deny a certification on the grounds that State law allows a less stringent permit condition." 40 CFR § 124.55(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 limitations based upon WQSs and State requirements are contained in 40 CFR §§ 122.4(d) and 122.44(d).

4.0 FEDERAL PERMITTING REQUIREMENTS

The Federal action being considered in this case is EPA's proposed NPDES permit revision to the 2025 Permit for the Manchester Wastewater Treatment Facility. The 2026 Revised Draft Permit adjusts the effluent limit for ammonia to continue to align with current State water quality standards. As explained below, the proposed modification does not alter consideration of Endangered Species Act and Essential Fish Habitat made for issuance of the 2025 Permit.

4.1 Endangered Species Act

As described in the 2024 Fact Sheet, EPA submitted an evaluation on potential effects of the project to the Information for Planning and Consultation (IPaC) system provided by USFWS. The USFWS system confirmed by letter on January 31, 2024 that, based on the specific project information submitted, the project would have “no effect” on the northern long-eared bat or small whorled pogonia. This concluded EPA’s consultation responsibilities for the Manchester WWTF NPDES permitting action under ESA section 7(a)(2). No ESA section 7 consultation is required with USFWS for these species and this proposed permit revision does not alter this determination.

4.2 Essential Fish Habitat

A review of the relevant essential fish habitat (EFH) information provided by NOAA Fisheries, including the NOAA Fisheries EFH Mapper,⁸ indicates that the outfall exists within designated EFH for Atlantic salmon (*Salmo salar*) in the Merrimack River. EPA believes that the conditions and limitations contained within the Manchester WWTF’s Permit adequately protect all aquatic life, including EFH designated for the listed species in the receiving water. Further mitigation is not warranted. On May 28, 2024, EPA notified NOAA Fisheries Habitat and Ecosystem Services Division that the Draft Permit and Fact Sheet were available for review and provided a link to the EPA NPDES Permit website to allow direct access to the documents. NOAA Fisheries did not object or comment on EPA’s determination which is not altered by this proposed revision.

5.0 Public Comments, Hearing Requests and Permit Appeals

All persons, including applicants, who believe any condition of the Revised Draft Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the permit writer, Michael Cobb at the following email address: cobb.michael@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 Revised 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 Revised Draft Permit, EPA will respond to all significant comments in a Response to Comments document attached to the Final Permit and make these responses available to the public on EPA’s website.

Following the close of the comment period, and after any public hearings, if such hearings are held, EPA will issue a Final Permit decision, forward a copy of the final decision to the applicant, and provide a copy or notice of availability of the final decision to each person who submitted written comments or requested notice. Within 30 days after EPA serves notice of the issuance

⁸ <https://www.habitat.noaa.gov/apps/efhmapper/>

of the Final Permit decision, an appeal of the federal NPDES permit may be commenced by filing a petition for review of the permit with the Clerk of EPA's Environmental Appeals Board in accordance with the procedures at 40 CFR § 124.19.

If for any reason, comments on the Revised Draft Permit and/or a request for a public hearing cannot be emailed to the permit writer specified above, please contact them at telephone number: (617) 918-1369.

6.0 Administrative Record

The administrative record on which this Revised Draft Permit is based may be accessed by contacting Michael Cobb at 617-918-1369 or via email to cobb.michael@epa.gov.

October 2026

Date

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

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

NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES (NHDES)
WATER DIVISION
P.O. BOX 95
CONCORD, NEW HAMPSHIRE 03302-0095

JOINT 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 NHDES PUBLIC NOTICE OF
ISSUANCE OF A STATE SURFACE WATER PERMIT UNDER NH RSA 485-A:13, I(a).

PUBLIC NOTICE PERIOD: **October 1, 2026 – November 2, 2026**

PERMIT NUMBER: **NH0100447**

NAME AND MAILING ADDRESS OF APPLICANT:

City of Manchester
300 Winston Street
Manchester, NH 03103

NAMES AND MAILING ADDRESSES OF CO-PERMITTEES:

Town of Goffstown Goffstown Sewer Commission 16 Main Street Goffstown, NH 03045	Town of Bedford 24 North Amherst Road Bedford, NH 03110	Town of Londonderry 268 B Mammoth Road Londonderry, NH 03053
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NAME AND LOCATION OF FACILITY WHERE DISCHARGE OCCURS:

City of Manchester
300 Winston Street
Manchester, NH 03103

and 15 combined sewer overflow (CSO) outfalls

RECEIVING WATER:

Merrimack River (NHRIV700060803-14-02 and NHIMP700060802-04)
Piscataquog River (NHRIV700060607-22)
Baker Brook (NHRIV700060803-08)
Rays Brook (NHRIV700060802-15);
Unnamed Brook (NHRIV700060803-17
Merrimack River watershed – All Class B

PREPARATION OF THE REVISED DRAFT PERMIT:

EPA is issuing for public notice and comment the Revised Draft NPDES Permit for the Manchester Wastewater Treatment Facility which discharges treated domestic, industrial and commercial wastewater. Sludge from this facility is incinerated on site. 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 Env-Wq 1700 et seq. NHDES cooperated with EPA in the development of the Revised Draft NPDES Permit. NHDES plans to adopt EPA's permit under Chapter 485-A of the New Hampshire Statutes (NH RSA 485-A:13, I(a)). NHDES retains independent authority under State law to publish their CWA § 401 certification public notice separately from EPA's permit.

INFORMATION ABOUT THE REVISED DRAFT PERMIT:

The Revised Draft Permit and explanatory Statement of Basis may be obtained at no cost at <https://www.epa.gov/npdes-permits/new-hampshire-draft-individual-npdes-permits> or by contacting:

Michael Cobb
Telephone: (617) 918-1369
Cobb.Michael@epa.gov

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

PUBLIC COMMENT AND REQUESTS FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of the Revised Draft Permit is inappropriate must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by **November 2, 2026**, which is the close of the public comment period. Comments, including those pertaining to NHDES proposed issuance of a State Surface Water Permit, should be submitted to the EPA contact at the address or email address listed above. If you prefer to submit comments by mail, please call or email the EPA contact above to make arrangements for that. Upon the close of the public comment period, EPA will make all comments available to NHDES.

Any person, prior to the close of the public comment period, may submit a request in writing to EPA and NHDES for a public hearing on the Revised Draft Permit under 40 CFR § 124.10 and/or NHDES proposed issuance of a State Surface Water 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 Regional Administrator finds that response to this notice indicates significant public interest.

In reaching a final decision on this Revised Draft Permit, the Regional Administrator will respond to all significant comments and make the responses available to the public.

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 I

RENE PELLETIER, DIRECTOR
WATER DIVISION
NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES