



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

VIA EMAIL

October 9, 2024

Bradley Perron, Deputy Director
Salem and Beverly Water Supply Board – Arlington Ave Water Treatment Facility
50 Arlington Avenue
Beverly, MA 01915
bperron@sbwsb.net

Re: Authorization to discharge under the 2023 NPDES Potable Water Treatment Facilities General Permit (PWTFGP) – Authorization No. MAG640059 for the Arlington Avenue Water Treatment Facility in Beverly, MA

Dear Bradley Perron:

Based on the review of your Notice of Intent (NOI) received November 20, 2023, and the sampling plan submitted on August 16, 2024, the U.S. Environmental Protection Agency (EPA) hereby authorizes the Salem and Beverly Water Supply Board (the Permittee) to discharge from the Arlington Avenue Water Treatment Facility (the Facility) in accordance with the provisions of the National Pollutant Discharge Elimination System (NPDES) Potable Water Treatment Facilities General Permit (PWTFGP or General Permit). The Facility's General Permit Number is indicated above and should be referenced on all correspondence. The effective date of coverage is November 1, 2024.

Your permitted discharge is to Wenham Lake, a Class A waterbody. Attached to this PWTFGP authorization to discharge is a summary of effluent limitations and monitoring requirements applicable to your discharge. In addition to the existing permit coverage to discharge through Outfall 001, this authorization includes a new outfall – named “Outfall 1A” in your application and relabeled by EPA as “Outfall 002” for reporting and recordkeeping purposes. As stated above, the Permittee had submitted a sampling plan dated August 16, 2024, that outlines procedures for sampling these outfalls.

Please be aware that sufficiently sensitive test methods must be used for any sample analysis conducted in accordance with this permit. See Part III.A.1 of the General Permit.

The summary presented in this authorization letter does not represent the complete requirements of the PWTFGP. Permittees must comply with all the applicable requirements of this General Permit such as discharge limits and monitoring requirements, state certification conditions, administrative provisions, and other additional requirements including a Best Management Practices (BMP) plan. The complete PWTFGP and other related information can

be found at <https://www.epa.gov/npdes-permits/potable-water-treatment-facility-general-permit-pwtf-gp-massachusetts-new-hampshire>.

Please note that Part V of the PWTFGP includes all monitoring, record-keeping and reporting requirements for the Facility that will become effective on the 1st day of the month following the date of signature on this letter. Facilities are now required to submit monitoring results on a monthly, not quarterly, basis. Unless the Permittee has received an approved Opt-Out Request, the Permittee shall electronically submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and the Massachusetts Department of Environmental Protection (MassDEP) using NetDMR. NetDMR is accessed from the internet at <https://cdx.epa.gov>. NetDMR reporting is due no later than the 15th day of the month following the completed reporting period. When DMRs are submitted electronically using NetDMR, the submittal of hard copies is not required.

This General Permit and authorization to discharge expires September 30, 2028, except as provided in Part VI.B, or upon submission of a Notice of Termination. EPA appreciates your cooperation in applying for coverage under this General Permit. If you have additional questions, please contact Nathan Chien at Chien.Nathan@epa.gov or (617) 918-1649.

Sincerely,

Ellen Weitzler, Supervisor
Industrial and Municipal Permits Section
Water Division, EPA Region 1

cc: Nathan Chien, EPA (Chien.Nathan@epa.gov)
Xiaodan Ruan, MassDEP (xiaodan.ruan@state.ma.us)

Part III. General Permit Requirements

A. Effluent Limitations and Monitoring Requirements

Continuous and Intermittent Dischargers are defined as those facilities that discharge more frequently than once per month or twelve times per year.

1. Outfall 001

During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge wastewaters from potable water treatment facilities to the receiving water in the Permittee's authorization letter through **Outfall 001**, unless the waters are restricted as noted in Section I.C. The discharge and receiving water shall be limited and monitored as detailed below and further specified in the facility's authorization letter.

| Effluent Characteristic | Effluent Limitation | | Monitoring Requirements ^{1,2,3} | |
|--|---------------------|---------------|--|--------------------------|
| | Average Monthly | Maximum Daily | Measurement Frequency | Sample Type ⁴ |
| Effluent Flow ⁵ | Report MGD | 1.0 MGD | Continuous | Recorder |
| TSS | 30 mg/L | 50 mg/L | 1/Week | Composite |
| pH Range ⁶ | 6.5 – 8.3 S.U. | | 1/Week | Grab |
| Total Residual Chlorine ^{7,8} | 110 µg/L | 190 µg/L | 1/Week | Grab |
| Total Aluminum ^{9,10} | Report µg/L | Report µg/L | 1/Month | Composite |
| Total Phosphorus, as P (April 1 – Oct. 31) ^{11,12} | --- | Report µg/L | 1/Month | Composite |
| PFAS Analytes ^{17,18} | --- | Report ng/L | 2/Year or less | Composite |
| Adsorbable Organic Fluorine ^{17,19} | --- | Report ng/L | 2/Year or less | Composite |
| Whole Effluent Toxicity (WET) Testing^{20,21} | | | | |
| LC ₅₀ (Acute WET Testing) | --- | Report ≥ % | 1/Year | Composite |
| Hardness | --- | Report mg/L | 1/Year | Composite |
| Ammonia Nitrogen | --- | Report mg/L | 1/Year | Composite |
| Total Aluminum | --- | Report mg/L | 1/Year | Composite |
| Total Cadmium | --- | Report mg/L | 1/Year | Composite |
| Total Copper | --- | Report mg/L | 1/Year | Composite |
| Total Nickel | --- | Report mg/L | 1/Year | Composite |
| Total Lead | --- | Report mg/L | 1/Year | Composite |
| Total Zinc | --- | Report mg/L | 1/Year | Composite |
| Total Organic Carbon | --- | Report mg/L | 1/Year | Composite |

| Ambient Characteristic ²² | Reporting Requirements | | Monitoring Requirements ^{1,2,3} | |
|--|------------------------|---------------|--|--------------------------|
| | Average Monthly | Maximum Daily | Measurement Frequency | Sample Type ⁴ |
| Total Aluminum ¹⁰ | --- | Report mg/L | 1/Quarter | Grab |
| Total Phosphorus (April 1 - October 31) ^{11,12} | --- | Report mg/L | 1/Month, Rotating | Grab |
| Dissolved Organic Carbon ²³ | --- | Report mg/L | 1/Quarter | Grab |
| Total Hardness (as CaCO ₃) ²³ | --- | Report mg/L | 1/Quarter | Grab |
| pH ²³ | --- | Report S.U. | 1/Quarter | Grab |
| Ambient Testing for WET²⁴ | | | | |
| Hardness | --- | Report mg/L | 1/Year | Grab |
| Ammonia Nitrogen | --- | Report mg/L | 1/Year | Grab |
| Total Aluminum | --- | Report mg/L | 1/Year | Grab |
| Total Cadmium | --- | Report mg/L | 1/Year | Grab |
| Total Copper | --- | Report mg/L | 1/Year | Grab |
| Total Nickel | --- | Report mg/L | 1/Year | Grab |
| Total Lead | --- | Report mg/L | 1/Year | Grab |
| Total Zinc | --- | Report mg/L | 1/Year | Grab |
| Total Organic Carbon | --- | Report mg/L | 1/Year | Grab |
| pH ²⁵ | --- | Report S.U. | 1/Year | Grab |
| Temperature ²⁵ | --- | Report °C | 1/Year | Grab |

Footnotes:

1. All samples shall be collected in a manner to yield representative data. A routine sampling program shall be developed in which samples are taken at the same location, same time, and same days of the week each month unless noted elsewhere. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented as an electronic attachment to the applicable discharge monitoring report. The Permittee shall report the results to the Environmental Protection Agency Region 1 (EPA) and the State of any additional testing above that required herein, if testing is in accordance with 40 CFR Part 136. Any change in sampling location from the one specified in the NOI shall be reviewed in writing by EPA and the State.
2. In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is “sufficiently sensitive” when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term “minimum level” refers 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., $< 50 \mu\text{g/L}$, if the ML for a parameter is $50 \mu\text{g/L}$). 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 four (4) grab samples collected at approximately equal intervals on a flow weighted basis during the time at which the discharge is entering the receiving water over an interval representative of the process (e.g., a backwash cycle).

The timing of grab samples (e.g., for pH and total residual chlorine) shall correspond with the timing of composite sampling for the other parameters.

5. The daily maximum flow limit allowed by this General Permit shall be equal 1.0 million gallons per day (MGD).
6. The pH shall be within the following range based on State and waterbody classification:

Massachusetts (Class A and B): 6.5 – 8.3 S.U. and the discharge shall not cause a change in pH of the receiving water more than 0.5 S.U. outside of the natural background conditions.

The minimum and maximum pH sample measurement values for the month shall be reported in standard units (S.U.).

7. Limits and monitoring for total residual chlorine (TRC) are only required for discharges that have been previously chlorinated or contain residual chlorine.
8. TRC analysis must be completed using a test method in 40 CFR Part 136 that achieves a minimum level no greater than $20 \mu\text{g/L}$. For any limits below this minimum level, the compliance level for the limit will be set at $20 \mu\text{g/L}$.
9. Monitoring for Total Aluminum is only required for facilities that use and discharge an aluminum-based chemical (e.g., aluminum-based coagulant or product for algal control). Some facilities are subject to site-specific aluminum effluent limitations based on watershed criteria for aluminum and facility dilution. See Appendix H (for the limits) and Appendix I (for the limit calculation procedure).

10. Permittees required to monitor for Total Aluminum must monitor both the effluent and the ambient receiving water unaffected by the discharge. The ambient sampling point shall be immediately upstream, outside of the permitted discharge's zone of influence at a safe and reasonably accessible location. For two or more outfalls in close proximity discharging to the same receiving water, monitoring is only required for one ambient sampling location upstream/outside of both outfalls' zone of influence.

11. Monitoring for Total Phosphorus is only required for facilities that:

- Use and discharge phosphorus-containing chemicals;
- Discharge to fresh waterbodies; and
- Have a dilution factor less than 50:1.

Monitoring shall be conducted during the plant growing season of April 1 through October 31.

12. Permittees required to monitor for Total Phosphorus must monitor both the effluent and the ambient receiving water unaffected by the discharge.

Ambient sampling is required during the growing season (April 1st through October 31st) every other calendar year starting on the calendar year specified in the Permittee's authorization letter. One sample in the 2nd calendar quarter and one sample in the 3rd calendar quarter. The Permittee may enter "NODI" code 9 (i.e., conditional monitoring) in the relevant discharge monitoring report during years when monitoring is not required. The ambient sampling point shall be immediately upstream/outside of the permitted discharge's zone of influence at a safe and reasonably accessible location. For two or more outfalls in close proximity discharging to the same receiving water, monitoring is only required for one ambient sampling location upstream/outside of both outfalls' zone of influence.

13. N/A

14. N/A

15. N/A

16. N/A

17. All permittees are required to sample for PFAS analytes (Appendix J) and Adsorbable Organic Fluorine (AOF). Monitoring for PFAS analytes and AOF begins six months from the permittee's authorization date during the first full semi-annual period. Semi-annual periods are defined as January-June and July-December. Analysis is required using an analytical method approved in 40 CFR Part 136 or, if no method is approved, EPA Method 1633 and 1621.

After completing three rounds of PFAS monitoring, the Permittee may request that PFAS monitoring be terminated if (1) none of the samples had detectable concentrations (as defined in the laboratory procedure) of any of the PFAS analytes, (2) the discharge is not from treated groundwater, and (3) the discharge is not directly to or upstream of a drinking water treatment source. EPA and the State will make a facility-specific determination based on the Permittee's monitoring termination request whether to discontinue the monitoring.

After completing three rounds of AOF monitoring, the Permittee may request that AOF monitoring be terminated if none of the samples had reportable concentrations of AOF (as defined in the laboratory procedure). EPA and the State will make a facility-specific determination based on the Permittee's monitoring termination request whether to discontinue the monitoring.

18. Report in nanograms per liter (ng/L). Until there is an analytical method approved in 40 CFR Part 136 for PFAS, monitoring shall be conducted using Draft Method 1633. Report in NetDMR the results of all PFAS analytes required to be tested in Method 1633, as shown in Appendix J.

For those permittees required to sample twice per year, monitoring shall be conducted twice per year as specified in the Permittee's authorization letter.

19. Report in nanograms per liter (ng/L). Until there is an analytical method approved in 40 CFR Part 136 for Adsorbable Organic Fluorine, monitoring shall be conducted using Draft Method 1621. Monitoring shall be conducted twice per year as specified in the Permittee's authorization letter.

20. Whole Effluent Toxicity (WET) acute testing (LC50) is required once per year for all facilities unless the permittee can demonstrate a lack of toxicity ($LC50 \geq 100\%$) in its effluent from a minimum of five acute testing results. An elimination in testing must first be approved by EPA and the State.

WET acute testing shall be conducted in accordance with test procedures and protocols specified in Appendix A for discharges to fresh waterbodies. The Permittee shall test the daphnid, *Ceriodaphnia dubia*, if their discharge is to a fresh waterbody. Testing shall be conducted once annually during the period from April – September.

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

22. Ambient monitoring shall be conducted in the receiving water at a point immediately upstream/outside of the permitted discharge's zone of influence at a reasonably accessible location. If the discharge is to the headwater of a receiving waterbody and no

upstream sampling point exists or no dilution has been granted the discharge, ambient sampling is not required. Ambient sampling is required even during monitoring periods when effluent is not discharged.

23. Quarterly monitoring and reporting for dissolved organic carbon (DOC), total hardness as CaCO₃, and pH will be used to derive site-specific aluminum criteria. These analytes shall be collected concurrently with ambient total aluminum sampling. Total hardness and pH analysis used for annual WET sampling can be used to satisfy the third quarter reporting requirement.
24. For Part I.A.1., Ambient Testing for WET, the Permittee shall conduct the analyses specified in **Appendix 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/outside of the permitted discharge's zone of influence at a reasonably accessible location, as specified in **Appendix A**. Minimum levels and test methods are specified in **Appendix A**, Part VI. CHEMICAL ANALYSIS.
25. 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.

2. Outfall 002, formerly “Outfall 1A”

The Permittee is authorized to discharge wastewaters from potable water treatment facilities to the receiving water in the Permittee’s authorization letter through Outfall **002**, unless the waters are restricted as noted in Section I.C. of the General Permit. The authorization will last from the date of Agency approval through the permit expiration date. **Note that Outfall 1A in the Facility’s Notice of Intent to discharge form has been relabeled Outfall 002.** The discharge and receiving water shall be limited and monitored as detailed below and further specified in the facility’s authorization letter.

| Effluent Characteristic | Effluent Limitation | | Monitoring Requirements ^{1,2,3} | |
|--|---------------------|---------------|--|--------------------------|
| | Average Monthly | Maximum Daily | Measurement Frequency | Sample Type ⁴ |
| Effluent Flow ⁵ | Report MGD | 1.0 MGD | Continuous | Recorder |
| TSS | 30 mg/L | 50 mg/L | 1/Week | Composite |
| pH Range ⁶ | 6.5 – 8.3 S.U. | | 1/Week | Grab |
| Total Residual Chlorine ^{7,8} | 110 µg/L | 190 µg/L | 1/Week | Grab |
| Total Aluminum ^{9,10} | Report µg/L | Report µg/L | 1/Month | Composite |
| PFAS Analytes ^{17,18} | --- | Report ng/L | 2/Year or less | Composite |
| Adsorbable Organic Fluorine ^{17,19} | --- | Report ng/L | 2/Year or less | Composite |
| Whole Effluent Toxicity (WET) Testing^{20,21} | | | | |
| LC ₅₀ (Acute WET Testing) | --- | Report ≥ % | 1/Year | Composite |
| Hardness | --- | Report mg/L | 1/Year | Composite |
| Ammonia Nitrogen | --- | Report mg/L | 1/Year | Composite |
| Total Aluminum | --- | Report mg/L | 1/Year | Composite |
| Total Cadmium | --- | Report mg/L | 1/Year | Composite |
| Total Copper | --- | Report mg/L | 1/Year | Composite |
| Total Nickel | --- | Report mg/L | 1/Year | Composite |
| Total Lead | --- | Report mg/L | 1/Year | Composite |
| Total Zinc | --- | Report mg/L | 1/Year | Composite |
| Total Organic Carbon | --- | Report mg/L | 1/Year | Composite |

Footnotes:

1. All samples shall be collected in a manner to yield representative data. A routine sampling program shall be developed in which samples are taken at a location and time representative of the discharge. Any deviation from the Approved Sampling Plan will constitute a violation of the permit unless written approval by EPA is granted in advance of the work. 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 CFR Part 136. Any change in sampling location

from the one specified in the EPA-approved sampling plan shall be reviewed in writing by EPA and the State.

2. See Footnote 2 in Part III.A.1.
3. See Footnote 3 in Part III.A.1.
4. See Footnote 4 in Part III.A.1.
5. See Footnote 5 in Part III.A.1.
6. See Footnote 6 in Part III.A.1.
7. See Footnote 7 in Part III.A.1.
8. See Footnote 8 in Part III.A.1.
9. See Footnote 9 in Part III.A.1.
10. See Footnote 10 in Part III.A.1.
11. N/A
12. N/A
13. N/A
14. N/A
15. N/A
16. N/A
17. See Footnote 17 in Part III.A.1.
18. See Footnote 18 in Part III.A.1.
19. See Footnote 19 in Part III.A.1.
20. See Footnote 20 in Part III.A.1.
21. See Footnote 21 in Part III.A.1.