

Issuance Date: June 25, 2019
Effective Date: July 1, 2019
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**National Pollutant Discharge Elimination System
Waste Discharge and State Reclaimed Water Permit No. WA0022641**

State of Washington
DEPARTMENT OF ECOLOGY
Bellingham Field Office
913 Squaticum Way #101
Bellingham, WA 98225

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
The State of Washington Reclaimed Water Act
Chapter 90.46 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1342 et seq.

City of Blaine
1200 Yew Avenue
Blaine, WA 98230

is authorized to discharge in accordance with the Special and General Conditions that follow.

Plant Location:
272 Marine Drive
Blaine, WA

Treatment Type:
Activated Sludge with Membrane Bioreactors

Receiving Water:
Semiahmoo Bay

Reclaimed Water Beneficial Uses:
Irrigation, toilet flushing, decorative ponds



Douglas R. Allen
Water Quality Manager
Bellingham Field Office
Washington State Department of Ecology

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Summary of Permit Report Submittals

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.a	Discharge Monitoring Report (DMR)	Monthly	August 15, 2019
S3.A.b	Discharge Monitoring Report (DMR)	Quarterly	April 15, 2022
S3.A.c	Permit Renewal Application Monitoring Data	4/permit cycle	April 15, 2022
S3.F	Reporting Permit Violations	As necessary	
S4.B	Plans for Maintaining Adequate Capacity	As necessary	
S4.D	Notification of New or Altered Sources	As necessary	
S4.E	Infiltration and Inflow Evaluation	1/permit cycle	June 30, 2023
S5.F	Bypass Notification	As necessary	
S5.G	Operations and Maintenance Manual Update	As necessary	
S6.B.4	Notify Ecology when Industrial Users violate discharge prohibitions	As necessary	
S6.C.2	Notify Ecology of any proposed discharger which may be a SIU	As necessary	
S6.D	Submit copies of Industrial User notification letters	As necessary	
S6.E	Industrial User Survey Submittal	1/permit cycle	June 30, 2023
S8	Application for Permit Renewal	1/permit cycle	November 1, 2023
S9	Spill Control Plan Update	As necessary	
S10	Outfall Evaluation	1/permit cycle	June 30, 2023
S11.A.	Acute Toxicity Effluent Test Results - Submit with Permit Renewal Application	2/permit cycle	September 30, 2023, and March 31, 2024
S12.A.	Chronic Toxicity Effluent Test Results with Permit Renewal Application	2/permit cycle	September 30, 2023, and March 31, 2024
R3.A	Reclaimed Water Monitoring Report	Monthly	August 15, 2019
R3.B	Annual Reclaimed Water Report	Annual	March 15, 2020
R3.G	Reporting Violations of Reclaimed Water Production or Distribution Systems	As necessary	
R4	Service and Use Area Agreement Revisions	As necessary	
R8	Application for Reclaimed Water Permit Renewal	1/permit cycle	November 1, 2023
G1	Notice of Change in Authorization	As necessary	
G4	Reporting Planned Changes	As necessary	
G5	Engineering Report for Construction or Modification Activities	As necessary	
G7	Notice of Permit Transfer	As necessary	
G10	Duty to Provide Information	As necessary	
G20	Compliance Schedules	As necessary	
G21	Contract Submittal	As necessary	

Special Conditions

S1. Discharge limits

S1.A. Effluent limits

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit, the Permittee may discharge treated domestic wastewater to Semiahmoo Bay at the permitted location subject to compliance with the following limits:

Effluent Limits: Outfall 001 Latitude: 48.979444 Longitude: -122.801389		
Parameter	Average Monthly ^a	Average Weekly ^b
Biochemical Oxygen Demand (5-day) (BOD ₅)	30 milligrams/liter (mg/L) 385 pounds/day (lbs/day) 85% removal of influent BOD ₅	45 mg/L 578 lbs/day
Total Suspended Solids (TSS)	30 mg/L 385 lbs/day 85% removal of influent TSS	45 mg/L 578 lbs/day
Parameter	Minimum	Maximum
pH	6.0 standard units	9.0 standard units
Parameter	Monthly Geometric Mean	Weekly Geometric Mean
Fecal Coliform Bacteria ^c	200/100 milliliter (mL)	400/100 mL
Parameter	Average Monthly	Maximum Daily ^d
Total Residual Chlorine	0.09 mg/L	0.25 mg/L
^a	Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. See footnote c for fecal coliform calculations.	
^b	Average weekly discharge limit 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. See footnote c for fecal coliform calculations.	
^c	Ecology provides directions to calculate the monthly and the weekly geometric mean in Publication No. 04-10-020, <i>Information Manual for Treatment Plant Operators</i> available at: https://fortress.wa.gov/ecy/publications/SummaryPages/0410020.html	
^d	Maximum daily effluent limit is the highest allowable daily discharge. The daily discharge is the average discharge of a pollutant measured during a calendar day. This does not apply to pH.	

S1.B. Mixing zone authorization

Mixing zone for Outfall 001

The following paragraphs define the aggregated sizes of the maximum boundaries of the mixing zones:

Chronic mixing zone

The mixing zone is an oblong shape formed by overlapping circles with radius of 237 feet (72.2 meters) measured from the center of each discharge port. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the chronic zone must meet chronic aquatic life criteria and human health criteria.

Acute mixing zone

The acute mixing zone is an oblong shape formed by overlapping circles with radius of 23.7 feet (7.2 meters) measured from the center of each discharge port. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the acute zone must meet acute aquatic life criteria.

Available Dilution (dilution factor)	
Acute Aquatic Life Criteria	23
Chronic Aquatic Life Criteria	69

S2. Monitoring requirements

S2.A. Monitoring schedule

The Permittee must monitor in accordance with the following schedule and the requirements specified in Appendix A.

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
(1) Wastewater influent			
Wastewater Influent means the raw sewage flow from the collection system into the treatment facility. Sample the wastewater entering the headworks of the treatment plant excluding any side-stream returns from inside the plant.			
Flow	MGD	Continuous ^a	Metered/recorded
Biochemical Oxygen Demand (BOD ₅)	lbs/day	2/week	Calculated
Biochemical Oxygen Demand (BOD ₅)	mg/L	2/week	24-hour composite ^b
Total Suspended Solids (TSS)	lbs/day	2/week	Calculated
Total Suspended Solids (TSS)	mg/L	2/week	24-hour composite ^b
(2) Final wastewater effluent			
Final Wastewater Effluent means wastewater exiting the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD ₅ analysis before or after the disinfection process. If taken after, the Permittee must dechlorinate and reseed the sample.			
Flow	mgd	Continuous	Metered/recorded
BOD ₅ ^e	mg/L	2/week	24-hour composite ^b
BOD ₅ ^e	lbs/day	2/week	Calculate ^g
BOD ₅	% removal	monthly	Calculate ^c
TSS	mg/L	2/week	24-hour composite ^b
TSS	lbs/day	2/week	Calculate ^g

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
TSS	% removal	monthly	Calculate ^c
Chlorine (Total Residual)	mg/L	Daily	Grab ^f
Fecal Coliform ^d	# /100 ml	2/week	Grab ^f
pH	Standard Units	Daily	Grab ^f
Temperature ⁱ	Degrees centigrade (°C)	Daily	Measurement
Ammonia	mg/L	monthly	24-hour composite ^b
Nitrite/Nitrate	mg/L	monthly	24-hour composite ^b
TKN	mg/L	monthly	24-hour composite ^b
Soluble Reactive Phosphorus	mg/L	monthly	24-hour composite ^b
Total phosphorus	mg/L	monthly	24-hour composite ^b
(3) Whole effluent toxicity testing – final wastewater effluent			
Acute Toxicity Testing	Fathead minnow (Pimephales promelas) Daphnid (Ceriodaphnia dubia, Daphnia pulex, Daphnia magna)	Once in summer (by July 31st) and once in winter (by January 31st)	24-hour composite ^b
Chronic Toxicity Testing	Top Smelt (Atherinops affinis) Mysid Shrimp (Americamysis bahia)	Once in summer (by July 31st) and once in winter (by January 31st)	24-hour composite ^b
(4) Permit renewal application requirements – final wastewater effluent			
The Permittee must record and report the wastewater treatment plant flow discharged on the day it collects the sample for priority pollutant testing with the discharge monitoring report.			
Dissolved Oxygen	mg/L	Quarterly ^h in 2022	Grab ^f
Oil and Grease	mg/L	Quarterly ^h in 2022	Grab ^f
Total Dissolved Solids	mg/L	Quarterly ^h in 2022	24-hour composite ^b
Total Hardness	mg/L	Quarterly ^h in 2022	Grab ^f
Cyanide	micrograms/liter (µg/L)	Quarterly ^h in 2022	Grab ^f
Total Phenolic Compounds	µg/L	Quarterly ^h in 2022	Grab ^f
Priority Pollutants (PP) – Total Metals	µg/L; nanograms (ng/L) for mercury	Quarterly ^h in 2022	24-Hour composite ^b Grab ^f for mercury
PP – Volatile Organic Compounds	µg/L	Quarterly ^h in 2022	Grab ^f
PP – Acid-extractable Compounds	µg/L	Quarterly ^h in 2022	24-Hour composite ^b
PP – Base-neutral Compounds	µg/L	Quarterly ^h in 2022	24-Hour composite ^b
PP – Pesticides/PCBs	ug/L or ng/L	Quarterly ^h in 2022	24-Hour composite
^a	Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes. The Permittee must sample every hour when continuous monitoring is not possible.		
^b	24-hour composite means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.		
^c	$\% \text{ removal} = \frac{\text{Influent concentration (mg/L)} - \text{Effluent concentration (mg/L)}}{\text{Influent concentration (mg/L)}} \times 100$ <p>Calculate the percent (%) removal of BOD₅ and TSS using the above equation.</p>		
^d	<p>Report a numerical value for fecal coliforms following the procedures in Ecology's <i>Information Manual for Wastewater Treatment Plant Operators</i>, Publication Number 04-10-020 available at: https://fortress.wa.gov/ecy/publications/SummaryPages/0410020.html Do not report a result as too numerous to count (TNTC).</p>		
^e	Take effluent samples for the BOD ₅ analysis before or after the disinfection process. If taken after, dechlorinate and reseed the sample.		

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
f	Grab means an individual sample collected over a fifteen (15)-minute, or less, period.		
g	Calculated means figured concurrently with the respective sample, using the following formula: $\text{Concentration (in mg/L)} \times \text{Flow (in MGD)} \times \text{Conversion Factor (8.34)} = \text{lbs/day}$		
h	Quarterly sampling periods are January through March, April through June, July through September, and October through December. The Permittee must begin quarterly monitoring for the quarter beginning on 1/1/22, 4/1/22, 7/1/22, and 10/1/22, and submit results by 4/15/22, 7/15/22, 10/15/22, 1/15/23.		
i	Temperature grab sampling must occur when the effluent is at or near its daily maximum temperature, which usually occurs in the late afternoon. If measuring temperature continuously, the Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.		

S2.B. Sampling and analytical procedures

Samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters. The Permittee must conduct representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions that may affect effluent quality.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 (or as applicable in 40 CFR subchapters N [Parts 400–471] or O [Parts 501-503]) unless otherwise specified in this permit. Ecology may only specify alternative methods for parameters without permit limits and for those parameters without an EPA approved test method in 40 CFR Part 136.

S2.C. Flow measurement, and continuous monitoring devices

The Permittee must:

1. Select and use appropriate flow measurement, and continuous monitoring devices (e.g. flow meters) and methods consistent with accepted scientific practices.
2. Install, calibrate, and maintain these devices to ensure the accuracy of the measurements is consistent with the accepted industry standard, the manufacturer's recommendation, and approved O&M manual procedures for the device and the wastestream.
3. Calibrate continuous monitoring instruments weekly unless it can demonstrate a longer period is sufficient based on monitoring records. The Permittee:
 - a. May calibrate apparatus for continuous monitoring of dissolved oxygen by air calibration.
 - b. Must calibrate continuous pH measurement instruments using a grab sample analyzed in the lab with a pH meter calibrated with standard buffers and analyzed within 15 minutes of sampling.

- c. Must calibrate continuous chlorine measurement instruments using a grab sample analyzed in the laboratory within 15 minutes of sampling.
4. Calibration as specified in this document is not required if the Permittee uses recording devices certified by the manufacturer.
5. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.
6. Establish a calibration frequency for each device or instrument in the O&M manual that conforms to the frequency recommended by the manufacturer.
7. Calibrate flow-monitoring devices at a minimum frequency of at least one calibration per year.
8. Maintain calibration records for at least three years.

S2.D. Laboratory accreditation

The Permittee must ensure that all monitoring data required by Ecology for permit specified parameters is prepared by a laboratory registered or accredited under the provisions of chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement. The Permittee must obtain accreditation for conductivity and pH if it must receive accreditation or registration for other parameters.

S3. Reporting and recording requirements

The Permittee must monitor and report in accordance with the following conditions. Falsification of information submitted to Ecology is a violation of the terms and conditions of this permit.

S3.A. Discharge monitoring reports

The first monitoring period begins on the effective date of the permit (unless otherwise specified). The Permittee must:

1. Summarize, report, and submit monitoring data obtained during each monitoring period on the electronic discharge monitoring report (DMR) form provided by Ecology within the Water Quality Permitting Portal. Include data for each of the parameters tabulated in Special Condition S2 and as required by the form. Report a value for each day sampling occurred (unless specifically exempted in the permit) and for the summary values (when applicable) included on the electronic form.
2. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.
3. The Permittee must also submit an electronic copy of the laboratory report as an attachment using WQWebDMR. The contract laboratory reports must also include information on the chain of custody, QA/QC results, and documentation of accreditation for the parameter.

4. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below. The Permittee must:
 - a. Submit **monthly DMRs** by the 15th day of the following month.
 - b. Submit **quarterly DMRs**, unless otherwise specified in the permit, by the 15th day of the month following the monitoring period. Quarterly sampling periods are January 1 through March 31, April 1 through June 30, July 1 through September 30, and October 1 through December 31. The Permittee must submit the first quarterly DMR on April 15, 2022, for the quarter beginning on January 1, 2022.
 - c. Submit **Permit Renewal Application Monitoring Data** in WQWebDMR as required in Special Condition S2.
5. Enter the “No Discharge” reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not discharge wastewater or a specific pollutant during a given monitoring period.
6. Report single analytical values below detection as “less than the detection level (DL)” by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR. If the method used did not meet the minimum DL and quantitation level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.
7. Report single analytical values between the detection level (DL) and the quantitation level (QL) by entering the estimated value, the code for estimated value/below quantitation limit (j) and any additional information in the comments. Submit a copy of the laboratory report as an attachment using WQWebDMR.
8. **Not** report zero for bacteria monitoring. Report as required by the laboratory method.
9. Calculate and report an arithmetic average value for each day for bacteria if multiple samples were taken in one day.
10. Calculate the geometric mean values for bacteria (unless otherwise specified in the permit) using:
 - a. The reported numeric value for all bacteria samples measured above the detection value except when it took multiple samples in one day. If the Permittee takes multiple samples in one day it must use the arithmetic average for the day in the geometric mean calculation.
 - b. The detection value for those samples measured below detection.
11. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in Appendix A.

12. Calculate average values and calculated total values (unless otherwise specified in the permit) using:
 - a. The reported numeric value for all parameters measured between the detection value and the quantitation value for the sample analysis.
 - b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample from the same monitoring point for the reporting period.
 - c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.
13. Report single-sample grouped parameters (for example: priority pollutants, PAHs, pulp and paper chlorophenolics, TTOs) on the WQWebDMR form and include sample date, concentration detected, detection limit (DL) (as necessary), and laboratory quantitation level (QL) (as necessary).

S3.B. Permit submittals and schedules

The Permittee must use the Water Quality Permitting Portal – Permit Submittals application (unless otherwise specified in the permit) to submit all other written permit-required reports by the date specified in the permit.

When another permit condition requires submittal of a paper (hard-copy) report, the Permittee must ensure that it is postmarked or received by Ecology no later than the dates specified by this permit. Send these paper reports to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
Bellingham Field Office
913 Squalicum Way # 101
Bellingham, WA 98225

S3.C. Records retention

The Permittee must retain records of all monitoring information for a minimum of three (3) years. Such information must include all calibration and maintenance records and all original 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. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

S3.D. Recording of results

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place, method, and time of sampling or measurement.
2. The individual who performed the sampling or measurement.
3. The dates the analyses were performed.
4. The individual who performed the analyses.

5. The analytical techniques or methods used.
6. The results of all analyses.

S3.E. Additional monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Special Condition S2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR unless otherwise specified by Special Condition S2.

S3.F. Reporting permit violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.
2. If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology within thirty (30) days of sampling.

a. Immediate reporting

The Permittee must **immediately** report to Ecology and the Department of Health, Shellfish Program, and the Whatcom County Health Department (at the numbers listed below), all:

- Failures of the disinfection system.
- Collection system overflows.
- Plant bypasses discharging to marine surface waters.
- Any other failures of the sewage system (pipe breaks, etc.)

Bellingham Field Office	360-255-4392
Northwest Regional Office	425-649-7000 (24-hours)
Department of Health, Shellfish Program	360-236-3330 (business hours) 360-789-8962 (after business hours)
Whatcom County Health Dept.	360-715-2588 (24-hours)

b. Twenty-four-hour reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at the telephone numbers listed above, within 24 hours from the time the Permittee becomes aware of any of the following circumstances:

1. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.
2. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part S5.F, "Bypass Procedures").

3. Any upset that causes an exceedance of an effluent limit in the permit (See G.15, "Upset").
4. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.
5. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limit in the permit.

c. Report within five days

The Permittee must also submit a written report within five days of the time that the Permittee becomes aware of any reportable event under subparts a or b, above. The report must contain:

1. A description of the noncompliance and its cause.
2. The period of noncompliance, including exact dates and times.
3. The estimated time the Permittee expects the noncompliance to continue if not yet corrected.
4. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
5. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of written reports

Ecology may waive the written report required in subpart c, above, on a case-by-case basis upon request if the Permittee has submitted a timely oral report.

e. All other permit violation reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in subpart c, above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

S3.G. Other reporting

a. Spills of oil or hazardous materials

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of RCW 90.56.280 and chapter 173-303-145. You can obtain further instructions at the following website: <http://www.ecy.wa.gov/programs/spills/other/reportaspill.htm>

b. Failure to submit relevant or correct facts

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 Ecology, it must submit such facts or information promptly.

S3.H. Maintaining a copy of this permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology inspectors.

S4. Facility loading

S4.A. Design criteria

The flows or waste loads for the permitted facility must not exceed the following design criteria:

Maximum Month Design Flow (MMDF)	1.54 MGD
BOD ₅ Influent Loading for Maximum Month	3060 lb/day
TSS Influent Loading for Maximum Month	3000 lb/day

S4.B. Plans for maintaining adequate capacity

a. Conditions triggering plan submittal

The Permittee must submit a plan and a schedule for continuing to maintain capacity to Ecology when:

1. The actual flow or waste load reaches 85 percent of any one of the design criteria in S4.A for three consecutive months.
2. The projected plant flow or loading would reach design capacity within five years.

b. Plan and schedule content

The plan and schedule must identify the actions necessary to maintain adequate capacity for the expected population growth and to meet the limits and requirements of the permit. The Permittee must consider the following topics and actions in its plan.

1. Analysis of the present design and proposed process modifications.
2. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system.
3. Limits on future sewer extensions or connections or additional waste loads.
4. Modification or expansion of facilities.
5. Reduction of industrial or commercial flows or waste loads.

Engineering documents associated with the plan must meet the requirements of WAC 173-240-060, "Engineering Report," and be approved by Ecology prior to any construction.

S4.C. Duty to mitigate

The Permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

S4.D. Notification of new or altered sources

1. The Permittee must submit written notice to Ecology whenever any new discharge or a substantial change in volume or character of an existing discharge into the wastewater treatment plant is proposed which:
 - a. Would interfere with the operation of, or exceed the design capacity of, any portion of the wastewater treatment plant.
 - b. Is not part of an approved general sewer plan or approved plans and specifications.
 - c. Is subject to pretreatment standards under 40 CFR Part 403 and Section 307(b) of the Clean Water Act.
2. This notice must include an evaluation of the wastewater treatment plant's ability to adequately transport and treat the added flow and/or waste load, the quality and volume of effluent to be discharged to the treatment plant, and the anticipated impact on the Permittee's effluent [40 CFR 122.42(b)].

S4.E. Infiltration and inflow correction

1. The Permittee must continue efforts to locate the sources of infiltration and inflow in its collection system and to correct the problems.
2. The Permittee must submit a report summarizing all completed and ongoing I/I correction projects, as well as any recommendations and a timeline for additional corrective actions, by June 30, 2023.

S5. Operation and maintenance

The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes keeping a daily operation logbook (paper or electronic), adequate laboratory controls, and appropriate quality assurance procedures. This provision of the permit requires the Permittee to operate backup or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this permit.

S5.A. Certified operator

This permitted facility must be operated by an operator certified by the state of Washington for at least a Class III plant. This operator must be in responsible charge of the day-to-day operation of the wastewater treatment plant. An operator

certified for at least a Class II plant must be in charge during all regularly scheduled shifts. The Permittee must notify Ecology when the operator in charge at the facility changes. It must provide the new operator's name and certification level and provide the name of the operator leaving the facility.

S5.B. Operation and maintenance program

The Permittee must:

1. Institute an adequate operation and maintenance program for the entire sewage system.
2. Keep maintenance records on all major electrical and mechanical components of the treatment plant, as well as the sewage system and pumping stations. Such records must clearly specify the frequency and type of maintenance recommended by the manufacturer and must show the frequency and type of maintenance performed.
3. Make maintenance records available for inspection at all times.

S5.C. Short-term reduction

The Permittee must schedule any facility maintenance, which might require interruption of wastewater treatment and degrade effluent quality, during non-critical water quality periods and carry this maintenance out according to the approved O&M manual or as otherwise approved by Ecology.

If a Permittee contemplates a reduction in the level of treatment that would cause a violation of permit discharge limits on a short-term basis for any reason, and such reduction cannot be avoided, the Permittee must:

1. Give written notification to Ecology, if possible, thirty (30) days prior to such activities.
2. Detail the reasons for, length of time of, and the potential effects of the reduced level of treatment.

This notification does not relieve the Permittee of its obligations under this permit.

S5.D. Electrical power failure

The Permittee must ensure that adequate safeguards prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the treatment plant and/or sewage lift stations. Adequate safeguards include, but are not limited to, alternate power sources, standby generator(s), or retention of inadequately treated wastes.

The Permittee must maintain Reliability Class I (EPA 430-99-74-001) at the wastewater treatment plant. Reliability Class I requires a backup power source sufficient to operate all vital components and critical lighting and ventilation during peak wastewater flow conditions.

S5.E. Prevent connection of inflow

The Permittee must strictly enforce its sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to the sanitary sewer system.

S5.F. Bypass procedures

A bypass is the intentional diversion of waste streams from any portion of a treatment facility. This permit prohibits all bypasses except when the bypass is for essential maintenance, as authorized in Special Condition S5.F.1, or is approved by Ecology as an anticipated bypass following the procedures in S5.F.2.

1. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

This permit allows bypasses for essential maintenance of the treatment system when necessary to ensure efficient operation of the system. The Permittee may bypass the treatment system for essential maintenance only if doing so does not cause violations of effluent limits. The Permittee is not required to notify Ecology when bypassing for essential maintenance. However the Permittee must comply with the monitoring requirements specified in Special Condition S2.B.

2. Anticipated bypasses for non-essential maintenance

Ecology may approve an anticipated bypass under the conditions listed below. This permit prohibits any anticipated bypass that is not approved through the following process.

- a. If a bypass is for non-essential maintenance, the Permittee must notify Ecology, if possible, at least ten (10) days before the planned date of bypass. The notice must contain:
 - A description of the bypass and the reason the bypass is necessary.
 - An analysis of all known alternatives which would eliminate, reduce, or mitigate the potential impacts from the proposed bypass.
 - A cost-effectiveness analysis of alternatives.
 - The minimum and maximum duration of bypass under each alternative.
 - A recommendation as to the preferred alternative for conducting the bypass.
 - The projected date of bypass initiation.
 - A statement of compliance with SEPA.
 - A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.
 - Details of the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

- b. For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during the project planning and design process. The project-specific engineering report as well as the plans and specifications must include details of probable construction bypasses to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.
- c. Ecology will determine if the Permittee has met the conditions of Special Condition S5.F.2 a and b and consider the following prior to issuing a determination letter, an administrative order, or a permit modification as appropriate for an anticipated bypass:
 - If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.
 - If the bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which would cause 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.
 - If feasible alternatives to the bypass exist, such as:
 - The use of auxiliary treatment facilities.
 - Retention of untreated wastes.
 - Stopping production.
 - Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.
 - Transport of untreated wastes to another treatment facility.

S5.G. Operations and maintenance (O&M) manual

a. O&M manual submittal and requirements

The Permittee must:

1. Submit to Ecology for review substantial changes or updates to the O&M manual whenever it incorporates them into the manual.
2. Keep the approved O&M manual at the permitted facility.
3. Follow the instructions and procedures of this manual.

b. O&M manual components

In addition to the requirements of WAC 173-240-080(1) through (5), the O&M Manual must be consistent with the guidance in Table G1-3 in the *Criteria for Sewage Works Design* (Orange Book), 2008. The O&M manual must include:

1. Emergency procedures for cleanup in the event of wastewater system upset or failure.
2. A review of system components which if failed could pollute surface water or could impact human health. Provide a procedure for a routine schedule of checking the function of these components.
3. Wastewater system maintenance procedures that contribute to the generation of process wastewater.
4. Reporting protocols for submitting reports to Ecology to comply with the reporting requirements in the discharge permit.
5. Any directions to maintenance staff when cleaning or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).
6. The treatment plant process control monitoring schedule.
7. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.

S6. Pretreatment

S6.A. General requirements

The Permittee must work with Ecology to ensure that all commercial and industrial users of the publicly owned treatment works (POTW) comply with the pretreatment regulations in 40 CFR Part 403 and any additional regulations that the Environmental Protection Agency (U.S. EPA) may promulgate under Section 307(b) (pretreatment) and 308 (reporting) of the Federal Clean Water Act.

S6.B. Duty to enforce discharge prohibitions

1. Under federal regulations (40 CFR 403.5(a) and (b)), the Permittee must not authorize or knowingly allow the discharge of any pollutants into its POTW which may be reasonably expected to cause pass through or interference, or which otherwise violate general or specific discharge prohibitions contained in 40 CFR Part 403.5 or WAC 173-216-060.
2. The Permittee must not authorize or knowingly allow the introduction of any of the following into their treatment works:
 - a. Pollutants which create a fire or explosion hazard in the POTW (including, but not limited to waste streams with a closed cup flashpoint of less than

140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21).

- b. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, or greater than 11.0 standard units, unless the works are specifically designed to accommodate such discharges.
 - c. Solid or viscous pollutants in amounts that could cause obstruction to the flow in sewers or otherwise interfere with the operation of the POTW.
 - d. Any pollutant, including oxygen-demanding pollutants, (BOD₅, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW.
 - e. Petroleum oil, non-biodegradable cutting oil, or products of mineral origin in amounts that will cause interference or pass through.
 - f. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity which may cause acute worker health and safety problems.
 - g. Heat in amounts that will inhibit biological activity in the POTW resulting in interference but in no case heat in such quantities such that the temperature at the POTW headworks exceeds 40 degrees Centigrade (104 degrees Fahrenheit) unless Ecology, upon request of the Permittee, approves, in writing, alternate temperature limits.
 - h. Any trucked or hauled pollutants, except at discharge points designated by the Permittee.
 - i. Wastewaters prohibited to be discharged to the POTW by the Dangerous Waste Regulations (chapter 173-303 WAC), unless authorized under the Domestic Sewage Exclusion (WAC 173-303-071).
3. The Permittee must also not allow the following discharges to the POTW unless approved in writing by Ecology:
- a. Noncontact cooling water in significant volumes.
 - b. Stormwater and other direct inflow sources.
 - c. Wastewaters significantly affecting system hydraulic loading, which do not require treatment, or would not be afforded a significant degree of treatment by the system.
4. The Permittee must notify Ecology if any industrial user violates the prohibitions listed in this section (S6.B), and initiate enforcement action to promptly curtail any such discharge.

S6.C. Wastewater discharge permit required

The Permittee must:

- 1. Establish a process for authorizing non-domestic wastewater discharges that ensures all SIUs in all tributary areas meet the applicable state waste discharge permit (SWDP) requirements in accordance with chapter 90.48 RCW and chapter 173-216 WAC.

2. Immediately notify Ecology of any proposed discharge of wastewater from a source, which may be a significant industrial user (SIU) [see fact sheet definitions or refer to 40 CFR 403.3(v)(i)(ii)].
3. Require all SIUs to obtain a SWDP from Ecology prior to accepting their non-domestic wastewater, or require proof that Ecology has determined they do not require a permit.
4. Require the documentation as described in S6.C.3 at the earliest practicable date as a condition of continuing to accept non-domestic wastewater discharges from a previously undiscovered, currently discharging and unpermitted SIU.
5. Require sources of non-domestic wastewater, which do not qualify as SIUs but merit a degree of oversight, to apply for a SWDP and provide it a copy of the application and any Ecology responses.
6. Keep all records documenting that its users have met the requirements of S6.C.

S6.D. Identification and reporting of existing, new, and proposed industrial users

1. The Permittee must take continuous, routine measures to identify all existing, new, and proposed SIUs and potential significant industrial users (PSIUs) discharging or proposing to discharge to the Permittee's sewer system (see **Appendix C** of the fact sheet for definitions).
2. Within 30 days of becoming aware of an unpermitted existing, new, or proposed industrial user who may be a significant industrial user (SIU), the Permittee must notify such user by registered mail that, if classified as an SIU, they must apply to Ecology and obtain a State Waste Discharge Permit. The Permittee must send a copy of this notification letter to Ecology within this same 30-day period.
3. The Permittee must also notify all Potential SIUs (PSIUs), as they are identified, that if their classification should change to an SIU, they must apply to Ecology for a State Waste Discharge Permit within 30 days of such change.

S6.E. Industrial user survey

The Permittee must complete an industrial user survey listing all SIUs and potential significant industrial users (PSIUs) discharging to the POTW. The Permittee must submit the survey to Ecology by June 30, 2023. At a minimum, the Permittee must develop the list of SIUs and PSIUs by means of a telephone book search, a water utility billing records search, and a physical reconnaissance of the service area. Information on PSIUs must include, at a minimum, the business name, telephone number, address, description of the industrial process(s), and the known wastewater volumes and characteristics.

S7. Solid wastes

S7.A. Solid waste handling

The Permittee must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

S7.B. Leachate

The Permittee must not allow leachate from its solid waste material to enter state waters without providing all known, available, and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee must apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

S8. Application for permit renewal or modification for facility changes

The Permittee must submit an application for renewal of this permit by November 1, 2023.

The Permittee must also submit a new application or addendum at least one hundred eighty (180) days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

S9. Spill control plan

S.A Spill control plan submittals and requirements

The Permittee must:

1. Review the plan at least annually and update the spill plan as needed.
2. Send changes to the plan to Ecology.
3. Follow the plan and any supplements throughout the term of the permit.

S.B. Spill control plan components

The spill control plan must include the following:

1. A list of all oil and petroleum products and other materials used and/or stored on-site, which when spilled, or otherwise released into the environment, designate as dangerous waste (DW) or extremely hazardous waste (EHW) by the procedures set forth in WAC 173-303-070. Include other materials used and/or stored on-site which may become pollutants or cause pollution upon reaching state's waters.
2. A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.

3. A description of the reporting system the Permittee will use to alert responsible managers and legal authorities in the event of a spill.
4. A description of operator training to implement the plan.

The Permittee may submit plans and manuals required by 40 CFR Part 112, contingency plans required by Chapter 173-303 WAC, or other plans required by other agencies, which meet the intent of this section.

S10. Outfall evaluation

The Permittee must inspect the submerged portion of the outfall line and diffuser once during this permit cycle to document its integrity and continued function. If conditions allow for a photographic verification, the Permittee must include such verification in the report. By June 30, 2023, the Permittee must submit the inspection report to Ecology through the Water Quality Permitting Portal – Permit Submittals application. The Permittee must submit hard-copies of any video files to Ecology as required by Permit Condition S3.B. The Portal does not support submittal of video files.

The inspector must, at a minimum:

- Assess the physical condition of the outfall pipe, diffuser, and associated couplings.
- Determine the extent of sediment accumulation in the vicinity of the diffuser.
- Ensure diffuser ports are free of obstructions and are allowing uniform flow.
- Confirm physical location (latitude/longitude) and depth (at MLLW) of the diffuser section of the outfall.
- Assess physical condition of the submarine line.
- Assess physical condition of anchors used to secure the submarine line.

S11. Acute toxicity

S11.A. Testing when there is no permit limit for acute toxicity

The Permittee must:

1. Conduct acute toxicity testing on final effluent *once in the last summer (July 31, 2023)* and *once in the last winter (January 31, 2024)* prior to submission of the application for permit renewal.
2. Conduct acute toxicity testing on a series of at least five concentrations of effluent, including 100% effluent and a control.
3. Use each of the following species and protocols for each acute toxicity test:

Acute Toxicity Tests	Species	Method
Fathead minnow 96-hour static-renewal test	<i>Pimephales promelas</i>	EPA-821-R-02-012
Daphnid 48-hour static test	<i>Ceriodaphnia dubia</i> , <i>Daphnia pulex</i> , or <i>Daphnia magna</i>	EPA-821-R-02-012

4. *Submit the results* to Ecology within 60 days (**September 30, 2023 and March 31, 2024, respectively**).

S11.B. Sampling and reporting requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. Reports must contain toxicity data, bench sheets, and reference toxicant results for test methods. In addition, the Permittee must submit toxicity test data in electronic format (CETIS export file preferred) for entry into Ecology's database.
2. The Permittee must collect 24-hour composite effluent samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.
3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*.
4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods listed in Subsection C and the Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.
5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods listed in Section A or pristine natural water of sufficient quality for good control performance.
6. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.
7. The Permittee must collect effluent samples for whole effluent toxicity testing just prior to the chlorination step in the treatment process.
8. The Permittee may choose to conduct a full dilution series test during compliance testing in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the acute critical effluent concentration (ACEC). The ACEC equals 5.2% effluent.
9. All whole effluent toxicity tests, effluent screening tests, and rapid screening tests that involve hypothesis testing must comply with the acute statistical power standard of 29% as defined in WAC 173-205-020. If the test does not meet the power standard, the Permittee must repeat the test on a fresh sample with an increased number of replicates to increase the power.

S12. Chronic toxicity

S12.A. Testing when there is no permit limit for chronic toxicity

The Permittee must:

1. Conduct chronic toxicity testing on final effluent *once in the last summer (July 31, 2023)* and *once in the last winter (January 31, 2024)* and prior to submission of the application for permit renewal.
2. Conduct chronic toxicity testing on a series of at least five concentrations of effluent and a control. This series of dilutions must include the acute critical effluent concentration (ACEC). The ACEC equals 5.2% effluent. The series of dilutions should also contain the CCEC of 1.38% effluent.
3. Compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-89/001.
4. *Submit the results* to Ecology within 60 days (**September 30, 2023 and March 31, 2024, respectively**).
5. Perform chronic toxicity tests with all of the following species and the most recent version of the following protocols:

Saltwater Chronic Test	Species	Method
Topsmelt survival and growth	<i>Atherinops affinis</i>	EPA/600/R-95/136
Mysid shrimp survival and growth	<i>Americamysis bahia</i> (formerly <i>Mysidopsis bahia</i>)	EPA-821-R-02-014

S12.B. Sampling and reporting requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. Reports must contain toxicity data, bench sheets, and reference toxicant results for test methods. In addition, the Permittee must submit toxicity test data in electronic format (CETIS export file preferred) for entry into Ecology's database.
2. The Permittee must collect 24-hour composite effluent samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.
3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*.
4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods listed in Section C and the Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and*

Whole Effluent Toxicity Test Review Criteria. If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.

5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods listed in Subsection C. or pristine natural water of sufficient quality for good control performance.
6. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.
7. The Permittee must collect effluent samples for whole effluent toxicity testing just prior to the chlorination step in the treatment process.
8. The Permittee may choose to conduct a full dilution series test during compliance testing in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the CCEC and the ACEC. The CCEC and the ACEC may either substitute for the effluent concentrations that are closest to them in the dilution series or be extra effluent concentrations. The CCEC equals 1.38% effluent. The ACEC equals 5.2% effluent.
9. All whole effluent toxicity tests that involve hypothesis testing must comply with the chronic statistical power standard of 39% as defined in WAC 173-205-020. If the test does not meet the power standard, the Permittee must repeat the test on a fresh sample with an increased number of replicates to increase the power.

Reclaimed Water Conditions

R1. Water quality limits

R1.A. Reclaimed water limits

All activities authorized by this permit for the production and distribution of reclaimed water must comply with the terms and conditions of this permit. The distribution of reclaimed water containing any of the following constituents more frequently than, or at a concentration in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit, the Permittee may produce and distribute Class A reclaimed water for the beneficial uses, and to the locations, listed in Reclaimed Water Condition R4 subject to the following water quality limits. In addition to the limits listed below, permitted facility must at all times comply with the limits on BOD₅, TSS, and pH in Special Condition S1 of this permit.

Reclaimed Water Limits – Biological Oxidation Performance Standard ^a		
Parameter	Minimum	Maximum
Dissolved Oxygen (DO)	≥ 0.2 mg/L ^b	NA
Reclaimed Water Limits – Product Water ¹		
Membrane Effluent		
Parameter	Average Monthly ^c	Instantaneous Maximum
Turbidity	0.2 Nephelometric Turbidity Units (NTU)	0.5 NTU ^d
Disinfected Reclaimed Water Prior to Distribution		
Parameter	7-Day Median ^e	Sample Maximum ^f
Total Coliform	2.2 # CFU/100 mL	23 # CFU /100 mL
^a	Source water for the reclaimed water facility must meet or exceed minimum technology-based secondary treatment requirements in WAC 173-221-040 to satisfy the biological oxidation treatment standard. The Permittee may measure compliance with this standard either at the end of the reclaimed water treatment system or in the secondary effluent at the point of diversion to the reclaimed water treatment system.	
^b	The standard for dissolved oxygen is “must be measurably present”. The limit for dissolved oxygen is set at the minimum quantitation level listed in Appendix A.	
^c	Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured.	
^d	The maximum turbidity limit is defined as the value not to be exceeded by a continuous measurement. The Permittee must report the maximum instantaneous turbidity that is recorded for longer than 5 consecutive minutes. Durations of less than or equal to 5 minutes over the sample maximum are not permit violations.	
^e	Determine the 7-day median value using all of the bacteriological results of the last 7 days of analyses (the reporting day and the previous 6 days).	
^f	The number of total coliform organisms must not exceed the sample maximum limit value in any single sample. If the Permittee collects multiple samples in a single day, it must report the highest sample value of all samples taken as the sample maximum.	

¹ A waiver for the reclaimed water requirement to maintain 1.0 mg/L total chlorine residual for 30 minutes to the point of delivery was granted by Washington State Department of Health on September 15, 2010 (see Appendix F of the Fact Sheet).

R2. Monitoring requirements

R2.A. Class A reclaimed water monitoring

The Permittee must monitor in accordance with the following schedule and the requirements specified in **Appendix A**. The Permittee must monitor pH in accordance with Special Condition S2.A.2 of this permit.

Class A Reclaimed Water Monitoring			
Parameter	Units	Minimum Sampling Frequency	Sample Type
(2) Water Prior to Disinfection			
Membrane effluent must be sampled at LPWRF.			
Turbidity ^a	NTU	Daily	Grab ^b
Dissolved Oxygen	mg/L	Daily	Grab
Parameter	Units	Minimum Sampling Frequency	Sample Type
(3) Disinfected Reclaimed Water – Lighthouse Point Use Area			
Disinfected reclaimed water samples must be taken prior to distribution at: Outfall 02			
Flow	GPD	Continuous ^c	Metered
Total coliform ^d	#CFU /100mL	Daily	Grab
Parameter	Units	Minimum Sampling Frequency	Sample Type
(4) Disinfected Reclaimed Water – West Blaine Use Areas			
The reclaimed water distribution system must be sampled at Pump Station #11 ² .			
Flow	GPD	Continuous	Metered
Total coliform ^d	#CFU /100mL	Daily	Grab
Total Chlorine residual	mg/L	Continuous	Metered
^a	Effluent turbidity analysis must be performed by a continuous recording turbidimeter. The Permittee must report the maximum value that exceeds five minutes.		
^b	Grab means an individual sample collected over a fifteen (15) minute, or less, period. Grab samples must be taken at the same time daily when water characteristics are the most demanding on the treatment facilities and disinfection processes.		
^c	Continuous means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. The Permittee must sample Once between 7:00 AM and 12:00 PM, and once between 12:00 PM and 4:00 PM when continuous monitoring is not possible.		
^d	Determine the 7-day median value using all of the bacteriological results of the last 7 days of analyses (the reporting day and the previous 6 days).		

² If reclaimed water is used at LPWRF, it must be sampled at Outfall 02. If reclaimed water is sent to a seasonal contracted user in Semiahmoo (West Blaine), reclaimed water must be sampled at pump station 11.

R2.B. Sampling and analytical procedures

The Permittee must use sampling and analytical procedures consistent with Special Condition S2.B of this permit, with the following change. The Permittee may use sampling and analytical methods listed in either 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants) or 40 CFR Part 141 (National Primary Drinking Water Regulations) for reclaimed water monitoring.

R2.C. Flow measurement, and continuous monitoring devices

The Permittee must use flow measurement and continuous monitoring devices consistent with Special Condition S2.C of this permit.

R2.D. Laboratory accreditation

The Permittee must comply with the laboratory accreditation requirement in Special Condition S2.D of this permit.

R3. Reporting and record keeping requirements

The Permittee must monitor and report in accordance with the following conditions. The falsification of information submitted to Ecology constitutes a violation of the terms and conditions of this permit.

R3.A. Discharge monitoring reports

The first monitoring period begins on the effective date of the permit (unless otherwise specified). The Permittee must:

1. Submit DMRs for parameters with the monitoring frequencies specified in R2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below. The Permittee must:
 - a. Submit **monthly** DMRs by the 15th day of the following month.
2. Enter the “No Discharge” reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not produce **and distribute** reclaimed water during a given monitoring period.
3. Report single analytical values below detection as “less than the detection level (DL)” by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR. If the method used did not meet the minimum DL and quantitation level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.
4. Report single analytical values between the detection level (DL) and the quantitation level (QL) by entering the estimated value, the code for estimated value/below quantitation limit (j) and any additional information in the comments. Submit a copy of the laboratory report as an attachment using WQWebDMR.
5. **Not** report zero for bacteria monitoring. Report as required by the laboratory method.

6. Report the highest value of any total coliform sample for each day if multiple samples were taken in one day.
7. Calculate the 7-day median values for total coliform using:
 - a. The reported numeric value for all daily total coliform samples measured above the detection value except when it took multiple samples in one day. If the Permittee takes multiple samples in one day it must use the highest value for the day in the 7-day median calculation.
 - b. The detection value for those samples measured below detection.
8. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in Appendix A.
9. Calculate average values and calculated total values (unless otherwise specified in the permit) using:
 - a. The reported numeric value for all parameters measured between the detection value and the quantitation value for the sample analysis.
 - b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample from the same monitoring point for the reporting period.
 - c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.

Report single-sample grouped parameters (for example: priority pollutants, PAHs, pulp and paper chlorophenolics, TTOs) on the WQWebDMR form and include sample date, concentration detected, detection limit (DL) (as necessary), and laboratory quantitation level (QL) (as necessary).

R3.B. Annual summary report

The Permittee must submit an annual report by **March 15th** of each year using the Annual Report Questionnaire Form provided by Ecology in the Water Quality Permitting Portal – Permit Submittals application. The Permittee will generally provide summaries of reclaimed water production topics for the previous calendar year in the questionnaire. Summary topics include, but may not be limited to:

- Number of days of reclaimed water production and distribution.
- Total volume of reclaimed water produced and distributed.
- Total volume of reclaimed water distributed to each use category authorized in Reclaimed Water Condition R4.A.
- Total volume of off-spec reclaimed water diverted for disposal or retreatment, if any.
- Total volume of reclaimed water diverted from authorized use locations due to distribution system maintenance or repair.
- Number of reclaimed water quality limit violations reported on monthly DMRs, if any.
- Number of backflow incidents discovered and reported to water purveyors, if any.

In addition to providing the data listed above, the questionnaire will require the Permittee to upload supplemental summary documents that provide the following information:

- The annual volume of reclaimed water distributed to each use location.
- A list of any new users or distributors that signed agreements during the year.
- Description of the circumstances that led to the disposal of off-spec reclaimed water along with a description of corrective actions taken.
- A summary of any actions taken to enforce requirements in use or distribution agreements, including nature of the violation and the remedial action taken.
- A Cross-Connection Control Program Summary.

R3.C. Permit submittals and schedules

The Permittee must use the Water Quality Permitting Portal – Permit Submittals application (unless otherwise specified in the permit) to submit all other written permit-required reports by the date specified in the permit.

When another permit condition requires submittal of a paper (hard-copy) report, the Permittee must ensure that it is postmarked or received by Ecology no later than the dates specified by this permit. Send these paper reports to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
Bellingham Field Office
913 Squalicum Way #101
Bellingham, WA 98225

R3.D. Records retention

The Permittee must retain records of all monitoring information for a minimum of three (3) years. Such information must include all calibration and maintenance records and all original 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. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

The Permittee must retain all records pertaining to the monitoring of sludge for a minimum of five years.

The Permittee must retain all records pertaining to the annual cross-connection control report that is submitted to the Department of Health, Office of Drinking Water, by the water purveyor(s) that provides potable water to any reclaimed water use area for a minimum of three (3) years. This report must identify all cross-connection control assemblies tested and any cross-connection incident that occurred relating to the reclaimed water system. This report only applies to those control assemblies under the control of the Permittee.

The Permittee must retain all records pertaining to the Reclaimed Water Use Plan for a minimum of three (3) years and must retain the plan onsite.

R3.E. Recording of results

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place and time of sampling.
2. The individual who performed the sampling or measurement.
3. The dates the analyses were performed.
4. The individual who performed the analyses.
5. The analytical techniques or methods used.
6. The results of all analyses.

R3.F. Additional monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Reclaimed Water Condition R2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR unless otherwise specified by Reclaimed Water Condition R2.

R3.G. Reporting permit violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.
2. If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology within thirty (30) days of sampling.

a. Immediate reporting

The Permittee must immediately report to Ecology, Washington State Department of Health, and the Whatcom County Health Department (at the numbers listed below), all:

- Failures of the disinfection system.
- Collection system overflows.
- Plant bypasses resulting in a discharge.
- Any other failures of the sewage system (pipe breaks, etc).
- Overflows or leaks of transmission or irrigation pipelines that discharge to a waterbody used as a source of drinking or irrigation water.

Northwest Regional Office	425-649-7000
Bellingham Field Office	360-255-4392
Whatcom County Health Department	360-715-2588 (24-hours)
Department of Health, Shellfish Program	360-236-3330 (business hours) 360-789-8962 (after business hours)

b. Twenty-four-hour reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at the telephone numbers listed above, within 24 hours from the time the Permittee becomes aware of any of the following circumstances. The Permittee must report:

1. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.
2. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part R4.D., "Bypass Procedures").
3. Any upset that causes an exceedance of an effluent limit in the permit. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits 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.
4. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in section R1.A of this permit.
5. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limit in the permit.

c. Report within five days

The Permittee must also submit a written report within five days of the time that the Permittee becomes aware of any reportable event under subparts a or b, above. The report must contain:

1. A description of the noncompliance and its cause.
2. Maps, drawings, aerial photographs, or pictures to show the location and cause(s) of the non-compliance.
3. The period of noncompliance, including exact dates and times.
4. The estimated time the Permittee expects the noncompliance to continue if not yet corrected.
5. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
6. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of written reports

Ecology may waive the written report required in subpart c, above, on a case-by-case basis upon request if the Permittee has submitted a timely oral report.

e. All other permit violation reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in subpart c, above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

R3.H. Other reporting

a. Spills of oil or hazardous materials

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of RCW 90.56.280 and chapter 173-303-145. You can obtain further instructions at the following website:
<http://www.ecy.wa.gov/programs/spills/other/reportaspill.htm>

b. Failure to submit relevant or correct facts

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 Ecology, it must submit such facts or information promptly.

R3.I. Maintaining a copy of this permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology or Department of Health inspectors.

R4. Reclaimed water distribution and use

R4.A. Authorized uses and locations

The Permittee may produce and distribute Class A reclaimed water for the following beneficial uses:

- Indoor use for non-potable applications at commercial, industrial, institutional, and residential buildings.
 - Non-potable water supply for activities at industrial, commercial, and institutional facilities including, but not limited to, dust control, street sweeping, sewer line flushing, and fire suppression.
 - Irrigation of nonfood crops (trees and fodder, fiber, seed crops and pastures).
 - Landscape irrigation.
1. The Permittee may add beneficial uses listed in the "Commercial, Industrial, and Institutional Uses" and "Land Application or Irrigation" section(s) of Table 3 in WAC 173-219-390 without modifying this permit as long as the new use does not include additional use-based requirements that are more stringent than the requirements listed in Reclaimed Water Condition R4.B.c.

2. All distribution and use of reclaimed water must comply with the terms and conditions of this permit and with signed distribution and use agreements. The distribution or release of inadequately treated water or the distribution and use of water to locations not identified in this permit or use agreements is prohibited.
3. The Permittee may distribute reclaimed water for beneficial uses to the following locations. The Permittee may add new reclaimed water users without modification of this permit by submitting a signed use agreement with the new user for Ecology review and approval prior to providing reclaimed water to the new user.

Reclaimed Water Use Locations	
Water User	Location (address)
Semiahmoo Golf Course	Semiahmoo Golf Course and Country Club 8720 Semiahmoo Parkway Blaine, WA 98230
Gleneagle Villas Condominiums	Gleneagle Villas Condominiums Gleneagle Drive Blaine, WA 98230
City of Blaine	Blaine Marine Park Blaine, WA

R4.B. Use and distribution constraints

a. Agreements required

The Permittee must maintain and enforce use and distribution agreements for each user that receive reclaimed water generated by the permitted facility. Agreements may take one of the following forms:

- Individual agreements with each user or distributor that receives reclaimed water.
- Standardized general agreements or templates that the Permittee will use for all users or distributors.
- Local ordinances that regulate the use and distribution of reclaimed water generated at the permitted facility.

The Permittee must submit each individual agreement, general agreement template, or ordinance to Ecology for review and approval prior to providing reclaimed water.

Any use agreement in effect prior to February 23, 2018, that does not comply with the requirements of WAC 173-219-290(2) and with Reclaimed Water Condition R4.B.c of this permit may remain in effect for up to one year after the effective date of this permit. The Permittee must modify, as necessary, and resubmit any non-conforming agreement to Ecology for review and approval prior by [enter date 1 year after permit effective date].

b. Distribution requirements

The Permittee must comply with the following requirements for the distribution of reclaimed water produced at the permitted facility. The Permittee must include the following conditions in all distribution agreements when they provide water to a separate purveyor for distribution.

The Permittee must:

1. Maintain a minimum total chlorine residual of 0.5 mg/L throughout the distribution system to each point of use. A chlorine residual is not required in reclaimed water impoundments, storage ponds, or storage tanks at the point of use.
2. Notify all owners of potable water supplies with sources within 1,000 feet of reclaimed water storage facilities. Notification requirement applies to all new reclaimed water storage facilities and existing storage facilities for which the Permittee has not previously provided notification
3. Label or color code all new reclaimed water piping, valves, outlets, storage facilities, and other appurtenances to identify the components as part of the reclaimed water distribution system. Color coding must be Pantone 512, 522 or other shade of purple color approved in the reclaimed water engineering report.
4. Maintain adequate separation between pipes conveying reclaimed water and any nearby sanitary sewer lines, storm sewer lines, potable water lines, and potable water wells.
5. Maintain a minimum 200 foot horizontal separation between reclaimed water distribution and storage infrastructure and all potable water intakes, including well heads, springs, surface water, or designated groundwater under the influence of surface water.
6. Manage cross-connection controls between reclaimed water and potable water as well as between reclaimed water and systems conveying lower quality waters, such as wastewaters and stormwater. Cross-connection controls must comply with the requirements in Reclaimed Water condition R4.C of this permit and with WAC 173-219-310.
7. Take appropriate steps to contain and divert to the sanitary sewer system or to an approved use area any reclaimed water released from the distribution system during distribution system maintenance. Maintenance releases may result line flushing or pipeline repair. Any release of reclaimed water to surface water or to any area not identified in this permit or a signed use agreement is prohibited.

The Permittee may distribute reclaimed water produced at the permitted facility by means of transport vehicles. Uses of reclaimed water distributed by transport vehicle is limited to the authorized uses listed in Reclaimed Water Condition R4.A. Filling of transport vehicles may occur only at the following designated reclaimed water fill stations.

Authorized Reclaimed Water Fill Stations	
Station Name	Station Address
Lighthouse Point Water Reclamation Facility	272 Marine Drive Blaine, WA 98230

In addition to the cross-connection control requirement listed above, all vehicle fill stations must include appropriate cross-connection controls to prevent contamination of the reclaimed water distribution system connected to the station.

Vehicles used to transport reclaimed water must use signs or other appropriate labeling to identify that it is used to transport reclaimed or non-potable water. The Permittee may not allow the following vehicles to transport reclaimed water:

- Vehicles used to transport potable water.
- Vehicles used to transport hazardous or dangerous wastes.

c. Use agreement requirements

1. Before entering into any use agreement, the Permittee must first evaluate the proposed use site to assure the proposed site is appropriate for the prospective reclaimed water use. The Permittee must also verify that the proposed use is not prohibited by local codes or ordinances and that the use is protective of public health and the environment. A completed site evaluation must accompany each use agreement submitted to Ecology for review and approval.

A site evaluation is not required for use agreements in place prior to February 23, 2018. A new or updated evaluation will be required for existing use areas if the agreements are modified to increase the amount of reclaimed water supplied to the site or to change the types of beneficial uses at the sites. The Permittee must also reevaluate use sites when they become aware of changes in local codes or ordinances that may affect the use of reclaimed water at the site or if they become aware of any other circumstances that may impact the ability to appropriately use reclaimed water at a site.

2. The Permittee must notify any water purveyor supplying potable water to the proposed use site of their intent to supply reclaimed water to the site. The notice must:
 - Describe the treatment requirements for the reclaimed water,
 - Identify the proposed use(s) at the site, and
 - Identify any proposed measures to protect the potable water supply.

A copy of the notification must accompany each agreement submitted to Ecology for review and approval.

3. Each use agreements must include the following:
- a. Identification of the person or organization entering into the agreement to use the reclaimed water. For agreements with an organization, include the name of the individual responsible for overseeing the use of the reclaimed water.
 - b. Identification of the area where reclaimed water will be used. This identification must list whether the use area is included in a wellhead protection area or critical aquifer recharge area.
 - c. Description of the authorized use(s) of reclaimed water at the site covered by the agreement.
 - d. Requirements for cross-connection control consistent with Reclaimed Water Condition R4.C below.
 - e. Specification of monitoring points, monitored parameters, and sample times as necessary to implement the terms and conditions in this permit.
 - f. Requirements for advisory notification at the use site. Advisory notices may include signs or distributed notices that include the following: “Reclaimed Water – Do Not Drink”. The requirement may also use alternate language that is consistent with the Washington State Uniform Plumbing Code (WAC 51-56) or approved by the Department of Health.
 - g. Require the design for all pipes carrying reclaimed water at the use site to comply with labeling and separation requirements in reclaimed water condition R4.B.b above and WAC 173-219-360. Ecology may waive this requirement on a case-by-case basis.
 - h. Restrict operation of reclaimed water valves and outlets at the use site to authorized personnel and restrict access to hose bibs on reclaimed water lines.
 - i. Establish best management practices (BMPs) designed to prevent incidental site runoff.

d. Enforcement of agreements

Each use agreement must include enforcement provisions specifying grounds for suspending delivery of reclaimed water or termination of the agreements. The Permittee must, at a minimum, immediately suspend delivery of reclaimed water to a user under the following conditions:

- Discovery of failed or inadequate cross-connection control devices at the use area or within the distribution system covered by an agreement.
- Discovery of use or distribution of reclaimed waters to areas not identified in use agreements or for uses not authorized by an agreement or this permit.

- Discovery of the use of reclaimed water at rates greater than the rates authorized by an agreement or in a manner inconsistent with the terms and conditions of this permit and the agreement.
- Failure of a user to provide adequate labeling or use area notification.
- Failure of a user or distributor to implement appropriate measures to protect human health and the environment.

R4.C. Cross-connection control

The Permittee must comply with the cross-connection control requirements in this permit and in WAC 173-219-310. It must take the actions specified below to eliminate or prevent cross-connections between water supplies at the reclaimed water production facility and throughout the reclaimed water distribution system.

a. Cross-connection control program

The Permittee must develop and implement a cross-connection control program to ensure protection of reclaimed water from lower quality water. The program must document how the Permittee will coordinate with potable water purveyors to evaluate and prevent potential cross connection between reclaimed water and potable water supplies. The program must ensure protection of reclaimed water at all stages, starting at the production facility and ending at the property line of each use location. The Permittee must ensure that all determinations of the appropriate method of backflow prevention needed to eliminate or control cross-connections is made by a cross-connection control specialist certified under RCW 70.119.

b. Water purveyor coordination

The Permittee must coordinate with all potable water purveyors in the service area of the reclaimed water system to eliminate potential cross-connections between the reclaimed water treatment and distribution systems and the potable water systems. The written cross-connection control program must document and describe the procedures used to coordinate with water purveyors and delineate responsibilities.

The Permittee must notify any water purveyor supplying potable water to the proposed use site of their intent to supply reclaimed water to the site. The notice must:

- Describe the treatment requirements for the reclaimed water,
- Identify the proposed use(s) at the site, and
- Identify any proposed measures to protect the potable water supply.

The Permittee may not provide water to a use location before the potable water purveyor has certified that an appropriate backflow prevention assembly has been correctly installed on the potable supply line to the use location property.

c. Program requirements

The Permittee must use good engineering practices in the development and implementation of the of the cross-connection control program. The program must include the following minimum elements:

1. Adoption of a local ordinance, resolution, code, bylaw, or other written legal instrument that establishes the Permittee's authority to implement the program; describes the program's operating policies and technical provisions; and establishes corrective actions needed to enforce the program.
2. Development and implementation procedures and schedules to eliminate or control cross-connections through the proper installation and periodic inspection of approved backflow prevention assemblies at new and existing use locations.
3. Adequate staffing to develop and implement the program, including at least one cross-connection control specialist certified under RCW 70.119.
4. Procedures for responding to backflow incidents.
5. Development and maintenance of a records system that documents locations where potential cross-connections exist; identifies properties where the Permittee provides reclaimed water; identifies the potable water purveyor supplying water to properties receiving reclaimed water, if potable supply is present; a detailed inventory of cross-connection control devices used at each location; and a system for providing annual reports of the cross-connection control program and backflow incident reports.

d. Backflow prevention assemblies

Whenever the use of backflow prevention assemblies is necessary to prevent cross-connection between lower-quality water and higher-quality water, the Permittee must ensure that each assembly used is recognized as an approved device on the current *University of Southern California Foundation for Cross-Connection Control and Hydraulic Research* approved backflow assemblies list. The Permittee must review plans for each installation to verify that the device will not be submerged during flooding; that the installation will comply with applicable safety regulations; and that any bypass piping around a backflow prevention assembly includes at least the same level of protection as the assembly being bypassed.

The Permittee must inspect or test backflow protection assemblies, including air gaps, at the following intervals:

- At the time of installation to verify proper construction.
- At least annually after installation. More frequent inspection may be required for assemblies installed at premises or in systems that may pose a high risk of cross-connection hazard or that have a repeated history of failure.

- After a backflow incident.
- After a repair, reinstallation, or relocation of a system.

R4.D. Water rights protection

The use of reclaimed water produced at the permitted facility must not impair any existing water right downstream of the freshwater discharge point(s) of the facility unless the Permittee makes appropriate compensation or mitigation to the affected right holder. Existing water rights include any permits, claims, certificates, or instream flows established pursuant to RCW 90.22 and RCW 90.54, along with all federally reserved water rights existing at the time the Permittee completed their initial impairment analysis.

The Permittee must document in the next application for permit renewal how the use of reclaimed water from the permitted facility complies with the water rights protection provisions in WAC 173-219-090 and RCW 90.46.130.

R5. Facility loading

The Permittee must comply with the Facility Loading requirements in Special Condition S4 of this permit for the influent wastewater to the treatment facility. The following additional conditions apply to the water reclamation process at the permitted facility.

R5.A. Design criteria

The flows or waste loads for the permitted facility must not exceed the following design criteria:

Maximum Month Design Flow (MMDF)	0.72 MGD
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R5.B. Plans for maintaining adequate capacity

a. Conditions triggering plan submittal

The Permittee must submit a plan and a schedule for continuing to maintain capacity to Ecology when:

1. The actual flow or waste load reaches 85 percent of any one of the design criteria in R5.A for three consecutive months.
2. The projected plant flow or loading would reach design capacity within five years.

b. Plan and schedule content

The plan and schedule must identify the actions necessary to maintain adequate capacity for the expected population growth and to meet the limits and requirements of the permit. The Permittee must consider the following topics and actions in its plan.

1. Analysis of the present design and proposed process modifications.

2. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system.
3. Limits on future sewer extensions or connections or additional waste loads.
4. Modification or expansion of facilities.
5. Reduction of industrial or commercial flows or waste loads.

Engineering documents associated with the plan must meet the requirements of WAC 173-219-210 (engineering reports for reclaimed water facilities) and WAC 173-240-060, (engineering reports for wastewater treatment facilities) and be approved by Ecology prior to any construction.

R6. Operation and maintenance

The Permittee must at all times properly operate and maintain all facilities or systems of treatment and control (and related appurtenances) installed to produce and distribute reclaimed water in compliance with the terms and conditions of this permit. Proper operation and maintenance includes keeping a daily operation logbook (paper or electronic), adequate laboratory controls, and appropriate quality assurance procedures.

The Permittee must keep maintenance records on all major electrical and mechanical components of the treatment plant and reclaimed water distribution system. Such records must clearly specify the frequency and type of maintenance recommended by the manufacturer and must show the frequency and type of maintenance performed. It must make maintenance records available for inspection at all times.

This condition supplements operations and maintenance requirements in Special Condition S5 of this permit.

R6.A. Certified operator

An operator certified for at least a Class III plant by the State of Washington must be in responsible charge of the day-to-day operation of the reclaimed water production. An operator certified for at least a Class II plant must be in charge during all regularly scheduled shifts. The Permittee must notify Ecology when the operator in charge at the facility changes. It must provide the new operator's name and certification level and provide the name of the operator leaving the facility.

R6.B. Treatment reliability

The Permittee must ensure compliance with the reliability requirements of WAC 173-219-350. It must use adequate safeguards to prevent the distribution of water that is not treated in accordance with the requirements of this permit. Adequate safeguards include, but are not limited to alarms to alert operators of problems, use of redundant power sources, retention of inadequately treated wastes, and automatic diversions of water to storage or other authorized disposal when problems occur.

a. Reclaimed water bypass prohibited

The Permittee must not bypass inadequately treated wastewater from the permitted facility to the distribution system or any point of use. It must divert any water not treated in accordance with the reclaimed water requirements of this permit to storage for retreatment or to disposal as authorized by Special Condition S1 of this permit.

b. Alarms and automatic diversion

The Permittee must use alarm systems at the permitted facility to alert operators to failures in critical treatment unit processes. All alarms must sound at an attended location or through an automated notification system that will alert a designated, on-call operator of the need to take corrective action. The alarm system must include automated response programming that, upon failure of a critical system, starts back-up components, diverts water to storage, or diverts water to authorized disposal. Critical systems include, but are not limited to, primary plant power supply, biological treatment, membrane filtration and disinfection treatment processes. Any programming to automatically divert water to storage or disposal must include a requirement for an operator to manually reset after verifying correction of the initial failure.

c. Power supply

The Permittee must at all time maintain power sufficient to operate all vital treatment components, alarms, and critical lighting and ventilation during peak flow conditions. Vital treatment components include biological treatment units, membrane filtration and disinfection. Upon loss of primary power, the Permittee must ensure one of the following actions occur.

1. An alarm alerts the plant operator to the power loss and power supply switches to a back-up power source.
2. An alarm alerts the plant operator to the loss of power and automated flow control equipment divert wastewater to storage for retreatment after power returns.
3. An alarm alerts the plant operator to the loss of power and automated flow control equipment divert wastewater to an authorized disposal location.

The power supply to all alarms and automated flow diversion equipment must be independent of the primary power supply for the reclaimed water facility or use an independent, uninterruptible back-up power source.

d. Restoring service

The Permittee may not restore reclaimed water distribution until appropriate back-up systems have been brought online or until the plant failure has been corrected. It must develop and implement checklists and standard operating procedures for operators to use in determining that the

plant has been restored to normal operation. The checklists and standard operating procedures must be included in the operations and maintenance manual approved by Ecology in accordance with Reclaimed Water Condition R6.C.

e. Short-term reduction

The Permittee must schedule any facility maintenance, which might require interruption of reclaimed water treatment system and degrade reclaimed water quality, during non-critical production periods and carry this maintenance out according to the approved O&M manual or as otherwise approved by Ecology.

If a Permittee contemplates a reduction in the level of treatment that would cause a violation of permit discharge limits on a short-term basis for any reason, and such reduction cannot be avoided, the Permittee must:

1. Give written notification to Ecology, if possible, thirty (30) days prior to such activities.
2. Detail the reasons for, length of time of, and the potential effects of the reduced level of treatment.
3. Store inadequately treated flow and retreat after full treatment capability has been restored, or divert all inadequately treated flow to permitted disposal.
4. If available storage capacity is insufficient to store all flow during the short-term reduction period and permitted disposal is not available, the Permittee must work with Ecology to develop options for managing the excess off-spec water.
5. Follow the requirements for “Restoring service” listed above before resuming reclaimed water production.

This notification does not relieve the Permittee of its obligations under this permit.

R6.C. Operations and maintenance manual

The Permittee must at all times operate and maintain all facilities or systems of control installed to achieve compliance with the reclaimed water conditions in this permit according to the instructions in an operations and maintenance (O&M) manual approved by Ecology.

a. O&M manual submittal and requirements

The Permittee must:

1. Review the O&M manual at least annually and confirm this review by letter to Ecology by March 15 of each year. **Review Ecology’s new reclaimed water rule WAC 173-219** to ensure consistency of the facility’s O&M manual with the rule.

2. Submit to Ecology for review and approval substantial changes or updates to the O&M manual whenever it incorporates them into the manual.
3. Keep the approved O&M manual at the permitted facility.
4. Follow the instructions and procedures of this manual.

b. O&M manual components

The O&M manual for the reclaimed water facility must include all contents listed in WAC 173-219-240(2) and be consistent with the guidance in section 5.2.6 of the *Reclaimed Water Facilities Manual* (Purple Book). Required content for the O&M manual include, but are not limited to:

1. Emergency procedures for plant shutdown and cleanup in event of wastewater or reclaimed water system upset or failure, or distribution system leak.
2. System maintenance procedures that contribute to the generation of wastewater or may result in the discharge of reclaimed water at an unauthorized location.
3. Reporting protocols for submitting reports to Ecology to comply with the reporting requirements in this permit.
4. Any directions to maintenance staff when cleaning, or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater or reclaimed water system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine.)
5. Treatment plant process control monitoring schedule.
6. Sampling protocols and procedures for compliance with the sampling and reporting requirements in the reclaimed water permit.
7. Procedures to ensure that “off spec” reclaimed water is re-treated so that it meets all reclaimed water permit limits or is discharged through an approved NPDES outfall according to the terms and conditions of the NPDES permit. “Off spec” refers to water produced by the reclaimed water facility that does not meet required water quality requirements or is otherwise not treated according to the requirements of this reclaimed water permit.
8. Procedures to decontaminate reclaimed water piping and other appurtenances prior to returning the facilities to reclaimed water service following incidents when off spec reclaimed water is produced.
9. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.

R7. Pretreatment and source control

The Permittee must implement source water controls that prevent the presence of substances that may affect the reclaimed water quality or impact the ability to produce reclaimed water in accordance with this permit. The treatment of domestic sewage used as a source water for the permitted facility must comply with Special Condition S6, Pretreatment, of this permit.

R8. Application for permit renewal or modification for facility changes

The Permittee must submit an application for renewal of this permit by November 1, 2023.

The Permittee must also submit a new or supplemental application at least one hundred eighty (180) days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include increasing the class of water produced at the permitted facility from Class B to Class A; facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

General Conditions

G1. Signatory requirements

1. All applications submitted to Ecology must be signed and certified.
 - a. In the case of corporations, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or
 - The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - b. In the case of a partnership, by a general partner.
 - c. In the case of sole proprietorship, by the proprietor.
 - d. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

Applications for permits for domestic wastewater facilities that are either owned or operated by, or under contract to, a public entity shall be submitted by the public entity.

2. All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to Ecology.
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. Changes to authorization. If an authorization under paragraph G1.2, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph G1.2, above, must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section must make the following certification:

“I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

G2. Right of inspection and entry

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

1. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.
2. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.
3. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.
4. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G3. Permit actions

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the Permittee) or upon Ecology’s initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 40 CFR 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

1. The following are causes for terminating this permit during its term, or for denying a permit renewal application:
 - a. Violation of any permit term or condition.
 - b. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.
 - c. A material change in quantity or type of waste disposal.
 - d. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination.

- e. A change in any condition that requires either a temporary or permanent reduction, or elimination of any discharge or sludge use or disposal practice controlled by the permit.
 - f. Nonpayment of fees assessed pursuant to RCW 90.48.465.
 - g. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.
2. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:
- a. A material change in the condition of the waters of the state.
 - b. New information not available at the time of permit issuance that would have justified the application of different permit conditions.
 - c. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.
 - d. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.
 - e. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.
 - f. Ecology has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.
 - g. Incorporation of an approved local pretreatment program into a municipality's permit.
3. The following are causes for modification or alternatively revocation and reissuance:
- a. When cause exists for termination for reasons listed in 1.a through 1.g of this section, and Ecology determines that modification or revocation and reissuance is appropriate.
 - b. When Ecology has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G7) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new Permittee.

G4. Reporting planned changes

The Permittee must, as soon as possible, but no later than one hundred eighty (180) days prior to the proposed changes, give notice to Ecology of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in:

- 1. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).
- 2. A significant change in the nature or an increase in quantity of pollutants discharged.
- 3. A significant change in the Permittee's sludge use or disposal practices. Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit

any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. Plan review required

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to Ecology for approval in accordance with chapter 173-240 WAC. Engineering reports, plans, and specifications must be submitted at least one hundred eighty (180) days prior to the planned start of construction unless a shorter time is approved by Ecology. Facilities must be constructed and operated in accordance with the approved plans.

G6. Compliance with other laws and statutes

Nothing in this permit excuses the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. Transfer of this permit

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee must notify the succeeding owner or controller of the existence of this permit by letter, a copy of which must be forwarded to Ecology.

1. Transfers by Modification

Except as provided in paragraph (2) below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

2. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

- a. The Permittee notifies Ecology at least thirty (30) days in advance of the proposed transfer date.
- b. The notice includes a written agreement between the existing and new Permittees containing a specific date transfer of permit responsibility, coverage, and liability between them.
- c. Ecology does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under this subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G8. Reduced production for compliance

The Permittee, in order to maintain compliance with its permit, must control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G9. Removed substances

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G10. Duty to provide information

The Permittee must submit to Ecology, within a reasonable time, all information which Ecology 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 must also submit to Ecology upon request, copies of records required to be kept by this permit.

G11. Other requirements of 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. Additional monitoring

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G13. Payment of fees

The Permittee must submit payment of fees associated with this permit as assessed by Ecology.

G14. Penalties for violating permit conditions

Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars (\$10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit may incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars (\$10,000) for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is deemed to be a separate and distinct violation.

G15. Upset

Definition – “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits 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.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limits if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must 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 being properly operated at the time of the upset.
3. The Permittee submitted notice of the upset as required in Special Condition S3.F.
4. The Permittee complied with any remedial measures required under S3.F of this permit.

In any enforcement action the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G16. Property rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

G17. Duty to comply

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G18. Toxic pollutants

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G19. Penalties for tampering

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 per violation, or by imprisonment for not more than two (2) years per violation, or by both.

If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both.

G20. 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 must be submitted no later than fourteen (14) days following each schedule date.

G21. Service agreement review

The Permittee must submit to Ecology any proposed service agreements and proposed revisions or updates to existing agreements for the operation of any wastewater treatment facility covered by this permit. The review is to ensure consistency with chapters 90.46 and 90.48 RCW as required by RCW 70.150.040(9). In the event that Ecology does not comment within a thirty-day (30) period, the Permittee may assume consistency and proceed with the service agreement or the revised/updated service agreement.

Appendix A

LIST OF POLLUTANTS WITH ANALYTICAL METHODS, DETECTION LIMITS AND QUANTITATION LEVELS

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for permit and application required monitoring unless:

- Another permit condition specifies other methods, detection levels, or quantitation levels.
- The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136.

If the Permittee uses an alternative method, not specified in the permit and as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.

If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix-specific detection limit (MDL) and a quantitation limit (QL) to Ecology with appropriate laboratory documentation.

When the permit requires the Permittee to measure the base neutral compounds in the list of priority pollutants, it must measure all of the base neutral pollutants listed in the table below. The list includes EPA required base neutral priority pollutants and several additional polynuclear aromatic hydrocarbons (PAHs). The Water Quality Program added several PAHs to the list of base neutrals below from Ecology's Persistent Bioaccumulative Toxics (PBT) List. It only added those PBT parameters of interest to Appendix A that did not increase the overall cost of analysis unreasonably.

Ecology added this appendix to the permit in order to reduce the number of analytical "non-detects" in permit-required monitoring and to measure effluent concentrations near or below criteria values where possible at a reasonable cost.

The lists below include conventional pollutants (as defined in CWA section 502(6) and 40 CFR Part 122.), toxic or priority pollutants as defined in CWA section 307(a)(1) and listed in 40 CFR Part 122 Appendix D, 40 CFR Part 401.15 and 40 CFR Part 423 Appendix A), and nonconventionals. 40 CFR Part 122 Appendix D (Table V) also identifies toxic pollutants and hazardous substances which are required to be reported by dischargers if expected to be present. This permit Appendix A list does not include those parameters.

CONVENTIONAL POLLUTANTS

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L unless specified	Quantitation Level (QL) ² µg/L unless specified
Biochemical Oxygen Demand		SM5210-B		2 mg/L
Biochemical Oxygen Demand, Soluble		SM5210-B ³		2 mg/L
Fecal Coliform		SM 9221E,9222	N/A	Specified in method - sample aliquot dependent
Oil and Grease (HEM) (Hexane Extractable Material)		1664 A or B	1,400	5,000
pH		SM4500-H ⁺ B	N/A	N/A
Total Suspended Solids		SM2540-D		5 mg/L

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L unless specified	Quantitation Level (QL) ² µg/L unless specified
Alkalinity, Total		SM2320-B		5 mg/L as CaCO ₃
Aluminum, Total	7429-90-5	200.8	2.0	10
Ammonia, Total (as N)		SM4500-NH ₃ -B and C/D/E/G/H		20
Barium Total	7440-39-3	200.8	0.5	2.0
BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)		EPA SW 846 8021/8260	1	2
Boron, Total	7440-42-8	200.8	2.0	10.0
Chemical Oxygen Demand		SM5220-D		10 mg/L
Chloride		SM4500-Cl B/C/D/E and SM4110 B		Sample and limit dependent
Chlorine, Total Residual		SM4500 Cl G		50.0
Cobalt, Total	7440-48-4	200.8	0.05	0.25
Color		SM2120 B/C/E		10 color units
Dissolved oxygen		SM4500-OC/OG		0.2 mg/L
Flow		Calibrated device		
Fluoride	16984-48-8	SM4500-F E	25	100
Hardness, Total		SM2340B		200 as CaCO ₃
Iron, Total	7439-89-6	200.7	12.5	50
Magnesium, Total	7439-95-4	200.7	10	50
Manganese, Total	7439-96-5	200.8	0.1	0.5
Molybdenum, Total	7439-98-7	200.8	0.1	0.5
Nitrate + Nitrite Nitrogen (as N)		SM4500-NO ₃ - E/F/H		100

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L unless specified	Quantitation Level (QL)² µg/L unless specified
Nitrogen, Total Kjeldahl (as N)		SM4500-N _{org} B/C and SM4500NH ₃ - B/C/D/EF/G/H		300
NWTPH Dx ⁴		Ecology NWTPH Dx	250	250
NWTPH Gx ⁵		Ecology NWTPH Gx	250	250
Phosphorus, Total (as P)		SM 4500 PB followed by SM4500-PE/PF	3	10
Salinity		SM2520-B		3 practical salinity units or scale (PSU or PSS)
Settleable Solids		SM2540 -F		Sample and limit dependent
Soluble Reactive Phosphorus (as P)		SM4500-P E/F/G	3	10
Sulfate (as mg/L SO ₄)		SM4110-B		0.2 mg/L
Sulfide (as mg/L S)		SM4500- S ² F/D/E/G		0.2 mg/L
Sulfite (as mg/L SO ₃)		SM4500-SO ₃ B		2 mg/L
Temperature (max. 7-day avg.)		Analog recorder or use micro- recording devices known as thermistors		0.2° C
Tin, Total	7440-31-5	200.8	0.3	1.5
Titanium, Total	7440-32-6	200.8	0.5	2.5
Total Coliform		SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
Total Organic Carbon		SM5310-B/C/D		1 mg/L
Total dissolved solids		SM2540 C		20 mg/L

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L unless specified	Quantitation Level (QL)² µg/L unless specified
METALS, CYANIDE & TOTAL PHENOLS					
Antimony, Total	114	7440-36-0	200.8	0.3	1.0
Arsenic, Total	115	7440-38-2	200.8	0.1	0.5
Beryllium, Total	117	7440-41-7	200.8	0.1	0.5
Cadmium, Total	118	7440-43-9	200.8	0.05	0.25
Chromium (hex) dissolved	119	18540-29-9	SM3500-Cr C	0.3	1.2
Chromium, Total	119	7440-47-3	200.8	0.2	1.0
Copper, Total	120	7440-50-8	200.8	0.4	2.0
Lead, Total	122	7439-92-1	200.8	0.1	0.5
Mercury, Total	123	7439-97-6	1631E	0.0002	0.0005
Nickel, Total	124	7440-02-0	200.8	0.1	0.5
Selenium, Total	125	7782-49-2	200.8	1.0	1.0
Silver, Total	126	7440-22-4	200.8	0.04	0.2
Thallium, Total	127	7440-28-0	200.8	0.09	0.36
Zinc, Total	128	7440-66-6	200.8	0.5	2.5
Cyanide, Total	121	57-12-5	335.4	5	10
Cyanide, Weak Acid Dissociable	121		SM4500-CN I	5	10
Cyanide, Free Amenable to Chlorination (Available Cyanide)	121		SM4500-CN G	5	10
Phenols, Total	65		EPA 420.1		50

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L unless specified	Quantitation Level (QL)² µg/L unless specified
ACID COMPOUNDS					
2-Chlorophenol	24	95-57-8	625.1	3.3	9.9
2,4-Dichlorophenol	31	120-83-2	625.1	2.7	8.1
2,4-Dimethylphenol	34	105-67-9	625.1	2.7	8.1
4,6-dinitro-o-cresol (2-methyl-4,6,-dinitrophenol)	60	534-52-1	625.1/1625B	24	72
2,4 dinitrophenol	59	51-28-5	625.1	42	126
2-Nitrophenol	57	88-75-5	625.1	3.6	10.8
4-Nitrophenol	58	100-02-7	625.1	2.4	7.2
Parachlorometa cresol (4-chloro-3-methylphenol)	22	59-50-7	625.1	3.0	9.0
Pentachlorophenol	64	87-86-5	625.1	3.6	10.8
Phenol	65	108-95-2	625.1	1.5	4.5
2,4,6-Trichlorophenol	21	88-06-2	625.1	2.7	8.1

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L unless specified	Quantitation Level (QL)² µg/L unless specified
VOLATILE COMPOUNDS					
Acrolein	2	107-02-8	624	5	10
Acrylonitrile	3	107-13-1	624	1.0	2.0
Benzene	4	71-43-2	624.1	4.4	13.2
Bromoform	47	75-25-2	624.1	4.7	14.1
Carbon tetrachloride	6	56-23-5	624.1/601 or SM6230B	2.8	8.4
Chlorobenzene	7	108-90-7	624.1	6.0	18.0
Chloroethane	16	75-00-3	624/601	1.0	2.0
2-Chloroethylvinyl Ether	19	110-75-8	624	1.0	2.0
Chloroform	23	67-66-3	624.1 or SM6210B	1.6	4.8
Dibromochloromethane (chlorodibromomethane)	51	124-48-1	624.1	3.1	9.3
1,2-Dichlorobenzene	25	95-50-1	624	1.9	7.6
1,3-Dichlorobenzene	26	541-73-1	624	1.9	7.6
1,4-Dichlorobenzene	27	106-46-7	624	4.4	17.6
Dichlorobromomethane	48	75-27-4	624.1	2.2	6.6
1,1-Dichloroethane	13	75-34-3	624.1	4.7	14.1
1,2-Dichloroethane	10	107-06-2	624.1	2.8	8.4
1,1-Dichloroethylene	29	75-35-4	624.1	2.8	8.4
1,2-Dichloropropane	32	78-87-5	624.1	6.0	18.0
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene) ⁶	33	542-75-6	624.1	5.0	15.0
Ethylbenzene	38	100-41-4	624.1	7.2	21.6
Methyl bromide (Bromomethane)	46	74-83-9	624/601	5.0	10.0
Methyl chloride (Chloromethane)	45	74-87-3	624	1.0	2.0
Methylene chloride	44	75-09-2	624.1	2.8	8.4
1,1,2,2-Tetrachloroethane	15	79-34-5	624.1	6.9	20.7
Tetrachloroethylene	85	127-18-4	624.1	4.1	12.3
Toluene	86	108-88-3	624.1	6.0	18.0
1,2-Trans-Dichloroethylene (Ethylene dichloride)	30	156-60-5	624.1	1.6	4.8
1,1,1-Trichloroethane	11	71-55-6	624.1	3.8	11.4
1,1,2-Trichloroethane	14	79-00-5	624.1	5.0	15.0
Trichloroethylene	87	79-01-6	624.1	1.9	5.7
Vinyl chloride	88	75-01-4	624/SM6200B	1.0	2.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L unless specified	Quantitation Level (QL)² µg/L unless specified
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Acenaphthene	1	83-32-9	625.1	1.9	5.7
Acenaphthylene	77	208-96-8	625.1	3.5	10.5
Anthracene	78	120-12-7	625.1	1.9	5.7
Benzidine	5	92-87-5	625.1	44	132
Benzyl butyl phthalate	67	85-68-7	625.1	2.5	7.5
Benzo(a)anthracene	72	56-55-3	625.1	7.8	23.4
Benzo(b)fluoranthene (3,4-benzofluoranthene) ⁷	74	205-99-2	610/625.1	4.8	14.4
Benzo(j)fluoranthene ⁷		205-82-3	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene) ⁷	75	207-08-9	610/625.1	2.5	7.5
Benzo(r,s,t)pentaphene		189-55-9	625	1.3	5.0
Benzo(a)pyrene	73	50-32-8	610/625.1	2.5	7.5
Benzo(ghi)Perylene	79	191-24-2	610/625.1	4.1	12.3
Bis(2-chloroethoxy)methane	43	111-91-1	625.1	5.3	15.9
Bis(2-chloroethyl)ether	18	111-44-4	611/625.1	5.7	17.1
Bis(2-chloro-1-methylethyl)Ether (Bis(2-chloroisopropyl)ether) ¹⁰	42	108-60-1	625.1	5.7	17.1
Bis(2-ethylhexyl)phthalate	66	117-81-7	625.1	2.5	7.5
4-Bromophenyl phenyl ether	41	101-55-3	625.1	1.9	5.7
2-Chloronaphthalene	20	91-58-7	625.1	1.9	5.7
4-Chlorophenyl phenyl ether	40	7005-72-3	625.1	4.2	12.6
Chrysene	76	218-01-9	610/625.1	2.5	7.5
Dibenzo (a,h)acridine		226-36-8	610M/625M	2.5	10.0
Dibenzo (a,j)acridine		224-42-0	610M/625M	2.5	10.0
Dibenzo(a-h)anthracene (1,2,5,6-dibenzanthracene)	82	53-70-3	625.1	2.5	7.5
Dibenzo(a,e)pyrene		192-65-4	610M/625M	2.5	10.0
Dibenzo(a,h)pyrene		189-64-0	625M	2.5	10.0
3,3-Dichlorobenzidine	28	91-94-1	605/625.1	16.5	49.5
Diethyl phthalate	70	84-66-2	625.1	1.9	5.7
Dimethyl phthalate	71	131-11-3	625.1	1.6	4.8
Di-n-butyl phthalate	68	84-74-2	625.1	2.5	7.5
2,4-dinitrotoluene	35	121-14-2	609/625.1	5.7	17.1
2,6-dinitrotoluene	36	606-20-2	609/625.1	1.9	5.7
Di-n-octyl phthalate	69	117-84-0	625.1	2.5	7.5
1,2-Diphenylhydrazine (as Azobenzene)	37	122-66-7	1625B	5.0	20
Fluoranthene	39	206-44-0	625.1	2.2	6.6
Fluorene	80	86-73-7	625.1	1.9	5.7
Hexachlorobenzene	9	118-74-1	612/625.1	1.9	5.7
Hexachlorobutadiene	52	87-68-3	625.1	0.9	2.7
Hexachlorocyclopentadiene	53	77-47-4	1625B/625	2.0	4.0
Hexachloroethane	12	67-72-1	625.1	1.6	4.8
Indeno(1,2,3-cd)Pyrene	83	193-39-5	610/625.1	3.7	11.1
Isophorone	54	78-59-1	625.1	2.2	6.6
3-Methyl cholanthrene		56-49-5	625	2.0	8.0
Naphthalene	55	91-20-3	625.1	1.6	4.8

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L unless specified	Quantitation Level (QL)² µg/L unless specified
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Nitrobenzene	56	98-95-3	625.1	1.9	5.7
N-Nitrosodimethylamine	61	62-75-9	607/625	2.0	4.0
N-Nitrosodi-n-propylamine	63	621-64-7	607/625	0.5	1.0
N-Nitrosodiphenylamine	62	86-30-6	625	1.0	2.0
Perylene		198-55-0	625	1.9	7.6
Phenanthrene	81	85-01-8	625.1	5.4	16.2
Pyrene	84	129-00-0	625.1	1.9	5.7
1,2,4-Trichlorobenzene	8	120-82-1	625.1	1.9	5.7

PRIORITY POLLUTANT	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L unless specified	Quantitation Level (QL)² µg/L unless specified
DIOXIN					
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (2,3,7,8 TCDD)	129	1746-01-6	1613B	1.3 pg/L	5 pg/L

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L unless specified	Quantitation Level (QL)² µg/L unless specified
PESTICIDES/PCBs					
Aldrin	89	309-00-2	608.3	4.0 ng/L	12 ng/L
alpha-BHC	102	319-84-6	608.3	3.0 ng/L	9.0 ng/L
beta-BHC	103	319-85-7	608.3	6.0 ng/L	18 ng/L
gamma-BHC (Lindane)	104	58-89-9	608.3	4.0 ng/L	12 ng/L
delta-BHC	105	319-86-8	608.3	9.0 ng/L	27 ng/L
Chlordane ⁸	91	57-74-9	608.3	14 ng/L	42 ng/L
4,4'-DDT	92	50-29-3	608.3	12 ng/L	36 ng/L
4,4'-DDE	93	72-55-9	608.3	4.0 ng/L	12 ng/L
4,4' DDD	94	72-54-8	608.3	11ng/L	33 ng/L
Dieldrin	90	60-57-1	608.3	2.0 ng/L	6.0 ng/L
alpha-Endosulfan	95	959-98-8	608.3	14 ng/L	42 ng/L
beta-Endosulfan	96	33213-65-9	608.3	4.0 ng/L	12 ng/L
Endosulfan Sulfate	97	1031-07-8	608.3	66 ng/L	198 ng/L
Endrin	98	72-20-8	608.3	6.0 ng/L	18 ng/L
Endrin Aldehyde	99	7421-93-4	608.3	23 ng/L	70 ng/L
Heptachlor	100	76-44-8	608.3	3.0 ng/L	9.0 ng/L
Heptachlor Epoxide	101	1024-57-3	608.3	83 ng/L	249 ng/L
PCB-1242 ⁹	106	53469-21-9	608.3	0.065	0.195
PCB-1254	107	11097-69-1	608.3	0.065	0.195
PCB-1221	108	11104-28-2	608.3	0.065	0.195
PCB-1232	109	11141-16-5	608.3	0.065	0.195
PCB-1248	110	12672-29-6	608.3	0.065	0.195
PCB-1260	111	11096-82-5	608.3	0.065	0.195
PCB-1016 ⁹	112	12674-11-2	608.3	0.065	0.195
Toxaphene	113	8001-35-2	608.3	240 ng/L	720 ng/L

1. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.
2. Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to $(1, 2, \text{ or } 5) \times 10^n$, where n is an integer. (64 FR 30417).
ALSO GIVEN AS:
The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency, December 2007).
3. Soluble Biochemical Oxygen Demand method note: First, filter the sample through a Millipore Nylon filter (or equivalent) - pore size of 0.45-0.50 um (prep all filters by filtering 250 ml of laboratory grade deionized water through the filter and discard). Then, analyze sample as per method 5210-B.
4. NWTPH Dx - Northwest Total Petroleum Hydrocarbons Diesel Extended Range – see <https://fortress.wa.gov/ecy/publications/documents/97602.pdf>
5. NWTPH Gx - Northwest Total Petroleum Hydrocarbons Gasoline Extended Range – see <https://fortress.wa.gov/ecy/publications/documents/97602.pdf>
6. 1, 3-dichloroproylene (mixed isomers) You may report this parameter as two separate parameters: cis-1, 3-dichloropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).
7. Total Benzofluoranthenes - Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.
8. Chlordane – You may report alpha-chlordane (5103-71-9) and gamma-chlordane (5103-74-2) in place of chlordane (57-74-9). If you report alpha and gamma-chlordane, the DL/PQLs that apply are 14/42 ng/L.
9. PCB 1016 & PCB 1242 – You may report these two PCB compounds as one parameter called PCB 1016/1242.