

Issuance Date: February 28, 2022  
Effective Date: April 1, 2022  
Expiration Date: March 31, 2027  
Amendment Date: June 6, 2023

## State Waste Discharge Permit Number ST0008024

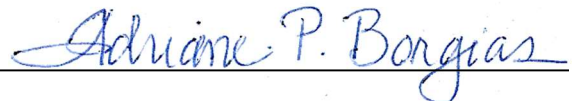
State of Washington  
DEPARTMENT OF ECOLOGY  
Eastern Regional Office  
4601 N. Monroe Street  
Spokane, Washington 99205-1265

In compliance with the provisions of the  
State of Washington Water Pollution Control Law  
Chapter 90.48 Revised Code of Washington, as amended,

**City of Moses Lake (Larson WWTP)**  
**P.O. Box 1579**  
**Moses Lake, Washington 98837**

is authorized to discharge wastewater in accordance with the special and general conditions which follow.

Plant Location: 6691 Randolph Road, NE, Moses Lake, WA 98837	Discharge Location: NW ¼ of Sec. 34, T. 20 N., R 28 E., W.M.  SIC Code: 4952 Sewerage Systems
Treatment Type: Extended air activated sludge (Biolac) with ultraviolet light disinfection and infiltration basins	Latitude: 47.187205200826 Longitude: -119.290984100519



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Water Quality Section Manager  
Eastern Regional 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.

**Table 1: Summary of Permit Report Submittals**

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.11.a	Discharge Monitoring Report (DMR)	1/month	May 15, 2022
S3.A.11.b	Discharge Monitoring Report (DMR)	4/year	May 15, 2022
S3.A.11.c	Discharge Monitoring Report (DMR)	1/year	September 15, 2022
S3.F.c	Reporting Permit Violations Within Five Days - Written Report	As necessary	-
S4.B	Plans for Maintaining Adequate Capacity	As necessary	-
S4.D	Notification of New or Altered Sources	As necessary	-
S4.E	Wasteload Assessment	1/year	March 15, 2023
S5.A.1	Operator Certification Renewal Card	1/year	May 15, 2022
S5.C	Short-term reduction	As necessary	
S5.F	Reporting Bypasses	As necessary	-
S5.G.a.2	Operations and Maintenance Manual Changes or Updates	As necessary	-
S6.E	Industrial Users List	1/permit cycle	June 30, 2025
S7.	Application for Permit Renewal	1/permit cycle	March 31, 2026
G1.	Notice of Change in Authorization	As necessary	-
G4.	Permit Application for Substantive Changes to the Discharge	180 days prior to discharge	-
G5.	Engineering Report for Construction or Modification Activities	180 days prior to start of construction	-
G7.	Notice of Permit Transfer	As necessary	-
G10.	Duty to Provide Information	As necessary	-

Permit Section	Submittal	Frequency	First Submittal Date
G12.	Submit Proposed New or Changes to Service Agreements	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 concentration in excess of, that authorized by this permit violates the terms and conditions of this permit. Wastewater flows and loadings must not exceed the Design Criteria specified in Section S4.

Beginning on the effective date, the Permittee is authorized to discharge treated domestic wastewater to infiltration ponds at the permitted location subject to the following limits:

**Table 2: Effluent Limits: Outfall 001**

Latitude: 47.187488 - Longitude: -119.292069

Parameter	Average Monthly <sup>a</sup>	Average Weekly <sup>b</sup>
Biochemical Oxygen Demand (BOD <sub>5</sub> )	10 milligrams/liter (mg/L)	15 mg/L
Nitrate + Nitrite Nitrogen	6 mg/L as N	---
Total Dissolved Solids (TDS)	600 mg/L	---
Total Coliform	50 MPN/100 mL	

<sup>a</sup> **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.

<sup>b</sup> **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.

#### S1.B. Best management practices/pollution prevention

The Permittee must comply with the following Best Management Practices to prevent pollution to waters of the State:

1. Do not discharge in excess of the hydraulic capacity of the evaporation/infiltration ponds, drainfields so that the pond overflows.
2. Do not discharge priority pollutants, dangerous wastes, or toxics in toxic amounts.

## S2. Monitoring requirements

### S2.A. Wastewater monitoring

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

**Table 3: Wastewater Influent Monitoring Schedule**

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.

Parameter	Units	Minimum Sampling Frequency	Sample Type
Flow	Gallons per day (gpd)	Continuous <sup>a</sup>	Metered
pH	Standard Units (s.u.)	Continuous <sup>a</sup>	Metered
Biochemical Oxygen Demand (CBOD <sub>5</sub> )	mg/L	1/week	24-Hour Composite <sup>b</sup>
BOD <sub>5</sub>	lbs/day <sup>c</sup>	1/week	Calculated
Total Kjeldahl Nitrogen (TKN)	mg/L as N	1/week	24-Hour Composite <sup>b</sup>
TKN	lbs/day <sup>c</sup>	1/week	Calculated
Total Dissolved Solids (TDS)	mg/L	1/week	24-Hour Composite <sup>b</sup>

<sup>a</sup> **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 hourly when continuous monitoring is not possible.

<sup>b</sup> **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

<sup>c</sup> **lbs/day** = Concentration (mg/L) x Flow (in MGD) x 8.34÷1,000,000

**Table 4: Final Wastewater Effluent Monitoring Schedule**

Final Wastewater Effluent means wastewater, which is exiting, or has exited, 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<sub>5</sub> analysis before or after the disinfection process. If taken after, dechlorinate and reseed the sample.

The sampling point for the effluent wastewater will be from the treatment works at the end of pipe prior to discharging to the infiltration basins.

Parameter	Units	Minimum Sampling Frequency	Sample Type
pH	s.u.	Continuous <sup>a</sup>	Metered
BOD <sub>5</sub>	mg/L	1/week	24-Hour Composite <sup>c</sup>
BOD <sub>5</sub>	lbs/day <sup>d</sup>	1/week	Calculated
Total Coliform	MPN/100 mL	1/week	Grab <sup>b</sup>
TKN	mg/L as N	1/week	24-Hour Composite <sup>c</sup>
TKN	lbs/day <sup>d</sup>	1/week	Calculated
Nitrate plus Nitrite Nitrogen	mg/L as N	1/week	24-Hour Composite <sup>c</sup>
TDS	mg/L	1/week	24-Hour Composite <sup>c</sup>
Total Phosphorus	µg/L	1/week	Grab <sup>b</sup>
Arsenic	µg/L	1/year <sup>e</sup>	24-Hour Composite <sup>c</sup>
Copper, Total	µg/L	1/year <sup>e</sup>	24-Hour Composite <sup>c</sup>
Iron, Total	µg/L	1/year <sup>e</sup>	24-Hour Composite <sup>c</sup>
Manganese, Total	µg/L	1/year <sup>e</sup>	24-Hour Composite <sup>c</sup>
Zinc, Total	µg/L	1/year <sup>e</sup>	24-Hour Composite <sup>c</sup>
Chloride	mg/L	1/year <sup>e</sup>	Grab <sup>b</sup>

<sup>a</sup> **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 hourly when continuous monitoring is not possible.

<sup>b</sup> **Grab** means an individual sample collected over a 15 minute, or less, period.

<sup>c</sup> **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

<sup>d</sup> **lbs/day** = Concentration (mg/L) x Flow (in MGD) x 8.34 ÷ 1,000,000

<sup>e</sup> **1/year** means take samples in August and report data by September 15 each year.

## S2.B. Groundwater monitoring

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

**Table 5: Groundwater Monitoring Schedule**

Monitor groundwater at monitoring wells **MW2, MW3 and MW4**

Parameter	Units & Speciation	Sampling Frequency	Sample Type
Measured Depth to Groundwater	Feet (nearest 0.01 ft)	4/year <sup>a</sup>	Field Measurement
Iron (Total)	mg/L	4/year <sup>a</sup>	Grab <sup>b</sup>
Total Organic Carbon (TOC)	mg/L	4/year <sup>a</sup>	Grab <sup>b</sup>
pH	s.u.	4/year <sup>a</sup>	Grab <sup>b</sup>
Total Coliform	MPN/100 mL	4/year <sup>a</sup>	Grab <sup>b</sup>
TDS	mg/L	4/year <sup>a</sup>	Grab <sup>b</sup>
Nitrate plus Nitrite Nitrogen	mg/L as N	4/year <sup>a</sup>	Grab <sup>b</sup>
Phosphorus	mg/L	1/year <sup>c</sup>	Grab <sup>b</sup>
Arsenic	µg/L	1/year	Grab <sup>b</sup>
Copper, Total	µg/L	1/year <sup>c</sup>	Grab <sup>b</sup>
Manganese, Total	µg/L	1/year <sup>c</sup>	Grab <sup>b</sup>
Zinc, Total	µg/L	1/year <sup>c</sup>	Grab <sup>b</sup>
Chloride	mg/L	1/year <sup>c</sup>	Grab <sup>b</sup>

<sup>a</sup> **4/year** means sample four times per year in the specified months of February, May, August, and September. Report data by the 15<sup>th</sup> of the month following sampling.

<sup>b</sup> **Grab** means an individual sample collected over a 15 minute, or less, period.

<sup>c</sup> **1/year** means take samples in August and report data by September 15 each year.

## **S2.C. 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, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets and maintenance-related conditions affecting effluent quality.

Groundwater sampling must conform to the latest protocols in the Implementation **Guidance for the Ground Water Quality Standards**, (Ecology 1996).

Sampling and analytical methods used to meet the water and wastewater monitoring requirements specified in this permit must conform to the latest revision of the following rules and documents unless otherwise specified in this permit or approved in writing by Ecology.

- Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136
- Standard Methods for the Examination of Water and Wastewater (APHA)

The Permittee must conduct and [report all soil analysis](https://www.naptprogram.org/files/napt/publications/method-papers/western-states-methods-manual-2013.pdf) in accordance with the Western States Laboratory Plant, Soil and Water Analysis Manual, Soil, Plant and Water Reference Methods for The Western Region, 4th Edition, 2013, available online at <https://www.naptprogram.org/files/napt/publications/method-papers/western-states-methods-manual-2013.pdf>.

The Permittee must also [participate in a proficiency testing program](https://www.naptprogram.org/) such as the North American Proficiency Testing Program (NAPT) available online at <https://www.naptprogram.org/>.

## **S2.D. Flow measurement and continuous monitoring devices**

The Permittee must:

1. Select and use appropriate flow measurement and continuous monitoring devices 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 waste stream.
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. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.
5. Establish a calibration frequency for each device or instrument in the O&M manual that conforms to the frequency recommended by the manufacturer.
6. Calibrate flow monitoring devices at a minimum frequency of at least one calibration per year.
7. Maintain calibration records for at least three years.

#### **S2.E. 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.

#### **S2.F. Request for reduction in monitoring**

The Permittee may request a reduction of the sampling frequency after 12 months of monitoring. Ecology will review each request and at its discretion grant the request when it reissues the permit or by a permit modification.

The Permittee must:

1. Provide a written request.
2. Clearly state the parameters for which it is requesting reduced monitoring.
3. Clearly state the justification for the reduction.

### **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.

To find out more information and to [sign up](#) for the Water Quality Permitting Portal go to <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance>.

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 discharge wastewater or a specific pollutant 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. **Not** report zero for bacteria monitoring. Report as required by the laboratory method.
5. Calculate and report an arithmetic average value for each day for bacteria if multiple samples were taken in one day.
6. 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.
7. 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.
8. 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 agency-required detection value and the agency-required quantitation value.
  - 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.
9. 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).
  10. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.
  11. 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 15<sup>th</sup> day of the following month.
- b. Submit **4/year DMRs** by the 15<sup>th</sup> day of the month following the monitoring period, with samples taken in February, April, July, and November. Data due March 15, May 15, August 15, and December 15.
- c. Submit **1/year DMRs** by September 15 each year, with samples taken in August.

### **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 Program  
Department of Ecology  
Eastern Regional Office  
4601 N. Monroe Street  
Spokane, Washington 99205-1265

### **S3.C. Records retention**

The Permittee must retain records of all monitoring information for **a minimum of three 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.

### **S3.D. 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.

### **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 30 days of sampling.

#### **a. Immediate reporting**

The Permittee must immediately report to Ecology and the Local Health jurisdiction (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.

Ecology Eastern Regional Office (509) 329-3400  
Grant County Health District (509) 766-7960 (business hours)  
(509) 398-2083 (after hours)

Additionally, for any sanitary sewer overflow (SSO) that discharges to a municipal separate storm sewer system (MS4), the Permittee must notify the appropriate MS4 owner or operator.

**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. 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 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.
6. When a monitoring well parameter exceeds an enforcement limit in 2 consecutive sampling events.

**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.

**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.

Instructions are available on the Ecology Spill Reporting Website at <https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue/Report-a-spill>.

**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:

**Table 6: Design Criteria for Moses Lake Larson WWTP**

Parameter	Design Criteria
Monthly Average Flow	750,000 gpd
Peak Instantaneous Design Flow	1,200,000 gpd
BOD5 Influent Loading for Maximum Month	1,970 lbs/day
TSS Influent Loading for Maximum Month	2,523 lbs/day
TKN Influent Loading for Maximum Month	296 lbs/day
NH3 Influent Loading for Maximum Month	188 lbs/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. Wasteload assessment**

The Permittee must **conduct an annual assessment of its influent flow and waste load** and submit a report to Ecology by March 15, 2023, and annually thereafter.

The report must contain:

1. A description of compliance or noncompliance with the permit effluent limits.
2. A comparison between the existing and design:
  - a. Monthly average dry weather and wet weather flows.
  - b. Peak flows.
  - c. BOD<sub>5</sub> loading.
3. The percent change in the above parameters since the previous report (except for the first report).
4. The present and design population or population equivalent.
5. The projected population growth rate.
6. The estimated date upon which the Permittee expects the wastewater treatment plant to reach design capacity, according to the most restrictive of the parameters above.

Ecology may modify the interval for review and reporting if it determines that a different frequency is sufficient.

#### **S5. Operation and maintenance**

The Permittee must, at all times, properly operate and maintain all facilities or 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**

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 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:

1. Submit an operator certification renewal card for the current operator in responsible charge by uploading an electronic copy to the Ecology WQWebPortal **by May 15 each year**.
2. **Immediately notify Ecology** when the facility does not have a properly certified operator in responsible charge or if the current properly certified operator in responsible charge loses their certification.
3. **Notify Ecology within 30 days** when the operator in responsible charge at the facility changes.
  - a. Provide the new operators' name, certification number and certification level.
  - b. Provide a current copy of the contract if a contract operator is used.

#### **S5.B. O & M 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, 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 II (EPA 430-99-74-001) at the wastewater treatment plant, which requires primary sedimentation and disinfection.

#### **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**

This permit prohibits a bypass, which is the intentional diversion of waste streams from any portion of a treatment facility. Ecology may take enforcement action against a Permittee for a bypass unless one of the following circumstances (1, 2, or 3) applies.

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

This permit authorizes a bypass if it allows for essential maintenance and does not have the potential to cause violations of limits or other conditions of this permit, or adversely impact public health as determined by Ecology prior to the bypass. The Permittee must submit prior notice, if possible, at least ten days before the date of the bypass.

2. Bypass which is unavoidable, unanticipated, and results in noncompliance of this permit.

This permit authorizes such a bypass only if:

- a. 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.
- b. No feasible alternatives to the bypass exist, such as:
  - The use of auxiliary treatment facilities.
  - Retention of untreated wastes.

- 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.
  - Transport of untreated wastes to another treatment facility.
- c. Ecology is properly notified of the bypass as required in Special Condition S3.F of this permit.
3. If bypass is anticipated and has the potential to result in noncompliance of this permit.
- a. The Permittee must notify Ecology at least 30 days before the planned date of bypass.
- The notice must contain:
- A description of the bypass and its cause.
  - An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.
  - A cost-effectiveness analysis of alternatives including comparative resource damage assessment.
  - 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 reoccurrence 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 or facilities plan 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 consider the following prior to issuing an administrative order for this type of bypass:
- If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.

- If feasible alternatives to bypass exist, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.
- If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. Ecology will give the public an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Ecology will approve a request to bypass by issuing an administrative order under RCW 90.48.120.

## **S5.G. Operations and maintenance manual**

### **a. O&M manual submittal and requirements**

The Permittee must:

1. Review the O&M at least annually.
2. Submit substantial changes or updates to the O&M Manual to Ecology for review and approval 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**

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 plant shutdown and cleanup in event of wastewater system upset or failure, or collection/irrigation system leak.
2. Irrigation system operational controls and procedures.
3. Wastewater system maintenance procedures that contribute to the generation of 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. Treatment plant process control monitoring schedule.
7. Wastewater sampling protocols and procedures for compliance with the sampling and reporting requirements in the wastewater discharge permit.
8. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.
9. Protocols and procedures for groundwater monitoring network, vadose zone, and soil sampling and testing.
10. Protocols and procedures for double-lined evaporation pond leak system, sampling and testing.
11. Specify other items on case-by-case basis such as O&M for collection systems pump stations, lagoon liners, etc.

## **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, (BOD<sub>5</sub>, 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 for a Moses Lake Municipal Wastewater Discharge Permit or for an Ecology State Waste Discharge permit within 30 days of such change.

#### **S6.E. Submittal of list of industrial users**

The Permittee must submit to Ecology a list summarizing all existing and proposed SIUs and PSIUs **by June 30, 2023**.

#### **S7. Application for permit renewal or modification for facility changes**

The Permittee must submit an application for renewal of this permit **by March 31, 2026**.

Mail the **original, signed application** to the Water Quality Permit Coordinator, Eastern Regional Office, Department of Ecology, 4601 N. Monroe Street, Spokane, Washington 99205.

Send an electronic copy of the application (preferably as a PDF) by email to the Permit Coordinator at [stra461@ecy.wa.gov](mailto:stra461@ecy.wa.gov). Scan any attachments to the application and submit them with the application.

The Permittee must also submit a new application or addendum at least 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.

## **General Conditions**

### **G1. Signatory requirements**

All applications, reports, or information submitted to Ecology must be signed as follows:

1. All permit applications must be signed by either a principal executive officer or ranking elected official.
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 the person described above and is submitted to Ecology at the time of authorization, and
  - b. The authorization specifies 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 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 entry**

Representatives of Ecology have the right to enter at all reasonable times in or upon any property, public or private for the purpose of inspecting and investigating conditions relating to the pollution or the possible pollution of any waters of the state. Reasonable times include normal business hours; hours during which production, treatment, or discharge occurs; or times when Ecology suspects a violation requiring immediate inspection. Representatives of Ecology must be allowed to have access to, and copy at reasonable cost, any records required to be kept under terms and conditions of the permit; to inspect any monitoring equipment or method required in the permit; and to sample the discharge, waste treatment processes, or internal waste streams.

### **G3. Permit actions**

This permit is subject to modification, suspension, or termination, in whole or in part by Ecology for any of the following causes:

1. Violation of any permit term or condition;
2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts;
3. A material change in quantity or type of waste disposal;
4. A material change in the condition of the waters of the state; or
5. Nonpayment of fees assessed pursuant to RCW 90.48.465.

Ecology may also modify this permit, including the schedule of compliance or other conditions, if it determines good and valid cause exists, including promulgation or revisions of regulations or new information.

### **G4. Reporting a cause for modification**

The Permittee must submit a new application at least 180 days before it wants to discharge more of any pollutant, a new pollutant, or more flow than allowed under this permit. The Permittee should use the State Waste Discharge permit application, and submit required plans at the same time. Required plans include an Engineering Report, Plans and Specifications, and an Operations and Maintenance manual, (see Chapter 173-240 WAC). Ecology may waive these plan requirements for small changes, so contact Ecology if they do not appear necessary. The Permittee must obtain the written concurrence of the receiving POTW on the application before submitting it to Ecology. The Permittee must continue to comply with the existing permit until it is modified or reissued. Submitting a notice of dangerous waste discharge (to comply with Pretreatment or Dangerous Waste rules) triggers this requirement as well.

### **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 should be submitted at least 180 days prior to the planned start of construction. 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**

This permit is automatically transferred to a new owner or operator if:

1. A written agreement between the old and new owner or operator containing a specific date for transfer of permit responsibility, coverage, and liability is submitted to Ecology;
2. A copy of the permit is provided to the new owner and;
3. Ecology does not notify the Permittee of the need to modify the permit.

Unless this permit is automatically transferred according to Section 1. above, this permit may be transferred only if it is modified to identify the new Permittee and to incorporate such other requirements as determined necessary by Ecology.

### **G8. Payment of fees**

The Permittee must submit payment of fees associated with this permit as assessed by Ecology. Ecology may revoke this permit if the permit fees established under Chapter 173-224 WAC are not paid.

### **G9. Penalties for violating permit conditions**

Any person who is found guilty of willfully violating the terms and conditions of this permit is guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars 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 incurs, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars 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 considered a separate and distinct violation.

### **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. Duty to comply**

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of chapter 90.48 RCW and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

## **G12. 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 30 day 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) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
Biochemical Oxygen Demand		SM5210-B		2 mg/L
Biochemical Oxygen Demand, Soluble		SM5210-B <sup>3</sup>		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 <sup>+</sup> B	N/A	N/A
Total Suspended Solids		SM2540-D		5 mg/L

### Nonconventional Pollutants

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
Alkalinity, Total		SM2320-B		5 mg/L as CaCO <sub>3</sub>
Aluminum, Total	7429-90-5	200.8	2.0	10
Ammonia, Total (as N)		SM4500-NH <sub>3</sub> -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

<b>Pollutant</b>	<b>CAS Number (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L Unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L Unless specified</b>
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
E.coli		SM 9221B, 9221F, 9223B	N/A	Specified in method - sample aliquot dependent
Enterococci		SM 9230B, 9230C, 9230D	N/A	Specified in method - sample aliquot dependent
Flow		Calibrated device		
Fluoride	16984-48-8	SM4500-F E	25	100
Hardness, Total		SM2340B		200 as CaCO <sub>3</sub>
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 <sub>3</sub> - E/F/H		100
Nitrogen, Total Kjeldahl (as N)		SM4500-N <sub>org</sub> B/C and SM4500NH <sub>3</sub> - B/C/D/EF/G/H		300
NWTPH Dx <sup>4</sup>		Ecology NWTPH Dx	250	250
NWTPH Gx <sup>5</sup>		Ecology NWTPH Gx	250	250

<b>Pollutant</b>	<b>CAS Number (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L Unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L Unless specified</b>
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 <sub>4</sub> )		SM4110-B		0.2 mg/L
Sulfide (as mg/L S)		SM4500- S <sup>2</sup> F/D/E/G		0.2 mg/L
Sulfite (as mg/L SO <sub>3</sub> )		SM4500-SO3B		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

### Metals, Cyanide & Total Phenols

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
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	121		SM4500-CN G	5	10

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
(Available Cyanide)					
Phenols, Total	65		EPA 420.1		50

#### Acid Compounds

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
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

### Volatile Compounds

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
Acrolein	2	107-02-8	624.1	5	10
Acrylonitrile	3	107-13-1	624.1	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	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	1.9	7.6
1,3-Dichlorobenzene	26	541-73-1	624.1	1.9	7.6
1,4-Dichlorobenzene	27	106-46-7	624.1	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

<b>Priority Pollutants</b>	<b>PP #</b>	<b>CAS Number (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L Unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L Unless specified</b>
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene) <sup>6</sup>	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	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/SM6200 B	1.0	2.0

**Base/Neutral Compounds** (Compounds in **Bold** are Ecology PBTS)

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
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) <sup>7</sup>	74	205-99-2	610/625.1	4.8	14.4
<b>Benzo(j)fluoranthene<sup>7</sup></b>		205-82-3	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene) <sup>7</sup>	75	207-08-9	610/625.1	2.5	7.5
<b>Benzo(r,s,t)pentaphene</b>		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) <sup>10</sup>	42	108-60-1	625.1	5.7	17.1

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
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
<b>Dibenzo (a,h)acridine</b>		226-36-8	610M/625M	2.5	10.0
<b>Dibenzo (a,j)acridine</b>		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
<b>Dibenzo(a,e)pyrene</b>		192-65-4	610M/625M	2.5	10.0
<b>Dibenzo(a,h)pyrene</b>		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

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
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
<b>3-Methylcholanthrene</b>		56-49-5	625	2.0	8.0
Naphthalene	55	91-20-3	625.1	1.6	4.8
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
<b>Perylene</b>		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

## Dioxin

Priority Pollutant	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
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

## Pesticides/PCBS

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) <sup>1</sup> µg/L Unless specified	Quantitation Level (QL) <sup>2</sup> µg/L Unless specified
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 <sup>8</sup>	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

<b>Priority Pollutants</b>	<b>PP #</b>	<b>CAS Number (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L Unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L Unless specified</b>
PCB-1242 <sup>9</sup>	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 <sup>9</sup>	112	12674-11-2	608.3	0.065	0.195
Toxaphene	113	8001-35-2	608.3	240 ng/L	720 ng/L

### Analytical Methods

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  $\mu\text{m}$  (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. **Northwest Total Petroleum Hydrocarbons Diesel Extended Range OR NWTPH Dx** – [Analytical Methods for Petroleum Hydrocarbons](https://fortress.wa.gov/ecy/publications/documents/97602.pdf)  
<https://fortress.wa.gov/ecy/publications/documents/97602.pdf>.
5. **Northwest Total Petroleum Hydrocarbons Gasoline Extended Range OR NWTPH Gx** – [Analytical Methods for Petroleum Hydrocarbons](https://fortress.wa.gov/ecy/publications/documents/97602.pdf)  
<https://fortress.wa.gov/ecy/publications/documents/97602.pdf>.
6. **1, 3-dichloropropylene (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.
10. **Bis(2-Chloro-1-Methylethyl) Ether** – This compound was previously listed as Bis(2-Chloroisopropyl) Ether (39638-32-9)