

Issuance Date: ?
Effective Date: ?
Expiration Date: ?

National Pollutant Discharge Elimination System Waste Discharge Permit No. WA0045144

State of Washington
DEPARTMENT OF ECOLOGY
Eastern Regional Office
4601 North Monroe Street
Spokane, WA 99205-1295

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

Liberty Lake Sewer and Water District
22510 E Mission Avenue
Spokane, Washington 99019

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

| | |
|---|--|
| Plant Location: N 2218 Harvard Rd Liberty Lake, WA 99019 | Receiving Water: Spokane River at RM 92.3 |
| Treatment Type: biological nutrient removal with tertiary membrane filtration and UV disinfection | SIC Code: 4952 Sewerage Systems |

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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 | Monthly Discharge Monitoring Report (DMR) | Monthly | <u>Enter a specific date</u> |
| S3.A | Quarterly Discharge Monitoring Report (DMR) | Quarterly | <u>Enter specific dates</u> |
| S3.A | Annual Discharge Monitoring Report (DMR) | 1/year | <u>Enter a specific date</u> |
| S3.A | Semiannual Discharge Monitoring Report (DMR) | Semiannual | <u>Enter specific dates</u> |
| S3.A | Permit Renewal Application Monitoring Data (Submit with permit renewal application) | 1/permit cycle | <u>Enter a specific date</u> |
| S3.F | Reporting Permit Violations – Five Day Written Report | As necessary | - |
| S4.B | Plans for Maintaining Adequate Capacity | As necessary | - |
| S4.D | Notification of New or Altered Sources | As necessary | - |
| S5.A.1 | Operator Certification Renewal Card | 1/year | May 15, 2023 |
| S5.F | Bypass Notification | As necessary | - |
| S5.G.a.1 | Operations and Maintenance Manual Update | 1/permit cycle | <u>1 year from effective date</u> |
| 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 notifications letters | As necessary | - |
| S6.E | Industrial User Survey Submittal | Once | <u>2 years from effective date</u> |
| S6.E | Industrial User Survey Updates | Every 2 years | <u>4 years from effective date</u> |
| S8. | Application for Permit Renewal | 1/permit cycle | <u>Insert date from S8</u> |
| S9.1 | Notify Ecology of Installation – Effluent Temperature Thermistor | 1/permit cycle | <u>1 year from effective date</u> |
| S9.2 | Notify Ecology of Installation – Dissolved Oxygen Meter | 1/permit cycle | <u>1 year from effective date</u> |

| Permit Section | Submittal | Frequency | First Submittal Date |
|----------------|---|---|--|
| S9.3 | Operational Evaluation Technical Memo | 1/permit cycle | <u>3 years from effective date</u> |
| S9.4 | Engineering Report Update – To Meet DO, Cadmium, Lead, Zinc, & Temperature Limits | 1/permit cycle | <u>5 years from effective date</u> |
| S10.1 | Engineering Report | 1/permit cycle | <u>4.5 years from effective date</u> |
| S11.A.1 | Spill Control Plan | 1/permit cycle | <u>3 years from effective date</u> |
| S12.A.1 | Mixing Zone Dye Tracer Plan of Study | 90 days prior to study | <u>6 months from effective date</u> |
| S12.A.3 | Mixing Zone Study Results | 1/permit cycle | <u>4 years from effective date</u> |
| S13.1 | Receiving Water and Effluent Study of Temperature – Quality Assurance Project Plan (QAPP) Update | 1/permit cycle | <u>1 year from effective date</u> |
| S13.7 | Temperature Receiving Water and Effluent Data | Monthly with DMR | <u>Starting first June after QAPP approval</u> |
| S14. | Trace Metals DO, pH, and Alkalinity Receiving Water Study – Quality Assurance Project Plan (QAPP) | 1/permit cycle | <u>1 year from effective date</u> |
| S15.A | Acute Toxicity Effluent Test Results - Submit with Permit Renewal Application | Quarterly in year 3 of the permit cycle | <u>With Application</u> |
| S16.A | Chronic Toxicity Effluent Test Results with Permit Renewal Application | Quarterly in year 3 of the permit cycle | <u>With Application</u> |
| S17.A | Toxics Reduction Best Management Practices and Implementation Plan | 1/year | <u>1 year from effective date</u> |
| S17.A | Toxics QAPP | 1/permit cycle | <u>1 year from effective date</u> |
| 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 | - |

| Permit Section | Submittal | Frequency | First Submittal Date |
|----------------|--------------------|--------------|----------------------|
| G21. | Contract Submittal | As necessary | - |

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Special Conditions

S1. Discharge limits

S1.A. Surface Water 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 the Spokane River at the permitted location subject to compliance with the following limits:

Effluent Limits: Outfall 001

Latitude: 47.67833 – Longitude: -117.1167

Table 2: Effluent Limits: BOD₅ & TSS

| Parameter | Average Monthly ^a | Average Weekly ^b |
|---|---|-----------------------------|
| Biochemical Oxygen Demand (5-day) (BOD ₅) | 5 mg/L 83.4 lbs./day 85% removal of influent BOD ₅ | 7 mg/L 116.8 lbs./day |
| Total Suspended Solids (TSS) | 5 mg/L 83.4 lbs./day 85% removal of influent TSS | 7 mg/L 116.8 lbs./day |

Table 3: Effluent Limits: Fecal Coliform & E. coli

| Parameter | Monthly Geometric Mean ^c | Weekly Geometric Mean ^c |
|--|-------------------------------------|------------------------------------|
| Fecal Coliform Bacteria ^c (Interim limit) | 100/100 mL | 150/100 mL |
| E.coli ^c (Final Limit) (Two years from effective date) | 100/100 mL | 150/100 mL |

Table 4: Effluent Limits: Cyanide, Cadmium, Lead, Zinc, & Temperature

| Parameter | Average Monthly | Maximum Daily ^d |
|---|-----------------|----------------------------|
| Cyanide | 55.7 µg/L | 81.3 µg/L |
| Cadmium (Interim Limit) | 7.0 µg/L | 24.6 µg/L |
| Cadmium (Final Limit) (Ten years from effective date) | 0.89 µg/L | 1.75 µg/L |
| Lead (Interim Limit) | 2.1 µg/L | 5.2 µg/L |
| Lead (Final Limit) (Ten years from effective date) | 2.1 µg/L | 3.7 µg/L |

| Parameter | Average Monthly | Maximum Daily ^d |
|--|-----------------|----------------------------|
| Zinc (Interim Limit) | 83.5 µg/L | 132.4 µg/L |
| Zinc (Final Limit) (Ten years from effective date) | 77.9 µg/L | 128 µg/L |
| Temperature (Interim Limit) | 21.6 degrees C | 24.8 degrees C |
| Temperature (Final Limit) (Ten years from effective date) | -- | 20.0 degrees C |
| PCBs | 170 pg/L | 341 pg/L |

Table 5: Effluent Limits: Dissolved Oxygen

| Parameter | Average Monthly | Minimum Daily ⁱ |
|---|-----------------|----------------------------|
| Dissolved Oxygen Interim Limit | 6.1 mg/L | 4.4 mg/L |
| Dissolved Oxygen Final Limit (Ten years from effective date) | 6.5 mg/L | 4.9 mg/L |

Table 6: Effluent Limits: pH

| Parameter | Minimum | Maximum |
|-----------------|--------------------|--------------------|
| pH ^f | 6.8 standard units | 8.5 standard units |

Table 7: Effluent Limits: TMDL WLA (March1-October31)

| Parameter | Seasonal Average ^e |
|---|--|
| Carbonaceous Biochemical Oxygen Demand (5-day) (CBOD ₅) | 45 lbs/day |
| Total Ammonia (as NH ₃ -N) | March 1 - May 31: 11.8 lbs/day June 1 - September 30: 3.0 lbs/day October 1 - 31: 11.8 lbs/day |
| Total Phosphorus | 0.45 lbs/day |

Table 2 - 7 Footnotes:

^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 discharges¹ measured during that week. See footnote c for bacteria calculations.

^c Ecology provides directions to calculate the monthly and the weekly geometric mean in Ecology [Publication No. 04-10-020, Information Manual for Treatment Plant Operators](https://apps.ecology.wa.gov/publications/SummaryPages/0410020.html) available online at <https://apps.ecology.wa.gov/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. For pollutants with limits expressed in units of mass, calculate the daily discharge as the total mass of the pollutant discharged over the day. This does not apply to pH or temperature.

^e Seasonal Average - compliance with the seasonal effluent limitation for CBOD₅, NH₃-N, and TP will be based on a seasonal average, reported on a monthly basis.

^f pH between 5.8 and 6.8, or 8.5 and 9.5 will not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 26 minutes per month. Any excursions below 5.8 and above 9.5 are violations. The instantaneous maximum and minimum pH shall be reported daily

^g pH between 5.8 and 6.8, or 8.5 and 9.5 will not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 26 minutes per month. Any excursions below 5.8 and above 9.5 are violations. The instantaneous maximum and minimum pH shall be reported daily.

^h Minimum daily effluent limit is the lowest allowable daily discharge concentration. The daily discharge is the minimum discharge of a pollutant measured during a calendar day.

S1.B. Land Treatment Limits

Beginning on the effective date of the permit, the Permittee is authorized to apply treated domestic wastewater to the designated land treatment site via spray irrigation not to exceed the agronomic rates for nitrogen and water, and at rates for any other wastewater constituents to protect background water quality.

The Permittee is authorized to apply treated domestic wastewater for final treatment on the following designated land treatment sites:

SW¼ of SW ¼ of section 10, Township 25 North, Range 45 E., Willamette Principal Meridian. The entire parcel is sized at 38.8 acres. The WRF sits on the west side of parcel. The area irrigated with treated effluent is used within the confines of the WRF fencing and includes:

Lawn area less than 4 acres

Drip lines supplying water to the trees that border the WRF along the fence line bordering I-90 exit W296, Harvard Road on the west and Indiana to the north.

Total nitrogen and water applied to the land treatment site must not exceed the crop requirements as determined by the Permittee's Irrigation and Crop Management O&M required in Special Condition S5.

The Permittee must operate the irrigated acreage in is such a manner as to:

Protect the existing and future beneficial uses of both groundwater and surface water.

Not cause a violation of the groundwater standards (chapter 173-200 WAC) or the surface water quality standards (chapter 173-201A WAC).

S1.C. Mixing zone authorization

Mixing zone for Outfall 001

The paragraphs below defines the maximum boundaries of the mixing zones.

Chronic mixing zone

The width of the chronic mixing zone is limited to a distance of 34 feet (10.4 meters). The length of the chronic mixing zone extends 100 feet (30.5 meters) upstream and 300 feet (91.4 meters) downstream of the outfall. 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 width of the acute mixing zone is limited to a distance of 7 feet (2.13 meters) in any horizontal direction from the outfall. The length of the acute mixing zone extends 10 feet (3.05 meters) upstream and 30 feet (9.14 meters) downstream of the outfall. 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.

Table 8: Available Dilution (dilution factor)

| Criteria | Factor |
|--|--------|
| Acute Aquatic Life Criteria | 3.7 |
| Chronic Aquatic Life Criteria | 41.4 |
| Human Health Criteria - Carcinogen | 135.7 |
| Human Health Criteria - Non-carcinogen | 57.6 |

S2. Monitoring requirements

S2.A. Monitoring schedule

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

Table 9: 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.

| Parameter | Units & Speciation | Minimum Sampling Frequency | Sample Type |
|-----------|-------------------------------|----------------------------|-------------|
| Flow | Million gallons per day (MGD) | Continuous ^a | Measurement |

| Parameter | Units & Speciation | Minimum Sampling Frequency | Sample Type |
|---|--------------------|----------------------------|--------------------------------|
| Carbonaceous Biochemical Oxygen Demand (CBOD ₅) | mg/L | 2/week ^b | 24-Hour Composite ^c |
| CBOD ₅ | lbs/day | 2/week ^b | Calculated ^d |
| Total Suspended Solids (TSS) | mg/L | 2/week ^b | 24-Hour Composite ^c |
| Total Suspended Solids (TSS) | lbs/day | 2/week ^b | Calculated ^d |
| Biochemical Oxygen Demand (BOD ₅) | mg/L | 1/month ^e | 24-Hour Composite ^c |
| BOD ₅ | lbs/day | 1/month ^e | Calculated ^d |
| Total PCBs ^{g, h} | pg/L | 2/year ⁱ | 24-Hour Composite ^c |
| Total PBDEs ^{g, h} | pg/L | 2/year ⁱ | 24-Hour Composite ^c |

Table 9 Footnotes:

^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 not be greater than 30 minutes. The Permittee must sample every 2 hours when continuous monitoring is not possible.

^b 2/week means two times during each calendar week except weekends and holidays.

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

^d Calculated means figured concurrently with the respective sample, using the following formula:
 Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34) = lbs/day

^e 1/month means once every calendar month during alternating weeks.

^f 2/month means twice every calendar month during alternate weeks.

^g Use high-resolution methods for evaluation and characterization of PCBs (Method 1668) and PBDEs (Method 1614).

^h Collect and test influent and effluent samples for PCBs and PBDEs in the same period.

ⁱ 2/year (or semiannual) means once in the winter and once in the summer. Samples should be collected in February and August each year.

Table 10: 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 BOD₅ analysis before or after the disinfection process. If taken after, the Permittee must dechlorinate and reseed the sample.

| Parameter | Units & Speciation | Minimum Sampling Frequency | Sample Type |
|-------------------------------------|------------------------|---|--------------------------------|
| Flow | MGD | Continuous ^a | Metered/Recorded |
| CBOD ₅ ^b | mg/L | 2/week ^{c,d} | 24-Hour Composite ^e |
| CBOD ₅ | lbs/day | 2/week ^{c,d} | Calculated ^f |
| BOD ₅ ^b | mg/L | 2/week ^c | 24-Hour Composite ^e |
| BOD ₅ | lbs/day | 2/week ^c | Calculated ^f |
| BOD ₅ | % removal ^g | 2/week ^c | Calculated |
| TSS | mg/L | 2/week ^c | 24-Hour Composite ^e |
| TSS | lbs/day | 2/week ^c | Calculated ^f |
| TSS | % removal ^g | 2/week ^c | Calculated |
| Total Ammonia as NH ₃ -N | mg/L | 2/week ^c | 24-Hour Composite ^e |
| Total Ammonia as NH ₃ -N | lbs/day | 2/week ^c | Calculated ^f |
| Total Phosphorus as P | µg/L | 2/week ^c | 24-Hour Composite ^e |
| Total Phosphorus as P | lbs/day | 2/week ^c | Calculated ^f |
| Nitrite/Nitrate as N | mg/L | 1/month ^h | 24-Hour Composite ^e |
| TKN as N | mg/L | 1/month ^h | 24-Hour Composite ^e |
| Soluble Reactive Phosphorus as P | µg/L | 1/month ^h | 24-Hour Composite ^e |
| Cyanide | µg/L | 1/month ^h | Grab ⁱ |
| Dissolved Oxygen ^{j,k} | mg/L | 5/week ^l | Grab ⁱ |
| Dissolved Oxygen ^m | mg/L | Continuous ^a Report daily minimum | Measurement |
| Fecal Coliform ^{n,o} | #/100 mL | 3/week ^p | Grab ⁱ |
| <i>E.coli</i> ⁿ | #/100 mL | 3/week ^p | Grab ⁱ |
| pH daily minimum ^q | Standard Units | Continuous ^a | Measurement |

| Parameter | Units & Speciation | Minimum Sampling Frequency | Sample Type |
|---------------------------------------|-------------------------|----------------------------|--------------------------------|
| pH daily maximum ^a | Standard Units | Continuous ^a | Measurement |
| Temperature | Degrees centigrade (°C) | Daily ^r | Grab ^{i, s} |
| Temperature 1DMax | °C | Continuous ^a | Measurement |
| 7-DAD Max Temperature ^t | °C | Daily | Calculated |
| Cadmium (Total Recoverable) | µg/L | 2/month ^u | 24-Hour Composite ^e |
| Lead (Total Recoverable) | µg/L | 2/month ^u | 24-Hour Composite ^e |
| Zinc (Total Recoverable) | µg/L | 2/month ^u | 24-Hour Composite ^e |
| Total Hardness as CaCO ₃ | mg/L | Quarterly ^v | 24-Hour Composite ^e |
| Total Alkalinity as CaCO ₃ | mg/L | Quarterly ^v | 24-Hour Composite ^e |
| Arsenic (Total Recoverable) | µg/L | Quarterly ^v | 24-Hour Composite ^e |
| Chromium (Total Recoverable) | µg/L | Quarterly ^v | 24-Hour Composite ^e |
| Nickel (Total Recoverable) | µg/L | Quarterly ^v | 24-Hour Composite ^e |
| Copper (Total Recoverable) | µg/L | Quarterly ^v | 24-Hour Composite ^e |
| Silver (Total Recoverable) | µg/L | Quarterly ^v | 24-Hour Composite ^e |
| Mercury | ng/L | Quarterly ^v | Grab ⁱ |
| Total PCBs ^{w,x} | pg/L | 2/year ^y | 24-Hour Composite ^e |
| Total PBDEs ^{w,x} | pg/L | 2/year ^y | 24-Hour Composite ^e |

Table 10 Footnotes:

^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 not be greater than 30 minutes. The Permittee must sample every 2 hours when continuous monitoring is not possible.

- ^b Take effluent samples for the CBOD₅ and BOD₅ analysis before or after the disinfection process.
- ^c 2/week means two times during each calendar week except weekends and holidays.
- ^d Sampling only required during the critical season March 1 – October 31.
- ^e 24-Hour Composite means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.
- ^f Calculated means figured concurrently with the respective sample, using the following formula:
Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34) = lbs/day
- ^g % removal = [(Influent concentration (mg/L) – Effluent concentration (mg/L)) / Influent concentration (mg/L)] x 100 Calculate the percent (%) removal of BOD₅ and TSS using the above equation.
- ^h 1/month means once every calendar month during alternating weeks.
- ⁱ Grab means an individual sample collected over a 15-minute, or less, period.
- ^j Report the minimum dissolved oxygen concentration daily.
- ^k Dissolve Oxygen grab sampling must occur when the effluent is at or near its daily maximum temperature, which usually occurs in the late afternoon.
- ^l 5/week means five times during each calendar week except weekends and holidays.
- ^m Dissolved Oxygen continuous monitoring must report lowest value daily.
- ⁿ Report a numerical value for fecal coliforms and E.coli following the procedures in Ecology's **Information Manual for Wastewater Treatment Plant Operators**, [Publication Number 04-10-020](#) available at <http://www.ecy.wa.gov/programs/wq/permits/guidance.html>. Do not report a result as too numerous to count (TNTC).
- ^o [Membrane filtration SM9222D](#). (http://edgeanalytical.com/wp-content/uploads/Micro_SM9222.pdf)
- ^p 3/week means three times during each calendar week except weekends and holidays
- ^q Report the daily pH and the minimum and maximum for the monitoring period.
- ^r Temperature once per day (Daily) must be taken when the temperature is highest and must be taken every day June 1-October 31 until continuous monitoring device is installed.
- ^s 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.
- ^t Calculate a 7-DAD Max for each day by averaging each days maximum temperature value with the values from the three days before and three days after.
- ^u 2/month means twice every calendar month during alternate weeks.
- ^v Quarterly sampling periods are January through March, April through June, July through September, and October through December.
- ^w Use high-resolution methods for evaluation and characterization of PCBs (Method 1668) and PBDEs (Method 1614).

^x Collect and test influent and effluent samples for PCBs and PBDEs in the same period.

^y 2/year (or semiannual) means once in the winter and once in the summer. Samples should be collected in February and August each year.

Table 11: DO, Alkalinity, and pH Receiving Water Sampling

Sampling must meet requirements in S14. Report data monthly into the WebPortal with the monthly DMR.

| Parameter | Units & Speciation | Minimum Sampling Frequency | Sample Type |
|---------------------------------|--------------------|----------------------------|-------------------|
| DO | mg/L | 2/month ^a | Grab ^b |
| pH | mg/L | 2/month ^a | Grab ^b |
| Alkalinity as CaCO ₃ | mg/L | Quarterly ^c | Grab ^b |

Table 11 Footnotes:

^a 2/month means twice every calendar month during alternate weeks.

^b Grab means an individual sample collected over a 15-minute, or less, period.

^c Quarterly sampling periods are January through March, April through June, July through September, and October through December.

Table 12: Whole effluent toxicity testing – final wastewater effluent

Additional requirements specified in Special Condition S15 &S16

| | Permit Section | Minimum Sampling Frequency | Sample Type |
|--------------------------|-------------------|--------------------------------------|--------------------------------|
| Acute Toxicity Testing | See Section S15.a | Quarterly in year three ^a | 24-Hour Composite ^b |
| Chronic Toxicity Testing | See Section S16.a | Quarterly in year three ^a | 24-Hour Composite ^b |

Table 12 Footnotes:

^a Quarterly sampling periods are January through March, April through June, July through September, and October through December.

^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.

Table 13: 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. **Submit permit renewal application monitoring results with the permit renewal application** as specified in Special Condition S8 as an attachment to the application form.

| Parameter | Units & Speciation | Minimum Sampling Frequency | Sample Type |
|---|---------------------------|----------------------------|---|
| Temperature | °C | Once per year ^a | Measurement |
| Oil and Grease | mg/L | Once per year ^b | Grab ^c |
| Total Dissolved Solids | mg/L | Once per year ^b | 24-Hour Composite ^d |
| Total Phenolic Compounds | µg/L | Once per year ^b | Grab ^c |
| Priority Pollutants (PP) – Total Metals | µg/L; ng/L for mercury | Once per year ^b | 24-Hour Composite ^d ; Grab for mercury ^c |
| PP – Volatile Organic Compounds | µg/L | Once per year ^b | Grab ^c |
| PP – Acid-extractable Compounds | µg/L | Once per year ^b | 24-Hour Composite ^d |
| PP – Base-neutral Compounds | µg/L | Once per year ^b | 24-Hour Composite ^d |
| PP – Pesticides | µg/L or ng/L | Once per year ^b | 24-Hour Composite ^d |
| PCBs | pg/L | Once per year ^b | 24-Hour Composite ^d |

Footnotes for Table 13:

- ^a Temperature samples: Sample once a year in a different quarter every year starting with the first quarter after issue. Start sampling in the July – September quarter, the next year would be October – December quarter, and so on.
- ^b Once per year means once in a different quarter each year. Sample once a year in a different quarter every year starting with the first quarter after issue.
- ^c Grab means an individual sample collected over a 15-minute, or less, period.
- ^d 24-Hour Composite means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.
- ^e PCB samples for renewal application use method 1668C.

Table 14: Temperature Receiving Water Study

| |
|---|
| Temperature Data – year round due to spawning in the Spokane River |
| Report receiving water daily maximum on monthly DMR. |

Table 15: Discharge to Land

| Parameter | Units & Speciation | Minimum Sampling Frequency | Sample Type |
|--------------------|-----------------------|---|--------------------------|
| Wastewater applied | Gallons per day (GPD) | Daily when discharging | Metered/Recorded |
| CBOD ₅ | lbs/acre/day | Weekly when irrigating with wastewater ^a | Calculation ^b |
| Total Nitrogen | lbs/acre/day | Weekly when irrigating with wastewater ^a | Calculation ^b |

Table 15 footnotes:

^a Use the M code for Conditional/Seasonal monitoring when not irrigating.

^b Calculate using method identified in the O&M Section S5.G.10.

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, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting 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 subchapter N [Parts 400–471] or 40 CFR subchapter O [Parts 501-503]) unless otherwise specified in this permit. Ecology may only specify alternative methods for parameters without limits and for those parameters without an EPA approved test method in 40 CFR Part 136.

S2.C. Flow measurement, field measurement, and continuous monitoring devices

The Permittee must:

1. Select and use appropriate flow measurement, field 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 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 according to the manufacturer's requirements.
4. Calibrate micro-recording temperature devices, known as thermistors, using protocols from [Publication No. 18-03-205, Ecology's Quality Assurance Project Plan Development Tool](#) (Standard Operating Procedures for Continuous Temperature Monitoring of Fresh Water Rivers and Streams Version 1.0 10/26/2011). This document is available online at <https://fortress.wa.gov/ecy/publications/documents/1803205.pdf>. 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](#) (<https://apps.leg.wa.gov/WAC/default.aspx?cite=173-50>). Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement. The Permittee must obtain accreditation for 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.

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

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 through March, April through June, July through September, and October through December.
- c. The Permittee must submit the first quarterly DMR on **XX/XX/XXXX** for the quarter beginning on **1/1/20XX 4/1/20XX 7/1/20XX 10/1/20XX**.
- d. **Submit annual DMRs**, unless otherwise specified in the permit, by January 15th for the previous calendar year. The annual sampling period is the calendar year.
- e. **Submit semiannual DMRs**, unless otherwise specified in the permit, by July 15th and January 15th of each year. Semiannual sampling periods are January through June, and July through December.
- f. **Submit bimonthly DMRs**, unless otherwise specified in the permit, by the 15th day of the month following the monitoring period. Bimonthly sampling periods are January through February, March through April, May through June, July through August, September through October, and November through December.
- g. Submit permit renewal application monitoring data with the permit renewal application; see Section S8.

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:
11. 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.
12. The detection value for those samples measured below detection.
13. 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.
14. 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.
15. 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 Program
Department of Ecology
Eastern Regional Office
4601 North Monroe Street
Spokane, WA 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.

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 30-days of sampling.

a. Immediate reporting

The Permittee must immediately report to Ecology and the Spokane County Regional Health District (at the numbers listed below), all:

- Failures of the disinfection system.
- Collection system overflows discharging to a waterbody used as a source for drinking water.
- Plant bypasses resulting in a discharge to a waterbody used as a source of drinking water.
- Any other failures of the sewage system (pipe breaks, etc.).

Ecology Eastern Regional Office (509) 329-3400

Spokane County Regional Health District (509) 324-1500

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 (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 and S1.B 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 WAC.

Instructions on how to report a spill are available on Ecology's 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 16: Design criteria

| Flow | Unit |
|---|---------------|
| Maximum Month Design Flow (MMDF) | 2.00 MGD |
| Peak Instantaneous Design Flow (PIDF) | 4.00 MGD |
| BOD ₅ Influent Loading for Maximum Month | 6,294 lbs/day |
| TSS Influent Loading for Maximum Month | 6,322 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)].

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 III plant must be in charge during all regularly scheduled shifts.

1. Submit an electronic copy of operator certification renewal card for the current operator in responsible charge **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. 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, 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.

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

1. 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, at least ten 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. **Update the Operations and Maintenance (O&M) Manual** that meets the requirements of 173-240-080 WAC and submit it to Ecology for review and approval by **one year from effective date**.
2. Review the O&M Manual at least annually.
3. Submit to Ecology for review and approval substantial changes or updates to the O&M Manual.
4. Keep the approved O&M Manual at the permitted facility.
5. 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 of [Ecology Publication No. 98-37](#), the **Criteria for Sewage Works Design (Orange Book) 2008**, available online at <https://apps.ecology.wa.gov/publications/documents/9837.pdf>.

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.
8. O&M for collection systems and pump stations including staffing levels required.
9. Irrigation plan that prevents exceedance of the agronomic capacity of the irrigated area.
10. Method for calculating the loading applied when irrigating wastewater.
11. Safety requirements to protect the public from wastewater used to irrigate the vegetation in the publicly accessible areas around the facility.

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 **Insert Date 2 years from effective date**. 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.

The Permittee must **update the industrial user survey** once every 2 years. The Permittee must submit the updated Industrial User Survey to Ecology by **Insert Date 4 years from effective date** and every two years thereafter. The updated survey must include a list of all new industrial users, as well as existing industrial users, which are known or discovered to have significantly altered processes or disposal practices since submittal of the last survey or survey update. For industrial users for which there are potentially significant non-domestic discharges, the Permittee must obtain and include in the report the minimum information described in the paragraph above for PSIUs.

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 **(insert date at least one year prior to expiration date)**.

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. 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.

S9. Compliance schedule

By the dates tabulated below, the Permittee must complete the following tasks and submit a report describing, at a minimum:

- Whether it completed the task and, if not, the date on which it expects to complete the task.
- The reasons for delay and the steps it is taking to return the project to the established schedule.

Table 17: Compliance Schedule

| | Tasks | Date Due |
|----|--|-------------------------------|
| 1. | Install continuous temperature thermistor on effluent; notify Ecology when complete. | 1 year from effective date |
| 2. | Install continuous dissolved oxygen meter; notify Ecology when complete | 1 year from effective date |
| 3. | Complete operational evaluation to identify operational changes to meet final limits for temperature, metals, and DO. Submit technical memo for the operational evaluation and actions taken to meet final temperature, metals, and DO limits. | 3 year from effective date |
| 4. | Engineering Report update to meet temperature, metals, and DO limits. | 4.5 years from effective date |

S10. Engineering documents

1. The Permittee must **prepare and submit an approvable engineering report** or facility plan in accordance with chapter 173-240 WAC to Ecology for review and approval by Insert date 4.5 years from effective date.
2. As required by RCW 90.48.112, the engineering report must address the feasibility of using reclaimed water as defined in RCW 90.46.010.
3. The report must contain any appropriate requirements as described in the following guidance:
 - a. [Criteria for Sewage Works Design \(Washington State Department of Ecology, Publication No. 98-37 WQ, 2008\)](#)
 (https://apps.ecology.wa.gov/publications/documents/9837.pdf)
 - b. [Design Criteria for Municipal Wastewater Land Treatment Systems for Public Health Protection \(Washington State Department of Health, 1994\)](#)
 https://ibis.geog.ubc.ca/courses/geob370/students/class06/vicsewage/References_files/municipal_land_treatment_design_criteria.pdf)

- c. [Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems \(Washington State Department of Ecology, Publication No. 93-36, 1993\)](#)

(<https://apps.ecology.wa.gov/publications/documents/9336.pdf>)

- d. [Water Reclamation and Reuse Standards \(Washington State Department of Ecology and Department of Health Publication No. 97-23, 1997\)](#)

(<https://apps.ecology.wa.gov/publications/documents/97023.pdf>)

S11. Spill control plan

S.A Spill control plan submittals and requirements

The Permittee must:

1. **Submit a Spill Control Plan** to Ecology for the prevention, containment, and control of spills or unplanned releases of pollutants by **3 years from effective date**.
2. Review the plan at least annually and update the spill plan as needed.
3. Send changes to the plan to Ecology.
4. 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.
5. 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.

S12. Mixing zone dye tracer study

S.A. General requirements

The Permittee must:

1. **Submit a Plan of Study** to Ecology for review by **6 months from effective date**, prior to initiation of the effluent mixing study.

2. Use the Guidance for Conducting Mixing Zone Analyses (Appendix C of Ecology's **Permit** Writer's Manual, 2018 [Permit Writer's Manual Appendices \(wa.gov\)](https://apps.ecology.wa.gov/publications/parts/92109part1.pdf) <https://apps.ecology.wa.gov/publications/parts/92109part1.pdf>) and the protocols identified in S12.C.
3. Include the results of the effluent mixing study in the Effluent Mixing Report and submit it to Ecology for approval by **4 years from effective date.**
4. If the results of the mixing study, toxicity tests, and chemical analysis indicate that the concentration of any pollutant(s) exceeds or has a reasonable potential to exceed the state water quality standards, chapter 173-201A WAC, Ecology may issue an administrative order to require a reduction of pollutants or modify this permit to impose effluent limits to meet the water quality standards.

S.B. Reporting requirements

The mixing zone study must include:

1. A statement confirming that AKART has been applied to the discharge.
2. A description of the size of the mixing zone allowed under chapter 173-201A WAC.
3. An analysis showing how mixing zones have been minimized using the lowest dilution from hydraulic limitations, width limitations, distance limitations and those predicted by the model.
4. A clear description of the critical conditions used for dilution factors:
 - a. For ambient freshwater (unidirectional flow) use 7Q10 flows for acute, chronic and non-carcinogenic pollutants, and harmonic flow for carcinogens.
 - b. Generally, use depth of outfall at 7Q10 flows (rivers). For assessing human health in freshwater, depths of outfall should be established at the applicable flow (e.g. harmonic mean flow or 30Q5 flows).
 - c. Use density profile that gives the lowest dilution. Evaluate both maximum and minimum stratification. For human health, use average density profiles to estimate dilution.
 - d. For unidirectional flow use centerline dilution factor for acute and chronic conditions, while flux average for human health dilution factors. For marine environment or rivers with reversing flows, use flux-average dilution factors for all conditions.
5. Diffuser information:
 - a. Location, orientation, description and dimension of diffusers and ports.
 - b. Port elevation above bottom and the depth of the diffuser/port below water surface based on either 7Q10 flow (for rivers) or MLLW (for marine or tidally-influenced river reaches).
 - c. Plan view maps showing the mixing zone size and dimensions in relation to the diffuser.
 - d. Schematic of waterbody cross-section, showing channel width, depth, and diffuser location in relation to shoreline and bottom.

- e. Report on the integrity of the diffuser and the ports being modeled.
- 6. Discharge characteristics:
 - a. Existing and projected maximum daily, maximum monthly average, and annual average flows.
 - b. Discharge density (temperature and salinity).
- 7. Ambient water characteristics:
 - a. Critical stream flow statistics (7Q10, 30Q5, harmonic flow) or marine current velocities (10th, 90th and 50th percentiles over a neap and spring tide and directions).
 - b. Velocity profile in the vicinity of the diffuser.
 - c. Temporal density (temperature and salinity) profiles near the diffuser. May need to consider both seasonal and tidal variability.
 - d. Manning's roughness coefficient, if used.
 - e. Available information regarding background concentrations of chemical substances in the receiving water for which there are criteria in chapter 173-201A WAC.
- 8. Model selection and results:
 - a. Model selection and application discussion. Consider model applicability to single or multiport diffuser, opposing port configuration, submerged, surface or above-surface discharge, buoyant or non-buoyant discharge, and potential plume attachment to boundaries.
 - b. Description of mixing and plume dynamics (nearfield, farfield, tidal buildup/reflux).
 - c. Sensitivity analysis.
 - d. Calibration to empirical data (tracer studies), if applicable.
 - e. Provide model output and summary table of results.

S.C. Protocols

The Permittee must determine the dilution ratio using protocols outlined in the following references, approved modifications thereof, or by another method approved by Ecology:

1. Doneker, R.L. and G.H. Jirka, [CORMIX User Manual: A Hydrodynamic Mixing Zone Model and Decision Support System for Pollutant Discharges into Surface Waters, EPA-823-K-07-001](#), Dec. 2007. (<http://www.mixzon.com/downloads/>).
2. [A complete list of general reference for CORMIX](#) is at <http://www.cormix.info/references.php>.
3. Frick, W.E., Roberts, P.J.W., Davis, L.R., Keyes, D.J., Baumgartner, George, K.P. 2003. [Dilution Models for Effluent Discharges, 4th Edition \(Visual Plumes\)](#). Ecosystems Research Div., USEPA, Athens, GA, USA. (<https://www.epa.gov/sites/default/files/documents/VP-Manual.pdf>).

4. Ecology, [Water Quality Program, Permit Writer's Manual](#). 2015. Washington State Department of Ecology. Publication No. 92-109, Revised January 2015. (<https://fortress.wa.gov/ecy/publications/documents/92109.pdf>).
5. Ecology, Guidance for conducting mixing zone analysis ([Appendix C, Water Quality Program, Permit Writer's Manual](#). 2015) (<https://fortress.wa.gov/ecy/publications/parts/92109part1.pdf>).
6. Kilpatrick, F.A., and E.D. Cobb, [Measurement of Discharge Using Tracers, Chapter A16, Techniques of Water-Resources Investigations of the USGS, Book 3, Application of Hydraulics](#), USGS, U.S. Department of the Interior, Reston, VA, 1985. (https://pubs.usgs.gov/twri/twri3-a16/pdf/TWRI_3-A16.pdf).
7. Wilson, J.F., E.D. Cobb, and F.A. Kilpatrick, [Fluorometric Procedures for Dye Tracing, Chapter A12, Techniques of Water-Resources Investigations of the USGS, Book 3, Application of Hydraulics](#), USGS, U.S. Department of the Interior, Reston, VA, 1986. (https://pubs.usgs.gov/twri/twri3-a12/pdf/TWRI_3-A12.pdf).

S13. Temperature receiving water study

The Permittee must collect information on the effluent and receiving water to provide data to help develop the total maximum daily load for the Spokane River.

The Permittee must:

1. **Submit an updated Sampling Quality Assurance Project Plan** for Ecology review and approval by **1 year from effective date**.
2. Conduct all sampling and analysis in accordance with the guidelines given in [Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies](#) available online at <https://apps.ecology.wa.gov/publications/documents/0403030.pdf>.

A model [Quality Assurance Plan specific for temperature](#) is available at <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance>.

3. Measure temperature in the ambient water upstream of the outfall year round due to spawning in the Spokane River.
4. Use micro-recording temperature devices known as thermistors to measure temperature. Ecology's [Quality Assurance Project Plan Development Tool](#) (Standard Operating Procedures for Continuous Temperature Monitoring of Fresh Water Rivers and Streams) contains protocols for continuous temperature sampling available online at <https://apps.ecology.wa.gov/publications/documents/1703201.pdf>.

Calibrate the devices as specified in this document unless using recording devices certified by the manufacturer. Ecology does not require manufacture-specific equipment as given in this document; however, if the Permittee wishes to use measuring devices from another company, it must demonstrate the accuracy is equivalent.

5. Set the recording devices to record at one-half-hour intervals.
6. Report temperature monitoring data as: daily maximum, seven-day running average of the daily maximums, and the monthly maximum of the seven-day running average. The model Quality Assurance Plan shows an example of these calculations.

7. **Submit the daily maximum temperature data for each month at the time of submittal of the discharge monitoring report.** Starting upon QAPP is approval.

S14. Conduct DO, pH, and alkalinity receiving water sampling

The Permittee must establish a sampling location in the receiving water upstream of the influence of the discharge.

The Permittee must:

1. **Submit a sampling and quality assurance plan** for Ecology review and approval by **one year from effective date**. Prepare all quality assurance plans in accordance with the guidelines given in [Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies, Ecology Publication 04-03-030](#) available at <https://fortress.wa.gov/ecy/publications/documents/0403030.pdf>.
2. Conduct all sampling and analysis in accordance with the approved quality assurance project plan at the frequencies identified in S2 Table 11.
 - a. Locate the receiving water sampling locations upstream and downstream, outside the zone of influence of the effluent.
 - b. Use sampling station accuracy requirements of ± 20 meters.
 - c. Time the sampling year round to capture seasonal variability.
 - d. Conduct all chemical analysis using the methods and the detection levels identified in Appendix A.
3. Start data collection and data reporting **one year from effective date** on monthly DMR.

S15. Acute toxicity

S.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 and once in the last winter in the third year of the permit cycle, 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 the ACEC 27 % effluent, 100 % effluent and a control.
3. Use each of the following species and protocols for each acute toxicity test:

Table 18: Acute Toxicity Tests

| 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 by **Insert Date (with the permit renewal application)**.

S.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 or grab 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 15. A Table 18 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 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 27% effluent.
8. 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.

S16. Chronic toxicity

S.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 and once in the last winter in the third year of the permit cycle, 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 27% effluent. The series of dilutions should also contain the CCEC of 2.4% effluent.
3. Compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-90/001.
4. **Submit the results** to Ecology **Insert Date** (with the permit renewal application).
5. Perform chronic toxicity tests with all of the following species and the most recent version of the following protocols:

Table 19: Freshwater Chronic Test

| Freshwater Chronic Test | Species | Method |
|--------------------------------------|----------------------------|--|
| Fathead minnow survival and growth | <i>Pimephales promelas</i> | EPA-821-R-02-013^a |
| Water flea survival and reproduction | <i>Ceriodaphnia dubia</i> | EPA-821-R-02-013^a |

Footnote for Table 19:

^a EPA-821-R-02-013 is available online at https://www.epa.gov/sites/default/files/2015-08/documents/short-term-chronic-freshwater-wet-manual_2002.pdf.

S.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 or grab 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 section S16 A Table 19 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 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 2.4% effluent. The ACEC equals 27% effluent.
8. 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.

S17. Spokane River Watershed Toxics Reduction Strategy

S17.A. Best Management Practices and Implementation Plan

The Permittee must **submit a Toxics Reduction Best Management Practices Plan (BMPs Plan)** to Ecology for review and approval by **XX/XX/XXXX (one year from effective date and annually thereafter)**. The BMPs must be implemented throughout the Permittee's sewer shed to reduce toxicant (PCBs and PBDEs) loading to both the treatment plant and the Spokane River.

The Permittee must use information generated from the most recent Toxics Management Plan developed during the previous permit cycle to continue the reduction strategy.

The BMP Plan must:

1. Identify actions to be taken
2. Include a method for assessing efficacy of the identified action(s)
3. Quantify toxic reductions as a result of the actions

The Plan must detail specific implementation actions used and refine their application annually based upon monitoring results. The Plan should include figures, maps, and other illustrations depicting BMP placement, use, and implementation.

The Permittee must **submit an updated Quality Assurance Project Plan (QAPP)** by **XX/XX/XXXX (one year from effective date)**. All monitoring for BMP effectiveness must use appropriately sensitive test methods. All sampling and analysis for the BMPs plan must be in accordance with the approved QAPP. All lab sheets and a spreadsheet of raw data should accompany submission of the annual BMP plan. The Permittee must upload data to the Environmental Information Management System (or other) database as it becomes available.

Prepare all quality assurance plans in accordance with the guidelines given in [Ecology Publication Number 04-03-030, Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies](#) available online at <https://apps.ecology.wa.gov/publications/SummaryPages/0403030.html>.

In addition to Permittee identified appropriate BMPs for the sewer shed, the Permittee must implement the following:

1. The continued source identification and removal actions for PCBs remaining within the Permittee's municipal wastewater sewer system.
2. Liberty Lake must operate tertiary membrane treatment year round.
3. Continuation of the public outreach and education effort.

S17.B. Community Based Toxics Reduction

The Permittee must continue to work with the Spokane River Regional Toxics Task Force to identify strategies for reducing toxics in the Spokane River Watershed. The Permittee must work with the Task Force to update the comprehensive plan to include toxics identified on the Water Quality 303 (d) list for the Spokane River (PCBs, and PBDEs) and identify actions required to meet applicable Water Quality Criteria.

DRAFT

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 for the 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 40 CFR 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 \$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 \$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 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 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 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 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 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 |

| Pollutant | CAS Number (if available) | Recommended Analytical Protocol | Detection (DL)¹ µg/L Unless specified | Quantitation Level (QL)² µg/L Unless specified |
|--------------------------------------|--------------------------------------|---|---|--|
| 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 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 |
| 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 |

| Pollutant | CAS Number (if available) | Recommended Analytical Protocol | Detection (DL)¹ µg/L Unless specified | Quantitation Level (QL)² µg/L Unless specified |
|---------------------------------------|--------------------------------------|--|---|--|
| 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-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)¹ µg/L Unless specified | Quantitation Level (QL)² 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 (Available Cyanide) | 121 | | SM4500-CN G | 5 | 10 |

| 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 |
|---------------------|------|---------------------------|---------------------------------|---|--|
| Phenols, Total | 65 | | EPA 420.1 | | 50 |

Acid Compounds

| 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 |
|--|------|---------------------------|---------------------------------|---|--|
| 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) ¹ µg/L Unless specified | Quantitation Level (QL) ² µg/L Unless specified |
|---------------------|------|---------------------------|---------------------------------|---|--|
| Acrolein | 2 | 107-02-8 | 624.1 | 5 | 10 |
| Acrylonitrile | 3 | 107-13-1 | 624.1 | 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 |
|---|------|---------------------------|---------------------------------|---|--|
| 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 |
| 1,3-dichloropropene (mixed isomers) | 33 | 542-75-6 | 624.1 | 5.0 | 15.0 |

| 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 |
|--|------|---------------------------|---------------------------------|---|--|
| (1,2-dichloropropylene) ⁶ | | | | | |
| 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) ¹ µg/L Unless specified | Quantitation Level (QL) ² 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 |

| 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 |
|--|------|---------------------------|---------------------------------|---|--|
| 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)fluoranthene⁷ | | 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 |

| 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 |
|---|------|---------------------------|---------------------------------|---|--|
| 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 |

| 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 |
|-----------------------------|------|---------------------------|---------------------------------|---|--|
| 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-Methylcholanthrene | | 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 |
| 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 |

Dioxin

| 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 |
|---|------|---------------------------|---------------------------------|--|---|
| 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) ¹ µg/L Unless specified | Quantitation Level (QL) ² 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 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 |

| 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 |
|-----------------------|------|---------------------------|---------------------------------|--|---|
| 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 |

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 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. **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-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.
10. **Bis(2-Chloro-1-Methylethyl) Ether** – This compound was previously listed as Bis(2-Chloroisopropyl) Ether (39638-32-9)