DEPARTMENT OF ECOLOGY
State of Washington

Issuance Date: February 16, 2018
Effective Date: April 1, 2018
Expiration Date: March 31, 2023

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM WASTE DISCHARGE PERMIT NO. WA0037061

State of Washington
DEPARTMENT OF ECOLOGY
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

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

State of Washington Reclaimed Water Act, Chapter 90.46 Revised Code of Washington, and

The Federal Water Pollution Control Act (The Clean Water Act)

Title 33 United States Code, Section 1342 et seq.

LOTT Clean Water Alliance
500 Adams Street Northeast
Olympia, Washington 98501-6911

And the Contributing Jurisdictions [a]

City of Lacey	City of Olympia	City of Tumwater	Thurston County
420 College St SE	PO Box 1967	555 Israel Road SW	2000 Lakeridge Dr SW
Lacey, WA 98503	Olympia, WA 98507	Tumwater, WA 98501	Olympia, WA 98502

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

Plant Location: 500 Adams Street Northeast Olympia, WA 98501 Treatment Type: Activated Sludge/Advanced Treatment and Class A Reclaimed Water	Receiving Water: Budd Inlet/South Puget Sound

Richard Doenges
Southwest Region Manager
Water Quality Program
Washington State Department of Ecology

[a] While the LOTT Clean Water Alliance is the primary Permittee and has day-to-day responsibility for the treatment plant and all permit conditions, except as otherwise noted, the cities of Lacey, Olympia, and Tumwater and Thurston County as contributing jurisdictions collectively share responsibility for permit issues involving the treatment plant and discharge, as well as being responsible for their respective collection systems and lift stations, and the discharge of waste from their systems to the LOTT system.

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SUMMARY OF PERMIT REPORT SUBMITTALS

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

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.	Discharge Monitoring Report (DMR)	Monthly	May 15, 2018
S3.A.	Permit Renewal Application Monitoring Data	Annually	January 15, 2020
S3.A.	Permit Renewal Application Monitoring Data	Quarterly	July 15, 2018
S3.A.	DMR - Priority Pollutant Data - Single Sample Data	Annually	January 15, 2020
S3.F.	Reporting Permit Violations	As necessary	
S4.B.	Plans for Maintaining Adequate Capacity	Annually	May 15, 2018
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S6.A.6.	Request to make changes to pretreatment program	As necessary	
S8.	Application for Permit Renewal	1/permit cycle	September 1, 2022
S9.A.	Sediment Baseline Sampling and Analysis Plan	1/permit cycle	April 30, 2019
S9.B.	Sediment Chemistry Analyses	1/permit cycle	December 31, 2020
S10.C.	Combined Sewer Overflow Report	Annually	May 15, 2018
S11.	Outfall Evaluation	1/permit cycle	March 31, 2020
S12.	Chronic Toxicity Effluent Test Results	Annually	December 31, 2018
R4.A.	Water Reuse Summary Plan	Annually	January 31, 2019
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G21.	Contract Submittal	As necessary	

SPECIAL CONDITIONS

S1. DISCHARGE LIMITS

A. Effluent Limits

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

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

Effluent Limits: Outfall 001 (North Outfall) & 002 (Fiddlehead Outfall) [a] **001: Latitude 47.05941 N Longitude -122.9064 W** **002: Latitude 47.05103 N Longitude -122.9057 W**		
Parameter	**Average Monthly [b]**	**Average Weekly [c]**
Winter Season Biochemical Oxygen Demand (5-day) (BOD_5) (November – March)	30 milligrams/liter (mg/L) 5640 pounds/day (lbs/day) 85% removal of influent BOD_5	45 mg/L 8460 lbs/day
Spring/Fall Season BOD_5 (April, May, & October)	8 mg/L 900 lbs/day 85% removal of influent BOD_5	12 mg/L 1350 lbs/day
Summer Season BOD_5 (June- September)	7 mg/L 671 lbs/day 85% removal of influent BOD_5	10.5 mg/L 1006 lbs/day
Total Suspended Solids (TSS)	30 mg/L 5265 lbs/day 85% removal of influent TSS	45 mg/L 7898 lbs/day
Spring/Fall Season Total Inorganic Nitrogen [d] (TIN) (April, May, & October)	3 mg/L, 338 lbs/day	
Summer Season Total Inorganic Nitrogen [d] (TIN) (June - September)	3 mg/L, 288 lbs/day	
Parameter	**Minimum**	**Maximum**
pH	6.0 Standard Units	9.0 Standard Units
Parameter	**Monthly Geometric Mean**	**Weekly Geometric Mean**
Fecal Coliform Bacteria [e]	200/100 milliliter (mL)	400/100 mL

Effluent Limits: Outfall 001 Only		
Parameter	**Average Monthly**	**Maximum Daily [f]**
Winter Season Total Ammonia (as N) (November – March)	26 mg/L	36 mg/L
Effluent Limits: Outfall 002 Only		
Parameter	**Average Monthly**	**Maximum Daily [f]**
Winter Season Total Ammonia (as N) (November – March)	22 mg/L	31 mg/L
Total Recoverable Copper	6 µg/L	7.5 µg/L

Effluent Limitations for Class A Reclaimed Water: See Condition R1	
a	Outfall 002 (Fiddlehead) is to be used in emergency situations only, except as described in S10.D.3.
b	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 e for fecal coliform calculations.
c	Average weekly discharge limit means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges' measured during that week. See footnote e for fecal coliform calculations.
d	Total Inorganic Nitrogen (TIN) is the sum of the inorganic forms of Nitrogen (Nitrate, Nitrite, and Ammonia) each reported as Nitrogen.
e	The Department of Ecology (Ecology) provides directions to calculate the monthly and the weekly geometric mean in publication No. 04-10-020, Information Manual for Treatment Plant Operators available at: http://www.ecy.wa.gov/pubs/0410020.pdf
f	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.

B. Mixing Zone Authorization

Mixing Zone for Outfall 001

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

Chronic Mixing Zone

The mixing zone is a series of overlapping circles with radius of 213 feet (64.9 meters) measured from the center of each discharge port. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the chronic zone must meet chronic aquatic life criteria and human health criteria.

Acute Mixing Zone

The acute mixing zone is a series of overlapping circles with radius of 21.3 feet (6.5 meters) measured from the center of each discharge port. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the acute zone must meet acute aquatic life criteria.

Available Dilution (dilution factor)	
Acute Aquatic Life Criteria	35.3
Chronic Aquatic Life Criteria	48.9
Human Health Criteria - Carcinogen	48.9
Human Health Criteria - Non-carcinogen	48.9

Mixing Zone for Outfall 002

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

Chronic Mixing Zone

The mixing zone is that portion of a circle with radius of 201 feet (61.3 meters) centered over the discharge point that does not impinge upon the shoreline. 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. The chronic dilution factor is 100.

Acute Mixing Zone

The acute mixing zone is a circle with radius of 20.1 feet (6.1 meters) measured from the center of each discharge port. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the acute zone must meet acute aquatic life criteria. The acute dilution factor is 3.

S2. MONITORING REQUIREMENTS

A. Monitoring Schedule

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

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
(1) Wastewater Influent			
Wastewater Influent means the raw sewage flow from the collection system into the treatment facility. Sample the wastewater entering the headworks of the treatment plant excluding any side-stream returns from inside the plant.			
Flow	MGD	Continuous [a]	Metered/Recorded
BOD_5	mg/L	3/week [b]	24-Hour Composite [c]
BOD_5	lbs/day	3/week [b]	Calculated [d]
TSS	mg/L	3/week [b]	24-Hour Composite [c]
TSS	lbs/day	3/week [b]	Calculated [d]
Total Ammonia	mg/L as N	3/week [b]	24-Hour Composite [c]
Total Ammonia	lbs/day as N	3/week [b]	Calculated [d]
(2) Final Wastewater Effluent			
Final Wastewater Effluent means wastewater exiting the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD_5 analysis before or after the disinfection process. If taken after, the Permittee must dechlorinate and reseed the sample.			
Flow	MGD	Continuous [a]	Metered/Recorded
BOD_5	mg/L	3/week [b]	24-Hour Composite [c]
BOD_5	lbs/day	3/week [b]	Calculated [d]
BOD_5	% removal	3/week [b]	Calculated [e]
TSS	mg/L	Daily	24-Hour Composite [c]
TSS	lbs/day	Daily	Calculated [d]
TSS	% removal	Daily	Calculated [e]
Fecal Coliform [f]	# /100 ml	Daily	Grab [g]
pH [h]	Standard Units	Daily	Grab [g]
Temperature [i]	Degrees centigrade (°C)	Daily	Measurement
Dissolved Oxygen	mg/L	Daily	Grab [g]

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Total Ammonia	mg/L as N	3/week [b]	24-Hour Composite [c]
Total Nitrate & Nitrite	mg/L as N	3/week [b]	24-Hour Composite [c]
Total Inorganic Nitrogen (TIN)	mg/L	3/week [b]	Calculation
TIN	lbs/day	3/week [b]	Calculation
Total Kjeldahl Nitrogen (TKN)	mg/L as N	3/week [b]	24-Hour Composite [c]
Total Recoverable Metals: Copper, Lead, Nickel, Silver, & Zinc	micrograms/liter (µg/L)	Monthly [j]	24-Hour Composite [c]
(3) Whole Effluent Toxicity Testing – Final Wastewater Effluent			
Chronic Toxicity Testing		Annually	24-Hour Composite [c]
Additional requirements specified in Special Condition S12.			
(4) Pretreatment			
As specified in Special Condition S6.			
(5) Effluent Characterization – Final Wastewater Effluent			
Total Phosphorus	mg/L as P	Monthly [j]	24-Hour Composite [c]
Soluble Reactive Phosphorus	mg/L as P	Monthly [j]	24-Hour Composite [c]
(6) 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.			
Oil and Grease	mg/L	Quarterly [k]	Grab [g]
Total Dissolved Solids	mg/L	Once per year	24-Hour Composite [c]
Total Hardness	mg/L	Once per year	24-Hour Composite [c]
Cyanide	µg/L	Quarterly [k]	Grab [g]
Total Phenolic Compounds	µg/L	Quarterly [k]	Grab [g]

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Priority Pollutants (PP) – Total Metals	µg/L; nanograms (ng/L) for mercury	Quarterly [k]	24-Hour Composite [c] Grab for Mercury
PP – Volatile Organic Compounds	µg/L	Once per year [l]	Grab [g]
PP – Acid-extractable Compounds	µg/L	Once per year [l]	24-Hour Composite [c]
PP – Base-neutral Compounds	µg/L	Once per year [l]	24-Hour Composite [c]
(7) Sediment Study			
As specified in Special Condition S9.			
(8) Reclaimed Water			
As specified in Permit Condition R2.			

a	Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes.
b	Three (3)/week means three times during each calendar week
c	Twenty-four (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	% removal = Influent concentration (mg/L) – Effluent concentration (mg/L) x 100 Influent concentration (mg/L) Calculate the percent (%) removal of BOD_5 and TSS using the above equation.
f	Report a numerical value for fecal coliforms 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).
g	Grab means an individual sample collected over a 15 minute, or less, period.
h	Report the daily pH and the minimum and maximum for the monitoring period.
i	Temperature grab sampling must occur when the effluent is at or near its daily maximum temperature, which usually occurs in the late afternoon. If measuring temperature continuously, the Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.

Parameter		Units & Speciation	Minimum Sampling Frequency	Sample Type
j	Monthly means once every calendar month.			
k	Quarterly sampling periods are January through March, April through June, July through September, and October through December. The Permittee must begin quarterly monitoring **starting April 1, 2017.**			
l	Once per year is defined as once per calendar year (January through December), **starting January 1, 2018**.			

B. Combined Sewer Overflow (CSO) Monitoring Schedule

The Permittee must monitor all discharges from CSO outfalls listed in Special Condition S10 using the following monitoring schedule. Permittees must use automatic flow monitoring equipment to collect the information required below. Permittee must calibrate flow monitoring equipment according to requirements in Condition S2.C.

Parameter	Units	Minimum Sampling Frequency	Sample Type
CSO discharge is defined as any untreated CSO which will exit or has exited the CSO outfall.			
Volume Discharged	Gallons	Per Event [c]	Measurement/ Calculation [a, b]
Discharge Duration	Hours	Per Event [c]	Measurement
Storm Duration	Hours	Per Event [d]	Measurement
Precipitation	Inches	Per Event [c]	Measurement/ Calculation [b]
Total Ammonia	mg/L as N	Per Event [c]	Grab
Total Recoverable Copper	µg/L	Per Event [c]	Grab

Footnotes for CSO Monitoring:

a	Flow measurement must be continuous, except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. During periods of interrupted service, a calculation may be used to estimate the discharge volume. An explanation must be provided in the monthly DMR for all disruptions in flow measurement.
b	"Measurement/Calculation" means the total volume of the discharge or amount of precipitation event as estimated by direct measurement or indirectly by calculation (i.e. flow weirs, pressure transducers, tipping bucket). Precipitation must be measured by the nearest possible precipitation-measuring device and actively monitored during the period of interest.

	Parameter	Units	Minimum Sampling Frequency	Sample Type
c	"Per Event" means a unique flow event as defined in the Permit Writer's Manual. Ecology defines the minimum inter-event period (MIET) as 24 hours. A CSO event is considered to have ended only after at least 24 hours has elapsed since the last measured occurrence of an overflow.			
d	Storm duration is the amount of total time when precipitation occurred that contributed to a discharge event. It is determined on a case-by-case basis.			

C. Sampling and Analytical Procedures

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

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

D. 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 Operation and Maintenance (O&M) Manual procedures for the device and the wastestream.

3. Calibrate continuous monitoring instruments weekly unless it can demonstrate a longer period is sufficient based on monitoring records. The Permittee:

   a. May calibrate apparatus for continuous monitoring of dissolved oxygen by air calibration.

   b. Must calibrate continuous pH measurement instruments using a grab sample analyzed in the lab with a pH meter calibrated with standard buffers and analyzed within 15 minutes of sampling.

   c. Must calibrate continuous chlorine measurement instruments using a grab sample analyzed in the laboratory within 15 minutes of sampling.

4. Calibrate micro-recording temperature devices, known as thermistors, using protocols from 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: http://www.ecy.wa.gov/programs/eap/qa/docs/ECY_EAP_SOP_Cont_Temp_Mon_Ambient_v1_0EAP080.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.

E. Laboratory Accreditation

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

S3. REPORTING AND RECORDING REQUIREMENTS

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

A. Discharge Monitoring Reports

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

1. Summarize, report, and submit monitoring data obtained during each monitoring period on the electronic Discharge Monitoring Report (DMR) form provided by Ecology within the Water Quality Permitting Portal. Include data for each of the parameters tabulated in Special Condition S2 and as required by the form. Report a value for each day sampling occurred (unless specifically exempted in the permit) and for the summary values (when applicable) included on the electronic form.

   To find out more information and to sign up for the Water Quality Permitting Portal go to: http://www.ecy.wa.gov/programs/wq/permits/paris/webdmr.html

2. Enter the "No Discharge" reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not discharge wastewater or a specific pollutant during a given monitoring period.

3. Report single analytical values below detection as "less than the detection level (DL)" by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR. If the method used did not meet the minimum DL and quantitation level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.

4. **Do Not** report zero for bacteria monitoring. Report as required by the laboratory method.

5. Calculate and report an arithmetic average value for each day for bacteria if multiple samples were taken in one day.

6. Calculate the geometric mean values for bacteria (unless otherwise specified in the permit) using:

   a. The reported numeric value for all bacteria samples measured above the detection value except when it took multiple samples in one day. If the Permittee takes multiple samples in one day it must use the arithmetic average for the day in the geometric mean calculation.

   b. The detection value for those samples measured below detection.

7. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in Appendix A.

8. Calculate average values and calculated total values (unless otherwise specified in the permit) using:

   a. The reported numeric value for all parameters measured between the agency-required detection value and the agency-required quantitation value.

   b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample from the same monitoring point for the reporting period.

   c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.

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

   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.

10. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.

11. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below. The Permittee must:

    a. Submit **monthly** DMRs by the 15th day of the following month.

B. Permit Submittals and Schedules

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

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

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

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.

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.

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.

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 Department of Health, Shellfish Program (at the numbers listed below), all:

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

Southwest Regional Office	360-407-6300
Department of Health, Shellfish Program	360-236-3330 (business hours) 360-789-8962 (after business hours)

b. Twenty-Four-Hour Reporting

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

1. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.

2. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part S5.F, "Bypass Procedures").

3. Any upset that causes an exceedance of an effluent limit in the permit (See G.15, "Upset").

4. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.

5. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limit in the permit.

c. Report Within Five Days

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

1. A description of the noncompliance and its cause.

2. The period of noncompliance, including exact dates and times.

3. The estimated time the Permittee expects the noncompliance to continue if not yet corrected.

4. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

5. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of Written Reports

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

e. All Other Permit Violation Reporting

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

compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

G. Other Reporting

1. Spills of Oil or Hazardous Materials

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

2. 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.

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

A. Design Criteria

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

Maximum Month Design Flow (MMDF)	28 MGD
Maximum Day Design Flow	55 MGD
Peak Hourly Design Flow	64 MGD
BOD_5 Influent Loading for Maximum Month	37,600 lbs/day
TSS Influent Loading for Maximum Month	35,100 lbs/day

B. Plans for Maintaining Adequate Capacity

The Permittee must continue following the Highly Managed Plan as described in the 1998 LOTT Wastewater Resource Management Plan. The Permittee shall submit to Ecology an annual capacity assessment report and the latest Capital Improvements Plan (CIP), in accordance with the 1998 LOTT Wastewater Resource Management Plan, by **May 15, 2018,** and **annually** thereafter. The plan shall include a schedule for continuing to maintain system capacity at the facilities sufficient to achieve the effluent limitations, reclaimed water standards, and other conditions of this permit. The schedule shall also include achieving wasteload allocations once the Budd Inlet Total Maximum Daily Load (TMDL) is approved by EPA.

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. A description of compliance or noncompliance with the permit effluent limits.

2. A comparison between the existing and design:

   a. Monthly average dry weather and wet weather flows

   b. Peak flows

   c. BOD_5 loading

   d. Total Suspended Solids loadings

3. The percent change in the above parameters since the previous report.

4. The present and design population or population equivalent.

5. The projected population growth rate.

6. The estimated date upon which the Permittee expects the wastewater treatment plant to reach design capacity, according to the most restrictive of the parameters above.

7. Proposed process modifications

8. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system

9. Limits on future sewer extensions or connections or additional wasteloads

10. Modification or expansion of facilities

11. Reduction of industrial or commercial flows or wasteloads

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.

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.

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 wasteload, 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)].

E. Infiltration and Inflow Evaluation

1. The Permittee must annually conduct an infiltration and inflow evaluation for sub-basins of the collection system so that the entire system is evaluated at least once every seven years. Refer to the U.S. EPA publication, I/I Analysis and Project Certification, available as Publication No. 97-03 at: http://www.ecy.wa.gov/programs/wq/permits/guidance.html

2. The Permittee may use monitoring records to assess measurable infiltration and inflow.

3. The Permittee must prepare a report summarizing any measurable infiltration and inflow. If infiltration and inflow have increased by more than 15 percent from that found in the sub-basin previously, based on equivalent rainfall, the report must contain a plan and a schedule to locate the sources of infiltration and inflow and to correct the problem.

4. The Permittee must submit a report summarizing the results of the evaluation and any recommendations for corrective actions by **May 15, 2018**, and **annually** thereafter.

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.

A. Certified Operator

This permitted facility must be operated by an operator certified by the state of Washington for at least a Class 4 plant. This operator must be in responsible charge of the day-to-day operation of the LOTT system of treatment and reclamation plants. An operator certified for at least a Class 3 plant must be in charge during all regularly scheduled shifts when

process changes are made. The Permittee must notify Ecology when the operator in charge at the facility changes. It must provide the new operator's name and certification level and provide the name of the operator leaving the facility.

B. Operation and Maintenance (O&M) Program

The Permittee must:

1. Institute an adequate operation and maintenance program for the entire sewage system.

2. Keep maintenance records on all major electrical and mechanical components of the treatment plant, as well as the sewage system and pumping stations. Such records must clearly specify the frequency and type of maintenance recommended by the manufacturer and must show the frequency and type of maintenance performed.

3. Make maintenance records available for inspection at all times.

C. Short-Term Reduction

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

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

1. Give written notification to Ecology, if possible, 30 days prior to such activities.

2. Detail the reasons for, length of time of, and the potential effects of the reduced level of treatment.

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

D. Electrical Power Failure

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

The Permittee must maintain Reliability Class II (EPA 430-99-74-001) at the wastewater treatment plant. Reliability Class II requires a backup power source sufficient to operate all vital components and critical lighting and ventilation during peak wastewater flow conditions. Vital components used to support the secondary processes (i.e., mechanical aerators or aeration basin air compressors) need not be operable to full levels of treatment, but must be sufficient to maintain the biota.

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.

F. Bypass Procedures

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

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

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

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

   This permit authorizes such a bypass only if:

   a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

   b. No feasible alternatives to the bypass exist, such as:

      - The use of auxiliary treatment facilities.
      - Retention of untreated wastes.
      - Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass.
      - Transport of untreated wastes to another treatment facility.

   c. Ecology is properly notified of the bypass as required in Special Condition S3.F of this permit.

3. If bypass is anticipated and has the potential to result in noncompliance of this permit.

a. The Permittee must notify Ecology at least 30 days before the planned date of bypass. The notice must contain:

- A description of the bypass and its cause.
- An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.
- A cost-effectiveness analysis of alternatives including comparative resource damage assessment.
- The minimum and maximum duration of bypass under each alternative.
- A recommendation as to the preferred alternative for conducting the bypass.
- The projected date of bypass initiation.
- A statement of compliance with State Environmental Policy Act (SEPA).
- A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.
- Details of the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

b. For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during the project planning and design process. The project-specific engineering report or facilities plan as well as the plans and specifications must include details of probable construction bypasses to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.

c. Ecology will consider the following prior to issuing an administrative order for this type of bypass:

- If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
- If feasible alternatives to bypass exist, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.

- If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.

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

G. Operations and Maintenance (O&M) Manual

1. O&M Manual Requirements

The Permittee must:

a. Maintain an O&M Manual that meets the requirements of 173-240-080 WAC.

b. Review the O&M Manual at least annually.

c. Submit to Ecology for review substantial changes or updates to the O&M Manual whenever it incorporates them into the Manual.

d. Keep the approved O&M Manual available at the permitted facility.

e. Follow the instructions and procedures of this manual.

2. O&M Manual Components

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

a. Emergency procedures for cleanup in the event of wastewater system upset or failure.

b. 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.

c. Wastewater system maintenance procedures that contribute to the generation of process wastewater.

d. Reporting protocols for submitting reports to Ecology to comply with the reporting requirements in the discharge permit.

e. 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).

f. The treatment plant process control monitoring schedule.

g. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.

S6. PRETREATMENT

A. General Requirements

1. The Permittee must implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the Permittee's approved pretreatment program submittal entitled "Industrial Pretreatment Program" and dated November 1999; any approved revisions thereto; and the General Pretreatment Regulations (40 CFR Part 403). At a minimum, the Permittee must undertake the following pretreatment implementation activities:

a. Enforce categorical pretreatment standards under Section 307(b) and (c) of the Federal Clean Water Act (hereinafter, the Act), prohibited discharge standards as set forth in 40 CFR 403.5, local limits specified in Section 2 of the LOTT Discharge and Industrial Pretreatment Regulations, and as codified in the following enabling ordinances: Lacey Ordinance 994, Olympia Ordinance 5462, Tumwater Ordinance 094-032, and Thurston County Ordinance 10750, or state standards, whichever are most stringent or apply at the time of issuance or modification of a local industrial waste discharge permit. Locally-derived limits are defined as pretreatment standards under Section 307(d) of the Act and are not limited to categorical industrial facilities.

b. Issue industrial waste discharge permits to all significant industrial users [SIUs, as defined in 40 CFR 403.3(v)(i)(ii)] contributing to the treatment system, including those from other jurisdictions. Industrial waste discharge permits must contain, as a minimum, all the requirements of 40 CFR 403.8 (f)(l)(iii). The Permittee must coordinate the permitting process with Ecology regarding any industrial facility that may possess a State Waste Discharge Permit issued by Ecology. Once issued, an industrial waste discharge permit takes precedence over a state-issued waste discharge permit.

c. Maintain and update, as necessary, records identifying the nature, character, and volume of pollutants contributed by industrial users to the POTW. The Permittee must maintain records for at least a three-year period.

d. Perform inspections, surveillance, and monitoring activities on industrial users to determine or confirm compliance with pretreatment standards and requirements. The Permittee must conduct a thorough inspection of SIUs annually. The Permittee must conduct regular local monitoring of SIU wastewaters commensurate with the character and volume of the wastewater but not less than once per year. The Permittee must collect and analyze samples in accordance with 40 CFR Part 403.12(b)(5)(ii)-(v) and 40 CFR Part 136.

e. Enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements. Once it identifies violations, the Permittee must take timely and appropriate enforcement action to address the noncompliance. The Permittee's action must follow its enforcement response procedures and any amendments, thereof.

f. Publish, at least annually in the largest daily newspaper in the Permittee's service area, a list of all non-domestic users which, at any time in the previous 12 months, were in significant noncompliance as defined in 40 CFR 403.8(f)(2)(vii).

g. If the Permittee elects to conduct sampling of an SIU's discharge in lieu of requiring user self-monitoring, it must satisfy all requirements of 40 CFR Part 403.12. This includes monitoring and record keeping requirements of Sections 403.12(g) and (o). For SIUs subject to categorical standards (CIUs), the Permittee may either complete baseline and initial compliance reports for the CIU [when required by 403.12(b) and (d)] or require these of the CIU. The Permittee must ensure that it provides SIUs the results of sampling in a timely manner, inform SIUs of their right to sample, their obligations to report any sampling they do, to respond to non-compliance, and to submit other notifications. These include a slug load report [403.12(f)], notice of changed discharge [403.12(j)], and hazardous waste notifications [403.12(p)]. If sampling for the SIU, the Permittee must not sample less than once in every six-month period unless the Permittee's approved program includes procedures for reduction of monitoring for Middle-Tier or Non-Significant Categorical Users per 403.12(e)(2) and those procedures have been followed.

h. Develop and maintain a data management system designed to track the status of the Permittee's industrial user inventory, industrial user discharge characteristics, and compliance status.

i. Maintain adequate staff, funds, and equipment to implement its pretreatment program.

j. Establish, where necessary, contracts or legally binding agreements with contributing jurisdictions to ensure compliance with applicable pretreatment requirements by commercial or industrial users within these jurisdictions. These contracts or agreements must identify the agency responsible to perform the various implementation and enforcement activities in the contributing jurisdiction. In addition, the Permittee must develop a Memorandum of Understanding (or Inter-local Agreement) that outlines the specific roles, responsibilities, and pretreatment activities of each jurisdiction.

2. The Permittee must implement the Accidental Spill Prevention Program described in the approved Industrial Pretreatment Program dated November 1999, or any approved revisions thereto.

3. The Permittee must evaluate, at least once every two years, whether each Significant Industrial User needs a plan to control slug discharges. For purposes of this section, a slug discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or non-customary batch discharge. The Permittee must make the results of this evaluation available to Ecology upon request. If the Permittee decides that a slug control plan is needed, the plan must contain, at a minimum, the following elements:

   a. Description of discharge practices, including non-routine batch discharges.

   b. Description of stored chemicals.

   c. Procedures for immediately notifying the Permittee of slug discharges, including any discharge that would violate a prohibition under 40 CFR 403.5(b), with procedures for follow-up written notification within five days.

   d. If necessary, procedures to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents), and/or measures and equipment necessary for emergency response.

4. Whenever Ecology determines that any waste source contributes pollutants to the Permittee's treatment works in violation of Section (b), (c), or (d) of Section 307 of the Act, and the Permittee has not taken adequate corrective action, Ecology will notify the Permittee of this determination. If the Permittee fails to take appropriate enforcement action within 30 days of this notification, Ecology may take appropriate enforcement action against the source or the Permittee.

6. Pretreatment Report

   The Permittee must provide to Ecology an annual report that briefly describes its program activities during the previous calendar year.

   The Permittee must submit the annual report to Ecology by **March 1st**. The Report must include the following information:

   a. An updated non-domestic inventory.

   b. Results of wastewater sampling at the treatment plant as specified in S6.B. The Permittee must calculate removal rates for each pollutant and evaluate the adequacy of the existing local limits in Section 2 of the LOTT Discharge and Industrial Pretreatment Regulations in prevention of treatment plant interference, pass through of pollutants that could affect receiving water quality, and sludge contamination.

   c. Status of program implementation, including:

- Any substantial modifications to the pretreatment program as originally approved by Ecology, including staffing and funding levels.

- Any interference, upset, or permit violations experienced at the Publically Owned Treatment Works (POTW) that are directly attributable to wastes from industrial users.

- Listing of industrial users inspected and/or monitored, and a summary of the results.

- Listing of industrial users scheduled for inspection and/or monitoring for the next year, and expected frequencies.

- Listing of industrial users notified of promulgated pretreatment standards and/or local standards as required in 40 CFR 403.8(f)(2)(iii). The list must indicate which industrial users are on compliance schedules and the final date of compliance for each.

- Listing of industrial users issued industrial waste discharge permits.

- Planned changes in the approved local pretreatment program. (See Subsection A.7. below)

d. Status of compliance activities, including:

- Listing of industrial users that failed to submit baseline monitoring reports or any other reports required under 40 CFR 403.12 and in Section 6 of the Permittee's pretreatment program, dated February 13, 2008.

- Listing of industrial users that were at any time during the reporting period not complying with federal, state, or local pretreatment standards or with applicable compliance schedules for achieving those standards, and the duration of such noncompliance.

- Summary of enforcement activities and other corrective actions taken or planned against non-complying industrial users. The Permittee must supply to Ecology a copy of the public notice of facilities that were in significant noncompliance.

7. The Permittee must request and obtain approval from Ecology before making any significant changes to the approved local pretreatment program. The Permittee must follow the procedure in 40 CFR 403.18 (b) and (c).

B. Monitoring Requirements

The Permittee must:

1. Monitor its influent, effluent, and sludge for the priority pollutants identified in Tables II and III of Appendix D of 40 CFR Part 122 as amended, any compounds identified because of Special Condition S6.B.4, and any other pollutants expected from non-domestic sources using U.S. EPA-approved procedures for collection, preservation, storage, and analysis.

2. Test Influent, Effluent, and Sludge samples for the Priority Pollutant Metals, Cyanide, and Phenols (Table III, 40 CFR 122, Appendix D) on a quarterly basis throughout the term of this permit.

3. Test Influent, Effluent, and Sludge samples for the Organic Priority Pollutants (Table II, 40 CFR 122, Appendix D) on an annual basis. The Permittee may use the data collected for application purposes using Appendix A test methods to meet this requirement.

4. Sample POTW influent and effluent on a day when industrial discharges are occurring at normal-to-maximum levels.

5. Obtain 24-hour composite samples for the analysis of acid and base/neutral extractable compounds and metals.

6. Collect grab samples at equal intervals for a total of four grab samples per day for the analysis of volatile organic compounds. The laboratory may run a single analysis for volatile pollutants (Method 624) for each monitoring day by compositing equal volumes of each grab sample directly in the GC purge and trap apparatus in the laboratory, with no less than 1 mL of each grab included in the composite.

7. Ensure that all reported test data for metals represents the total amount of the constituents present in all phases, whether solid, suspended, or dissolved elemental or combined, including all oxidation states unless otherwise indicated.

8. Handle, prepare, and analyze all wastewater samples taken for GC/MS analysis in accordance with the U.S. EPA Methods 624 and 625 (October 26, 1984).

9. Collect a sludge sample concurrently with a wastewater sample as a single grab of residual sludge. Sludge organic priority pollutant sampling and analysis must conform to U.S. EPA Methods 624 and 625 unless the Permittee requests an alternate method and Ecology has approved. Sludge Metals Priority Pollutant sampling and analysis must conform to U.S. EPA SW 846 6000/7000 Series Methods unless the Permittee requests an alternate method and Ecology has approved.

10. Collect grab samples for Cyanide, Phenols, and Oils. Measure Hexane Soluble Oils (or equivalent) only in the influent and effluent.

11. Make a reasonable attempt to identify all other substances and quantify all pollutants shown to be present by gas chromatograph/mass spectrometer (GC/MS) analysis per 40 CFR 136, Appendix A, Methods 624 and 625, in addition to quantifying pH, Oil and Grease, and all Priority Pollutants.

    The Permittee should attempt to make determinations of pollutants for each fraction, which produces identifiable spectra on total ion plots (reconstructed gas chromatograms). The Permittee should attempt to make determinations from all peaks with responses 5 percent or greater than the nearest internal standard. The 5 percent value is based on internal standard concentrations of 30 µg/L, and must be adjusted downward if higher internal standard concentrations are used or adjusted upward if lower internal standard concentrations are used. The Permittee may express results for non-substituted aliphatic compounds as total hydrocarbon content.

12. Use a laboratory whose computer data processing programs are capable of comparing sample mass spectra to a computerized library of mass spectra, with visual confirmation by an experienced analyst.

13. Conduct additional sampling and appropriate testing to determine concentration and variability, and to evaluate trends for all detected substances determined to be pollutants.

C. Reporting of Monitoring Results

The Permittee must include a summary of monitoring results in the Annual Pretreatment Report.

D. Local Limit Development

As sufficient data become available, the Permittee, in consultation with Ecology, must reevaluate its local limits in order to prevent pass through or interference. If Ecology determines that any pollutant present causes pass through or interference, or exceeds established sludge standards, the Permittee must establish new local limits or revise existing local limits as required by 40 CFR 403.5. Ecology may also require the Permittee to revise or establish local limits for any pollutant discharged from the POTW that has a reasonable potential to exceed the Water Quality Standards, Sediment Standards, or established effluent limits, or causes whole effluent toxicity. Ecology makes this determination in the form of an Administrative Order.

Ecology may modify this permit to incorporate additional requirements relating to the establishment and enforcement of local limits for pollutants of concern. Any permit modification is subject to formal due process procedures under state and federal law and regulation.

S7. SOLID WASTES

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.

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 **September 1, 2022.**

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. SEDIMENT MONITORING

A. Sediment Sampling and Analysis Plan

The Permittee must submit to Ecology for review and approval a Sediment Sampling and Analysis Plan for Sediment Monitoring by **April 30, 2019**. The purpose of the Plan is to recharacterize sediment (the nature and extent of chemical contamination and biological toxicity) quality in the vicinity of the Permittee's discharge locations. The Permittee must follow the guidance provided in the *Sediment Cleanup Users Manual II*, Appendix A: Sampling Guidance for NPDES Permits under the Sediment Management Standards (Ecology, 2015).

B. Sediment Data Report

Following Ecology approval of the Sediment Sampling and Analysis Plan, the Permittee must collect sediments between August 15th and September 15th. The Permittee must submit to Ecology a Sediment Data Report containing the results of the sediment sampling and analysis no later than **December 31, 2020**. The sediment data report must conform to the approved sediment sampling and analysis plan. The report must document when the data was successfully loaded into EIM as required below.

In addition to a Sediment Data Report, submit the sediment chemical and biological data to Ecology's EIM database (http://www.ecy.wa.gov/eim/). Data must be submitted to EIM according to the instructions on the EIM website. The data submittal portion of the EIM website (http://www.ecy.wa.gov/eim/submitdata.htm) provides information and help on formats and requirements for submitting tabular data.

S10. COMBINED SEWER OVERFLOWS

A. Authorized Combined Sewer Overflow (CSO) Discharge Locations

Beginning on the effective date of this permit, the Permittee may discharge domestic wastewater from the following list of CSO outfalls which represent occasional point

sources of pollutants as a result of overloading of the combined sewer system during precipitation events. The permit prohibits discharges not caused by precipitation. This permit does not authorize a discharge from a CSO that causes adverse impacts that threaten characteristic uses of the receiving water as identified in the water quality standards, chapter 173-201A WAC.

Outfall Number	CSO Location	Receiving Water Body	Latitude	Longitude
002	Fiddlehead Outfall	Budd Inlet	47.05103 N	-122.90567 W

B. Nine Minimum Controls

In accordance with chapter 173-245 WAC and US EPA CSO control policy (59 FR 18688), the Permittee must implement and document the following nine minimum controls (NMC) for CSOs. The Permittee must document compliance with the NMC in the annual CSO report as required in Special Condition S10.B.

The Permittee must comply with the following technology-based requirements; the Permittee must:

1. Implement proper operation and maintenance programs for the sewer system and all CSO outfalls to reduce the magnitude, frequency, and duration of CSOs. The program must consider regular sewer inspections; sewer, catch basin, and regulator cleaning; equipment and sewer collection system repair or replacement, where necessary; and disconnection of illegal connections.

2. Implement procedures that will maximize use of the collection system for wastewater storage that can be accommodated by the storage capacity of the collection system in order to reduce the magnitude, frequency, and duration of CSOs.

3. Review and modify, as appropriate, its existing pretreatment program to minimize CSO impacts from the discharges from non-domestic users.

4. Operate the Permittee's wastewater treatment plant at maximum treatable flow during all wet weather flow conditions to reduce the magnitude, frequency, and duration of CSOs. The Permittee must deliver all flows to the treatment plant within the constraints of the treatment capacity of the POTW.

5. Not discharge (prohibited) overflows from CSO outfalls except as a result of precipitation events. The Permittee must report each dry weather overflow to the permitting authority immediately per Special Condition S3.E. When it detects a dry weather overflow, the Permittee must begin corrective action immediately and inspect the dry weather overflow each subsequent day until it has eliminated the overflow.

6. Implement measures to control solid and floatable materials in CSOs.

7. Implement a pollution prevention program focused on reducing the impact of CSOs on receiving waters.

8. Implement a public notification process to inform the citizens of when and where CSOs occur. The process must include (a) mechanism to alert persons of the occurrence of CSOs and (b) a system to determine the nature and duration of conditions that are potentially harmful for users of receiving waters due to CSOs.

9. Monitor CSO outfalls to characterize CSO impacts and the efficacy of CSO controls. This must include collection of data that it will use to document the existing baseline conditions, evaluate the efficacy of the technology-based controls, and determine the baseline conditions upon which it will base the long-term control plan. This data must include:

   a. Characteristics of the combined sewer system, including the population served by the combined portion of the system and locations of all CSO outfalls in the CSS.

   b. Total number of CSO events, and the frequency and duration of CSOs for a representative number of events.

   c. Locations and designated uses of receiving water bodies.

   d. Water quality data for receiving water bodies.

   e. Water quality impacts directly related to CSO (e.g., beach closing, floatables, wash-up episodes, fish kills).

C. Combined Sewer Overflow Annual Report

The Permittee must submit a CSO Annual Report to Ecology for review and approval by **May 15th** of each year. The CSO Annual Report must cover the previous calendar year. The report must comply with the requirements of WAC 173-245-090(1) and must include documentation of compliance with the Nine Minimum Controls for CSOs described in Special Condition S10.B. The CSO Annual report must include the following information:

1. A summary of the number and volume of untreated discharge events per outfall for that year.

2. A summary of the five-year moving average number of untreated discharge events per outfall, calculated once annually.

3. An event-based reporting form for all CSO discharges for the reporting period, summarizing all data collected according to the monitoring schedule in Special Condition S2.B.

4. An explanation of the previous year's CSO reduction accomplishments.

5. A list of CSO reduction projects planned for the next year.

D. Requirements for Controlled Combined Sewer Overflows

1. CSOs Identified as Controlled

Based on monitoring data, the CSO outfalls listed in S10.A meet the requirement of "greatest reasonable reduction" as defined in chapter WAC 173-245-020(22). Frequency of overflow events at these CSO outfalls, as a result of precipitation events, must continue to meet the performance standard.

2. Performance Standards for Controlled CSO Outfalls

The performance standard for each controlled CSO outfall is not more than one discharge event per outfall per year on average, due to precipitation. Ecology evaluates compliance with the performance standard annually based on a five-year moving average. The Permittee must report the running five-year average number of overflow events per year during this permit term from the CSO outfall in the CSO Annual Report required in Section S10.C.

3. Emergency bypass maintenance (Outfall 002)

The Permittee is allowed one four-hour period every six months to discharge fully treated and disinfected secondary effluent through Outfall 002 for the purpose of exercising the pumping equipment. The Permittee must notify Ecology at least ten days in advance of conducting this activity, as required by S5.F.1.

S11. OUTFALL EVALUATION

The Permittee must inspect, once during the permit cycle, the submerged portion of the outfall line and diffuser to document its integrity and continued function. If conditions allow for a photographic verification, the Permittee must include such verification in the report. By **March 31, 2020**, the Permittee must submit the inspection report to Ecology through the Water Quality Permitting Portal – Permit Submittals application. The Permittee must submit hard-copies of any video files to Ecology as required by Permit Condition S3.B. The Portal does not support submittal of video files.

The inspector must at minimum:

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

S12. CHRONIC TOXICITY

A. Effluent Characterization

The Permittee must:

1. Conduct chronic toxicity testing on the final effluent annually.

2. Submit a written report to Ecology within 45 days of sampling. Further instructions on testing conditions and test report content are in Section B below.

3. Conduct chronic toxicity testing during effluent characterization 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 2.8 percent effluent. The series of dilutions should also contain the CCEC of 2.0 percent effluent.

4. Compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-89/001.

5. Perform chronic toxicity tests with all of the following species and the most recent version of the following protocols:

Saltwater Chronic Test	Species	Method
Topsmelt Survival and Growth	Atherinops affinis	EPA/600/R-95/136
Mysid Shrimp Survival and Growth	*Americamysis bahia* (formerly *Mysidopsis bahia*)	EPA-821-R-02-014

B. Sampling and Reporting Requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria.* Reports must contain toxicity data, bench sheets, and reference toxicant results for test methods. In addition, the Permittee must submit toxicity test data in electronic format (CETIS export file preferred) for entry into Ecology's database.

2. The Permittee must collect 24-hour composite effluent samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.

3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria.*

4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods listed in Section C. and the Ecology Publication no. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria.* If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.

5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods listed in Subsection C or pristine natural water of sufficient quality for good control performance.

6. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.

7. The Permittee 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 2.0 percent effluent. The ACEC equals 2.8 percent effluent.

8. All whole effluent toxicity tests that involve hypothesis testing must comply with the chronic statistical power standard of 39 percent 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.

S13. CONTRIBUTING JURISDICTIONS

A. Pretreatment Requirements

1. Each contributing jurisdiction shall ensure that within their jurisdiction, non-domestic wastes shall not be discharged to the sewerage system except in accordance with the requirements of Special Condition S6 pretreatment, including the requirements for such sources to receive a discharge permit.

2. Contributing jurisdictions shall strictly enforce their sewer ordinances and not allow connection to the sanitary sewers of nonpolluted waters including, but not limited to: stormwater, ground water, rain water, condensate, deionized water, non-contact cooling water, and drainage from street, yards, and roofs, unless the Permittee can show that these wastes require and are provided treatment by the POTW.

3. Contributing jurisdictions shall submit to the LOTT Wastewater Facility, the necessary information from their collection system to comply with the pretreatment requirements of Special Condition S6 of this permit.

B. Reporting

1. Unauthorized discharges such as collection system overflows or treatment plant bypasses shall be reported to the LOTT Wastewater facility. LOTT is responsible for immediately notifying Ecology and Thurston County Health per S3.

2. Unauthorized discharges to the collection system including discharges which are unpermitted or otherwise do not comply with pretreatment requirements shall be immediately reported to the LOTT wastewater facility. LOTT is responsible for notifying Ecology. (See Condition S6 of this permit.)

3. If LOTT is unavailable then it is the responsibility of the contributing jurisdiction to notify Ecology's Southwest Regional Office, Water Quality Inspector at the 24-hour Emergency Spill Response Number, 360-407-6300.

C. Prevention of Facility Overloading

Contributing jurisdictions shall submit to the LOTT Wastewater Facility the necessary information from their collections system to comply with the reporting requirements of Special Condition S4.

D. Operation and Maintenance Program

1. Contributing jurisdictions shall institute an adequate operation and maintenance program for their entire sewerage system. This program shall, at a minimum, include:

   a. An analysis of the collection system identifying and prioritizing problem areas.

   b. A systematic method and schedule for resolving priority problems including, but not limited to, pump station upgrades and repair, line surcharges, existing or potential overflows and bypasses, illegal sewer connections, and leaking service laterals.

   c. A plan for preventative and routine maintenance.

2. Maintenance records shall be maintained on the collections system and pumping stations. Such records shall clearly show the frequency and type of maintenance performed. These maintenance records shall be available for inspection at all times.

E Electrical Power Failure

Contributing jurisdictions are responsible to maintain adequate safeguards to 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 lift stations either by means of alternate power sources, standby generator, or retention of inadequately treated wastes.

RECLAIMED WATER CONDITIONS

Beginning on the effective date of this permit, all Class A reclaimed water produced at the Budd Inlet Treatment Plant shall comply with the Special Conditions (S) and General Conditions (G) as well as the Reclaimed Water Conditions (R) of this permit.

R1. RECLAIMED WATER LIMITATIONS

All uses and activities authorized by this permit shall be consistent with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a concentration in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

The production and use of reclaimed water shall be in compliance with all specific conditions and requirements of the Washington State Water Reclamation and Reuse Standards, 1997, and is subject to the requirements listed below:

Beginning on the effective date of this permit, the Permittee is authorized to distribute Class A reclaimed water produced at the Budd Inlet Treatment Plant to public and private entities for commercial and industrial uses and/or to apply reclaimed water to land for irrigation at agronomic rates at locations listed in Condition R4. The distribution and use of reclaimed water is subject to the following treatment and water quality limitations:

Reclaimed Water Limitations: Outfall #005		
Parameter	**Average Monthly [a]**	
Flow	1.5 MGD	BITP Class A Effluent
Oxidized Wastewater – Secondary Effluent		
Parameter		
Dissolved Oxygen	Shall be measurably present in secondary effluent at all times	
Disinfected - Reclaimed Water		
Parameter	**Average Monthly [a]**	**Sample Maximum [b]**
Turbidity	2 NTU	5 NTU
Total Nitrate (as N) [c]	10 mg/L	
pH	Shall be between 6.0 and 9.0 Standard Units at all times	
Parameter	**7-day Median [d]**	**Sample Maximum [b]**
Total Coliform	2.2 MPN/100 mL	23 MPN/100 mL [e]

Distribution System		
Parameter	**Minimum Daily**	
Chlorine Residual	Detectable [f]	

	Distribution System
a	The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
b	The sample maximum is defined as the value not to be exceeded by any single sample. When continuous monitoring is used, excursions of the sample maximum that last less than 5 minutes are not considered permit violations, as long as the excursions in not greater than 10 times the sample maximum and the excursions in any 24 hour period do not exceed 30 minutes total.
c	The total Nitrate limit only applies from April 1st through October 31st and any other time when the reclaimed water is used for irrigation or infiltration.
d	The median number of total coliform organisms in the reclaimed water after disinfection does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last seven days for which analyses have been completed.
e	The number of total coliform organisms shall not exceed 23 per 100 milliliters in any single sample.
f	A detectable amount of chlorine residual shall be maintained in the reclaimed water during conveyance to the use area, or the storage pond if reclaimed water is not directly piped to the use area.

R2. RECLAIMED WATER MONITORING REQUIREMENTS

A Class A Reclaimed Water Monitoring

During the production of Class A reclaimed water, the Permittee shall monitor the reclaimed water according to the following schedule (This is in addition to sampling listed in S2):

Parameter	Units	Minimum Sampling Frequency	Sample Type
(1) Reclaimed Water [a]			
Flow	MGD	Continuous [b]	Metered/Recorded
pH	Standard Units	Daily	Grab [c]
Dissolved Oxygen	mg/L	Daily	Grab [c]
Turbidity	NTU	Continuous [b]	Metered/Recorded [d]
Total Nitrate (as N) [e]	mg/L	Weekly	24-Hour Composite
Total Coliform [f]	# /100 ml	Daily	Grab [c]

Parameter	Units	Minimum Sampling Frequency	Sample Type
(2) Water Reuse Distribution Line			
Total Chlorine Residual	mg/L	Daily (when in use)	Grab [c]

a	Reclaimed water samples shall be taken before the distribution system.
b	Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes.
c	Grab samples shall be taken when wastewater characteristics are the most demanding on the treatment facilities and disinfection processes.
d	Reclaimed water turbidity analysis shall be performed by a continuous recording turbidity meter. Report the average and maximum reading each day. Reported values can be based on the continuous readings or by reading and recording values at least every four hours.
e	May be calculated from final wastewater effluent monitoring (Condition S2)
f	As an alternate method, total coliform bacteria may be monitored using the ONPUG-MUG test (also called Autoanalysis Colilert System) per latest edition of standard methods.

B Reuse Instrumentation Calibration

Monitoring devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with the manufacturer's recommendations. Calibration records shall be maintained for at least three years.

The Permittee shall also verify the accuracy of on-line turbidity meters at a minimum frequency of at least once every two weeks.

R3. REPORTING AND RECORDKEEPING REQUIREMENTS

The Permittee shall maintain records and report to the Ecology in accordance with Special Condition S3, and the following conditions. All records shall be retained for a minimum of three years. The falsification of information submitted to Ecology shall constitute a violation of the terms of this permit.

A. Reclaimed Water Operational Records

1. Operating records for the reclamation facility shall be maintained at the treatment plant or within a central depository within the Permittee's operating agency. These records shall include: records of all analyses performed, records of operational problems, unit process and equipment breakdowns, and diversions to emergency storage or disposal; and all corrective or preventative action taken

2. Process or equipment failures triggering an alarm that is key to maintaining reliability of reclaimed water quality shall be recorded and maintained as a separate record file. The recorded information shall include the time and cause of failure and corrective action taken.

3. Cross Connection Control Report. An annual Cross-Connection Control Report shall be completed by a certified Cross-Control Specialist identifying all devices tested and any cross-connection incidents which occurred in the reuse system. Where end users of the reclaimed water are the utilities or their customers, cross-connection requirements under this permit shall be consistent with or integrated into, existing cross-connection control programs implemented by the utilities as required by the Department of Health under WAC 246-290.

R4. RECLAIMED WATER DISTRIBUTION AND USE

The Permittee shall monitor the reclamation facility loading and the following conditions.

A Water Reuse Summary Plan

The Permittee shall prepare a Water Reuse Summary Plan, which contains a summary description of the water reuse system. The plan shall be updated annually and submitted to Ecology **January 31st** of each year, and cover the previous calendar year. The plan shall contain, but not be limited to, the following:

1. Description any additions to the reuse distribution system;

2. Identification and current list of all water purveyors, uses, users, and location of reuse sites.

3. Estimated volume of reclaimed water use at reuse sites, means of application, and application rates.

4. Description of any additional treatment provided to the reclaimed water.

B. Authorized Uses and Locations

The Permittee is authorized to distribute reclaimed water in accordance with the terms and conditions of this permit for authorized uses.

The distribution by the Permittee of reclaimed water that does not meet the treatment, water quality and monitoring requirements established in this permit shall constitute a violation of the terms and conditions of this permit. The use of reclaimed water other than for authorized uses and locations that are listed or will be listed in the next update of a Water Reuse Summary Plan shall constitute a violation of the terms and conditions of this permit. No reclaimed water shall be used or discharged in a drainage basin or adjacent to that basin such that the reclaimed water would cause or significantly contribute to groundwater flooding in the basin.

The Permittee may produce and distribute Class A reclaimed water for the uses listed in the approved Engineering Report, at the locations listed in the Water Reuse Summary Plan, and for new locations as described in R4.C.

C. Authorization for New Direct Non-Potable Uses of Reclaimed Water

The Permittee may provide reclaimed water for direct beneficial uses at locations not listed in the Water Reuse Summary Plan required by this permit in accordance with the terms and conditions of this permit provided the following conditions are met:

1. Direct beneficial uses and requirements for use are as listed in the Washington State Water Reclamation and Reuse Standards. The class of reclaimed water provided meets or exceeds the minimum requirements for the proposed use. Irrigation uses do not exceed agronomic rates of application.

2. The use area is located within Thurston County or other nearby counties. The water reclamation facility and use areas shall comply with local permitting and land use requirements.

3. The reclaimed water meets all applicable requirements of this permit for the approved class of reclaimed water including source control, treatment, water quality limitations, monitoring, recordkeeping, operation and maintenance, distribution and use.

4. The Permittee lists the new uses in the next annual Water Reuse Summary Plan and a copy of the revised plan is submitted to Ecology. The plan is described in R4.A.

D. Revocation of Authorization

Ecology may revoke authorization to provide service if the Permittee fails to comply with any requirement in this permit. Determination to revoke authorization shall be based on the risk to public health and safety or threat to waters of the state. Ecology may revoke the authorization for any or all reclamation facilities and use areas located within a specific geographic area if, due to a geologic or hydrologic condition, the cumulative effect of the reclamation facilities and use areas causes the violation of state water quality standards. Before revoking the authorization, Ecology shall notify the Permittee in writing and provide a reasonable opportunity and time frame to correct the noncompliance.

E. Bypass Prohibited

There shall be no bypassing of untreated or partially treated wastewater from the reclamation plant or any intermediate unit processes to the distribution system or point of use at any time. Diverting flows from the reclaimed water system to the North Outfall does not constitute a bypass provided such diversion does not cause an exceedance of the effluent limitations of Special Condition S1. All reclaimed water being distributed for beneficial use must meet Class A requirements at all times. Water not meeting Class A must be retained for additional treatment by diversion to a bypass storage lagoon or discharged to an authorized wastewater outfall.

Ecology shall be notified by telephone within 24 hours of any diversion to a bypass storage lagoon or authorized outfall due to failure of the reclaimed water system.

F. Reliability

The Permittee shall maintain the highest reliability class as described in the Water Reclamation and Reuse Standards which require one of the following features for each of the critical reclamation treatment unit processes of oxidation, coagulation, filtration, and disinfection:

1. Alarms and standby power source

2. Alarms and automatically actuated short-term (24-hour) storage or disposal provisions.

3. Automatically actuated long-term storage or disposal provisions for treated wastewater.

G. Use Area Responsibilities

1. A standard notification sign shall be developed by the Permittee using colors and verbiage approved by Ecology. The signs shall be used in all reclaimed water use areas, consistent with the Water Reclamation and Reuse Standards.

2. Reclaimed water use, including runoff and spray shall be confined to the designated and approved use area.

3. The Permittee shall control industrial and toxic discharges to the sanitary sewer that may affect reclaimed water quality through the approved pretreatment program as listed in Special Condition S6.

4. Where the reclaimed water production, distribution and use areas are under direct control of the Permittee, the Permittee shall maintain control and be responsible for all facilities and activities inherent to the production, distribution and use of the reclaimed water. The Permittee shall ensure that the reuse system operates as approved by the Departments of Health and Ecology.

H. Service and Use Area Contract

Where the reclaimed water additional treatment, distribution system or use area is not under direct control of the Permittee:

1. No reclaimed water shall be distributed by the Permittee or water purveyor without a binding Service and Use Area Contract in place. The contract shall ensure that construction, operation, maintenance, use area responsibilities, and monitoring meet all requirements of the Departments of Health and Ecology. This Service and Use Area contract must be consistent with the requirements of the Water Reclamation and Reuse Standards, 1997.

2. If a standard contract has been approved by Ecology, the Permittee or the water purveyor may certify that the individual contract copies submitted comply with the terms and conditions of the approved standard contract. If no standard contract has been approved, a copy of each Service and Use Area contract must be submitted to and approved by Ecology prior to implementation.

3. The Permittee or the water purveyor shall maintain all contracts for reclaimed water use for the duration of the permit. The Permittee shall inform Ecology in writing in the annual update to the Water Reuse Summary Plan of any proposed changes to existing agreements.

4. Unless expressly stated otherwise in an approved contract, the Permittee is responsible for all reuse facilities and activities inherent to the production, distribution and use of the reclaimed water.

5. Each individual Service and Use Area contract shall provide the Permittee and the water purveyor with the authority to regulate distribution, enter and inspect the site and to terminate service of reclaimed water to any customer violating the Washington State Water Reclamation and Reuse Standards. In lieu of specific language in each contract, the Permittee working in conjunction with the contributing jurisdictions, may complete and adopt local ordinances, to include policies and procedures, regulating the distribution and delivery of reclaimed water.

I. Reclaimed Water Ordinance

The Permittee shall complete interlocal agreements with the four contributing jurisdictions, and the contributing jurisdictions shall complete local ordinances to include policies and procedures for the distribution and delivery of reclaimed water. The interlocal agreements and ordinances shall provide the Permittee and jurisdictions with the authority to terminate service of reclaimed water from any jurisdiction or customer violating the Washington State Water Reclamation and Reuse Standards and restrictions outlined in the service and use agreement.

J. Irrigation Use

1. For any irrigation use of reclaimed water, the hydraulic loading rate of reclaimed water shall be determined.

2. Irrigation uses shall conform to all requirements of the Washington State Water Reclamation and Reuse Standards. The Permittee in coordination with contributing jurisdictions shall assure that all customers or authorized personnel using reclaimed water have completed training in the requirements for appropriate use of the water. Users of reclaimed water must ensure that their irrigation systems are in good working order, maintained regularly and kept free of leaks. They must further ensure that their irrigation controllers are set so that reclaimed water is applied appropriately to the landscape, to avoid excessive puddling or runoff of water. Sprinkler heads should be adjusted regularly to avoid application of water to impervious surfaces.

The Permittee or the water purveyor shall maintain all irrigation agreements for lands not owned for the duration of irrigation use. The Permittee shall inform Ecology in writing in the annual update to the Water Reuse Summary Plan of any proposed changes to existing agreements.

K. Wetlands Use

The Permittee or the water purveyor may use reclaimed water for wetland enhancement, as long as the following conditions are met and Ecology has granted written approval for the specific wetland to be enhanced:

1. Augmentation of wetland hydrologic regime is not to exceed an additional (above background) average annual hydraulic loading rate of 2 cm/day to Category II wetlands and 3 cm/day to Category III and IV wetlands, unless monitoring can demonstrate that a net ecological benefit can be maintained at a higher rate.

2. Average monthly water level elevations shall not increase by more than 10 cm above the pre-augmentation water level.

3. In Accordance with the Water Reclamation and Reuse Standards, the Permittee shall monitor the vegetation cover, plant diversity, macroinvertebrate biomass, amphibian species, fish biomass and species, bird density and species, threatened/endangered density and species once per year during the 1st, 2nd, 4th, 6th, 8th, and 10th growing season. There shall be no more the 25 percent reduction in parameter measurements over the wetland or 50 percent reduction at any one location in the wetland. The Permittee shall submit a report to Ecology on the results of the biological monitoring.

L. Other Uses of Reclaimed Water

Effluent used for sewage treatment plant purposes within the bounds of the wastewater treatment facility is not required to meet these standards, except in areas where there is potential public exposure as determined by the Departments of Health and Ecology.

The following uses require modification and public notice of this permit.

1. Groundwater recharge via surface percolation or direct injection.

2. Discharge of reclaimed water to surface waters, unless the discharge is covered by the Special Conditions of this permit.

3. The use of reclaimed water subsequent to its discharge to waters of the state.

4. Any reclamation facilities or uses that are not specifically authorized by this permit.

5. Any facilities or uses if determined necessary by the Department of Ecology or Health for public health or environmental protection.

R5. OPERATION AND MAINTENANCE

The Permittee shall operate and maintain the Budd Inlet Treatment Plant in accordance with Special Condition S5 and the following conditions.

A. Reclaimed Water System Maintenance

The Permittee and the water purveyors shall institute an adequate Operation and Maintenance (O&M) program for the entire reclamation system including all facilities and appurtenances owned and controlled by the Permittee, utilities or end users. Maintenance records shall be maintained by the Permittee, utilities or end user on all major electrical and mechanical components of the reclaimed water system, distribution system, and use areas. Such records shall clearly specify the frequency and type of maintenance recommended by the manufacturer and shall show the frequency and type of maintenance performed. These maintenance records shall be available for inspection at all times.

1. At all times, the reclamation system, distribution and use areas shall be maintained to ensure that all equipment is kept in a reliable operating condition.

2. A detectable chlorine residual shall be maintained in the reclaimed water during conveyance from the reclamation system to the use area.

3. Maintenance of a chlorine residual is not required in reclaimed water impoundments and storage ponds. At the discretion of the Departments of Health and Ecology, chlorine residual may not be required in reclaimed water distributed from storage ponds.

B. Operation and Maintenance Manual

Besides the items listed in S5.G, the Operation and Maintenance Manual for the Budd Inlet Treatment Plant shall include the following reclaimed water information:

1. An alarm condition response plan to ensure that no untreated or inadequately treated wastewater will be delivered to the use areas.

2. A discussion of the cross-connection control and inspection program, including who will be responsible for compliance and testing of cross connection control devices.

3. Operational strategies for the reclaimed water use areas that are under direct control of the Permittee.

C. Electrical Power Failure

The Permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the water reclamation plant and/or sewage lift stations either by means of alternate power sources, standby generator, or retention of inadequately treated wastes. The power supply shall be provided with one of the following reliability features to assure that inadequately treated wastewater is not discharged to distribution or use areas:

1. An alarm and a standby power source

2. An alarm and automatically actuated short-term storage or alternative disposal provisions All equipment other than pump-back equipment shall be either independent of the normal power supply or provided with a standby power supply.

3. Automatically actuated long-term storage or disposal provisions. All equipment other than pump-back equipment shall be either independent of the normal power supply or provided with a standby power supply.

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

A. All applications, reports, or information submitted to Ecology must be signed and certified.

1. 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.

2. In the case of a partnership, by a general partner.

3. In the case of sole proprietorship, by the proprietor.

4. 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.

B. 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:

1. The authorization is made in writing by a person described above and submitted to Ecology.

2. 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.)

C. Changes to Authorization. If an authorization under paragraph G1.B, 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.B, above, must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. 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:

A. 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.

B. 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.

C. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.

D. 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.

A. The following are causes for terminating this permit during its term, or for denying a permit renewal application:

1. Violation of any permit term or condition.

2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.

3. A material change in quantity or type of waste disposal.

4. A 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.

5. 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.

6. Nonpayment of fees assessed pursuant to RCW 90.48.465.

7. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

B. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:

1. A material change in the condition of the waters of the State.

2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.

3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.

4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.

5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.

6. Ecology has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.

7. Incorporation of an approved local pretreatment program into a municipality's permit.

C. The following are causes for modification or alternatively revocation and reissuance:

1. When cause exists for termination for reasons listed in A.1 through A.7 of this section, and Ecology determines that modification or revocation and reissuance is appropriate.

2. 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 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:

A. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).

B. A significant change in the nature or an increase in quantity of pollutants discharged.

C. 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 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.

A. 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.

B. Automatic Transfers

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

1. The Permittee notifies Ecology at least 30 days in advance of the proposed transfer date.

2. The notice includes a written agreement between the existing and new Permittees containing a specific date transfer of permit responsibility, coverage, and liability between them.

3. Ecology does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under this

subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G8. REDUCED PRODUCTION FOR COMPLIANCE

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

G9. REMOVED SUBSTANCES

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

G10. DUTY TO PROVIDE INFORMATION

The Permittee must submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology upon request, copies of records required to be kept by this permit.

G11. OTHER REQUIREMENTS OF 40 CFR

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

G12. ADDITIONAL MONITORING

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

G13. PAYMENT OF FEES

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

G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to $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:

A. An upset occurred and that the Permittee can identify the cause(s) of the upset.

B. The permitted facility was being properly operated at the time of the upset.

C. The Permittee submitted notice of the upset as required in Special Condition S3.F.

D. 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-day period, the Permittee may assume consistency and proceed with the service agreement or the revised/updated service agreement.

Appendix A

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

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

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

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

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

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

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

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

CONVENTIONAL POLLUTANTS

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

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Alkalinity, Total		SM2320-B		5 mg/L as CaCO3
Aluminum, Total	7429-90-5	200.8	2.0	10
Ammonia, Total (as N)		SM4500-NH3-B and C/D/E/G/H		20
Barium Total	7440-39-3	200.8	0.5	2.0
BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)		EPA SW 846 8021/8260	1	2
Boron, Total	7440-42-8	200.8	2.0	10.0
Chemical Oxygen Demand		SM5220-D		10 mg/L
Chloride		SM4500-Cl B/C/D/E and SM4110 B		Sample and limit dependent
Chlorine, Total Residual		SM4500 Cl G		50.0
Cobalt, Total	7440-48-4	200.8	0.05	0.25

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Color		SM2120 B/C/E		10 color units
Dissolved oxygen		SM4500-OC/OG		0.2 mg/L
Flow		Calibrated device		
Fluoride	16984-48-8	SM4500-F E	25	100
Hardness, Total		SM2340B		200 as CaCO3
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-NO3- 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
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^2F/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

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Titanium, Total	7440-32-6	200.8	0.5	2.5
Total Coliform		SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
Total Organic Carbon		SM5310-B/C/D		1 mg/L
Total dissolved solids		SM2540 C		20 mg/L

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

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
METALS, CYANIDE & TOTAL PHENOLS					
Cyanide, Free Amenable to Chlorination (Available Cyanide)	121		SM4500-CN G	5	10
Phenols, Total	65		EPA 420.1		50

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
ACID COMPOUNDS					
2-Chlorophenol	24	95-57-8	625	1.0	2.0
2,4-Dichlorophenol	31	120-83-2	625	0.5	1.0
2,4-Dimethylphenol	34	105-67-9	625	0.5	1.0
4,6-dinitro-o-cresol (2-methyl-4,6,-dinitrophenol)	60	534-52-1	625/1625B	2.0	4.0
2,4 dinitrophenol	59	51-28-5	625	1.5	3.0
2-Nitrophenol	57	88-75-5	625	0.5	1.0
4-Nitrophenol	58	100-02-7	625	1.0	2.0
Parachlorometa cresol (4-chloro-3-methylphenol)	22	59-50-7	625	1.0	2.0
Pentachlorophenol	64	87-86-5	625	0.5	1.0
Phenol	65	108-95-2	625	2.0	4.0
2,4,6-Trichlorophenol	21	88-06-2	625	2.0	4.0

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*
VOLATILE COMPOUNDS					
Acrolein	2	107-02-8	624	5	10
Acrylonitrile	3	107-13-1	624	1.0	2.0
Benzene	4	71-43-2	624	1.0	2.0
Bromoform	47	75-25-2	624	1.0	2.0
Carbon tetrachloride	6	56-23-5	624/601 or SM6230B	1.0	2.0
Chlorobenzene	7	108-90-7	624	1.0	2.0
Chloroethane	16	75-00-3	624/601	1.0	2.0
2-Chloroethylvinyl Ether	19	110-75-8	624	1.0	2.0
Chloroform	23	67-66-3	624 or SM6210B	1.0	2.0
Dibromochloromethane (chlordibromomethane)	51	124-48-1	624	1.0	2.0
1,2-Dichlorobenzene	25	95-50-1	624	1.9	7.6
1,3-Dichlorobenzene	26	541-73-1	624	1.9	7.6
1,4-Dichlorobenzene	27	106-46-7	624	4.4	17.6
Dichlorobromomethane	48	75-27-4	624	1.0	2.0
1,1-Dichloroethane	13	75-34-3	624	1.0	2.0
1,2-Dichloroethane	10	107-06-2	624	1.0	2.0
1,1-Dichloroethylene	29	75-35-4	624	1.0	2.0
1,2-Dichloropropane	32	78-87-5	624	1.0	2.0
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene)[6]	33	542-75-6	624	1.0	2.0
Ethylbenzene	38	100-41-4	624	1.0	2.0
Methyl bromide (Bromomethane)	46	74-83-9	624/601	5.0	10.0
Methyl chloride (Chloromethane)	45	74-87-3	624	1.0	2.0
Methylene chloride	44	75-09-2	624	5.0	10.0
1,1,2,2-Tetrachloroethane	15	79-34-5	624	1.9	2.0
Tetrachloroethylene	85	127-18-4	624	1.0	2.0
Toluene	86	108-88-3	624	1.0	2.0
1,2-Trans-Dichloroethylene (Ethylene dichloride)	30	156-60-5	624	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*
VOLATILE COMPOUNDS					
1,1,1-Trichloroethane	11	71-55-6	624	1.0	2.0
1,1,2-Trichloroethane	14	79-00-5	624	1.0	2.0
Trichloroethylene	87	79-01-6	624	1.0	2.0
Vinyl chloride	88	75-01-4	624/SM6200B	1.0	2.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Acenaphthene	1	83-32-9	625	0.2	0.4
Acenaphthylene	77	208-96-8	625	0.3	0.6
Anthracene	78	120-12-7	625	0.3	0.6
Benzidine	5	92-87-5	625	20	40
Benzyl butyl phthalate	67	85-68-7	625	0.3	0.6
Benzo(*a*)anthracene	72	56-55-3	625	0.3	0.6
Benzo(b)fluoranthene (3,4-benzofluoranthene)[7]	74	205-99-2	610/625	0.8	1.6
Benzo(j)fluoranthene[7]		**205-82-3**	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene)[7]	75	207-08-9	610/625	0.8	1.6
Benzo(r,s,t)pentaphene		**189-55-9**	625	1.3	5.0
Benzo(*a*)pyrene	73	50-32-8	610/625	0.5	1.0
Benzo(*ghi*)Perylene	79	191-24-2	610/625	0.5	1.0
Bis(*2-chloroethoxy)*methane	43	111-91-1	625	5.3	21.2
Bis(*2-chloroethyl*)ether	18	111-44-4	611/625	0.3	1.0
Bis(*2-chloroisopropyl*)ether	42	39638-32-9	625	0.5	1.0
Bis(*2-ethylhexyl*)phthalate	66	117-81-7	625	0.3	1.0
4-Bromophenyl phenyl ether	41	101-55-3	625	0.3	0.5

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*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
2-Chloronaphthalene	20	91-58-7	625	0.3	0.6
4-Chlorophenyl phenyl ether	40	7005-72-3	625	0.3	0.5
Chrysene	76	218-01-9	610/625	0.3	0.6
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	0.8	1.6
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	2.0	14.0
Diethyl phthalate	70	84-66-2	625	1.9	7.6
Dimethyl phthalate	71	131-11-3	625	1.6	6.4
Di-n-butyl phthalate	68	84-74-2	625	0.5	1.0
2,4-dinitrotoluene	35	121-14-2	609/625	1.0	2.0
2,6-dinitrotoluene	36	606-20-2	609/625	1.0	2.0
Di-n-octyl phthalate	69	117-84-0	625	0.3	0.6
1,2-Diphenylhydrazine (*as Azobenzene*)	37	122-66-7	1625B	5.0	20
Fluoranthene	39	206-44-0	625	0.3	0.6
Fluorene	80	86-73-7	625	0.3	0.6
Hexachlorobenzene	9	118-74-1	612/625	0.3	0.6
Hexachlorobutadiene	52	87-68-3	625	0.5	1.0
Hexachlorocyclopentadiene	53	77-47-4	1625B/625	2.0	4.0
Hexachloroethane	12	67-72-1	625	0.5	1.0
Indeno(*1,2,3-cd*)Pyrene	83	193-39-5	610/625	0.5	1.0
Isophorone	54	78-59-1	625	0.5	1.0
3-Methyl cholanthrene		**56-49-5**	625	2.0	8.0
Naphthalene	55	91-20-3	625	0.4	0.75
Nitrobenzene	56	98-95-3	625	0.5	1.0
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

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
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	0.3	0.6
Pyrene	84	129-00-0	625	0.3	0.6
1,2,4-Trichlorobenzene	8	120-82-1	625	0.3	0.6

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

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
PESTICIDES/PCBs					
Aldrin	89	309-00-2	608	0.025	0.05
alpha-BHC	102	319-84-6	608	0.025	0.05
beta-BHC	103	319-85-7	608	0.025	0.05
gamma-BHC (Lindane)	104	58-89-9	608	0.025	0.05
delta-BHC	105	319-86-8	608	0.025	0.05
Chlordane[8]	91	57-74-9	608	0.025	0.05
4,4'-DDT	92	50-29-3	608	0.025	0.05
4,4'-DDE	93	72-55-9	608	0.025	0.05
4,4' DDD	94	72-54-8	608	0.025	0.05
Dieldrin	90	60-57-1	608	0.025	0.05
alpha-Endosulfan	95	959-98-8	608	0.025	0.05

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
PESTICIDES/PCBs					
beta-Endosulfan	96	33213-65-9	608	0.025	0.05
Endosulfan Sulfate	97	1031-07-8	608	0.025	0.05
Endrin	98	72-20-8	608	0.025	0.05
Endrin Aldehyde	99	7421-93-4	608	0.025	0.05
Heptachlor	100	76-44-8	608	0.025	0.05
Heptachlor Epoxide	101	1024-57-3	608	0.025	0.05
PCB-1242 [9]	106	53469-21-9	608 - Modified	0.05	0.2
PCB-1254	107	11097-69-1	608 - Modified	0.05	0.2
PCB-1221	108	11104-28-2	608 - Modified	0.05	0.2
PCB-1232	109	11141-16-5	608 - Modified	0.05	0.2
PCB-1248	110	12672-29-6	608 - Modified	0.05	0.2
PCB-1260	111	11096-82-5	608 - Modified	0.05	0.2
PCB-1016 [9]	112	12674-11-2	608 - Modified	0.05	0.2
Toxaphene	113	8001-35-2	608	0.24	0.5

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, or 5) x 10^n, where n is an integer. (64 FR 30417).
   ALSO GIVEN AS:
   The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).
   •

3. Soluble Biochemical Oxygen Demand method note: First, filter the sample through a Millipore Nylon filter (or equivalent) - pore size of 0.45-0.50 um (prep all filters by filtering 250 ml of laboratory grade deionized water through the filter and discard). Then, analyze sample as per method 5210-B.
   •

4. NWTPH Dx - Northwest Total Petroleum Hydrocarbons Diesel Extended Range – see http://www.ecy.wa.gov/biblio/97602.html
•
5. NWTPH Gx - Northwest Total Petroleum Hydrocarbons Gasoline Extended Range – see http://www.ecy.wa.gov/biblio/97602.html

6. 1, 3-dichloroproylene (mixed isomers) You may report this parameter as two separate parameters: cis-1, 3-dichlorpropropene (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 0.025/0.050.

9. PCB 1016 & PCB 1242 – You may report these two PCB compounds as one parameter called PCB 1016/1242.

FACT SHEET FOR LOTT CLEAN WATER ALLIANCE
BUDD INLET WASTEWATER TREATMENT PLANT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT WA0037061

Purpose of this Fact Sheet

This fact sheet explains and documents the decisions the Department of Ecology (Ecology) made in drafting the proposed National Pollutant Discharge Elimination System (NPDES) permit for the LOTT Clean Water Alliance Budd Inlet Wastewater Treatment Plant.

This fact sheet complies with Section 173-220-060 of the Washington Administrative Code (WAC), which requires Ecology to prepare a draft permit and accompanying fact sheet for public evaluation before issuing an NPDES permit.

Ecology makes the draft permit and fact sheet available for public review and comment at least 30 days before issuing the final permit. Copies of the fact sheet and draft permit for the LOTT Clean Water Alliance Budd Inlet Wastewater Treatment Plant, NPDES permit WA0037061, are available for public review and comment from June 13, 2017, until July 12, 2017. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement Information**.

The LOTT Clean Water Alliance reviewed the draft permit and fact sheet for factual accuracy. Ecology corrected any errors or omissions regarding the facility's location, history, wastewater discharges, or receiving water prior to publishing this draft fact sheet for public notice.

After the public comment period closes, Ecology will summarize substantive comments and provide responses to them. Ecology will include the summary and responses to comments in this fact sheet as **Appendix E - Response to Comments**, and publish it when issuing the final NPDES permit. Ecology generally will not revise the rest of the fact sheet. The full document will become part of the legal history contained in the facility's permit file.

Summary

The LOTT Clean Water Alliance operates an activated sludge wastewater treatment plant that discharges to Budd Inlet. Ecology issued the previous permit for this facility on August 26, 2011.

The proposed permit contains the same effluent limits for 5-Day Biochemical Oxygen Demand (BOD_5), Total Suspended Solids (TSS), Fecal Coliform Bacteria, Total Inorganic Nitrogen (TIN), and pH as the permit issued in 2011. It does not include any significant changes.

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I. INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later amendments in 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One mechanism for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES), administered by the federal Environmental Protection Agency (EPA). The EPA authorized the state of Washington to manage the NPDES permit program in our state. Our state legislature accepted the delegation and assigned the power and duty for conducting NPDES permitting and enforcement to the Department of Ecology (Ecology). The Legislature defined Ecology's Ecology authority and obligations for the wastewater discharge permit program in 90.48 Revised Code of Washington (RCW).

The following regulations apply to domestic wastewater NPDES permits:

- Procedures Ecology follows for issuing NPDES permits [chapter 173-220 Washington Administrative Code (WAC)]
- Technical criteria for discharges from municipal wastewater treatment facilities (chapter 173-221 WAC)
- Water Quality Criteria for Surface Waters (chapter 173-201A WAC)
- Water Quality Criteria for Groundwaters (chapter 173-200 WAC)
- Whole Effluent Toxicity Testing and Limits (chapter 173-205 WAC)
- Sediment Management Standards (chapter 173-204 WAC)
- Submission of Plans and Reports for Construction of Wastewater Facilities (chapter 173-240 WAC)

The following additional regulations apply to communities operating collection systems with Combined Sewer Overflows:

- Submission of Plans and Reports for Construction and Operation of Combined Sewer Overflow Reduction Facilities (chapter 173-245 WAC)
- US EPA CSO Control Policy (59 FR 18688)

These rules require any treatment facility owner/operator to obtain an NPDES permit before discharging wastewater to state waters. They also help define the basis for limits on each discharge and for requirements imposed by the permit.

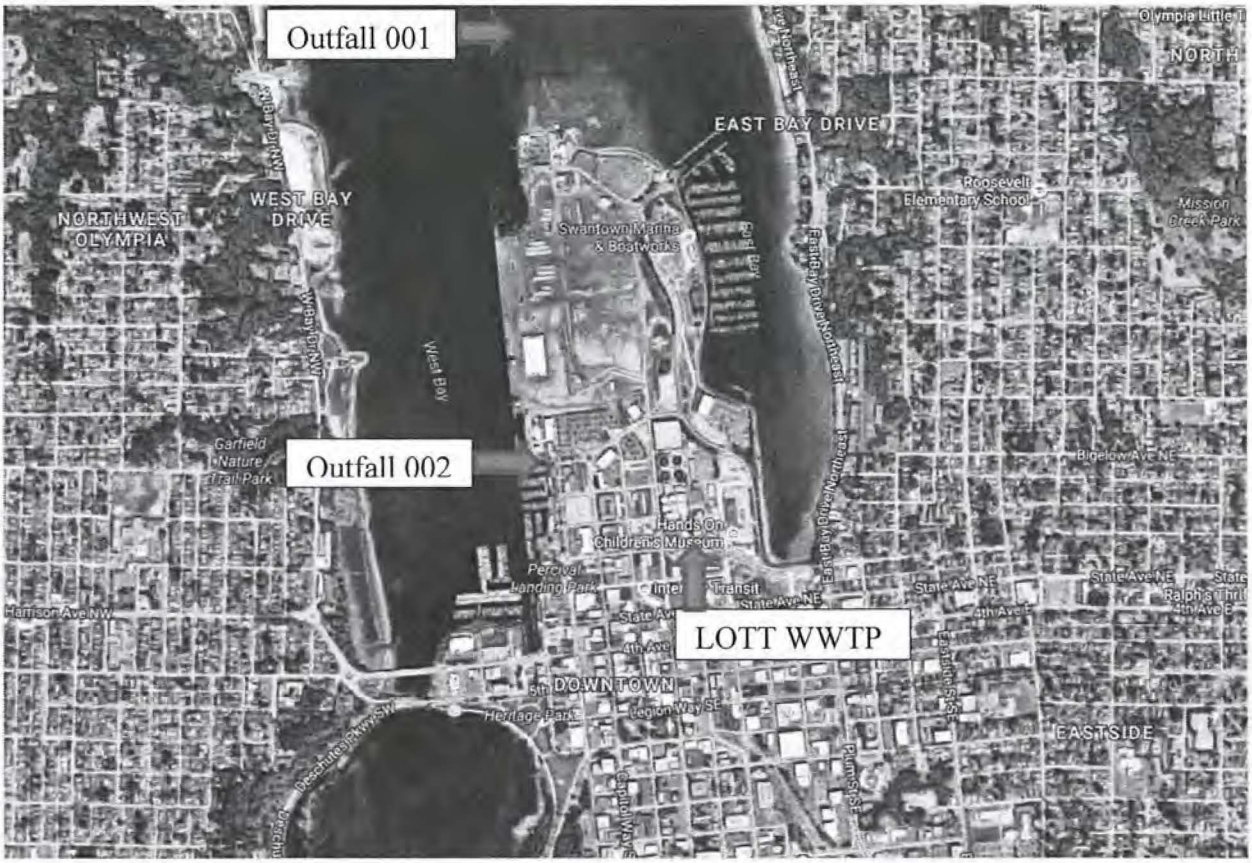
Under the NPDES permit program and in response to a complete and accepted permit application, Ecology must prepare a draft permit and accompanying fact sheet, and make them available for public review before final issuance. Ecology must also publish an announcement (public notice) telling people where they can read the draft permit, and where to send their comments, during a period of thirty days (WAC 173-220-050). (See **Appendix A-Public** Involvement Information for more detail about the public notice and comment procedures.) After the public comment period ends, Ecology may make changes to the draft NPDES permit in response to comment(s). Ecology will summarize the responses to comments and any changes to the permit in **Appendix E**.

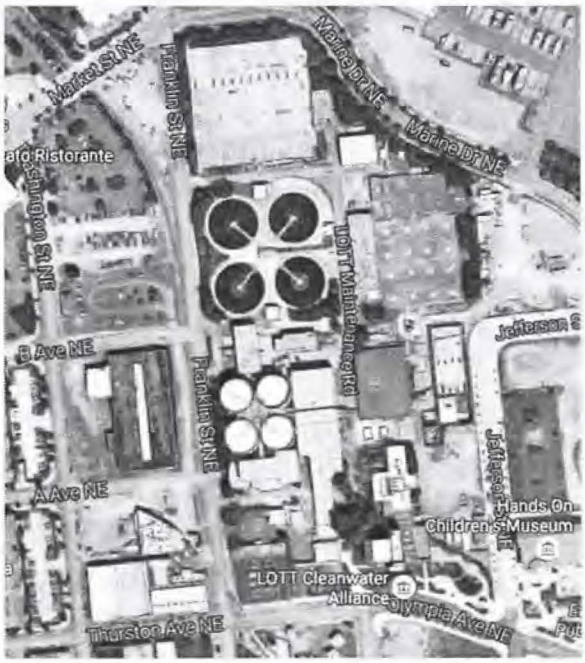
II. BACKGROUND INFORMATION

Table 1 - General Facility Information

Facility Information	
Applicant	LOTT Clean Water Alliance
Facility Name and Address	Budd Inlet Wastewater Treatment Plant 500 Adams Street Northeast Olympia, WA 98501
Contact at Facility	Name: Laurie Pierce Telephone #: 360-664-2333
Responsible Official	Name: Michael Strub, P.E. Title: Executive Director Address: 500 Adams Street Northeast Olympia, WA Telephone #: 360-664-2333
Type of Treatment	Activated Sludge/Advanced Treatment
Facility Location (NAD83/WGS84 Reference Datum)	Latitude: 47.048977 Longitude: -122.898837
Discharge Waterbody Name and Location (NAD83/WGS84 Reference Datum)	Budd Inlet Latitude: 47.05941 N Longitude: -122.9064
Permit Status	
Effective Date of Previous Permit	October 1, 2011
Application for Permit Renewal Submittal Date	March 1, 2016
Date of Ecology Acceptance of Application	March 24, 2016
Inspection Status	
Date of Last Non-sampling Inspection	November 3, 2016

Figure 1 - Facility Location Map





A. Facility Description

History

The LOTT Alliance's Budd Inlet Treatment Plant (BITP) is a regional facility serving portions of the cities of Lacey, Olympia, Tumwater, and Thurston County. The Budd Inlet secondary treatment facility was largely completed and on-line in August of 1982. Prior to that time a primary treatment facility served the area. The Budd Inlet facility currently provides advanced treatment for nitrogen removal. The BITP also treats a portion of the effluent to Class A Reclaimed Water. The LOTT Alliance system also includes a Class A Reclaimed Water Satellite Treatment plant that is covered by permit ST 6206. More of these satellite plants may be added to the system in the future.

The previous permit was issued in August 2011. LOTT has maintained good compliance with this permit. The BITP is an EPA major facility. LOTT maintains an approved pretreatment program.

Collection System Status

Each jurisdiction is responsible for their respective collection systems. Several major interceptors are identified as LOTT facilities and are owned and maintained by LOTT. As a part of the collection system planning process, each jurisdiction produces their own general sewer plans.

Thurston County currently has no collection lines that discharge into the LOTT sewer system. The city of Lacey is served primarily by a conventional collection system including 15 pump stations, over 309,500 linear feet of gravity flow sewer lines serving approximately 12 square miles. Portions of the Lacey sewer system have been designated to be served by Septic Tank Effluent Pumping (STEP) systems. The city of Tumwater is served by a conventional sewer system including over 223,894 feet of gravity sewer lines serving approximately 8 square miles. It also includes 15 wastewater pumping stations. The city of Olympia is served primarily by a conventional sewer system and some STEP systems serving a total of approximately 18 square miles. The system consists of over 698,212 feet of sewer pipe. The system has 51 lift stations. The system is primarily a separate sewer system; however, approximately 600 acres of the downtown area is served by a combined sewer system.

Since the downtown area within the city of Olympia is served by a combined sewer system, during major storm events the potential exists for a raw sewage overflow. A Combined Sewer Overflow (CSO) event occurs at the treatment plant when the equalization basins are full and the influent pumps are at capacity. Wastewater is directly discharged to the Fiddlehead outfall. LOTT has experienced only two CSO events since April 1991.

LOTT and the cities are working to control inflow and infiltration into the system. Basins are monitored for flow on a rotating basis. Repairs are made as needed. The system has a variety of commercial and small industrial dischargers into the system.

Treatment Processes

You can find basic information describing wastewater treatment processes included in a booklet at the Water Environment Federation website at: http://www.wef.org/publicinformation/default.aspx.

The headworks of the Budd Inlet facility consists of four mechanically cleaned bar screens, two aerated grit removal channels, and five equalization basins (2.25 million gallons) used for storage during storm events. The plant has new (2013) primary clarifiers consisting of four basins. The primary systems have air scrubbers for odor control. Covered activated sludge basins provide secondary treatment. The biological nutrient removal system uses the four-stage Bardenpho process to remove nitrogen. The four-stage Bardenpho process includes alternating anoxic and aerobic basins in series which allows the aerobic and anoxic microbiological processes to occur. Ammonia and nitrate/nitrite forms of nitrogen are converted to nitrogen gas. The process requires a very high internal recycle ratio (approximately 4:1) for the process to work. The process consists of the first anoxic basin, the first aeration basin, the second anoxic basin and the second aeration basin. When the biological nitrogen removal process is not in operation, the first and second anoxic basins and the second aeration basin are bypassed. Clarification is provided by four secondary clarifiers. Secondary effluent is disinfected with an Ultraviolet (UV) system.

Some of the secondary effluent is directed to the reclaimed water system to produce class A reuse water. The reclaimed water facility at the Budd Inlet treatment plant is designed to have a firm capacity of 700 gallons per minute (about 1 MGD) with a peak capacity of approximately 1000 gpm (1.5 MGD). The reclaimed water facility is within the footprint of the Budd Inlet plant. The facility completed construction and was brought on-line in 2004.

The reclaimed water facility has continuous back wash counter current up flow filters. Polymer can be added to the water prior to filtration. Sodium hypochlorite solution is used for supplementary disinfection and residual control after the filtration. After the disinfection contact basins, the reclaimed water discharges to a 140,000 gallon clear well that supplies the distribution pumps, sending the Reclaimed Water into the conveyance system to reuse locations. Filter backwash is returned to the plant influent for treatment.

LOTT is starting design on the Process Improvements project that will change the biological nutrient removal system. The process will be optimized and reconfigured to replace aging equipment, reduce required energy, increase process reliability, and provide greater control and flexibility. Ecology has provided a $2,010,000 FY 2017 State Revolving Fund (SRF) Loan to help fund this design project.

Solid Wastes/Residual Solids

The treatment facilities remove solids during the treatment of the wastewater at the headworks (grit and screenings), and at the primary and secondary clarifiers, in addition to incidental solids (rags, scum, and other debris) removed as part of the routine maintenance of the equipment. LOTT drains grit, rags, scum, and screenings and disposes this solid waste at the Thurston County Waste and Recovery Center. Solids removed from the primary and secondary clarifiers are treated by dissolved air flotation, anaerobic digestion,

and centrifuge dewatering. The solids are beneficially used and land applied. This facility has met the solid waste requirements for screening, as required by WAC 173-308-205.

Discharge Outfall

Treated and disinfected effluent is discharged from the Budd Inlet facility into Budd Inlet. Effluent is discharged via the north outfall line (Outfall 001), except in emergencies when the Fiddlehead outfall (Outfall 002) is used. Outfall 001 is a 48-inch line that extends 953 feet off of the shoreline with a 250-foot diffuser section with 55 ports. The 4.625-inch diameter ports are spaced 4.5 feet apart on center. Outfall 002 is a 48-inch open-ended pipe located at the Fiddlehead Marina. The North line is capable of handling 65 MGD at mean higher high water. Any excess flows are discharged via the 48-inch Fiddlehead line. The Fiddlehead discharge events occur infrequently when Olympia experiences its heaviest rainfall events.

B. Description of the Receiving Water

LOTT Clean Water Alliance discharges to Budd Inlet. Other nearby point source outfalls include Tamoshan, Seashore Villa, and Boston Harbor wastewater treatment plants. Significant nearby non-point sources of pollutants include stormwater. Section IIIE of this fact sheet describes any receiving waterbody impairments.

The ambient background data used for this permit includes the following from an Ecology long-term marine water quality station (BUD005):

Table 2 - Ambient Background Data

Parameter	Value Used
Temperature (highest annual 1-DADMax)	19.3° C
pH (Maximum / Minimum)	8.6 / 7.2 Standard Units
Dissolved Oxygen	8.5 mg/L
Salinity	28.3 psu
Density	21.2 sigma t

C. Wastewater Influent Characterization

LOTT Clean Water Alliance reported the concentration of influent pollutants in discharge monitoring reports. The influent wastewater is characterized as follows:

Parameter	Units	Average Value	Maximum Value
5-Day Biochemical Oxygen Demand (BOD_5)	mg/L	**265**	**620**
BOD_5	lbs/day	**24,816**	**56,770**
Total Suspended Solids (TSS)	mg/L	**296**	**780**

Parameter	Units	Average Value	Maximum Value
TSS	lbs/day	**24,324**	**73,940**
Total Ammonia	mg/L	**25.6**	**41.9**
Total Ammonia	lbs/day	**2,395**	**4,286**
Total Nitrate + Nitrite	mg/L	**2.0**	**4.3**
TKN	mg/L	**39.7**	**65.1**
pH	Standard Units	**6.7 (Min)**	**8.5**
Flow	MGD	**11.81**	**38.12**

D. Wastewater Effluent Characterization

LOTT Clean Water Alliance reported the concentration of pollutants in the discharge in the permit application and in discharge monitoring reports. The tabulated data represents the quality of the wastewater effluent discharged from October 2011 to September 2016. The wastewater effluent at Outfall 001 is characterized as follows:

Parameter	Units	Average Value	Maximum Value
Summer BOD_5	mg/L	**3.12**	**7.43**
Summer BOD_5	lbs/day	**225**	**646**
Spring/Fall BOD_5	mg/L	**3.88**	**17.76**
Spring/Fall BOD_5	lbs/day	**336**	**1677**
Winter BOD_5	mg/L	**5.16**	**25.4**
Winter BOD_5	lbs/day	**600**	**5770**
TSS	mg/L	**4.65**	**21.4**
TSS	lbs/day	**437**	**4769**
Summer Total Ammonia	mg/L	**0.44**	**9.97**
Winter Total Ammonia	mg/L	**3.33**	**21.5**
Summer Total Nitrate & Nitrite	mg/L	**1.85**	**10**
Winter Total Nitrate & Nitrite	mg/L	**3.8**	**17.6**
Total Kjeldahl Nitrogen (TKN)	mg/L	**3.08**	**20.9**
Summer Total Inorganic Nitrogen (TIN)	mg/L	**2.13**	**4.1**
Summer TIN	lbs/day	**156.15**	**298**
Spring/Fall TIN	mg/L	**2.47**	**7.22**

Parameter	Units	Average Value	Maximum Value
Spring/Fall TIN	lbs/day	**221.13**	**763**
Total Zinc	µg/L	**51.56**	**226**
Total Copper	µg/L	**17.87**	**96.1**
Total Lead	µg/L	**0.49**	**2.16**
Total Nickel	µg/L	**1.55**	**9.0**
Flow	MGD	**10.66**	**35.62**
Temperature	°C	**17.4**	**23.1**
Dissolved Oxygen	mg/L	**7.54**	**9.0**
Turbidity	NTU	**1.9**	**13.8**
Parameter	**Units**	**Maximum Monthly Geometric Mean**	**Maximum Weekly Geometric Mean**
Fecal Coliforms	#/100 mL	**12**	**39**
Parameter	**Units**	**Minimum Value**	**Maximum Value**
pH	Standard Units	**6.4**	**7.9**

The reclaimed water at Outfall 005 is characterized as follows:

Parameter	Units	Average Value	Maximum Value
Flow	MGD	**0.52**	**1.27**
Turbidity	NTU	**0.27**	**4.01**
Dissolved Oxygen	mg/L	**9.34**	**10.4**
Temperature	°C	**17.5**	**23.5**
Total Coliforms	#/100ml	**1**	**200**
Total Nitrate	mg/L	**2.44**	**6.78**
Parameter	**Units**	**Minimum Value**	**Maximum Value**
pH	standard units	**6.6**	**8.2**
Total Residual Chlorine	mg/L	**0.6**	**2.1**

E. Summary of Compliance with Previous Permit Issued

The previous permit placed effluent limits on BOD_5, TSS, Fecal Coliform Bacteria, pH, TIN, Ammonia, Turbidity, Nitrate, and Total Coliform.

LOTT Clean Water Alliance has mostly complied with the effluent limits and permit conditions throughout the duration of the permit issued on August 26, 2011. Ecology assessed compliance based on its review of the facility's information in the Ecology Permitting and Reporting Information System (PARIS), Discharge Monitoring Reports (DMRs), and on inspections.

The following table summarizes the violations and permit triggers that occurred during the permit term. Permit triggers are not violations but rather when triggered require the permit holder to take an action defined in the permit.

Begin Date	Outfall	Parameter	Statistical Base	Units	Value	Limit
11/1/11	005	Total Coliforms	Maximum	#/100 mL	23.8	23
3/1/12	005	Total Coliforms	Maximum	#/100 mL	65.9	23
9/1/12	001	TIN	Average	mg/L	4.1	3
9/1/12	001	TIN	Average	lbs/day	298	288
9/1/13	001	TIN	Average	mg/L	3.02	3
9/1/13	005	Total Coliforms	Maximum	#/100 mL	69.7	23
10/1/13	005	Total Coliforms	Maximum	#/100 mL	40.6	23
12/1/13	005	Total Coliforms	Maximum	#/100 mL	56	23
1/1/14	005	Total Coliforms	Maximum	#/100 mL	45.3	23
4/1/14	001	BOD_5	Weekly Average	lbs/day	1677	1350
4/1/14	001	BOD_5	Weekly Average	mg/L	17.76	12
4/1/14	001	BOD_5	Average	lbs/day	1145	900
4/1/14	001	BOD_5	Average	mg/L	12.22	8
4/1/14	001	TIN	Average	lbs/day	763	338
4/1/14	001	TIN	Average	mg/L	7.22	3
7/1/14	005	Total Coliforms	Maximum	#/100 mL	45.3	23
1/1/15	005	Total Coliforms	Maximum	#/100 mL	42.9	23
2/1/15	005	Total Coliforms	Maximum	#/100 mL	27.1	23
4/1/16	005	Total Coliforms	Maximum	#/100 mL	200.5	23
6/1/16	005	Total Coliforms	Maximum	#/100 mL	23.8	23

The following table summarizes compliance with report submittal requirements over the permit term.

Submittal Name	Due Date	Received Date
Infiltration And Inflow Evaluation	5/15/12	5/14/12
Infiltration And Inflow Evaluation	5/15/13	5/15/13
Infiltration And Inflow Evaluation	5/15/14	5/15/14
Infiltration And Inflow Evaluation	5/15/15	5/7/15
Infiltration And Inflow Evaluation	5/15/16	5/11/16
Wasteload Assessment	5/15/12	5/14/12
Wasteload Assessment	5/15/13	5/14/13
Wasteload Assessment	5/15/14	5/15/14
Wasteload Assessment	5/15/15	5/15/15
Wasteload Assessment	5/15/16	5/11/16
Pretreatment Report	3/1/12	3/1/12
Pretreatment Report	3/1/13	3/1/13
Pretreatment Report	3/1/14	2/25/14
Pretreatment Report	3/1/15	3/2/15
Pretreatment Report	3/1/16	3/1/16
Combined Sewer Overflow Report	5/15/12	5/14/12
Combined Sewer Overflow Report	5/15/13	5/15/13
Combined Sewer Overflow Report	5/15/14	5/15/14
Combined Sewer Overflow Report	5/15/15	5/7/15
Combined Sewer Overflow Report	5/15/16	5/11/16
Outfall Evaluation	3/1/15	3/1/15
Water Reuse Summary Report	1/31/12	2/1/12
Water Reuse Summary Report	1/31/13	1/13/13
Water Reuse Summary Report	1/31/14	2/3/14
Water Reuse Summary Report	1/31/15	1/31/15
Water Reuse Summary Report	1/31/16	1/29/16
Applications for Permit Renewal	3/1/16	3/1/16

F. State Environmental Policy Act (SEPA) Compliance

State law exempts the issuance, reissuance or modification of any wastewater discharge permit from the SEPA process as long as the permit contains conditions that are no less stringent than federal and state rules and regulations (RCW 43.21C.0383). The exemption applies only to existing discharges, not to new discharges.

III. PROPOSED PERMIT LIMITS

Federal and state regulations require that effluent limits in an NPDES permit must be either technology- or water quality-based.

- Technology-based limits are based upon the treatment methods available to treat specific pollutants. Technology-based limits are set by the EPA and published as a regulation, or Ecology develops the limit on a case-by-case basis (40 CFR 125.3, and chapter 173-220 WAC).

- Water quality-based limits are calculated so that the effluent will comply with the Surface Water Quality Standards (chapter 173-201A WAC), Ground Water Standards (chapter 173-200 WAC), Sediment Quality Standards (chapter 173-204 WAC), or the National Toxics Rule (40 CFR 131.36).

- Ecology must apply the most stringent of these limits to each parameter of concern. These limits are described below.

The limits in this permit reflect information received in the application and from supporting reports (engineering, hydrogeology, etc.). Ecology evaluated the permit application and determined the limits needed to comply with the rules adopted by the state of Washington. Ecology does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation.

Ecology does not usually develop limits for pollutants not reported in the permit application but may be present in the discharge. The permit does not authorize discharge of the non-reported pollutants. During the five-year permit term, the facility's effluent discharge conditions may change from those conditions reported in the permit application. The facility must notify Ecology if significant changes occur in any constituent [40 CFR 122.42(a)]. Until Ecology modifies the permit to reflect additional discharge of pollutants, a permitted facility could be violating its permit.

A. Design Criteria

Under WAC 173-220-150 (1)(g), flows and waste loadings must not exceed approved design criteria. The table below includes design criteria.

Table 7 - Design Criteria for the Budd Inlet WWTP

Parameter	Design Quantity
Maximum Month Design Flow (MMDF)	28 MGD
Maximum Day Flow	55 MGD
Peak Hourly Design Flow	64 MGD
BOD_5 Loading for Maximum Month	37,600 lb/day
TSS Loading for Maximum Month	35,100 lb/day
Nitrogen Loading for Maximum Month	6,420 lb/day

B. Technology-Based Effluent Limits

Federal and state regulations define technology-based effluent limits for domestic wastewater treatment plants. These effluent limits are given in 40 CFR Part 133 (federal) and in chapter 173-221 WAC (state). These regulations are performance standards that constitute all known, available, and reasonable methods of prevention, control, and treatment (AKART) for domestic wastewater.

The federal CSO Control Policy (59 FR 18688) also requires entities with Combined Sewer Overflows to implement "Nine Minimum Controls" as technology-based performance standards for CSO discharges. Nine Minimum Controls are discussed in more detail in Section V of this fact sheet.

The table below identifies technology-based limits for pH, fecal coliform, BOD5, and TSS, as listed in chapter 173-221 WAC. Section III.F of this fact sheet describes the potential for water quality-based limits.

Table 8 - Technology-Based Limits

Parameter	**Average Monthly Limit**	**Average Weekly Limit**
BOD_5 (concentration)	30 mg/L	45 mg/L
BOD_5 (concentration)	In addition, the BOD_5 effluent concentration must not exceed 15 percent of the average influent concentration.	
TSS (concentration)	30 mg/L	45 mg/L
TSS (concentration)	In addition, the TSS effluent concentration must not exceed 15 percent of the average influent concentration.	
Parameter	**Monthly Geometric Mean Limit**	**Weekly Geometric Mean Limit**
Fecal Coliform Bacteria	200 organisms/100 mL	400 organisms/100 mL

Technology-based mass limits are based on WAC 173-220-130(3)(b), WAC 173-221-030(11)(b), WAC 173-220-130(1)(a) and (g), and WAC 173-221-040(1). Ecology calculated the monthly and weekly average mass limits for Winter Season BOD_5 and Total Suspended Solids as follows:

Average Monthly Mass Effluent Limit = Influent Mass Design Loading Criteria (lb/day) x 0.15

Average Weekly Mass Effluent Limit = 1.5 x Average Monthly Mass Effluent TSS Limit

Table 9 - Technology-Based Mass Limits

Parameter	Influent Loading (lbs/day)	Mass Limit (lbs/day)
Winter Season BOD_5 Monthly Average	37,600	5640
Winter Season BOD_5 Weekly Average		8460
TSS Monthly Average	35,100	5265
TSS Weekly Average		7898

C. Surface Water Quality-Based Effluent Limits

The Washington State surface water quality standards (chapter 173-201A WAC) are designed to protect existing water quality and preserve the beneficial uses of Washington's surface waters. Waste discharge permits must include conditions that ensure the discharge will meet the surface water quality standards (WAC 173-201A-510). Water quality-based effluent limits may be based on an individual waste load allocation or on a wasteload allocation developed during a basin wide Total Maximum Daily Load (TMDL) Study.

Numerical Criteria for the Protection of Aquatic Life and Recreation

Numerical water quality criteria are listed in the water quality standards for surface waters (chapter 173-201A WAC). They specify the maximum levels of pollutants allowed in receiving water to protect aquatic life and recreation in and on the water. Ecology uses numerical criteria along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

Numerical Criteria for the Protection of Human Health

The U.S. EPA has published 91 numeric water quality criteria for the protection of human health that are applicable to dischargers in Washington State (EPA, 1992). These criteria are designed to protect humans from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface waters. The water quality standards also include radionuclide criteria to protect humans from the effects of radioactive substances.

Narrative Criteria

Narrative water quality criteria (e.g., WAC 173-201A-240(1); 2006) limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge to levels below those which have the potential to:

- Adversely affect designated water uses
- Cause acute or chronic toxicity to biota

- Impair aesthetic values
- Adversely affect human health

Narrative criteria protect the specific designated uses of all fresh waters (WAC 173-201A-200, 2006) and of all marine waters (WAC 173-201A-210, 2006) in the state of Washington.

Antidegradation

Description--The purpose of Washington's Antidegradation Policy (WAC 173-201A-300-330; 2006) is to:

- Restore and maintain the highest possible quality of the surface waters of Washington.
- Describe situations under which water quality may be lowered from its current condition.
- Apply to human activities that are likely to have an impact on the water quality of surface water.
- Ensure that all human activities likely to contribute to a lowering of water quality, at a minimum, apply AKART.
- Apply three tiers of protection (described below) for surface waters of the state.

Tier I ensures existing and designated uses are maintained and protected and applies to all waters and all sources of pollutions. Tier II ensures that waters of a higher quality than the criteria assigned are not degraded unless such lowering of water quality is necessary and in the overriding public interest. Tier II applies only to a specific list of polluting activities. Tier III prevents the degradation of waters formally listed as "outstanding resource waters," and applies to all sources of pollution.

A facility must prepare a Tier II analysis when all three of the following conditions are met:

- The facility is planning a new or expanded action.
- Ecology regulates or authorizes the action.
- The action has the potential to cause measurable degradation to existing water quality at the edge of a chronic mixing zone.

Facility Specific Requirements--This facility must meet Tier I requirements.

- Dischargers must maintain and protect existing and designated uses. Ecology must not allow any degradation that will interfere with, or become injurious to, existing or designated uses, except as provided for in chapter 173-201A WAC.

- For waters that do not meet assigned criteria, or protect existing or designated uses, Ecology will take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards. A TMDL is being completed for Budd Inlet.

Ecology's analysis described in this section of the fact sheet demonstrates that the proposed permit conditions will protect existing and designated uses of the receiving water.

Combined Sewer Overflows

Chapter 173-245 WAC requires that "All CSO sites shall achieve and at least maintain the greatest reasonable reduction, and neither cause violations of applicable water quality standards, nor restrictions to the characteristic uses of the receiving water, nor accumulation of deposits which: (a) Exceed sediment criteria or standards; or (b) have an adverse biological effect." "The greatest reasonable reduction" means control of each CSO outfall such that an average of no more than one untreated discharge may occur per year. Ecology includes specific conditions in the proposed permit to ensure that LOTT Clean Water Alliance continues to make progress towards meeting water quality goals for each CSO outfall in its system. Section V of this fact sheet contains more detailed information on these CSO requirements.

Mixing Zones

A mixing zone is the defined area in the receiving water surrounding the discharge port(s), where wastewater mixes with receiving water. Within mixing zones the pollutant concentrations may exceed water quality numeric standards, so long as the discharge doesn't interfere with designated uses of the receiving water body (for example, recreation, water supply, and aquatic life and wildlife habitat, etc.) The pollutant concentrations outside of the mixing zones must meet water quality numeric standards.

State and federal rules allow mixing zones because the concentrations and effects of most pollutants diminish rapidly after discharge, due to dilution. Ecology defines mixing zone sizes to limit the amount of time any exposure to the end-of-pipe discharge could harm water quality, plants, or fish.

The state's water quality standards allow Ecology to authorize mixing zones for the facility's permitted wastewater discharges only if those discharges already receive AKART. Mixing zones typically require compliance with water quality criteria within a specified distance from the point of discharge and must not use more than 25 percent of the available width of the water body for dilution [WAC 173-201A-400 (7)(a)(ii-iii)].

Ecology uses modeling to estimate the amount of mixing within the mixing zone. Through modeling Ecology determines the potential for violating the water quality standards at the edge of the mixing zone and derives any necessary effluent limits. Steady-state models are the most frequently used tools for conducting mixing zone analyses. Ecology chooses values for each effluent and for receiving water variables that correspond to the time period when the most critical condition is likely to occur (see Ecology's *Permit Writer's Manual*). Each critical condition parameter, by itself, has a low probability of occurrence and the resulting dilution factor is conservative. The term "reasonable worst-case" applies to these values.

The mixing zone analysis produces a numerical value called a Dilution Factor (DF). A dilution factor represents the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. For example, a dilution factor of 4 means the effluent is 25 percent and the receiving water is 75 percent of the total volume of water at the boundary of the mixing zone. Ecology uses dilution factors with the water quality criteria to calculate reasonable potentials and effluent limits. Water quality standards include both aquatic life-based criteria and human health-based criteria. The former are applied at both the acute and chronic mixing zone boundaries; the latter are applied only at the chronic boundary. The concentration of pollutants at the boundaries of any of these mixing zones may not exceed the numerical criteria for that zone.

Each aquatic life *acute* criterion is based on the assumption that organisms are not exposed to that concentration for more than one hour and more often than one exposure in three years. Each aquatic life *chronic* criterion is based on the assumption that organisms are not exposed to that concentration for more than four consecutive days and more often than once in three years.

The two types of human health-based water quality criteria distinguish between those pollutants linked to non-cancer effects (non-carcinogenic) and those linked to cancer effects (carcinogenic). The human health-based water quality criteria incorporate several exposure and risk assumptions. These assumptions include:

- A 70-year lifetime of daily exposures.
- An ingestion rate for fish or shellfish measured in kg/day.
- An ingestion rate of two liters/day for drinking water.
- A one-in-one-million cancer risk for carcinogenic chemicals.

This permit authorizes a small acute mixing zone, surrounded by a chronic mixing zone around the point of discharge (WAC 173-201A-400). The water quality standards impose certain conditions before allowing the discharger a mixing zone:

1. Ecology must specify both the allowed size and location in a permit.

   The proposed permit specifies the size and location of the allowed mixing zone (as specified below).

2. The facility must fully apply AKART to its discharge.

   Ecology has determined that the treatment provided at BITP meets the requirements of AKART (see "Technology-based Limits").

3. Ecology must consider critical discharge conditions.

   Surface water quality-based limits are derived for the water body's critical condition (the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or

designated waterbody uses). The critical discharge condition is often pollutant-specific or waterbody-specific.

Critical discharge conditions are those conditions that result in reduced dilution or increased effect of the pollutant. Factors affecting dilution include the depth of water, the density stratification in the water column, the currents, and the rate of discharge. Density stratification is determined by the salinity and temperature of the receiving water. Temperatures are warmer in the surface waters in summer. Therefore, density stratification is generally greatest during the summer months. Density stratification affects how far up in the water column a freshwater plume may rise. The rate of mixing is greatest when an effluent is rising. The effluent stops rising when the mixed effluent is the same density as the surrounding water. After the effluent stops rising, the rate of mixing is much more gradual. Water depth can affect dilution when a plume might rise to the surface when there is little or no stratification. Ecology uses the water depth at Mean Lower Low Water (MLLW) for marine waters. Ecology's *Permit Writer's Manual* describes additional guidance on criteria/design conditions for determining dilution factors. The manual can be obtained from Ecology's website at: https://fortress.wa.gov/ecy/publications/SummaryPages/92109.html.

Table 10 - Critical Conditions Used to Model the Discharge

Critical Condition	Value
Water Depth at MLLW of 8.3 feet	21.3 feet
Density Profile with a Difference of 7.4 Sigma-T Units Between 23 Feet and the Surface	15.5 – 22.9
Tenth (10^{th}) or 90^{th} Percentile Current Speeds for Acute Mixing Zone	0.9 cm/sec
Fiftieth (50^{th}) Percentile Current Speeds for Chronic and Human Health Mixing Zones	3.75 cm/sec
Maximum Average Monthly Effluent Flow for Chronic and Human Health Non-Carcinogen	28 MGD
Annual Average Flow for Human Health Carcinogen	10.7 MGD
Maximum Daily Flow for Acute Mixing Zone	55 MGD
Effluent Temperature	19.5 degrees C

Ecology obtained ambient data at critical conditions in the vicinity of the outfall from the mixing zone study conducted in 2009.

4. Supporting information must clearly indicate the mixing zone would not:

- Have a reasonable potential to cause the loss of sensitive or important habitat.

- Substantially interfere with the existing or characteristic uses.

- Result in damage to the ecosystem.
- Adversely affect public health.

Ecology established Washington State water quality criteria for toxic chemicals using EPA criteria. EPA developed the criteria using toxicity tests with numerous organisms and set the criteria to generally protect the species tested and to fully protect all commercially and recreationally important species.

EPA sets acute criteria for toxic chemicals assuming organisms are exposed to the pollutant at the criteria concentration for one hour. They set chronic standards assuming organisms are exposed to the pollutant at the criteria concentration for four days. Dilution modeling under critical conditions generally shows that both acute and chronic criteria concentrations are reached within minutes of discharge.

The discharge plume does not impact drifting and non-strong swimming organisms because they cannot stay in the plume close to the outfall long enough to be affected. Strong swimming fish could maintain a position within the plume, but they can also avoid the discharge by swimming away. Mixing zones generally do not affect benthic organisms (bottom dwellers) because the buoyant plume rises in the water column. Ecology has additionally determined that the effluent will not exceed 33 degrees C for more than two seconds after discharge; and that the temperature of the water will not create lethal conditions or blockages to fish migration.

Ecology evaluates the cumulative toxicity of an effluent by testing the discharge with Whole Effluent Toxicity (WET) testing.

Ecology reviewed the above information, the specific information on the characteristics of the discharge, the receiving water characteristics, and the discharge location. Based on this review, Ecology concluded that the discharge does not have a reasonable potential to cause the loss of sensitive or important habitat, substantially interfere with existing or characteristics uses, result in damage to the ecosystem, or adversely affect public health if the permit limits are met.

5. The discharge/receiving water mixture must not exceed water quality criteria outside the boundary of a mixing zone.

Ecology conducted a reasonable potential analysis, using procedures established by the EPA and by Ecology, for each pollutant and concluded the discharge/receiving water mixture will not violate water quality criteria outside the boundary of the mixing zone if permit limits are met.

6. The size of the mixing zone and the concentrations of the pollutants must be minimized.

At any given time, the effluent plume uses only a portion of the acute and chronic mixing zone, which minimizes the volume of water involved in mixing. Because tidal currents change direction, the plume orientation within the mixing zone

changes. The plume mixes as it rises through the water column therefore much of the receiving water volume at lower depths in the mixing zone is not mixed with discharge. Similarly, because the discharge may stop rising at some depth due to density stratification, waters above that depth will not mix with the discharge. Ecology determined it is impractical to specify in the permit the actual, much more limited volume in which the dilution occurs as the plume rises and moves with the current.

Ecology minimizes the size of mixing zones by requiring dischargers to install diffusers when they are appropriate to the discharge and the specific receiving waterbody. When a diffuser is installed, the discharge is more completely mixed with the receiving water in a shorter time. Ecology also minimizes the size of the mixing zone (in the form of the dilution factor) using design criteria with a low probability of occurrence. For example, Ecology uses the expected 95th percentile pollutant concentration, the 90th percentile background concentration, the centerline dilution factor, and the lowest flow occurring once in every ten years to perform the reasonable potential analysis.

Because of the above reasons, Ecology has effectively minimized the size of the mixing zone authorized in the proposed permit.

7. Maximum Size of Mixing Zone

The authorized mixing zone does not exceed the maximum size restriction.

8. Acute Mixing Zone

- The discharge/receiving water mixture must comply with acute criteria as near to the point of discharge as practicably attainable.

  Ecology determined the acute criteria will be met at 10 percent of the distance of the chronic mixing zone.

- The pollutant concentration, duration, and frequency of exposure to the discharge will not create a barrier to migration or translocation of indigenous organisms to a degree that has the potential to cause damage to the ecosystem.

  As described above, the toxicity of any pollutant depends upon the exposure, the pollutant concentration, and the time the organism is exposed to that concentration. Authorizing a limited acute mixing zone for this discharge assures that it will not create a barrier to migration. The effluent from this discharge will rise as it enters the receiving water, assuring that the rising effluent will not cause translocation of indigenous organisms near the point of discharge (below the rising effluent).

- Comply with Size Restrictions

  The mixing zone authorized for this discharge complies with the size restrictions published in chapter 173-201A WAC.

9. Overlap of Mixing Zones

This mixing zone does not overlap another mixing zone.

D. Designated Uses and Surface Water Quality Criteria

Applicable designated uses and surface water quality criteria are defined in chapter 173-201A WAC. In addition, the U.S. EPA set human health criteria for toxic pollutants (EPA 1992). The tables included below summarize the criteria applicable to the receiving water's designated uses.

- Aquatic life uses are designated using the following general categories. All indigenous fish and non-fish aquatic species must be protected in waters of the state.

1. Extraordinary quality salmonid and other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning.

2. Excellent quality salmonid and other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning.

3. Good quality salmonid migration and rearing; other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning.

4. Fair quality salmonid and other fish migration.

The *Aquatic Life Uses* and the associated criteria for this receiving water are identified below.

Table 11 - Marine Aquatic Life Uses and Associated Criteria

Good Quality	
Temperature Criteria – Highest 1D MAX	19°C (66.2°F
Dissolved Oxygen Criteria – Lowest 1-Day Minimum	5.0 mg/L
Turbidity Criteria	• 10 NTU over background when the background is 50 NTU or less; or • A 20 percent increase in turbidity when the background turbidity is more than 50 NTU.
pH Criteria	pH must be within the range of 7.0 to 8.5 with a human-caused variation within the above range of less than 0.5 units.

- To protect shellfish harvesting, Fecal Coliform organism levels must not exceed a geometric mean value of 14 colonies/100 mL, and not have more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 43 colonies/100 mL.

- The *recreational uses* are primary contact recreation and secondary contact recreation.

  The recreational uses for this receiving water are identified below.

  Table 12 - Recreational Uses

Recreational Use	**Criteria**
Secondary Contact Recreation	Enterococci organism levels must not exceed a geometric mean value of 70 colonies/100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 208 colonies/100 mL.

- The *miscellaneous marine water uses* are wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics.

E. Water Quality Impairments

Budd Inlet is listed on the current 303(d) and is impaired for Dissolved Oxygen. Ecology is currently conducting a TMDL Analysis on Budd Inlet/Capital Lake. When completed the TMDL may include waste load allocations (WLA) for BITP.

F. Evaluation of Surface Water Quality-Based Effluent Limits for Narrative Criteria

Ecology must consider the narrative criteria described in WAC 173-201A-260 when it determines permit limits and conditions. Narrative water quality criteria limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge which have the potential to adversely affect designated uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health.

Ecology considers narrative criteria when it evaluates the characteristics of the wastewater and when it implements AKART as described above in the technology-based limits section. When Ecology determines if a facility is meeting AKART it considers the pollutants in the wastewater and the adequacy of the treatment to prevent the violation of narrative criteria.

In addition, Ecology considers the toxicity of the wastewater discharge by requiring WET testing when there is a reasonable potential for the discharge to contain toxics. Ecology's analysis of the need for WET testing for this discharge is described later in the fact sheet.

G. Evaluation of Surface Water Quality-Based Effluent Limits for Numeric Criteria

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near-field) or at a considerable distance from the point of discharge (far-field). Toxic pollutants, for example, are near-field pollutants; their adverse effects diminish rapidly with mixing in the receiving water.

Conversely, a pollutant such as BOD_5 is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

With technology-based controls (AKART), predicted pollutant concentrations in the discharge exceed water quality criteria. Ecology therefore authorizes a mixing zone in accordance with the geometric configuration, flow restriction, and other restrictions imposed on mixing zones by chapter 173-201A WAC.

The diffuser at Outfall 001 is 250 feet long with a diameter of 48 inches. The diffuser has a total of 55 evenly spaced 4.625 inch diameter ports. The distance between ports is 4.5 feet. The diffuser depth is approximately 13 feet. Ecology obtained this information from the Dilution Ratio Study Report submitted in February 2009.

Chronic Mixing Zone -- WAC 173-201A-400(7)(b) specifies that mixing zones must not extend in any horizontal direction from the discharge ports for a distance greater than 200 feet plus the depth of water over the discharge ports and may not occupy more than 25 percent of the width of the water body as measured during MLLW.

The horizontal distance of the chronic mixing zone is 213 feet. The mixing zone extends from the bottom to the top of the water column.

Acute Mixing Zone -- WAC 173-201A-400(8)(b) specifies that in estuarine waters a zone where acute criteria may be exceeded must not extend beyond 10 percent of the distance established for the chronic zone. The acute mixing zone for Outfall 001 extends 21.3 feet in any direction from any discharge port.

Ecology determined the dilution factors that occur within these zones at the critical condition using the LOTT Alliance Mixing Zone Dye Tracer Study Report. The dilution factors are listed below.

Table 13 - Dilution Factors (DF)

Criteria	Acute	Chronic
Aquatic Life	35.3	48.9
Human Health, Carcinogen		48.9
Human Health, Non-carcinogen		48.9

Ecology determined the impacts of Dissolved Oxygen deficiency, nutrients, pH, fecal coliform, ammonia, metals, and temperature as described below, using the dilution factors in the above table. The derivation of surface water quality-based limits also takes into account the variability of pollutant concentrations in both the effluent and the receiving water.

Nutrients -- Ecology is completing a TMDL, referenced above, to establish effluent limits for the following nutrient: Nitrogen. The proposed permit includes effluent limits for Total Inorganic Nitrogen (TIN) derived from the engineering report on the design of the nitrogen removal process.

Dissolved Oxygen--BOD_5 and Ammonia Effects -- Natural decomposition of organic material in wastewater effluent impacts dissolved oxygen in the receiving water at distances far outside of the

regulated mixing zone. The BOD_5 of an effluent sample indicates the amount of biodegradable material in the wastewater and estimates the magnitude of oxygen consumption the wastewater will generate in the receiving water. The amount of ammonia-based nitrogen in the wastewater also provides an indication of oxygen demand potential in the receiving water.

With the performance-based limits on BOD_5 in the summer, this discharge results in a small amount of BOD_5 relative to the amount of dilution in the receiving water at critical conditions. The performance-based limits will ensure that dissolved oxygen does not get worse in the receiving water.

pH -- Compliance with the technology-based limits of 6.0 to 9.0 will assure compliance with the water quality standards of surface waters because of the high buffering capacity of marine water.

Fecal Coliform -- Ecology modeled the numbers of Fecal Coliform by simple mixing analysis using the technology-based limit of 400 organisms per 100 mL and a dilution factor of 48.9.

Under critical conditions, modeling predicts no violation of the water quality criterion for fecal coliform. Therefore, the proposed permit includes the technology-based effluent limit for fecal coliform bacteria.

Turbidity -- Ecology evaluated the impact of turbidity based on the range of TSS in the effluent and Turbidity of the receiving water. Ecology expects no violations of the Turbidity criteria outside the designated mixing zone provided the facility meets its technology-based TSS permit limits.

Toxic Pollutants -- Federal regulations (40 CFR 122.44) require Ecology to place limits in NPDES permits on toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the Surface Water Quality Criteria. Ecology does not exempt facilities with technology-based effluent limits from meeting the Surface Water Quality Standards.

The following toxic pollutants are present in the discharge: Ammonia and Metals. Ecology conducted a reasonable potential analysis on these parameters to determine whether it would require effluent limits in this permit.

Ammonia's toxicity depends on that portion which is available in the unionized form. The amount of Unionized Ammonia depends on the Temperature, pH, and Salinity of the receiving marine water. To evaluate Ammonia toxicity, Ecology used the available receiving water information from the Budd Inlet Scientific Study (1998) and Ecology spreadsheet tools.

No valid ambient background data were available for some metals and organic chemicals. It is clear from the Reasonable Potential Analysis that background concentrations, even if assumed to be zero, were largely irrelevant. Ecology used zero for background in these cases. Valid ambient background data were available for some other metals from the Budd Inlet scientific Study (1998). Ecology used all applicable data to evaluate reasonable potential for this discharge to cause a violation of Water Quality Standards.

Ecology determined that toxic chemicals that had data pose no reasonable potential to exceed the water quality criteria at the critical condition using procedures given in EPA, 1991 as described above. Ecology's determination assumes that this facility meets the other effluent limits of this permit.

Water Quality Criteria for most metals published in chapter 173-201A WAC are based on the dissolved fraction of the metal (see footnotes to table WAC 173-201A-240(3); 2006). LOTT may provide data clearly demonstrating the seasonal partitioning of the Dissolved Metal in the ambient water in relation to an effluent discharge. Ecology may adjust a metal's translator on a site-specific basis when data is available clearly demonstrating the seasonal partitioning in the ambient water in relation to an effluent discharge.

Temperature -- The state Temperature Standards [WAC 173-201A-200-210 and 600-612] include multiple elements:

- Annual Summer Maximum Threshold Criteria (June 15 to September 15)
- Supplemental Spawning and Rearing Season Criteria (September 15 to June 15)
- Incremental Warming Restrictions
- Protections Against Acute Effects

  Ecology evaluates each criterion independently to determine reasonable potential and derive permit limits.

- Annual Summer Maximum and Supplementary Spawning/Rearing Criteria

  Each water body has an annual maximum Temperature criterion [WAC 173-201A-200(1)(c), 210(1)(c), and Table 602]. These threshold criteria (e.g., 12, 16, 17.5, 20°C) protect specific categories of aquatic life by controlling the effect of human actions on summer temperatures.

  Some waters have an additional threshold criterion to protect the spawning and incubation of salmonids (9°C for char and 13°C for salmon and trout) [WAC 173-201A-602, Table 602]. These criteria apply during specific date-windows.

  The threshold criteria apply at the edge of the chronic mixing zone. Criteria for most fresh waters are expressed as the highest 7-Day average of daily maximum Temperature (7-DADMax). The 7-DADMax Temperature is the arithmetic average of seven consecutive measures of daily maximum Temperatures. Criteria for marine waters and some fresh waters are expressed as the highest 1-Day annual maximum Temperature (1-DMax).

- Incremental Warming Criteria

  The water quality standards limit the amount of warming human sources can cause under specific situations [WAC 173-201A-200(1)(c)(i)-(ii), 210(1)(c)(i)-(ii)]. The incremental warming criteria apply at the edge of the chronic mixing zone.

  At locations and times when background temperatures are cooler than the assigned threshold criterion, point sources are permitted to warm the water by only a defined increment. These increments are permitted only to the extent doing so does not cause temperatures to exceed either the annual maximum or supplemental spawning criteria.

At locations and times when a threshold criterion is being exceeded due to natural conditions, all human sources, considered cumulatively, must not warm the water more than 0.3°C above the naturally warm condition.

When Ecology has not yet completed a TMDL, our policy allows each point source to warm water at the edge of the chronic mixing zone by 0.3°C. This is true regardless of the background Temperature and even if doing so would cause the Temperature at the edge of a standard mixing zone to exceed the numeric threshold criteria. Allowing a 0.3°C warming for each point source is reasonable and protective where the dilution factor is based on 25 percent or less of the critical flow. This is because the fully mixed effect on Temperature will only be a fraction of the 0.3°C cumulative allowance (0.075°C or less) for all human sources combined.

- Protections for Temperature Acute Effects

Instantaneous lethality to passing fish: The upper 99th percentile daily maximum effluent Temperature must not exceed 33°C, unless a dilution analysis indicates ambient temperatures will not exceed 33°C two seconds after discharge.

General lethality and migration blockage: Measurable (0.3°C) increases in Temperature at the edge of a Chronic Mixing Zone are not allowed when the receiving water Temperature exceeds either a 1DMax of 23°C or a 7DADMax of 22°C.

Lethality to incubating fish: Human actions must not cause a measurable (0.3°C) warming above 17.5°C at locations where eggs are incubating.

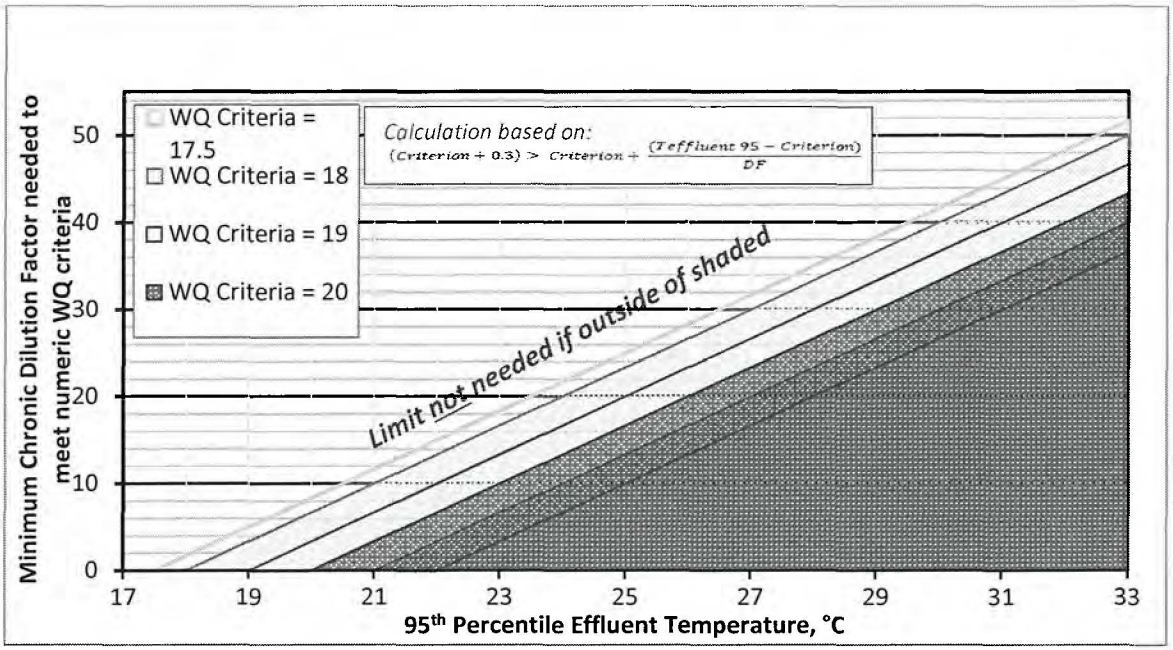
Reasonable Potential Analysis

Annual Summer Maximum and Incremental Warming Criteria: Ecology calculated the reasonable potential for the discharge to exceed the annual summer maximum, and the incremental warming criteria at the edge of the Chronic Mixing Zone during critical conditions. No reasonable potential exists to exceed the Temperature criterion where:

$$(\text{Criterion} + 0.3) > [\text{Criterion} + (\text{Teffluent95} - \text{Criterion})/\text{DF}].$$

The figure below graphically portrays the above equation and shows the conditions when a permit limit will apply.

Figure 2 - Dilution Necessary to Meet Criteria at Edge of Mixing Zone



$(19 + 0.3) > (19 + (21.8 – 19)/48.9)$.

$19.3 > 19.06$

Therefore, the proposed permit does not include a temperature limit. The permit requires additional monitoring of effluent temperatures. Ecology will reevaluate the reasonable potential during the next permit renewal.

H. Human Health

Washington's water quality standards include 97 numeric human health-based criteria that Ecology must consider when writing NPDES permits.

Ecology determined the effluent may contain chemicals of concern for human health, based on the facility's status as an EPA major discharger.

Ecology evaluated the discharge's potential to violate the water quality standards as required by 40 CFR 122.44(d) by following the procedures published in the *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001) and Ecology's *Permit Writer's Manual* to make a reasonable potential determination. The evaluation showed that the discharge has no reasonable potential to cause a violation of water quality standards, and an effluent limit is not needed.

I. Sediment Quality

The aquatic sediment standards (chapter 173-204 WAC) protect aquatic biota and human health. Under these standards Ecology may require a facility to evaluate the potential for its discharge to cause a violation of sediment standards (WAC 173-204-400). You can obtain additional

information about sediments at the Aquatic Lands Cleanup Unit website. http://www.ecy.wa.gov/programs/tcp/smu/sediment.html

Ecology determined that this discharge has potential to cause a violation of the sediment quality standards because it is an EPA Major discharger. The proposed permit includes a Special Condition requiring LOTT to demonstrate either:

- The point of discharge is not an area of deposition; or
- Toxics do not accumulate in the sediments even though the point of discharge is a depositional area.

J. Whole Effluent Toxicity

The water quality standards for surface waters forbid discharge of effluent that has the potential to cause toxic effects in the receiving waters. Many toxic pollutants cannot be measured by commonly available detection methods. However, laboratory tests can measure toxicity directly by exposing living organisms to the wastewater and measuring their responses. These tests measure the aggregate toxicity of the whole effluent, so this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

- *Acute toxicity tests measure mortality as the significant response* to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests find early indications of any potential lethal effect of the effluent on organisms in the receiving water.
- *Chronic toxicity tests measure various sublethal toxic responses*, such as reduced growth or reproduction. Chronic toxicity tests often involve either a complete life cycle test on an organism with an extremely short life cycle, or a partial life cycle test during a critical stage of a test organism's life. Some chronic toxicity tests also measure organism survival.

  Laboratories accredited by Ecology for WET testing know how to use the proper WET testing protocols, fulfill the data requirements, and submit results in the correct reporting format. Accredited laboratory staff know about WET testing and how to calculate an NOEC, LC50, EC50, IC25, etc. Ecology gives all accredited labs the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* (https://fortress.wa.gov/ecy/publications/SummaryPages/9580.html), which is referenced in the permit. Ecology recommends that LOTT Clean Water Alliance send a copy of the acute or chronic toxicity sections(s) of its NPDES permit to the laboratory.

  WET testing conducted during effluent characterization showed no reasonable potential for effluent discharges to cause receiving water acute or chronic toxicity. The proposed permit will not include an acute or chronic WET limit. LOTT Clean Water Alliance must retest the effluent annually for chronic toxicity before submitting an application for permit renewal.

- If this facility makes process or material changes which, in Ecology's opinion, increase the potential for effluent toxicity, then Ecology may (in a regulatory order, by permit modification, or in the permit renewal) require the facility to conduct additional effluent characterization

- If WET testing conducted for submittal with a permit application fails to meet the performance standards in WAC 173-205-020, Ecology will assume that effluent toxicity has increased. LOTT Clean Water Alliance may demonstrate to Ecology that effluent toxicity has not increased by performing additional WET testing after the process or material changes have been made.

K. Groundwater Quality Limits

The groundwater quality standards (chapter 173-200 WAC) protect beneficial uses of groundwater. Permits issued by Ecology must not allow violations of those standards (WAC 173-200-100).

LOTT Clean Water Alliance does not discharge wastewater to the ground. No permit limits are required to protect groundwater.

L. Comparison of effluent limits with the previous permit issued on October 1, 2011

Table 14 - Comparison of Previous and Proposed Effluent Limits

		Previous Effluent Limits: Outfall 001 & 002		**Proposed Effluent Limits: Outfall 001 & 002**	
Parameter	**Basis of Limit**	**Average Monthly**	**Average Weekly**	**Average Monthly**	**Average Weekly**
Winter Season BOD_5 (November – March)	Technology	30 mg/L 5640 lbs/day 85% removal of influent BOD_5	45 mg/L 8460 lbs/day	30 mg/L 5640 lbs/day 85% removal of influent BOD_5	45 mg/L 8460 lbs/day
Spring/Fall Season BOD_5 (April, May, & October)	Performance	8 mg/L 900 lbs/day 85% removal of influent BOD_5	12 mg/L 1350 lbs/day	8 mg/L 900 lbs/day 85% removal of influent BOD_5	12 mg/L 1350 lbs/day
Summer Season BOD_5 (June-September)	Performance	7 mg/L 671 lbs/day 85% removal of influent BOD_5	10.5 mg/L 1006 lbs/day	7 mg/L 671 lbs/day 85% removal of influent BOD_5	10.5 mg/L 1006 lbs/day
TSS	Technology	30 mg/L 5265 lbs/day 85% removal of influent TSS	45 mg/L 7898 lbs/day	30 mg/L 5265 lbs/day 85% removal of influent TSS	45 mg/L 7898 lbs/day
Spring/Fall Season TIN (April, May, & October)	Technology/ Performance	3 mg/L 338 lbs/day		3 mg/L 338 lbs/day	

		Previous Effluent Limits: Outfall 001 & 002		**Proposed Effluent Limits: Outfall 001 & 002**	
Parameter	**Basis of Limit**	**Average Monthly**	**Average Weekly**	**Average Monthly**	**Average Weekly**
Summer Season TIN (June - September)	Technology/ Performance	3 mg/L 288 lbs/day		3 mg/L 288 lbs/day	
Winter Season Total Ammonia (as N) (November – March) at Outfall 001	WQ	26 mg/L	36 mg/L	26 mg/L	36 mg/L
Winter Season Total Ammonia (as N) (November – March) at Outfall 002	WQ	22 mg/L	31 mg/L	22 mg/L	31 mg/L
Total Recoverable Copper at Outfall 002	WQ	6 µg/L	7.5 µg/L	6 µg/L	7.5 µg/L
Parameter		**Monthly Geometric Mean Limit**	**Weekly Geometric Mean Limit**	**Monthly Geometric Mean Limit**	**Weekly Geometric Mean Limit**
Fecal Coliform Bacteria	Technology	200/100 mL	400/100 mL	200/100 mL	400/100 mL
Parameter		**Limit**		**Limit**	
pH	Technology	6.0 – 9.0		6.0 – 9.0	

		Previous Effluent Limits: Outfall 005		Proposed Effluent Limits: Outfall 005	
Parameter	**Basis of Limit**	**Average Monthly**	**Sample Maximum**	**Average Monthly**	**Sample Maximum**
Flow	Technology	1.5 MGD		1.5 MGD	
Dissolved Oxygen	Technology	Present		Present	
Turbidity	Technology	2 NTU	5 NTU	2 NTU	5 NTU
Total Nitrate (as N)	Technology	10 mg/L		10 mg/L	
Parameter	**Basis of Limit**	**7-day Median**	**Sample Maximum**	**7-day Median**	**Sample Maximum**
Total Coliform	Technology	2.2 MPN/ 100 mL	23 MPN/ 100 mL	2.2 MPN/ 100 mL	23 MPN/ 100 mL
Parameter	**Basis of Limit**	**Limit**		**Limit**	
pH	Technology	6.0 – 9.0		6.0 – 9.0	
Chlorine Residual	Technology	Detectable		Detectable	

IV. MONITORING REQUIREMENTS

Ecology requires monitoring, recording, and reporting (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and that the discharge complies with the permit's effluent limits.

If a facility uses a contract laboratory to monitor wastewater, it must ensure that the laboratory uses the methods and meets or exceeds the method detection levels required by the permit. The permit describes when facilities may use alternative methods. It also describes what to do in certain situations when the laboratory encounters matrix effects. When a facility uses an alternative method as allowed by the permit, it must report the test method, detection level (DL), and quantitation level (QL) on the discharge monitoring report or in the required report.

A. Wastewater Monitoring

The monitoring schedule is detailed in the proposed permit under Special Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring. The required monitoring frequency is consistent with agency guidance given in the current version of Ecology's *Permit Writer's Manual* (Publication Number 92-09) for Activated Sludge Plants > 5.0 MGD Average Design Flow.

Ecology has included some additional monitoring of nutrients in the proposed permit to establish a baseline for this discharger. It will use this data in the future as it develops TMDLs for dissolved oxygen and establishes WLAs for nutrients.

Monitoring of sludge quantity and quality is necessary to determine the appropriate uses of the sludge. Biosolids monitoring is required by the current state and local Solid Waste Management Program and also by EPA under 40 CFR 503.

As a pretreatment Publicly Owned Treatment Works (POTW), the LOTT Clean Water Alliance is required to sample influent, final effluent, and sludge for toxic pollutants in order to characterize the industrial input. Sampling is also done to determine if pollutants interfere with the treatment process or pass-through the plant to the sludge or the receiving water. LOTT will use the monitoring data to develop local limits which commercial and industrial users must meet.

B. Lab Accreditation

Ecology requires that facilities must use a laboratory registered or accredited under the provisions of chapter 173-50 WAC, Accreditation of Environmental Laboratories, to prepare all monitoring data (with the exception of certain parameters). Ecology accredited the laboratory at this facility for:

Table 15 - Accredited Parameters

Parameter Name	Category	Method Name	Matrix Description
Ammonia	General Chemistry	EPA 350.1_2_1993	Non-Potable Water
TKN	General Chemistry	EPA 351.2_2_1993	Non-Potable Water
Dissolved Oxygen	General Chemistry	Hach 10360 Rev 1.1	Non-Potable Water
Turbidity	General Chemistry	SM 2130 B-01	Non-Potable Water
Specific Conductance	General Chemistry	SM 2510 B-97	Non-Potable Water
Solids, Total	General Chemistry	SM 2540 B-97	Non-Potable Water
Solids, Total Suspended	General Chemistry	SM 2540 D-97	Non-Potable Water
Chlorine (Residual), Total	General Chemistry	SM 4500-Cl D-00	Non-Potable Water
pH	General Chemistry	SM 4500-H+ B-00	Non-Potable Water
Nitrite	General Chemistry	SM 4500-$NO2^-$ B-00	Non-Potable Water
Nitrate	General Chemistry	SM 4500-$NO3^-$ F-00	Non-Potable Water
Nitrate + Nitrite	General Chemistry	SM 4500-$NO3^-$ F-00	Non-Potable Water
Dissolved Oxygen	General Chemistry	SM 4500-O G-01	Non-Potable Water
BOD_5	General Chemistry	SM 5210 B-01	Non-Potable Water

Parameter Name	Category	Method Name	Matrix Description
Fecal Coliform-Count	Microbiology	SM 9222 D (m-FC)-97	Non-Potable Water
Total Coli/Ecoli - Count	Microbiology	SM 9223 B (Colilert® QTray)	Non-Potable Water
Solids, Total, Fixed and Volatile	General Chemistry	SM 2540 G-97	Solid and Chemical Materials

C. Effluent Limits which are Near Detection or Quantitation Levels

Water quality-based effluent concentration limits may be near the limits of current analytical methods to detect or accurately quantify. The Method Detection Level (MDL) also known as Detection Level (DL) is the minimum concentration of a pollutant that a laboratory can measure and report with a 99 percent confidence that its concentration is greater than zero (as determined by a specific laboratory method). The Quantitation Level (QL) is the level at which a laboratory can reliably report concentrations with a specified level of error. Estimated concentrations are the values between the DL and the QL. Ecology requires permitted facilities to report estimated concentrations. When reporting maximum daily effluent concentrations, Ecology requires the facility to report "less than X" where X is the required detection level if the measured effluent concentration falls below the detection level.

V. OTHER PERMIT CONDITIONS

A. Reporting and Record Keeping

Ecology based Special Condition S3 on its authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges (WAC 173-220-210).

B. Prevention of Facility Overloading

Overloading of the treatment plant is a violation of the terms and conditions of the permit. To prevent this from occurring, RCW 90.48.110 and WAC 173-220-150 require LOTT to:

- Take the actions detailed in proposed permit Special Condition S.4.
- Design and construct expansions or modifications before the treatment plant reaches existing capacity.
- Report and correct conditions that could result in new or increased discharges of pollutants.

Special Condition S4 restricts the amount of flow.

C. Operation and Maintenance (O&M)

The proposed permit contains Special Condition S5 as authorized under RCW 90.48.110, WAC 173-220-150, chapter 173-230 WAC, and WAC 173-240-080. Ecology included it to ensure proper operation and regular maintenance of equipment, and to ensure that LOTT takes adequate

safeguards so that it uses constructed facilities to their optimum potential in terms of pollutant capture and treatment.

D. Pretreatment

Duty to Enforce Discharge Prohibitions

This provision prohibits the POTW from authorizing or permitting an industrial discharger to discharge certain types of waste into the sanitary sewer.

- The first section of the pretreatment requirements prohibits the POTW from accepting pollutants which causes "pass-through" or "interference." This general prohibition is from 40 CFR §403.5(a). **Appendix C** of this fact sheet defines these terms.

- The second section reinforces a number of specific state and federal pretreatment prohibitions found in WAC 173-216-060 and 40 CFR §403.5(b). These reinforce that the POTW may not accept certain wastes, which:

  1. Are prohibited due to Dangerous Waste Rules
  2. Are explosive or flammable
  3. Have too high or low of a pH (too corrosive, acidic or basic)
  4. May cause a blockage such as grease, sand, rocks, or viscous materials
  5. Are hot enough to cause a problem
  6. Are of sufficient strength or volume to interfere with treatment
  7. Contain too much petroleum-based oils, mineral oil, or cutting fluid
  8. Create noxious or toxic gases at any point

  Forty (40) CFR Part 403 contains the regulatory basis for these prohibitions, with the exception of the pH provisions which are based on WAC 173-216-060.

- The third section of pretreatment conditions reflects state prohibitions on the POTW accepting certain types of discharges unless the discharge has received prior written authorization from Ecology. These discharges include:

1. Cooling water in significant volumes
2. Stormwater and other direct inflow sources
3. Wastewaters significantly affecting system hydraulic loading, which do not require treatment

Ecology delegated authority to LOTT for permitting, monitoring, and enforcement over industrial users discharging to their treatment system to provide more direct and effective control of pollutants. Ecology oversees the delegated Industrial Pretreatment Program to assure compliance with federal pretreatment regulations (40 CFR Part 403) and categorical standards and state regulations (chapter 90.48 RCW and chapter 173-216 WAC).

E. Solid Wastes

To prevent water quality problems the facility is required in permit Special Condition S7 to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and state Water Quality Standards.

The final use and disposal of sewage sludge from this facility is regulated by U.S. EPA under 40 CFR 503, and by Ecology under chapter 70.95J RCW, chapter 173-308 WAC "Biosolids Management," and chapter 173-350 WAC "Solid Waste Handling Standards." The disposal of other Solid Waste is under the jurisdiction of the Thurston County Health Department.

Requirements for monitoring sewage sludge and record keeping are included in this permit. Ecology will use this information, required under 40 CFR 503, to develop or update local limits.

F. Combined Sewer Overflows

Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same piping system. Most of the time, combined sewer systems transport all wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. During periods of heavy rainfall or snowmelt, however, the wastewater volume in a combined sewer system can exceed the capacity of the Combined Sewer System or treatment plant. For this reason, Combined Sewer Systems are designed to overflow occasionally and discharge excess wastewater directly to nearby streams, rivers, or other water bodies. Chapter 173-245 WAC and EPA's CSO control policy (59 FR 18688) identify the required measures for control of overflows from combined sewer systems.

CSO Reduction Plan/Long-Term Control Plan and CSO Reduction Plan Amendments

Ecology requires municipalities to initially develop CSO Reduction Plans per chapter 173-245 WAC requirements. These plans are substantially equivalent to the Long-Term Control Plan (LTCP) as defined by EPA in its CSO control policy. Chapter 173-245 WAC requires that "All CSO sites shall achieve and at least maintain the greatest reasonable reduction, and neither cause violations of applicable water quality standards, nor restrictions to the characteristic uses of the receiving water, nor accumulation of deposits which: (a) Exceed sediment criteria or standards; or (b) have an adverse biological effect." "The greatest reasonable reduction" means control of each CSO outfall such that an average of no more than one untreated discharge may occur per year.

Under EPA's CSO Control Policy's presumption approach, CSO controls are presumed to attain WQS if certain performance criteria are met. Ecology presumes that a program that meets the criteria specified in WAC 173-245 and EPA's CSO control policy provides an adequate level of control to meet the water quality-based requirements of the Clean Water Act. This presumption must be verified via a post-construction monitoring program by

characterization, monitoring, and modeling of the system, including consideration of sensitive areas.

Nine Minimum Controls

Municipalities with Combined Sewer Overflow outfalls must implement nine minimum controls as technology-based standards for CSO discharges. The nine minimum controls are largely programmatic policies and practices designed to minimize the impacts untreated CSOs have on human health and the environment. It is not possible with current knowledge and technology to calculate numeric water quality-based effluent limits for CSOs. Ecology may include numeric water quality-based effluent limits in the future permits only after the long-term control plan is in place and after collection of sufficient water quality data.

The nine minimum controls include:

1. Use proper operations and maintenance practices within the combined collection system to reduce the magnitude, frequency and duration of CSOs.

2. Implement procedures that maximize storage capacity of the combined collection system.

3. Minimize pollution from non-domestic wastewater sources through close management of a pretreatment program.

4. Maximize treatable flow to the wastewater treatment plant during wet weather.

5. Prevent CSO discharges during dry weather and properly report any dry weather CSO discharges immediately to Ecology.

6. Implement procedures to control solid and floatable materials in CSOs.

7. Implement and maintain a pollution prevention program designed to keep pollutants from entering the combined sewer system.

8. Establish a process to notify the public when and where CSOs occur.

9. Monitor CSO outfalls to characterize CSO impacts and the efficacy of CSO controls, including event-based monitoring of all CSO flow quantity, frequency and duration.

CSO Monitoring

The proposed permit requires LOTT to monitor the volume, duration, and precipitation associated with each CSO discharge event at each identified outfall.

Annual CSO Report

LOTT must submit annual reports according to the requirements of WAC 173-245-090(1). This report: (a) details the past year's frequency and volume of combined sewage discharge from each CSO site, (b) explains the previous year's CSO reduction accomplishments, and

(c) lists the projects planned for the next year. The report must indicate whether a CSO site has increased over the baseline annual condition. If an increase has occurred, the Permittee must propose a project and/or schedule to reduce that site below its baseline conditions. The report must document implementation of the nine minimum controls, and wet weather operation (flow blending) at the treatment plant.

LOTT must also assess in its annual reports whether identified outfalls meet the state standard of one untreated discharge per year per CSO. Assessment may be based on a long-term average which is currently defined as five years.

G. Outfall Evaluation

The proposed permit requires LOTT Clean Water Alliance to conduct an outfall inspection and submit a report detailing the findings of that inspection (Special Condition S.11). The inspection must evaluate the physical condition of the discharge pipe and diffusers, and evaluate the extent of sediment accumulations in the vicinity of the outfall.

H. Contributing Jurisdictions

Proposed permit Condition S13 applies to the contributing jurisdictions of LOTT, namely Lacey, Olympia, Tumwater, and Thurston County. The contributing jurisdictions have pretreatment, reporting, loading, and operation and maintenance requirements in the permit. Each jurisdiction must properly operate and maintain their respective collection systems, and responsibly respond to and report spills.

I. General Conditions

Ecology bases the standardized General Conditions on state and federal law and regulations. They are included in all individual domestic wastewater NPDES permits issued by Ecology.

J. Reclaimed Water (R) Conditions

Proposed Permit Limitations (R1)

The Reclaimed Water Act, Chapter 90.46 RCW requires that reclaimed water be adequately and reliably treated prior to distribution and beneficial use. State regulations require that limitations set forth in a permit issued under Chapter 90.48 RCW must be either technology- or water quality-based. Municipal wastewater must also be treated using AKART and not pollute the waters of the state. The minimum criteria to demonstrate compliance with these requirements are derived from the Water Reclamation and Reuse Standards and Chapter 173-221 WAC.

The permit includes limitations on the quantity and quality of the Reclaimed Water that has been determined to protect the quality of the ground water. The approved Engineering Report includes specific design criteria for this facility. Water quality-based limitations are based upon compliance with the Ground Water Recharge Criteria (RCW 90.46.080) which are the Drinking Water Standards for the parameters noted and the Ground Water Quality Standards (Chapter 173-200 WAC) for other parameters that require regulation.

The more stringent of the water quality-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

Technology-Based Effluent Limitations

All waste discharge permits issued by Ecology must specify conditions requiring all known available and reasonable methods of prevention, control, and treatment of discharges to waters of the State (WAC 173-216-110). All Reclaimed Water Permits must assure that the effluent has been adequately and reliably treated so that as a result of that treatment, it is suitable for a beneficial use or controlled use that would not otherwise occur and is no longer considered a wastewater (RCW 90.46.010(40).

The authority and duties for Reclaimed Water use are in addition to those already provided in law with regard to sewage and wastewater collection, treatment and disposal for the protection of public health and the safety of the State's waters. All waste discharge permits issued by Ecology must specify conditions requiring all known available and reasonable methods of prevention, control, and treatment of discharges to waters of the State (WAC 173-216-110). For land application, the permit requires the Reclaimed Water to be applied at agronomic rates.

The Water Reclamation and Reuse Standards, 1997, outline the requirements for the additional level of treatment technology as well as water quality limits necessary for public health protection during the use of Reclaimed Water. The standards provide four classes of Reclaimed Water, Classes A, B, C, and D.

This facility produces Class A Reclaimed Water. Class A is the highest quality of reclaimed water and therefore provides the broadest range of reuse opportunities. Conversely, Class A Reclaimed Water requires the most stringent treatment and water quality limitations. The technology and water quality requirements for the production of Class A Reclaimed Water are as follows:

1. "Class A Reclaimed Water" is Reclaimed Water that had been adequately and reliably treated and, at a minimum is, at all times, an oxidized, coagulated, filtered and disinfected wastewater.

2. Oxidized is defined as wastewater in which the organic matter has been stabilized such that the BOD5 does not exceed 30 mg/L and TSS does not exceed 30 mg/L, is nonputrescible and contains dissolved oxygen.

3. Coagulated wastewater is defined as an oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated prior to filtration by the addition of chemicals or by an equally effective method.

4. Filtered wastewater is defined as an oxidized, coagulated wastewater which has been passed through natural undisturbed soils or filter media, such as sand or anthracite, so that the turbidity as determined by an approved laboratory method does not exceed an average operating turbidity of 2 Nephelometric Turbidity Units (NTU), determined monthly, and does not exceed 5 NTU at any time.

5. Adequate disinfection is defined as the median number of Total Coliform organisms in the wastewater after disinfection does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last seven days for which analyses have been completed, and the number of Total Coliform organisms does not exceed 23 per 100 milliliters in any sample.

6. A Chlorine Residual shall be maintained in the Reclaimed Water during conveyance from the reclamation facility to the use areas.

Monitoring Requirements (R2)

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that reclaimed water limitations are being achieved

The reclaimed water monitoring and testing schedule is detailed in the proposed permit under Condition R2. Specified monitoring frequencies take into account the quantity and variability of the reclaimed water, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

Monitoring for total nitrogen is being required to further characterize the Reclaimed Water. This pollutant could have a significant impact on the quality of the ground water.

Reporting and Recordkeeping (R3)

The conditions of R3 are based on the authority to specify appropriate reporting and recordkeeping requirements to prevent and control the distribution or use of inadequately treated wastewater.

Reclaimed Water Distribution and Use (R4)

These permit requirements are based on the Water Reclamation and Reuse Standards authorized in Chapter 90.46 RCW. The standards contain requirements to assure that distribution and use of Reclaimed Water are protective of public health and the environment at all times. These include prohibitions on bypass, alarms and storage or alternative disposal of substandard water, maintenance of operational records, cross connection control, use area restrictions and enforceable contracts and a local Reclaimed Water Use Ordinance.

Operations and Maintenance (R5)

The proposed permit contains Condition R5 as authorized under the Water Reclamation and Reuse Standards and RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture, treatment and protection of public health and the environment.

VI. PERMIT ISSUANCE PROCEDURES

A. Permit Modifications

Ecology may modify this permit to impose numerical limits, if necessary to comply with Water Quality Standards for Surface Waters, with Sediment Quality Standards, or with Water Quality Standards for Groundwaters, based on new information from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

Ecology may also modify this permit to comply with new or amended state or federal regulations.

B. Proposed Permit Issuance

This proposed permit meets all statutory requirements for Ecology to authorize a wastewater discharge. The permit includes limits and conditions to protect human health and aquatic life, and the beneficial uses of waters of the state of Washington. Ecology proposes to issue this permit for a term of five years.

VII. REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. *Technical Support Document for Water Quality-based Toxics Control.* EPA/505/2-90-001.

1988. *Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling.* USEPA Office of Water, Washington, D.C.

1985. *Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water.* EPA/600/6-85/002a.

1983. *Water Quality Standards Handbook.* USEPA Office of Water, Washington, D.C.

LOTT Clean Water Alliance

1998. *Budd Inlet Scientific Study Final Report*

1998. *LOTT Wastewater Resources Management Plan*

2009. *Mixing Zone Dye Tracer Study Report*

Tsivoglou, E.C., and J.R. Wallace.

1972. *Characterization of Stream Reaeration Capacity.* EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

December 2011. *Permit Writer's Manual.* Publication Number 92-109 (https://fortress.wa.gov/ecy/publications/SummaryPages/92109.html)

September 2011. *Water Quality Program Guidance Manual – Supplemental Guidance on Implementing Tier II Antidegradation*. Publication Number 11-10-073 (https://fortress.wa.gov/ecy/publications/summarypages/1110073.html)

October 2010 (revised). *Water Quality Program Guidance Manual – Procedures to Implement the State's Temperature Standards through NPDES Permits*. Publication Number 06-10-100 (https://fortress.wa.gov/ecy/publications/summarypages/0610100.html)

Laws and Regulations (http://www.ecy.wa.gov/laws-rules/index.html)

Permit and Wastewater Related Information (http://www.ecy.wa.gov/programs/wq/permits/guidance.html)

Water Pollution Control Federation.

1976. *Chlorination of Wastewater.*

Wright, R.M., and A.J. McDonnell.

1979. *In-stream Deoxygenation Rate Prediction.* Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

Ecology proposes to reissue a permit to LOTT Clean Water Alliance. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and Ecology's reasons for requiring permit conditions.

Ecology placed a Public Notice of Application on June 13, 2016, and June 20, 2016, in the *Olympian* to inform the public about the submitted application and to invite comment on the reissuance of this permit.

Ecology will place a Public Notice of Draft on June 13, 2017, in the *Olympian* to inform the public and to invite comment on the proposed draft National Pollutant Discharge Elimination System permit and fact sheet.

The notice:

- Tells where copies of the draft permit and fact sheet are available for public evaluation (a local public library, the closest regional or field office, posted on our website).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Asks people to tell us how well the proposed permit would protect the receiving water.
- Invites people to suggest fairer conditions, limits, and requirements for the permit.
- Invites comments on Ecology's determination of compliance with antidegradation rules.
- Urges people to submit their comments, in writing, before the end of the comment period.
- Tells how to request a public hearing about the proposed NPDES permit.
- Explains the next step(s) in the permitting process.

Ecology has published a document entitled *Frequently Asked Questions about Effective Public Commenting,* which is available on our website at https://fortress.wa.gov/ecy/publications/SummaryPages/0307023.html.

You may obtain further information from Ecology by telephone, 360-407-6278, or by writing to the address listed below.

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

The primary author of this permit and fact sheet is Dave Dougherty.

APPENDIX B --YOUR RIGHT TO APPEAL

You have a right to appeal this permit to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of the final permit. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2) (see glossary).

To appeal you must do the following within 30 days of the date of receipt of this permit:

- File your appeal and a copy of this permit with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this permit on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in chapter 43.21B RCW and chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive Southeast Lacey, Washington 98503	**Department of Ecology** Attn: Appeals Processing Desk P.O. Box 47608 Olympia, Washington 98504-7608
Pollution Control Hearings Board 1111 Israel Road Southwest, Suite 301 Tumwater, Washington 98501	**Pollution Control Hearings Board** P.O. Box 40903 Olympia, Washington 98504-0903

APPENDIX C--GLOSSARY

1-1-DMax or 1-day Maximum Temperature -- The highest water temperature reached on any given day. This measure can be obtained using calibrated maximum/minimum thermometers or continuous monitoring probes having sampling intervals of thirty minutes or less.

7-DADMax or 7-day Average of the Daily Maximum Temperatures -- The arithmetic average of seven consecutive measures of daily maximum temperatures. The 7-DADMax for any individual day is calculated by averaging that day's daily maximum temperature with the daily maximum temperatures of the three days prior and the three days after that date.

Acute Toxicity --The lethal effect of a compound on an organism that occurs in a short time period, usually 48 to 96 hours.

AKART -- The acronym for "all known, available, and reasonable methods of prevention, control and treatment." AKART is a technology-based approach to limiting pollutants from wastewater discharges, which requires an engineering judgment and an economic judgment. AKART must be applied to all wastes and contaminants prior to entry into waters of the state in accordance with RCW 90.48.010 and 520, WAC 173-200-030(2)(c)(ii), and WAC 173-216-110(1)(a).

Alternate Point of Compliance -- An alternative location in the ground water from the point of compliance where compliance with the ground water standards is measured. It may be established in the ground water at locations some distance from the discharge source, up to, but not exceeding the property boundary and is determined on a site specific basis following an AKART analysis. An "early warning value" must be used when an alternate point is established. An alternate point of compliance must be determined and approved in accordance with WAC 173-200-060(2).

Ambient Water Quality -- The existing environmental condition of the water in a receiving water body.

Ammonia -- Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Annual Average Design Flow (AADF -- average of the daily flow volumes anticipated to occur over a calendar year.

Average Monthly Discharge Limit -- The average of the measured values obtained over a calendar month's time.

Background Water Quality -- The concentrations of chemical, physical, biological or radiological constituents or other characteristics in or of ground water at a particular point in time upgradient of an activity that has not been affected by that activity, [WAC 173-200-020(3)]. Background water quality for any parameter is statistically defined as the 95 percent upper tolerance interval with a 95 percent confidence based on at least eight hydraulically upgradient water quality samples. The eight samples are collected over a period of at least one year, with no more than one sample collected during any month in a single calendar year.

Best Management Practices (BMPs) -- Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and

practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD5 -- Determining the five-day Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD5 is used in modeling to measure the reduction of dissolved oxygen in receiving waters after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD_5 is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass -- The intentional diversion of waste streams from any portion of a treatment facility.

Categorical Pretreatment Standards -- National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties, which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Chlorine -- A chemical used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity -- The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA -- The federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection-Without Sampling -- A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection-With Sampling -- A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations. In addition it includes as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Ecology may conduct additional sampling.

Composite Sample -- A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity -- Clearing, grading, excavation, and any other activity, which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Continuous Monitoring -- Uninterrupted, unless otherwise noted in the permit.

Critical Condition -- The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Date of Receipt – This is defined in RCW 43.21B.001(2) as five business days after the date of mailing; or the date of actual receipt, when the actual receipt date can be proven by a preponderance of the evidence. The recipient's sworn affidavit or declaration indicating the date of receipt, which is unchallenged by the agency, constitutes sufficient evidence of actual receipt. The date of actual receipt, however, may not exceed forty-five days from the date of mailing.

Detection Limit -- See Method Detection Level.

Dilution Factor (DF) -- A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction, for example, a dilution factor of 10 means the effluent comprises 10 percent by volume and the receiving water 90 percent.

Distribution Uniformity -- The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Early Warning Value -- The concentration of a pollutant set in accordance with WAC 173-200-070 that is a percentage of an enforcement limit. It may be established in the effluent, ground water, surface water, the vadose zone or within the treatment process. This value acts as a trigger to detect and respond to increasing contaminant concentrations prior to the degradation of a beneficial use.

Enforcement Limit -- The concentration assigned to a contaminant in the ground water at the point of compliance for the purpose of regulation, [WAC 173-200-020(11)]. This limit assures that a ground water criterion will not be exceeded and that background water quality will be protected.

Engineering Report -- A document that thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report must contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria -- Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample -- A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Ground Water -- Water in a saturated zone or stratum beneath the surface of land or below a surface water body.

Industrial User -- A discharger of wastewater to the sanitary sewer that is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater -- Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference -- A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

- Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits -- Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Major Facility -- A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limit -- The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Maximum Day Design Flow (MDDF) -- The largest volume of flow anticipated to occur during a one-day period, expressed as a daily average.

Maximum Month Design Flow (MMDF) -- The largest volume of flow anticipated to occur during a continuous 30-day period, expressed as a daily average.

Maximum Week Design Flow (MWDF) -- The largest volume of flow anticipated to occur during a continuous seven-day period, expressed as a daily average.

Method Detection Level (MDL) -- The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the pollutant concentration is above zero and is determined from analysis of a sample in a given matrix containing the pollutant.

Minor Facility -- A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone -- An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The permit specifies the area of the authorized mixing zone that Ecology defines following procedures outlined in state regulations (chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES) -- The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both state and federal laws.

pH -- The pH of a liquid measures its acidity or alkalinity. It is the negative logarithm of the hydrogen ion concentration. A pH of 7 is defined as neutral and large variations above or below this value are considered harmful to most aquatic life.

Pass-through -- A discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

Peak Hour Design Flow (PHDF) -- The largest volume of flow anticipated to occur during a one-hour period, expressed as a daily or hourly average.

Peak Instantaneous Design Flow (PIDF) -- The maximum anticipated instantaneous flow.

Point of Compliance -- The location in the ground water where the enforcement limit must not be exceeded and a facility must comply with the Ground Water Quality Standards. Ecology determines this limit on a site-specific basis. Ecology locates the point of compliance in the ground water as near and directly downgradient from the pollutant source as technically, hydrogeologically, and geographically feasible, unless it approves an alternative point of compliance.

Potential Significant Industrial User (PSIU) --A potential significant industrial user is defined as an Industrial User that does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

1. Exceeds 0.5 percent of treatment plant design capacity criteria and discharges <25,000 gallons per day or;

2. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes). Ecology may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

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, or 5) x 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).

Reasonable Potential -- A reasonable potential to cause a water quality violation, or loss of sensitive and/or important habitat.

Responsible Corporate Officer -- 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 employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Significant Industrial User (SIU) --

1. All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;

2. Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement [in accordance with 40 CFR 403.8(f)(6)].

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug Discharge -- Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate that may cause interference or pass through with the POTW or in any way violate the permit conditions or the POTW's regulations and local limits.

Soil Scientist -- An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and

have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

Solid Waste -- All putrescible and non-putrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, contaminated soils and contaminated dredged material, and recyclable materials.

Soluble BOD_5 -- Determining the soluble fraction of Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of soluble organic material present in an effluent that is utilized by bacteria. Although the soluble BOD_5 test is not specifically described in Standard Methods, filtering the raw sample through at least a 1.2 um filter prior to running the standard BOD_5 test is sufficient to remove the particulate organic fraction.

State Waters -- Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-Based Effluent Limit -- A permit limit based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria--A microbiological test, which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS) -- Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Upset -- 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, lack of preventative maintenance, or careless or improper operation.

Water Quality-Based Effluent Limit -- A limit imposed on the concentration of an effluent parameter to prevent the concentration of that parameter from exceeding its water quality criterion after discharge into receiving waters.

APPENDIX D--TECHNICAL CALCULATIONS

Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found in the PermitCalc workbook on Ecology's webpage at: http://www.ecy.wa.gov/programs/wq/permits/guidance.html.

Simple Mixing:

Ecology uses simple mixing calculations to assess the impacts of certain conservative pollutants, such as the expected increase in fecal coliform bacteria at the edge of the chronic mixing zone boundary. Simple mixing uses a mass balance approach to proportionally distribute a pollutant load from a discharge into the authorized mixing zone. The approach assumes no decay or generation of the pollutant of concern within the mixing zone. The predicted concentration at the edge of a mixing zone (C_{mz}) is based on the following calculation:

$$C_{mz} = Ca + \frac{(Ce - Ca)}{DF}$$

where: Ce = Effluent Concentration

Ca = Ambient Concentration

DF = Dilution Factor

Reasonable Potential Analysis:

The spreadsheets Input 2 – Reasonable Potential, and LimitCalc in Ecology's PermitCalc Workbook determine reasonable potential (to violate the aquatic life and human health water quality standards) and calculate effluent limits. The process and formulas for determining reasonable potential and effluent limits in these spreadsheets are taken directly from the *Technical Support Document for Water Quality-based Toxics Control*, (EPA 505/2-90-001). The adjustment for autocorrelation is from EPA (1996a), and EPA (1996b).

Reasonable Potential Calculation

Facility	LOTT Clean Water Alliance
Water Body Type	Marine

Dilution Factors:	Acute	Chronic
Aquatic Life	35.3	48.9
Human Health Carcinogenic		48.9
Human Health Non-Carcinogenic		48.9

Pollutant, CAS No. & NPDES Application Ref. No.			AMMONIA, Criteria as Total NH3	COPPER - 744058 6M Hardness dependent	LEAD - 7439921 7M Dependent on hardness	NICKEL - 7440020 9M - Dependent on hardness	SILVER - 7740224 11M dependent on hardness.	ZINC- 7440666 13M hardness dependent	ARSENIC (Inorganic)	ARSENIC (dissolved) 7440382 2M	ANTIMONY (INORGANIC) 7440360 1M	BERYLLIUM 7440417 3M	CADMIUM - 7440439 4M Hardness dependent
Effluent Data	# of Samples (n)		900	60	60	60	60	60	36	36	12	12	36
	Coeff of Variation (Cv)		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Effluent Concentration, ug/L (Max. or 95th Percentile)		10,440	25.5	0.9	2.1	0.13	65.7		1.3		0.009	0.05
	Calculated 50th percentile Effluent Conc. (when n>10)					1		37	1.27		0.3		
Receiving Water Data	90th Percentile Conc., ug/L		300	0.4	0	0.4	0	0		0			0
	Geo Mean, ug/L					0.4		0	0		0		
Water Quality Criteria	Aquatic Life Criteria, ug/L	Acute	37,754	4.8	210	74	1.9	90	-	69	-	-	42
		Chronic	5,671	3.1	8.1	8.2	-	81	-	36	-	-	9.3
	WQ Criteria for Protection of Human Health, ug/L		-	-	-	100	-	1000	0.14	-	90	-	-
	Metal Criteria Translator, decimal	Acute	-	0.83	0.951	0.99	0.85	0.946	-	1	-	-	0.994
		Chronic	-	0.83	0.951	0.99	-	0.946	-	-	-	-	0.994
	Carcinogen?		N	N	N	N	N	N	Y	Y	N	Y	N

Aquatic Life Reasonable Potential

Effluent percentile value			0.950	0.950	0.950	0.950	0.950	0.950		0.950	0.950
s	$s^2=\ln(CV^2+1)$		0.555	0.555	0.555	0.555	0.555	0.555		0.555	0.555
Pn	$Pn=(1\text{-confidence level})^{1/n}$		0.997	0.951	0.951	0.951	0.951	0.951		0.920	0.920
Multiplier			1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Max concentration (ug/L) at edge of...		Acute	587	0.988	0.024	0.448	0.003	1.761		0.037	0.001
		Chronic	507	0.825	0.018	0.434	0.003	1.271		0.027	0.001
Reasonable Potential? Limit Required?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**		**NO**	**NO**

Human Health Reasonable Potential

s	$s^2=\ln(CV^2+1)$	0.55451	0.554513	0.554513	0.55451
Pn	$Pn=(1\text{-confidence level})1/n$	0.951	0.951	0.920	0.779
Multiplier		0.39886	0.398862	0.458542	0.65281
Dilution Factor		48.9	48.9	48.9	48.9
Max Conc. at edge of Chronic Zone, ug/L		0.41227	7.6E-01	2.6E-02	0.00613
Reasonable Potential? Limit Required?		**NO**	**NO**	**NO**	**NO**

Reasonable Potential Calculation - Page 2

Facility	LOTT Clean Water Alliance
Water Body Type	Marine

Dilution Factors:	Acute	Chronic
Aquatic Life	35.3	48.9
Human Health Carcinogenic		48.9
Human Health Non-Carcinogenic		48.9

Pollutant, CAS No. & NPDES Application Ref. No.			CHROMIUM(TRI) -16065831 5M Hardness dependent	MERCURY 7439976 8M	SELENIUM 7782492 10M	THALLIUM 7440280 12M	PHENOL 108952 10A	CYANIDE 57125 14M	METHYLENE CHLORIDE 75092 22V	TOLUENE 108883 25V	1,4 DICHLOROBENZENE 106467 22B	Di-n-BUTYLPHTHALATE 84742 26B	BUTYLBENZYL PHTHALATE 85687 15B
Effluent Data	# of Samples (n)		36	36	36	12	3	12	3	3	3	3	3
	Coeff of Variation (Cv)		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Effluent Concentration, ug/L (Max. or 95th Percentile)		0.5	0.003	0.7		9	8	0.35	0.7	0.235	0.7	0.2
	Calculated 50th percentile Effluent Conc. (when n>10)			0.002	0.6	0.005		3					
Receiving Water Data	90th Percentile Conc., ug/L			0	0			0					
	Geo Mean, ug/L			0	0	0	0	0	0	0	0	0	0
Water Quality Criteria	Aquatic Life Criteria, ug/L	Acute	-	1.8	290	-	-	1	-	-	-	-	-
		Chronic	-	0.025	71	-	-	1	-	-	-	-	-
	WQ Criteria for Protection of Human Health, ug/L		-	0.15	200	6.3	70000	100	100	130	200	12000	0.013
	Metal Criteria Translator, decimal	Acute	-	0.85	-	-	-	-	-	-	-	-	-
		Chronic	-	-	-	-	-	-	-	-	-	-	-
	Carcinogen?		N	N	N	N	N	N	Y	N	N	N	N

Aquatic Life Reasonable Potential

Effluent percentile value				0.950	0.950		0.950					
s	$s^2=\ln(CV^2+1)$			0.555	0.555		0.555					
Pn	$Pn=(1\text{-confidence level})^{1/n}$			0.920	0.920		0.779					
Multiplier				1.00	1.00		1.63					
Max concentration (ug/L) at edge of...		Acute		0.000	0.020		0.368					
		Chronic		0.000	0.014		0.266					
Reasonable Potential? Limit Required?				**NO**	**NO**		**NO**					

Human Health Reasonable Potential

s	$s^2=\ln(CV^2+1)$	0.55451	0.554513	0.55451	0.554513	0.554513	0.554513	0.55451	0.55451	0.55451	0.55451
Pn	$Pn=(1\text{-confidence level})1/n$	0.920	0.920	0.779	0.368	0.779	0.368	0.368	0.368	0.368	0.368
Multiplier		0.45854	0.458542	0.65281	1.204861	0.652812	1.204861	1.20486	1.20486	1.20486	1.20486
Dilution Factor		48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9
Max Conc. at edge of Chronic Zone, ug/L		4.1E-05	0.01227	0.0001	0.221753	6.1E-02	8.6E-03	0.01725	0.00579	0.01725	0.00493
Reasonable Potential? Limit Required?		**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Reasonable Potential Calculation - Page 3

Facility	LOTT Clean Water Alliance
Water Body Type	Marine

Dilution Factors:	Acute	Chronic
Aquatic Life	35.3	48.9
Human Health Carcinogenic		48.9
Human Health Non-Carcinogenic		48.9

Pollutant, CAS No. & NPDES Application Ref. No.			BIS(2-ETHYLHEXYL) PHTHALATE 117817 13B	NAPHTHALENE 91203 39B	DIMETHYLPHTHALATE 131113 25B	FLUORENE 86737 32B	DIETHYLPHTHALATE 84662 24B	ANTHRACENE 120127 3B	FLUORANTHENE 206440 31B	PYRENE 129000 45B			
Effluent Data	# of Samples (n)		3	3	3	3	3	3	3	3			
	Coeff of Variation (Cv)		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Effluent Concentration, ug/L (Max. or 95th Percentile)		1.8	0.47	0.022	0.034	2.4	0.028	0.028	0.024			
	Calculated 50th percentile Effluent Conc. (when n>10)												
Receiving Water Data	90th Percentile Conc., ug/L												
	Geo Mean, ug/L		0		0	0	0	0	0	0	0		
Water Quality Criteria	Aquatic Life Criteria, ug/L	Acute	-	-	-	-	-	-	-	-			
		Chronic	-	-	-	-	-	-	-	-			
	WQ Criteria for Protection of Human Health, ug/L		0.046	-	600	10	200	100	6	8			
	Metal Criteria Translator, decimal	Acute	-	-	-	-	-	-	-	-			
		Chronic	-	-	-	-	-	-	-	-			
	Carcinogen?		Y	N	N	N	N	N	N	N			

Aquatic Life Reasonable Potential

Effluent percentile value			
s	$s^2=\ln(CV^2+1)$		
Pn	$Pn=(1\text{-confidence level})^{1/n}$		
Multiplier			
Max concentration (ug/L) at edge of...		Acute	
		Chronic	
Reasonable Potential? Limit Required?			

Human Health Reasonable Potential

s	$s^2=\ln(CV^2+1)$	0.55451	0.554513	0.55451	0.554513	0.554513	0.554513	0.55451
Pn	$Pn=(1\text{-confidence level})1/n$	0.368	0.368	0.368	0.368	0.368	0.368	0.368
Multiplier		1.20486	1.204861	1.20486	1.204861	1.204861	1.204861	1.20486
Dilution Factor		48.9	48.9	48.9	48.9	48.9	48.9	48.9
Max Conc. at edge of Chronic Zone, ug/L		0.04435	0.000542	0.00084	0.059134	6.9E-04	6.9E-04	0.00059
Reasonable Potential? Limit Required?		**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

APPENDIX E--RESPONSE TO COMMENTS

The following comments were received during the Public Notice of Draft Permit held for NPDES Permit WA0037061. The public notice lasted from June 13, 2017, through September 30, 2017.

Below is a listing of the comments that were received. Some comments have been summarized for brevity. Each comment is followed by the corresponding response, permit change (or lack of change), and the Ecology justification of the change (or lack of change).

Comment by LOTT Clean Water Alliance:

Comment 1:

In the Permit, Page 32, S9. Sediment Monitoring, A. Sediment Sampling and Analysis Plan. The manual referenced for guidance (*Sediment Source Control Standards User Manual, Appendix B: Sediment Sampling and Analysis Plan* (Ecology 2008)) is obsolete. The guidance that should be referenced here instead is thought to be the Sediment Cleanup User's Manual II, Appendix A: Sampling Guidance for NPDES Permits under the Sediment Management Standards (specifically section A.4 which is Sampling and Analysis Plan Requirements).

Response 1:

The manual referenced has changed since the permit was written, therefore, Ecology concurs with the comment and changed the last sentence of paragraph A of that permit section to: "The Permittee must follow the guidance provided in the *Sediment Cleanup Users Manual II, Appendix A: Sampling Guidance for NPDES Permits under the Sediment Management Standards* (Ecology, 2015)."

Comments by the Northwest Environmental Advocates

Comment 2:

Ecology is prohibited from issuing NPDES permits that allow dischargers to cause or contribute to violations of water quality standards, this discharger causes or contributes to violations of water quality standards, and this proposed permit fails to meet legal requirements.

Response 2:

Ecology has assessed the reasonable potential for the discharge to violate water quality standards in the near field and found that the discharge would not violate standards.

While treated municipal wastewater may be the dominant human source of nitrogen for Puget Sound, the largest overall source of nitrogen is the exchange of marine water with the waters of the Sound. Ecology continues to improve the modeling that allows us to assess the degree to which wastewater treatment plants may be causing or contributing to violations of water quality standards in Puget Sound. In 2014, Ecology completed the report *Puget Sound and the Straits Dissolved Oxygen Assessment – Impacts of Current and Future Human Nitrogen Sources and Climate Change through 2070.* Since then, Ecology incorporated into its models a more state-of-the-science methodology for accounting for sediment/water column interactions. This model improvement

could affect both predictions of water quality impairments (now largely based upon model results), and estimates of nitrogen reductions needed to improve water quality.

As improved modeling results becomes available, Ecology intends to develop a coordinated permitting strategy that will reduce nitrogen discharges to Puget Sound outside of Budd Inlet in a cost-effective manner, to achieve the greatest environmental results with the lowest cost to the public. Ecology's ultimate decision to set permit limits for nitrogen discharges to Puget Sound may affect all the permits in the region, and must be based on accurate science. For the most recent information on Ecology's Puget Sound Nutrient Source Reduction Project, please see the website: https://ecology.wa.gov/Water-Shorelines/Puget-Sound/Helping-Puget-Sound/Reducing-Puget-Sound-nutrients

For Budd Inlet, Ecology expects to have draft allocations available for review in 2018. Once the Total Maximum Daily Load (TMDL) is approved, Ecology will modify or reissue this permit to incorporate the new wasteload allocations. The modified permit will contain a compliance schedule if one is needed. Ecology is committed to a timely update to this permit once the TMDL is approved.

Ecology concludes that the technology and performance-based limits included in this permit are appropriate.

Comments by the Squaxin Island Tribe

Comment 3:

Decrease effluent limits at Outfalls 001 and 002: Spring/Fall Season TIN (April, May, & October) and Summer Season Total Inorganic Nitrogen (TIN) (June-September) from 3 mg/L (338 lbs/day) to 2 mg/L (225 lbs/day).

Response 3:

Ecology is currently developing a TMDL for Budd Inlet. LOTT's effluent limits are being considered further as part of the TMDL. Based on the most recent modeling completed by Ecology for the Budd Inlet TMDL, Nitrogen discharges from all sources to Budd Inlet will need to be reduced. LOTT made significant reductions to their Nitrogen discharges in the early 90s and now has what may be the lowest nitrogen effluent limits of any wastewater treatment facility that discharges into the Puget Sound. However, as the Tribe notes, LOTT contributes the largest permitted discharge of Total Inorganic Nitrogen to Budd Inlet. Ecology's studies have shown that reduced discharges during the critical period of August and September will have the largest beneficial impact on Dissolved Oxygen in Budd Inlet. Ecology's practice is to wait until TMDLs are complete to make changes to effluent limits. The Tribes comments regarding decreased effluent limits have been passed on to staff working on the TMDL for consideration as they continue to develop and draft the TMDL.

As noted above, Ecology expects to have draft allocations available for review in 2018. Once the TMDL is approved, Ecology will modify or reissue this permit to incorporate the new wasteload allocations. The modified permit will contain a compliance schedule if one is needed. Ecology is committed to a timely update to this permit once the TMDL is approved.

Comment 4:

Priority Pollutants (page 11 of draft permit for public notice) - Increase sample frequency from annual to quarterly.

Response 4:

In general, an increase in the frequency of monitoring can help determine more accurately if there is a reasonable potential for a pollutant to violate water quality standards. Otherwise, larger variances associated with smaller sample sizes can result in more conservative predictions of impacts compared to larger sample sizes with smaller variances. In this case, the smaller sample size/larger variance would not lead to a calculated reasonable potential to violate standards. In addition, the monitoring is consistent with Ecology guidance for a plant of this size. As a result, Ecology does not feel that there is a solid basis to require an increase in the frequency of sampling for priority pollutants.

PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

	INFLUENT							001 - NORTH OUTFALL (NOV - MARCH)							
Frequency	CONT	3/WEEK	3/WEEK	3/WEEK	3/WEEK	3/WEEK	3/WEEK	CONT	3/WEEK		3/WEEK	DAILY		DAILY	DAILY
Date	FLOW MGD	BOD 5-DAY MG/L	BOD 5-DAY LBS/DAY	TSS MG/L	TSS LBS/DAY	AMMONIA MG/L AS N	AMMONIA LBS/DAY AS N	FLOW MGD	BOD 5-DAY MG/L	BOD 5-DAY PERCENT REMOVAL	BOD 5-DAY LBS/DAY	TSS MG/L	TSS PERCENT REMOVAL	TSS LBS/DAY	FECAL COLIFORM #/100 ML
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	AVG	AVG	AVG	AVG	AVG	AVG	AVB	AVG	AVG	AVG	AVG	AVG	AVG	AVG	GEM
Permit	**28**	REPORT	**37,600**	REPORT	**35,100**	REPORT	REPORT	REPORT	**30**	**85**	**5,640**	**30**	**85**	**5,265**	**200**
	MAX	MAX	MAX	MAX	MAX	MAX	MAX	MAX	AVW		AVW	AVW		AVW	GM7
Limits	**55**	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	**45**		**8,460**	**45**		**7,898**	**400**

Please Circle ALL Permit Violations **Mail to P.O. Box 47775, Olympia WA 98504-7775**

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Name and Title

Signature

PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

001 - NORTH OUTFALL (NOV - MARCH)

Frequency	DAILY	DAILY	DAILY	3/WEEK	3/WEEK	3/WEEK	1/30	1/30	1/30	1/30	1/30	1/30	1/30		
Date	pH STANDARD UNITS	TEMPERATURE DEG C	DISSOLVED OXYGEN MG/L	AMMONIA MG/L AS N	NITRATE & NITRITE MG/L AS N	TKN MG/L AS N	COPPER UG/L	LEAD UG/L	NICKEL UG/L	SILVER UG/L	ZINC UG/L	TOTAL PHOSPHORUS MG/L AS P	SOLUBLE PHOSPHORUS MG/L AS P		
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	MIN	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG		
Permit	**6.0**	REPORT	REPORT	**26**	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT		
	MAX	MXD	MXD	MXD	MXD	MXD									
Limits	**9.0**	REPORT	REPORT	**36**	REPORT	REPORT									

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PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

001 - NORTH OUTFALL (APRIL, MAY, OCT)

Frequency	CONT	3/WEEK		3/WEEK	DAILY		DAILY	DAILY	DAILY	DAILY	DAILY	3/WEEK	3/WEEK	3/WEEK	3/WEEK
Date	FLOW MGD	BOD 5-DAY MG/L	BOD 5-DAY PERCENT REMOVAL	BOD 5-DAY LBS/DAY	TSS MG/L	TSS PERCENT REMOVAL	TSS LBS/DAY	FECAL COLIFORM #/100 ML	pH STANDARD UNITS	TEMPERATURE DEG C	DISSOLVED OXYGEN MG/L	AMMONIA MG/L AS N	NITRATE & NITRITE MG/L AS N	TKN MG/L AS N	TIN MG/L
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	AVG	AVG	AVG	AVG	AVG	AVG	AVG	GEM	MIN	AVG	AVG	AVG	AVG	AVG	AVG
Permit	REPORT	8	85	900	30	85	5,265	200	6.0	REPORT	REPORT	REPORT	REPORT	REPORT	3
	MAX	AVW		AVW	AVW		AVW	GM7	MAX	MXD	MXD	MXD	MXD	MXD	MXD
Limits	REPORT	12		1,350	45		7,898	400	9.0	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT

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PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

	001 - NORTH OUTFALL (APRIL, MAY, OCT)									001 - NORTH OUTFALL (JUNE-SEPT)					
Frequency	3/week	1/30	1/30	1/30	1/30	1/30	1/30	1/30		CONT	3/WEEK		3/WEEK	DAILY	
Date	TIN LBS/DAY	COPPER UG/L	LEAD UG/L	NICKEL UG/L	SILVER UG/L	ZINC UG/L	TOTAL PHOSPHORUS MG/L AS P	SOLUBLE PHOSPHORUS MG/L AS P		FLOW MGD	BOD 5-DAY MG/L	BOD 5-DAY PERCENT REMOVAL	BOD 5-DAY LBS/DAY	TSS MG/L	TSS PERCENT REMOVAL
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Permit	**338**									**REPORT**	**7**	**85**	**671**	**30**	**85**
	MAX									MAX	AVW		AVW	AVW	
Limits	**REPORT**									**REPORT**	**10.5**		**1,006**	**45**	

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Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

001 - NORTH OUTFALL (JUNE-SEPT)

Frequency	DAILY	DAILY	DAILY	DAILY	DAILY	3/WEEK	3/WEEK	3/WEEK	3/WEEK	3/WEEK	1/30	1/30	1/30	1/30	1/30
Date	TSS LBS/DAY	FECAL COLIFORM #/100 ML	pH STANDARD UNITS	TEMPERATURE DEG C	DISSOLVED OXYGEN MG/L	AMMONIA MG/L AS N	NITRATE & NITRITE MG/L AS N	TKN MG/L AS N	TIN MG/L	TIN LBS/DAY	COPPER UG/L	LEAD UG/L	NICKEL UG/L	SILVER UG/L	ZINC UG/L
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Permit	**5,265**	**200**	**6.0**	**REPORT**	**REPORT**	**REPORT**	**REPORT**	**REPORT**	**3**	**288**	**REPORT**	**REPORT**	**REPORT**	**REPORT**	**REPORT**
	AVW	GM7	MAX	MXD	MXD	MXD	MXD	MXD	MXD	MXD					
Limits	**7,898**	**400**	**9.0**	**REPORT**	**REPORT**	**REPORT**	**REPORT**	**REPORT**	**REPORT**	**REPORT**					

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PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

	001 - June -Sept			002 - FIDDLEHEAD (NOV - MARCH)											
Frequency	1/30	1/30		CONT	3/WEEK		3/WEEK	DAILY		DAILY	DAILY	DAILY	DAILY	DAILY	3/WEEK
Date	TOTAL PHOSPHORUS MG/L AS P	SOLUBLE PHOSPHORUS MG/L AS P		FLOW MGD	BOD 5-DAY MG/L	BOD 5-DAY PERCENT REMOVAL	BOD 5-DAY LBS/DAY	TSS MG/L	TSS PERCENT REMOVAL	TSS LBS/DAY	FECAL COLIFORM #/100 ML	pH STANDARD UNITS	TEMPERATURE DEG C	DISSOLVED OXYGEN MG/L	AMMONIA MG/L AS N
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Permit				REPORT	30	85	5,640	30	85	5,265	200	6.0	REPORT	REPORT	22
				MAX	AVW		AVW	AVW		AVW	GM7	MAX	MXD	MXD	MXD
Limits				REPORT	45		8,460	45		7,898	400	9.0	REPORT	REPORT	31

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PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

	002 - FIDDLEHEAD (NOV - MARCH)										002-FIDDLEHEAD (APRIL, MAY, OCT)				
Frequency	3/WEEK	3/WEEK	1/30	1/30	1/30	1/30	1/30	1/30	1/30		CONT	3/WEEK		3/WEEK	DAILY
Date	NITRATE & NITRITE MG/L AS N	TKN MG/L AS N	COPPER UG/L	LEAD UG/L	NICKEL UG/L	SILVER UG/L	ZINC UG/L	TOTAL PHOSPHORUS MG/L AS P	SOLUBLE PHOSPHORUS MG/L AS P		FLOW MGD	BOD 5-DAY MG/L	BOD 5-DAY PERCENT REMOVAL	BOD 5-DAY LBS/DAY	TSS MG/L
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Permit	REPORT	REPORT	6	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT		REPORT	8	85	900	30
	MXD	MXD	MXD								MAX	AVW		AVW	AVW
Limits	REPORT	REPORT	7.5								REPORT	12		13,500	45

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PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

002-FIDDLEHEAD (APRIL, MAY, OCT)

Frequency		DAILY	DAILY	DAILY	DAILY	DAILY	3/WEEK	3/WEEK	3/WEEK	3/WEEK	3/WEEK	1/30	1/30	1/30	1/30
Date	TSS PERCENT REMOVAL	TSS LBS/DAY	FECAL COLIFORM #/100 ML	pH STANDARD UNITS	TEMPERATURE DEG C	DISSOLVED OXYGEN MG/L	AMMONIA MG/L AS N	NITRATE & NITRITE MG/L AS N	TKN MG/L AS N	TIN MG/L	TIN LBS/DAY	COPPER UG/L	LEAD UG/L	NICKEL UG/L	SILVER UG/L
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	AVG	AVG	GEM	MIN	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
Permit	**85**	**5,265**	**200**	**6.0**	REPORT	REPORT	REPORT	REPORT	REPORT	**3**	**338**	**6**	REPORT	REPORT	REPORT
		AVW	GM7	MAX	MXD	MXD	MXD	MXD	MXD	MXD	MAX	MXD			
Limits		**7,898**	**400**	**9.0**	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	**7.5**			

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PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

002-FIDDLEHEAD (APRIL, MAY, OCT) **002 - FIDDLEHEAD (JUNE-SEPT)**

Frequency	1/30	1/30	1/30		CONT	3/WEEK		3/WEEK	DAILY		DAILY	DAILY	DAILY	DAILY	DAILY
Date	ZINC UG/L	TOTAL PHOSPHORUS MG/L AS P	SOLUBLE PHOSPHORUS MG/L AS P		FLOW MGD	BOD 5-DAY MG/L	BOD 5-DAY PERCENT REMOVAL	BOD 5-DAY LBS/DAY	TSS MG/L	TSS PERCENT REMOVAL	TSS LBS/DAY	FECAL COLIFORM #/100 ML	pH STANDARD UNITS	TEMPERATURE DEG C	DISSOLVED OXYGEN MG/L
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	AVG	AVG	AVG		AVG	AVG	AVG	AVG	AVG	AVG	AVG	GEM	MIN	AVG	AVG
Permit	REPORT	REPORT	REPORT		REPORT	7	85	671	30	85	5,265	200	6.0	REPORT	REPORT
					MAX	AVW		AVW	AVW		AVW	GM7	MAX	MXD	MXD
Limits					REPORT	10.5		1,006	45		7,898	400	9.0	REPORT	REPORT

Please Circle ALL Permit Violations **Mail to P.O. Box 47775, Olympia WA 98504-7775**

AVG=Average **AVW** =Highest Weekly Average **GEM**=Geometric Mean **MAX**=Maximum **MIN**=Minimum

GM7=highest 7-day Geometric Mean

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Name and Title

Signature

PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

002 - FIDDLEHEAD (JUNE-SEPT)

Frequency	3/WEEK	3/WEEK	3/WEEK	3/WEEK	3/WEEK	1/30	1/30	1/30	1/30	1/30	1/30	1/30			
Date	AMMONIA MG/L AS N	NITRATE & NITRITE MG/L AS N	TKN MG/L AS N	TIN MG/L	TIN LBS/DAY	COPPER UG/L	LEAD UG/L	NICKEL UG/L	SILVER UG/L	ZINC UG/L	TOTAL PHOSPHORUS MG/L AS P	SOLUBLE PHOSPHORUS MG/L AS P			
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	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG			
Permit	REPORT	REPORT	REPORT	3	338	6	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT			
	MXD	MXD	MXD	MXD	MXD	MXD									
Limits	REPORT	REPORT	REPORT	REPORT	REPORT	8									

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PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No.	**WA0037061**	**Month**	**Year**
Facility Name	**LOTT Budd Inlet Water Reclamation Facility**	**County**	**Thurston**
Receiving Water	**Budd Inlet/South Puget Sound**	**Plant Operator**	
Plant Type	**Activated Sludge/Advanced Treatment & Class A Reclaimed Water**	**Population**	

CSO MONITORING

Frequency	ONCE PER EVENT														
Date	VOLUME DISCHARGE GALLONS	DISCHARGE DURATIO HOURS	STORM DURATION HOURS	PRECIPITATION INCHES	TOTAL AMMONIA MG/L AS N	COPPER UG/L									
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	AVG	AVG	AVG	AVG	AVG	AVG									
Permit	**REPORT**	**REPORT**	**REPORT**	**REPORT**	**REPORT**	**REPORT**									
	MXD	MXD	MXD	MXD	MXD	MXD									
Limits	**REPORT**	**REPORT**	**REPORT**	**REPORT**	**REPORT**	**REPORT**									

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Name and Title

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PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061 **Month** **Year**

Facility Name LOTT Budd Inlet Water Reclamation Facility **County** Thurston

Receiving Water Budd Inlet/South Puget Sound **Plant Operator**

Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water **Population**

005 - RECLAIMED WATER

Frequency	CONT	DAILY	DAILY	CONT	1/WEEK	DAILY	DAILY	DAILY*							
Date	FLOW MGD	pH STANDARD UNITS	DISSOLVED OXYGEN MG/L	TURBIDITY NTU	TOTAL NITRATE MG/L AS N	TOTAL COLIFORM #/100 ML - 7DAY MED	TOTAL COLIFORM #/100 ML	CHLORINE MG/L							
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	AVG	MIN	AVG	AVM	AVG	7MD		MIN							
Permit	**1.5**	**6.0**	**REPORT**	**2**	**10**	**2**		**REPORT**							
	MAX	MAX	MAX	MAX	MAX		MAX								
Limits	**REPORT**	**9.0**	**REPORT**	**5**	**REPORT**		**23**								

***DAILY WHEN USED**

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PAPER WASTEWATER TREATMENT PLANT DISCHARGE MONITORING REPORT

Permit No. WA0037061	Month Year
Facility Name LOTT Budd Inlet Water Reclamation Facility	County Thurston
Receiving Wate Budd Inlet/South Puget Sound	Plant Operator
Plant Type Activated Sludge/Advanced Treatment & Class A Reclaimed Water	Population

QUARTERLY MONITORING

PARAMETER	UNITS	EFFLUENT
OIL & GREASE	MG/L	
CYANIDE	UG/L	
PHENOLIC COMPOUNDS	UG/L	

DATE SAMPLED _____

QUARTERLY IS DEFINED AS: JANUARY - MARCH; APRIL-JUNE; JULY-SEPTEMBER; AND OCTOBER-DECEMBER. **STARTING APRIL 1, 2018.**

ANNUAL MONITORING

PARAMETER	UNITS	EFFLUENT
TOTAL DISSOLVED SOLIDS	MG/L	
TOTAL HARDNESS	MG/L	

DATE SAMPLED _____

ANNUAL IS DEFINED AS: JANUARY - DECEMBER. **STARTING JANUARY 1, 2019.**

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Name and Title _____ Signature _____