

Issuance Date: December 13, 2013
Effective Date: January 1, 2014
Expiration Date: December 31, 2018

**National Pollutant Discharge Elimination System
Waste Discharge Permit No. WA0032182**

State of Washington
DEPARTMENT OF ECOLOGY
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

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

authorizes

King County – Carnation Wastewater Treatment Facility
1200 Monster Road. SW
Renton WA 99057

to discharge in accordance with the Special, Reclaimed Water, and General Conditions that follow.

<u>Facility Location:</u> 4405 Larson Avenue, Carnation, WA	<u>Receiving Water:</u> Snoqualmie River, River Mile 22.8
<u>Treatment Type:</u> Membrane Bioreactor + UV disinfection	<u>Reclaimed Water Use Area Location:</u> Chinook Bend Wetland Enhancement project site

Kevin C. Fitzpatrick
Water Quality Section Manager
Northwest Regional Office
Washington State Department of Ecology

Table of Contents

<i>Summary of Permit Report Submittals</i>	4
<i>Special Conditions</i>	5
S1. Discharge limits – river outfall	5
S1.A. Effluent limits	5
S1.B. Mixing zone authorization	6
S2. Monitoring requirements	6
S2.A. Monitoring schedule – river outfall	6
S2.B. Sampling and analytical procedures	8
S2.C. Flow measurement and continuous monitoring devices	8
S2.D. Laboratory accreditation	8
S3. Reporting and recording requirements	9
S3.A. Reporting	9
S3.B. Records retention	10
S3.C. Recording of results	10
S3.D. Additional monitoring by the Permittee	11
S3.E. Reporting permit violations	11
S3.F. Other reporting.....	12
S3.G. Maintaining a copy of this permit	13
S4. Facility loading	13
S4.A. Design criteria.....	13
S4.B. Plans for maintaining adequate capacity.....	13
S4.C. Duty to mitigate	13
S4.D. Notification of new or altered sources	14
S5. Operation and maintenance	14
S5.A. Certified operator	14
S5.B. Operation and maintenance program	14
S5.C. Short-term reduction	15
S5.D. Electrical power failure.....	15
S5.E. Bypass procedures	15
S5.F. Operations and maintenance (O&M) manual	17
S6. Pretreatment	18
S6.A. General Requirements.....	18
S6.B. Local Limit Development	21
S7. Solid wastes	21
S7.A. Solid waste handling	21
S7.B. Leachate	21
S8. Application for permit renewal or modification for facility changes	21
<i>Reclaimed Water Conditions</i>	22
R1. Reclaimed water limits	22
R2. Reclaimed water monitoring requirements	23
R3. Reclaimed water operational records	23
R4. Reclaimed water operation and maintenance	24
R4.A. Electrical power failure.....	24

R4.B.	Disinfection of reclaimed water conveyance system.....	24
R4.C.	Operations and maintenance manual	25
R5.	Reclaimed water distribution and use	25
R5.A.	Authorized uses and locations	25
R5.B.	Use area responsibilities	25
R5.C.	Net Environmental Benefit Report	26
R5.D.	Reclaimed Water Nutrient Analysis	26
R5.E.	Bypass prohibited	27
R5.F.	Revocation of authorization.....	27
General Conditions		27
G1.	Signatory requirements	27
G2.	Right of inspection and entry	28
G3.	Permit actions.....	28
G4.	Reporting planned changes.....	29
G5.	Plan review required.....	30
G6.	Compliance with other laws and statutes	30
G7.	Transfer of this permit	30
G8.	Reduced production for compliance	31
G9.	Removed substances	31
G10.	Duty to provide information	31
G11.	Other requirements of 40 CFR.....	31
G12.	Additional monitoring	31
G13.	Payment of fees.....	31
G14.	Penalties for violating permit conditions	31
G15.	Upset.....	31
G16.	Property rights	32
G17.	Duty to comply	32
G18.	Toxic pollutants.....	32
G19.	Penalties for tampering	32
G20.	Compliance schedules.....	32
G21.	Service agreement review.....	32
Appendix A		33

Summary of Permit Report Submittals

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

Permit Section	Submittal	Frequency	First Submittal Date
S3.A	Discharge Monitoring Report	Monthly	February 15, 2014
S3.E	Reporting Permit Violations	As necessary	
S4.D	Notification of New or Altered Sources	As necessary	
S5.E	Bypass Notification	As necessary	
S5.F	O&M Manual Updates	As necessary	
S8	Application for Permit Renewal	1/permit cycle	December 31, 2017
R5.C	Net Environmental Benefit Report	1/permit cycle	December 31, 2015
R5.D	Reclaimed Water Nutrient Analysis	1/permit cycle	December 31, 2017
G1	Notice of Change in Authorization	As necessary	
G4	Reporting Planned Changes	As necessary	
G5	Engineering Report for Construction or Modification Activities	As necessary	

Special Conditions

The Special Conditions apply to both the river discharge and reclaimed water uses unless specifically stated otherwise (e.g., river outfall effluent limits and monitoring requirements). The Reclaimed Water conditions apply only when generating and distributing reclaimed water.

S1. Discharge limits – river outfall

S1.A. Effluent limits

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

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee is authorized to discharge treated municipal wastewater at the permitted river outfall throughout the year subject to the limits listed in Table 1.

Table 1. Effluent Limits – River Outfall

Effluent Limits: Outfall #001 (Latitude: 47.6658333 ^o , Longitude: -121.925186 ^o)		
Parameter	Average Monthly ^a	Average Weekly ^b
Biochemical Oxygen Demand (5-day) (BOD ₅)	30 mg/L, 120 lbs/day 85% removal of influent BOD ₅	45 mg/L, 180 lbs/day
Total Suspended Solids (TSS)	30 mg/L, 120 lbs/day 85% removal of influent TSS	45 mg/L, 180 lbs/day
	Minimum Daily	Maximum Daily
pH ^c	6.0 standard units	9.0 standard units
	Monthly Geometric Mean	Weekly Geometric Mean
Fecal Coliform Bacteria ^d	200 cfu/100 mL	400 cfu/100 mL
	Average Monthly	Maximum Daily ^e
Total Residual Chlorine ^f	354 µg/L	926 µg/L

^a Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate, add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured.

^b Average weekly effluent limit means the highest allowable average of daily discharges over a calendar week. To calculate, add all daily values measured during a calendar week and divide by the number of daily values measured during that week.

^c The instantaneous maximum and minimum pH must be reported monthly.

^d 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>

^e 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.

^f Chlorine limits apply only during emergency periods when UV disinfection is not available and the Permittee uses chlorine for disinfection.

Low River Flow Period (August – October)

This discharge must also meet the seasonal total maximum daily load (TMDL) requirements, listed in Table 2, from August through October. Mass limits for BOD₅ and ammonia are in agreement with the waste load allocations set by Ecology's 1994 Dissolved Oxygen TMDL study.

Table 2. Additional Effluent Limits during Low River Flow Conditions (August – October)

Effluent Limits: Outfall # 001 (Latitude: 47.6658333°, Longitude: -121.925°)		
Parameter	Average Monthly ^a	Maximum Daily ^b
BOD ₅ – TMDL allocation	12 lb/day	25 lb/day
Total Ammonia, as N – TMDL	4.4 lb/day	8.4 lb/day

^a Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate, add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured.

^b Maximum daily effluent limit is the highest allowable daily discharge. Calculate the daily discharge as the total mass of the pollutant discharged during the day.

S1.B. Mixing zone authorization

This outfall is located on the Carnation Farm Road Bridge between RM 22 and 23. The paragraph below defines the maximum boundaries of the mixing zones.

Chronic mixing zone

The width of the chronic mixing zone is limited to a distance of 50 feet. The length of the chronic mixing zone extends 100 feet upstream and 300 feet downstream of the outfall. The mixing zone extends from the discharge port to the top of the water surface. The concentration of pollutants at the edge of the chronic zone must meet chronic aquatic life criteria and human health criteria.

Acute mixing zone

The width of the acute mixing zone is limited to a distance of 50 feet in any horizontal direction from the outfall. The length of the acute mixing zone extends 10 feet upstream and 30 feet downstream of the outfall. The mixing zone extends from the discharge port to the top of the water surface. 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	49
Chronic Aquatic Life Criteria	378
Human Health Criteria - Carcinogen	1454
Human Health Criteria - Non-carcinogen	521

S2. Monitoring requirements

S2.A. Monitoring schedule – river outfall

The Permittee must monitor the wastewater according to the schedule in Table 3 with the methods specified in Appendix A.

Table 3. Monitoring Schedule – River Outfall (Outfall 001)

Parameter	Units	Minimum Frequency	Sample Type
(1) Wastewater Influent (<i>sample influent entering the treatment facility excluding any return flows from inside the facility</i>)			
Flow	MGD	Continuous ^a	Metered
BOD ₅	mg/L	2/week	24-hr Composite ^b
	lbs/day ^c	2/week	Calculated
TSS	mg/L	2/week	24-hr Composite
	lbs/day ^c	2/week	Calculated
(2) Final Effluent (<i>sample downstream of UV treatment</i>)			
Flow	MGD	Continuous ^a	Metered
BOD ₅	mg/L	2/week	24-hr Composite
	lbs/day ^c	2/week	Calculated
	% removal ^d	1/month	Calculated
TSS	mg/L	2/week	24-hr Composite
	lbs/day ^c	2/week	Calculated
	% removal ^d	1/month	Calculated
Fecal Coliform ^e	cfu/100 ml	2/week	Grab
pH ^f	Std Units	Continuous	Recording
Ammonia, as N	mg/L as N	1/month	24-hr Composite
	lbs/day	1/month	Calculated
TKN, as N	mg/L as N	1/month	24-hr Composite
Nitrogen, Total as N	mg/L as N	1/month	24-hr Composite
Phosphorus, Total as P	mg/L as P	1/month	24-hr Composite
Total Chlorine Residual ^g	mg/L	1/day	Grab
Temperature ^h	°C	Continuous, July 2014 – May 2015	Metered
(3) Permit renewal application requirements – final effluent			
Dissolved Oxygen	mg/L	1/quarter in 2016: in Jan, April, July, Oct	Grab
Phosphorus, ortho-, as P ⁱ	mg/L as P		Grab
Oil and Grease	mg/L		Grab
Total Dissolved Solids	mg/L		24-hr Composite
Total Hardness	mg/L		24-hr Composite

^a Continuous means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. The Permittee must sample daily when continuous monitoring is not possible.

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

^c lbs/day = Concentration (in mg/L) x Flow (in MGD) x Conversion Factor (8.34)

^d % removal = $\frac{(\text{Influent concentration (mg/L)} - \text{Effluent concentration (mg/L)})}{\text{Influent concentration (mg/L)}} \times 100$

^e Do not report a result as too numerous to count (TNTC). 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>.

^f Report the daily minimum and maximum pH.

^g Monitoring for Total Residual Chlorine is required only when disinfecting secondary effluent or outfall conveyance pipe with chlorine; when not using chlorine for these purposes, enter "no discharge of chlorine" on the DMR.

^h Temperature must be recorded every 30 minutes. Report daily maximum temperature for each day during the specified period.

ⁱ Sample ortho-phosphate at the same time as total phosphorus for comparison basis.

S2.B. Sampling and analytical procedures

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

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

S2.C. Flow measurement and continuous monitoring devices

The Permittee must:

1. Select and use appropriate flow measurement and continuous monitoring devices 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 and the manufacturer's recommendation for that type of device.
3. The Permittee:
 - a. May calibrate apparatus for continuous monitoring of dissolved oxygen by air calibration.
 - b. Must calibrate continuous pH measurement instruments using a grab sample analyzed in the lab with a pH meter calibrated with standard buffers and analyzed within 15 minutes of sampling.
 - c. Must calibrate continuous chlorine measurement instruments using a grab sample analyzed in the laboratory within 15 minutes of sampling.
4. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates. Calibrate these devices at the frequency recommended by the manufacturer.
5. Calibrate flow-monitoring devices at a minimum frequency of at least one calibration per year or as recommended by the manufacturer.
6. Maintain calibration records for at least five years.
7. Verify the accuracy of the on-line turbidimeters, dissolved oxygen meters, and chlorine analyzers at least once every two weeks.

S2.D. Laboratory accreditation

The Permittee must ensure that all monitoring data required by Ecology for permit specified parameters is prepared by a laboratory registered or accredited under the provisions of chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. Flow, temperature, pH, dissolved oxygen, chlorine residual, turbidity, and internal process control parameters are exempt from this requirement.

S3. Reporting and recording requirements

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

S3.A. Reporting

The first monitoring period begins on the effective date of the permit. 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 WQWebDMR. Include data for each of the parameters tabulated in Special Condition S2 and Reclaimed Water Condition R2 and as required by the form. Report a value for each day sampling occurred (unless specifically exempted in the permit) and for the summary values (when applicable) included on the electronic form.
2. 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. 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.
5. Calculate average 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 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.
6. Report single-sample grouped parameters (for example priority pollutants) on the WQWebDMR form and include: sample date, concentration detected, detection limit (DL) (as necessary), and laboratory quantitation level (QL) (as necessary). The Permittee must also submit an electronic PDF copy of the laboratory report using WQWebDMR.

If the Permittee has obtained a waiver from electronic reporting or if submitting prior to the compliance date, the Permittee must submit a paper copy of the laboratory report providing the following information: date sampled, sample location, date of analysis, parameter name, CAS number, analytical method/number, detection limit (DL), laboratory quantitation level (QL), reporting units, and concentration detected.

The contract laboratory reports must also include information on the chain of custody, QA/QC results, and documentation of accreditation for the parameter.

7. Ensure that DMRs are electronically submitted no later than the dates specified below. If the Permittee has obtained a waiver, it must ensure that paper forms are postmarked or received by Ecology no later than the dates specified below, unless otherwise specified in this permit.
8. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below. The Permittee must:
 - a. Submit **monthly** DMRs by the 15th day of the following month.
 - b. Submit permit renewal application monitoring data in WQWebDMR as required in Special Condition S2 by December 31, 2017.
9. Submit reports to Ecology online using Ecology's electronic WQWebDMR submittal forms (electronic DMRs) as required above. Send paper reports to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

S3.B. *Records retention*

The Permittee must retain records of all monitoring information for a minimum of five (5) years. Such information must include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

S3.C. *Recording of results*

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

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

S3.D. Additional monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Condition S2 or R2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR.

S3.E. Reporting permit violations

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

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

a. Immediate reporting

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

- Failures of the disinfection system.
- Plant bypasses discharging to a water body used as a source of drinking water.
- Any other failures of the sewage system (pipe breaks, etc).

Northwest Regional Office	425-649-7000
Public Health of Seattle-King County	206-296-4932
Department of Health	509-329-2148

b. Twenty-four-hour reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at the telephone number 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 G15 "Upset").
4. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A or R1 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. The Ecology ERTS number associated with the spill.
6. A list of the agencies notified of the spill.
7. Results of any sampling conducted.

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.

f. Report submittal

The Permittee must submit reports to the address listed in S3.A.

S3.F. Other reporting

a. Spills of Oil or Hazardous Materials

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

b. Failure to submit relevant or correct facts

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to Ecology, it must submit such facts or information promptly.

S3.G. *Maintaining a copy of this permit*

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

S4. Facility loading

S4.A. *Design criteria*

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

Maximum Month Design Flow (MMDF)	0.48 MGD
BOD ₅ Influent Loading for Maximum Month	1,669 lb/day
TSS Influent Loading for Maximum Month	1,669 lb/day

S4.B. *Plans for maintaining adequate capacity*

a. Conditions triggering plan submittal

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

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

b. Plan and schedule content

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

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

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

S4.C. *Duty to mitigate*

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

S4.D. Notification of new or altered sources

1. The Permittee must submit written notice to Ecology whenever any new discharge or a substantial change in volume or character of an existing discharge into the wastewater treatment facility is proposed which:
 - a. Would interfere with the operation of, or exceed the design capacity of, any portion of the wastewater treatment facility.
 - b. Is not part of 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 facility's ability to adequately transport and treat the added flow and/or waste load, the quality and volume of effluent to be discharged to the treatment facility, and the anticipated impact on the Permittee's effluent [40 CFR 122.42(b)].

S5. Operation and maintenance

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

S5.A. Certified operator

This permitted facility must be operated by an operator certified by the State of Washington for at least a Class III facility. This operator must be in responsible charge of the day-to-day operation of the wastewater treatment facility. An operator certified for at least a Class II facility must be in charge during all regularly scheduled shifts.

S5.B. Operation and maintenance program

The Permittee must:

1. Institute an adequate operation and maintenance program for the entire wastewater and reclaimed water systems.
2. Keep maintenance records on all major electrical and mechanical components of the treatment facility. 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.
4. Maintain, at all times, the treatment facility, County-owned distribution, and County-owned use areas and keep all equipment in a reliable operating condition.

S5.C. Short-term reduction

The Permittee must schedule any facility maintenance which might require interruption of wastewater treatment and degrade effluent quality during non-critical water quality periods and carry this maintenance out in a manner approved by Ecology.

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

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

This notification does not relieve the Permittee of its obligations under this permit. Refer to Conditions R4.B and R5.E for additional reclaimed water requirements.

S5.D. Electrical power failure

The Permittee must ensure that adequate safeguards prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the treatment facility 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.

While discharging to the river outfall, the Permittee must maintain Reliability Class II (EPA 430/9-74-001) at the wastewater treatment facility. Reliability Class II requires a backup power source sufficient to operate all vital components during peak wastewater flow conditions and critical lighting and ventilation. 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.

See additional back-up power requirements for reclaimed water operation in Condition R4.A.

S5.E. 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, while discharging to the river outfall. See additional bypass prohibitions related to reclaimed water production in Condition R5.D.

1. *Bypass for essential maintenance without the potential to cause violation of permit limits or conditions* - This permit authorizes a bypass if is required 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 (10) 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.E 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 thirty (30) days before the planned date of bypass. The notice must contain:
 - A description of the bypass and its cause.
 - An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.
 - A cost-effectiveness analysis of alternatives including comparative resource damage assessment.
 - The minimum and maximum duration of bypass under each alternative.
 - A recommendation as to the preferred alternative for conducting the bypass.
 - The projected date of bypass initiation.
 - A statement of compliance with SEPA.
 - A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.
 - Details of the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.
 - b. For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during preparation of the engineering report or facilities plan and plans and specifications and must include these to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.

- c. Ecology will consider the following prior to issuing an administrative order for this type of bypass:
- If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
 - If feasible alternatives to bypass exist, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.
 - If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.

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

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

a. O&M manual submittal and requirements

The Permittee must:

1. Review the O&M Manual at least annually and update as needed when new significant equipment is installed or new procedures are incorporated.
2. Submit to Ecology for review and approval substantial changes or updates to the O&M Manual whenever it incorporates them into the manual. The Permittee must submit an electronic copy (preferably as a PDF).
3. Keep the approved O&M Manual at the permitted facility.
4. Follow the instructions and procedures of this manual.

b. O&M manual components

The O&M Manual must meet the content requirements of WAC 173-240-080(4) and be consistent with the guidance in Table G1-3 of the *Criteria for Sewage Works Design* (Orange Book). The O&M Manual must include:

1. Emergency procedures for cleanup in the event of wastewater or reclaimed water system upset or failure.
2. A review of system components which if failed could pollute surface water or could impact human health. Provide a procedure for a routine schedule of checking the function of these components.
3. Wastewater system maintenance procedures that contribute to the generation of process wastewater.
4. Reporting protocols for submitting reports to Ecology to comply with the reporting requirements in the discharge permit.

5. Any directions to maintenance staff when cleaning or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater or reclaimed water system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).
6. The treatment facility process control monitoring schedule.
7. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.

S6. Pretreatment

S6.A. General Requirements

1. The Permittee must implement the Industrial Pretreatment Program in accordance with King County Code 28.84.060 and 28.82 as amended by King County Ordinance No. 11963 on January 1, 1996, legal authorities, policies, procedures, and financial provisions described in the Permittee's approved pretreatment program submittal entitled *Industrial Pretreatment Program* and dated April 27, 1981; any approved revisions thereto; and the General Pretreatment Regulations (40 CFR Part 403), including any revisions to 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, 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(t)(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)(1)(iii). The Permittee must coordinate the permitting process with Ecology regarding any industrial facility which may possess a state waste discharge permit issued by Ecology.
 - c. Maintain and update, as necessary, records identifying the nature, character, and volume of pollutants contributed by industrial users to the treatment facility. 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, except that Middle Tier Categorical Industrial Users as defined by 40 CFR 403.8(f)(2)(v)(B)&(C) need only be inspected once every two years. 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, except for Middle-Tier Categorical Industrial Users which may be sampled once every two years. 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 violations have been identified, 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 a newspaper of general circulation that provides meaningful public notice within the Permittee's service area, a list of all nondomestic users which, at any time in the previous 12 months, were in significant noncompliance as defined in 40 CFR 403.8(f)(2)(viii).
 - 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 SIUs are provided 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 noncompliance, 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 (3) 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 for the various implementation and enforcement activities to be performed in the contributing jurisdiction.
2. Per 40 CFR 403.8(f)(2)(vi), the Permittee must evaluate each Significant Industrial User to determine if a Slug Control Plan is needed to prevent slug discharges which may cause interference, pass-through, or in any other way result in violations of the Permittee's regulations, local limits, or permit conditions. The Slug Control Plan evaluation shall occur within one year of a user's designation as a Significant Industrial User. In accordance with 40 CFR 403.8(f)(1)(iii)(B)(6), the Permittee shall include slug discharge control requirements in an SIU's permit if the Permittee determines that they are necessary.
 3. Whenever Ecology determines that any waste source contributes pollutants to the Permittee's treatment works in violation of Subsection (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 thirty (30) days of this notification, Ecology may take appropriate enforcement action against the source or the Permittee.

4. *Pretreatment Report* - The Permittee must provide to Ecology an annual report that briefly describes its program activities during the previous calendar year. By March 31st of each year, the Permittee must send the annual report to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452

The report must include the following information:

- a. An updated list of nondomestic industrial dischargers.
- b. Results of wastewater sampling at the treatment plant as specified in Subsection S6.B below. The Permittee must calculate removal rates for each pollutant and evaluate the adequacy of the existing local limits 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:
 - i. Any substantial modifications to the pretreatment program as originally approved by Ecology, including staffing and funding levels.
 - ii. Any interference, upset, or permit violations experienced at the treatment facility that are directly attributable to wastes from industrial users.
 - iii. Listing of industrial users inspected and/or monitored, and a summary of the results.
 - iv. Listing of industrial users scheduled for inspection and/or monitoring for the next year, and expected frequencies.
 - v. 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.
 - vi. Listing of industrial users issued industrial waste discharge permits.
 - vii. Planned changes in the pretreatment program implementation plan.
(See Subsection S6.A.5 below.)
- d. Status of compliance activities, including:
 - i. Listing of industrial users that failed to submit baseline monitoring reports or any other reports required under 40 CFR 403.12 and in the Permittee's pretreatment program, dated April 27, 1981.
 - ii. 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.

- iii. Summary of enforcement activities and other corrective actions taken or planned against noncomplying industrial users. The Permittee must supply to Ecology a copy of the public notice of facilities that were in significant noncompliance.
5. 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).

S6.B. Local Limit Development

As sufficient data becomes available, the Permittee must, in consultation with Ecology, reevaluate their 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 treatment facility 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

S7.A. Solid waste handling

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

S7.B. Leachate

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

S8. Application for permit renewal or modification for facility changes

The Permittee must submit an application for renewal of this permit by December 31, 2017. The Permittee must submit a paper copy and an electronic copy (preferably as a PDF).

Permit modifications: The Permittee must also submit a new application or supplement at least one hundred eighty (180) days prior to commencement of discharges that may cause permit violations and that result from activities such as facility expansions, production increases, or process modifications.

Reclaimed Water Conditions

R1. Reclaimed water limits

All reclaimed water distribution and activities authorized by this permit must be consistent with the terms and conditions of this permit. The distribution of reclaimed water containing any of the following constituents more frequently than, or at a concentration in excess of, that authorized by this permit constitutes a violation of the terms and conditions of this permit.

Beginning on the effective date and lasting through the expiration date of this permit, the Permittee is authorized to distribute Class A reclaimed water to the Chinook Bend Wetland Enhancement project site. The production, distribution, and use of reclaimed water must be in compliance with all specific conditions and requirements of the *Washington State Water Reclamation and Reuse Standards, 1997*, and is subject to the water quality limits listed in Table 4.

Table 4. Reclaimed Water Limits

Reclaimed Water Limits: Wetlands Outfall # 002 (Latitude: 47.666389°, Longitude: -121.9261111°)		
Parameter	Average Monthly ^a	Average Weekly ^b
BOD ₅	20 mg/L, 80 lbs/day 85% removal of influent BOD ₅	30 mg/L, 120 lbs/day
TSS	20 mg/L, 80 lbs/day 85% removal of influent TSS	30 mg/L, 120 lbs/day
	Average Monthly ^a	Instantaneous Maximum
Turbidity	0.2 NTU	0.5 NTU ^c
	7-day Median	Sample Maximum
Total Coliform ^d	2.2 cfu / 100 ml	23 cfu / 100 ml
	Minimum	Maximum
pH ^e	6.0 standard units	9.0 standard units
	Average Monthly ^a	Maximum Daily
Total Residual Chlorine ^f	7 µg/L	18 µg/L

^a Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate, add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured.

^b Average weekly effluent limit means the highest allowable average of daily discharges over a calendar week. To calculate, add all daily values measured during a calendar week and divide by the number of daily values measured during that week.

^c The turbidity instantaneous maximum is defined as the value not to be exceeded using continuous measurement. Turbidity excursions lasting less than 5 minutes are allowed and not considered a permit violation.

^d The median number of total coliform organisms in the reclaimed water after disinfection must not exceed 2.2 MPN per 100 milliliters, as determined from test results of the previous 7 days for which reclaimed water was distributed. The 7-day median must include all the analytical results from samples collected the previous 7 days. If there is an even number of values over the 7 days, report the larger of the two median values.

^e The instantaneous maximum and minimum pH must be reported monthly.

^f Chlorine limits apply only when disinfecting the reclaimed water conveyance pipe with chlorine.

The Permittee must operate the system in accordance with the permit conditions to ensure statutory requirements are met and to protect the existing and future beneficial uses of the wetlands and the Snoqualmie River. Class A reclaimed water must at all times be oxidized, filtered, and disinfected.

This discharge must also meet the seasonal total maximum daily load (TMDL) requirements, listed in Table 5, from August through October.

Table 5. Additional Reclaimed Water Limits during Low River Flow Conditions (August – October)

Parameter	Average Monthly ^a	Maximum Daily ^b
Biochemical Oxygen Demand (5-day)	12 lb/day	25 lb/day
Total Ammonia, as N	4.4 lb/day	8.4 lb/day

^a Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate, add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured.

^b Maximum daily effluent limit is the highest allowable daily discharge. For pollutants with limits expressed in units of mass, calculate the daily discharge as the total mass of the pollutant discharged during the day.

R2. Reclaimed water monitoring requirements

The Permittee must:

- a. Monitor influent loadings to the facility as required in Condition S2, Table 3(1).
- b. Monitor permit renewal application requirements as required in Condition S2, Table 3(3).
- c. Monitor the reclaimed water for the parameters listed in Table 6 with the methods specified in Appendix A.

R3. Reclaimed water operational records

The Permittee must:

1. Keep maintenance records for five (5) years, corresponding to the life cycle of this permit, on all major electrical and mechanical components of the reclamation facility, distribution, and use areas. Records must clearly specify the frequency and type of maintenance recommended by the manufacturer and must show the frequency and type of maintenance performed. These maintenance records must be available for inspection at all times.
2. Maintain operating records at the reclamation treatment facility or within a central depository within the Permittee's operating agency for five (5) years. These records must 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.
3. Record and maintain separate record files of process or equipment failures triggering alarms that are vital to maintaining reliability of reclaimed water quality. The recorded information must include the time and cause of failure and corrective action taken.

Table 6. Reclaimed Water Monitoring Schedule

Parameter	Units	Sampling Frequency	Sample Type
(1) Membrane Effluent (<i>sample downstream of MBR, upstream of UV</i>)			
Turbidity ^a	NTU	Continuous ^b	Recording
(2) Reclaimed Water (<i>sample downstream of UV</i>)			
Flow	MGD	Continuous	Recording
BOD ₅	mg/L	2/week	24-hr composite ^c
	lbs/day ^d	2/week	Calculated
	% removal ^e	1/month	Calculated
TSS	mg/L	2/week	24-hr composite
	lbs/day	2/week	Calculated
	% removal	1/month	Calculated
Total Coliform	#/100 mL	1/day	Grab ^g
pH ^f	Std Units	Continuous	On-line analyzer
Ammonia, as N	mg/L	1/month	24-hr composite
	lbs/day	1/month	Calculated
TKN, as N	mg/L	1/month	24-hr composite
Nitrogen, Total as N	mg/L	1/month	24-hr composite
Phosphorus, Total as P	mg/L	1/month	24-hr composite
Dissolved Oxygen ^h	mg/L	1/week	Grab
Temperature ⁱ	°C	Continuous, July 2014 – May 2015	Metered
(3) UV System			
UV dosage	mJ/cm ²	Every 30 minutes	On-line analyzer
(4) Reclaimed water valve vault at wetlands			
Total Chlorine Residual ^j	mg/L	1/day	Grab

^a Report the maximum turbidity value. Measurement spikes that last for less than five minutes do not need to be reported.

^b *Continuous* means uninterrupted except for brief periods of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. The Permittee must sample every four hours when continuous monitoring is not possible.

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

^d lbs/day = Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34)

^e % removal = $\frac{\text{Influent concentration (mg/L)} - \text{Effluent concentration (mg/L)}}{\text{Influent concentration (mg/L)}} \times 100$

^f Report the daily minimum and maximum pH.

^g Grab samples must be taken at the same time daily when wastewater characteristics are the most demanding on the treatment facilities and disinfection processes.

^h Report the daily minimum DO value.

ⁱ Temperature must be recorded every 30 minutes. Report daily maximum temperature for each day during specified period.

^j Monitoring for Total Residual Chlorine is required only when disinfecting the reclaimed water or outfall conveyance pipe with chlorine; when not using chlorine for these purposes, enter "no discharge of chlorine" on the DMR. Ecology and Health issued a waiver to the chlorine residual requirement for the conveyance system to the wetlands to protect biota.

R4. Reclaimed water operation and maintenance

R4.A. 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 treatment facility. The power supply must 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 alternative disposal provisions. All equipment must be either independent of the normal power supply or provided with a standby power supply.

R4.B. Disinfection of reclaimed water conveyance system

The Permittee must:

1. Re-treat reclaimed water such that it meets all reclaimed water permit limits or discharge it through the river outfall according to the requirements of this permit.
2. Have a procedure documented in the Operations and Maintenance Manual to disinfect the reclaimed water piping and other appurtenances following incidents when the permit limits, as listed in Table 4, are exceeded.
3. Ensure that reclaimed water piping and other appurtenances are disinfected prior to returning the facilities to reclaimed water service.

R4.C. Operations and maintenance manual

In addition to the requirements listed in Special Condition S5.G, the O&M Manual for the Carnation treatment facility must include:

1. Reclaimed water system maintenance procedures and the proper handling of any associated wastewater as a result of these procedures (i.e. pipeline flushing, disinfection of conveyance lines, etc.).
2. Reclaimed water sampling protocols and procedures for compliance with the sampling and reporting requirements in the reclaimed water permit.
3. Alarm condition response plan to ensure that no untreated or inadequately treated wastewater will be delivered to reclaimed water use areas.
4. Discussion of the cross-connection control and inspection program, including who will be responsible for compliance and testing of the cross connection control devices, if applicable.

R5. Reclaimed water distribution and use

R5.A. Authorized uses and locations

The Permittee is authorized to distribute reclaimed water in accordance with the terms and conditions of this permit at the Chinook Bend wetland enhancement project (47.666389°, -121.9261111°). The use of reclaimed water other than for the authorized use and location constitutes a violation of the terms and conditions of this permit.

R5.B. Use area responsibilities

1. The Permittee must develop general language, symbols, and colors to be used for notification signs and have them approved by the Departments of Ecology and Health. The signs must be used in all reclaimed water use areas, consistent with the *Water Reclamation and Reuse Standards*.

2. All reclaimed water valves, storage facilities, and outlets must be tagged or labeled to warn the public or employees that the water is not intended for drinking. The signage or advisory notification must be colored purple with white or black lettering.
3. There must be no hose bibs on reclaimed irrigation lines unless approved by the Departments of Health and Ecology.
4. Where the reclaimed water production, distribution, and use areas are under direct control of the Permittee, the Permittee must maintain control and be responsible for all facilities and activities inherent to the production, distribution, and use of the reclaimed water. The Permittee must ensure that the reuse system operates as approved by the Departments of Health and Ecology.
5. The Permittee must assure that all authorized personnel using reclaimed water have completed training in the requirements for appropriate use of the water, including signage, cross connection control requirements, public health, and environmental protection.

R5.C. Net Environmental Benefit Report

The Permittee must submit a Net Environmental Benefit (NEB) Report that analyzes whether an NEB can be claimed for the Chinook wetland project, in the areas impacted by the reclaimed water. In order to demonstrate an NEB, the report must show at a minimum that the use of reclaimed water provides full and uninterrupted protection of all significant beneficial uses that existed in the wetlands prior to the use of reclaimed water, if known. The report must also show that the reclaimed water creates new or enhances the existing beneficial uses. The Permittee must submit this report by December 31, 2015.

R5.D. Reclaimed Water Nutrient Analysis

The Permittee must submit a Reclaimed Water Nutrient Analysis for the Chinook Bend Wetlands with the next permit application. This analysis must assess the nutrient contribution (total nitrogen and total phosphorus) to the wetlands by the Class A reclaimed water, provide an estimation of wetland vegetation assimilation of the nutrients, and calculate loadings from the reclaimed water to the Snoqualmie River. The analysis must use data from the previous four years and estimate the balance for the following five years. The plan must contain, but not be limited to, the following:

1. Physical description of the current distribution system.
2. Evaluation of use area, estimated volume of reclaimed water use, application rates, nutrient balance including annual reclaimed water contribution and expected wetland vegetation uptake, and hydrogeological information necessary to evaluate potential water quality impacts.

Data and calculations from the analysis must be submitted to Ecology electronically in an Excel spreadsheet.

R5.E. Bypass prohibited

The Permittee must not bypass untreated or partially treated wastewater from the treatment facility or any intermediate unit processes to the distribution system or point of use at any time. All reclaimed water distributed for beneficial use must meet Class A requirements at all times. The Permittee must divert water not meeting Class A Reclaimed Water Standards to the river outfall, or retain or discharge the wastewater back to the sewer system or headworks for additional treatment.

The Permittee must notify the Departments of Ecology by telephone within 24 hours of any discharge not meeting Class A entering the distribution system.

R5.F. Revocation of authorization

Ecology may revoke authorization to provide service if the Permittee fails to comply with any requirement in this permit. Ecology will base its determination to revoke authorization 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 will notify the Permittee in writing and provide a reasonable opportunity and time frame to correct the noncompliance.

General Conditions

G1. Signatory requirements

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

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

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

G2. Right of inspection and entry

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

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

G3. Permit actions

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

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

G4. Reporting planned changes

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

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

2. A significant change in the nature or an increase in quantity of pollutants discharged.
3. A significant change in the Permittee's sludge use or disposal practices. Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. Plan review required

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

G6. Compliance with other laws and statutes

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

G7. Transfer of this permit

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

1. Transfers by Modification

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

2. Automatic Transfers

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

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

G8. Reduced production for compliance

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

G9. Removed substances

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

G10. Duty to provide information

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

G11. Other requirements of 40 CFR

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

G12. Additional monitoring

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

G13. Payment of fees

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

G14. Penalties for violating permit conditions

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

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

G15. Upset

Definition – “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

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

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the Permittee can identify the cause(s) of the upset.
2. The permitted facility was being properly operated at the time of the upset.
3. The Permittee submitted notice of the upset as required in Special Condition S3.E.
4. The Permittee complied with any remedial measures required under S3.E of this permit.

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

G16. Property rights

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

G17. Duty to comply

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

G18. Toxic pollutants

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

G19. Penalties for tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two (2) years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both.

G20. Compliance schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than fourteen (14) days following each schedule date.

G21. Service agreement review

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

Appendix A

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

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

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

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

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

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.

Pollutant & CAS No. (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
Total Suspended Solids	SM2540-D		5 mg/L
Total Dissolved Solids	SM2540 C	10 mg/L	20 mg/L
Total Ammonia (as N)	SM4500-NH ₃ -B and C/D/E/G/H		0.3 mg/L
Flow	Calibrated device		
Dissolved oxygen	SM4500-OC/OG		0.2 mg/L
Temperature (max. 7-day avg)	Analog recorder		0.2° C
pH	SM4500-H ⁺ B	N/A	N/A
Total Alkalinity	SM2320-B		5 mg/L as CaCO ₃
Chlorine, Total Residual	SM4500 Cl G		50.0
Fecal Coliform	SM 9221E,9222	N/A	Specified in method - sample aliquot dependent
Nitrate + Nitrite Nitrogen (as N)	SM4500-NO ₃ - E/F/H		100
Nitrogen, Total Kjeldahl (as N)	SM4500-N _{org} B/C and SM4500NH ₃ - B/C/D/EF/G/H		300
Nitrogen, Total (as N)	SM4500-N-C	50	100
Soluble Reactive Phosphorus (as P)	SM4500- PE/PF	100	100
Phosphorus, Total (as P)	SM 4500 PB followed by SM4500- PE/PF	100	100
Oil and Grease (HEM) (Hexane Extractable Material)	1664 A or B	1,400	5,000
Total Coliform	SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
Total Hardness	SM2340B		200 as CaCO ₃

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 10ⁿ, where n is an integer (64 FR 30417).
ALSO GIVEN AS:

Quantitation Level (QL): 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).