REGISTERED PROFESSIONAL ENGINEER
76549
OREGON
DEC. 31, 2007
BHARGAVI MAREMANDA

EXPIRES: 12/31/14

City of Grants Pass

TECHNICAL MEMORANDUM NO. 4

Water Restoration Plant Facility Plan
Permitting and Regulatory Considerations

FINAL

February 2014

720 SOUTHWEST WASHINGTON STREET, SUITE 550 • PORTLAND, OREGON 97205-3507 • (503) 227-1885 • FAX (503) 227-1747

City of Grants Pass

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PERMITTING AND REGULATORY CONSIDERATIONS

1.0 INTRODUCTION

This technical memorandum (TM) focuses on a review of current and potential permitting and regulatory issues relating to water quality or treatment associated with the City of Grants Pass's Water Restoration Plant (WRP), and assesses how those issues may impact the development of the facilities plan. The TM addresses the following:

- Current water quality criteria applicable to the City of Grants Pass,
- Current permit requirements, and
- Potential future regulatory issues that may affect the City's planning and operation.

The above considerations establish the basis of planning for the analysis conducted to evaluate the adequacy of the system to provide existing service and serve projected growth.

2.0 CURRENT DISCHARGE PERMIT REQUIREMENTS

Discharges from wastewater treatment plants to surface waters must be permitted by a National Pollutant Discharge Elimination System (NPDES) Permit as required by the federal Clean Water Act and the promulgated federal and state regulations implementing the requirements of the Clean Water Act.

NPDES permit limitations on discharges are established so that in-stream water quality criteria are met, and for compliance with other water quality standards and regulations. The City's current NPDES permit for the WRP was issued on October 20, 2010, and the current effluent limitations are summarized in Table 1 below. A copy of the current discharge permit is attached as Appendix A.

Table 1 Current Discharge Permit Requirements: $CBOD_5$ and TSS
City of Grants Pass – Permitting and Regulatory Considerations

Parameter	Average Effluent Concentrations		Monthly Average, Lbs/day	Weekly Average, Lbs/day	Daily Maximum, Lbs/day
	Monthly, mg/L	Weekly, mg/L			
May 1 - October 31					
$CBOD_5$	10	15	500	750	1,000
TSS	10	15	670	1,000	1,300
November 1 – April 30					
BOD_5	30	45	1,600	2,400	3,200
TSS	30	45	1,600	2,400	3,200
Other Parameters (Year Round)					
E. coli Bacteria	Shall not exceed 126 organisms per 100 mL monthly geometric mean. No single sample shall exceed 406 organisms per 100 mL.				

Table 1 Current Discharge Permit Requirements: $CBOD_5$ and TSS *City of Grants Pass – Permitting and Regulatory Considerations*					
Parameter	**Average Effluent Concentrations**		**Monthly Average, Lbs/day**	**Weekly Average, Lbs/day**	**Daily Maximum, Lbs/day**
	Monthly, mg/L	**Weekly, mg/L**			
pH (year round)	6.0 - 9.0				
BOD_5 and TSS Removal Efficiency	Shall not be less than 85 percent monthly average				
Ammonia-N (June 1-30)	Shall not exceed a monthly average concentration of 21 mg/L and a daily maximum concentration of 34.7 mg/L.				
Ammonia-N (July 1-31)	Shall not exceed a monthly average concentration of 10.4 mg/L and a daily maximum concentration of 21.7 mg/L.				
Ammonia-N (August 1-31)	Shall not exceed a monthly average concentration of 16.8 mg/L and a daily maximum concentration of 36 mg/L.				
Ammonia-N (September 1-30)	Shall not exceed a monthly average concentration of 9.6 mg/L and a daily maximum concentration of 21.3 mg/L.				

3.0 WATER QUALITY STANDARDS

Water quality standards in Oregon are adopted by the Environmental Quality Commission and enforced by the Oregon Department of Environmental Quality. Oregon's water quality standards are found in Oregon Administrative Rules (OAR 340-041). Statewide standards and a brief summation of their relevance to The Dalles are presented herein. It should be noted that the summations are not complete and the actual standards have considerable additional detail and complexity. The specific section of the OAR should be consulted for further information.

3.1 Statewide Standards Criteria

3.1.1 Antidegradation Policy (OAR 340-041-0004)

The purpose of the Antidegradation Policy is to guide decisions that affect water quality such that unnecessary further degradation from new or increased point and nonpoint sources of pollution is prevented, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses.

The policy recognizes that the assimilative capacity of Oregon's streams is finite, but the potential uses of this capacity are virtually unlimited. Thus, it is important that priority be given to those beneficial uses that promise the greatest return (beneficial use) relative to the unused assimilative capacity that might be utilized. In-stream uses that will benefit from reserve assimilative capacity, as well as potential future beneficial use, will be weighed against the economic benefit associated with increased loading.

The Antidegradation Policy may limit increases in mass load in discharges from the Grants Pass WRP. Implementation of this policy will be more restrictive for waters that currently do not meet water quality standards.

3.1.2 Statewide Narrative Criteria (OAR 340-041-0007)

These criteria establish aesthetic limitations such as prohibition of oily sheens, sludge, development of fungi in the receiving water, offensive odors, and discoloration. Because other, more specific, and more restrictive standards are in place, these narrative criteria typically have few implications for current facility planning.

3.1.3 Bacteria (OAR 340-041-0009)

Effluent discharges to freshwaters, and estuarine waters other than shellfish growing waters may not exceed a monthly log mean of 126 *E. coli* organisms per 100 milliliters (ml). No single sample may exceed 406 *E. coli* organisms per 100 ml. However, no violation will be found for exceedances if the permittee takes at least five consecutive re-samples at 4-hour intervals beginning as soon as practical (preferably within 28 hours) after the original sample was taken and the log mean of the 5 re-samples is less than or equal to 126 *E. coli* organisms/100 ml.

3.1.4 Biocriteria (OAR 340-041-0011)

Waters of the State must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.

3.1.5 Dissolved Oxygen (OAR 340-041-0016)

Adequate dissolved oxygen is critical for successful reproduction and survival of salmonids and other aquatic species. Where there are salmonid spawning activities, the dissolved oxygen should be greater than 11.0 mg/l. For water bodies identified by the Department as providing cold-water aquatic life, the dissolved oxygen may not be less than 8.0 mg/l as an absolute minimum.

For water bodies identified by the Department as providing cool-water aquatic life, the dissolved oxygen may not be less than 6.5 mg/l as an absolute minimum.

3.1.6 Nuisance Phytoplankton (OAR 340-041-0019)

Average Chlorophyll a values must be less than 0.015 mg/l where phytoplankton may impair the recognized beneficial uses.

3.1.7 pH (OAR 340-041-0021)

Limits for pH are basin specific and are discussed in detail in Section 4.2.1.

3.1.8 Temperature (OAR 340-041-0028)

Water temperatures affect the biological cycles of aquatic species and are a critical factor in maintaining and restoring healthy salmonid populations throughout the State. Water temperatures are influenced by solar radiation, stream shade, ambient air temperatures, channel morphology, groundwater inflows, and stream velocity, volume, and flow. Surface water temperatures may also be warmed by anthropogenic activities such as discharging heated water, changing stream width or depth, reducing stream shading, and water withdrawals. The temperature standard was

developed to protect aquatic ecosystems from adverse warming and cooling caused by anthropogenic activities.

Temperature criteria are dependent upon spatial and temporal fish activities in the receiving water. Fish activities are defined by maps and tables that identify the timing and location of fish activities in each water body.

The Rogue River near the City is a salmonid migration corridor. Therefore, the seven-day-average maximum temperature may not exceed 20.0 degrees Celsius (68.0 degrees Fahrenheit). In addition, migration corridors must have coldwater refugia that are sufficiently distributed so as to allow salmon and steelhead migration without significant adverse effects from higher water temperatures elsewhere in the water body. Finally, the seasonal thermal pattern in the Rogue River must reflect the natural seasonal thermal pattern.

3.1.9 Total Dissolved Gas (OAR 340-041-0031)

Waters will be free from dissolved gases, such as carbon dioxide, hydrogen sulfide, or other gases, in sufficient quantities to cause objectionable odors or to be deleterious to fish or other aquatic life, navigation, recreation, or other reasonable uses made of such waters.

3.1.10 Total Dissolved Solids (OAR 340-041-0031)

Limits for total dissolved solids are basin specific and are discussed in detail in Section 2.3.2.2.

3.1.11 Toxics (OAR 340-041-0033)

Toxic substances may not be introduced above natural background levels in waters of the state in amounts, concentrations, or combinations that may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare or aquatic life, wildlife, or other designated beneficial uses.

3.1.12 Turbidity (OAR 340-041-0036)

No more than a 10 percent cumulative increase in natural stream turbidities may be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity, including wastewater treatment plant discharges.

3.1.13 Other Standards

In addition, there are water quality standards pertaining to mixing zones, domestic wastewater treatment plant performance standards, and water quality limited waters.

3.2 Rogue River Basin Specific Water Quality Standards

In addition to the statewide water quality standards and criteria, the Environmental Quality Commission has adopted basin specific water quality standards for the Rogue River Mainstem. This task is the responsibility of the Oregon Water Resources Department (OWRD), and includes

both designated beneficial uses for the basin and water quality criteria to protect those designated uses. A water body's beneficial uses depend on characteristics such as its size and location. The following are the designated beneficial uses for the Rogue River.

3.2.1.1 Designated Beneficial Uses

The designated beneficial uses for the Rogue River at River Mile 100.5 (Oregon Administrative Rules -OAR 340-041-0101) are:

- Public domestic water supply.
- Private domestic water supply.
- Industrial water supply.
- Irrigation.
- Livestock watering.
- Fish & aquatic life.
- Wildlife and hunting.
- Fishing.
- Boating.
- Water contact recreation.
- Aesthetic quality.

3.2.1.2 Basin Specific Criteria

In addition to the statewide criteria and standards, basin specific criteria have been developed and adopted to protect these designated beneficial uses in the Rogue River. They include:

1. pH (hydrogen ion concentration). pH values may not fall outside 6.5 – 8.5 range.
2. Total Dissolved Solids. At the Grants Pass WRP, the water quality criteria for Total Dissolved Solids is 500 mg/l. This limit must not be exceeded unless otherwise specifically authorized by DEQ upon such conditions, as it may deem necessary to carry out the general intent of this plan and to protect the beneficial uses set forth in OAR 340-041-0101.
3. Minimum Design Criteria for Treatment and Control of Sewage Wastes:
    a. During periods of low stream flows: Treatment resulting in monthly average effluent concentrations not to exceed 10 mg/l of BOD and 10 mg/l of SS or equivalent control. The period of low flow at the Grants Pass is approximately May 1 to October 31.
    b. During periods of high stream flows: By federal law, a minimum of secondary treatment (30-day average concentrations of 30 mg/L BOD and 30 mg/L TSS) or equivalent control and unless otherwise specifically authorized by the Department, operation of all waste treatment and control facilities at maximum practicable efficiency and effectiveness so as to minimize waste discharges to public waters.

4.0 POTENTIAL REGULATORY ISSUES

Water quality standards and regulations continue to evolve and there are a number of new regulatory initiatives being discussed and/or implemented at the state and federal level that could significantly impact the design and operation of the Grants Pass WRP. Since one of the goals of this facility planning is to develop long-term treatment scenarios for phased implementation of improvements at the WRP, considerations for these potential future permit requirements have been made as part of the planning-level layout of facilities. This section outlines parameters that are likely to be included in subsequent NPDES permits written for the City, and presents probable future permit limits. These include:

- Blending of wet weather flows,
- Ammonia,
- Temperature,
- Mass load limitations, and
- Priority persistent toxics

A detailed discussion of each of these issues is included in this section. The alternatives for addressing new regulations are presented in detail in TMs 5 and 7.

4.1 Blending

Blending, also known as “split flow” or “select treatment,” refers to the practice of diverting flow around a treatment component (usually secondary treatment) during high wet weather flows. The Grants Pass WRP was designed to operate using blending when flow exceeds the secondary system capacity. The practice is not specifically authorized in the NPDES permit.

EPA has been trying to adopt a wet weather flow management policy for separated sanitary sewer systems and treatment facilities since the early 1990s. Although several proposals have been made by EPA and others, no wet weather flow management policy or regulations, including those related to blending, have been finalized. EPA views blending as a bypass as defined and prohibited by federal regulations (CFR 122.41(m)(4)(i) and recently has taken a more aggressive regulatory approach towards blending. Although the future of blending remains uncertain, alternatives for improvements to the treatment plant should include the possibility that blending will not be permitted in the future and that all flows must receive secondary treatment prior to discharge.

The City has already adopted a comprehensive rehabilitation/replacement program to reduce and manage infiltration/inflow (I/I) and associated wet-weather flows. In addition to managing I/I within the collection system, the City may need to operate in step-feed mode during peak flow events to accommodate PHFs. The capacity of the existing system when operated in this mode is 30 mgd. If the practice of blending is determined to be illegal, wet weather capacity improvements to meet year 2035 flows are recommended. For the City, this would include adding a secondary clarifier. TM 5 – Liquid Stream Process discusses the capacity in contact stabilization mode in further detail.

4.2 Ammonia

Since un-ionized ammonia is toxic to fish and other aquatic species, water quality criteria have been developed by USEPA to protect these organisms. Acute and chronic toxicity limits for ammonia are dependant upon temperature and pH. Generally, as pH increases and temperature decreases, total ammonia becomes more toxic. The acute and chronic limits must be met at the edge of Zone of Immediate Dilution (ZID) and mixing zone, respectively.

Two potential scenarios for ammonia that affect the City's WRP regulatory compliance as presented below.

4.2.1 pH

Ammonia toxicity is sensitive to temperature and pH of the water. DEQ has developed an Internal Management Directive "Reasonable Potential Analysis for Toxic Pollutants" (September 2005). This directive outlines the procedures to be used by permit writers to establish if there is a reasonable potential for a discharge to cause or contribute to an exceedances of water quality criteria in the receiving stream, and if so, how to establish effluent limitations for that pollutant.

DEQ performed a Reasonable Potential Analysis (RPA) analysis for the City and results of RPA showed potential toxicity for ammonia during June through September. The City's 2010 NPDES permit includes effluent quality requirements for ammonia. The current permit requirement was based on toxicity analysis for ammonia in the Rogue River. This requires partial nitrification down to a level of 9.6 to 21 mg/L during the summer months.

4.2.2 Freshwater Mussels Criteria

It is likely that the State of Oregon will adopt the proposed water quality criteria for ammonia presented in Table 2 for protection of freshwater mussels in the Rogue River. It is anticipated that this change will affect the City within the next 5 to 10 years.

Table 2 Freshwater Criteria for Ammonia at pH 8 and 25 Degrees Celsius
City of Grants Pass – Permitting and Regulatory Considerations

	Anticipated Ammonia Limit
Acute	3.2 mg/L
Chronic	0.28 mg/L

Implementation of freshwater mussels criteria would impose more stringent water quality limits for ammonia concentrations in the WRP effluent. Based on the existing dilution achieved at the zone of initial dilution (ZID), the ammonia concentration in the WRP would need to be less than 7.5 mg/l, with the limit at the perimeter of the ZID the controlling condition. Additionally, it is anticipated that the City could receive nitrite limit in the future. This would imply that the City should completely nitrify seasonally or even year-round in the event that fresh water mussels criteria is implemented.

If full nitrification is required, the City will need to add the current aeration tank volume by a factor of three in order to meet permit requirements. A detailed full nitrification treatment capacity is presented in TM 5 – Liquids Stream Process.

4.3 Temperature

The Rogue River is water quality limited for temperature. High water temperatures adversely affects cold-water fish. In stream temperatures below 15.5 degrees Celsius are optimal for salmonoid fish such as salmon and other cold-water aquatic species. Temperatures above 21 degrees Celsius limit growth and reproduction and those above 24 degrees Celsius are potentially lethal. In addition, in stream temperature regulation is also important because it controls the solubility of dissolved oxygen (DO) in water. As the stream water temperature increases, the DO saturation concentration decreases and it becomes more difficult to maintain adequate DO levels necessary for fish health.

The City currently has thermal load based on Total Maximum Daily Load allocation (TMDL). Northwest Environmental Advocates (NEA) challenged DEQ in federal court regarding the temperature rule and Natural Thermal Potential of streams and the federal court found in favor of NEA. For the City, this could mean new lower thermal load or temperature limits will be included in future NPDES permits.

Discharge to natural treatment systems such as poplar plantations or engineered wetlands; indirect or nighttime discharge; better dilution of effluent in the river discharge; reuse water programs; and water quality trading are strategies the City should consider employing to meet more stringent temperature limits. The City meets to monitor his issue and begin review strategies for meeting more stringent temperature limits during the planning period. Layout of facilities on the WRP site allows space for a future tertiary treatment process if needed for water reuse.

4.4 Mass Load Limitations

The City's new 2010 NPDES permit does not provide an increase in mass load and requires that all existing mass load limits, as established in the City's previous NPDES permit, continue to be met, even if higher flows would require higher levels of treatment prior to discharge. This is consistent with the State's Antidegradation Policy.

Figure 1 presents a plot of required effluent BOD concentrations to meet no mass load increase scenario. As illustrated in the figure, the plant's current performance does not meet the required treatment during the later part of the planning period. The plant may need to provide fine screening and/or enhanced primary treatment to meet limits within the planning period.

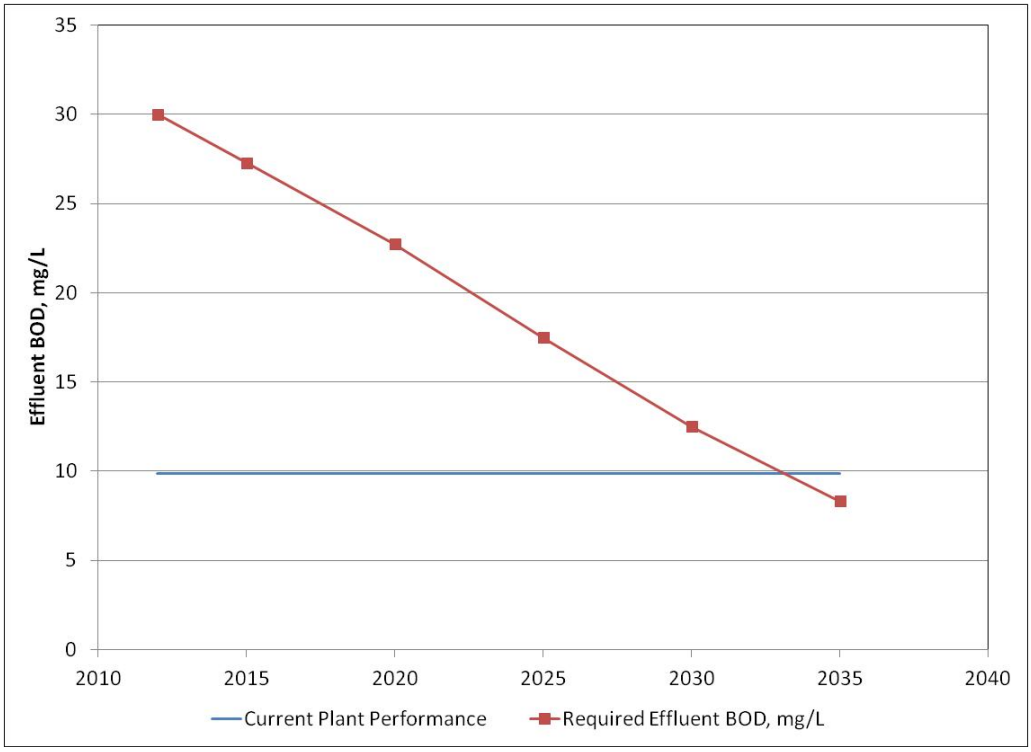

Figure 1 Required Effluent BOD Concentrations to meet No Mass Load Increase

4.5 Priority Persistent Pollutants

In The 2007 Oregon Legislature passed Senate Bill 737, which requires DEQ to list, monitor, and eventually control priority persistent bioaccumulative toxics (Priority Persistent Pollutant List) that have a documented effect on human health, wildlife and aquatic life. A priority persistent pollutant is a substance that is toxic and either persists in the environment or accumulates in the tissues of humans, fish, wildlife, or plants.

As a first step, DEQ has developed a Priority Persistent Pollutant List that meet this definition; the identified pollutants are divided into two categories:

- Persistent Pollutants - Substance that is toxic and either persists in the environment or accumulates in the tissues of humans, fish, wildlife, or plants such as polycyclic aromatic hydrocarbons (PAHs), halogenated flame retardants, pesticides, pharmaceuticals, preflorinated surfactants, metals, and industrial chemicals.
- Legacy Persistent Pollutants - Pollutants which have been banned or restricted for several years and remain in detectable levels in sediment and tissue samples such as Pesticides, herbicides, polychlorinated biphenyls (PCBs), polychlorinated naphthalenes (PCNs), dioxins, and furans.

DEQ will use this list to prioritize toxic monitoring and other state water quality programs in the future. Currently, it is developing persistent toxics reduction plan for all major plants in Oregon. The implications of this regulatory issue for the City is increased monitoring, public education to limit toxics in the sewage, and pro-active pre-treatment program outreach. within the planning period.

Appendix A

DISCHARGE PERMIT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT

Department of Environmental Quality
Western Region – Salem Office
750 Front Street NE, Suite 120, Salem, OR 97301-1039
Telephone: (503) 378-8240

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

ISSUED TO:
City of Grants Pass
101 Northwest A Street
Grants Pass, Oregon 97526

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Outfall Location
Treated Wastewater (diffuser)	001a	RM 100.5
Treated Wastewater (bank outfall)	001b	RM 100.5

FACILITY TYPE AND LOCATION:
Activated Sludge
Grants Pass Water Restoration Facility

1200 SW Greenwood Avenue
Grants Pass, Oregon

Biosolids Co-Composting
Jo Gro Composting Facility
Merlin Landfill, 1749 Merlin Road, Merlin, OR

RECEIVING STREAM INFORMATION:
Basin: Rogue
USGS Sub-Basin: Middle Rogue
Receiving Stream: Rogue River
LLID: 1244292424210 – 100.5 D

County: Josephine

Treatment System Class: Level IV
Collection System Class: Level IV

EPA REFERENCE NO: OR002884-3
Issued in response to Application No. 981546 received May 31, 2005. This permit is issued based on the land use findings in the permit record.

Zachary J. Loboy, Water Quality Manager
Western Region DEQ

October 20, 2010
Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify, or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

Page
Schedule A - Waste Discharge Limitations not to be Exceeded 2
Schedule B - Minimum Monitoring and Reporting Requirements 5
Schedule D - Special Conditions 13
Schedule E - Pretreatment Activities 18
Schedule F - General Conditions 22

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge of waste is prohibited, including discharge to waters of the state or an underground injection control system.

SCHEDULE A

1. Waste Discharge Limitations not to be exceeded after permit issuance.

a. Treated Effluent Outfall 001

(1) May 1 - October 31:

Parameter	Average Effluent Concentrations Monthly	Weekly	Monthly* Average lb/day	Weekly* Average lb/day	Daily* Maximum lbs
$CBOD_5$ (See Note 3)	10 mg/L	15 mg/L	500	750	1000
TSS	10 mg/L	15 mg/L	670	1000	1300

(2) November 1 - April 30:

Parameter	Average Effluent Concentrations Monthly	Weekly	Monthly* Average lb/day	Weekly* Average lb/day	Daily* Maximum lbs
BOD_5	30 mg/L	45 mg/L	1600	2400	3200
TSS	30 mg/L	45 mg/L	1600	2400	3200

* Average dry weather design flow to the facility equals 4.0 MGD. Summer mass load limits based upon mass loadings established in previous permits. Winter mass load limits based upon average wet weather design flow to the facility established in previous permit equaling 6.4 MGD. The daily mass load limit is suspended on any day in which the flow to the treatment facility exceeds 8 MGD (twice the design average dry weather flow), but weekly and monthly mass load limits are not suspended.

(3) Year-round (except as noted)

Other parameters	Limitations
E. coli Bacteria	Shall not exceed 126 organisms per 100 mL monthly geometric mean. No single sample shall exceed 406 organisms per 100 mL (See Note 1)
pH	Shall be within the range of 6.0 - 9.0
BOD_5 and TSS Removal Efficiency	Shall not be less than 85% monthly average for BOD_5 and 85% monthly for TSS.
Ammonia-N (June 1-30)	Shall not exceed a monthly average concentration of 21.0 mg/L and a daily maximum concentration of 34.7 mg/L
Ammonia-N (July 1-31)	Shall not exceed a monthly average concentration of 10.4 mg/L and a daily maximum concentration of 21.7 mg/L
Ammonia-N (August 1-31)	Shall not exceed a monthly average concentration of 16.8 mg/L and a daily maximum concentration of 36.0 mg/L
Ammonia-N (September 1-30)	Shall not exceed a monthly average concentration of 9.6 mg/L and a daily maximum concentration of 21.3 mg/L

(4) Excess Thermal Load

Option A

Parameter	Limitations
Excess Thermal Load (April 1 through May 15)	Shall not exceed a rolling seven-day average of 223 million Kcals/day (see Note 2)
Excess Thermal Load (May 16 through May 31)	Shall not exceed a rolling seven-day average of 270 million Kcals/day (see Note 2)
Excess Thermal Load (June 1 through June 15)	Shall not exceed a rolling seven-day average of 274 million Kcals/day (see Note 2)

Excess Thermal Load (June 16 through June 30)	Shall not exceed a rolling seven-day average of 229 million Kcals/day (see Note 2)
Excess Thermal Load (July 1 through August 31)	Shall not exceed a rolling seven-day average of 208 million Kcals/day (see Note 2)
Excess Thermal Load (September 1 through 15)	Shall not exceed a rolling seven-day average of 229 million Kcals/day (see Note 2)
Excess Thermal Load (September 16 through September 30)	Shall not exceed a rolling seven-day average of 178 million Kcals/day (see Note 2)
Excess Thermal Load (October 1 through October 15)	Shall not exceed a rolling seven-day average of 180 million Kcals/day (see Note 2)
Excess Thermal Load (October 16 through October 31)	Shall not exceed a rolling seven-day average of 194 million Kcals/day (see Note 2)

Option B - Stream flow monitoring needed to comply with the thermal limits

The thermal limit may be calculated on a daily basis when river flows are reported by using the formula:

$$ETL = (\Delta T)(Q_e + Q_R)C_f$$

Where: *ETL = Excess Thermal Load, million Kcals/day*
ΔT = *Allowable temperature increase, 0.0709°C*
Q_e = *Effluent flow rate, 7-day average of the daily maximums, cfs*
Q_R = *River flow rate, upstream, cfs*
C_f = *conversion factor (2,446,665)* $\frac{kcal \cdot s}{^{\circ}C \cdot ft^3 \cdot day}$

(5) No wastes may be discharged or activities conducted that cause or contribute to a violation of water quality standards in OAR 340-041 applicable to the Rogue Basin except as provided for in OAR 340-045-0080 and the following regulatory mixing zone:

The allowable mixing zone is that portion of the Rogue River contained within an area extending 10 feet on either side of the diffuser and 300 feet downstream from the outfall diffuser. The zone of initial dilution is contained within an area extending 10 feet on either side of the diffuser and 30 feet downstream from the outfall diffuser.

(6) Chlorine and chlorine compounds shall not be used as a disinfecting agent of the treated effluent and no chlorine residual shall be allowed in the discharged effluent due to chlorine used for maintenance purposes.

b. Groundwater

(1) No activities shall be conducted that could cause an adverse impact on existing or potential beneficial uses of groundwater.

NOTES:

1. If a single sample exceeds 406 organisms per 100 ml, then five consecutive re-samples may be taken at four-hour intervals beginning within 28 hours after the original sample was taken. If the log mean of the five re-samples is less than or equal to 126 organisms per 100 ml, a violation shall not be triggered.

2. Excess Thermal Load (ETL) - If any ETL Option other than Option A is used, the Discharge Monitoring Report must state which option was used during that month and include all data necessary to calculate the ETL limit. Limits are to be calculated and compliance will be evaluated starting on the seventh day of each TMDL period (e.g. TMDL period = April 1 – May 15).

3. The $CBOD_5$ concentration limits are considered equivalent to the minimum design criteria for BOD_5 specified in Oregon Administrative Rules (OAR) 340-041. These limits and $CBOD_5$ mass limits may be adjusted (up or down) by permit action if more accurate information regarding $CBOD_5/BOD_5$ becomes available.

SCHEDULE B

1. **Minimum Monitoring and Reporting Requirements**

The permittee shall monitor the parameters as specified below at the locations indicated. The laboratory used by the permittee to analyze samples shall have a quality assurance/quality control (QA/QC) program to verify the accuracy of sample analysis. If QA/QC requirements are not met for any analysis, the results shall be included in the report, but not used in calculations required by this permit. When possible, the permittee shall re-sample in a timely manner for parameters failing the QA/QC requirements, analyze the samples, and report the results.

a. Influent

The facility influent sampling location is in the influent channel on the east side of the influent Parshall Flume structure.

Item or Parameter	Minimum Frequency	Type of Sample
Total Flow (MGD)	Daily	Measurement
BOD_5	3/Week	24-hour Composite
TSS	3/Week	24-hour Composite
pH	Daily	Grab
Temperature	1/Hour	Record
Toxics:		
Metals & Cyanide (See Note 1)	Semi-annually using 3 consecutive days between Monday and Friday, inclusive	24-hour daily composite (See Note 2)

b. Treated Effluent Outfall 001

The facility effluent sampling location is in the effluent channel just after the UV system.

Item or Parameter	Minimum Frequency	Type of Sample
Total Flow (MGD)	Daily	Continuous
Flow Meter Inspection	Semi-Annual	Verification
BOD_5	3/Week	24-hour Composite
$CBOD_5$	3/Week (May – October)	24-hour Composite
Ammonia (NH3-N)	3/Week (May – October) 1/Week (November – April)	24-hour Composite (See Note 2)
TSS	3/Week	24-hour Composite
pH	Daily	Grab
E. coli	3/Week	Grab
UV Radiation Intensity	Daily	Reading (See Note 4)
Pounds Discharged (BOD_5 and TSS)	3/Week	Calculation
Pounds Discharged ($CBOD_5$)	3/Week (May – October)	Calculation
Average Percent Removed (BOD_5 and TSS)	Monthly	Calculation
Nutrients		
TKN, NO2+NO3-N, Total Phosphorus	1/Week (May-Oct)	24-hour Composite

Item or Parameter	Minimum Frequency	Type of Sample
Toxics and related parameters:		
Metals & Cyanide (See Note 1)	Semi-annually using 3 consecutive days between Monday and Friday, inclusive	24-hour daily composite (See Note 2)
Hardness	Semi-annually using 3 consecutive days between Monday and Friday, inclusive	24-hour daily composite (See Note 2)
Priority Pollutants Scan	(See Note 9)	24-hour Composite
Whole Effluent Toxicity (See Note 3)	Four Tests – Annually or Quarterly in last year of permit	Acute & chronic
Temperature:		
Temperature, daily maximums	Daily	Continuous (See Note 8)
Temperature, 7-day Average of Daily Maximums (April 1 through October 31) (See Note 8)	Daily (as a rolling seven-day average starting April 7)	Calculation
Excess Thermal Load (April 1 through October 31) Use equation below	Daily (as a rolling seven-day average starting April 7)	Calculation

Excess thermal load is calculated using the following equation:

$$ETL = Q_E(T_E - T_R)C_f$$

Where:

ETL = Excess Thermal Load, million Kcals/day
Q_E = *7-day average effluent flow, cfs*
T_E = *7-day average of the daily maximums temperature flow, °C*
T_R = *the applicable criterion, °C (Listed in table below)*
C_f = *conversion factor (2,446,665)* $\frac{kcal \cdot s}{°C \cdot ft^3 \cdot day}$

Time Period	Applicable Criterion, °C (T_R)
Apr 1 – May 15	13.0
May 16 – May 31	18.0
Jun 1 – Jun 15	18.0
Jun 16 – Jun 30	18.2
Jul 1 – Aug 31	20.9
Sep 1 – Sep 15	19.6
Sep 16 – Sep 30	18.0
Oct 1 – Oct 15	18.0
Oct 15 – Oct 31	13.0
Note: the applicable criterion is the higher value of the numeric criterion and the natural thermal potential as defined in the TMDL	

c. Biosolids Management

Item or Parameter	Minimum Frequency	Type of Sample
For all biosolids:		
Sludge analysis including: Total Solids (% dry wt.) Volatile solids (% dry wt.) Biosolids nitrogen for: NH_3-N; NO_3-N; & TKN (% dry wt.) Phosphorus (% dry wt.) Potassium (% dry wt.) pH (standard units)	Quarterly	Composite sample to be representative of the product to be land applied, sold or given away from the Compost pile or from anaerobic digestor (See Note 5)
Sludge metals content for: Ag, As, Cd, Cu, Hg, Mo, Ni, Pb, Se & Zn, measured as total in mg/kg	Quarterly	Composite sample to be representative of the product to be land applied from the Compost pile or from the anaerobic digestor (See Note 5)
For all composted Class A and B biosolids sold or land applied:		
Record of quantity of compost sold, given away or land applied	Each Occurrence	Record of date and volume.
Record of days composting biosolids remained at 40°C or higher	Each Batch	Start and stop dates at 40°C or higher
Record of time composting biosolids remained at 55°C or higher	Each Batch	Start and stop dates and times that pile continuously stays at 55°C or higher
Fecal coliform bacteria per gram total solids (dry weight basis) or Salmonella sp. bacteria per four grams total solids (dry weight basis)	Quarterly	At least seven (7) individual samples representative of the product to be beneficially used (See Note 5)
For all anaerobically digested Class B biosolids land applied:		
Record of locations where biosolids are applied on each DEQ approved site. (Site location maps to be maintained at treatment facility for review upon request by DEQ)	Each Occurrence	Date, volume & locations where sludges were applied recorded on site location map.
Record of % volatile solids reduction accomplished through stabilization	Monthly	Calculation (See Note 6)
Record of digestion days (mean cell residence time)	Monthly	Calculation
Daily Minimum Sludge Temperature	Daily	Record
For all sludge disposed of in a landfill:		
Record of percent total solids and volume of all sludge disposed	Each Occurrence	Record of Date and volume.

d. Rogue River (**April 1 through October 31 only**, unless noted otherwise)

Item or Parameter	Minimum Frequency	Type of Sample
Flow (upstream), daily average	Daily when using ETL Limit Option B	Compilation of data from USGS gauge 14361500 "Rogue River at Grants Pass, OR" (see Note 7, 11)
Flow, rolling 7-day average	Daily when using ETL Limit Option B (as a rolling seven-day average)	Calculation
Mercury and Cyanide	Semi-annually, in **February and August**	Grab (See Note 2)

2. **Reporting Procedures**

a. Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to a DEQ Western Region office by the 15th day of the following month.

b. State monitoring reports shall identify the name, certificate classification and grade level of each principal operator designated by the permittee as responsible for supervising the wastewater collection and treatment systems during the reporting period. Monitoring reports shall also identify each system classification as found on page one of this permit.

c. Monitoring reports shall also include a record of the quantity and method of use of all sludge removed from the treatment facility and a record of all applicable equipment breakdowns and bypassing.

3. **Report Submittals**

a. The permittee shall have in place a program to identify and reduce inflow and infiltration into the sewage collection system. An annual report shall be submitted to the DEQ by **July 15** each year which details sewer collection maintenance activities that reduce inflow and infiltration. The report shall state those activities that have been done in the previous year and those activities planned for the following year. The report must include information adequate to demonstrate compliance with the DEQ approved inflow removal plan required by Schedule D, Condition 9.

b. For any year in which biosolids are land applied or composted, a report shall be submitted to the DEQ by **February 19** of the following year that describes solids handling activities for the previous year and includes, but is not limited to, the required information outlined in OAR 340-50-035(6)(a)-(e).

NOTES:

1. For influent and effluent cyanide samples, at least six (6) discrete grab samples shall be collected over the operating day. Each aliquot shall not be less than 100 mL and shall be collected and composited into a larger container which has been preserved with sodium hydroxide for cyanide samples to insure sample integrity.

2. Daily 24-hour composite samples shall be analyzed and reported separately. Toxic monitoring results and toxics removal efficiency calculations shall be tabulated and submitted with the Pretreatment Program Annual Report as required in Schedule E. Submittal of toxic monitoring results with the monthly Discharge Monitoring Report is not required. Metals and hardness testing must be conducted twice per year with one test event occurring at the same time WET testing is being conducted. Twice per year testing must be conducted at least three months apart. Ammonia testing should be conducted with at least one test event per year occurring at the same time WET testing is being conducted. Test methods, as indicated in 40 CFR 136.3, should achieve a Quantitation Limit (QL) less

than or equal to those listed in the table below unless a higher QL is unnecessary for determining compliance with an effluent limit or water quality criterion. If the permittee is unable to achieve the necessary QL, an alternate QL may be approved in writing by the DEQ. The permittee must ensure that all discharge monitoring reports contain both the QL and the detection level as defined below:

a. Detection Level: Same as the "Method Detection Limit" (MDL) derived using 40 CFR 136 Appendix B

b. Quantitation Limit: Same as the Method Reporting Limit (MRL). It is the lowest level at which the entire analytic system must give a recognizable signal and acceptable calibration for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Metals[1] and other tests

Pollutant	CAS Number	Quantitation Limit (µg/L)	Pollutant	CAS Number	Quantitation Limit (µg/L)
Antimony	7440360	0.1	Arsenic (total) Arsenic (inorganic)	7440382	0.5 0.1
Beryllium	7440417	0.1	Cadmium	7440439	0.1
Chromium	7440473	0.4	Copper	7440508	10
Lead	7439921	5	Mercury	7439976	0.01
Nickel	7440020	10	Selenium	7782492	2
Silver	7440224	1	Thallium	7440280	0.1
Zinc	7440666	5	Cyanide (total)	57125	5
Phenols, total			Hardness		

[1]All metals must be analyzed for total and dissolved

3. Four Whole Effluent Toxicity test results will be required along with the next NPDES permit renewal application.

4. The intensity of UV radiation passing through the water column will affect the system's ability to kill organisms. To track the reduction in intensity, the UV disinfection system must include a UV intensity meter with a sensor located in the water column at a specified distance from the UV bulbs. This meter will measure the intensity of UV radiation in mWatts-seconds/cm2. The daily UV radiation intensity shall be determined by reading the meter each day. If more than one meter is used, the daily recording will be an average of all meter readings each day.

5. Composite samples from the Compost pile shall be taken from reference areas in the Compost pile pursuant to Test Methods for Evaluating Solid Waste, Volume 2; Field Manual, Physical/Chemical Methods, November 1986, Third Edition, Chapter 9.

   Inorganic pollutant monitoring must be conducted according to Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Second Edition (1982) with Updates I and II and third Edition (1986) with Revision I.

6. Calculation of the % volatile solids reduction is to be based on comparison of a representative grab sample of total and volatile solids entering each digester (a weighted blend of the primary and secondary clarifier solids) and a representative composite sample of solids exiting each digester withdrawal line (as defined in note 5 above).

7. Receiving stream flow rate may be derived from the USGS gauging station Number 14361500 (Rogue River at Grants Pass, Oregon"). In the event that this data is temporarily unavailable, the Permittee may use the historical average for this day adjusted by the relative flows from the nearest available USGS gauging station. In the event

the Grants Pass gauging station data becomes permanently unavailable, the Permittee must obtain DEQ approval for an alternative flow determination strategy.

8. When continuous monitors are used, a maximum one hour time interval between temperature readings should be used. Temperature data should be maintained in electronic format and made available to the DEQ upon request. All continuous temperature monitors are to be checked visually monthly to insure that the devices are still in place and submerged. A QA/QC plan must be in place for continuous temperature monitoring and all monitors must be audited at least quarterly. The DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage or disturbance. In the event of equipment failure or loss, the permittee must notify the DEQ and deploy new equipment to minimize interruption of data collection. If temperature data collected by another entity (e.g. USGS) is being used, the DEQ must approve of this data prior to being used. During any period of data loss beyond the reasonable control of the permittee, temperatures may be estimated by any method acceptable to the DEQ. Temperature as a7-day average of daily maximums needs to be calculated for each new TMDL period.

9. The permittee shall perform all testing required in Part D of EPA Form 2A. The testing includes all metals (total recoverable), cyanide, phenols, hardness and volatile organic, acid extractable, base-neutral, and pesticide compounds. The monitoring needs to be conducted using EPA Methods 624 for volatile organic compounds, EPA Method 625 for semi-volatile organic compounds and Polycyclic Aromatic Hydrocarbons, and EPA Method 608 for pesticides. Three scans are required during the 4 ½ years after permit issuance. Two of the three scans must be performed no fewer than 4 months and no more than eight months apart. The effluent samples shall be 24-hour daily composites, except where sampling volatile compounds. In this case, six discrete samples (not less than 40 mL) collected over the operating day are acceptable. The permittee shall take special precautions in compositing the individual grab samples for the volatile organics to insure sample integrity (i.e. no exposure to the outside air). Alternately, the discrete samples collected for volatiles may be analyzed separately and averaged. Test methods used must have quantitation limits less than or equal to those listed in the tables below unless otherwise approved by the DEQ in writing. The permittee must ensure that all monitoring analysis reports contain both the quantitation limit and detection level as defined below. For sample results below the detection level, the result shall be reported as "<DL" (e.g. <1.0). For sample results above the detection limit and below the quantitation limit, the results shall be reported as "eDL" (e.g. e1.0). Detection Level – the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte. Quantitation Limit – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Base-Neutral Compounds

Pollutant	CAS Number	QL (µg/L)	Pollutant	CAS Number	QL (µg/L)
Acenapthene	83329	1	Acenapthylene	208968	1
Anthracene	120127	1	Benzidine	92875	10
Benzo(a)Anthracene	56553	1	Benzo(a)Pyrene	50328	1
3,4-Benzoflouranthene	205992	1	Benzo(ghi)Perylene	191242	1
Benzo(k)flouranthene	207089	1	Bis(2-Chloroethoxy) Methane	111911	2
Bis(2-Chloroethyl)-Ether	111444	1	Bis(2-Chloroiso-Propyl) Ether	108601	2
Bis(2-Ethylhexyl) Phthalate	117817	1	4-Bromophenyl Phenyl Ether	101553	1
Butyl Benzyl Phthalate	85687	1	2-Chloronaphthalene	91587	1
4-Chlorophenyl Phenyl Ether	7005723	1	Chrysene	218019	1
Dibenzo(a,h) Anthracene	53703	1	1,2-Dichlorobenzene	95501	0.5

Pollutant	CAS Number	QL (µg/L)	Pollutant	CAS Number	QL (µg/L)
1,3-Dichlorobenzene	541731	0.5	1,4-Dichlorobenzene	106467	0.5
3,3-Dichlorobenzidene	91941	1	Diethyl Phthalate	84662	1
Dimethyl Phthalate	131113	1	Di-n-Butyl Phthalate	84742	1
2,4-Dinitrotoluene	121142	1	2,6-Dinitrotoluene	606202	1
Di-n-Octyl Phthalate	117840	1	1,2-Diphenyl-hydrazine	122667	5
Flouranthene	206440	2	Flourene	86737	1
Hexachlorobenzene	118741	1	Hexachlorobutadiene	87683	2
Hexachlorocyclo-pentadiene	77474	2	Hexachloroethane	67721	2
Indeno(1,2,3-cd) Pyrene	193395	1	Isophorone	78591	10
Naphthalene	91203	1	Nitrobenzene	98953	1
NiNitrosodi-Methylamine	62759	1	N-Nitrosodi-N-Propylamine	621647	2
N-Nitrosodi-Phenylamine	86306	1	Phenanthrene	85018	1
Pyrene	129000	1	1,2,4-Trichlorobenzene	120821	0.5

Volatile Organic Compounds

Pollutant	CAS Number	QL (µg/L)	Pollutant	CAS Number	QL (µg/L)
Acrolein	107028	5	Acrylonitrile	107131	5
Benzene	71432	0.5	Bis (Chloro-methyl) Ether	542881	na
Bromoform	75252	0.5	Carbon Tetrachloride	56235	0.5
Chlorobenzene	108907	0.5	Chlorodibromomethane	124481	0.5
Chloroethane	75003	0.5	2-Chloro-Ethylvinylether	110758	5
Chloroform	67663	0.5	Dichlorobromomethane	75274	0.5
Dichloro-difluoromethane	75718	na	1,1-Dichloroethane	75343	0.5
1,2-Dichloroethane	107062	0.5	1,1-Dichloroethylene	75354	0.5
1,2-Dichloropropane	78875	0.5	1,3-Dichloropropylene	542756	0.5
Ethylbenzene	100414	0.5	Methyl Bromide	74839	0.5
Methyl Chloride	74873	0.5	Methylene Chloride	75092	0.5
1,1,2,2-Tetrachloro-ethane	79345	0.5	Tetrachloro-ethylene	127184	0.5
Toluene	108883	0.5	1,2-Trans-Dichloroethylene	156605	0.5
1,1,1-Trichloroethane	71556	0.5	1,1,2-Trichloroethane	79005	0.5
Trichloroethylene	79016	0.5	Trichlorofluoromethane	75694	na
Vinyl Chloride	75014	0.5			

Acid-Extractable Compounds

Pollutant	CAS Number	QL (µg/L)	Pollutant	CAS Number	QL (µg/L)
2-Chlorophenol	95578	1	2,4-Dichlorophenol	120832	1
2,4-Dimethylphenol	105679	2	4,6-Dinitro-O-Cresol	534521	2
2,4-Dinitrophenol	51285	5	2-Nitrophenol	88755	2
4-Nitrophenol	100027	5	P-Chloro-M-Cresol	59507	1
Pentachlorophenol	87865	2	Phenol	108952	1
2,4,6-Trichlorophenol	88062	1			

Pesticide Compounds

Pollutant	CAS Number	QL (µg/L)	Pollutant	CAS Number	QL (µg/L)
Aldrin	309002	0.01	Endrin	72208	0.01
BHC alpha-	319846	0.01	Endrin Aldehyde	7421934	0.01
BHC beta-	319857	0.01	Heptachlor	76448	0.01
BHC gamma – (Lindane)	58899	0.01	Haptachlor Epoxide	1024573	0.01
BHC delta	319868	0.01	PCB, Arochlor 1016 [1]	12674112	0.01
Chlordane	57749	0.01	PCB, Arochlor 1221 [1]	11104282	0.01
DDD 4,4'-	72548	0.01	PCB, Arochlor 1232 [1]	11141165	0.01
DDE 4,4'-	72559	0.01	PCB, Arochlor 1242 [1]	53469219	0.01
DDT 4,4'-	50293	0.01	PCB, Arochlor 1248 [1]	12675296	0.01
Dieldrin	60571	0.01	PCB, Arochlor 1254 [1]	11097691	0.01
Endosulfan alpha-	959988	0.01	PCB, Arochlor 1260 [1]	11096825	0.01
Endosulfan beta-	33213659	0.01	Toxaphene	8001352	0.01
Endosulfan Sulfate	1031078	0.01			
[1] PCB Reporting – Total PCB should be reported along with the individual PCB results					

10. A minimum of seven consecutive days of daily average river flow is necessary to apply this permit limit option.

SCHEDULE D

Special Conditions

1. All biosolids shall be managed in accordance with the current, DEQ approved biosolids management plan, and the site authorization letters issued by the DEQ. Any changes in solids management activities that significantly differ from operations specified under the approved plan require the prior written approval of the DEQ. Using static aerated pile composting method, the active compost pile shall be maintained at 55° C or higher for 3 days to achieve pathogen reduction.

   All new biosolids application sites shall meet the site selection criteria set forth in OAR 340-050-0070 and must be located within Josephine and Jackson Counties. All currently approved sites are located in Josephine and Jackson Counties. No new public notice is required for the continued use of these currently approved sites. Property owners adjacent to any newly approved application sites shall be notified, in writing or by any method approved by DEQ, of the proposed activity prior to the start of application. For proposed new application sites that are deemed by the DEQ to be sensitive with respect to residential housing, runoff potential or threat to groundwater, an opportunity for public comment shall be provided in accordance with OAR 340-050-0030.

2. This permit may be modified to incorporate any applicable standard for biosolids use or disposal promulgated under section 405(d) of the Clean Water Act, if the standard for biosolids use or disposal is more stringent than any requirements for biosolids use or disposal in the permit, or controls a pollutant or practice not limited in this permit.

3. **Whole Effluent Toxicity Testing**

   a. The permittee shall conduct whole effluent toxicity (WET) tests as specified in Schedule B of this permit.

   b. The facility is required to sample once per year over the first four years of the permit. The sampling events and toxicity tests should take place in a different quarter each year (i.e. Year 1, Qtr 1). The facility may choose to conduct all tests within a single year of the permit, in which case, the tests shall be conducted quarterly.

   c. Acute Toxicity Testing - Organisms and Protocols

      (1) The permittee shall conduct 48-hour static renewal tests with *Ceriodaphnia dubia* (water flea) and 96-hour static renewal tests with *Pimephales promelas* (fathead minnow).

      (2) All test methods and procedures shall be in accordance with **Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,** Fifth Edition, EPA-821-R-02-012, October 2002. Any deviation of the bioassay procedures outlined in this method shall be submitted in writing to the DEQ for review and approval prior to use.

      (3) Tests shall be conducted on final effluent sample collected as a single grab or 24-composite sample .No treatments to the final effluent (i.e. dechlorination, etc), except those included as part of the methodology, shall be performed by the laboratory unless approved by the DEQ prior to analysis.

      (4) Acute tests shall be conducted on a control and the following dilution series, unless otherwise approved by the DEQ in writing: 2.5%, 6.9%, 20%, 35%, and 100%.

      (5) An acute WET test shall be considered to show toxicity if there is a statistically significant difference in survival between the control and 6.9 percent effluent.

d. Chronic Toxicity Testing - Organisms and Protocols

(1) The permittee shall conduct tests with: *Ceriodaphnia dubia* (water flea) for reproduction and survival test endpoint, *Pimephales promelas* (fathead minnow) for growth and survival test endpoint, and *Raphidocelis subcapitata* (green alga formerly known as *Selanastrum capricornutum*) for growth test endpoint.

(2) All test methods and procedures shall be in accordance with **Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, Fourth Edition, EPA-821-R-02-013, October 2002. Any deviation of the bioassay procedures outlined in this method shall be submitted in writing to the DEQ for review and approval prior to use.

(3) Tests shall be conducted on final effluent samples collected as 24-hour composite samples. No treatments to the final effluent (i.e. dechlorination, etc), except those included as part of the methodology, shall be performed by the laboratory unless approved by the DEQ prior to analysis.

(4) Chronic tests shall be conducted on a control and the following dilution series, unless otherwise approved by the DEQ in writing: 2.5%, 4.9%, 20%, 35%, and 100%.

(5) A chronic WET test shall be considered to show toxicity if the IC_{25} (25% inhibition concentration) occurs at dilutions equal to or less than the dilution that is known to occur at the edge of the mixing zone, i.e. $IC_{25} \leq 4.9\%$.

e. Dual End-Point Tests –

(1) WET tests may be dual end-point tests in which both acute and chronic end-points can be determined from the results of a single chronic test. The acute end-point shall be based on 48-hours for the *Ceriodaphnia dubia* (water flea) and 96-hours for the *Pimephales promelas* (fathead minnow).

(2) All test methods and procedures shall be in accordance with **Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, Fourth Edition, EPA-821-R-02-013, October 2002. Any deviation of the bioassay procedures outlined in this method shall be submitted in writing to the DEQ for review and approval prior to use.

(3) Tests shall be conducted on final effluent samples collected as described in item d.(3).

(4) Tests run as dual end-point tests shall be conducted on a control and the following dilution series, unless otherwise approved by the DEQ in writing: 2.5%, 4.9%, 6.9%, 20%, and 100%.

(5) Toxicity determinations for dual end-point tests shall correspond to the acute, c.(5), and chronic, d.(5), described above.

f. Additional Sampling Requirements

(1) At the time of WET sampling, effluent samples should also be collected and analyzed for metals, hardness, and ammonia.

g. Evaluation of Causes and Exceedances

(1) If any test exhibits toxicity, as defined in sections c.(5) or d.(5) of this permit condition, another toxicity test using the same species and DEQ approved methodology shall be conducted within two weeks, unless otherwise approved by the DEQ.

(2) If two consecutive WET test results indicate acute and/or chronic toxicity, as defined in sections c.(5) or d.(5) of this permit condition, the permittee shall immediately notify the DEQ of the results. The DEQ will work with the permittee to determine the appropriate course of action to evaluate and address the toxicity.

h. Quality Assurance / Reporting

(1) Quality assurance criteria, statistical analyses, and data reporting for the WET tests shall be in accordance with the EPA documents stated in this condition.

(2) A bioassay laboratory report for each test shall be prepared according to the EPA method documents referenced in this Schedule. This shall include all QA/QC documentation, statistical analysis for each test performed, standard reference toxicant test (SRT) conducted on each species required for the toxicity tests, and completed Chain of Custody forms for the samples including time of sample collection and receipt. Reports shall be submitted to the DEQ within 45 days of test completion.

(3) The report should include all endpoints measured in the test, i.e. NOEC, LOEC, and IC_{25}.

(4) The permittee shall make available to the DEQ, on request, the written standard operating procedures they, or the laboratory performing the WET tests, are using for all toxicity tests required by the DEQ.

i. Reopener

(1) The DEQ may reopen and modify this permit to include new limitations, monitoring requirements, and/or conditions as determined by the DEQ to be appropriate, and in accordance with procedures outlined in Oregon Administrative Rules, Chapter 340, Division 45, if:
   a. WET testing data indicate acute and/or chronic toxicity.
   b. The facility undergoes any process changes.
   c. Discharge monitoring data indicate a change in the reasonable potential to exhibit toxicity.

4. The permittee shall comply with Oregon Administrative Rules (OAR), Chapter 340, Division 49, "Regulations Pertaining To Certification of Wastewater System Operator Personnel" and accordingly:

a. The permittee shall have its wastewater system supervised by one or more operators who are certified in a classification <u>and</u> grade level (equal to or greater) that corresponds with the classification (collection and/or treatment) of the system to be supervised as specified on page one of this permit.

Note: A "supervisor" is defined as the person exercising authority for establishing and executing the specific practice and procedures of operating the system in accordance with the policies of the permittee and requirements of the waste discharge permit. "Supervise" means responsible for the technical operation of a system, which may affect its performance or the quality of the effluent produced. Supervisors are not required to be on-site at all times.

b. The permittee's wastewater system may not be without supervision (as required by Special Condition 4.a. above) for more than thirty (30) days. During this period, and at any time that the supervisor is not available to respond on-site (i.e. vacation, sick leave or off-call), the permittee must make available another person who is certified at no less than one grade lower than the system classification.

c. If the wastewater system has more than one daily shift, the permittee shall have the shift supervisor, if any, certified at no less than one grade lower than the system classification.

d. The permittee is responsible for ensuring the wastewater system has a properly certified supervisor available at all times to respond on-site at the request of the permittee and to any other operator.

e. The permittee shall notify the DEQ of Environmental Quality in writing within thirty (30) days of replacement or redesignation of certified operators responsible for supervising wastewater system operation. The notice shall be filed with the Water Quality Division, Operator Certification Program, 2020 SW 4th Avenue, Suite 400, Portland, OR 97201. This requirement is in addition to the reporting requirements contained under Schedule B of this permit.

f. Upon written request, the DEQ may grant the permittee reasonable time, not to exceed 120 days, to obtain the services of a qualified person to supervise the wastewater system. The written request must include justification for the time needed, a schedule for recruiting and hiring, the date the system supervisor availability ceased and the name of the alternate system supervisor(s) as required by 4.b. above.

5. The permittee shall notify the appropriate DEQ Western Region - office in accordance with the response times noted in the General Conditions of this permit, of any malfunction so that corrective action can be coordinated between the permittee and the DEQ. Warranted incidents of noncompliance/spills should be reported to the Oregon Emergency Response System (Telephone Number 1-800-452-0311).

6. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.

7. The permittee shall not be required to perform a formal hydrogeologic characterization or preliminary groundwater monitoring during the term of this permit provided:

   a. The facilities are operated in accordance with the permit conditions, and;

   b. There are no adverse groundwater quality impacts (complaints or other indirect evidence) resulting from the facility's operation.

   If warranted, at permit renewal the DEQ may evaluate the need for a full assessment of the facilities impact on groundwater quality.

8. All reclaimed water used at the treatment plant site for landscape irrigation shall be exempt from OAR 340-055 provided the reclaimed water receives secondary treatment and disinfection. All landscape irrigation shall be confined to the treatment plant site. No spray or drift shall be allowed off the treatment plant site. Landscape irrigation shall be conducted following sound irrigation practices.

9. Within 180 days of permit issuance, the permittee shall submit to the DEQ for review and approval an updated program and time schedule for identifying and reducing inflow. Within 60 days of receiving written DEQ comments, the permittee shall submit a final approvable program and time schedule. The program shall consist of the following:

   a. Identification of all overflow points and verification that sewer system overflows are not occurring up to a 24-hour, 5-year storm event or equivalent;

   b. Monitoring of all pump station overflow points;

c. A program for identifying and removing all inflow sources into the permittee's sewer system over which the permittee has legal control; and

d. If the permittee does not have the necessary legal authority for all portions of the sewer system or treatment facility, a program and schedule for gaining legal authority to require inflow reduction and a program and schedule for removing inflow sources.

SCHEDULE E

Pretreatment Activities

The permittee shall implement the following pretreatment activities:

1. Program Administration

The permittee shall conduct and enforce its Pretreatment Program, as approved by the Department, and comply with the General Pretreatment Regulations (40 CFR Part 403). The permittee shall secure and maintain sufficient resources and qualified personnel to carry out the program implementation procedures described in this permit as required by 40 CFR § 403.8(f)(3).

2. Legal Authorities

The permittee shall adopt all legal authority necessary to fully implement its approved pretreatment program and to comply with all applicable State and Federal pretreatment regulations. The permittee must also establish, where necessary, contracts or agreements with contributing jurisdictions to ensure compliance with pretreatment requirements by industrial users within these jurisdictions. These contracts or agreements shall identify the agency responsible for all implementation and enforcement activities to be performed in the contributing jurisdictions. Regardless of jurisdictional situation, the permittee is responsible for ensuring that all aspects of the pretreatment program are fully implemented and enforced.

3. Industrial Waste Survey

The permittee shall update its inventory of industrial users at a frequency and diligence adequate to ensure proper identification of industrial users subject to pretreatment standards, but no less than once per year. The permittee shall notify these industrial users of applicable pretreatment standards in accordance with 40 CFR § 403.8(f)(2)(iii).

4. National Pretreatment Standards

The permittee shall enforce categorical pretreatment standards promulgated pursuant to Section 307(b) and (c) of the Act, prohibited discharge standards as set forth in 40 CFR § 403.5(a) and (b), or local limitations developed by the permittee in accordance with 40 CFR § 403.5(c), whichever are more stringent, or are applicable to any non-domestic source regulated under Section 307(b), (c), or (d) of the Act.

5. Local Limits

The permittee shall perform a technical evaluation of the need to revise local limits within 18 months after permit re-issuance unless the Department authorizes or requires, in writing, an alternate time frame. Locally derived discharge limitations shall be defined as pretreatment standards under Section 307(d) of the Act and must conform to 40 CFR §403.5(c), §403.8(f)(4). Technically based local limits shall be developed in accordance with the procedures established by the Department, and the USEPA's Local Limits Guidance.

6. Control Mechanisms

The permittee shall issue an individual control mechanism to all Significant Industrial Users except where the permittee may, at its discretion, issue a general control mechanism as defined by 40 CFR §403.8(f)(1)(iii); or certification in lieu of a control mechanism for Non-Significant Categorical Industrial Users (NSCIUs) as defined by § 403.3(v)(2), and Non-Discharging Categorical Industrial Users (NDCIUs). All individual and general control mechanisms must be enforceable and contain, at a minimum, the requirements identified in 40 CFR § 403.8(f)(1)(iii)(B); and, may contain equivalent concentration and mass based effluent limitations where appropriate under § 403.6(c)(5) and (6). Unless a more stringent definition has been adopted by the permittee, the definition of Significant Industrial User shall be as stated in 40 CFR § 403.3(v).

7. Compliance Monitoring:

Industrial User Sampling and Inspection

The permittee shall randomly sample and analyze the effluent from Industrial Users at a frequency commensurate with the character, consistency, and volume of the discharge and conduct surveillance activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance with Pretreatment Standards. The permittee shall conduct a complete facility inspection; and, sample the effluent from each Significant Industrial User at least once a year at a minimum, unless otherwise specified below:

(a) Where the permittee has authorized the Industrial User subject to a categorical Pretreatment Standard to forego sampling of a pollutant regulated by a categorical Pretreatment Standard in accordance with §403.12(e)(2), the permittee must sample for the waived pollutant(s) at least once during the term of the Categorical Industrial User's control mechanism. In the event that the permittee subsequently determines that a waived pollutant is present or is expected to be present in the Industrial User's wastewater based on changes that occur in the User's operations, the permittee must immediately begin at least annual effluent monitoring of the User's Discharge and inspection.

(b) Where the permittee has determined that an Industrial User meets the criteria for classification as a Non-Significant Categorical Industrial User, the permittee must evaluate, at least once per year, whether an Industrial User continues to meet the criteria in §403.3(v)(2).

(c) In the case of Industrial Users subject to reduced reporting requirements under §403.12(e)(3), the permittee must randomly sample and analyze the effluent from Industrial Users and conduct inspections at least once every two years. If the Industrial User no longer meets the conditions for reduced reporting in §403.12(e)(3), the permittee must immediately begin sampling and inspecting the Industrial User at least once a year.

Industrial User Self Monitoring and Other Reports

The permittee shall receive and analyze self-monitoring and other reports submitted by industrial users as required by §403.8(f)(2)(iv) and §403.12(b),(d),(e),(g) and (h). Significant Industrial User reports must include Best Management Practice (BMP) compliance information per §403.12(b), (e), (h), where appropriate.

Industrial User Monitoring in Lieu of Self-Monitoring

Where the permittee elects to conduct monitoring of an industrial user in lieu of requiring self-monitoring, the permittee shall gather all information which would otherwise have been submitted by the user. The permittee shall also perform the sampling and analyses in accordance with the protocols established for the user; and, must follow the requirements in 40 CFR §403.12(g)(2) if repeat sampling is required as the result of any sampling violation(s).

Sample Collection and Analysis

Sample collection and analysis, and the gathering of other compliance data, shall be performed with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions. Unless specified otherwise by the Director in writing, all sampling and analyses shall be performed in accordance with 40 CFR §136, or 40 CFR §503 for biosolids analytes.

8. Slug Control Plans

The permittee is required to evaluate whether each Significant Industrial User needs a slug control plan or other action to control Slug Discharges. Industrial Users identified as significant after October 14, 2005, must be evaluated within 1 year of being designated a Significant Industrial User. A Slug Discharge is any Discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the permittee's regulations, local limits or conditions of this Permit. The results of such activities shall be available to the Approval Authority upon request. The permittee shall require Significant Industrial Users to immediately notify the permittee of any changes at its facility affecting potential for a Slug Discharge. If the permittee determines that a slug control plan is needed, the requirements to control Slug Discharges shall be incorporated into the significant industrial user's control mechanism, and the plan shall 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 §403.5(b) with procedures for follow-up written notification within five days; and,
(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 for emergency response;

9. Enforcement

The permittee shall identify all violations of the industrial user's permit or local ordinance. The permittee shall investigate all such instances of industrial user noncompliance and shall take all necessary steps to return users to compliance. The permittee's enforcement actions shall follow its approved Legal Authorities (i.e. Ordinance, etc.) and Enforcement Response Plan developed in accordance with 40 CFR § 403.8(f)(5).

10. Public Participation (significant noncompliance)

The permittee shall publish annual notification in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by the permittee of industrial users which, at any time during the previous 12 months, were in significant noncompliance with applicable Pretreatment requirements. For the purposes of this requirement, an industrial user is in significant noncompliance if it meets one or more of the criteria listed in 40 CFR 403.8(f)(2)(viii).

11. Data and Information Management

The permittee must develop and maintain a data management system designed to track the status of the industrial user inventory, discharge characteristics, and compliance. In accordance with 40 CFR § 403.12(o), the delegated program shall retain all records relating to pretreatment program activities for a minimum of three years, and shall make such records available to the Department and USEPA upon request. The permittee shall also provide public access to information considered effluent data under 40 CFR Part 2.

12. Annual Pretreatment Program Report

The permittee shall submit a complete report to the Department on or before March 31 that describes the pretreatment program activities during the previous calendar year pursuant to 40 CFR §403.12(h). The content and format of this report shall be as established by the Department. Reports submitted to the DEQ by the permittee must be signed by a principal executive officer, ranking elected official or other duly authorized employee. The duly authorized employee must be an individual or position having responsibility for the

overall operation of the facility or the Pretreatment Program. This authorization must be made in writing by the principal executive officer or ranking elected official, and submitted to the Approval Authority prior to or together with the report being submitted.

13. Pretreatment Program Modifications

The permittee shall submit in writing to the Department a statement of the basis for any proposed modification of its approved program and a description of the proposed modification in accordance with 40 CFR § 403.18. No substantial program modifications may be implemented by the delegated program prior to receiving written authorization from the Department. This Schedule incorporates, by reference, all substantial and non-substantial pretreatment program modifications approved by the Department prior to NPDES permit re-issuance.

14. Implementation of 2005 EPA Streamlining Amendments to 40CFR403

The permittee shall complete implementation of the required portions of the 2005 EPA streamlining amendments within twelve months after the permit reissuance unless the Department authorizes or requires in writing an alternate time frame.

SCHEDULE F

NPDES GENERAL CONDITIONS – DOMESTIC FACILITIES

SECTION A. STANDARD CONDITIONS

1. Duty to Comply with Permit
The permittee must comply with all conditions of this permit. Failure to comply with any permit condition is a violation of Oregon Revised Statutes (ORS) 468B.025 and the federal Clean Water Act and is grounds for an enforcement action. Failure to comply is also grounds for the Department to terminate, modify and reissue, revoke, or deny renewal of a permit.

2. Penalties for Water Pollution and Permit Condition Violations
The permit is enforceable by DEQ or EPA, and in some circumstances also by third-parties under the citizen suit provisions 33 USC §1365. DEQ enforcement is generally based on provisions of state statutes and EQC rules, and EPA enforcement is generally based on provisions of federal statutes and EPA regulations.

ORS 468.140 allows the Department to impose civil penalties up to $10,000 per day for violation of a term, condition, or requirement of a permit. The federal Clean Water Act provides for civil penalties not to exceed $32,500 and administrative penalties not to exceed $11,000 per day for each violation of any condition or limitation of this permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to $25,000, imprisonment for not more than one year, or both. Each day on which a violation occurs or continues is a separately punishable offense. The federal Clean Water Act provides for criminal penalties of not more than $50,000 per day of violation, or imprisonment of not more than 2 years, or both for second or subsequent negligent violations of this permit.

Under ORS 468.946, a person who knowingly discharges, places, or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state is subject to a Class B felony punishable by a fine not to exceed $200,000 and up to 10 years in prison. The federal Clean Water Act provides for criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment of not more than 3 years, or both for knowing violations of the permit. In the case of a second or subsequent conviction for knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

3. 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. In addition, upon request of the Department, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

The Department may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions
This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
   a. Violation of any term, condition, or requirement of this permit, a rule, or a statute
   b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts
   c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge
   d. The permittee is identified as a Designated Management Agency or allocated a wasteload under a Total Maximum Daily Load (TMDL)

e. New information or regulations
f. Modification of compliance schedules
g. Requirements of permit reopener conditions
h. Correction of technical mistakes made in determining permit conditions
i. Determination that the permitted activity endangers human health or the environment
j. Other causes as specified in 40 CFR 122.62, 122.64, and 124.5
k. For communities with combined sewer overflows (CSOs):
   (1) To comply with any state or federal law regulation that addresses CSOs that is adopted or promulgated subsequent to the effective date of this permit
   (2) If new information, not available at the time of permit issuance, indicates that CSO controls imposed under this permit have failed to ensure attainment of water quality standards, including protection of designated uses
   (3) Resulting from implementation of the Permittee's Long-Term Control Plan and/or permit conditions related to CSOs.

The filing of a request by the permittee for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants
The permittee must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rules (OAR) 340-041-0033 and 307(a) of the federal Clean Water Act for toxic pollutants, and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights and Other Legal Requirements
The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, or authorize any injury to persons or property or invasion of any other private rights, or any infringement of federal, tribal, state, or local laws or regulations.

8. Permit References
Except for effluent standards or prohibitions established under Section 307(a) of the federal Clean Water Act and OAR 340-041-0033 for toxic pollutants, and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

9. Permit Fees
The permittee must pay the fees required by Oregon Administrative Rules.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance
The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Activity Not a Defense
For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities
   a. Definitions
      (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, provided the diversion

is to allow essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs b. and c. of this section.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

(1) Bypass is prohibited and the Department may take enforcement action against a permittee for bypass unless:

i. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

ii. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventative maintenance; and

iii. The permittee submitted notices and requests as required under General Condition B.3.c.

(2) The Department may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Department determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, a written notice must be submitted to the Department at least ten days before the date of the bypass.

(2) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. 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 causes(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and,

(4) The permittee complied with any remedial measures required under General Condition A.3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Upset

For purposes of this permit, A Single Operational Upset that leads to simultaneous violations of more than one pollutant parameter will be treated as a single violation. A single operational upset is an exceptional incident that causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational upset does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational upset is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions

(1) "Overflow" means any spill, release or diversion of sewage including:

i. An overflow that results in a discharge to waters of the United States; and

ii. An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral), even if that overflow does not reach waters of the United States.

b. Prohibition of overflows. Overflows are prohibited. The Department may exercise enforcement discretion regarding overflow events. In exercising its enforcement discretion, the Department may consider various factors, including the adequacy of the conveyance system's capacity and the magnitude, duration and return frequency of storm events.
c. Reporting required. All overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow
If effluent limitations specified in this permit are exceeded or an overflow occurs that threatens public health, the permittee must take such steps as are necessary to alert the public, health agencies and other affected entities (e.g., public water systems) about the extent and nature of the discharge in accordance with the notification procedures developed under General Condition B.8. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Emergency Response and Public Notification Plan
The permittee must develop and implement an emergency response and public notification plan that identifies measures to protect public health from overflows, bypasses or upsets that may endanger public health. At a minimum the plan must include mechanisms to:
a. Ensure that the permittee is aware (to the greatest extent possible) of such events;
b. Ensure notification of appropriate personnel and ensure that they are immediately dispatched for investigation and response;
c. Ensure immediate notification to the public, health agencies, and other affected public entities (including public water systems). The overflow response plan must identify the public health and other officials who will receive immediate notification;
d. Ensure that appropriate personnel are aware of and follow the plan and are appropriately trained;
e. Provide emergency operations; and
f. Ensure that DEQ is notified of the public notification steps taken.

9. Removed Substances
Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering waters of the state, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling
Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit, and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points may not be changed without notification to and the approval of the Department.

2. Flow Measurements
Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures
Monitoring must be conducted according to test procedures approved under 40 CFR part 136, or in the case of sludge use and disposal, under 40 CFR part 503, unless other test procedures have been specified in this permit.

4. Penalties of 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 may, upon conviction, be punished by a fine of not more than $10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both.

5. Reporting of Monitoring Results
Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee
If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR part 136, or in the case of sludge use and disposal, under 40 CFR part 503, or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value must be recorded unless otherwise specified in this permit.

7. Averaging of Measurements
Calculations for all limitations that require averaging of measurements must utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records
Records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities shall be retained for a period of at least five years (or longer as required by 40 CFR part 503). Records of all monitoring information including all calibration and maintenance records, all original strip chart 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 shall be retained for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Department at any time.

9. Records Contents
Records of monitoring information must include:

a. The date, exact place, time, and methods of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of such analyses.

10. Inspection and Entry
The permittee must allow the Department or EPA upon the presentation of credentials to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

11. Confidentiality of Information
Any information relating to this permit that is submitted to or obtained by DEQ is available to the public unless classified as confidential by the Director of DEQ under ORS 468.095. The Permittee may request that information be classified as confidential if it is a trade secret as defined by that statute. The name and address of the permittee, permit applications, permits, effluent data, and information required by NPDES application forms under 40 CFR 122.21 will not be classified as confidential. 40 CFR 122.7(b).

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee must comply with OAR chapter 340, division 52, "Review of Plans and Specifications" and 40 CFR Section 122.41(l) (1). Except where exempted under OAR chapter 340, division 52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers may be commenced until the plans and specifications are submitted to and approved by the Department. The permittee must give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance
The permittee must give advance notice to the Department of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

3. Transfers
This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit may be transferred to a third party without prior written approval from the Department. The Department may require modification, revocation, and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under 40 CFR Section 122.61. The permittee must notify the Department when a transfer of property interest takes place.

4. Compliance Schedule
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. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting
The permittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) to DEQ or to the Oregon Emergency Response System (1-800-452-0311) as specified below within 24 hours from the time the permittee becomes aware of the circumstances.

a. Overflows.

(1) Oral Reporting within 24 hours.
i. For overflows other than basement backups, the following information must be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311. For basement backups, this information should be reported directly to DEQ.
a) The location of the overflow;
b) The receiving water (if there is one);
c) An estimate of the volume of the overflow;
d) A description of the sewer system component from which the release occurred (e.g., manhole, constructed overflow pipe, crack in pipe); and
e) The estimated date and time when the overflow began and stopped or will be stopped.
ii. The following information must be reported to the Department's Regional office within 24 hours, or during normal business hours, whichever is first:
a) The OERS incident number (if applicable) along with a brief description of the event.

(2) Written reporting within 5 days.
i. The following information must be provided in writing to the Department's Regional office within 5 days of the time the permittee becomes aware of the overflow:
a) The OERS incident number (if applicable);
b) The cause or suspected cause of the overflow;
c) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
d) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps; and
e) (for storm-related overflows) The rainfall intensity (inches/hour) and duration of the storm associated with the overflow.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

b. Other instances of noncompliance.

(1) The following instances of noncompliance must be reported:
   i. Any unanticipated bypass that exceeds any effluent limitation in this permit;
   ii. Any upset that exceeds any effluent limitation in this permit;
   iii. Violation of maximum daily discharge limitation for any of the pollutants listed by the Department in this permit; and
   iv. Any noncompliance that may endanger human health or the environment.

(2) During normal business hours, the Department's Regional office must be called. Outside of normal business hours, the Department must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

(3) A written submission must be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission must contain:
   i. A description of the noncompliance and its cause;
   ii. The period of noncompliance, including exact dates and times;
   iii. The estimated time noncompliance is expected to continue if it has not been corrected;
   iv. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
   v. Public notification steps taken, pursuant to General Condition B.7

(4) The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee must report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports must contain:

a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected; and
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permittee must furnish to the Department within a reasonable time any information that the Department may request to determine compliance with the permit or to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit. The permittee must also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to the Department, it must promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department must be signed and certified in accordance with 40 CFR Section 122.22.

9. Falsification of Information

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed $100,000 per violation and up to 5 years in prison. Additionally, according to 40 CFR 122.41(k)(2), any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a federal civil penalty not to exceed $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

10. Changes to Indirect Dischargers

The permittee must provide adequate notice to the Department of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and;
b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
c. For the purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent

to be discharged from the POTW.

SECTION E. DEFINITIONS

1. *BOD* means five-day biochemical oxygen demand.
2. *CBOD* means five day carbonaceous biochemical oxygen demand
3. *TSS* means total suspended solids.
4. "*Bacteria*" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
5. *FC* means fecal coliform bacteria.
6. *Total residual chlorine* means combined chlorine forms plus free residual chlorine
7. *Technology based permit effluent limitations* means technology-based treatment requirements as defined in 40 CFR Section 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR Chapter 340, Division 41.
8. *mg/l* means milligrams per liter.
9. *kg* means kilograms.
10. m^3/d means cubic meters per day.
11. *MGD* means million gallons per day.
12. 24-hour *Composite sample* means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow. The sample must be collected and stored in accordance with 40 CFR part 136.
13. *Grab sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
14. *Quarter* means January through March, April through June, July through September, or October through December.
15. *Month* means calendar month.
16. *Week* means a calendar week of Sunday through Saturday.
17. *POTW* means a publicly owned treatment works.