

# Fact Sheet for State Waste Discharge Permit No. ST0009266

## Monson Bulk Crush Facility

October 29, 2012

### Purpose of this fact sheet

This fact sheet explains and documents the decisions the Department of Ecology (Ecology) made in drafting the proposed State Waste Discharge permit for Monson Bulk Crush that will allow discharge of wastewater to evaporation lagoons located approximately 5 miles west of Richland, WA.

State law requires any industrial facility to obtain a permit before discharging waste or chemicals to waters of the state, which includes groundwater.

Ecology makes the draft permit and fact sheet available for public review and comment at least thirty (30) days before issuing the final permit. Copies of the fact sheet and draft permit for Monson Bulk Crush, State Waste Discharge Permit No. ST-9266, are available for public review and comment from November 6, 2012 until the close of business December 13, 2012. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement Information**.

Monson Bulk Crush reviewed the draft permit and fact sheet for factual accuracy. Ecology corrected any errors or omissions about the facility's location, history, product type or production rate, discharges or receiving water prior to publishing this draft fact sheet for public notice.

After the public comment period closes, Ecology will summarize substantive comments and our responses to them. Ecology will include our summary and responses to comments to this fact sheet as **Appendix D - Response to Comments**, and publish it when we issue the final State Waste Discharge permit. Ecology will not revise the rest of the fact sheet, but the full document including all appendices will become part of the legal history contained in the facility's permit file.

### Summary

Monson Bulk Crush winery discharges wastewater from its wine making operations to two non-overflowing evaporation lagoons. Average discharge volumes range from 19,000 gallons per day (gpd) during the wine grape crush season to 1,500 gpd in off-season months.

The proposed permit places limits the volume of wastewater discharged to the evaporation lagoon system based on information from the permit application and engineering report.

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## **I. Introduction**

The legislature defined Ecology's authority and obligations for the wastewater discharge permit program in the Water Pollution Control law, chapter 90.48 RCW (Revised Code of Washington). Ecology adopted rules describing how it exercises its authority:

- State waste discharge program (chapter 173-216 WAC)
- Water quality standards for ground waters of the state of Washington (chapter 173-200 WAC)
- Submission of plans and reports for construction of wastewater facilities (chapter 173-240 WAC)

These rules require any industrial facility owner/operator to obtain a State Waste Discharge permit before discharging wastewater to state waters. They also help define the basis for limits on each discharge and for performance requirements imposed by the permit.

Under the State Waste Discharge permit program and in response to a complete and accepted permit application, Ecology generally prepares a draft permit and accompanying fact sheet, and makes it available for public review before final issuance. If the volume of the discharge has not changed or if the characteristics of the discharge have not changed, Ecology may choose not to issue a public notice. When Ecology publishes an announcement (public notice); it tells people where they can read the draft permit, and where to send their comments, during a period of thirty days. (See **Appendix A-Public Involvement Information** for more detail about the public notice and comment procedures). After the public comment period ends, Ecology may make changes to the draft State Waste Discharge permit in response to comment(s). Ecology will summarize the responses to comments and any changes to the permit in **Appendix E**.

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**II. Background Information****Table 1 General Facility Information**

<b>Facility Information</b>	
Applicant	Bill Monson
Facility Name and Address	Monson Bulk Crush Facility East Jacobs Road; Benton City, WA 99320
Contact at Facility	Name: Mike Wlodarczyk Telephone #: (509) 627-6249
Responsible Official	Name: Bill Monson Title: Owner / Manager Address: 63615 E. Jacobs Road; Benton City, WA 99320 Telephone #: (509) 627-6249
Industry Type	Winery
Type of Treatment	Evaporation Lagoons
NAICS Code // SIC Code	312130 Wineries // 2084
Facility Location	Latitude: 46.24198 Longitude: -119.37401
Evaporation Lagoon Location	Latitude: 46.24152 Longitude: -119.37147
<b>Permit Status</b>	
Application Submittal Date	May 05, 2008
Date of Ecology Acceptance of Application	May 15, 2008
<b>Inspection Status</b>	
Date of Last Non-sampling Inspection Date	June 20, 2012

**Figure 1 Facility Location Map**



## **A. Facility description**

### *History*

The privately owned winery facility was constructed in 2007-2008. It is located ~ 1.5 miles west of Richland, WA, off of East Jacobs Road.

An application for a State Waste Discharge Permit was submitted to Ecology May 5, 2008, and accepted as complete May 15, 2008. Ecology issued a Temporary State Waste Discharge Permit to the facility on June 30, 2008.

### *Industrial Process(s)*

The facility crushes approximately 10,000 tons of grapes per year to make approximately 1,500,000 gallons of wine per year. Winery wastewater is discharged to non-discharging evaporation lagoons.

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### *Wastewater treatment processes*

Wastewater generated at the outdoor grape receiving / crush concrete pad flows into a wastewater sump. Inside the facility, the lees from fermented wine are passed through a centrifuge which removes significant solids and biological oxygen demand (BOD) from the wastewater stream.

Strategically located floor drains (with incorporated basket screens) route wastewater by gravity to the outdoor wastewater sump. The sump has an incorporated one-foot square stainless steel basket screen. From this sump, wastewater flows by gravity to a concrete stilling basin for further suspended solids reduction. From the stilling basin, wastewater gravity flows to one of two evaporation lagoons.

### *Evaporation Lagoons*

The facility submitted an engineering report for the wastewater facility to Ecology for review on May 5, 2008. Two evaporation lagoons each have a double-liner (30 mil, LLDPE geomembranes) with an incorporated leak detection system between the liners. The south lagoon has a working capacity of 854,700 gallons and the north lagoon has a capacity of 1,097,410 gallons. The total working capacity of both lagoons is 1,952,110 gallons. Each lagoon is equipped with a depth gauge for measuring wastewater depth. The lagoons have aerators, which increase evaporation rates and reduces BOD and odor.

Sanitary wastewater is collected and treated by an onsite septic system. This is completely separate from the industrial, evaporative lagoon wastewater treatment system.

### *Solid wastes*

Pomace generated during crush, is hauled back into the vineyards and used for mulch, fertilizer, and dust control. Yearly, about 20 cubic yards of compressed lees from the centrifuge are disposed of in the solid waste containers or sent to a custom distiller.

The solid waste plan submitted to Ecology in January 2009 lacks detail about the volume of pomace generated yearly. The proposed permit requires an update of the solid waste plan.

## **B. State environmental policy act (SEPA) compliance**

To meet the intent of SEPA, new discharges must undergo SEPA review during the permitting process. The facility filed a SEPA checklist with Benton County Planning in January 2008, and Benton County Planning issued an optional determination of non-significance for the project on February 7, 2008.

### **III. Proposed Permit Limits**

State regulations require that Ecology base limits in a State Waste Discharge permit on the:

- Technology and treatment methods available to treat specific pollutants (technology-based). Dischargers must treat wastewater using all known, available, reasonable methods of prevention, control, and treatment (AKART). Ecology has developed guidance describing technology-based (AKART) criteria for industrial/commercial systems that discharge to ground; (Ecology, 1993; 2004).
- Operations and best management practices necessary to meet applicable water quality standards to preserve or protect existing and future beneficial uses of the groundwaters.
- Groundwater quality standards (Ecology, 1996).
- Applicable requirements of other local, state and federal laws.

Ecology applies the most stringent of technology and water quality-based limits to each parameter of concern and further describes the proposed limits below.

The limits in this permit reflect information received in the application and from supporting reports (engineering, hydrogeology, monitoring, and irrigation/crop management). Ecology evaluated the permit application and determined the limits needed to comply with the rules adopted by the state of Washington. Ecology does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, and are not listed in regulation.

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

The proposed permit utilizes technology-based limits to protect groundwater quality

#### **A. Technology-based effluent limits**

Waste discharge permits issued by Ecology specify conditions requiring the facility to use AKART before discharging to waters of the state (RCW 90.48).

Ecology approved the engineering report included in the Monson Bulk Crush Facility, Benton County – Industrial Wastewater Discharge Permit Application dated April 29, 2009, and prepared by Tetra Tech.

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Ecology determined that the facility meets the minimum requirements demonstrating compliance with the AKART standard if the wastewater facility at Monson Bulk Crush is operated as described in the approved engineering report and any subsequent Ecology approved reports.

The proposed permit has these requirements that will ensure protection of groundwater quality:

1. Flow limits (Special Condition 1)
2. Evaporation lagoon wastewater depth limits (Special Condition 1)
3. Evaporation lagoon leak detection requirements (Special Condition 8)

**Table 2 Technology-Based Effluent Limits**

Effluent Limits	
Parameter	Maximum Monthly Flow
Flow - Oct, Nov, Dec	312,500 Gallons per month
Flow - Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep	104,200 Gallons per month
North Lagoon Depth	132 inches
South Lagoon Depth	72 inches

The proposed permit also requires the following Best Management Practices necessary to protect groundwater quality:

- Do not commingle process wastewater streams with sanitary (domestic) sewage.
- Do not discharge in excess of the hydraulic capacity of the evaporation lagoons so that the lagoon overflows.
- Do not discharge priority pollutants, dangerous wastes, or toxics in toxic amounts.
- Maintain a minimum freeboard, consistent with the approved lagoon design but not less than two feet, in the evaporation lagoon system.
- Screen wastewater prior to discharge into the evaporation lagoon system with 20 mesh screens, or finer

### **B. Design criteria – technology limit**

Under WAC 173-216-110 (4), flows and waste loadings must not exceed approved design criteria. Ecology approved design criteria for this facility's wastewater evaporative lagoons in the engineering report that accompanied the wastewater discharge application dated May 1, 2008, prepared by Tetra Tech. The table below includes design criteria from the referenced report.

**Table 3 Design Criteria for Wastewater Treatment Facility**

Parameter	Design Quantity
Maximum Yearly Flow	1.872 Million gallons
Maximum Month Design Flow (MMDF)	312,500 Gallons

**C. Groundwater quality-based effluent limits**

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the groundwater quality standards. The goal of the groundwater quality standards is to maintain the highest quality of the State's ground waters and to protect existing and future beneficial uses of the groundwater through the reduction or elimination of the discharge of contaminants to groundwater [WAC 173-200-010(4)].

Drinking water is the beneficial use generally requiring the highest quality of groundwater. The State protects groundwater to drinking water standards, which also protects a great variety of existing and future beneficial uses.

With the proposed permit, Ecology assures groundwater quality will be protected by this goal by applying all known available and reasonable methods of prevention, control and treatment (AKART) to any discharge. Applicable groundwater criteria as defined in chapter 173-200 WAC and in RCW 90.48.520 for this discharge include those in the following table:

**Table 4 Groundwater Quality Criteria**

Parameter	Units	Groundwater Criteria
Total Coliform	colonies/ 100 mL	1
Total Dissolved Solids	mg/L	500
Chloride	mg/L	250
Sulfate	mg/L	250
Nitrate (as nitrogen)	mg/L	10
pH (Maximum / Minimum)	standard units	6.5 to 8.5
Manganese	mg/L	0.05
Total Iron	mg/L	0.3
Toxics		No toxics in toxic amounts

Ecology has examined the potential for the evaporative lagoon system site to violate groundwater quality standards. Groundwater monitoring is not required for the period of the proposed permit (5 years). Ecology will re-examine this decision during the next permit issuance, five years hence.

## **IV. Monitoring Requirements**

Ecology requires monitoring, recording, and reporting (WAC 173-216-110) to verify that the treatment process functions correctly, the discharge meets groundwater criteria and that the discharge complies with the permit's effluent limits.

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

### **A. Lab accreditation**

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

### **B. Wastewater monitoring**

Ecology details the proposed monitoring schedule under Special Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

## **V. Other Permit Conditions**

### **A. Reporting and recordkeeping**

Ecology based Special Condition S3 on its authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110).

### **B. Operations and maintenance**

Ecology requires dischargers to take all reasonable steps to properly operate and maintain their wastewater treatment system in accordance with state regulations (WAC 173-240-080 and WAC 173-216-110). The facility has prepared and must submit an update of an operation and maintenance (O&M) manual for the wastewater facility.

Implementation of the procedures in the operation and maintenance manual ensures the facility's compliance with the terms and limits in the permit and ensures the facility provides AKART to the waste stream.

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### **C. Solid waste control plan**

Monson Bulk Crush facility could cause pollution of the waters of the state through inappropriate disposal of solid waste or through the release of leachate from solid waste.

This proposed permit requires this facility to update the approved solid waste control plan designed to prevent solid waste from causing pollution of waters of the state. The facility must submit the updated plan to Ecology for approval (RCW 90.48.080). You can obtain an Ecology guidance document, which describes how to develop a Solid Waste Control Plan, at: <http://www.ecy.wa.gov/pubs/0710024.pdf>

### **D. Spill plan**

This facility stores a quantity of chemicals on-site that have the potential to cause water pollution if accidentally released. Ecology can require a facility to develop best management plans to prevent this accidental release [Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080].

The proposed permit requires the Monson Bulk Crush facility to develop and implement a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs.

### **E. Best management practices**

Best management practices (BMPs) are the actions identified to manage, prevent contamination of stormwater/groundwater. BMPs include schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment systems, operating procedures, and practices used to control plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage.

### **F. Leak Detection Plan and Survey – Evaporation Lagoons**

The Permittee must submit to Ecology for review and acceptance a leak detection plan that can monitor or test for the structural integrity of the liner for the wastewater evaporation lagoons (S8 - Evaporation lagoon leak plan and survey). If the survey detects significant leakage, Ecology may issue an Administrative Order or permit modification requiring geomembrane liner repair.

### **G. General conditions**

Ecology bases the standardized general conditions on state law and regulations. They are included in all individual industrial state waste discharge permits issued by Ecology.

## **VI. Permit Issuance Procedures**

### **A. Permit modifications**

Ecology may modify this permit to impose numerical limits, if necessary to comply with water quality standards for groundwaters, based on new information from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

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

### **B. Proposed permit issuance**

This proposed permit meets all statutory requirements for Ecology to authorize a wastewater discharge. The permit includes limits and conditions to protect human health and aquatic life, and the beneficial uses of waters of the state of Washington. Ecology proposes to issue this permit for a term of 5 years.

## **VII. References for Text and Appendices**

Gavlak, R., D. Horneck , R.O. Miller, and J. Kotuby-Amacher.

3rd edition 2005. *Soil, Plant And Water Reference Methods For The Western Region*  
<https://community.ipni.net/site/wera.nsf/home.xsp>

Washington State Department of Ecology.

1993. *Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems*, Ecology Publication Number 93-36. 20 pp.  
<http://www.ecy.wa.gov/pubs/9336.pdf>

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

Permit and Wastewater Related Information

(<http://www.ecy.wa.gov/programs/wq/permits/guidance.html> )

Revised October 2005. *Implementation Guidance for the Ground Water Quality Standards*, Ecology Publication Number 96-02. <http://www.ecy.wa.gov/biblio/9602.html>

December 2011. *Permit Writer's Manual*, Publication Number 92-109  
(<http://www.ecy.wa.gov/biblio/92109.html>)

February 2007. *Focus Sheet on Solid Waste Control Plan, Developing a Solid Waste Control Plan for Industrial Wastewater Discharge Permittees*, Publication Number 07-10-024.  
<http://www.ecy.wa.gov/pubs/0710024.pdf>

November 2004. *Guidance on Land Treatment of Nutrients in Wastewater, with Emphasis on Nitrogen*, Ecology Publication #04-10-081; <http://www.ecy.wa.gov/biblio/0410081.html>

## **Appendix A--Public Involvement Information**

Ecology proposes to issue a permit to the Monson Bulk Crush facility. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and Ecology's reasons for requiring permit conditions.

Ecology will place a Public Notice of Draft on November 6, and November 13, 2012 in the Tri City Herald to inform the public and to invite comment on the proposed draft State Waste Discharge permit and fact sheet.

The notice:

- Tells where copies of the draft Permit and Fact Sheet are available for public evaluation (a local public library, the closest Regional or Field Office, posted on our website).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Urges people to submit their comments, in writing, before the end of the Comment Period
- Tells how to request a public hearing of comments about the proposed state waste discharge permit.
- Explains the next step(s) in the permitting process.

**NOTICE: ANNOUNCEMENT OF AVAILABILITY OF DRAFT PERMIT**  
**PERMIT NO.: ST0009266**  
**APPLICANT: MONSON BULK CRUSH**  
**63615 E. JACOBS ROAD**  
**BENTON CITY, WA 99320**

Monson Bulk Crush has applied for a new State Waste Discharge Permit No. ST0009266 in accordance with the provisions of Chapter 90.48 Revised Code of Washington (RCW), Chapter 173-216 Washington Administrative Code (WAC), and the Federal Water Pollution Control Act as amended.

Following evaluation of the application and other available information, a draft permit has been developed which would allow the discharge of wine making process wastewater to evaporations lagoons at permitted location from its facility located at East Jacobs Road, Benton City. All discharges to be in compliance with the Department of Ecology's Water Quality Standards for a permit to be issued.

A tentative determination has been made to issue a proposed permit based on the effluent limitations and special permit conditions that will prevent and control pollution. A final determination will not be made until all timely comments received in response to this notice have been evaluated.

### **PUBLIC COMMENT AND INFORMATION**

The application and other related documents are available at Ecology's Central Regional Office for inspection and copying between the hours of 8:00 a.m. and 4:30 p.m., weekdays. To obtain a copy or

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to arrange to view copies at the Central Regional Office, please call Roger Johnson at 509/454-7658, e-mail [roger.johnson@ecy.wa.gov](mailto:roger.johnson@ecy.wa.gov) , or write to the address below.

Interested persons are invited to submit written comments regarding the proposed permit. All comments must be submitted by December 13, 2012 to be considered for the final determination. E-mail comments should be sent to [cynthia.huwe@ecy.wa.gov](mailto:cynthia.huwe@ecy.wa.gov) . Comments should be sent to:

Cindy Huwe  
Department of Ecology  
Central Regional Office  
15 West Yakima Avenue, Suite 200  
Yakima, WA 98902

Any interested party may request a public hearing on the proposed permit within 30 days of the publication date of this notice. The request for a hearing shall state the interest of the party and the reasons why a hearing is necessary. The request should be sent to the above address. Ecology will hold a hearing if it determines that there is significant public interest. If a hearing is to be held, public notice will be published at least 30 days in advance of the hearing date. Any party responding to this notice with comments will be mailed a copy of a hearing public notice.

If you require special accommodations or need this document in a format for the visually impaired, call Cindy Huwe at 509-457-7105. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Publication dates of this Notice are November 6, and November 13, 2012.

Ecology has published a document entitled *Frequently Asked Questions about Effective Public Commenting*, which is available on our website at <http://www.ecy.wa.gov/biblio/0307023.html>.

You may obtain further information from Ecology by telephone, 509-457-7105, or by writing to the address listed below.

Water Quality Permit Coordinator  
Department of Ecology  
Central Regional Office  
15 West Yakima Avenue, Suite 200  
Yakima, WA 98902

The primary author of this permit and fact sheet is Jim Leier.

## **Appendix B --Your Right to Appeal**

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

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

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

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

### **ADDRESS AND LOCATION INFORMATION**

<b>Street Addresses</b>	<b>Mailing Addresses</b>
<b>Department of Ecology</b> Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	<b>Department of Ecology</b> Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
<b>Pollution Control Hearings Board</b> 1111 Israel RD SW STE 30 Tumwater, WA 98501	<b>Pollution Control Hearings Board</b> PO Box 40903 Olympia, WA 98504-0903

## Appendix C--Glossary

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

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

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

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

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

**Ambient water quality** -- The existing environmental condition of the water in a receiving water body.

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

**Annual average design flow (AADF** -- average of the daily flow volumes anticipated to occur over a calendar year.

**Average monthly (intermittent) discharge limit**-- The average of the measured values obtained over a calendar months time taking into account zero discharge days.

**Average monthly discharge limit** -- The average of the measured values obtained over a calendar month's time.

**Background water quality** -- The concentrations of chemical, physical, biological or radiological constituents or other characteristics in or of groundwater at a particular point in time upgradient of an activity that has not been affected by that activity, [WAC 173-200-020(3)]. Background water quality for any parameter is statistically defined as the 95% upper

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tolerance interval with a 95% confidence based on at least eight hydraulically upgradient water quality samples. The eight samples are collected over a period of at least one year, with no more than one sample collected during any month in a single calendar year.

**Best management practices (BMPs)** -- Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

**BOD<sub>5</sub>** -- Determining the five-day Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD<sub>5</sub> is used in modeling to measure the reduction of dissolved oxygen in receiving waters after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD<sub>5</sub> is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

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

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

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

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

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

**Compliance inspection-without sampling** -- A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

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

**Composite sample** -- A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May

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be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

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

**Continuous monitoring** -- Uninterrupted, unless otherwise noted in the permit.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Maximum week design flow (MWDF)** -- The largest volume of flow anticipated to occur during a continuous 7-day period, expressed as a daily average.

**Method detection level (MDL)** -- See Method Detection Level.

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

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

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

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

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

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

**Peak instantaneous design flow (PIDF)** -- The maximum anticipated instantaneous flow.

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

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

- a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).  
Ecology may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

**Quantitation level (QL)** -- Also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to  $(1,2,\text{or } 5) \times 10^n$ , where n is an integer. (64 FR 30417).

ALSO GIVEN AS:

The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

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

**Responsible corporate officer** -- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

**Significant industrial user (SIU)** --

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority\* on the basis that the industrial user has a

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reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement [in accordance with 40 CFR 403.8(f)(6)].

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

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

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

**Soil scientist** -- An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3, or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

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

**Soluble BOD<sub>5</sub>** -- Determining the soluble fraction of Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of soluble organic material present in an effluent that is utilized by bacteria. Although the soluble BOD<sub>5</sub> test is not specifically described in Standard Methods, filtering the raw sample through at least a 1.2 µg filter prior to running the standard BOD<sub>5</sub> test is sufficient to remove the particulate organic fraction.

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

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

**Technology-based effluent limit** -- A permit limit based on the ability of a treatment method to reduce the pollutant.

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

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

**Total maximum daily load (TMDL)** --A determination of the amount of pollutant that a water body can receive and still meet water quality standards.

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

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

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

## **Appendix D--Response to Comments**

No comments were received by the Department of Ecology.