

## **Fact Sheet for State Waste Discharge Permit ST0009276**

### **Ste. Michelle Wine Estates Columbia Crest Winery**

**Finalized for Public Notice on October 1, 2024**

#### **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 Ste. Michelle Wine Estates Columbia Crest Winery (Columbia Crest Winery) that will allow discharge of wastewater to its sprayfield and single-lined lagoons.

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 Columbia Crest Winery, State Waste Discharge permit ST0009276, are available for public review and comment from October 1, 2024 until the close of business November 15, 2024.** For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement Information**.

Columbia Crest Winery 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 E - Response to Comments**, and publish it when we issue the final State Waste Discharge permit. Ecology generally will not revise the rest of the fact sheet. The full document will become part of the legal history contained in the facility's permit file.

#### **Summary**

The Columbia Crest Winery is one of the largest in Washington State, according to Washington State Liquor and Cannabis Control Board data. Columbia Crest Winery has produced an average of nearly four million cases of wine from 2017 through 2019.

Columbia Crest Winery discharges process wastewater and stormwater to a series of three single-lined lagoons with two associated clarifiers prior to discharging some of the wastewater to a 206 acre sprayfield. An evaporator was installed in 2017 to increase evaporation and decrease discharge to the sprayfield. Sanitary (domestic) wastewater is also discharged to three separate single lined lagoons. Water softener process wastewater is also discharged to a separate single lined lagoon.

Ecology issued a temporary permit on October 7, 2010. Under this temporary permit, a limited suite of data has been collected and submitted to Ecology. The data includes process wastewater/stormwater flow into the lagoons and grab samples from the larger of the two lagoons (Pond 1, where the process wastewater/stormwater initially enters). An engineering report (Cascade Earth Sciences, Dec. 2011) was also submitted to Ecology in 2012, although the report has not been finalized or approved by Ecology.

One of the primary goals of the draft permit is to collect a comprehensive suite of discharge and environmental data to assess the needs for effluent limits in a future permit cycle. This initial permit includes effluent limits for pH to the sprayfield.

Ecology was unable to determine a proposed flow limit to the sprayfield because of insufficient data collected and submitted under the temporary permit. A limit for pH is included for influent to the three process wastewater/stormwater single lined lagoons, influent to the three sanitary wastewater single lined evaporation lagoons, and influent to the water softer process wastewater single lined lagoon.

The permit also includes a requirement for the Columbia Crest Winery to install monitoring points within 1.5 years of the permit effective date, including measurement gauges in each lagoon to measure depth to water. The draft permit limits the depth of water to a minimum of two feet of freeboard in each lagoon.

Other important permit requirements include development of a number of documents (engineering report, operations and maintenance manual, groundwater quality evaluation study, etc.) associated with the facility and the treatment of process wastewater, stormwater, and sanitary wastewater. Engineering review, approval, and installation of a pH adjustment system within the first three years of the permit term is also required due to occasional low pH of the process wastewater.

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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**.

## II. Background Information

**Table 1 General Facility Information**

Facility Information	
Applicant	Ste. Michelle Wine Estates
Facility Name and Address	Ste. Michelle Wine Estates Columbia Crest Winery Hwy. 221/Columbia Crest Drive Paterson, WA 99345

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Facility Information	
Contact at Facility	Name: Madeline Mathews Telephone #: (425) 488-1133
Responsible Official	Name: Laura Eder Title: V.P Production and Operations Address: 178810 SR 221 Paterson, WA 99345 Telephone #: (509) 875-4213
Industry Type	Winery
Type of Treatment	Land Treatment
SIC Codes	2084 (Wine, Brandy and Brandy Spirits)
NAIC Codes	312130 (Wineries)
Facility Location	Latitude: 45.956911 Longitude: -119.609467
Legal Description of Application Area	Section, township, range: SE1/4 section 31 T. 6N, R. 26 EWM. Latitude: 45.968220 Longitude: -119.608998

Permit Status	
Issuance Date of Previous Permit	October 7, 2010
Application for Permit Renewal Submittal Date	January 25, 2015
Date of Ecology Acceptance of Application	September 3, 2015

Inspection Status	
Date of Last Non-sampling Inspection Date	June 14, 2022

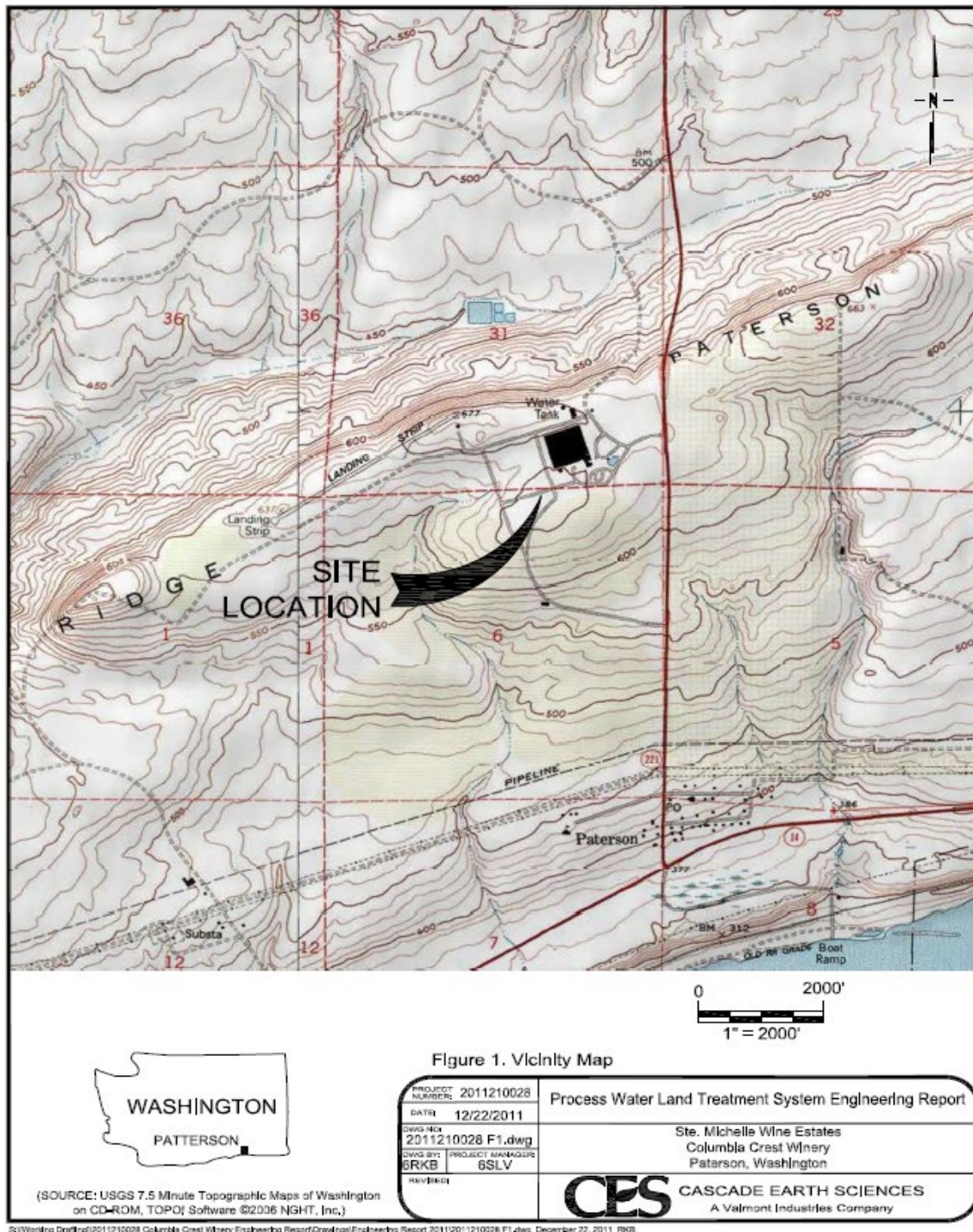


Figure 1 Facility Location Map (Cascade Earth Sciences, 2012)



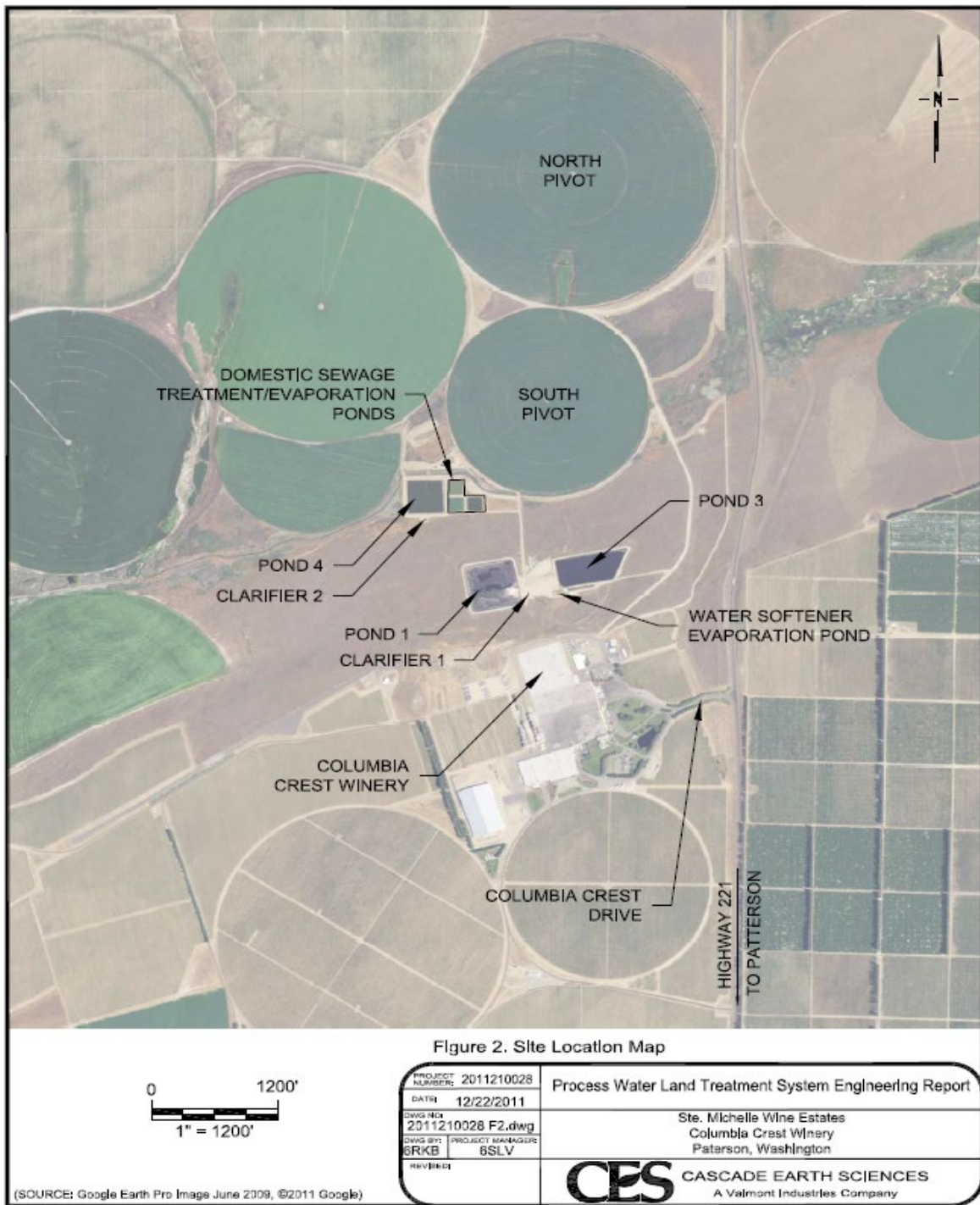


Figure 2 Facility Feature Map (Cascade Earth Sciences, 2012)

## **A. Facility description**

### *History*

Ste. Michelle Wine Estates (SMWE) owns and operates the Columbia Crest Winery near Paterson, Washington (Figure 1). Columbia Crest Winery began operations in 1983. Columbia Crest Winery is authorized to discharge the industrial process wastewater (process water), produced during wine production, under a temporary State Waste Discharge Permit ST-9276 (Permit) administered by the Washington State Department of Ecology (Ecology).

The temporary permit became effective on September 13, 2010, and subsequently, Ecology requested an Engineering Report for land application treatment of the process water at the Columbia Crest Winery. An engineering report entitled Process Water Land Treatment System (Cascade Earth Sciences, 2011) provides much of the information in this fact sheet section. Ecology provided comments and SMWE provided a response letter, although the report has not been approved by Ecology. In 2019, an engineering report was prepared by PBS, although Ecology was not aware of this report and it was not submitted to Ecology for review until the Facility Review comment period in 2023.

Grapes brought to the Columbia Crest Winery are crushed, fermented into wine, bottled and shipped. The process requires barrel washing, tank cleaning, and other water use processes that result in the generation of process water. Columbia Crest collects, stores the process wastewater in lagoons where a portion evaporates prior to land treatment on two fields, the North Pivot and the South Pivot, totaling 206 acres of agricultural land (Figure 2).

The Columbia Crest Winery is one of the largest wineries in Washington State according to Washington State Liquor and Cannabis Control Board data.

### *Industrial Process(s)*

Fresh water used within the plant for winemaking and cleaning processing equipment, is discharged as process wastewater to single lined evaporation lagoons and then to land treatment. The fresh water used for processing is obtained from one of two onsite groundwater wells (referred to as Wells 1 and 2) at the northeast corner of the facility. One of the wells is dedicated exclusively to landscape irrigation around the winery. The other is dedicated as the potable water supply. The flow volume of fresh water from the potable water wells are metered.

In general, wine production includes the following stages: The grapes are received, crushed, and pressed. Then the grape juice is extracted and fermentation techniques implemented. This is followed by clarification, storage, and bottling. Process wastewater is produced during the various stages of wine making. It is

generated from sanitation, tank washing, tank sanitation, general wash down, wine movement activities, processing, centrifuge, and barrel processing.

#### *Stormwater*

A portion of the stormwater at the Columbia Crest Winery facility, including uncovered product receiving areas, enters the process wastewater system mainline at various points. This is directed to the lagoons and land treatment site. The total area of impervious surfaces contributing to stormwater flows is 20.5 acres. No specific treatment of stormwater occurs prior to blending with the process wastewater in the collection and conveyance piping system.

Stormwater from some surfaces does not enter the process wastewater system or land treatment site. Stormwater generated at the facility is managed through downspouts to gravel parking lots, lawn areas, and other infiltration areas around the facility. Soils around the facility are well drained and should have infiltration rates suitable for stormwater infiltration without long-term ponding. About 13% of the total wastewater discharged to the treatment system (lagoons and sprayfield) originates as stormwater.

#### *Sanitary Wastewater*

All sanitary wastewater generated by the facility is handled in dedicated drainage and piping systems separate from the process wastewater system. Three single lined evaporation lagoons located to the east side of Pond 4 collect a portion of the domestic sanitary wastewater.

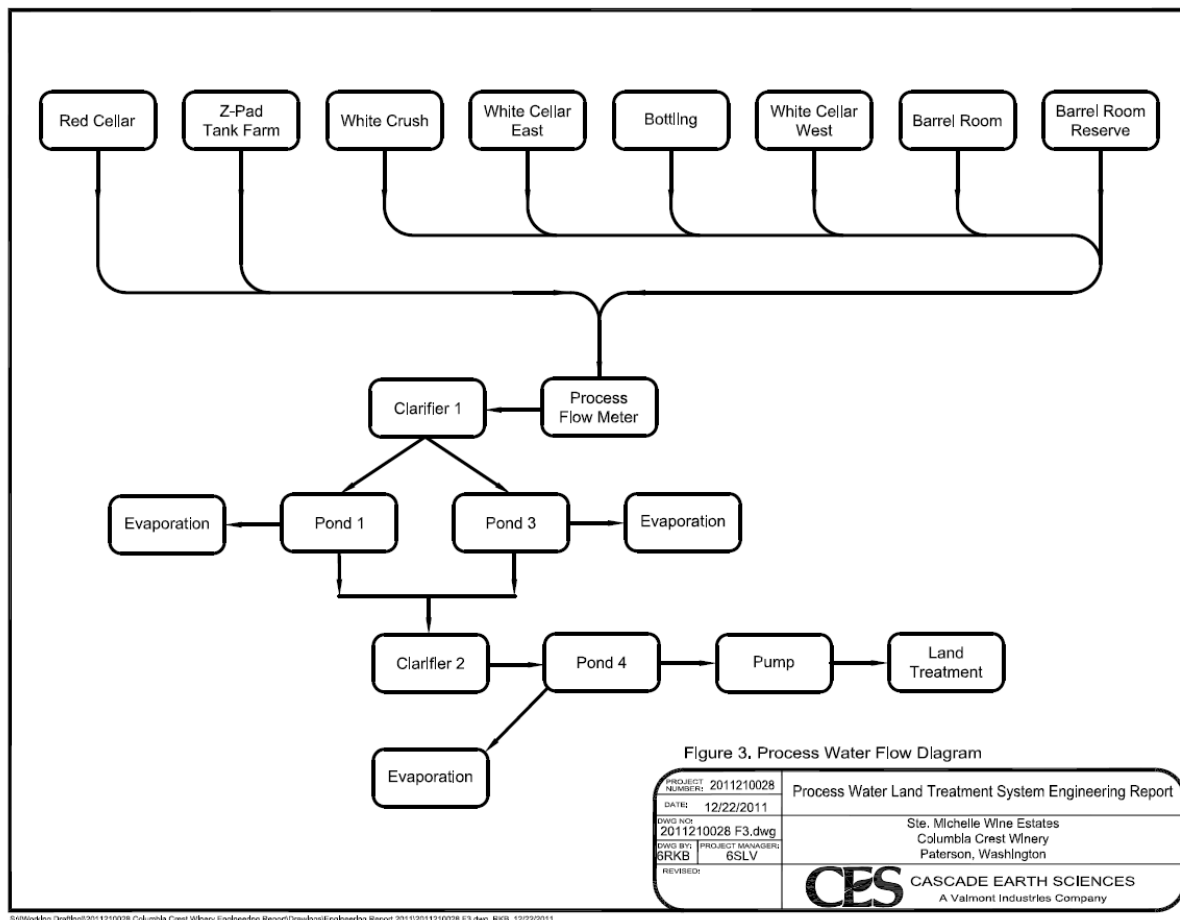
Two sanitary wastewater septic systems are also located at the Columbia Crest Winery facility. These are not included under permit coverage, instead fall under local and/or state health department jurisdiction. Sanitary wastewater is not discharged to the process wastewater lagoons or land treatment site.

#### *Water Softener Regeneration Water*

A small, unnamed pond south of Pond 3 receives regeneration water from the water softeners and nitrate removal systems. This pond is reported to be single lined and functions as an evaporation pond with no connection to the other ponds.

#### *Wastewater Treatment Processes*

As the process water exits the various stages of wine making, it is delivered to a series of floor drains and routed by a gravity main pipeline to the treatment system. Figure 2 shows the location of Clarifiers 1 and 2; Ponds 1, 3, and 4; and the land treatment site (North and South Pivots). Figure 3 summarizes the process wastewater treatment system flow.



**Figure 3 Wastewater Process Flow Chart (Cascade Earth Sciences, 2012)**

Ponds 1, 3, and 4 combined, have a total potential capacity of 12.76 million gallons (MG), and have 12.71 acres of surface area. The capacity, depth, and surface area of each pond is as follows:

- Pond 1 - 4.16 MG, 2.4 ft deep, and 5.32 acres
- Pond 3 - 2.39 MG, 1.75 ft deep and 4.18 acres
- Pond 4 - 6.21 MG, 5.9 ft deep, and 3.21 acres

The process wastewater pond system was constructed in phases. Clarifier 2 and Pond 4 were constructed in 1982 in advance of the opening of the winery. Pond 4 has a PVC liner over 10 inches of bentonite, a working depth of 5.9-6.9 feet, and was constructed as a storage and evaporation pond. Clarifier 2 is a concrete structure, which enables periodic removal of solids. In 2000, Clarifier 1 and Ponds 1 and 3 were constructed to increase the capacity of the system. Ponds 1 and 3 were

constructed using soils from a warehouse construction project and have 40 mil PVC liners. Clarifier 2 is also a concrete structure. Pond 1 is reported to have a working depth of 2.4-3.5 feet and the working depth for Pond 3 is 1.75-2.2 feet. The ponds are not equipped with depth gauges.

The inlets to Pond 1 and Pond 3 are described as 10-inch pipes with slide gate valves downstream of the wye below Clarifier 1. Pond 1 is reported to have a drain port located on the east side bottom controlled by a removable sleeve that allows water to flow to Pond 4. A similar drain port is described for Pond 3, located near the west side bottom. Although the ponds can be fully drained, for purposes of operational practicality, Ponds 1 and 3 are drained to a depth of 0.5 feet and Pond 4 drained to a depth of 1.0 foot by the end of October in order to maximize storage ahead of the winter season.

In the past, solids were removed from the clarifiers on an annual basis with the removed material being allowed to dry and then spread on dirt roads around the SMWE property as a dust suppressant. Current practice is to remove the solids on an as-needed basis and place in a dedicated location on the property; they aren't currently spread on the roads as dust suppressant.

In 2017, an evaporator was installed on the west berm of Pond 1 to increase evaporation of process wastewater in the lagoon and decrease the volume of discharge of process wastewater to Pond 4 and subsequently the sprayfield. The evaporator on Pond 1 is mobile, it can and is moved between the ponds as necessary. There is also a permanent evaporator installed in Pond 4. The evaporators pump process wastewater from the lagoon and spray it back over the lagoons as a fine mist. A portion of the mist evaporates during this process. The use of the evaporator has decreased the volume of process wastewater discharge to the sprayfield. It should be noted that the evaporators can only be used during warmer weather; they are not used in the winter.

Ecology identified an issue with the evaporator in 2017, based on aerial photographs. Mist drift from the evaporator was turning the ground surface directly west of the lagoon purple (~1 acre). This may occur during periods of strong east winds. After Ecology brought this issue to the attention of the Columbia Crest Winery, evaporator operations were modified, so it automatically shuts down based on wind speed and direction. Aerial photographs taken in July 2018 do not show the purple ground like the ones taken in May 2017, although a green patch of weeds appear to be growing on the lagoon berm adjacent to the evaporator possibly due to at least a smaller amount of mist continuing to drift directly adjacent to the evaporator.

*Land treatment and distribution system (sprayfield)*

Process wastewater/stormwater not evaporated in the lagoons mix with supplemental irrigation water (fresh water) prior to discharge to the North Pivot and the South Pivot crop circles. The sprayfields total 206 acres of agricultural land (Figure 2). Supplemental irrigation water and process wastewater/stormwater is mixed at a 1:1 ratio.

The 2011 Engineering Report (Cascade Earth Sciences) includes an example of land treatment utilizing a 5-year rotation, with alfalfa for four years followed by a spring grain crop for one season and then back to alfalfa. Alfalfa is the primary element in the rotation as a perennial crop with a deep rooting system, a moderate salt tolerance, and high water and nutrient removal/uptake potential. The engineering report states that established perennial crops, such as alfalfa, are an excellent crop choice for land treatment, with demonstrated success in many similar systems. Currently, there is some crop rotation, but it is not on a 5-year rotation as described in the engineering report. Corn is the major crop at this time.

The draft permit requires the annual Irrigation and Crop Management plan to determine each year's hydraulic loading, wastewater constituent loading, and cropping plan.

To date, the land treatment site has been utilized to grow row crops, small grain crops, potatoes etc. The predominant soils mapped across the land treatment site consist of HeE, Hezel loamy fine sand, 0 to 30 percent slopes. These soils are deep and well drained. They developed in windblown sand over silty lacustrine sediments on hummocky or dune-like terraces. Commonly associated soils include the Quincy and Warden series (CES 2011).

Published soil hydraulic properties were used to determine the plant available water holding capacities (AWHC) of the soils to 60 inches or a shallower, root restricting layer. The published descriptions of the soil surveys indicate that a restrictive layer (e.g., bedrock) is not a limiting property within the soils on the land treatment site. The average plant AWHC ranges from 0.10 to 0.12 inches per inch (in/in) within the surface layer (0 to 16 inches) and 0.18 to 0.20 in/in for the remainder of the 60-inch profile (CES 2011).

#### *Solid wastes*

Solid process wastes, consisting of grape pomace (grape skins and stems, etc.), are collected at the processing plant in a central location west of the winery. A third party utilizes the pomace offsite for use as bulk feed to cattle. A land application permit was maintained in the past to apply pomace to the vineyards as a fertilizer. This is longer the case. In 2010, pomace applied between vineyard rows on the SMWE property totaled approximately 1,000 tons.

Solid process waste is not applied to the land treatment site. General industrial and municipal solid waste (e.g., general refuse, metal, paper, wood, plastics, etc.), is

recycled, depending on local recycling market capability, or transported and disposed of in a permitted landfill facility.

## **B. Description of the groundwater**

Much of the information provided in this section is found in the 2011 Process Water Land Treatment System Engineering Report (CES), received by Ecology on January 4, 2012. Two groundwater systems are present in the region. A shallow localized unconfined aquifer is located in areas with high recharge from infiltration of irrigation water and precipitation or in areas adjacent to perennial bodies of surface water. There is also a deep, generally confined basalt aquifer.

Locally, groundwater is known to exist in the aquifers within the massive basalt flows below the land treatment site based on the review of water well reports obtained from the Ecology. There were 14 registered water wells within 1-mile of the land treatment site. Ten are reported as domestic, two are abandoned, one is industrial, and one is irrigation use.

The deeper Wanapum Basalt and Grande Ronde Basalt aquifers may also exist locally. However, based on the water well survey conducted, there are no wells completed in these aquifers. The Wanapum Basalt is encountered at depths greater than 600 feet below ground surface (bgs) and the Grande Ronde is encountered at depths greater than 1,600 feet. The Wanapum Basalt Aquifer is a major source of groundwater supply in the central and eastern portions of Rock-Glade Watershed.

There is one water well located at or near the Columbia Crest land treatment site and two as previously described at the Columbia Crest facility on the apex of the anticline. For wells at the Columbia Crest facility, Well 1 identified as Ecology #04-27737 was drilled in 1981. The second well, drilled in 1977, does not have a designated number or Ecology ID listed in the well log. Both wells are completed in the basalt aquifer below the site, pumping water from 320 to 410 feet bgs. Static water level in Well 1 at completion was 316 feet bgs.

Water quality data is provided in Section F of the 2010 SMWE- Columbia Crest Winery Application for a Wastewater Discharge Permit for Discharge of Industrial Waste Water to Groundwater. It identifies that the sample was collected from Well ID #1 7641T. Since the ID does not match Well 1, the assumption is that the water sample was collected from the older well.

Water quality is reported as the following:

- Total dissolved solids: 279 - 656 mg/L
- Conductivity: 441- 998 mg/L
- Nitrate+nitrite as nitrogen: 8.7 - 19.7 mg/L
- Calcium: 1.05 mg/L

- Chloride: 12.3 - 89.1 mg/L
- Fluoride: 0.448 - 0.9 mg/L
- Magnesium: None Detected (ND) - 0.451 mg/L
- Sodium: 98.3 - 207 mg/L
- Sulfate: 22.3 - 121 mg/L
- Copper: ND - 0.38
- Iron: ND - 0.38
- Zinc: ND - 0.00706 mg/L

Total hardness, barium, cadmium, chromium, lead, manganese, mercury, selenium, and silver were non-detect.

### C. Wastewater characterization

Columbia Crest Winery reported the concentration of pollutants in the discharge in the permit application and in discharge monitoring reports.

The flow data collected is the process wastewater/stormwater flow from the facility before it enters a clarifier and then the first two (Ponds 1 and 3) of a series of lagoons.

Grab samples are collected from Pond 1 (Figure 2) and are not representative of wastewater applied to the sprayfield. The second lagoon in the sequence has another clarifier for the influent and contains an aerator, although currently samples are not collected from effluent before or after it is mixed supplemental irrigation water and discharged to the sprayfield.

The proposed permit requires monitoring wastewater after exiting the second lagoon and mixing with supplemental irrigation water (1:1 ratio or 50% each). The tabulated data represents the quality of the wastewater discharged from 2014-2018. The wastewater prior to land application is characterized as follows:

**Table 2 Wastewater Characterization 2014-2018 Data Summary**

Parameter	Units	Average Value	Maximum Value
Flow (Monthly Total)	gal/month	3,307,161	5,728,180
Biochemical Oxygen Demand (BOD <sub>5</sub> )	mg/L	3,605	11,400
BOD	lbs./month	83,900	305,411



Parameter	Units	Average Value	Maximum Value
Total Suspended Solids (TSS)	mg/L	769	5,100
TSS	lbs./month	19,551	141,257

Parameter	Units	Minimum Value	Maximum Value
pH	standard units	4.29	9.1

#### **D. Summary of compliance with previous permit issued**

The previous temporary permit did not place effluent limits on any parameters.

Columbia Crest Winery has mostly complied with permit conditions throughout the duration of the permit issued on October 7, 2010. Ecology assessed compliance based on its review of the facility's information in the Ecology Permitting and Reporting Information System (PARIS), discharge monitoring reports (DMRs) and on inspections.

On January 11, 2014, process wastewater overflowed from Pond 4 adjacent to a natural drainage (tributary of Glade Creek). The release occurred for approximately 14 hours and it is unknown how much process wastewater was released, although the Ecology inspection report for the January 15, 2014 follow-up inspection estimates it could have been as high as one million gallons into the stream. SMWE provided an estimate of approximately 10,000 gallons released during a January 13, 2014 phone conversation with Ecology.

The following table summarizes the violations that occurred during the permit term.

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**Table 3 Violations**

1	Event Category	Violation	Violation Date	Parameter	Units
2	Reporting Violations	Improper/ Incorrect Reporting	2/15/2013	Flow	Gallons/Day (gpd)
3	Reporting Violations	Improper/ Incorrect Reporting	2/15/2013	Flow	Gallons/Day (gpd)
4	Reporting Violations	Improper/ Incorrect Reporting	2/16/2013	Flow	Gallons/Day (gpd)
5	Reporting Violations	Improper/ Incorrect Reporting	2/16/2013	Flow	Gallons/Day (gpd)
6	Reporting Violations	Improper/ Incorrect Reporting	2/17/2013	Flow	Gallons/Day (gpd)
7	Reporting Violations	Improper/ Incorrect Reporting	2/17/2013	Flow	Gallons/Day (gpd)
8	Monitoring Violations	Analysis not Conducted	2/4/2012	Flow	Gallons/Day (gpd)
9	Monitoring Violations	Analysis not Conducted	2/5/2012	Flow	Gallons/Day (gpd)
10	Monitoring Violations	Analysis not Conducted	2/6/2012	Flow	Gallons/Day (gpd)
11	Monitoring Violations	Analysis not Conducted	2/7/2012	Flow	Gallons/Day (gpd)
12	Monitoring Violations	Analysis not Conducted	2/8/2012	Flow	Gallons/Day (gpd)
13	Monitoring Violations	Analysis not Conducted	2/9/2012	Flow	Gallons/Day (gpd)
14	Monitoring Violations	Analysis not Conducted	2/10/2012	Flow	Gallons/Day (gpd)
15	Monitoring Violations	Analysis not Conducted	2/11/2012	Flow	Gallons/Day (gpd)
16	Monitoring Violations	Analysis not Conducted	2/12/2012	Flow	Gallons/Day (gpd)
17	Monitoring Violations	Analysis not Conducted	5/29/2014	Flow	Gallons/Day (gpd)
18	Monitoring Violations	Analysis not Conducted	5/30/2014	Flow	Gallons/Day (gpd)
19	Monitoring Violations	Analysis not Conducted	5/31/2014	Flow	Gallons/Day (gpd)
20	Monitoring Violations	Analysis not Conducted	6/1/2014	Flow	Gallons/Day (gpd)
21	Monitoring Violations	Analysis not Conducted	6/2/2014	Flow	Gallons/Day (gpd)
22	Monitoring Violations	Analysis not Conducted	6/3/2014	Flow	Gallons/Day (gpd)
23	Monitoring Violations	Analysis not Conducted	6/4/2014	Flow	Gallons/Day (gpd)
24	Monitoring Violations	Analysis not Conducted	6/5/2014	Flow	Gallons/Day (gpd)
25	Monitoring Violations	Analysis not Conducted	6/6/2014	Flow	Gallons/Day (gpd)
26	Monitoring Violations	Analysis not Conducted	6/7/2014	Flow	Gallons/Day (gpd)
27	Monitoring Violations	Analysis not Conducted	6/8/2014	Flow	Gallons/Day (gpd)
28	Monitoring Violations	Analysis not Conducted	6/9/2014	Flow	Gallons/Day (gpd)
29	Monitoring Violations	Analysis not Conducted	6/10/2014	Flow	Gallons/Day (gpd)
30	Monitoring Violations	Analysis not Conducted	6/11/2014	Flow	Gallons/Day (gpd)
31	Monitoring Violations	Analysis not Conducted	6/12/2014	Flow	Gallons/Day (gpd)
32	Monitoring Violations	Analysis not Conducted	4/1/2011	Biochemical Oxygen Demand (BOD5) (Total)	Lbs/Month
33	Monitoring Violations	Analysis not Conducted	4/1/2011	Biochemical Oxygen Demand (BOD5) (Total)	Lbs/Month
34	Monitoring Violations	Analysis not Conducted	4/1/2011	Solids (Residue) (Total suspended (TSS))	Lbs/Month
35	Monitoring Violations	Analysis not Conducted	2/1/2012	Flow	Gallons/Day (gpd)
36	Monitoring Violations	Analysis not Conducted	2/2/2012	Flow	Gallons/Day (gpd)
37	Monitoring Violations	Analysis not Conducted	2/3/2012	Flow	Gallons/Day (gpd)
38	Reporting Violations	Improper/ Incorrect Reporting	2/18/2013	Flow	Gallons/Day (gpd)
39	Reporting Violations	Improper/ Incorrect Reporting	2/18/2013	Flow	Gallons/Day (gpd)
40	Reporting Violations	Improper/ Incorrect Reporting	2/19/2013	Flow	Gallons/Day (gpd)
41	Reporting Violations	Improper/ Incorrect Reporting	2/19/2013	Flow	Gallons/Day (gpd)
42	Reporting Violations	Improper/ Incorrect Reporting	2/20/2013	Flow	Gallons/Day (gpd)
43	Reporting Violations	Improper/ Incorrect Reporting	2/20/2013	Flow	Gallons/Day (gpd)
44	Reporting Violations	Improper/ Incorrect Reporting	2/21/2013	Flow	Gallons/Day (gpd)
45	Reporting Violations	Improper/ Incorrect Reporting	2/21/2013	Flow	Gallons/Day (gpd)
46	Reporting Violations	Improper/ Incorrect Reporting	2/22/2013	Flow	Gallons/Day (gpd)
47	Reporting Violations	Improper/ Incorrect Reporting	2/22/2013	Flow	Gallons/Day (gpd)
48	Reporting Violations	Improper/ Incorrect Reporting	2/23/2013	Flow	Gallons/Day (gpd)
49	Reporting Violations	Improper/ Incorrect Reporting	2/23/2013	Flow	Gallons/Day (gpd)

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

**Table 4 Permit Submittals**

Submittal Name	Status	Due Date	Received Date	Approved	Approved Date
Signatory Requirements - G1	Received		11/19/2010	N	
Signatory Requirements - G1	Received		9/6/2013	N	
Signatory Requirements - G1	Received		11/8/2013	N	
Application For Permit Renewal	Submitted	1/15/2015	1/15/2015	N	
Application For Permit Renewal	Accepted	1/15/2015	3/30/2015	Y	9/3/2015
Engineering: Engineering Report	Received		1/4/2012	N	
Land Application Plan	Received		1/15/2015	N	

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

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

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

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

- Technology and treatment methods are 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.
- Ground water 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.

#### **A. Design criteria**

Under WAC 173-216-110 (4), flows and waste loadings must not exceed approved design criteria. Ecology has not approved design criteria for this facility's treatment plant and the sprayfields. Ecology received an engineering report dated January 4, 2012 prepared by Cascade Earth Sciences, although this report has not yet been approved. Ecology provided comments on the report on May 2, 2012 and received a response from Columbia Crest Winery on June 27, 2012.

#### **B. 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 has not yet approved the engineering report titled *Process Water Land Treatment System Engineering Report, Columbia Crest Winery Paterson Washington*, dated December 2011, prepared by Cascade Earth Sciences.

Ecology evaluates these reports using the:

- *Guidelines for the Preparation of Engineering Reports for Industrial Wastewater Land Application Systems*, Ecology, May 1993.

Ecology has not determined that the facility meets the minimum requirements demonstrating compliance with the AKART standard as the engineering report submitted in 2012 has not yet been approved.

##### *Wastewater Treatment (Prior to Land Treatment) Requirements*

Influent to Ponds 1, 3, and 4 has a permit limit for pH and a minimum of two feet of freeboard must maintained in each lagoons at all times.

An interim minimum limit for pH of 3.5 standard units is provided until 3 years after the effective date of the permit. This interim limit aligns with the compliance schedule

requirement to provide approvable engineering documents and construct a pH adjustment system by 3 years after the effective date of the permit.

**Table 5 Technology-Based Effluent Limits**

Lagoon Influent Limits		
Parameter	Maximum Monthly	
Depth of Water - Ponds 1, 3, and 4	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
	Minimum	Maximum
pH	3.5 (interim)/ 5.0 (final) standard units	10.0 standard units

#### *Land Treatment Requirements*

Ecology normally includes a hydraulic flow limit for discharges to the sprayfields (including supplemental irrigation water), but in this instance lacks adequate data to determine a limit. Data collection under this proposed permit will help determine a flow limit to the sprayfield in a future permit cycle.

Columbia Crest Winery must meet the following permit limits to satisfy the requirement for AKART:

- Application of wastewater via spray irrigation must not exceed agronomic rates (as defined in Ecology's groundwater implementation guidance) for total nitrogen and water. Wastewater application rates for other wastewater constituents must protect the background groundwater quality.
- Apply total nitrogen and water to the sprayfields as determined by the current irrigation and crop plan.
- Operate the system to protect the existing and future beneficial uses of the groundwater and not cause a violation of the groundwater standards.

An interim minimum limit for pH of 3.5 standard units is provided until 3 years after the effective date of the permit. This interim limit aligns with the compliance schedule requirement to provide approvable engineering documents and construct a pH adjustment system by 3 years after the effective date of the permit.

**Table 6 Technology-Based Effluent Limits**

Effluent Limits		
	Minimum	Maximum
pH	3.5 (interim)/ 5.0 (final) standard units	10.0 standard units

*Sanitary Wastewater Treatment Requirements*

Influent to the sanitary wastewater evaporation lagoons has permit limits for pH and a minimum of two feet of freeboard must maintained in the lagoons at all times.

**Table 7 Technology-Based Effluent Limits**

Lagoon Influent Limits		
Parameter	Maximum Monthly	
Sanitary Pond 1, 2, and 3 - Depth of water in lagoon	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
	Minimum	Maximum
pH	5.0 standard units	10.0 standard units

*Water Softener Process Wastewater Treatment Requirements*

Influent to the water softener process wastewater evaporation lagoon has permit limits for pH and a minimum of two feet of freeboard must maintained in the lagoon at all times.

**Table 8 Technology-Based Effluent Limits**

Lagoon Influent Limits		
Parameter	Maximum Monthly	
Depth of water in lagoon	Minimum of two feet of freeboard – Depth to be determined within 1.5 years of permit effective date	
	Minimum	Maximum

**Table 8 Technology-Based Effluent Limits**

Lagoon Influent Limits		
Parameter	Maximum Monthly	
pH	5.0 standard units	10.0 standard units

Washington's pH groundwater quality criterion range is 6.5 to 8.5. The less stringent pH limit is warranted given Ecology's expectation that any lagoon liner leak of wastewater to groundwater is expected to be minor. Lagoon liner leak detection protocols are a key safeguard to prevent groundwater contamination. The permit establishes a requirement for lagoon liner leak detection survey (see permit S4 Evaporation Pond Leak Survey). Leak survey protocols are also required to be detailed in the Permittee's Operations and Maintenance manual (see permit S4.A.b.1).

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

In order to protect existing water quality and preserve the designated beneficial uses of Washington's groundwaters including the protection of human health, WAC 173-200-100 requires Ecology to condition discharge permits 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 groundwaters 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)]. Ecology achieves this goal by:

- Applying all known available and reasonable methods of prevention, control and treatment (AKART) to any discharge.
- Applying the antidegradation policy of the groundwater standards.
- Establishing numeric and narrative criteria for the protection of human health and the environment in the groundwater quality standards.

Ecology did not approve the engineering report as noted above in the technology based limits section. In addition, Ecology evaluated the report to ensure compliance with groundwater standards using the:

- *Guidance on Land Treatment of Nutrients in Wastewater, with Emphasis on Nitrogen*, Ecology, November 2004  
(<https://fortress.wa.gov/ecy/publications/SummaryPages/0410081.html> )

*Antidegradation Policy*

The state of Washington's ground water quality standards (GWQS) requires preservation of existing and future beneficial uses of groundwater through the antidegradation policy, which includes the two concepts of antidegradation and non-degradation. Antidegradation is not the same as non-degradation (see below).

#### *Antidegradation*

Antidegradation applies to calculation of permit limits in groundwater when background (see below) contaminant concentrations are less than criteria in the GWQS. Ecology has discretion to allow the concentrations of contaminants at the point of compliance to exceed background concentrations but not exceed criteria in the GWQS. Ecology grants discretion through an approved AKART engineering analysis of treatment alternatives. If the preferred treatment alternative predicts that discharges to groundwater will result in contaminant concentrations that fall between background concentrations and the criteria, then the preferred treatment alternative should protect beneficial uses and meet the antidegradation policy. In this case, the predicted concentrations become the permit limits. If the preferred alternative will meet background contaminant concentrations, background concentrations become the permit limits. Permit limits must protect groundwater quality by preventing degradation beyond the GWQS criteria. If discharges will result in exceedance of the criteria, facilities must apply additional treatment before Ecology can permit the discharge.

#### *Non-degradation*

Non-degradation applies to permit limits in groundwater when background contaminant concentrations exceed criteria in the GWQS. Non-degradation means that discharges to groundwater must not further degrade existing water quality. In this case, Ecology considers the background concentrations as the water quality criteria and imposes the criteria as permit limits. To meet the antidegradation policy, the facility must prepare an AKART engineering analysis that demonstrates that discharges to groundwater will not result in increasing background concentrations. Ecology must review and approve the AKART engineering analysis.

You can obtain more information on antidegradation and non-degradation by referring to the *Implementation Guidance for the Ground Water Quality Standards (Implementation Guidance)*, Ecology Publication #96-02 (available at <https://fortress.wa.gov/ecy/publications/SummaryPages/9602.html>).

#### *Background Water Quality*

Background water quality is determined by a statistical calculation of contaminant concentrations without the impacts of the proposed activity. The calculation requires an adequate amount of groundwater quality data and determining the mean and standard deviation of the data, as described in the *Implementation Guidance*. Following the procedure in the *Implementation Guidance*, Ecology then defines



background water quality for most contaminants as the 95 percent upper tolerance limit. This means that Ecology is 95 percent confident that 95 percent of future measurements will be less than the upper tolerance limit. There are a few exceptions to the use of the upper tolerance limit. For pH, Ecology will calculate both an upper and a lower tolerance limit resulting in an upper and lower bound to the background water quality. If dissolved oxygen is of interest, Ecology will calculate a lower tolerance limit without an upper tolerance limit.

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 9 Groundwater Quality Criteria**

Parameter	Units	Groundwater Criteria	Background Value
Total Coliform	colonies/ 100 mL	1	Unknown
Total Dissolved Solids	mg/L	500	Unknown
Chloride	mg/L	250	Unknown
Sulfate	mg/L	250	Unknown
Nitrate (as nitrogen)	mg/L	10	Unknown
pH (Maximum / Minimum)	standard units	6.5 to 8.5	Unknown
Manganese	mg/L	0.05	Unknown
Total Iron	mg/L	0.3	Unknown

Ecology reviewed existing records for the facility's land treatment site and locations associated with the facility's single lined evaporation lagoons. After the review, Ecology is unable to determine background groundwater quality. The proposed permit includes a compliance schedule to establish the upgradient (background) quality of the groundwater. Until Ecology establishes background water quality, the facility must operate within the approved design parameters and comply with all conditions in the permit.

#### **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.

The proposed permit includes lagoon influent monitoring for the process wastewater/stormwater lagoons (Ponds 1, 3, and 4), the sanitary wastewater evaporation lagoons, and the water softener process wastewater lagoon. Monitoring related to the lagoons also includes liquid depth on a monthly basis. Monitoring for the sanitary evaporation lagoons includes sludge depth once during the five-year permit cycle.

The lagoon influent monitoring is necessary to determine how effectively the process wastewater lagoons are treating the wastewater and if the single lined lagoons leak. The monitoring requirements for lagoon process wastewater influent are typical of those found in Ecology's State Waste Discharge Permit for Land Treatment boilerplate and other similar Ecology Central Region state waste discharge permits. Total zinc and copper have been added as monitoring parameters for the process wastewater/stormwater lagoon influent due to the stormwater comingled with the process wastewater.

To date, Ecology's Central Region has not required monitoring sanitary or water softener process wastewater in evaporation lagoons at an industrial facility. Monitoring parameters for the sanitary wastewater evaporation lagoons are typical of requirements included in state waste discharge permits covering similar small municipal sanitary wastewater lagoons. Beyond the basic lagoon monitoring parameters for all of the lagoons at the facility, BOD is required for the influent to the sanitary lagoons and TDS is required for influent to the water softener process wastewater lagoon.

The proposed permit requires installation of lagoon influent monitoring points, flow meters, and lagoon depth of water measurement gauges within 1.5 years of the permit effective date. A letter report to Ecology documenting the installation and including the location and type of equipment installed is also required.

### **C. Irrigated 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.

The proposed permit includes monitoring for process wastewater treatment lagoon effluent and for supplemental irrigation water. The monitoring requirements for lagoon effluent and supplemental irrigation water are typical of those found in other Ecology State Waste Discharge Permits for Land Treatment.

The proposed permit requires monitoring points and flow meters to be installed within 1.5 years of the permit effective date. A letter report to Ecology documenting the installation and including the location and type of equipment installed is also required.

### **D. Crop monitoring**

Ecology details the proposed crop-monitoring schedule under Special Condition S2. The facility and Ecology use the crop monitoring data to develop the nutrient and salt balances that are necessary to demonstrate compliance with the agronomic rate limit in Special Condition S1.

### **E. Soil monitoring**

Ecology details the proposed soil-monitoring schedule under Special Condition S2. The facility and Ecology use the soil monitoring data to monitor and evaluate wastewater application rates and to determine if salts and nutrients are flushing through the root zone and leaching to the groundwater. The presence and concentration of certain wastewater related parameters in the soils (e.g., nitrogen and salts) can indicate over application of wastewater. The facility must follow the analytical methods provided in Soil, Plant and Water Reference Methods for the Western Region (2013).

### **G. Groundwater monitoring**

Ecology requires groundwater monitoring at the site in accordance with the Ground Water Quality Standards, chapter 173-200 WAC. Ecology has determined that this discharge has a potential to pollute the groundwater. Therefore, the Facility must evaluate the impacts on groundwater quality. Ecology considers monitoring of the

groundwater at the site boundaries and within the site an integral component of such an evaluation.

## **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. Irrigation and crop management plans**

Ecology requires the irrigation and crop management plan to support the engineering report(s) and operations and maintenance manual. This plan must include a consideration of wastewater application at agronomic rates as required by Special Condition S1 and should describe and evaluate various irrigation controls.

Plans must comply with the requirements for an irrigation and crop management plan given in Ecology's guidance, *Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems* (1993).

### **C. 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 must prepare and submit 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.

### **D. Solid waste control plan**

Columbia Crest Winery 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 develop a solid waste control plan to prevent solid waste from causing pollution of waters of the state. The facility must submit the 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>

#### **E. Engineering documents pH adjustment system**

The proposed permit requires Columbia Crest Winery to prepare and submit an approvable engineering report and plans and specifications for a pH adjustment system in accordance with WAC 173-240 to Ecology by two years from the permit effective date.

The permit requires Columbia Crest Winery to submit a letter of construction/mitigation for a pH adjustment system by three years from the permit effective date.

The permit requires Columbia Crest Winery to submit an Operations and Maintenance Manual for the pH adjustment system by three years from the permit effective date, this could include with the facility O&M manual that is due the same date.

#### **F. Engineering documents**

Ecology received an engineering report titled *Process Water Land Treatment System Engineering Report, Columbia Crest Winery, Paterson Washington*, dated December 2011, prepared by Cascade Earth Sciences. Ecology provided comments on the report on May 2, 2012 and received a response from Columbia Crest Winery on June 27, 2012. Ecology has not approved this report.

Given the length of time since the last unapproved ER submittal, the proposed permit requires Columbia Crest Winery to prepare and submit an approvable engineering report in accordance with Chapter 173-240 WAC to Ecology within two years from the permit effective date (S8. Engineering documents).

The report must contain any appropriate requirements as described in "*Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems*" (Washington State Department of Ecology, 1993).

In the event an approved Engineering Report determines that new wastewater treatment infrastructure is needed for AKART, the proposed permit requires Columbia Crest Winery to prepare and submit approvable plans and specifications to Ecology for review and approval in accordance with chapter 173-240 WAC as necessary.

Columbia Crest Winery has in-place wastewater treatment infrastructure, built without Ecology approval as required by Chapter 173-240 WAC. Therefore, the permit requires submittal of as-built engineering plans for in-place wastewater treatment infrastructure within four years after the effective date.

### **G. Non routine and unanticipated wastewater**

Occasionally, this facility may generate wastewater that was not characterized in the permit application because it is not a routine discharge and was not anticipated at the time of application. These wastes typically consist of waters used to pressure-test storage tanks or fire water systems or of leaks from drinking water systems.

The permit authorizes the discharge of non-routine and unanticipated wastewater under certain conditions. The facility must characterize these wastewaters for pollutants and examine the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and on any opportunities for reuse, Ecology may:

- Authorize the facility to discharge the wastewater.
- Require the facility to treat the wastewater.
- Require the facility to reuse the wastewater.

### **H. 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 this 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.

### **I. Groundwater quality evaluation (hydrogeologic study)**

In accordance with WAC 173-200-080, the proposed permit requires the facility to prepare and submit a hydrogeologic study of the land treatment site for Ecology review and approval. The facility must base the hydrogeologic study on soil and hydrogeologic characteristics and assess impacts on the groundwater. The study must determine whether the discharge is in hydraulic continuity with surface waters. To prepare the study, the facility must use "Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems," (Ecology 1993) and "Implementation Guidance for the Ground Water Quality Standards (Ecology, 2005).

### **J. Compliance schedule**

The proposed permit includes a compliance schedule requiring documentation of the status of permit submittals and an explanation of any missed due dates.

## **K. Best Management Practices – Land Treatment Site**

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. The list below describes best management practices applicable for land treatment sites.

The Permittee must:

1. Not allow spray irrigation practices to result in runoff of wastewater to any surface waters of the state or to any land not owned by or under its control.
2. Use recognized good practices, and all available and reasonable procedures to control odors from the land application system.
3. Implement measures to reduce odors to a reasonable minimum when notified by Ecology.
4. Not apply wastewater to the irrigation lands in quantities that would:
  - a. Significantly reduce or destroy the long-term infiltration rate of the soil.
  - b. Cause long-term anaerobic conditions in the soil.
  - c. Cause ponding of wastewater and produce objectionable odors or support insects or vectors.
  - d. Cause leaching losses of constituents of concern beyond the treatment zone or in excess of the approved design. Constituents of concern are constituents in the wastewater, partial decomposition products, or soil constituents that would alter groundwater quality in amounts that would affect current and future beneficial uses.
5. Maintain all irrigation agreements for lands not owned for the duration of the permit cycle. Any reduction in irrigation lands by termination of any irrigation agreements may result in permit modification or revocation.
6. Immediately inform Ecology in writing of any proposed changes to existing irrigation agreements.
7. Meet the leaching requirement using precipitation and/or fresh water whenever leaching is required to control soil salinity.
8. Not load BOD<sub>5</sub> to the fields in excess of 100 lbs./acre/day.
9. Not apply wastewater during the months of November to February.

## **L. 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**

Cascade Earth Sciences.

December 2011. Process Water Land Treatment System Engineering Report, Columbia Crest Winery, Paterson Washington.

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

4<sup>th</sup> edition 2013. *Soil, Plant And Water Reference Methods For The Western Region*  
<https://www.naptprogram.org/methods>

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.

<https://fortress.wa.gov/ecy/publications/SummaryPages/9602.html>

December 2011. *Permit Writer's Manual*, Publication Number 92-109

(<https://fortress.wa.gov/ecy/publications/SummaryPages/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;

<https://fortress.wa.gov/ecy/publications/SummaryPages/0410081.html>



## **Appendix A—Public Involvement Information**

Ecology proposes to issue a permit to Ste. Michelle Wine Estates Columbia Crest Winery. 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 **October 1, and October 15, 2024 in 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.

Fact Sheet for State Permit ST0009276  
Effective Date:  
Ste. Michelle Wine Estates Columbia Crest Winery  
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PUBLIC NOTICE:

DRAFT

Fact Sheet for State Permit ST0009276  
Effective Date:  
Ste. Michelle Wine Estates Columbia Crest Winery  
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NOTICE: ANNOUNCEMENT OF AVAILABILITY OF DRAFT PERMIT

PERMIT NO.:ST0009276

APPLICANT: Ste Michelle Wine Estates Columbia Crest Winery

FACILITY: Ste Michelle Wine Estates Columbia Crest Winery  
221 Columbia Crest Drive  
Paterson, WA 99345

Ste Michelle Wine Estates Columbia Crest Winery has applied for a State Waste Discharge permit in accordance with the provisions of Chapter 90.48 Revised Code of Washington (RCW) and Chapter 173-216 Washington Administrative Code (WAC).

Following evaluation of the application and other available information, a draft permit has been developed which would allow the discharge of process wastewater to designated lagoons and the land treatment site via spray irrigation from its facility located at 221 Columbia Crest Drive. 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 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 draft permit and fact sheet may be viewed at the Department of Ecology (Department) website: <https://apps.ecology.wa.gov/paris/PermitVersionDocuments.aspx?PermitId=894812>. The application, fact sheet, proposed permit, and other related documents are also available at the Department's Central Regional Office for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m., weekdays. To obtain a copy or to arrange to view copies at the Central Regional Office, please e-mail [publicrecordsofficer@ecy.wa.gov](mailto:publicrecordsofficer@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 within 30 days after publication of this notice to be considered for the final determination.

Submit comments online at <https://wq.ecology.commentinput.com?id=aAYrSVWCT>. Written comments should be sent to: Water Quality Permit Coordinator, Department of Ecology, Central Regional Office, 1250 West Alder Street, Union Gap, WA 98903-0009.

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. The Department 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.

Please bring this public notice to the attention of persons who you know would be interested in this matter. The Department is an equal opportunity agency. If you need this publication in an alternate format, please contact us at (509) 575-2490 or TTY (for the speech and hearing impaired) at 711 or 1-800-833-6388.

Publication date of this Notice is **October 1, 2024** and **October 15, 2024**.

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

You may obtain further information from Ecology by telephone, (509) 575-2490 or by writing to the address listed below.

Water Quality Permit Coordinator  
Department of Ecology  
Central Regional Office  
1250 West Alder Street  
Union Gap, WA 98903

The primary author of this permit and fact sheet is Matthew Durkee, LHG.

## Appendix B—Your Right to Appeal

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

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

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

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

### ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
<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 301 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 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 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.

**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 stormwater and, also, leachate from solid waste facilities.

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

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

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

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

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

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

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

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

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

**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.

**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).

**Sample Maximum** -- No sample may exceed this value.

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

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority\* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement [in accordance with 40 CFR 403.8(f)(6)].

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

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

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

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

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

**Soluble BOD<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 um 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 stormwater drainage system into a defined surface water body, or a constructed infiltration facility.

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

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

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

**Total 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.

**Work Plan (Hydrogeologic Study)** -- A document prepared in preparation of a groundwater monitoring study that includes installation of new monitoring wells and/or groundwater monitoring. The document contains background information including existing wells and data, a plan for installation of new monitoring wells (if applicable), a sampling and analysis plan, and a health and safety plan.

## Appendix D—2014-2018 Discharge Monitoring Report (DMR) Data Summary

### Discharge Monitoring Report (DMR) Wastewater Data 2014-2018

Department Of Ecology : DMR Data Analysis Report Ste Michelle Wine Estates Columbia Facility Name : Crest Winery Permit Number : ST0009276 Begin Date : 1/1/2014 End Date : 12/31/2019 Parameters : All Parameters Printed : 2/8/2019 17:14			
Parameter	Flow	Flow	Flow
Units	Gallons/Day (gpd)	Gallons/Day (gpd)	Gallons/Day (gpd)
Statistical Base	Average	Maximum	Monthly Total
Limits	- / -	- / -	- / -
Benchmarks	- / -	- / -	- / -
Design Limit			
Date	Value	Value	Value
1/1/2014	107596	216584	3335470
2/1/2014	113318	273533	3172910
3/1/2014	123004	177706	3813130
4/1/2014	130792	225511	3923760
5/1/2014	110492	157550	3093800
6/1/2014	128119	168926	2305910
7/1/2014	132921	172714	4120560
8/1/2014	130705	330075	4051870
9/1/2014	152151	199145	4564530
10/1/2014	184780	268308	5728180
11/1/2014	130026	260205	3900780
12/1/2014	96710.6	168320	2998030
1/1/2015	101648	164478	3151100
2/1/2015	112772	254624	3157630
3/1/2015	123540	221924	3829740
4/1/2015	102600	209179	3078010
5/1/2015	108379	704733	3359740
6/1/2015	144640	205977	4339200



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Parameter	Flow	Flow	Flow
Units	Gallons/Day (gpd)	Gallons/Day (gpd)	Gallons/Day (gpd)
Statistical Base	Average	Maximum	Monthly Total
Limits	- / -	- / -	- / -
Benchmarks	- / -	- / -	- / -
Design Limit			
Date	Value	Value	Value
7/1/2015	142688	190049	4423330
8/1/2015	140562	195337	4357410
9/1/2015	160322	234882	4809650
10/1/2015	147571	215320	4574690
11/1/2015	94999.8	351234	2849990
12/1/2015	82581.1	225185	2560010
1/1/2016	85471.6	255577	2649620
2/1/2016	72533.7	134167	2103480
3/1/2016	81859.2	144133	2537640
4/1/2016	68800.3	128153	2064010
5/1/2016	69721.6	182505	2161370
6/1/2016	66135.7	144479	1984070
7/1/2016	60193.2	142355	1865990
8/1/2016	83856.3	146178	2599550
9/1/2016	140017	340184	4200500
10/1/2016	150446	257881	4663830
11/1/2016	111005	192698	3330160
12/1/2016	81241.8	253909	2518500
1/1/2017	82564.6	198311	2559500
2/1/2017	113954	258350	3190710
3/1/2017	78842.8	189041	2444130
4/1/2017	60958.9	180611	1828770
5/1/2017	79186.5	167694	2454780
6/1/2017	92849.7	141533	2785490
7/1/2017	116189	238100	3601860
8/1/2017	126855	294700	3932500
9/1/2017	155127	279200	4653800
10/1/2017	139239	296114	4316400

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Parameter	Flow	Flow	Flow
Units	Gallons/Day (gpd)	Gallons/Day (gpd)	Gallons/Day (gpd)
Statistical Base	Average	Maximum	Monthly Total
Limits	- / -	- / -	- / -
Benchmarks	- / -	- / -	- / -
Design Limit			
Date	Value	Value	Value
11/1/2017	125275	296047	3758260
12/1/2017	92480.8	176094	2866900
1/1/2018	92907	223924	2880120
2/1/2018	81510.7	175600	2282300
3/1/2018	80547.4	167348	2496970
4/1/2018	100878	255221	3026350
5/1/2018	99263.6	199368	3077170
6/1/2018	102834	181126	3085020
7/1/2018	97678	188343	3028020
8/1/2018	116434	330061	3609440
9/1/2018	131297	216550	3938910
10/1/2018	160218	315149	4966770
11/1/2018	106850	211271	3205510
12/1/2018	72961.9	191706	2261820
Min	60193.2	128153	1828770
Max	184780	704733	5728180
Average	109685.0133	224753	3307161
Median	107987.5	207578	3154365
95th Percentile	155381.55	330580.45	4671121

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Parameter	pH	pH	TSS	TSS	Total BOD5	Total BOD5
Units	Standard Units	Standard Units	Lbs/Month	mg/L	Lbs/Month	mg/L
Statistical Base	Maximum	Minimum	Monthly Total	Maximum	Monthly Total	Maximum
Limits	- / -	- / -	- / -	- / -	- / -	- / -
Benchmarks	- / -	- / -	- / -	- / -	- / -	- / -
Design Limit						
Date	Value	Value	Value	Value	Value	Value
1/1/2014	6.7	4.29	20407.7	733	127987	4597
2/1/2014	6.74	6.3	3625.3	137	46573.3	1760
3/1/2014	6.7	6.62	117.72	140	2606.65	3100
4/1/2014	6.59	6.1	4025.07	123	48759	1490
5/1/2014	6.5	6.06	3973.55	154	67086	2600
6/1/2014	7.3	6.77	2769.58	144	35966.1	1870
7/1/2014	6.87	6.87	17182.7	500	109969	3200
8/1/2014	8.7	8.4	39199.4	1160	23654.8	700
9/1/2014	7.82	6.7	60909.1	1600	43778.4	1150
10/1/2014	6.1	5.96	58760.8	1230	119433	2500
11/1/2014	5.2	4.77	7645.14	235	139890	4300
12/1/2014	6.73	5.8	5175.74	207	53257.6	2130
1/1/2015	7.1	6.19	4888.11	186	31799	1210
2/1/2015	6.2	5.58	3265.49	124	48982.4	1860
3/1/2015	6.8	5.39	9965.28	312	130954	4100
4/1/2015	7.61	6.9	18226	710	42357	1650
5/1/2015	7.2	7.05	2858	102	29701	1060
6/1/2015	7.8	7.37	52835.9	1460	34379.5	950
7/1/2015	8.8	7.22	16231.9	440	99604.6	2700
8/1/2015	7.4	5.82	42882.1	1180	74862	2060
9/1/2015	5.42	5.4	17649	440	160450	4000
10/1/2015	8.2	7.35	23273.3	610	77831.9	2040
11/1/2015	7.3	6.75	116468	4900	270966	11400
12/1/2015	6.9	5.95	17294	810	53376	2500
1/1/2016	4.98	4.85	3093.69	140	83971.7	3800
2/1/2016	8.6	5.8	5842	333	56313	3210
3/1/2016	6.1	5.3	9312.11	440	56930.8	2690
4/1/2016	6.5	6.43	13599	790	86069	5000

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Parameter	pH	pH	TSS	TSS	Total BOD5	Total BOD5
Units	Standard Units	Standard Units	Lbs/Month	mg/L	Lbs/Month	mg/L
Statistical Base	Maximum	Minimum	Monthly Total	Maximum	Monthly Total	Maximum
Limits	- / -	- / -	- / -	- / -	- / -	- / -
Benchmarks	- / -	- / -	- / -	- / -	- / -	- / -
Design Limit						
Date	Value	Value	Value	Value	Value	Value
5/1/2016	8.01	7.9	14781.2	820	13339.1	740
6/1/2016	6.53	6.2	24489.8	1480	46332	2800
7/1/2016	6.5	6.42	2269.62	2120	5352.87	5000
8/1/2016	6	5.4	13224.9	610	221138	10200
9/1/2016	5.27	5.2	33981.2	970	220703	6300
10/1/2016	5.9	4.3	21704.2	558	283943	7300
11/1/2016	5.5	4.87	326.8	353	5184.4	5600
12/1/2016						
1/1/2017						
2/1/2017	7.1	5.24	3353	126	103781	3900
3/1/2017	6.7	5.13	21199.4	1040	40768.1	2000
4/1/2017	5.46	5.27	2974	195	36605	2400
5/1/2017	5.63	5.4	4422.14	216	53229.4	2600
6/1/2017	7.9	6.27	3972.5	171	76662.3	3300
7/1/2017	7.3	6.8	301.43	196	6305.37	4100
8/1/2017	7.62	6.8	7215.35	220	68873.8	2100
9/1/2017	4.83	4.8	6986.28	180	120319	3100
10/1/2017	4.89	4.66	8819.7	245	208793	5800
11/1/2017	6.4	5.3	1849.29	59	106569	3400
12/1/2017	6.7	5.34	103.61	84	9374.63	7600
1/1/2018	7.8	5.82	65.38	188	2295.41	6600
2/1/2018	5.3	5.04	499.12	377	5030.88	3800
3/1/2018	7.3	5	8184.12	393	81216.5	3900
4/1/2018	5.3	4.9	6814.73	270	60575.4	2400
5/1/2018	5.94	5.78	55.94	250	537.07	2400
6/1/2018	7.64	7.53	35763	1390	61750	2400

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Parameter	pH	pH	TSS	TSS	Total BOD5	Total BOD5
Units	Standard Units	Standard Units	Lbs/Month	mg/L	Lbs/Month	mg/L
Statistical Base	Maximum	Minimum	Monthly Total	Maximum	Monthly Total	Maximum
Limits	- / -	- / -	- / -	- / -	- / -	- / -
Benchmarks	- / -	- / -	- / -	- / -	- / -	- / -
Design Limit						
Date	Value	Value	Value	Value	Value	Value
7/1/2018	6.9	5.7	6818.49	270	77730.8	3078
8/1/2018	9.1	8.6	304.75	1300	193.63	826
9/1/2018	5.4	5	141257	4300	238298	7254
10/1/2018	5.1	4.6	19883	480	305411	7373
11/1/2018	5.2	4.7	136343	5100	126478	4731
12/1/2018	6.1	4.3	24522.7	1300	121915	6463
Min	4.83	4.29	55.94	59	193.63	700
Max	9.1	8.6	141257	5100	305411	11400
Average	6.658275862	5.901034483	19551.05741	768.982759	83900.23121	3605.034483
Median	6.7	5.8	7914.63	385	61162.7	3089
95th Percentile	8.615	7.5855	69242.935	2447	243198.2	7407.05

## **Appendix E—Response to Comments**

[Ecology will complete this section after the public notice of draft period.]

DRAFT