

Fact Sheet for State Waste Discharge Permit ST0501278

Iron Horse Brewery

September 26, 2019

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 Iron Horse Brewery, Inc. that will allow discharge of wastewater to the City of Ellensburg Publicly-Owned Treatment Works (POTW).

State law requires any commercial or industrial facility to obtain a permit before discharging waste or chemicals to municipal sanitary sewer collection and treatment systems.

Ecology makes the draft permit and fact sheet available for public review and comment at least thirty (30) days before it issues the final permit to the facility operator. Copies of the fact sheet and draft permit for Iron Horse Brewery's State Waste Discharge permit are available for public review and comment from August 15, 2019 until the close of business September 15, 2019. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement Information**.

Iron Horse Brewery reviewed the draft permit and fact sheet for factual accuracy. Ecology corrected any errors or omissions about the facility's location, history, product type, production rate, or discharges 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

This facility is located east of downtown Ellensburg on the outskirts of the city. Iron Horse discharges wastewater from brewing activities to the City of Ellensburg POTW. Iron Horse submitted a permit application on November 19, 2013, which was accepted as complete on December 6, 2013. A temporary permit became effective for the facility on February 6, 2014. Ecology received a permit renewal application on January 5, 2018. Ecology reviewed the application and returned it to the permittee for revision. Ecology received an updated application on January 31, 2018 and accepted it on

February 1, 2018. Iron Horse signed an industrial user contract with the City of Ellensburg on December 1, 2013. This agreement was updated on August 29, 2016 and again on December 1, 2018.

Iron Horse estimates it will process 1,400 tons of cereal grain, 13 tons of hops, and 500 lbs. of yeast per year. They estimate their daily water consumption will be 10,750 gallons. Estimated production of beer for the facility is 90,000 gallons a month.

Ecology based the limits in the proposed permit on the current industrial user contract Iron Horse has with the City of Ellensburg. Local limits contain surcharges for discharges above a set limit value, but do not affect the overall treatment capability of the Ellensburg treatment plant. Ecology will reevaluate the limits enforceable by Ecology at the end of the proposed permit cycle in.

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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)
- 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. This rule includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. They also help define the basis for limits on each discharge and for other performance requirements imposed by the permit.

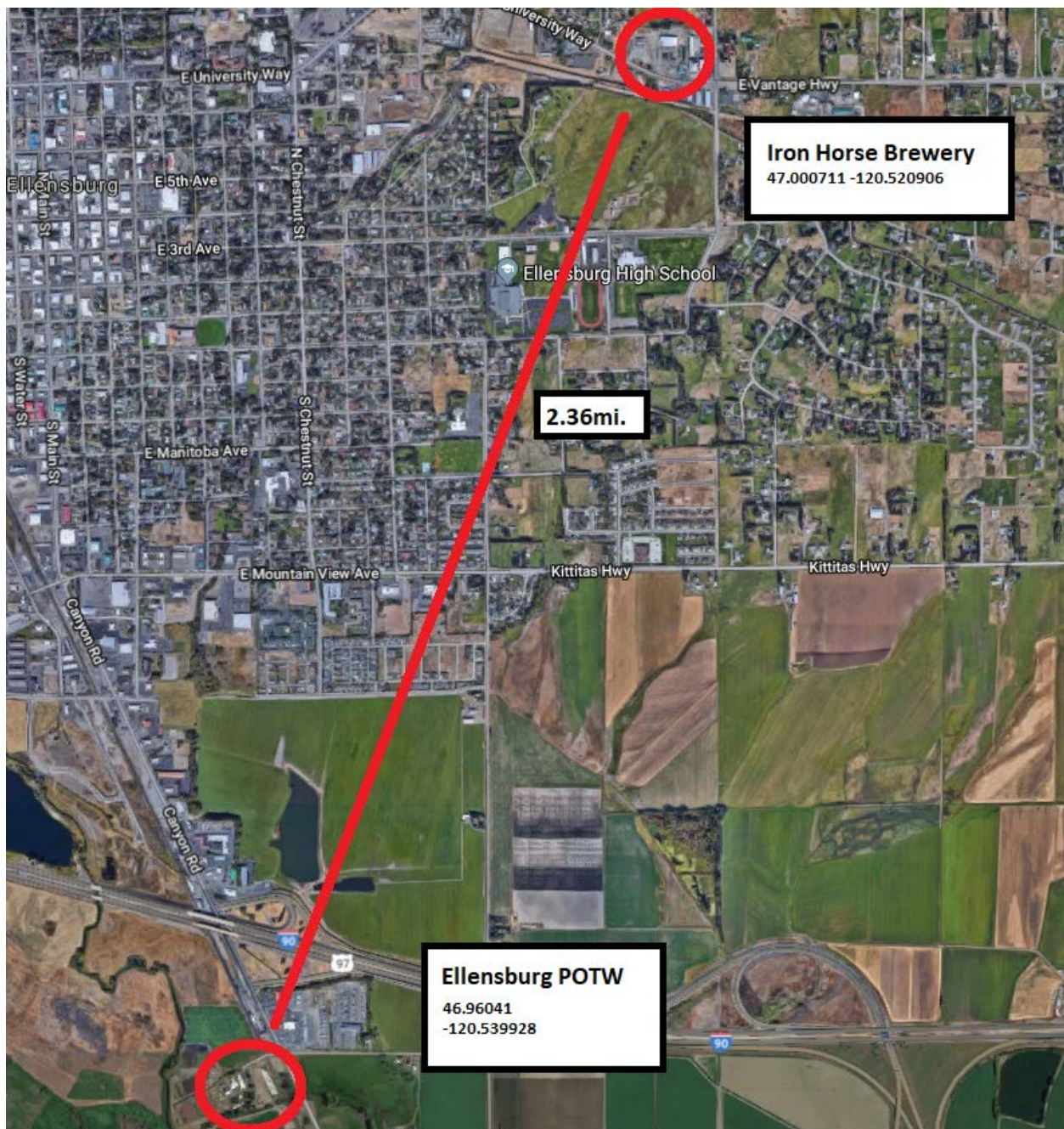
Under the State Waste Discharge permit program and in response to a complete and accepted permit application, Ecology generally prepares a draft permit and accompanying fact sheet, and makes it available for public review before final issuance. If the volume of the discharge has not changed or if the 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	Iron Horse Brewery, Inc.
Facility Name and Address	Iron Horse Brewery 1621 Vantage Highway Ellensburg, WA 98926
Contact at Facility	Name: Tyson Read Telephone #: 509-899-3241
Responsible Official	Name: Greg Parker Title: Vice President Address: 1621 Vantage Highway, Ellensburg, WA 98926 Telephone #: 509-607-0545
Industrial User Type	Other Significant Industrial User
Industry Type	Brewery
Categorical Industry:	40 CFR Part 403.5 Pretreatment
Type of Treatment by Industry	pH neutralization
SIC Codes	2082
NAIC Codes	312120
Facility Location (NAD83/WGS84 reference datum)	Latitude: 47.000731 Longitude: -120.520325
Treatment Plant Receiving Discharge	Ellensburg Publically Owned Treatment Works (POTW)
Discharge Location (NAD83/WGS84 reference datum)	Latitude: 47.000693 Longitude: -120.520789
Permit Status	
Issuance Date of Temporary Permit	February 6, 2014
Application for Permit Renewal Submittal Date	January 31, 2018
Date of Ecology Acceptance of Application	February 1, 2018
Inspection Status	
Date of Last Non-sampling Inspection Date	May 28, 2019

Figure 1 Facility Location Map



A. Facility description

History

Iron Horse moved to the current facility in 2014. Previous to this they had a production facility to the west of downtown Ellensburg. Annual production at Iron Horse has increased each year up to the current total of 25,000 barrels (bbls) or 775,000 gallons. In 2017, Iron Horse was the fifth largest producer of beer in Washington State.

Iron Horse submitted a permit application on November 19, 2013, which was accepted as complete on December 6, 2013. A temporary permit became effective for the facility on February 6, 2014. Ecology received a permit renewal application on January 5, 2018. It was reviewed and returned to the permittee for revision. Ecology accepted the updated application on February 1, 2018.

Industrial process(s)

Iron Horse estimates that its annual usage of raw materials will be 1,400 tons of grain, 13 tons of hops, and 500 lbs. of yeast. The estimated monthly maximum production volume is 90,000 gallons of beer.

Wastewater pretreatment

Brewery wastewater is collected by a series of floor drains and transferred to a sump on the south side of the building. A lift station transfers the wastewater to a 6,000 gallon holding tank on the west side of the building where pH neutralization occurs. The pH neutralization system, installed in 2017, uses sulfuric acid and (initially) sodium hydroxide. In March of 2018, the sodium hydroxide was replaced with a less caustic magnesium hydroxide. Discharges from the holding tank are automated and set to discharge approximately 1500 gallons at a time. TSS, BOD, pH, and flow are all measured after pH neutralization.

Solid wastes

Solid wastes produced in the brewing process are side streamed to a 6,000 gallon holding tank on the north side of the building. These wastes include yeast slurry, tank trub, and solids removed from the centrifuge. Wastes are primarily generated through the cleaning of equipment. Spent grain is transported to a silo on the north side of the building and dumped into awaiting trucks. These solid wastes are transported to a beneficial use facility where they are land applied.

B. Discharge to the City of Ellensburg POTW

The physical address of the Ellensburg POTW is 2415 Canyon Rd, Ellensburg, WA 98926. The Ellensburg POTW discharges to the Yakima River.

C. Wastewater characterization

Iron Horse Brewery reported the concentration of pollutants in the permit application and in discharge monitoring reports. The tabulated data represents the quality of the effluent discharged from January 2015 to December 2018. An effluent characterization follows:

Table 2 Wastewater Characterization January 2015 to December 2018

Parameter	Units	# of Samples	Average Value	Maximum Value
Biochemical Oxygen Demand (BOD ₅)	mg/L	102	10,655	27,900
Total Suspended Solids (TSS)	mg/L	99	1,516	10,600
Flow	Gallons per day	1,331	2,987	14,676
Parameter	Units	# of Samples	Minimum Value	Maximum Value
pH	Standard Units	52	5.7	11.5

Figure 2 Average Monthly Flow; Years 2015-2018 (gallons per day)

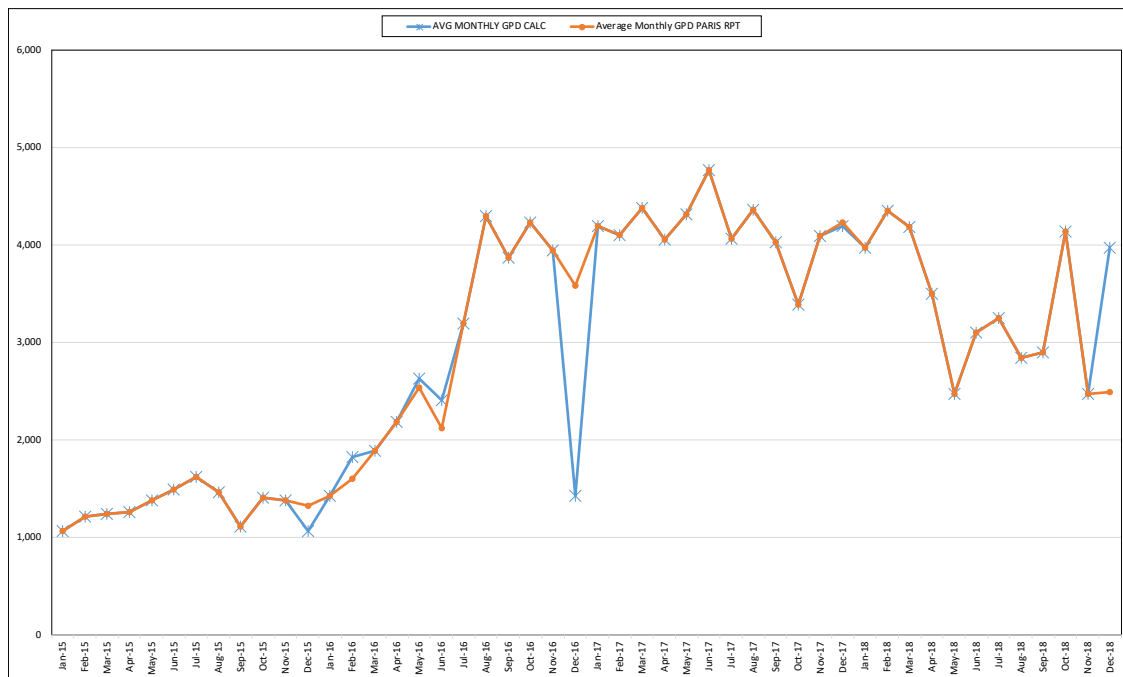


Table 3 Iron Horse Brewery total yearly wastewater production:

YEAR	Total annual gallons wastewater discharged
2016	1,046,996
2017	1,362,875
2018	1,151,030

D. Summary of contract exceedances

The following table summarizes the contract exceedances that occurred since application acceptance and temporary permit.

Table 4 Contract Exceedances

DATE	Parameter	Unit	DMR Value	Contract Limit
4/1/2014	pH	Standard Units	3.9	5.5
4/1/2014	pH	Standard Units	12.6	9
3/1/2014	pH	Standard Units	12.1	9
3/1/2014	pH	Standard Units	4.0	5.5
5/1/2014	pH	Standard Units	4.5	5.5
5/1/2014	pH	Standard Units	12.7	9
6/1/2014	pH	Standard Units	3.8	5.5
6/1/2014	pH	Standard Units	9.9	9
7/1/2014	pH	Standard Units	13.5	9
7/1/2014	pH	Standard Units	5	5.5
7/1/2016	Flow	Gallons/Day	3,191	3,000
7/1/2016	Flow	Gallons/Day	5,600	5,000
8/1/2016	Flow	Gallons/Day	4,293	3,000
8/1/2016	Flow	Gallons/Day	7,700	5,000
9/1/2016	Flow	Gallons/Day	3,872	3,000
9/1/2016	Flow	Gallons/Day	7,800	5,000
10/1/2016	Flow	Gallons/Day	4,228	3,000
10/1/2016	Flow	Gallons/Day	8,900	5,000
5/1/2017	pH	Standard Units	9.1	9
7/1/2017	pH	Standard Units	10	9
8/1/2017	pH	Standard Units	11.5	9
11/1/2017	pH	Standard Units	11	9
12/1/2017	Flow	Gallons/Day	14,676	10,000

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

Table 5 Permit Submittals

Submittal Name	Submittal Status	Due Date	Received Date
Industrial User Contract	Received		1/19/2013
DMR Signatory Requirements	Received		3/11/2014
Updated Industrial User Contract	Received		12/1/2018
Application for Permit Renewal	Received	1/31/2018	1/5/2018

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 available to treat specific pollutants (technology-based). Technology-based limits are set by the EPA and published as a regulation (40 CFR 400 - 471), or Ecology develops limits on a case-by-case basis (40 CFR 125.3, and RCW 90.48). Dischargers must treat wastewater using all known, available, reasonable methods of prevention, control, and treatment (AKART).
- Effects of the pollutants on the publicly-owned treatment works (POTW). Wastewater must not interfere with the operation of the POTW. Ecology considers local limits in developing permit limits.
- Applicable requirements of other local, state and federal laws.

Ecology applies the most stringent of these 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, etc.). Ecology evaluated the permit application and determined the limits needed to comply with the rules adopted by the state of Washington. Ecology does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, 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 discharge of pollutants, a permitted facility could be violating its permit.

A. Technology-based effluent limits

Waste discharge permits issued by Ecology specify conditions requiring all available and reasonable methods of prevention, control, and treatment (AKART) of discharges to waters of the state (RCW 90.48).

The state waste discharge permit regulations include restrictions and prohibitions to protect publicly-owned sewerage systems. A facility may not discharge any wastewater having a pH less than 5.0 or greater than 11.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment, or personnel unless the:

- System is specifically designed to accommodate such discharge.
- Discharge is authorized by a permit (WAC 173-216-060).

Federal regulations (40 CFR 403.5b) also prohibits the discharge of pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the collection and treatment system is designed to accommodate such discharges.

B. Effluent limits based on local limits

To protect Ellensburg POTW from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, Ecology believes it necessary to impose limits for certain parameters. Ecology based these limits on local limits established by Ellensburg POTW and codified in ordinance. Ecology's pretreatment program delegation agreement with EPA includes language in which Ecology agreed to enforce limits adopted by non-delegated programs (local limits). Applicable limits for Iron Horse are included in Appendix B of the permit and Appendix D of this Fact Sheet. The most recent Industrial User Contract between the city of Ellensburg and Iron Horse was finalized on December 1, 2018. The Industrial Use Contract may be revised in the five year permit period, and if that is the case, the permit limits based on the Industrial User Contract will be revised in a modified permit Appendix B. Pollutant concentrations in the proposed discharge with technology-based controls in place will not cause problems at the receiving POTW such as interference, pass-through or hazardous exposure conditions to POTW workers nor will it result in unacceptable pollutant levels in the POTW's sludge/biosolids.

IV. Monitoring Requirements

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

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). Iron Horse Brewery currently utilizes Cascade Analytical for their effluent testing. Ecology has accredited this laboratory.

B. Wastewater monitoring

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

V. Other Permit Conditions

A. Reporting and recordkeeping

Ecology based Special Condition S3 on its authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges
[WAC 173-216-110 and CFR 403.12 (e),(g), and (h)].

B. Operations and maintenance

Ecology requires dischargers to take all reasonable steps to properly operate and maintain their wastewater treatment system in accordance with state regulations (WAC 173-240-080 and WAC 173-216-110). The facility must prepare and submit an updated operation and maintenance (O&M) manual as required by state regulation (WAC 173-240-150). Implementation of the procedures in the operation and maintenance manual ensures the facility's compliance with the terms and limits in the permit.

C. Prohibited discharges

Ecology prohibits discharge of certain pollutants to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (chapter 173-303 WAC).

D. Dilution prohibited

Ecology prohibits the facility from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limits.

E. Solid waste control plan

Iron Horse Brewery 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. Iron Horse must submit the plan to Ecology for approval (RCW 90.48.080).

This proposed permit requires this facility to update the approved solid waste control plan designed to prevent solid waste from causing pollution of waters of the state. Iron Horse must submit the updated plan to Ecology for approval (RCW 90.48.080).

F. Non routine and unanticipated wastewater

Occasionally, this facility may generate wastewater not characterized in the permit application because it is not a routine discharge and the facility did not anticipate it 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 water.
- Require the facility to treat the wastewater.
- Require the facility to reuse the wastewater.

G. Spill plan

This facility stores a quantity of chemicals on-site that have the potential to cause water pollution and/or interference or pass through at the receiving POTW 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.

H. Slug discharge plan

Ecology determined that Iron Horse has the potential for a batch discharge or a spill that could adversely affect the treatment plant, therefore the proposed permit requires a slug discharge control plan [(40 CFR 403.8 (f)(I) (iii)(B)(6) and (f) (2)(vi)].

I. General conditions

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

VI. Public Notification of Noncompliance

Ecology may annually publish a list of all industrial users in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters in a local newspaper. Accordingly, this permit Special Condition informs the Facility that noncompliance with this permit may result in publication of the noncompliance.

VII. Permit Issuance Procedures

A. Permit modifications

Ecology may modify this permit to impose or change the numerical limits, if necessary to comply with changes in the pretreatment requirements. Changes to conditions in local sewer ordinances, new information from sources such as

inspections and effluent monitoring are other causes for modification. Ecology may also modify this permit to comply with new or amended state or federal regulations.

B. Proposed permit issuance

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limits and conditions believed necessary to control toxics. Ecology proposes that the permit be issued for 5 years.

VIII. References for Text and Appendices

Washington State Department of Ecology.

Laws and Regulations(<https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking>)

Permit and Wastewater Related Information (<https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance>)

January 2015 *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.
(<https://fortress.wa.gov/ecy/publications/SummaryPages/0710024.html>)

Appendix A—Public Involvement Information

Ecology proposes to issue a permit to Iron Horse Brewery, Inc. 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 August 15, 2019 in the Ellensburg Daily Record to inform the public and to invite comment on the proposed draft State Waste Discharge permit and fact sheet.

The notice:

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

NOTICE: ANNOUNCEMENT OF AVAILABILITY OF DRAFT PERMIT
PERMIT NO.: ST0501278
APPLICANT: IRON HORSE BREWERY, INC.
1621 VANTAGE HWY
ELLENSBURG, WA 98926

Iron Horse Brewery, Inc. 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 brewery activity wastewater to the City of Ellensburg POTW from its facility located at 1621 Vantage Hwy, Ellensburg. 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

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The draft permit and fact sheet may be viewed at the Department of Ecology (Department) website:

<https://apps.ecology.wa.gov/paris/DocumentSearch.aspx?PermitNumber=ST0501278&FacilityName=&City=&County=&Region=0&PermitType=0&DocumentType=0> . 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 call Jackie Cameron at (509) 575-2027, e-mail jackie.cameron@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. Comments should be sent to: Cynthia Huwe, WQ Permit Coordinator, Department of Ecology, Central Regional Office, 1250 West Alder Street, Union Gap, WA 98903-0009.

Submit comments online at <http://ws.ecology.commentinput.com/?id=JhARc>:

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 August 15, 2019.

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, 509/457-7105 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 98903-0009

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The primary author of this permit and fact sheet is Caleb Bos.

Appendix B—Your Right to Appeal

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

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

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

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

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel RD SW STE 301 Tumwater, WA 98501	Pollution Control Hearings Board 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.

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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 months' 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.

BOD₅ -- Determining the five-day Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in receiving waters after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD₅ 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.

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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.

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

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

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

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

Method detection level (MDL) -- See 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.

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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 BOD₅ -- 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 BOD₅ 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 BOD₅ 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.

Appendix D—User Contract

CITY OF ELLENSBURG INDUSTRIAL WASTEWATER DISCHARGE AGREEMENT

In accordance with the provisions of city of Ellensburg City Code chapter 9.25.370

Iron Horse Brewery
1621 Vantage Highway
Ellensburg, WA 98926

Is hereby authorized to discharge industrial wastewater from the brewing activities at the above identified facility and through the discharge point identified herein in this agreement. Compliance with this agreement does not relieve Iron Horse Brewery of its obligation to comply with any applicable pretreatment regulations, standards, or requirements under local, state, and federal laws, including any such regulations, standards, or laws, that may become effective during the terms of this agreement.

Non-compliance with any term or condition of this agreement shall constitute a violation of the Ellensburg City Code, Section 9.25.370. All terms and definitions are the same as those found in Chapter 9.25 of the Ellensburg City Code. This agreement incorporates by reference all of the applicable provisions of the Ellensburg City Code, including but not limited to Section 9.25.370.

This agreement shall become effective on December 1, 2018, and shall expire on November 30, 2023, unless modified or terminated earlier.

Iron Horse Brewery and the City of Ellensburg will re-negotiate this agreement 90 days prior to expiration.

Authorization to Discharge
Capacity Limit

December 1, 2018 – November 30, 2023

In accordance with the provisions of City of Ellensburg City Code 9.25.370 PRETREATMENT OF SEWAGE

Industry name and site location: Iron Horse Brewery
Mailing Address: 1621 Vantage Highway
Ellensburg, WA 98926

is hereby authorized to discharge wastewater from the above-identified facility into the City of Ellensburg's collection system in accordance with the capacity limitations as set forth in this authorization.

Brewing Wastewater:

Iron Horse Brewery will be allowed to discharge the following:

Maximum Daily Discharge Limitations

Total BOD = 25,000 mg/l
TSS = 8,000 mg/l
Flow = 13,000 gallons/day
pH = > 5.5 and < 9.0

Average Monthly Discharge Limitations

Total BOD = 19,000 mg/l
TSS = 5,000 mg/l
Flow = 8,000 gallons/day
pH = > 5.5 and < 9.0

Iron Horse Brewery is strongly advised to limit their yeast discharge as this has a detrimental effect on the treatment plant bacteria.

Sampling and testing will be performed by Iron Horse Brewery consisting of Total BOD mg/L, TSS mg/L, and pH every two weeks. Flow and pH measurement will be taken daily. Sampling and testing schedules pertain to when Iron Horse Brewery is discharging to the City sewer.

All sample analysis for BOD and TSS will be performed by a Department of Ecology accredited Laboratory. Iron Horse Brewery personnel will perform the analysis for pH, and make any necessary adjustments to pH levels prior to discharge into the City sewer system. pH samples will be grab samples.

Composite samples will be taken by the City to randomly perform BOD, TSS, and pH in the Ellensburg wastewater laboratory. Random testing will be done at the City's expense. Discharges in excess of the above limitations will be reported to Iron Horse Brewery and the Department of Ecology.

Strength fees will be determined from tests performed by Iron Horse Brewery and the City of Ellensburg.

If at any time Iron Horse Brewery exceeds the limits, Iron Horse Brewery must apply for additional capacity at the City's WWTP if it is available, and is responsible for all costs involved.

This charge would be in addition to any **strong waste surcharge** applied to wastewater with a BOD and/or TSS concentration greater than 200 and 250 mg/L respectively.

All discharges authorized will be consistent with the terms and conditions of this agreement. The discharge of the listed pollutants at a level in excess of that authorized will constitute a violation if additional capacity is not applied for by Iron Horse Brewery upon notification by the City, and authorized by the City.

If additional capacity is not available to be allocated, Iron Horse Brewery must modify its process to accommodate the discharge capacity limits as outlined by this Agreement to Discharge.

Either party may request an amendment to this agreement due to changing circumstances. Requests for changes must be submitted in writing, a minimum of thirty days prior to any renegotiation.

All monitoring records will be maintained for a minimum of 3 years.

Iron Horse Brewery will allow the City of Ellensburg Representative to enter and inspect Iron Horse Brewery premises where a regulated facility or activity is located or conducted. The City representative will be allowed access to and copy, at reasonable time, any records that must be kept as conditions of this agreement. The City may split samples or set a city sampler to compare sampling results.

The City may seek any or all of the remedies or penalties provided in the Ellensburg City Code, including recovery costs incurred by the City, in response to a violation of this agreement by Iron Horse Brewery.

Process discharge will enter into the City of Ellensburg's collection system through manhole number 68-172 only.

This authorization shall become effective upon issuance of a State discharge permit to Iron Horse Brewery from the Department of Ecology, and will remain effective until November 30, 2023, unless changes in the process or changes in the characteristics of the wastewater occur upon which either party may request amendment in accordance with the above provisions.

November 1, 2019

Iron Horse Brewery

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By:

CITY OF ELLENSBURG

APPROVED AS TO FORM:



RYAN LYYSKI, PUBLIC WORKS AND
UTILITIES DIRECTOR



TERRY WEINER, CITY ATTORNEY

COMPANY


GREG PARKER
TITLE: GENERAL MANAGER

Issued: December 1, 2018

Appendix E—Response to Comments

No comments were received by Ecology during the Public Comment period.