Fact Sheet

The U.S. Environmental Protection Agency (EPA)
Proposes to Reissue a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) to:

City of Juliaetta
Wastewater Treatment Plant

Public Comment Start Date: April 19, 2018
Public Comment Expiration Date: May 21, 2018

Technical Contact: Brian Nickel
206-553-6251
800-424-4372, ext. 6251 (within Alaska, Idaho, Oregon, and Washington)
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The EPA Proposes to Reissue the NPDES Permit
The EPA proposes to reissue the NPDES permit for the facility referenced above. The draft permit places conditions on the discharge of pollutants from the wastewater treatment facility to waters of the United States. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from the facility.

This fact sheet includes:
- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations and other conditions for the facility
- a map and description of the discharge location
- technical material supporting the conditions in the permit

State Certification
Upon the EPA's request, the Idaho Department of Environmental Quality (IDEQ) has provided a draft certification of the permit for this facility under Section 401 of the Clean Water Act. Comments regarding the certification should be directed to:

Idaho Department of Environmental Quality
Lewiston Regional Office
Attn: Surface Water Manager
1118 F Street
Lewiston, Idaho 83501

Public Comment
Persons wishing to comment on, or request a Public Hearing for the draft permit for this facility may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to the EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, the EPA's regional Director for the Office of Water and Watersheds will make a final decision regarding permit issuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If substantive comments are received, the EPA will address the comments and issue the permit. The permit will become effective no less than 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days pursuant to 40 CFR 124.19.

Documents are Available for Review
The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting the EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday at the address below. The draft permits, fact sheet, and other information can also be found by visiting the Region 10 NPDES website at "http://epa.gov/r10earth/waterpermits.htm."

US EPA Region 10
Suite 155
1200 Sixth Avenue, OWW-191
Seattle, Washington 98101
(206) 553-0523 or
Toll Free 1-800-424-4372 (within Alaska, Idaho, Oregon, and Washington)

The fact sheet and draft permits are also available at:

EPA Idaho Operations Office
950 W Bannock Suite 900
Boise, ID 83702
Phone: 208-378-5746

Idaho Department of Environmental Quality
Lewiston Regional Office
Attn: Surface Water Manager
1118 F Street
Lewiston, Idaho 83501
208-799-4370

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Acronyms

µg/L	micrograms per liter
30Q5	30 day, 5 year low flow
AML	Average monthly limit
BOD	Biochemical oxygen demand
CCC	Criterion continuous concentration
cfs	cubic feet per second
CMC	Criterion maximum concentration
CMOM	Capacity, management, operation, and maintenance
CV	Coefficient of variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
ESA	Endangered Species Act
I/I	Inflow and infiltration
IDAPA	Numbering designation for all administration rules in Idaho promulgated in accordance with the Idaho Administrative Procedure Act
IDEQ	Idaho Department of Environmental Quality
LA	Load allocation
LTA	Long-term allocation
MDL	Maximum daily limit
mg/L	milligrams per liter
mgd	million gallons per day
MOEC	Maximum observed effluent concentration
MOS	Margin of safety
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWIS	National Water Information System
POTW	Privately owned treatment works
QAP	Quality Assurance Plan
RPFM	Reasonable potential multiplying factor
SSO	Separate sanitary overflow

STORET	EPA STOrage and RETrieval
TBEL	Technology-based effluent limit
TMDL	Total maximum daily load
TRC	Total residual chlorine
TSD	EPA Technical Support Document
TSS	Total suspended solids
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water quality standard
WWTF	Wastewater treatment facility

I. Applicant

A. General Information

This fact sheet provides information on the draft NPDES permit for the following entity:

City of Juliaetta
Wastewater Treatment Plant
NPDES Permit #ID0023761

Physical Address:
1666 Highway 3
Juliaetta, Idaho 83535

Mailing Address:
P.O. Box 229
Juliaetta, Idaho 83535

Contact:
Bill Fey
Operator
208.276.7791

B. Permit History

The most recent NPDES permit for the City of Juliaetta Wastewater Treatment Plant (WWTP) was issued on March 5, 2004, became effective on May 1, 2004, and expired on April 30, 2009. An NPDES application for permit issuance was submitted by the permittee on March 23, 2009. The EPA determined that the application was timely and complete. Therefore, pursuant to 40 CFR 122.6, the permit has been administratively extended and remains fully effective and enforceable.

II. Idaho NPDES Authorization

In 2014, the Idaho Legislature revised the Idaho Code to direct the Idaho Department of Environmental Quality (IDEQ) to seek authorization from the EPA to administer the NPDES permit program for the State of Idaho. On August 31, 2016, IDEQ submitted a program package pursuant to CWA Section 402(b) and 40 CFR 123.21.

IDEQ is seeking authorization for a phased NPDES permit program that would begin July 1, 2018. Assuming that IDEQ's request for authorization is approved, IDEQ would obtain permitting for POTWs on July 1, 2018. At that point in time, all documentation required by the permit would be sent to IDEQ rather than to EPA and any decision under the permit stated to be made by EPA or jointly between EPA and IDEQ will be made solely by IDEQ. Permittees will be notified by IDEQ when this transition occurs.

III. Facility Information

A. Treatment Facility Description

Service Area

The City of Juliaetta owns, operates, and maintains a WWTP located in Juliaetta, Idaho. The collection system has no combined sewers. The facility serves a resident population of 609 and discharges continuously to the Potlatch River. The facility's design flow is 0.08 million gallons per day (mgd). Because the design flow is less than 1 mgd, the facility is considered a minor facility.

Treatment Process

The City's municipal wastewater is collected via separate sewers that gravity flow to the WWTP. A lift station pumps the wastewater through a grit removal chamber to a grinder pump. The influent flows to the aeration basin, which is equipped with coarse bubble aeration, and then to the clarifier. Activated sludge is wasted from the bottom of the clarifier to drying beds, where liquid is returned to the treatment system. Once dry, the sludge is disposed of in the local landfill. The clarifier overflows to a rotating micro-screen to remove any fine solids. Following the micro-screen, the effluent is chlorinated with sodium hypochlorite and then passed through a chlorine contact chamber. The effluent is dechlorinated prior to discharge using calcium thiosulfate tablets.

B. Background Information

Effluent Characterization

In order to determine pollutants of concern for further analysis, the EPA evaluated the application form, additional discharge data, and the nature of the discharge. Pollutants of concern for this facility are five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), *E. coli*, pH, ammonia, total residual chlorine (TRC), dissolved oxygen (DO), and total phosphorous (TP).

Compliance History

The EPA reviewed discharge monitoring report (DMR) data and compliance schedule events from May 2004 to August 2017. A summary of effluent and schedule violations is provided in Table 1 below. A review of the WWTP's submitted DMRs indicates many instances of violations, although many of these occurred more than 10 years ago. A large number of violations are related to non-receipt of the facility's chlorine monitoring results and violations during the beginning of the facility's chlorine compliance schedule. The EPA issued a Notice of Violation to the City of Juliaetta in January 2007, based on an inspection conducted on October 3, 2006 and a review of administrative files.

Table 1 - Effluent limit violations (05/01/2004 – 08/01/2017)

Violation Type	Violation	Date
Schedule Violation	1 P CS010 Status/Progress Report	11/1/2004
Schedule Violation	1 P CS010 Status/Progress Report	5/1/2005
Schedule Violation	1 P CS010 Status/Progress Report	11/1/2005

Violation Type	Violation	Date
Schedule Violation	1 P CS010 Status/Progress Report	5/1/2006
Schedule Violation	1 P CS010 Status/Progress Report	11/1/2006
Effluent Violation	001 A 51040 E. coli Effluent Gross Season ID:0 C2	5/31/2004
Effluent Violation	001 A 51040 E. coli Effluent Gross Season ID:0 C3	5/31/2004
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	5/31/2004
Effluent Violation	001 A 51040 E. coli Effluent Gross Season ID:0 C2	6/30/2004
Effluent Violation	001 A 51040 E. coli Effluent Gross Season ID:0 C3	6/30/2004
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	6/30/2004
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	6/30/2004
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	7/31/2004
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	7/31/2004
Effluent Violation	001 A 00400 pH Effluent Gross Season ID:0 C1	9/30/2004
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	9/30/2004
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	9/30/2004
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	10/31/2004
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	10/31/2004
Effluent Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	11/30/2004
Effluent Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	11/30/2004
Effluent Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	12/31/2004
Effluent Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	12/31/2004
Effluent Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	1/31/2005
Effluent Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	1/31/2005
Effluent Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	2/28/2005
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	1/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	1/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	2/28/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	2/28/2006

Violation Type	Violation	Date
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	3/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	3/31/2006
DMR Non-Receipt Violation	001 A 50050 Flow, in conduit or thru treatment plant Effluent Gross Season ID:0 Q2	4/30/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	4/30/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	4/30/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	5/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	5/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	6/30/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	6/30/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	7/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	7/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	8/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	8/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	9/30/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	9/30/2006
Effluent Violation	001 A 00310 BOD, 5-day, 20 deg. C See Comments Season ID:0 Q1	10/31/2006
Effluent Violation	001 A 00310 BOD, 5-day, 20 deg. C See Comments Season ID:0 C2	10/31/2006
Effluent Violation	001 A 00530 Solids, total suspended See Comments Season ID:0 Q1	10/31/2006
Effluent Violation	001 A 00530 Solids, total suspended See Comments Season ID:0 C2	10/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 C2	10/31/2006
DMR Non-Receipt Violation	001 B 50060 Chlorine, total residual See Comments Season ID:0 C2	10/31/2006
Effluent Violation	001 A 00310 BOD, 5-day, 20 deg. C See Comments Season ID:0 Q1	1/31/2007
Effluent Violation	001 A 00310 BOD, 5-day, 20 deg. C See Comments Season ID:0 C2	1/31/2007
Effluent Violation	001 A 00310 BOD, 5-day, 20 deg. C See Comments Season ID:0 Q1	3/31/2007
Effluent Violation	001 A 00310 BOD, 5-day, 20 deg. C See Comments Season ID:0 C2	3/31/2007

Violation Type	Violation	Date
Effluent Violation	001 A 00530 Solids, total suspended See Comments Season ID:0 Q1	3/31/2007
Effluent Violation	001 A 00530 Solids, total suspended See Comments Season ID:0 C2	3/31/2007
Effluent Violation	001 A 00530 Solids, total suspended See Comments Season ID:0 Q1	4/30/2007
Effluent Violation	001 A 00530 Solids, total suspended See Comments Season ID:0 C2	4/30/2007
Effluent Violation	001 A 00310 BOD, 5-day, 20 deg. C See Comments Season ID:0 Q1	5/31/2007
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Effluent Violation	001 A 00530 Solids, total suspended See Comments Season ID:0 C2	5/31/2007
Effluent Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 Q1	9/30/2009
Effluent Violation	001 A 00400 pH Effluent Gross Season ID:0 C1	7/31/2013
Effluent Violation	001 B 50060 Chlorine, total residual Effluent Gross Season ID:0 Q2	7/31/2013
Effluent Violation	001 A 00400 pH Effluent Gross Season ID:0 C1	8/31/2013
Effluent Violation	001 A 00400 pH Effluent Gross Season ID:0 C1	10/31/2013
Effluent Violation	001 A 81011 Solids, suspended percent removal Percent Removal Season ID:0 C1	10/31/2013
DMR Non-Receipt Violation	001 A 50050 Flow, in conduit or thru treatment plant Effluent Gross Season ID:0 Q2	3/31/2014
Effluent Violation	001 A 51040 E. coli Effluent Gross Season ID:0 C3	4/30/2014
Effluent Violation	001 A 00400 pH Effluent Gross Season ID:0 C1	7/31/2015
Effluent Violation	001 A 00400 pH Effluent Gross Season ID:0 C1	8/31/2015
DMR Non-Receipt Violation	001 A 00530 Solids, total suspended Effluent Gross Season ID:0 Q1	9/30/2015

The detailed facility report can be found through EPA's Enforcement and Compliance History Online (ECHO) system at:

https://echo.epa.gov/detailed-facility-report?fid=ID0023761&sys=ICP

IV. Receiving Water

The facility discharges treated effluent continuously from an open pipe on the south side of the WWTP property. The effluent ponds and then flows through a side channel of the Potlatch River parallel to State Highway 3. The outfall, pond, and the approximate path to the river are shown in Figure 1, in Appendix A. The elevation profile along the estimated path to

the river is shown in Figure 2, also in Appendix A. The effluent travels approximately 800 feet from the outfall pipe where it discharges into the main channel of the Potlatch River.

A. Low Flow Conditions

The low flow conditions of a water body are used to determine water quality-based effluent limits (WQBELs). In general, Idaho's water quality standards (WQS) require criteria be evaluated at the following low flow receiving water conditions (see IDAPA 58.01.02.210.03):

Acute aquatic life	1Q10 or 1B3
Chronic aquatic life	7Q10 or 4B3
Non-carcinogenic human health criteria	30Q5
Carcinogenic human health criteria	Harmonic mean
Ammonia (chronic)	30Q10, 30Q5, or 30B3

There are no active US Geological Survey (USGS) stream gages upstream of the discharge. The nearest gage upstream from the discharge is inactive, with outdated and insufficient data for analysis. An active stream gage downstream from the discharge, USGS station #13341570, Potlatch River Below Little Potlatch Creek near Spalding, has 14 years of daily flow data. Because there are no dischargers between the City of Juliaetta's outfall and the downstream gage location, Juliaetta's flow is minor compared to the size of the receiving water, and the drainage area of the downstream USGS gauges (583 square miles) is only 11% larger than that of the drainage area at the point of discharge (523 square miles as estimated using the USGS StreamStats program), the EPA used the downstream gage to calculate low flow data.

Table 2 –Critical Low Flows for the Potlatch River (USGS Station #13341570)

1B3 (cfs)	4B3 (cfs)	30B3 (cfs)
0.05	1.34	2.66

B. Water Quality Standards

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limitations in permits necessary to meet water quality standards. Federal regulations at 40 CFR 122.4(d) require that the conditions in NPDES permits ensure compliance with the water quality standards of all affected States. A State's water quality standards are composed of use classifications, numeric and/or narrative water quality criteria and an antidegradation policy.

The use classification system designates the beneficial uses that each water body is expected to achieve, such as drinking water supply, contact recreation, and aquatic life. The numeric and narrative water quality criteria are the criteria deemed necessary to support the beneficial use classification of each water body. The antidegradation policy represents a three-tiered approach to maintain and protect various levels of water quality and uses.

Designated Beneficial Uses

This section of the Potlatch River is designated for primary contact recreation, cold water aquatic life, salmonid spawning, and domestic water supply. The State of Idaho's 2014 Integrated Report Section 5 (section 303(d)) lists this section of the Potlatch River as not supporting cold water aquatic life or salmonid spawning uses.

Surface Water Quality

There are no USGS National Water Information System (NWIS) or EPA STOrage and RETrieval (STORET) datasets available in the vicinity of the discharge, and surface water monitoring data were not collected by the City of Juliaetta. However, the City of Kendrick's facility collected pH and temperature data upstream from 2006-2009. The City of Kendrick discharges to the Potlatch River about four miles upstream from the City of Juliaetta. These data were used to calculate the 95th percentile temperature and pH to be used in effluent development.

95th Percentile Temperature: 20.025 °C

95th Percentile pH: 8.186

Antidegradation

The IDEQ has completed an antidegradation review, which is included in the draft 401 certification for this permit (see Appendix F). The EPA has reviewed this antidegradation analysis and finds that it is consistent with the State's WQS and the State's antidegradation implementation procedures. Comments on the 401 certification, including the antidegradation review, can be submitted to the IDEQ as set forth above (see State Certification on Page 1 of this Fact Sheet).

C. Water Quality Limited Waters

Any waterbody for which the water quality does not and/or is not expected to meet applicable WQS is defined as a "water quality limited segment."

Section 303(d) of the CWA requires states to develop a total maximum daily load (TMDL) management plan for water bodies determined to be water quality-limited segments. A TMDL is a detailed analysis of the water body to determine its assimilative capacity. The assimilative capacity is the loading of a pollutant that a water body can assimilate without causing or contributing to a violation of water quality standards. Once the assimilative capacity of the water body has been determined, the TMDL will allocate that capacity among point and non-point pollutant sources, taking into account natural background levels and a margin of safety (MOS). Allocations for non-point sources are known as load allocations (LAs). The allocations for point sources, known as waste load allocations (WLAs), are implemented through effluent limitations in NPDES permits. Effluent limitations for point sources must be consistent with applicable TMDL allocations.

The State of Idaho's 2014 Integrated Report lists the Potlatch River as impaired for temperature and TSS. The *Potlatch River Subbasin Assessment and TMDLs* (2008 Final TMDL) was approved by the EPA in 2008 and contains WLAs for Juliaetta for temperature and TSS.

In August 2017, IDEQ issued the draft *Potlatch River Watershed Assessment and Total Maximum Daily Loads: 2017 Temperature TMDL* for public review and comment. IDEQ has provided the EPA with a revised draft of this TMDL, dated January 2018 ("January 2018 Draft TMDL").

In its draft Clean Water Act Section 401 certification of this permit, Idaho DEQ has specified effluent limits for temperature which are consistent with the WLAs in the January 2018 draft TMDL. The EPA must include permit requirements specified in a State certification of an NPDES permit (40 CFR 124.55(a)(2)).

If the revised TMDL is finalized and approved before the EPA issues a final permit for the City of Juliaetta, the final permit will include effluent limits consistent with the WLAs in the final revised TMDL.

V. Effluent Limitations and Monitoring

A. Basis for Effluent Limitations

In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based limits (TBELs) or WQBELs. TBELs are set according to the level of treatment that is achievable using available technology. A WQBEL is designed to ensure that the WQS applicable to the receiving waterbody are being met and may be more stringent than TBELs. The basis for the effluent limits proposed in the draft permit is provided in Appendix B.

B. Proposed Effluent Limitations

Table 3 summarizes the proposed effluent limits in the draft permit, except the effluent limits for temperature, which are summarized in Table 4:

Table 3 – Proposed Effluent Limits and Monitoring Requirements

Parameter	Units	Effluent Limitations			Monitoring Requirements		
		Average Monthly	Average Weekly	Maximum Daily	Sample Location	Sample Frequency	Sample Type
Parameters with Effluent Limits							
Biochemical Oxygen Demand (BOD_5)	mg/L	30	45	--	Influent and Effluent	1/month	Grab
	lb/day	20	30	--			Calculation[1]
BOD_5 Percent Removal	%	85 (minimum)	--	--	--	1/month	Calculation[2]
Total Suspended Solids (TSS)	mg/L	30	45	--	Influent and Effluent	2/month	Grab
	lb/day	18	30	--			Calculation[1]
TSS Percent Removal	%	85 (minimum)	--	--	--	1/month	Calculation[2]
E. coli [3, 4]	CFU/ 100 ml	126	--	406 (instant. max) [4]	Effluent	5/month	Grab
	µg/L	12	--	21	Effluent	1/week	Grab

Total Residual Chlorine[4,5]	lb/day	0.0080	--	0.014			Calculation[1]
pH	std units	Between 6.5 – 9.0			Effluent	1/week	Grab
Temperature (until 1 year after the effective date of the final permit)	°C	See Table 4			Effluent	1/week	Grab
Temperature (after 1 year after the effective date of the final permit)	°C	See Table 4			Effluent	Continuous	Recording
Report Parameters							
Flow	mgd	Report	--	Report	Effluent	Continuous	Measurement
Nitrate + Nitrite	mg/L	Report	--	Report	Effluent	1/quarter	Grab
Total Ammonia as N	mg/L	Report	--	Report	Effluent	1/quarter	Grab
Total Phosphorous	mg/L	Report	--	Report	Effluent	1/month	Grab

Notes

1. Loading (in lb/day) is calculated by multiplying the concentration (in mg/L) by the corresponding flow (in mgd) for the day of sampling and a conversion factor of 8.34. For more information on calculating, averaging, and reporting loads and concentrations see the *NPDES Self-Monitoring System User Guide* (EPA 833-B-85-100, March 1985).
2. Percent Removal. The monthly average percent removal must be calculated from the arithmetic mean of the influent values and the arithmetic mean of the effluent values for that month using the following equation: [(average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration] x 100. Influent and effluent samples must be taken over approximately the same time period.
3. The average monthly *E. coli* bacteria counts must not exceed a geometric mean of 126/100 ml based on a minimum of five samples taken every 3 - 7 days within a calendar month. See Part V of this permit for a definition of geometric mean.
4. Reporting is required within 24 hours of a maximum daily limit or instantaneous maximum limit violation.
5. The effluent limits for total residual chlorine are not quantifiable using EPA-approved methods. EPA will use the minimum level (ML), 50 µg/L, as the compliance evaluation level for this parameter. The permittee will be compliant with the total residual chlorine limitations if the average monthly and maximum daily chlorine concentrations are less than 50 µg/L and the average monthly and maximum daily mass discharges of chlorine are less than 0.033 lb/day.

Table 4 – Maximum Daily Effluent Temperature Limits (°C)

April 1 – July 15 (spawning and incubation)					
Stream Flow[1] (CFS)	**WWTP Flow[1] (mgd)**				
	≤ 0.0064	> 0.0064 - 0.045	> 0.045 - 0.097	> 0.097 - 0.15	> 0.15
< 2	16.8	10.4	9.8	9.6	9.6
2 - < 5	24.3	11.4	10.3	10.0	9.8
5 - <10	46.8	14.7	11.8	10.9	10.6
10 - < 25	84.3	20.0	14.3	12.6	11.8
25 - < 50	—	36.1	21.8	17.5	15.6
50 - < 100	—	62.9	34.3	25.6	21.8
≥ 100	—	—	59.3	41.9	34.3
July 16 – September 30 (cold water aquatic life)					
Stream Flow[1] (CFS)	**WWTP Flow[1] (mgd)**				
	≤ 0.0064	> 0.0064 - 0.045	> 0.045 - 0.097	> 0.097 - 0.15	> 0.15
< 2	26.8	20.4	19.8	19.6	19.6
2 - < 5	34.3	21.4	20.3	20.0	19.8
5 - <10	56.8	24.7	21.8	20.9	20.6
10 - < 25	94.3	30.0	24.3	22.6	21.8
25 - < 50	—	46.1	31.8	27.5	25.6
50 - < 100	—	72.9	44.3	35.6	31.8
≥ 100	—	—	69.3	51.9	44.3

Notes:
1. River flow must be determined using data from USGS station number 13341570. The applicable temperature limit is determined daily, based on the mean river flow and the mean effluent flow for that day.

A comparison of the proposed effluent limits to those in the previous permit is provided under "Antibacksliding," below.

C. Compliance Schedules

Compliance schedules are authorized by federal NPDES regulations at 40 CFR 122.47 and Idaho WQS at IDAPA 58.01.02.400.03. Compliance schedules allow a discharger to phase in, over time, compliance with WQBELs when limitations are in the permit for the first time. The State of Idaho's compliance schedule authorizing provision does not reserve the authority to authorize a compliance schedule exclusively for the State.

Additionally, the federal regulations at 40 CFR 122.47 require that the compliance schedules require compliance with effluent limits as soon as possible and that, when the compliance schedule is longer than one year, the schedule shall set forth interim requirements and the dates for their achievement. The time between the interim dates shall generally not exceed one year, and when the time necessary to complete any interim requirement is more than one year, the schedule shall require reports on progress toward completion of these interim requirements.

In order to grant a compliance schedule the permitting authority must make a reasonable finding that the discharger cannot immediately comply with the WQBELs upon the effective date of the permit and that a compliance schedule is appropriate (see 40 CFR 122.47(a)).

The City of Juliaetta's previous permit required effluent monitoring for temperature once per month in calendar year 2006. Effluent data for temperature are summarized in Table 5, below.

Table 5: Effluent Temperatures During 2006

Month	Effluent Temperature (°C)
January	7.2
February	8.5
March	9.4
April	11.6
May	13.5
June	18.9
July	21.2
August	21.3
September	20.5
October	17.3
November	15.8
December	9.3

The EPA has determined that the permittee cannot comply with the following proposed effluent temperature limits based on the January 2018 Draft TMDL which are less than 21.3 °C. Therefore, the draft permit proposes a compliance schedule for those limits.

The proposed compliance schedule allows a total of 13 years to achieve compliance with the new water quality-based effluent limits for temperature. This schedule is 2 years shorter than the schedule of compliance established for new water quality-based effluent limits for temperature in the City of Nampa's NPDES permit (ID0022063).

The proposed schedule allows 3 years for the City to evaluate alternatives that may be used to achieve the final temperature effluent limits. The EPA believes this is appropriate in this case because it is beneficial to explore options other than "end-of-pipe" treatment (e.g., refrigerating the effluent). Some of the other alternatives that the City is required to consider, such as wastewater re-use or habitat restoration, may have additional benefits beyond reducing temperature. The City may wish to pursue multiple options if the entire required reduction in temperature cannot be achieved using a single strategy.

Following the alternatives evaluation, the proposed schedule allows 5 additional years to complete the preliminary design of any planned facility upgrades and/or a preliminary plan and schedule for an alternative temperature mitigation approach. The alternative(s) selected for achieving compliance with temperature limits may be complex and costly, so the EPA has allowed 5 years for this work.

Following the preliminary design and/or plan, the proposed schedule allows 1 year for the complete and request DEQ approval of the final design and/or plan.

Following DEQ approval of the final design and/or plan, the schedule allows 2 years for construction of WWTP upgrades and/or implementation or the alternative temperature mitigation plan.

Following construction and/or implementation, the schedule allows 1 additional year to achieve compliance.

D. Antibacksliding

Section 402(o) of the Clean Water Act and federal regulations at 40 CFR §122.44(l) generally prohibit the renewal, reissuance or modification of an existing NPDES permit that contains effluent limits, permit conditions or standards that are less stringent than those established in the previous permit (i.e., antibacksliding) but provides limited exceptions. For explanation of the antibacksliding exceptions refer to Chapter 7 of the Permit Writers Manual *Final Effluent Limitations and Anti-backsliding*.

An antibacksliding analysis was done for the City of Juliaetta. The analysis for each parameter is detailed below:

- Ammonia – No reasonable potential was demonstrated, and there was no limit in the previous permit. Therefore, antibacksliding does not apply.
- BOD_5 – No change; therefore, antibacksliding does not apply.
- Chlorine – The proposed effluent limits are more stringent than the previous effluent limit; therefore, antibacksliding does not apply.
- E. Coli – No change; therefore, antibacksliding does not apply.
- pH – No change; therefore, antibacksliding does not apply.
- Temperature – The previous permit had no temperature limits. Therefore, antibacksliding does not apply.
- TSS – No change to concentration limits. The average monthly mass limit is more stringent than the previous permit, thus, antibacksliding does not apply.

VI. Monitoring Requirements

A. Basis for Effluent Limits and Surface Water Monitoring

Section 308 of the CWA and 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality.

The permit also requires the permittee to perform effluent monitoring required by the NPDES Form 2A application, so that these data will be available when the permittee applies for a renewal of its NPDES permit.

The permittee is responsible for conducting the monitoring and for reporting results to the EPA on DMRs or on the application for renewal, as appropriate.

B. Effluent Monitoring

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required

under the permit. These samples must be used for averaging if they are conducted using the EPA-approved test methods (generally found in 40 CFR 136) or as specified in the permit.

See Table 3 for monitoring requirements.

Monitoring Changes from the Previous Permit

The previous permit did not have an ammonia limit and required monitoring in support of an RPA in the next permit cycle. The RPA for ammonia revealed no reasonable potential, and therefore, the required effluent monitoring frequency for ammonia has been reduced to quarterly.

Because uses of the receiving water are not impaired by nutrients, the EPA proposes to reduce the monitoring frequency for total phosphorus to quarterly.

Because there have been violations of effluent limits for TSS, and because the average monthly mass limit for TSS is now water quality-based, the EPA proposes to increase the monitoring frequency for TSS from once per month to twice per month. This will allow the EPA to better determine compliance with the TSS limits.

The EPA proposes to require continuous effluent monitoring for temperature, to monitor compliance with the proposed effluent limits for temperature. The permit requires continuous temperature monitoring to begin within 1 year of the effective date of the final permit. For the first year, the draft permit proposes to require temperature monitoring once per week. The previous permit requires weekly effluent monitoring for pH and chlorine using a grab sample, and the EPA proposes to continue this monitoring in the reissued permit. Thus, weekly temperature monitoring will not be burdensome, since the permittee can simply measure the temperature of the same grab samples used for pH and chlorine sampling.

The draft permit proposes effluent monitoring for nitrate + nitrite. These data will be used to determine if the facility's discharge could impair the receiving water's designated use of domestic water supply. The EPA's recommended criterion for nitrate, for the consumption of water and organisms, is 10 mg/L, and, in oxygenated natural water systems, nitrite is rapidly oxidized to nitrate (EPA 1986). The proposed monitoring frequency is quarterly, consistent with effluent monitoring for ammonia and total phosphorus.

The EPA proposes to discontinue effluent monitoring for DO. The minimum effluent DO concentration reported by the permitee was 5.9 mg/L, which is close to the water quality criterion of 6.0 mg/L. Dilution of the effluent in the receiving water will ensure that the discharge does not cause violations of DO criteria in the receiving water. Effluent monitoring for DO is not required for a complete NPDES permit application, for a POTW with a design flow less than 0.1 mgd.

C. Surface Water Monitoring

In general, surface water monitoring may be required for pollutants of concern to assess the assimilative capacity of the receiving water for the pollutant. In addition, surface water monitoring may be required for pollutants for which the water quality criteria are dependent and to collect data for TMDL development if the facility discharges to an impaired water body. Table 6 presents the proposed surface water monitoring requirements for the draft permit.

Surface water monitoring results must be reported on the monthly DMR, submitted annually in a report, and compiled to be submitted with the reapplication for the next permit. Quarterly monitoring must occur once during each of the following quarters: January – March, April – June, July – September, and October – December.

The draft permit proposes continuous monitoring for temperature. This will yield useful information about the Potlatch River's response to implementation of temperature TMDLs and will also allow for accurate calculation of ammonia criteria when the permit is reissued.

The draft permit proposes receiving water monitoring for nitrate + nitrite. These data will be used to determine if the facility's discharge could impair the receiving water's designated use of domestic water supply. The EPA's recommended criterion for nitrate, for the consumption of water and organisms, is 10 mg/L, and, in oxygenated natural water systems, nitrite is rapidly oxidized to nitrate (EPA 1986).

The EPA proposes not to repeat receiving water monitoring for DO. Dilution of the effluent in the receiving water will ensure that the discharge does not cause violations of DO criteria in the receiving water.

Table 6 - Surface Water Monitoring Requirements

Parameter	Units	Frequency	Sample Type
Nitrate + Nitrite	mg/L	1/quarter	Grab
Total Ammonia as N	mg/L	1/quarter	Grab
Total Phosphorous	mg/L	1/quarter	Grab
Temperature	°C	Continuous	Recording
pH	standard units	1/quarter	Grab
Notes: 1. For quarterly monitoring frequency, quarters are defined as: January 1 to March 31; April 1 to June 30; July 1 to September 30; and, October 1 to December 31.			

D. Electronic Submission of Discharge Monitoring Reports

The draft permit requires that the permittee submit DMR data electronically using NetDMR. NetDMR is a national web-based tool that allows DMR data to be submitted electronically via a secure Internet application.

The EPA currently conducts free training on the use of NetDMR. Further information about NetDMR, including upcoming trainings and contacts, is provided on the following website: https://netdmr.epa.gov.

VII. Sludge (Biosolids) Requirements

The EPA Region 10 separates wastewater and sludge permitting. The EPA has authority under the CWA to issue separate sludge-only permits for the purposes of regulating biosolids. The EPA may issue a sludge-only permit to each facility at a later date, as appropriate.

Until future issuance of a sludge-only permit, sludge management and disposal activities at each facility continue to be subject to the national sewage sludge standards at 40 CFR Part

503 and any requirements of the State's wastewater program. The Part 503 regulations are self-implementing, which means that facilities must comply with them whether or not a permit has been issued.

VIII. Other Permit Conditions

A. Quality Assurance Plan

In order to ensure compliance with the federal regulation at 40 CFR 122.41(e) for proper operation and maintenance, the draft permit requires the permittee to develop procedures to ensure that the monitoring data submitted is accurate and to explain data anomalies if they occur. The City of Juliaetta is required to develop or update the Quality Assurance Plan (QAP) within 180 days of the effective date of the final permit. The QAP must include standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. The plan must be retained on site and be made available to the EPA and the IDEQ upon request.

B. Operation and Maintenance Plan

The permit requires the City of Juliaetta to properly operate and maintain all facilities and system of treatment and control. Proper operation and maintenance is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times. The permittee is required to develop and implement an operation and maintenance plan for their facility within 180 days of the effective date of the permit. The plan must be retained on site and made available to the EPA and the IDEQ upon request.

C. Sanitary Sewer Overflows and Proper Operation and Maintenance of the Collection System

Untreated or partially treated discharges from separate sanitary sewer systems are referred to as sanitary sewer overflows (SSOs). SSOs may present serious risks of human exposure when released to certain areas, such as streets, private property, basements, and receiving waters used for drinking water, fishing and shell fishing, or contact recreation. Untreated sewage contains pathogens and other pollutants, which are toxic. SSOs are not authorized under this permit. Pursuant to the NPDES regulations, discharges from separate sanitary sewer systems authorized by NPDES permits must meet effluent limits that are based upon secondary treatment. Further, discharges must meet any more stringent effluent limits that are established to meet the EPA-approved WQS.

The permit contains language to address SSO reporting and public notice and operations and maintenance of the collection system. The permit requires that the permittee identify SSO occurrences and their causes. In addition, the permit established reporting, record keeping, and third-party notifications of SSOs. Finally, the permit requires proper operation and maintenance of the collection system. The following specific permit conditions apply:

Immediate Reporting – The permittee is required to notify the EPA of an SSO within 24 hours of the time the permittee becomes aware of the overflow. (See 40 CFR 122.41(l)(6))

Written Reports – The permittee is required to provide the EPA a written report within five days of the time it became aware of any overflow that is subject to the immediate reporting provision. (See 40 CFR 122.41(l)(6)(i)).

Third-Party Notice – The permit requires that the permittee establish a process to notify specified third parties of SSOs that may endanger health due to a likelihood of human exposure; or unanticipated bypass and upset that exceeds any effluent limitation in the permit or that may endanger health due to a likelihood of human exposure. The permittee is required to develop, in consultation with appropriate authorities at the local, county, tribal, and/or state level, a plan that describes how, under various overflow (and unanticipated bypass and upset) scenarios, the public, as well as other entities, would be notified of overflows that may endanger health. The plan should identify all overflows that would be reported and to whom, and the specific information that would be reported. The plan should include a description of lines of communication and the identities of responsible officials. (See 40 CFR 122.41(l)(6)).

Record Keeping – The permittee is required to keep records of SSOs. The permittee must retain the reports submitted to the EPA and other appropriate reports that could include work orders associated with investigation of system problems related to a SSO that describes the steps taken or planned to reduce, eliminate, and prevent recurrence of the SSO. (See 40 CFR 122.41(j)).

Proper Operation and Maintenance – The permit requires proper operation and maintenance of the collection system. (See 40 CFR 122.41(d) and (e)). SSOs may be indicative of improper operation and maintenance of the collection system. The permittee may consider the development and implementation of a capacity, management, operation, and maintenance (CMOM) program.

The permittee may refer to the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (EPA 305-B-05-002). This guide identifies some of the criteria used by the EPA inspectors to evaluate a collection system's management, operation, and maintenance program activities. Owners/operators can review their own systems against the checklist (Chapter 3) to reduce the occurrence of sewer overflows and improve or maintain compliance.

D. Industrial Waste Management Requirements

EPA implements and enforces the National Pretreatment Program regulations of 40 CFR 403, per authority from sections 204(b)(1)(C), 208(b)(2)(C)(iii), 301(b)(1)(A)(ii), 301(b)(2)(A)(ii), 301(h)(5) and 301(i)(2), 304(e) and (g), 307, 308, 309, 402(b, 405, and 501(a) of the Federal Water Pollutant Control Act as amended by the CWA of 1977.

The proposed permit contains requirements that the WWTF control industrial dischargers, pursuant to 40 CFR 403. Indirect dischargers to the treatment facility must comply with the applicable requirements of 40 CFR 403, any categorical pretreatment standards promulgated by the EPA, and any additional or more stringent requirements imposed by the City of Juliaetta as part of its approved pretreatment program or sewer use ordinance (e.g., local limits).

IX. Other Legal Requirements

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or

endangered species. The EPA has determined that the discharge will have no effect on threatened or endangered species. See Appendix D.

B. Essential Fish Habitat

Essential fish habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires the EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect EFH (i.e., reduce quality and/or quantity of EFH).

The EFH regulations define an adverse effect as any impact which reduces quality and/or quantity of EFH and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. The EPA has prepared an EFH assessment which appears in Appendix E.

The EPA has determined that issuance of this permit will have no effect on EFH in the vicinity of the discharge. The EPA has provided NOAA Fisheries with copies of the draft permit and fact sheet during the public notice period. Any comments received from NOAA Fisheries regarding EFH will be considered prior to reissuance of this permit.

C. Environmental Justice

As part of the permit development process, the EPA Region 10 conducted a screening analysis to determine whether this permit action could affect overburdened communities. "Overburdened" communities can include minority, low-income, tribal, and indigenous populations or communities that potentially experience disproportionate environmental harms and risks. The EPA used a nationally consistent geospatial tool that contains demographic and environmental data for the United States at the Census block group level. This tool is used to identify permits for which enhanced outreach may be warranted.

The WWTP is not located within or near a Census block group that is potentially overburdened. The draft permit does not include any additional conditions to address environmental justice.

Regardless of whether a WWTP is located near a potentially overburdened community, the EPA encourages permittees to review (and to consider adopting, where appropriate) Promising Practices for Permit Applicants Seeking EPA-Issued Permits: Ways To Engage Neighboring Communities (see https://www.federalregister.gov/d/2013-10945/p-94). Examples of promising practices include: thinking ahead about community's characteristics and the effects of the permit on the community, engaging the right community leaders, providing progress or status reports, inviting members of the community for tours of the facility, providing informational materials translated into different languages, setting up a hotline for community members to voice concerns or request information, follow up, etc.

For more information, please visit https://www.epa.gov/environmentaljustice and Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.[1]

D. State Certification

Section 401 of the CWA requires EPA to seek State certification before issuing a final permit. As a part of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with State water quality standards.

E. Permit Expiration

The permit will expire five years from the effective date.

X. References

EPA. 1991. Technical Support Document for Water Quality-based Toxics Control. US Environmental Protection Agency, Office of Water, EPA/505/2-90-001. https://www3.epa.gov/npdes/pubs/owm0264.pdf

EPA. 2010. NPDES Permit Writers' Manual. Environmental Protection Agency, Office of Wastewater Management, EPA-833-K-10-001. https://www.epa.gov/sites/production/files/2015-09/documents/pwm_2010.pdf

U.S. Geological Survey. 2012. The StreamStats program. Online at: http://streamstats.usgs.gov

[1] https://www.archives.gov/federal-register/executive-orders/1994.html#12898

Appendix A: Facility Information

General Information

NPDES ID Number:	ID0023761
Physical Location:	1666 Highway 3, Juliaetta, Idaho 83535
Mailing Address:	P.O. Box 229, Juliaetta, Idaho 83535

Facility Information

Type of Facility:	Publicly Owned Treatment Works (POTW)
Treatment Train:	Activated sludge, chlorine disinfection, dechlorination
Design Flow:	0.08 mgd
Outfall Location:	46.561991, -116.710595

Receiving Water Information

Receiving Water:	Potlatch River
Subbasin:	Clearwater (HUC 17060306)
Beneficial Uses:	Primary contact recreation, cold water aquatic life, salmonid spawning, domestic water supply
Water Quality Limited Segment:	Approved TMDL for temperature and TSS

Figure 1: City of Juliaetta Outfall and Approximate Path to River

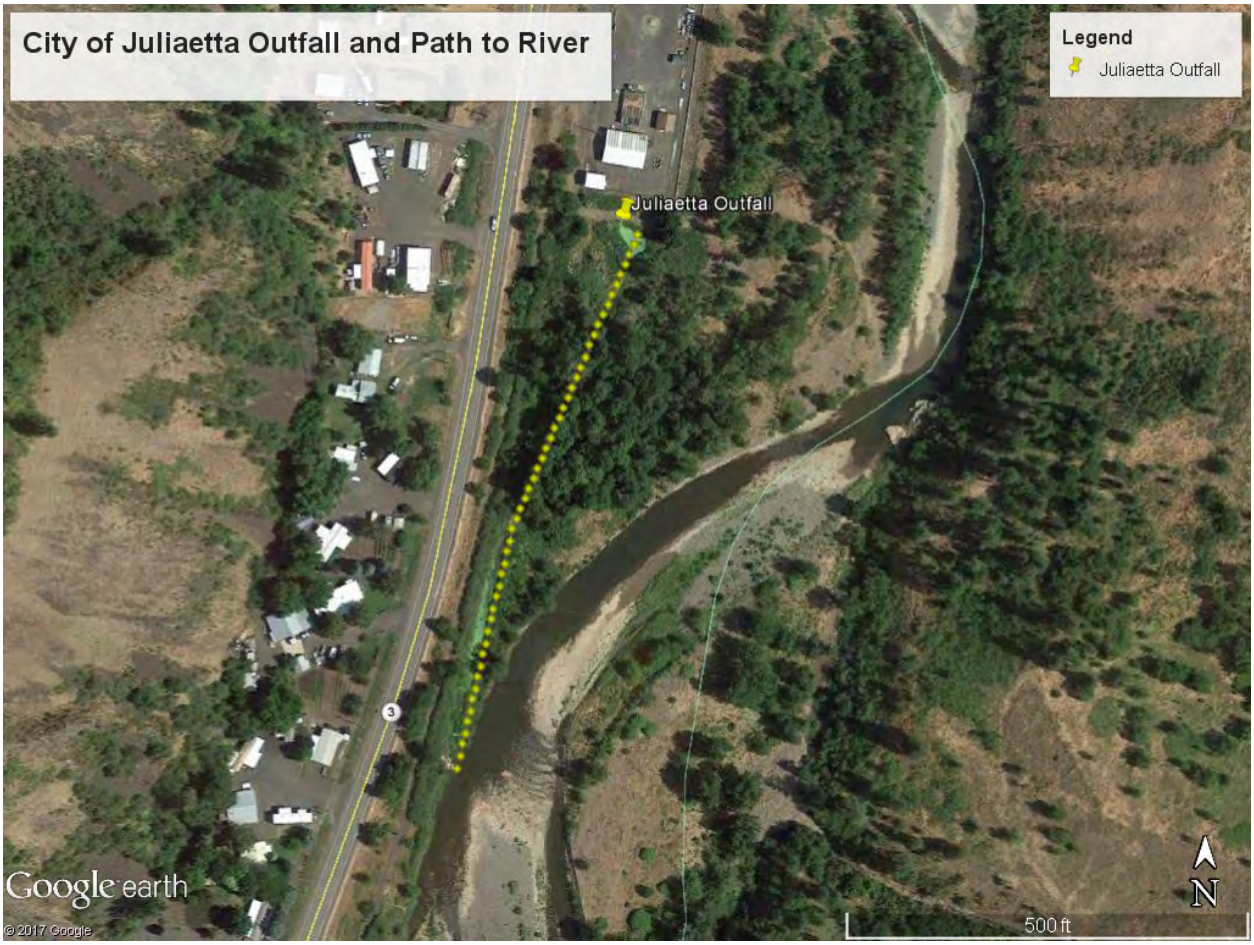
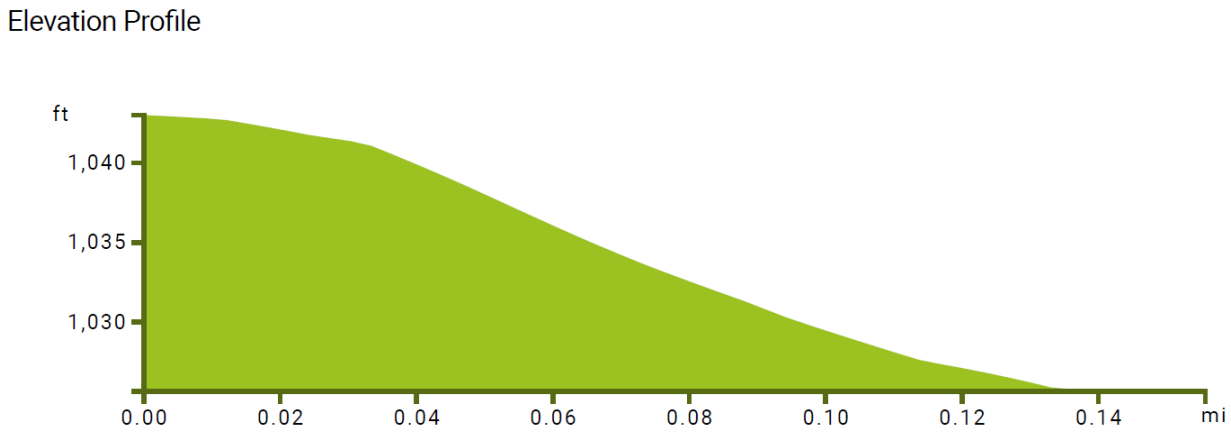


Figure 2: Elevation Profile along Approximate Path to River



Appendix B: Basis for Effluent Limits

The following discussion explains the derivation of TBELs and WQBELs proposed in the draft permit.

A. Technology-Based Effluent Limits

Federal Secondary Treatment Effluent Limits

The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as secondary treatment, which all POTWs were required to meet by July 1, 1977. The EPA has developed and promulgated secondary treatment effluent limits, which are found in 40 CFR 133. These TBELs apply to all municipal wastewater treatment facilities and identify the minimum level of effluent quality attainable by application of secondary treatment in terms of BOD_5, TSS, and pH. The federally promulgated secondary treatment effluent limits are listed below in Table 7. The effluent limits proposed in the draft permit for BOD_5 and TSS are technology-based, except for the average monthly mass limit for TSS. The basis for the water quality-based average monthly mass effluent limit for TSS is discussed in Appendix C.

Table 7 – Federal secondary treatment standards (40 CFR 133.102)

Parameter	30-day average	7-day average
BOD_5	30 mg/L	45 mg/L
TSS	30 mg/L	45 mg/L
Removal for BOD_5 and TSS	85% minimum	--
pH	Between 6.0 and 9.0 standard units	

B. Water Quality-Based Effluent Limits

Section 301(b)(1)(C) of the CWA requires the development of limits in permits necessary to meet WQS by July 1, 1977. Discharges to State or Tribal waters must also comply with limits imposed by the State or Tribe as part of its certification of NPDES permits under section 401 of the CWA. Federal regulations at 40 CFR 122.4(d) prohibit the issuance of an NPDES permit that does not ensure compliance with the water quality requirements of all affected States. The NPDES regulation 40 CFR 122.44(d)(1) implementing Section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters that are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any State or Tribal WQS, including narrative criteria for water quality, and that the level of water quality to be achieved by limits on point sources is derived from and complies with all applicable WQS.

The regulations require the permitting authority to make this evaluation using procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in

the receiving water. The limits must be stringent enough to ensure that WQS are met, and must be consistent with any available WLA.

Reasonable Potential Analysis

When evaluating the effluent to determine if WQBELs are needed, based on numeric criteria, EPA projects the receiving water concentration (downstream of where the effluent enters the receiving water) for each pollutant of concern. EPA uses the concentration of the pollutant in the effluent and receiving water and, if appropriate, the dilution available from the receiving water, to project the receiving water concentration. If the projected concentration of the pollutant in the receiving water exceeds the numeric criterion for that specific chemical, then the discharge has the reasonable potential to cause or contribute to an exceedance of the applicable WQS, and a WQBEL is required.

Ammonia

Ammonia criteria are based on a formula that relies on the pH and temperature of the receiving water because the fraction of ammonia present as the toxic, un-ionized form increases with increasing pH and temperature. Therefore, the criteria become more stringent as pH and temperature increase. Appendix C details the equations used to determine water quality criteria for ammonia.

A reasonable potential calculation showed that the facility's discharge does not have the reasonable potential to cause or contribute to a violation of the water quality criteria for ammonia. Therefore, the draft permit does not contain a WQBEL for ammonia.

Chlorine

The Idaho state WQS at IDAPA 58.01.02.210 establish an acute criterion of 19 µg /L and a chronic criterion of 11 µg/L for the protection of aquatic life. A reasonable potential calculation showed that the discharge from the facility would have the reasonable potential to cause or contribute to a violation of the WQS for chlorine. Therefore, the draft permit contains a WQBEL for chlorine. See Appendix C for reasonable potential and effluent limit calculations for chlorine.

Up until September 2017, the WWTP evaluated chlorine data using a color wheel. The EPA determined these data were too coarse to be useful in the RPA. In September 2017, the WWTP acquired a new water quality colorimeter. The EPA requested the raw data from this new water quality colorimeter, consisting of 25 data points from 09/07/17-10/10/17. These data were used to perform the RPA.

E. coli

The Idaho WQS state that waters of the State of Idaho designated for recreation are not to contain *E. coli* bacteria in concentrations exceeding 126 organisms per 100 ml based on a minimum of five samples taken every three to seven days over a thirty-day period. A mixing zone is not appropriate for bacteria for waters designated for contact recreation. Therefore, the draft permit contains a monthly geometric mean effluent limit for *E. coli* of 126 organisms per 100 ml (IDAPA 58.01.02.251.01.a.).

The Idaho WQS also state that a water sample that exceeds certain "single sample maximum" values indicates a likely exceedance of the geometric mean criterion, although it

is not, in and of itself, a violation of WQS. For waters designated for primary contact recreation, the "single sample maximum" value is 406 organisms per 100 ml (IDAPA 58.01.02.251.01.b.ii.).

The goal of a WQBEL is to ensure a low probability that WQS will be exceeded in the receiving water as a result of a discharge, while considering the variability of the pollutant in the effluent. Because a single sample value exceeding 406 organisms per 100 ml indicates a likely exceedance of the geometric mean criterion, the EPA has imposed an instantaneous (single grab sample) maximum effluent limit for *E. coli* of 406 organisms per 100 ml, in addition to a monthly geometric mean limit of 126 organisms per 100 ml, which directly implements the water quality criterion for *E. coli*. This will ensure that the discharge will have a low probability of exceeding water quality standards for *E. coli*.

Regulations at 40 CFR 122.45(d)(2) require that effluent limitations for continuous discharges from POTWs be expressed as average monthly and average weekly limits, unless impracticable. Additionally, the terms "average monthly limit" and "average weekly limit" are defined in 40 CFR 122.2 as being arithmetic (as opposed to geometric) averages. It is impracticable to properly implement a 30-day geometric mean criterion in a permit using monthly and weekly arithmetic average limits. The geometric mean of a given data set is equal to the arithmetic mean of that data set if and only if all of the values in that data set are equal. Otherwise, the geometric mean is always less than the arithmetic mean. In order to ensure that the effluent limits are "derived from and comply with" the geometric mean water quality criterion, as required by 40 CFR 122.44(d)(1)(vii)(A), it is necessary to express the effluent limits as a monthly geometric mean and an instantaneous maximum limit.

Floating, Suspended and Submerged Matter/Oil and Grease

The Idaho water quality standards require that surface waters of the State be free from floating, suspended or submerged matter of any kind in concentrations impairing designated beneficial uses. The draft permit contains a narrative limitation prohibiting the discharge of such materials.

pH

The Idaho WQS at IDAPA 58.01.02.250.01.a, require pH values of the receiving water to be within the range of 6.5 to 9.0. Mixing zones are generally not granted for pH; therefore, the most stringent WQC must be met before the effluent is discharged to the receiving water. Effluent pH data were compared to the WQC and showed no exceedances of the pH standard.

Temperature

Federal regulations state that effluent limits in an NPDES permit must be "consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7."

The *Potlatch River Subbasin Assessment and TMDLs* (IDEQ 2008) ("2008 Final TMDL") includes temperature wasteload allocations for the City of Juliaetta and has been finalized by IDEQ and approved by the EPA.

Idaho DEQ is in the process of revising the temperature component of the *Potlatch River Subbasin Assessment and TMDLs*. In August 2017, Idaho DEQ issued the draft *Potlatch*

River Watershed Assessment and Total Maximum Daily Loads: 2017 Temperature TMDL, dated January 2018 ("January 2018 Draft TMDL") for public comment.

In its draft Clean Water Act Section 401 certification of this permit, Idaho DEQ has specified effluent limits for temperature which are consistent with the WLAs in the January 2018 draft TMDL. The EPA must include permit requirements specified in a State certification of an NPDES permit (40 CFR 124.55(a)(2)).

If the revised TMDL is finalized and approved before the EPA issues a final permit for the City of Juliaetta, the final permit will include effluent limits consistent with the WLAs in the final revised TMDL.

TSS

The *Potlatch River Subbasin Assessment and TMDLs* provides WLAs for Juliaetta's discharge of TSS in Table 40, on Page 89. The WLAs are an average monthly load of 18.0 lb/day and a maximum daily load of 48.1 lb/day.

Juliaetta's technology-based average monthly loading limit for TSS is 20 lb/day. This is less stringent than the monthly average WLA of 18.0 lb/day. Therefore, the EPA has proposed a water quality-based average monthly loading limit for TSS of 18.0 lb/day. This limit is identical to the average monthly WLA's magnitude and averaging period.

Juliaetta's technology-based average weekly loading limit for TSS is 30 lb/day. Since the magnitude of this limit is significantly less than the maximum daily WLA, the EPA believes that the technology-based average weekly limit is more stringent than the 48.1 lb/day maximum daily WLA and will ensure compliance with the maximum daily WLA, even though it is averaged over a period of 1 week. Therefore, the permit does not include a maximum daily limit for TSS.

See Table 3 – Proposed Effluent Limits and Monitoring Requirements for these limits.

Mixing Zones

Sometimes it is appropriate to allow a small area of the receiving water to provide dilution of the effluent. These areas are called mixing zones. Mixing zone allowances will increase the mass loadings of the pollutant to the water body and will decrease treatment requirements. Mixing zones can be used only when there is adequate receiving water flow volume and when the receiving water meets the criteria necessary to protect the designated uses of the water body. Idaho's water quality standards define a "zone of initial dilution" as "an area within a…mixing zone where acute criteria may be exceeded" (IDAPA 58.01.02.010.118). All water quality criteria must be met at the edge of the mixing zone (IDAPA 58.01.02.060.01.b).

The facility has been granted a zone of initial dilution and mixing zone encompassing 25% of the 1B3 and 4B3 stream flows, respectively, for chlorine.

Procedure for Deriving Water Quality-Based Effluent Limits

The first step in developing a WQBEL is to develop a WLA for the pollutant. A WLA is the concentration or loading of a pollutant that the permittee may discharge without causing or contributing to an exceedance of WQS in the receiving water. In cases where a mixing zone is not authorized, the criterion becomes the WLA. Establishing the criterion as the wasteload

allocation ensures that the permittee will not cause or contribute to an exceedance of the criterion. Once a WLA is developed, EPA calculates effluent limits which are protective of the WLA using statistical procedures described in Appendix C, which details the specific WQBELs in the draft permit.

Appendix C – Reasonable Potential and Water Quality-based Effluent Limits

A. Reasonable Potential Analysis

The EPA uses the process described in the T*echnical Support Document for Water Quality-based Toxics Control* or TSD (EPA 1991) to determine reasonable potential. To determine if there is reasonable potential for the discharge to cause or contribute to an exceedance of WQC for a given pollutant, the EPA compares the maximum projected receiving water concentration to the water quality criteria for that pollutant. If the projected receiving water concentration exceeds the criteria, there is reasonable potential and a WQBEL must be included in the permit. This following section discusses how the maximum projected receiving water concentration is determined.

Mass Balance

For discharges to flowing water bodies, the maximum projected receiving water concentration is determined using the following mass balance equation:

$$C_d Q_d = C_e Q_e + C_u Q_u \qquad \text{Equation 1}$$

where,

- C_d = Receiving water concentration downstream of the effluent discharge (that is, the concentration at the edge of the mixing zone)
- C_e = Maximum projected effluent concentration
- C_u = 95th percentile measured receiving water upstream concentration
- Q_d = Receiving water flow rate downstream of the effluent discharge = Q_e+Q_u
- Q_e = Effluent flow rate (set equal to the design flow of the facility)
- Q_u = Receiving water low flow rate upstream of the discharge (1B3, 4B3 or 30B3)

When the mass balance equation is solved for C_d, it becomes:

$$C_d = \frac{C_e \times Q_e + C_u \times Q_u}{Q_e + Q_u} \qquad \text{Equation 2}$$

The above form of the equation is based on the assumption that the discharge is rapidly and completely mixed with 100% of the receiving stream.

If the mixing zone is based on less than complete mixing with the receiving water, the equation becomes:

$$C_d = \frac{C_e \times Q_e + C_u \times (Q_u \times \%MZ)}{Q_e + (Q_u \times \%MZ)} \qquad \text{Equation 3}$$

Where:

% MZ = the percentage of the receiving water flow available for mixing.

If a mixing zone is not allowed, dilution is not considered when projecting the receiving water concentration and,

$$C_d = C_e \qquad \text{Equation 4}$$

A dilution factor (D) can be introduced to describe the allowable mixing. Where the dilution factor is expressed as:

$$D = \frac{Q_e + Q_u \times \%MZ}{Q_e} \qquad \text{Equation 5}$$

After the dilution factor simplification, the mass balance equation becomes:

$$C_d = \frac{C_e - C_u}{D} + C_u \qquad \text{Equation 6}$$

The above equation for C_d is the form of the mass balance equation which was used to determine reasonable potential and calculate wasteload allocations.

Maximum Projected Effluent Concentration

When determining the projected receiving water concentration downstream of the effluent discharge, the TSD recommends using the maximum projected effluent concentration (C_e) in the mass balance calculation (see equation 6). To determine the maximum projected effluent concentration (C_e) the EPA has developed a statistical approach to better characterize the effects of effluent variability. The approach combines knowledge of effluent variability as estimated by a coefficient of variation (CV) with the uncertainty due to a limited number of data to project an estimated maximum concentration for the effluent. Once the CV for each pollutant parameter has been calculated, the reasonable potential multiplying factor (RPMF) used to derive the maximum projected effluent concentration (C_e) can be calculated using the following equations:

First, the percentile represented by the highest reported concentration is calculated.

$$p_n = (1 - \text{confidence level})^{1/n} \qquad \text{Equation 7}$$

where,

p_n = the percentile represented by the highest reported concentration

n = the number of samples

confidence level = 99% = 0.99

and

$$RPM = \frac{C_{99}}{C_{P_n}} = \frac{e^{Z_{99} \times \sigma - 0.5 \times \sigma^2}}{e^{Z_{P_n} \times \sigma - 0.5 \times \sigma^2}} \qquad \text{Equation 8}$$

Where,

σ^2 = $\ln(CV^2 + 1)$

Z_{99} = 2.326 (z-score for the 99th percentile)

Z_{Pn} = z-score for the P_n percentile (inverse of the normal cumulative distribution function at a given percentile)

CV = coefficient of variation (standard deviation ÷ mean)

The maximum projected effluent concentration is determined by simply multiplying the maximum observed effluent concentration (MOEC) by the RPMF:

$$C_e = (RPMF)(MOEC) \qquad \text{Equation 9}$$

Maximum Projected Effluent Concentration at the Edge of the Mixing Zone

Once the maximum projected effluent concentration is calculated, the maximum projected effluent concentration at the edge of the acute and chronic mixing zones is calculated using the mass balance equations presented previously.

Reasonable Potential

The discharge has reasonable potential to cause or contribute to an exceedance of WQC if the maximum projected concentration of the pollutant at the edge of the mixing zone exceeds the most stringent criterion for that pollutant.

B. WQBEL Calculations

Calculate the Wasteload Allocations (WLAs)

WLAs are calculated using the same mass-balance equations used to calculate the concentration of the pollutant at the edge of the mixing zone in the RPA. To calculate the wasteload allocations, C_d is set equal to the acute or chronic criterion and the equation is solved for C_e. The calculated C_e is the acute or chronic WLA. Equation 6 is rearranged to solve for the WLA, becoming:

$$C_e = WLA = D \times (C_d - C_u) + C_u \qquad \text{Equation 10}$$

The next step is to compute the "long term average" concentrations which will be protective of the WLAs. This is done using the following equations from the TSD:

$$LTA_a = WLA_a \times e^{(0.5\sigma^2 - z\,\sigma)} \qquad \text{Equation 11}$$

$$LTA_c = WLA_c \times e^{(0.5\sigma_4^2 - z\sigma_4)} \qquad \text{Equation 12}$$

where,

σ^2 = $\ln(CV^2 + 1)$

Z_{99} = 2.326 (z-score for the 99th percentile probability basis)

CV = coefficient of variation (standard deviation ÷ mean)

σ_4^2 = $\ln(CV^2/4 + 1)$

For ammonia, because the chronic criterion is based on a 30-day averaging period, the Chronic Long Term Average (LTA_c) is calculated as follows:

$$LTA_c = WLA_c \times e^{(0.5\sigma_{30}^2 - z\sigma_{30})} \qquad \text{Equation 13}$$

where,

σ_{30}^2 = $\ln(CV^2/30 + 1)$

The LTAs are compared and the more stringent is used to develop the daily maximum and monthly average permit limits.

Derive the maximum daily and average monthly effluent limits

Using the TSD equations, the MDL and AML effluent limits are calculated as follows:

$$MDL = LTA \times e^{(z_m\sigma - 0.5\sigma^2)}$$ Equation 14

$$AML = LTA \times e^{(z_a\sigma_n - 0.5\sigma_n^2)}$$ Equation 15

where σ, and σ² are defined as they are for the LTA equations above, and,

σ_n^2 = $\ln(CV^2/n + 1$

z_a = 1.645 (z-score for the 95th percentile probability basis)

z_m = 2.326 (z-score for the 99th percentile probability basis)

n = number of sampling events required per month. With the exception of ammonia, if the AML is based on the LTA_c, i.e., $LTA_{minimum} = LTA_c$), the value of ‘‘n’’ should is set at a minimum of 4. In the case of ammonia, if the AML is based on the LTA_c, i.e., $LTA_{minimum} = LTA_c$), the value of ‘‘n’’ should is set at a minimum of 30.

Table 8 - Reasonable Potential Analysis and Effluent Limits for Ammonia and Chlorine

Reasonable Potential Analysis (RPA) and Water Quality Effluent Limit (WQBEL) Calculations

Facility Name	City of Juliaetta
Facility Flow (mgd)	0.08
Facility Flow (cfs)	0.12

Critical River Flows		(IDAPA 58.01.02 03. b)	Annual Crit. Flows	Seasonal Low Flow
Aquatic Life - Acute Criteria - Criterion Max. Concentration (CMC)		**1Q10**	0.05	
Aquatic Life - Chronic Criteria - Criterion Continuous Concentration (CCC)		**7Q10 or 4B3**	1.34	
Ammonia		**30B3/30Q10** (seasonal)	2.66	
Human Health - Non-Carcinogen		**30Q5**	2.66	
Human Health - carcinogen		**Harmonic Mean Flow**	6.09	

Receiving Water Data		Notes:	Annual Crit. Flows	Seasonal Low Flow
Hardness, as mg/L $CaCO_3$	= 100 mg/L	5th % at critical flows		
Temperature, °C	Temperature, °C	95th percentile	20.025	
pH, S.U.	pH, S.U.	95th percentile	8.186	

Pollutants of Concern			**AMMONIA,** default: cold water, fish early life stages	**CHLORINE (Total Residual)**
Effluent Data	**Number of Samples in Data Set (n)**		11	25
	Coefficient of Variation (CV) = Std. Dev./Mean (default CV = 0.6)		0.46622073	0.43592125
	Effluent Concentration, µg/L (Max. or 95th Percentile) - (C_e)		310	70
	Calculated 50th % Effluent Conc. (when n>10), Human Health Only			
Receiving Water Data	**90th Percentile Conc., µg/L - (C_u)**			
	Geometric Mean, µg/L, Human Health Criteria Only			
Applicable Water Quality Criteria	Aquatic Life Criteria, µg/L	Acute	3,930.369	19.
	Aquatic Life Criteria, µg/L	Chronic	1,285.71	11.
	Human Health Water and Organism, µg/L		--	--
	Human Health, Organism Only, µg/L		--	--
	Metals Criteria Translator, decimal (or default use Conversion Factor)	Acute		--
		Chronic		--
	Carcinogen (Y/N), Human Health Criteria Only		--	N
Percent River Flow Default Value = **25%**	**Aquatic Life - Acute**	**1Q10**	0%	25%
	Aquatic Life - Chronic	7Q10 or 4B3		25%
		30B3 or 30Q10		25%
	Human Health - Non-Carcinogen and Chronic Ammonia	30Q5	0%	25%
	Human Health - Carcinogen	Harmonic Mean		25%
Calculated Dilution Factors (DF) (or enter Modeled DFs)	Aquatic Life - Acute	1Q10	1.0	1.1
	Aquatic Life - Chronic	7Q10 or 4B3		3.7
		30B3 or 30Q10		6.4
	Human Health - Non-Carcinogen and Chronic Ammonia	30Q5	1.0	6.4
	Human Health - Carcinogen	Harmonic Mean		13.3

Aquatic Life Reasonable Potential Analysis

σ	$\sigma^2=\ln(CV^2+1)$		0.443	0.417
P_n	=(1-confidence level)$^{1/n}$, where confidence level =	**99%**	0.658	0.832
Multiplier (TSD p. 57)	$=\exp(z\sigma-0.5\sigma^2)/\exp[\text{normsinv}(P_n)\sigma-0.5\sigma^2]$, where	**99%**	2.3	1.8
Statistically projected critical discharge concentration (C_e)			726	123.71
Predicted max. conc.(ug/L) at Edge-of-Mixing Zone		Acute	726	112.36
(note: for metals, concentration as dissolved using conversion factor as translator)		Chronic	726	33.37
Reasonable Potential to exceed Aquatic Life Criteria			**NO**	**YES**

Aquatic Life Effluent Limit Calculations

Number of Compliance Samples Expected per month (n)				
n used to calculate AML (if chronic is limiting then use min=4 or for ammonia min=30)			--	4
LTA Coeff. Var. (CV), decimal	(Use CV of data set or default = 0.6)		--	0.436
Permit Limit Coeff. Var. (CV), decimal	(Use CV from data set or default = 0.6)		--	0.436
Acute WLA, ug/L	C_d = (Acute Criteria x MZ_a) - C_u x (MZ_a-1)	Acute	--	20.9
Chronic WLA, ug/L	C_d = (Chronic Criteria x MZ_c) - C_u x (MZ_c-1)	Chronic	--	40.8
Long Term Ave (LTA), ug/L	WLAc x $\exp(0.5\sigma^2-z\sigma)$, Acute	**99%**	--	8.6
(99th % occurrence prob.)	WLAa x $\exp(0.5\sigma^2-z\sigma)$; ammonia n=30, Chronic	**99%**	--	25.3
Limiting LTA, ug/L	used as basis for limits calculation		--	8.6
Applicable Metals Criteria Translator (metals limits as total recoverable)				--
Average Monthly Limit (AML), ug/L	, where % occurrence prob =	**95%**	**--**	**12**
Maximum Daily Limit (MDL), ug/L	, where % occurrence prob =	**99%**	**--**	**21**
Average Monthly Limit (AML), mg/L			**--**	**0.012**
Maximum Daily Limit (MDL), mg/L			**--**	**0.021**
Average Monthly Limit (AML), lb/day			**--**	**0.0080**
Maximum Daily Limit (MDL), lb/day			**--**	**0.014**

E. coli

E. coli bacteria load and waste load allocations have been developed for specific tributaries, a mainstem river segment of the Potlatch River, and five municipal wastewater treatment plant facilities in the *Potlatch River Subbasin Assessment and TMDLs* and are consistent with the standards for primary contact recreation. See Table 3 – Proposed Effluent Limits and Monitoring Requirements for these limits.

Appendix D – Endangered Species Act

C. Overview

As discussed in Section VIII of this fact sheet, Section 7 of the Endangered Species Act requires federal agencies to consult with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) if there are potential affects a federal action may have on threatened and endangered species. EPA has determined that there is no effect to threatened and endangered species resulting from discharge from the City of Juliaetta WWTP.

D. Species Lists

USFWS Species and Critical Habitat

On November 3, 2017, the EPA obtained an official species list from the U.S. Fish and Wildlife Service, using its ECOS-IPaC website. According to the official species list, the threatened bull trout and Spalding's Catchfly (a flowering plant) are present in the vicinity of the City of Juliaetta WWTP. Since the Spalding's Catchfly is not an aquatic species and therefore has no exposure pathway for pollutants discharged by the City of Juliaetta WWTP, this species is not addressed further.

The letter providing the species list cautions that "the IPaC module for producing a list of proposed and designated critical habitat is currently incomplete," and thus asks that the action agency check the USFWS website to determine if the action area includes critical habitat. The City of Juliaetta WWTP is located in Latah County, however, the Potlatch River, which is the receiving water for the discharge, forms part of the border between Latah and Nez Perce counties. Thus, the EPA checked the lists of critical habitat for both Nez Perce and Latah Counties. The only USFWS species with designated critical habitat in Nez Perce or Latah County, Idaho is bull trout. The Clearwater River, which is downstream from the Potlatch River, is designated bull trout critical habitat, but the Potlatch River is not designated bull trout critical habitat.

NOAA NMFS Species and Critical Habitat

The Potlatch River may be used by Snake River fall Chinook salmon, Snake River spring/summer Chinook salmon, Snake River sockeye salmon, and Snake River steelhead.

The Potlatch River is designated critical habitat for Snake River steelhead (70 FR 52781). The Clearwater River, downstream from the Potlatch River, is designated critical habitat for Snake River Fall Chinook salmon (58 FR 68543).

E. Potential Impacts from the Discharge on Listed Species

The following sections present general and chemical specific impacts to the listed aquatic species.

General Discussion

Bull trout, Snake River fall Chinook salmon, Snake River spring/summer Chinook salmon, Snake River sockeye salmon, and Snake River steelhead can be found in the Potlatch River, which is the receiving water for the NPDES permittee addressed by this BE.

The NMFS' assessment of impacts to fall Chinook salmon and steelhead in the Columbia River basin largely focuses on impacts from major dam operations. Other sources of effects include hatcheries and habitat effects from large-scale land disturbance. Impacts from small municipal wastewater dischargers are not identified.

The Potlatch and Clearwater Rivers are part of the Lower Snake region of the Mid-Columbia Recovery Unit for bull trout and provide foraging, migration, and overwintering (FMO) habitat for bull trout; there are no local bull trout populations in the lower-middle clearwater river (USFWS 2015a). Factors affecting the status of bull trout across its range in the coterminous United States include passage barriers including dams, forest management practices, livestock grazing, agricultural practices, transportation networks, mining, residential development and urbanization, fisheries management activities, as well as natural events (e.g., wildfire, drought, flooding) that may contribute to core area isolation and habitat fragmentation (USFWS 2015b). A number of stream restoration projects have been implemented on federal lands in the Clearwater River basin (USFWS 2015a).

The recovery plans reference the need to complete Total Maximum Daily Loads (TMDLs) to address water quality concerns in critical habitat areas. One of the conservation recommendations in the Mid-Columbia Recovery Unit Implementation Plan for Bull Trout is to mitigate point and nonpoint thermal pollution, and the Potlatch River is one of the priority watersheds for this conservation recommendation (USFWS 2015a). IDEQ completed the *Potlatch River Subbasin Assessment and TMDLs* (IDEQ 2008), which addressed impairments caused by temperature and sedimentation/siltation in September 2008, and the EPA approved the TMDL in February 2009. IDEQ issued a draft revision to the temperature portion of the TMDL for public review and comment in August 2017. IDEQ has provided the EPA with a revised draft of this TMDL, dated January 2018 ("January 2018 Draft TMDL").

The permit includes effluent limits for TSS which are consistent with the 2008 TMDL. The permit proposes temperature effluent limits which are consistent with the proposed wasteload allocations in the January 2018 Draft TMDL.

The cold water aquatic life use is also impaired by physical habitat substrate alterations and flow regime alterations, however, no TMDL is needed for those impairments because they are not caused by pollutants.

Chemical-specific Effects

The following subsections describe the characteristics of the permitted discharge from the Juliaetta treatment plant and their potential effects on listed species. EPA is not aware of any influent sources of other toxic pollutants (e.g., metals and organic pollutants) to the treatment plant. Since reissuance of the permit will not change the current discharge, it is generally unlikely to cause degradation in water quality and associated impacts on listed species.

Total Suspended Solids (TSS)

The Idaho Administrative Procedures Act (IDAPA) Section 58.01.02.200.08 provides a narrative water quality standard for sediment. Sediment shall not exceed quantities specified in Section 250, or in the absence of specific sediment criteria, quantities that impair designated beneficial uses. Other sources provide appropriate numeric limits and targets for suspended sediment. Suggested limits for suspended sediment have been developed by the European Inland Fisheries Advisory Commission and the National Academy of Sciences, and have been adopted by the

State of Idaho in previous TMDLs. A limit of 25 mg/L of suspended sediment provides a high level of protection of aquatic organisms; 80 mg/L moderate protection; 400 mg/L low protection; and over 400 mg/L very low protection (USDA FS 1990, Thurston et al. 1979). The *Potlatch River Subbasin Assessment and TMDLs* (IDEQ 2008) established TSS targets of 50 mg/L as a monthly average and 80 mg/L as a daily maximum. The technology-based effluent limits of 30 mg/L (monthly average) and 45 mg/L (maximum weekly average) will ensure that the discharge meets the TMDL's targets at the end-of-pipe.

Suspended solids from the City's wastewater discharges are highly unlikely to pose any risk or harm to aquatic life, including threatened or endangered salmonids in the region, because the effluent dilution is high (typically more than 12:1). With the effluent limits of 30 mg/L (monthly average) and 45 mg/L (maximum weekly average), the large amount of receiving stream flow will dilute and disperse any suspended solids resulting in an extremely low concentration at any point in the stream. This concentration of TSS will be indistinguishable from natural background concentrations and harmless to aquatic life.

Chlorine

Chlorine has been shown to cause avoidance responses in fish (Heath 1995). In freshwater, residual chlorine is composed of both "free" chlorine (made up of hypochlorous acid and hypochlorite ions) and combined chlorine (primarily made up of monochloramine). Free chlorine is more toxic than the combined form, and fish avoid it at lower concentrations (Cherry et al., 1979). Both marine and freshwater fish species have been shown to avoid chlorine at concentrations well below the lethal level (but it is important to understand that temperature, body size, and time of exposure can influence the organism's response). Wastewater treatment plants effluents may contain chlorine and also have waste heat. This combination of a contaminant that is avoided by fish (at sub-lethal levels) and elevated water temperature, would elicit an avoidance response in the salmonid species of concern considered in this Biological Evaluation.

To minimize the potential effects on desirable species of aquatic life from chlorine discharge into receiving waters, the EPA (1986) established criteria for chlorine at 11 µg/L as a 4-day average and 19 µg/L as a 1-hour average. Idaho applies its water quality standard, equivalent to that established by EPA (1986), for residual chlorine to all waters throughout the state for the protection of aquatic life. The permit includes total residual chlorine limits based on application of the above water quality standards with a mixing zone that takes into account the allowed 25 percent of the stream flow. This will ensure protection of downstream water quality. In addition:

1. Chlorine dissipates very quickly (within minutes) and does not bioaccumulate or cause chronic toxicity problems.
2. Potential acute effects of chlorine are extremely low because of the dilution that occurs when effluents are discharged to relatively large receiving streams. With the very quick dissipation of chlorine and the dilution in the receiving stream, only a very small area near the discharge point would have even marginally toxic concentrations of chlorine at any given time.
3. Fish such as salmonids are adept at sensing and avoiding very low (subacute) concentrations of chlorine. Thus, even if there was a small area of relatively higher

chlorine concentration near the discharge point in the river, fish would easily avoid the area.

Ammonia

The EPA has determined that the City's discharge of ammonia does not have the reasonable potential to cause or contribute to excursions above water quality standards for ammonia.

Ammonia concentrations in the City's discharge are very unlikely to cause any harm, directly or indirectly, to threatened or endangered aquatic species for the following reasons:

1. Ammonia toxicity is related to the unionized fraction, which is greater as pH and temperature increase. Ammonia limits are based on critical conditions for both pH and temperature, in addition to stream flow. Thus, in general, the unionized fraction of ammonia would be relatively low (i.e., most of the ammonia is in an ionized or non-toxic state), relative to the critical conditions used to derive the limits. Therefore, ammonia is not likely to cause toxicity.
2. The concentration of ammonia at any point in the river will be low given the dilution experienced by the effluent. The dilution would also negate any potentially higher effluent pH on ammonia toxicity; ammonia speciation and toxicity will be driven by the stream pH rather than the effluent pH because stream flow is so much greater.
3. Fish, such as the listed species, are adept at sensing and avoiding very low concentrations of ammonia. Thus, even if there was a small area of higher ammonia concentration, fish could easily avoid it. In addition, fish have been reported to have the ability to enter waters that contain acutely toxic concentrations of ammonia without suffering any obvious long-term effects, as long as the trips are followed by periods in which the fish are in waters that contain ammonia concentrations below acute toxicity levels (Thurston et al. 1981). The low ammonia concentrations in the effluent vicinity and the extremely small effected area, if any, would not impact these fish populations because critical habitat would not be affected in any measurable way.
4. Indirect effects of ammonia, such as nutrient enrichment for primary producers, would also be insignificant because of the dilution of the effluent.

Bacteria

Effluent limitations for E. coli will ensure that bacterial levels will be extremely low in the discharge and receiving water. Furthermore, bacteria from domestic waste that might be present in the effluent is unlikely to cause harm to aquatic life because these are not aquatic pathogens.

pH

In 1969, the European Inland fisheries Advisory Commission (EIFAC) concluded that pH values ranging from 5.0 to 6.0 are unlikely to harm any species unless either the concentration of free carbon dioxide exceeds 20 parts per million (ppm) or the water contains iron salts precipitated as ferric hydroxide, a compound of unknown toxicity. pH values ranging from 6.0 to 6.5 are unlikely to harm fish unless free carbon dioxide is present in excess of 100 ppm, while pH values ranging from 6.5 to 9.0 are harmless to fish, although the toxicity of other compounds may be affected by changes within this range. These and other studies evaluating the effects of pH on various fish species and macroinvertebrates led EPA (1986) to conclude that a pH range of 6.5 to

9.0 appears to provide adequate protection for the life of freshwater fish and bottom dwelling invertebrates. The permit requires compliance with a pH limit of 6.5-9.0 at the point of discharge, which is Idaho's water quality standard for aquatic life. Therefore, issuance of the NPDES permit will not cause pH-related effects on listed species.

BOD/Dissolved Oxygen

The BOD limits of 30 mg/L (monthly average) and 45 mg/L (maximum weekly average) should be fully protective of listed species, given that the stream is not impaired for dissolved oxygen and the dilution available. The dilution would result in little, if any, area where BOD may be slightly higher than background. The slight, if any, increase in BOD at the discharge point would not have a measurable on dissolved oxygen levels and fish populations. furthermore, the relatively cool water temperature of these streams typically results in high oxygen saturation and therefore, adequate oxygen for fish and other aquatic life.

Temperature

The permit proposes t effluent limits which are consistent with the proposed wasteload allocations in the January 2018 Draft TMDL. If the revised TMDL is finalized and approved before the EPA issues a final permit for the City of Juliaetta, the final permit will include effluent limits consistent with the WLAs in the final revised TMDL. The EPA expects that these WLAs will be similar to the WLAs proposed in the January 2018 Draft TMDL. These wasteload allocations and resulting effluent limits ensure compliance with water quality standards for temperature.

Critical Habitat

The Clearwater River, which is downstream from the Potlatch River, is designated critical habitat for bull trout and Snake River fall Chinook salmon. Both the Potlatch River and the Clearwater River are designated critical habitat for Snake River Steelhead.

The discharge is not expected to have any effect upon the Clearwater River, which is about 8 miles downstream from the discharge. The 4B3 flow rate of the Potlatch River at USGS station #13341570, Potlatch River below Little Potlatch Creek near Spalding, is 1.36 CFS. The design flow of the Juliaetta WWTP is 0.124 CFS, which is 9% of the 4B3 flow rate of the Potlatch River. Thus, the discharge from the Juliaetta WWTP will be so dilute that it have no effect on critical habitat in the Potlatch River or the Clearwater River.

F. Conclusion

The BE process concludes that the action of permit issuance for the Juliaetta wastewater treatment plant in the Clearwater River Subbasin will have no effect on any of the listed threatened and endangered species.

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Appendix E – Essential Fish Habitat Assessment

Pursuant to the requirements for Essential Fish Habitat (EFH) assessments, this appendix contains the following information:

- Listing of EFH Species in the Facility Area
- Description of the Facility and Discharge Location
- The EPA's Evaluation of Potential Effects to EFH

A. Listing of EFH Species in the Facility Area

All waterbodies used by anadromous salmon throughout Idaho must be considered for EFH identification. The receiving water may be used by Snake River fall Chinook salmon, Snake River spring/summer Chinook salmon, Snake River sockeye salmon, and Snake River steelhead.

B. Description of the Facility and Discharge Location

The activities and sources of wastewater at the City of Juliaetta wastewater treatment facility are described in detail in Part II and Appendix A of this fact sheet. The location of the outfall is described in Part III ("Receiving Water").

C. The EPA's Evaluation of Potential Effects to EFH

Water quality is an important component of aquatic life habitat. NPDES permits are developed to protect water quality in accordance with state water quality standards. The standards protect the beneficial uses of the waterbody, including all life stages of aquatic life. The development of permit limits for an NPDES discharger includes the basic elements of ecological risk analysis. The underlying technical process leading to NPDES permit requirements incorporates the following elements of risk analysis:

Effluent Characterization

Characterization of the City of Juliaetta's effluent was accomplished using a variety of sources, including:

- Permit application monitoring
- Permit compliance monitoring
- Statistical evaluation of effluent variability
- Quality assurance plans and evaluations

Identification of Pollutants of Concern and Threshold Concentrations

The pollutants of concern include pollutants with aquatic life criteria in the Idaho Water Quality Standards. Threshold concentrations are equal to the numeric water quality criteria for the protection of aquatic life. No other pollutants of concern were identified by NMFS.

Exposure and Wasteload Allocation

Analysis of the transport of pollutants near the discharge point with respect to the following:

- Mixing zone policies in the Idaho Water Quality Standards
- Dilution modeling and analysis
- Exposure considerations (e.g., prevention of lethality to passing organisms)

- Consideration of multiple sources and background concentrations

Statistical Evaluation for Permit Limit Development

Calculation of permit limits using statistical procedures addressing the following:

- Effluent variability and non-continuous sampling
- Fate/transport variability
- Duration and frequency thresholds identified in the water quality criteria

Monitoring Programs

Development of monitoring requirements, including:

- Compliance monitoring of the effluent
- Ambient monitoring

Protection of Aquatic Life in NPDES Permitting

The EPA's approach to aquatic life protection is outlined in detail in the *Technical Support Document for Water Quality-based Toxics Control* (EPA/505/2-90-001, March 1991). The EPA and states evaluate toxicological information from a wide range of species and life stages in establishing water quality criteria for the protection of aquatic life.

The NPDES program evaluates a wide range of chemical constituents to identify pollutants of concern with respect to the criteria values. When a facility discharges a pollutant at a level that has a "reasonable potential" to exceed, or to contribute to an exceedance of, the water quality criteria, permit limits are established to prevent exceedances of the criteria in the receiving water (outside any authorized mixing zone).

Effects Determination

Since the proposed permit has been developed to protect aquatic life species in the receiving water in accordance with the Idaho water quality standards, the EPA has determined that issuance of this permit will have no effect on any EFH in the vicinity of the discharge. The EPA will provide NMFS with copies of the draft permit and fact sheet during the public notice period. Any recommendations received from NMFS regarding EFH will be considered prior to reissuance of this permit.

Appendix F – Draft Clean Water Act Section 401 Certification

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1118 F Street • Lewiston, Idaho 83501 • (208) 799-4370
www.deq.idaho.gov

C.L. "Butch" Otter, Governor
John H. Tippets, Director

March 27, 2018

Mr. Michael J. Lidgard
NPDES Permits Unit Manager
EPA Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

Subject: DRAFT 401 Water Quality Certification for the City of Juliaetta Wastewater Treatment Plant, Permit #ID0023761

Dear Mr. Lidgard:

The Lewiston Regional Office of the Department of Environmental Quality (DEQ) has reviewed the above-referenced permit for the City of Juliaetta Wastewater Treatment Plant. Section 401 of the Clean Water Act requires that states issue certifications for activities that are authorized by a federal permit and may result in the discharge to surface waters. In Idaho, the DEQ is responsible for reviewing these activities and evaluating whether the activity will comply with Idaho's Water Quality Standards, including any applicable water quality management plans (e.g., total maximum daily loads). A federal discharge permit cannot be issued until DEQ has provided certification or waived certification either expressly, or by taking no action.

This letter is to inform you that DEQ is issuing the attached 401 certification subject to the terms and conditions contained therein.

Please contact me directly at 208-799-4370 to discuss any questions or concerns regarding the content of this certification.

Sincerely,

John Cardwell
Regional Administrator
Lewiston Regional Office

c: Brian Nickel, EPA Region 10
Loren Moore, DEQ State Office
Mark Cecchini-Beaver, Deputy AG

Idaho Department of Environmental Quality

Draft §401 Water Quality Certification

March 27, 2018

NPDES Permit Number(s): City of Juliaetta Wastewater Treatment Plant (WWTP), Permit #ID0023761

Receiving Water Body: Potlatch River – 6th order

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NPDES) permits and issue water quality certification decisions.

Based upon its review of the above-referenced permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- Tier I Protection. The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier I review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier II Protection. The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- Tier III Protection. The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier I protection for that use, unless specific circumstances warranting Tier II protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

Pollutants of Concern

The City of Juliaetta WWTP discharges the following pollutants of concern: five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), *E. coli*, pH, ammonia, total residual chlorine (TRC), temperature, dissolved oxygen (DO), and total phosphorous (TP). Effluent limits have been developed for BOD_5, TSS, *E. coli*, pH, TRC, and temperature. No effluent limits are proposed for ammonia, DO, and TP.

Receiving Water Body Level of Protection

The City of Juliaetta WWTP discharges to the Potlatch River within the Clearwater Subbasin assessment unit (AU) ID17060306CL044_06 (Potlatch River – 6th order). This AU has the following designated beneficial uses: cold water aquatic life, salmonid spawning, primary contact recreation, and domestic water supply. In addition to these uses, all waters of the state are protected for agricultural and industrial water supply, wildlife habitat, and aesthetics (IDAPA 58.01.02.100).

According to DEQ's 2014 Integrated Report, the aquatic life uses in this AU are not fully supported. Causes of impairment include temperature, sediment, habitat alterations, and other flow regime alterations. The primary contact recreation beneficial use is fully supported. As such, DEQ will provide Tier 1 protection (IDAPA 58.01.02.051.01) for the aquatic life use and Tier II protection (IDAPA 58.01.02.051.02) in addition to Tier I for the contact recreation use (IDAPA 58.01.02.052.05.c).

Protection and Maintenance of Existing Uses (Tier I Protection)

A Tier I review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing and designated uses and the level of water quality necessary to protect existing and designated uses shall be maintained and protected. In order to protect and maintain existing and designated beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters. The numeric and narrative criteria in the WQS are set at levels that ensure protection of existing and designated beneficial uses. The effluent limitations and associated requirements contained in the City of Juliaetta WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations for point

source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limitations that are consistent with wasteload allocations in the approved TMDL.

Prior to the development of the TMDL, the WQS require the application of the antidegradation policy and implementation provisions to maintain and protect uses (IDAPA 58.01.02.055.04).

The EPA-approved *Potlatch River Subbasin Assessment and TMDLs* (2008) establishes wasteload allocations for sediment and temperature. The draft *Potlatch River Watershed Assessment and Total Maximum Daily loads: 2017 Temperature TMDL* (2018) establishes updated wasteload allocations for temperature. These wasteload allocations are designed to ensure the Potlatch River will achieve the water quality necessary to support its existing and designated aquatic life beneficial uses and comply with the applicable numeric and narrative criteria. The effluent limitations and associated requirements contained in the City of Juliaetta WWTP permit are set at levels that comply with these wasteload allocations.

In sum, the effluent limitations and associated requirements contained in the City of Juliaetta WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS and the wasteload allocations established in the *Potlatch River Subbasin Assessment and TMDLs* (2008) and draft *Potlatch River Watershed Assessment and Total Maximum Daily loads: 2017 Temperature TMDL* (2018). Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Potlatch River in compliance with the Tier I provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

High-Quality Waters (Tier II Protection)

The Potlatch River is considered high quality for primary contact recreation. As such, the water quality relevant to the primary contact recreation use of the Potlatch River must be maintained and protected, unless a lowering of water quality is deemed necessary to accommodate important social or economic development.

To determine whether degradation will occur, DEQ must evaluate how the permit issuance will affect water quality for each pollutant that is relevant to the contact recreation uses of the Potlatch River (IDAPA 58.01.02.052.06). These include *E. coli* and TP**.** Effluent limits are set in the proposed and existing permit for *E. coli* but not for TP.

For a reissued permit or license, the effect on water quality is determined by looking at the difference in water quality that would result from the activity or discharge as authorized in the current permit and the water quality that would result from the activity or discharge as proposed in the reissued permit or license (IDAPA 58.01.02.052.06.a). For a new permit or license, the effect on water quality is determined by reviewing the difference between the existing receiving water quality and the water quality that would result from the activity or discharge as proposed in the new permit or license (IDAPA 58.01.02.052.06.a).

Pollutants with Limits in the Current and Proposed Permit

For pollutants that are currently limited and will have limits under the reissued permit, the current discharge quality is based on the limits in the current permit or license (IDAPA 58.01.02.052.06.a.i), and the future discharge quality is based on the proposed permit limits

(IDAPA 58.01.02.052.06.a.ii). For the City of Juliaetta WWTP permit, this means determining the permit's effect on water quality based upon the limits for five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), *E. coli*, pH, and total residual chlorine (TRC) in the current and proposed permits. Table 1 provides a summary of the current permit limits and the proposed or reissued permit limits.

Table 1. Comparison of current and proposed permit limits for pollutants of concern relevant to uses receiving Tier II protection.

Pollutant	Units	Current Permit			Proposed Permit			Change[a]
		Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Average Monthly Limit	Average Weekly Limit	Single Sample Limit	
Pollutants with limits in both the current and proposed permit								
Biochemical Oxygen Demand (BOD_5)	mg/L	30	45	—	30	45	—	NC
	lb/day	20	30	—	20	30	—	
	% removal	85%	—	—	85%	—	—	
TSS	mg/L	30	45	—	30	45	—	D
	lb/day	20	30	—	18	30	—	
	% removal	85%	—	—	85%	—	—	
E. coli	no./100 mL	126	—	406	126	—	406	NC
pH	standard units	6.5–9.0 all times			6.5–9.0 all times			NC
Total Residual Chlorine (final)	µg/L	80	—	200	12	—	21	D
	lb/day	0.05	—	0.1	0.008	—	0.014	
Pollutants with new limits in the proposed permit								
Temperature	°C	—	—	—	See Table 2			New, TMDL
Pollutants with no limits in both the current and proposed permit								
Nitrate +Nitrite	mg/L	—	—	—	—	—	Report	New
Total Ammonia as N	mg/L	—	—	Report	—	—	Report	NC
Total phosphorous		—	—	Report	—	—	Report	NC

[a] NC = no change, D = decrease.

The proposed permit limits for pollutants of concern that have limits in Table 1, BOD_5, TSS, *E. coli*, pH, and TRC, are the same as, or more stringent than, those in the current permit ("NC" or "D" in change column). Therefore, no adverse change in water quality and no degradation will result from the discharge of these pollutants.

Pollutants with No Limits

There is one pollutant of concern, phosphorous, relevant to the Tier II protection of recreation that currently is not limited and for which the proposed permit also contains no limit (Table 1). For such pollutants, a change in water quality is determined by reviewing whether changes in production, treatment, or operation that will increase the discharge of these pollutants are likely (IDAPA 58.01.02.052.06.a.ii). With respect to phosphorous, there is no reason to believe this pollutant will be discharged in quantities greater than those discharged under the current permit. This conclusion is based upon the fact that there have been no changes in the design flow, influent quality, or treatment processes that would likely result in an increased discharge of this pollutant. Therefore, DEQ concludes that the proposed permit should not cause a lowering of water quality for the pollutant with no limit. As such, the proposed permit should maintain the existing high water quality relevant to the recreation beneficial use in Potlatch River.

In sum, DEQ concludes that this discharge permit complies with the Tier II provisions of Idaho's WQS (IDAPA 58.01.02.051.02 and IDAPA 58.01.02.052.06).

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

Mixing Zones

Temperature

The proposed permit for City of Juliaetta WWTP includes new limits for temperature. These limits were included in the permit to be consistent with the wasteload allocations in the approved *Potlatch River Subbasin Assessment and TMDLs* (2008). IDAPA 58.01.02.060.a states a mixing zone for a TMDL listed pollutant shall not be granted unless it complies with the TMDL allocation and there has been a demonstration of assimilative capacity. In accordance with the *Potlatch River Subbasin Assessment and TMDLs* (2008), a mixing zone for temperature is granted for the City of Juliaetta's effluent when the Potlatch River has assimilative capacity; during those times when the Potlatch River is naturally exceeding applicable temperature criterion upstream from the discharge, the City of Juliaetta's effluent temperature must not raise the Potlatch River receiving water temperature by more than 0.3°C in accordance with IDAPA 58.01.02.401.1.c. Table 2 presents the allowable effluent discharge temperatures that would not exceed the salmonid spawning (9°C) and cold water aquatic life (19°C) average daily temperature criterion by more than 0.3°C during the applicable times of year. The table reflects a 25% mixing zone.

Table 2. Maximum Daily Effluent Temperature Limits (°C)

April 1 – July 15 (spawning and incubation)					
Stream Flow[1] (CFS)	WWTP Flow[1] (mgd)				
	≤ 0.0064	> 0.0064 - 0.045	> 0.045 - 0.097	> 0.097 - 0.15	> 0.15
< 2	16.8	10.4	9.8	9.6	9.6
2 - < 5	24.3	11.4	10.3	10.0	9.8
5 - <10	46.8	14.7	11.8	10.9	10.6
10 - < 25	84.3	20.0	14.3	12.6	11.8
25 - < 50	—	36.1	21.8	17.5	15.6
50 - < 100	—	62.9	34.3	25.6	21.8
≥ 100	—	—	59.3	41.9	34.3
July 16 – September 30 (cold water aquatic life)					
Stream Flow[1] (CFS)	WWTP Flow[1] (mgd)				
	≤ 0.0064	> 0.0064 - 0.045	> 0.045 - 0.097	> 0.097 - 0.15	> 0.15
< 2	26.8	20.4	19.8	19.6	19.6
2 - < 5	34.3	21.4	20.3	20.0	19.8
5 - <10	56.8	24.7	21.8	20.9	20.6
10 - < 25	94.3	30.0	24.3	22.6	21.8
25 - < 50	—	46.1	31.8	27.5	25.6
50 - < 100	—	72.9	44.3	35.6	31.8
≥ 100	—	—	69.3	51.9	44.3

Notes:
1. River flow must be determined using data from USGS station number 13341570. The applicable temperature limit is determined daily, based on the mean river flow and the mean effluent flow for that day.

Chlorine

Pursuant to IDAPA 58.01.02.060, DEQ authorizes a mixing zone that utilizes 25% of the critical flow volumes of Potlatch River for chlorine.

Other Conditions

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities—including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site-specific criteria, variances, or other new information—shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401.

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the "Rules of Administrative Procedure before the Board of Environmental Quality" (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to Sujata Connell, Lewiston Regional Office, 208-799-4370 or Sujata.Connell@deq.idaho.gov.

DRAFT

John Cardwell
Regional Administrator
Lewiston Regional Office