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:

Riverside Water and Sewer District Water Treatment Plant

Public Comment Start Date: September 17, 2025

Public Comment Expiration Date: October 17, 2025

Technical Contact: Bilin Basu
(206) 553-0029
800-424-4372, ext. 0029 (within Alaska, Idaho, Oregon and Washington)
Basu.bilin@epa.gov

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 water treatment plant 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 (FS) 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

CWA § 401 Certification

Since this facility discharges to the Nez Perce Tribe's Tribal waters and the Tribe does not have Treatment as a State (TAS), the EPA is the certifying authority for the permit. See FS

Section VI.C. Comments regarding the intent to certify should be directed to the EPA technical contact listed above.

Clean Water Act §401(a)(2) Review

CWA Section 401(a)(2) requires that, upon receipt of an application and 401 certification, the EPA as the permitting authority notify a neighboring State or Tribe with TAS when the EPA determines that the discharge may affect the quality of the neighboring State/Tribe's waters.

As stated above, the EPA is the certifying authority and is accepting comment regarding the intent to certify this permit. Once the EPA reviews any comments received regarding the intent to certify and has signed a final certification, the EPA will determine whether the discharge may affect a neighboring jurisdiction's waters (33 U.S.C. § 1341(a)(2)).

Public Comment

Persons wishing to comment on, or request a Public Hearing for, the draft permit 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 below.

By the expiration date of the public comment period, all written comments and requests must be submitted to basu.bilin@epa.gov.

After the Public Notice expires, and all comments have been considered, the EPA 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, fact sheet and other information can be downloaded from the internet at https://www.epa.gov/npdes-permits/about-region-10s-npdes-permit-program.

The draft Administrative Record for this action contains any documents listed in the References section. The Administrative Record or documents from it are available electronically upon request by contacting Bilin Basu.

For technical questions regarding the Fact Sheet, contact Bilin Basu at (206) 553-0029 or basu.bilin@epa.gov. Services can be made available to persons with disabilities by contacting Audrey Washington at (206) 553-0523.

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1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
30B3	Biologically-based design flow intended to ensure an excursion frequency of less than once every three years, for a 30-day average flow.
30Q10	30 day, 10 year low flow
AML	Average Monthly Limit
BAT	Best Available Technology economically achievable
BCT	Best Conventional pollutant control Technology
BE	Biological Evaluation
BPT	Best Practicable
°C	Degrees Celsius
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FR	Federal Register
Gpd	Gallons per day
HUC	Hydrologic Unit Code
ICIS	Integrated Compliance Information System
lbs/day	Pounds per day
LTA	Long Term Average
mg/L	Milligrams per liter
mL	Milliliters
ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and maintenance

POTW	Publicly owned treatment works
QAP	Quality assurance plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
RWC	Receiving Water Concentration
SIC	Standard Industrial Classification
s.u.	Standard Units
TMDL	Total Maximum Daily Load
TRC	Total Residual Chlorine
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
TSS	Total suspended solids
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WD	Water Division
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water Quality Standards

I. Background Information

A. GENERAL INFORMATION

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

Table 1. General Facility Information

NPDES Permit #:	ID0021237
Applicant:	Riverside Water and Sewer District
Type of Ownership	Public Water Treatment Plant
Physical Address:	10460 Highway 12 Orofino, Idaho 83544
Mailing Address:	10460 Highway 12 Orofino, Idaho 83544
Facility Contact:	Emmett Bonner Administrator RWSD.EBonner@Frontier.com (208) 476-3613
Operator Name:	Emmett Bonner
Facility Location:	46.4933°N -116.287°W
Receiving Water:	Clearwater River
Facility Outfall:	46.4933°N -116.287°W

B. PERMIT HISTORY

The most recent NPDES permit for the Riverside Water and Sewer District Water Treatment Plant ("Riverside WTP") was issued on August 30, 2017, became effective on November 1, 2017, and expired on October 31, 2022. An NPDES application for permit reissuance was submitted by the Riverside WTP on October 25, 2022. The EPA determined that the application was timely and complete. Therefore, pursuant to Title 40 Code of Federal Regulations (CFR) 122.6, the permit has been administratively continued and remains fully effective and enforceable.

C. TRIBAL COORDINATION AND CONSULTATION

The EPA consults on a government-to-government basis with federally recognized Tribal governments when EPA actions and decisions may affect Tribal interests. Meaningful Tribal consultation is an integral component of the federal government's general trust relationship with federally recognized tribes. The federal government recognizes the right of each tribe to self-government, with sovereign powers over their members and their territory. Executive Order 13175 (November 2000) entitled "Consultation and

Coordination with Indian Tribal Governments" requires federal agencies to have an accountable process to assure meaningful and timely input by tribal officials in the development of regulatory policies on matters that have tribal implications and to strengthen the government-to-government relationship with Indian tribes. In May 2011, the EPA issued the "EPA Policy on Consultation and Coordination with Indian Tribes" which established national guidelines and institutional controls for consultation.

The Riverside WTP is located on the Nez Perce Reservation of the Nez Perce Tribe of Indians (Nez Perce). Consistent with the Executive Order and the EPA tribal consultation policies, the EPA coordinated with the Nez Perce during development of the draft permit and is inviting the Tribe to engage in formal tribal consultation.

II. Facility Information

A. TREATMENT PLANT DESCRIPTION

1. Service Area

Riverside Water and Sewer District owns and operates the Riverside WTP located in Orofino, Idaho. The collection system has no combined sewers. The facility serves a resident population of approximately 2,344.

2. Treatment Process

The design flow of the facility is 0.043 million gallons per day (mgd). The 95th percentile of actual flows is 0.04 mgd.

The Riverside WTP operates like a traditional WTP except that its treatment process does not use alum or any additives that contain aluminum. The treatment process consists of pre-sedimentation, coagulation and flocculation, sedimentation and precipitation, filtration, and chlorination. The facility is supplied with raw water from the Clearwater River. The intake is located approximately 30-feet into the river from the facility's pump house and adjacent to the WTP.

Initial screening occurs within the pumphouse at the intake pumps. After screening, water is then pumped to the treatment plant where Ferric Sulfate and LT22 (polymer) are added as a coagulant/flocculant. Water then enters the clarifiers followed by media filtration units; chlorination occurs as water enters the facility's 85,900 gallon clear well. Sodium Carbonate (Soda Ash) is also added prior to pumping to the distribution system. The finished/treated water is then pumped to two storage reservoirs, a 250,000-gallon steel tank and a 750,000-gallon steel tank, which feed the district's distribution system including approximately 547 connections with 830 Equivalent Dwelling Units.

Following water treatment, the sediment cleaned from the water is pumped to a backwash/sedimentation basin, which collects the removed sediment from the filter backwash and filter-to-waste water (10,000 GPD). The sediment settles as sludge and water from the basin is discharged back to the Clearwater River via Outfall 001 [30,000 GPD (approx.)]. The facility's clarifier is flushed every 200 minutes with raw water [20,000 gallons per day (GPD)] unless special circumstances arise where turbidity levels could be extremely high. The filters are backwashed with treated water every 1440 minutes (6,000 GPD) during the summer months, or every 24 hours unless they need to be cleaned sooner. During winter months, the filters are backwashed every 1600 minutes.

Because the design flow of the facility (0.043 mgd) is less than 1 mgd, the facility is considered a minor facility. A schematic of the water treatment process and a map showing the location of the treatment facility and discharge are included in Appendix A**.**

3. Generation of Waste Streams

The principal wastewaters produced in filtration water treatment plants include filter backwash, filter-to-waste, thickener supernatant, and liquids from dewatering processes. Filter backwash and filter-to-waste account for most of the volume of wastewater discharged.

Filter Backwash

Filter media is usually cleaned by flushing with water in the reverse direction to normal flow, with sufficient force to separate particles from the media. A typical backwashing operation lasts for 10 to 25 minutes with maximum rates of 15 to 20 gallons per minute (gpm) per square foot. Because a high-water flow is used, a large volume of filter backwash water is produced in a relatively short amount of time. Small plants may produce spent filter backwash sporadically; but larger plants with numerous filters may produce backwash continuously as filters are rotated for backwashing. Spent filter backwash can comprise 2 to 10 percent of the total plant production of finished water. The quality of spent filter backwash varies from plant to plant. Filter backwash may contain chlorine, if the facility backwashes with chlorinated water. Relative to raw water, spent backwash shows higher concentrations of *Giardia lamblia* and *Cryptosporidium*, dissolved organic carbon, zinc, total trihalomethanes (TTHMs), turbidity, total organic carbon (TOC) and total suspended solids (TSS). In addition, filter backwash may have higher concentrations of iron (from iron-based coagulants). The average TSS concentrations of spent filter backwash typically falls within the range of 50 to 400 mg/L.

Filter-to-Waste

Filter-to-waste is generated by filters immediately after being placed back on-line following backwashing. The filter-to-waste is not considered to be of a quality that can be sent directly into the water distribution system but is a fairly clean waste stream. It amounts to approximately 0.5 percent of the total amount of water filtered. At some WTPs, the filter-to-waste is returned to the head of the plant. Since the last permit cycle, the Riverside WTP has changed its filter-to-waste process and has reduced the volume of flushing by an average of 0.011 mgd.

Thickener Overflows (Supernatant)

Thickener supernatant results from gravity thickening of solids in sedimentation basins, backwash holding tanks, lagoons, and other similar units. After settling, the clarified or decant water that exits the unit is called thickener supernatant. The quantity of sedimentation basin thickener supernatant is approximately 75 to 95 percent of the volume of sludge produced; and sludge volumes are typically 0.1 to 3 percent of the plant flow. Thickener supernatant may be recycled or discharged at a frequency that depends on the quantity of sludge produced. Microbial, inorganic, and organic contaminants that concentrate in the sludges can remain in the supernatant, if sludge is not properly settled, treated, and/or removed.

B. OUTFALL DESCRIPTION

The outfall discharges into the Clearwater River within the Nez Perce Reservation boundary.

C. EFFLUENT CHARACTERIZATION

To characterize the effluent, the EPA evaluated the facility's application form, discharge monitoring report (DMR) data, and additional data provided by the Riverside WTP. The effluent quality is summarized in Table 2. Data are provided in Appendix B.

Table 2. Effluent Characterization

Parameter	Minimum	Maximum	95^{th} Percentile	Notes
TSS (mg/L))	0	14.9	7.3	Monthly Average
pH (s.u.)	5.6	8.2	7.5	Instantaneous Maximum
Total Residual Chlorine (mg/L)	0.01	0.05	0.04	Monthly Average
Temperature (°C)	1.4	23.6	22.7	Monthly Average
Total Recoverable Copper (µg/L)	0	0.001	0.0008	Instantaneous Maximum
Total Recoverable Chromium (µg/L)	0	0.001	0.001	Instantaneous Maximum
Total Recoverable Nickel (µg/L)	0	0.001	0.001	Instantaneous Maximum
Total Recoverable Zinc (µg/L)	0	0.007	0.006	Instantaneous Maximum
Chloroform (µg/L)	0	4.01	1.12	Instantaneous Maximum
Source: DMR Data submitted by Riverside WTP 2017-2025				

D. COMPLIANCE HISTORY

A summary of effluent violations from 2017 to 2025 is provided in Table 3. The facility had one exceedance of the daily maximum pH effluent limit on June 30, 2022. When asked about this exceedance during a July 30, 2024, inspection, the facility stated that the pH of their water influent is lower than average. The facility now incorporates sodium carbonate into the waste stream of the water treatment plant to increase pH values. In addition to the pH violation, the inspection resulted in two other areas of concern about the quality assurance plan content and pH monitoring records. The concern with the quality assurance plan was that it was incorporated into the best management practices plan and did not include any of the minimum required elements. With the pH monitoring records, the inspection showed that pH sample time was not being properly recorded by the facility.

Additional compliance information for this facility, including compliance with other environmental statutes, is available on Enforcement and Compliance History Online (ECHO). The ECHO web address for this facility is: https://echo.epa.gov/detailed-facility-report?fid=ID0021237&sys=ICP

Table 3. Summary of Effluent Violations

Parameter	Limit Type	Units	Number of Instances	Number of Violations
pH	Instantaneous Minimum	s.u.	1	1
Information accessed in ICIS/ECHO on February 1, 2025.				

III. RECEIVING WATER

In drafting permit conditions, the EPA must analyze the effect of the facility's discharge on the receiving water. The details of that analysis are provided in the Water Quality-Based Effluent Limits (WQBEL) section in Part IV.A.3. This section summarizes characteristics of the receiving water that impact that analysis.

This facility discharges to the Clearwater River in the City of Orofino, Idaho. The discharge is between Lolo Creek and the North Fork of the Clearwater River.

A. WATER QUALITY STANDARDS

CWA § 301(b)(1)(C) requires the development of limitations in permits necessary to meet Water Quality Standards (WQS). 40 CFR 122.4(d) requires that the conditions in NPDES permits ensure compliance with the WQS of all affected States. A State's WQS are composed of use classifications, numeric and/or narrative water quality criteria and an anti-degradation 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 anti-degradation policy represents a three-tiered approach to maintain and protect various levels of water quality and uses.

The Nez Perce Tribe has not applied for the status of Treatment as a State (TAS) from the EPA for purposes of the CWA. When the Nez Perce Tribe is granted TAS, and when it has WQS approved by EPA, those tribal WQS will be used for determining effluent limitations. In the meantime, the Idaho WQS were used as reference for setting permit limits and to protect downstream uses in the State of Idaho.

1. Designated Beneficial Uses

This facility discharges to the Clearwater River in the Clearwater Subbasin (HUC 17060306), Water Body Unit C-21. At the point of discharge, the Clearwater River is protected for the following designated uses:

- cold water aquatic life, salmonid spawning
- primary contact recreation
- domestic water supply

In addition, WQS state that all waters of the State of Idaho are protected for industrial and agricultural water supply, wildlife habitats and aesthetics (IDAPA 58.01.02.100.03.b and c, 100.04 and 100.05).

B. RECEIVING WATER QUALITY

The water quality for the receiving water is summarized in Table 4.

Table 4. Receiving Water Quality Data

Parameter	Units	5th Percentile	95th Percentile	Maximum
Temperature	°C	1.5	24.2	26.5
pH	Standard units	7.1	7.9	7.9
Source: Data collected at USGS Gage Station 13340000 in Orofino, Idaho from 1989 – 2025 and from EPA National Aquatic Resources Survey in 2019				

1. Water Quality Limited Waters

The Idaho Department of Environmental Quality 2022 Integrated Report states that the portion of the Clearwater River between Lolo Creek and the North Fork Clearwater River is Category 3T – Tribal Waters. Category 3T waters that are wholly or partially on Indian reservations are not subject to the state's § 305(b)/§ 303(d) reporting requirements. Beneficial use attainment is not determined or reported for these waters.

2. Low Flow Conditions

Critical low flows for the receiving water are summarized in Table 5. Low flows are defined in Appendix C.

Table 5. Critical Flows in Receiving Water

Flows	Annual Flow (cfs)
1Q10	687
7Q10	848
30B3	1,066
30Q5	1,087
Harmonic Mean	3,079
USGS station 13340000 located at Orofino, Idaho in the Clearwater River. (1988-2024)	

IV. Effluent Limitations and Monitoring

Table 6 below presents the existing effluent limits and monitoring requirements in the current Permit.

Table 7, below, presents the effluent limits and monitoring requirements proposed in the draft permit. Changes in effluent limits are highlighted in red font.

The draft permit includes the following changes to the effluent limitations and monitoring requirements:

- More stringent average monthly and maximum daily mass-based limit for TSS.
- More stringent maximum daily and average monthly mass-based limits for total residual chlorine.
- Addition of annual effluent monitoring for iron.
- Addition of annual effluent monitoring for mercury.

Table 6. Existing Permit - Effluent Limits and Monitoring Requirements

Parameter	Units	Effluent Limitations			Monitoring Requirements		
		Average Monthly Limit	Average Weekly Limit	Max Daily Limit	Sample Location	Sample Frequency	Sample Type
TSS	mg/L	30	--	45	Effluent	1/month	Grab
	lbs/day	38	--	56	Effluent	1/month	Calculation
Total Residual Chlorine[1]	mg/L	0.3	--	0.5	Effluent	1/week	Grab
	lbs/day	0.38	--	0.63	Effluent	1/week	Calculation
pH	standard	Within the range of 6.5 to			Effluent	1/week	Grab

	units	9.0					
Flow[2]	gpd	--	--	--	Effluent	1/day	Estimate
Hardness[3]	mg/L as $CaCO_3$	--	--	--	Effluent	1/month	Grab
Metals[4]	µg/L	--	--	--	Effluent	1/Year	Grab
Temperature	°C	--	--	--	Effluent	1/week	Grab
TTHMs[5]	µg/L	--	--	--	Effluent	1/quarter	Grab
Turbidity	NTUs	--	--	--	Effluent	1/month	Grab

1. Reporting is required within 24 hours of a maximum daily limit violation.
2. Flow estimate based on facility operations (i.e. backwash volume and frequency). Report average monthly and maximum daily gpd.
3. Hardness shall be sampled at the same time metal samples are collected.
4. Metals include: antimony, arsenic, beryllium, cadmium, total chromium, copper, lead, nickel, selenium, silver, thallium, and zinc. These parameters must be measured and reported as total recoverable.
5. For TTHMs – Quarterly monitoring, with a minimum of 10 samples required within 5 years. Analysis for chloroform, chlorodibromomethane, dichlorobromomethane, and bromoform. Each of the trihalomethanes must be reported separately. Quarters are defined as: January to March; April to June; July to September; and October to December.

Table 7. Draft Permit - Effluent Limits and Monitoring Requirements

Parameter	Units	Effluent Limitations			Monitoring Requirements		
		Average Monthly Limit	Average Weekly Limit	Max Daily Limit	Sample Location	Sample Frequency	Sample Type
TSS	mg/L	30	--	45	Effluent	1/month	Grab
	lbs/day	10.8	--	16.1	Effluent	1/month	Calculation
Total Residual Chlorine[1]	mg/L	0.3	--	0.5	Effluent	1/week	Grab
	lbs/day	0.1	--	0.17	Effluent	1/week	Calculation
pH	standard units	Within the range of 6.5 to 9.0			Effluent	1/week	Grab
Flow[2]	gpd	--	--	--	Effluent	1/day	Estimate
Hardness[3]	mg/L as $CaCO_3$	--	--	--	Effluent	1/month	Grab
Metals[4]	µg/L	--	--	--	Effluent	1/year	Grab
Temperature	°C	--	--	--	Effluent	1/week	Grab

TTHMs[5]	µg/L	--	--	--	Effluent	1/quarter	Grab
Turbidity	NTUs	--	--	--	Effluent	1/month	Grab

1. Reporting is required within 24 hours of a maximum daily limit violation.
2. Flow estimate based on facility operations (i.e. backwash volume and frequency). Report average monthly and maximum daily gpd.
3. Hardness shall be sampled at the same time metal samples are collected.
4. Metals include: antimony, arsenic, beryllium, cadmium, total chromium, copper, iron, lead, mercury, nickel, selenium, silver, thallium, and zinc. These parameters must be measured and reported as total recoverable.
5. For TTHMs – Quarterly monitoring, with a minimum of 10 samples required within 5 years. Analysis for chloroform, chlorodibromomethane, dichlorobromomethane, and bromoform. Each of the trihalomethanes must be reported separately. Quarters are defined as: January to March; April to June; July to September; and October to December.

A. BASIS FOR EFFLUENT LIMITS AND MONITORING REQUIREMENTS

In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based effluent 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 a waterbody are being met and may be more stringent than TBELs.

CWA § 308 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.

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 EPA-approved test methods (generally found in 40 CFR Part 136) or as specified in the permit.

1. Pollutants of Concern

Pollutants of concern are those that either have TBELs or may need WQBELs. The EPA identifies pollutants of concern for the discharge based on those which:

- Have a TBEL
- Have an assigned wasteload allocation (WLA) from a total maximum daily load (TMDL)
- Had an effluent limit in the previous permit
- Are present in the effluent monitoring. Monitoring data are reported in the application and DMR and any special studies
- Are expected to be in the discharge based on the nature of the discharge

Based on this analysis, pollutants of concern are as follows:

- TSS
- Total Residual Chlorine
- pH
- Temperature
- Hardness
- Turbidity
- Antimony
- Arsenic
- Beryllium
- Cadmium
- Total chromium
- Copper
- Lead
- Mercury
- Nickel
- Selenium
- Silver
- Thallium
- Zinc
- Chloroform
- Chlorodibromomethane
- Dichlorobromomethane
- Bromoform
- Iron

Note that hardness is listed as a pollutant of concern because it is a parameter important for data interpretation of metals.

2. Technology-Based Effluent Limits (TBELs)

a. TBELs by Best Professional Judgement

CWA § 301(b) requires technology-based controls on effluents. All NPDES permits must contain effluent limitations which: (a) control toxic pollutants and nonconventional pollutants through the use of “best available technology economically achievable” (BAT), and (b) control conventional pollutants through the use of “best conventional pollutant control technology” (BCT). In no case may BAT or BCT be less stringent than the “best practical control technology currently achievable” (BPT), which is the minimum level of control required by CWA § 301(b)(1)(A).

The intent of a TBEL is to require a minimum level of treatment for industrial point sources based on currently available treatment technologies while allowing a discharger to choose and use any available control technique to meet the limitations. Accordingly, every individual member of a discharge class or category is required to operate their water pollution control technologies according to industry-wide standards and accepted engineering practices.

Where the EPA has not yet developed effluent limitation guidelines (ELGs), pursuant to CWA § 301(b), for a particular industry or a particular pollutant, TBELs must be established using best professional judgment (BPJ) (40 CFR § 122.43, 12.44, and 125.3). Because there are no ELGs for discharges from the water treatment industry, the EPA established TBELs based on BPJ for TSS.

b. Total Suspended Solids

For the discharge authorized by the permit, the EPA is retaining TSS effluent limits of 30 mg/l (average monthly limit) and 45 mg/l (maximum daily limit). The EPA established these TBELs in the permit utilizing BPJ to meet the requirements of BCT/BAT.

In establishing the TSS limitations for this permit, the EPA is also relying on research performed for the EPA in 1987 (SAIC, 1987). This study considered sedimentation lagoons as the model treatment for BCT based on a finding that 76 percent of WTPs surveyed had used this technology for wastewater treatment. Analysis of 76 individual NPDES permits for WTPs determined that limitations of 30 mg/l and 45 mg/l were representative of current permitting practice for average monthly and daily maximum TSS limits, respectively. Additionally, analysis of monitoring data for sedimentation lagoons within the industry resulted in calculation of 95th percent occurrence (monthly average) and 99th percent occurrence (daily maximum) levels of treatment of 28.1 mg/l and 44.4 mg/l, respectively. These levels of treatment performance were considered BPT, and subsequent analysis determined that BPT was equal to BCT. The study identified 30 mg/l and 45 mg/l to be the monthly average and daily maximum TSS limits for a model NPDES permit.

Both the existing permit for the Riverside WTP and other individual permits for water treatment plants in Idaho have limits of 30 mg/l and 45 mg/l (monthly average and daily maximum). The facilities have been in compliance with these limits which further shows that the limits identified in the study represent BPT/BCT for water treatment plants. Therefore, the EPA is retaining these BPJ TBELs in the draft permit.

c. Mass-Based Limits

40 CFR 122.45(f) requires that effluent limits be expressed in terms of mass, except under certain conditions. To calculate mass-based limits, the EPA is utilizing the guidance from 40 CFR 122.45(b), which requires that effluent limitations for POTWs be calculated based on the design flow of the facility. The mass-based limits are expressed in pounds per day and are calculated as follows:

Mass based limit = concentration limit (mg/L) × design flow (mgd) × 8.34[1]

Since the design flow for this facility is 0.04 mgd, the technology-based mass limits for TSS are calculated as follows:

Average Monthly Limit = 30 mg/L × 0.043 mgd × 8.34 = 10.8 lbs/day

Maximum Daily Limit = 45 mg/L × 0.043 mgd × 8.34 = 16.1 lbs/day

d. Total Residual Chlorine

There are no applicable ELGs for total residual chlorine in discharges from water treatment plants. The Water Pollution Control Federation's *Chlorination of Wastewater* (1976) states that a properly designed and maintained wastewater treatment plant can achieve adequate disinfection after 15 to 30-minute contact when chlorine residuals are between 0.2 and 1.0 mg/L. The EPA utilizes a chlorine residual of 0.5 mg/L after 15 minutes contact for wastewater treatment facilities. As the maximum effluent chlorine residual from the Riverside WTP is 0.05 mg/L, which is substantially less than that of a wastewater treatment plant, the EPA determined that an AML of 0.3 mg/L for chlorine would be effective. For the Riverside WTP technology-based effluent limits, the maximum daily limit (MDL) is calculated to be 1.74 times the AML.[2] This results in an MDL for chlorine of 0.5 mg/L.

The calculations for chlorine mass-based limits, using the design flow, are as follows:

Monthly average Limit= 0.3 mg/L x 0.04 mgd x 8.34 = 0.1 lbs/day

Maximum Daily Limit = 0.5 mg/L x 0.04 mgd x 8.34 = 0.17 lbs/day

3. Water Quality-Based Effluent Limits (WQBELs)

a. Statutory and Regulatory Basis

CWA § 301(b)(1)(C) requires the development of limitations in permits necessary to meet WQS. Discharges to State or Tribal waters must also comply with conditions imposed by the State or Tribe as part of its certification of NPDES permits under CWA § 401. 40 CFR 122.44(d)(1) implementing CWA § 301(b)(1)(C) requires that permits include limits for all pollutants or parameters which are or may be discharged at a level which 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. Effluent limits must also meet the applicable water quality requirements of affected States other than the State in which the discharge originates, which may include downstream States (40 CFR 122.4(d), 122.44(d)(4), see also CWA § 401(a)(2)).

[1] 8.34 is a conversion factor with units (lb ×L)/(mg × gallon×10^6)

[2] Table 5-3 in EPA Technical Support Document for Water Quality-based Toxics Control

The regulations require the permitting authority to make this evaluation using procedures which 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 for the discharge in an approved TMDL. If there are no approved TMDLs that specify WLAs for this discharge, WQBELs are calculated directly from the applicable WQS.

b. Reasonable Potential Analysis and Need for WQBELs

The EPA uses the process described in the *Technical Support Document for Water Quality-based Toxics Control* (*TSD*) to determine reasonable potential. To determine if there is reasonable potential for the discharge to cause or contribute to an exceedance of water quality criteria 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.

In some cases, a dilution allowance or mixing zone is permitted. A mixing zone is a limited area or volume of water where initial dilution of a discharge takes place and within which certain water quality criteria may be exceeded (EPA, 2014). While the criteria may be exceeded within the mixing zone, the use and size of the mixing zone must be limited such that the waterbody as a whole will not be impaired, all designated uses are maintained and acutely toxic conditions are prevented.

IDEQ's mixing zone WQS at IDAPA 58.01.02.060(h) provides for a default mixing zone size of 25%. However, the size of the mixing zone should not be larger than necessary considering siting, technological and managerial options available to the discharger (IDAPA 58.01.02.060(c)). The EPA calculated the minimum mixing zones for this facility consistent with Idaho Department of Environmental Quality's (IDEQ) policy to minimize the authorized mixing zone (IDEQ, 2017). To calculate the minimum mixing zones, the EPA compared the facility's chronic dilution factor (based on 25% mixing zone) with the minimum chronic dilution factor for each pollutant of concern. The EPA determined that the chronic dilution factor is the driving factor for this calculation because the chronic criteria for each pollutant of concern is less than the acute criteria. The resulting minimum mixing zone percentages are summarized in Table 8.

Table 8. Minimum Mixing Zone Analysis

Pollutant of Concern	Chronic Dilution Factor based on 25% Mixing Zone	Minimum Percent of Mixing Zone	Chronic Dilution Factor at Minimum Percent Mixing Zone
Chlorine	3,188	1%	128.5
Chloroform	3,188	0%	1
Chromium	3,188	0%	1
Copper	3,188	0%	1
Nickel	3,188	0%	1
Temperature	3,188	1%	128.5
Zinc	3,188	0%	1

The proposed mixing zones are summarized in Table 9. The EPA also calculated dilution factors for year-round flow conditions. All dilution factors are calculated with the effluent flow rate set equal to the design flow of 0.043 mgd.

Table 9. Mixing zones

Criteria Type	Critical Low Flow (cfs)	Mixing Zone (% of Critical Low Flow)	Dilution Factor
Acute Aquatic Life	687	1%	104.3
Chronic Aquatic Life (except ammonia)	848	1%	128.5
Chronic Aquatic Life (ammonia)	1,087	1%	161.3
Human Health Noncarcinogen	3,079	1%	463.9
Human Health Carcinogen	3,079	1%	463.9

The reasonable potential analysis and WQBEL calculations were based on mixing zones shown in Table 9.

As discussed in Part IV.A.1, the pollutants of concern in the discharge are TSS, total residual chlorine, pH, temperature, hardness, turbidity, antimony, arsenic, beryllium, cadmium, total chromium, copper, iron, lead, nickel, selenium, silver, thallium, and zinc. Each parameter is summarized in Part IV.A. b. and the equations used to conduct the reasonable potential analysis and calculate the

WQBELs are provided in Appendix C**Error! Reference source not found.**. The relevant water quality standards are shown in Table 10, below.

Table 10. Applicable Water Quality Standards

Pollutant	Designated Use	Criteria	Basis
pH	Aquatic Life	Hydrogen ion concentration (pH) values within the range of 6.5 – 9.	IDAPA 58.01.02.250.01(a)
Chlorine	Aquatic Life	19 µg/L (acute); and 11 µg/L (chronic)	IDAPA 58.01.02.210
Temperature	Salmonid Spawning	Water temperatures of 13°C or less with a maximum daily average no greater than 9°C.	IDAPA 58.01.02.250.02(f)
Turbidity	Water Supply Use	Turbidity must not be increased: • by more than 5 NTU above background turbidity when background turbidity is 50 NTU or less, • increased by more than 10% above background when background is between 50 and 250 NTU, • or increased by more than 25 NTU above background when background is above 250 NTU.	IDAPA 58.01.02.252.01(b)
Toxics	General	Surface waters of the state shall be free from toxic substances in concentrations that impair designated beneficial uses.	IDAPA 58.01.02.200.02
Chromium	Aquatic Life	0.38 µg/L (acute) 0.2 µg/L (chronic)	10^{th} Percentile North Rockies Ecoregional Criteria[1]
Copper	Aquatic Life	1.42 µg/L (acute) 0.88 µg/L (chronic)	10^{th} Percentile North Rockies Ecoregional Criteria[1]
Nickel	Domestic Water Supply	114µg/L (acute) 13 µg/L (chronic)	IDAPA 58.01.02.210.01(b)[2]
Zinc	Domestic Water Supply	28 µg/L (acute) 29 µg/L (chronic)	IDAPA 58.01.02.210.01(b)[2]
Chloroform	Domestic Water Supply	61 µg/L (human health; water and fish) 730 µg/L (human health; fish)	IDAPA 58.01.02.210.01(b)

Pollutant	Designated Use	Criteria	Basis
Iron	Aquatic Life	Chronic: 1000 µg/L	EPA 1986 Quality Criteria for Water
Floating, Suspended or Submerged Matter	General Water Quality Criteria	Surface waters of the state shall be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses. This matter does not include suspended sediment produced as a result of nonpoint source activities.	IDAPA 58.01.02.200.05

1. Criteria calculated based on ambient ecoregional defaults: pH = 7.1 s.u.; DOC = 0.5 mg/L; hardness as $CaCO_3$ = 18.8 mg/L; Temperature = 3.1°C; Ca = 4.93 mg/L; Mg = 1.78 mg/L; Na = 1.15 mg/L; K = 0.40 mg/L; SO_4 = 2.17 mg/L; Cl = 0.31 mg/L; Alkalinity = 17.0 mg/L
2. Criteria calculated based on ambient ecoregional defaults: Hardness as $CaCO_3$ = 18.8 mg/L; pH = 7.1 s.u.

The reasonable potential and WQBEL for specific parameters are summarized below. The calculations are provided in 0.

pH

The Idaho WQS at IDAPA 58.01.02.250.01.a require pH values of the river to be within the range of 6.5 to 9.0. Mixing zones are generally not granted for pH, therefore the most stringent water quality criterion must be met before the effluent is discharged to the receiving water. Effluent pH data was compared to the water quality criteria. Aside from one outlier, between 2017 and 2025, the pH ranged from between 6.5 to 9 s.u. In June 2022, the facility reported an instantaneous minimum of 5.6 s.u. In the 2024 inspection, the facility stated that the low pH was due to the pH of the influent water being lower than average. In order to ensure that effluent pH is within the WQBEL range, the facility now incorporates sodium carbonate into the waste stream of the water treatment plant to increase pH values. To assure protection of the applicable water quality criteria, the pH range of 6.5 – 9 will be retained as an end-of-pipe effluent limit in the draft permit.

Chlorine

The Idaho 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 not have the reasonable potential to cause or contribute to an excursion of the water quality criteria for chlorine. Therefore, the draft permit is retaining the BPJ TBELs for total residual chlorine: an MDL of 0.5 mg/L (0.17 lbs/day) and an AML of 0.3 mg/L (0.1 lbs/day).

Turbidity

There are no applicable technology-based effluent guidelines for turbidity in discharges from water treatment plants. Idaho WQS have water quality criteria for turbidity for waters designated for domestic water supply that prohibits increases of 5 NTUs or more in receiving waters that have background turbidity of 50 NTUs or less and increases of 10 percent above background (not to exceed 25 NTUs) are prohibited, when background turbidity is greater than 50 NTUs.

The EPA has determined that BPJ TBELs for TSS will ensure that the discharge does not cause or contribute to an excursion of the turbidity criteria in the receiving water. The draft permit will continue to require effluent monitoring for turbidity to assess turbidity impacts in water quality.

Iron

There are no applicable technology-based guidelines or state water quality criteria for iron. To evaluate the need for effluent limitations for iron, the EPA could use the EPA 1986 Quality Criteria for Water for iron in freshwater. The chronic criterion for iron is 1000 µg/L.

The EPA Drinking Water Treatment Plant Residuals Management Technical Report (EPA, 2011) suggests that iron concentrations in water treatment plant residuals can be elevated, particularly when iron salts are used to enhance coagulation. The Riverside WTP uses ferric sulfate as a coagulant in the treatment process and residuals could be detected in backwash flows that discharge out of the outfall. Without effluent data, the EPA is unable to calculate whether there is the reasonable potential to cause or contribute to an excursion of the criterion. As a result, the EPA is not proposing effluent limitations for iron in the draft permit but will require effluent monitoring.

Metals

The applicable Idaho WQS for metals are summarized in Table 10. In addition, there is a narrative water quality criterion for toxic substances, which states that the surface waters of the state shall be free from toxic substances in concentrations that impair designated beneficial uses.

The Drinking Water Treatment Plant Residuals Management Technical Report (EPA 820-R-11-003) suggests that metals may be present in discharges from drinking water treatment plants. Source water often contains metals, which can become concentrated in residuals associated with the treatment process. As is displayed in Table 2, DMRs collected effluent data for copper, chromium, nickel, and zinc.

Reasonable potential calculations showed that the discharge from the facility would not have the reasonable potential to cause or contribute to an excursion of the water quality criteria for copper, chromium, nickel, and zinc.

The draft permit is retaining the existing effluent monitoring requirements for the following metals: antimony, arsenic, beryllium, cadmium, total chromium, copper, lead, nickel, selenium, silver, thallium, and zinc. Following coordination with the Nez Perce Tribe, the draft permit is adding effluent monitoring for mercury, which a review of literature on water treatment plant residuals suggests may be present in discharges.

Temperature

The Idaho WQS at IDAPA 58.01.02.250.02(f) establish criterion for the protection of salmonid spawning. A reasonable potential calculation showed that the discharge from the facility would not have the reasonable potential to cause or contribute to an excursion of the water quality criteria for temperature. Therefore, the draft permit will retain the existing effluent monitoring requirements for temperature.

TTHMs

A review of the literature regarding water treatment plant residuals suggests that TTHMs may be present in discharges from drinking water treatment plants. As is displayed in Table 2, chloroform concentrations were detected in effluent monitoring samples. There are no applicable technology-based effluent guidelines for chloroform in discharges from water treatment plants. The Idaho WQS at IDAPA 58.01.02.250.01(b) establish criterion for the protection of domestic water supply. The applicable Idaho WQS for chloroform is summarized in Table 10.

Reasonable potential calculations showed that the discharge from the facility would not have the reasonable potential to cause or contribute to an excursion of the water quality criteria for chloroform. Therefore, the draft permit will retain the existing effluent monitoring requirements for chloroform. Additionally, the draft permit will retain the existing effluent monitoring requirements for chlorodibromomethane, dichlorobromomethane, and bromoform.

Residues

The Idaho WQS 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 stating that the discharge shall not contain floating solids, visible foam or other floating materials.

c. Antibacksliding

CWA § 402(o) and 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., anti-backsliding) 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*.

There is no backsliding in the permit.

4. Monitoring Requirements for Renewal

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 permit also requires the permittee to perform effluent monitoring required by Tables B, C, D, and E of the NPDES Form 2A application, so that these data will be available when the permittee applies for a renewal of its NPDES permit. See also Appendix J to 40 CFR Part 122.

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

B. 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. The permittee may use NetDMR after requesting and receiving permission from the EPA Region 10.

Permit Part III.B. requires that the Permittee submit a copy of the DMR to the Nez Perce Tribe. Currently, the permittee may submit a copy to the Nez Perce Tribe in one of three ways: 1) a paper copy may be mailed; 2) The email address for the Nez Perce Tribe may be added to the electronic submittal through NetDMR; or 3) The permittee may provide the Nez Perce Tribe viewing rights through NetDMR.

C. 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 biosolids program. The Part 503 regulations are self-implementing, which means that facilities must comply with them whether or not a permit has been issued.

V. OTHER PERMIT CONDITIONS

A. QUALITY ASSURANCE PLAN

The Riverside WTP is required to update the Quality Assurance Plan (QAP) within 60 days of the effective date of the permit. The QAP must consist of 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 made available to the EPA and the Nez Perce Tribe upon request.

B. BEST MANAGEMENT PRACTICES PLAN

The current permit has a condition requiring the use and development of a best management practices (BMP) plan to properly control the effluent from the Riverside WTP. Section 402(a)(1) of the CWA authorizes the EPA to implement BMP plans as part of NPDES permits and they are normally utilized when a facility has persistent compliance issues, it is infeasible to control pollutants through numeric limits, and for use with an industrial permit. None of these conditions apply to the Riverside WTP and thus the EPA has removed the BMP plan requirement in the draft permit. Removing the BMP plan does not make the draft NPDES permit for the Riverside WTP less stringent or less protective than the current permit, so antibacksliding conditions are not applicable to this change.

C. OPERATION AND MAINTENANCE PLAN

The permit requires the Riverside WTP to properly operate and maintain all facilities and systems of treatment and control. Proper operation and maintenance is essential to meet 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 60 days of the effective date of the permit. The plan must be retained on site and made available to the EPA and the Nez Perce Tribe upon request.

D. DESIGN CRITERIA

The permit includes design criteria requirements. This provision requires the permittee to compare influent flow and loading to the facility's design flow and loading and prepare a facility plan for maintaining compliance with NPDES permit effluent limits when the flow or loading exceeds 85% of the design criteria values for any two months in a twelve-month period.

E. STANDARD PERMIT PROVISIONS

Permit Parts III., IV. and V. contain standard regulatory language that must be included in all NPDES permits. The standard regulatory language covers requirements such as monitoring, recording, and reporting requirements, compliance responsibilities, and other general requirements.

VI. 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 species that are federally listed as threatened or endangered and designated critical habitat that may be present.

A review of ESA-listed species located in Idaho finds that bull trout (*Salvelinus confluentus*), Snake River fall-run Chinook salmon (*Oncorhynchus tshawytscha*), Snake River Basin steelhead (*Oncorhynchus mykiss*), North American wolverine (*Gulo gulo luscus*), and Spalding's catchfly (*Silene spaldingi*i) are listed as threatened and may be present in the vicinity of the discharge from the Riverside WTP. Additionally, bull trout have designated critical habitat in the vicinity of the discharge from the Riverside WTP. As discussed in Appendix E, t0he EPA has determined that the reissuance of this permit will have no effect on ESA-listed species under the jurisdiction of NOAA or USFWS and designated critical habitat. Appendix E0.

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). A review of the Essential Fish Habitat documents shows that the area of discharge is EFH for coho salmon (*Oncorhynchus kisutch*) and Chinook salmon.

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.

Based on the available life history information, freshwater EFH for Pacific salmon consists of four major components: spawning and incubation, juvenile rearing, juvenile migration corridors, and adult migration corridors and adult holding habitat.

Important features of essential habitat for spawning, rearing, and migration include:

- adequate substrate composition;
- water quality (e.g., dissolved oxygen, nutrients, temperature, etc.);
- water quantity, depth, and velocity;
- channel gradient and stability;
- food availability;

- cover and habitat complexity (e.g., large woody debris, pools, channel complexity, aquatic vegetation, etc.)
- space (habitat area) access and passage;
- and floodplain and habitat connectivity.

Pacific salmon EFH for the Pacific Coast Salmon Plan includes all streams, lakes, ponds, wetlands, and other water bodies currently and historically utilized by Pacific salmon within Washington, Oregon, Idaho, and California.

The EPA has determined that issuance of this permit has no effect on the EFH in the vicinity of the discharge. This is further discussed in Appendix E.

C. CWA § 401 CERTIFICATION

CWA section 401 requires a certification that any permit requirements comply with the appropriate sections of the CWA, as well as any appropriate requirements of Tribal Law. Since this facility discharges to tribal waters and the Tribe has not been approved for TAS for these waters from the EPA under the CWA, the EPA is the certifying authority. The EPA is taking comment on the EPA's intent to certify this permit. See the draft certification in Appendix F.

D. ANTIDEGRADATION

The EPA has completed an antidegradation review which is shown in Appendix G.

E. PERMIT EXPIRATION

The permit will expire five years from the effective date.

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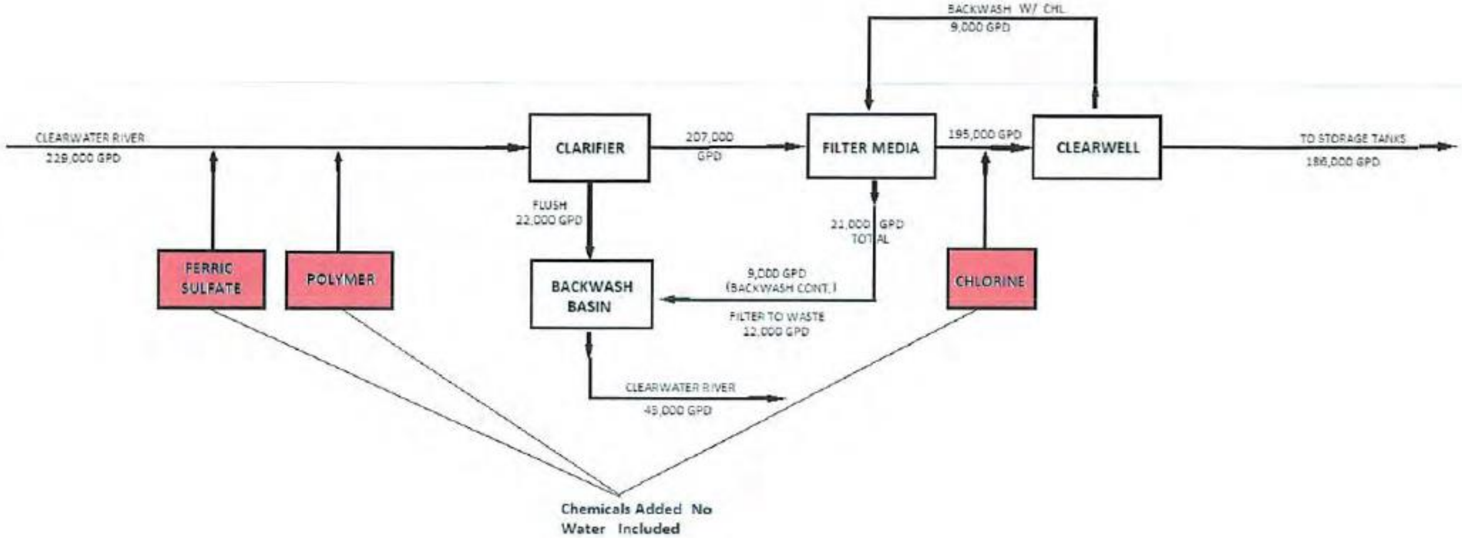
Appendix A. Facility Information



OW-133 ID-0021237 Outfall 001
Riverside Water & Sewer District
10460 Highway 12
Orofino, ID 83544

Appendix B. Water Quality Data

Treatment Plant Effluent Data

Parameter	Flow, in conduit or thru treatment plant	Flow, in conduit or thru treatment plant	Solids, total suspended	Solids, total suspended	Solids, total suspended	Solids, total suspended	pH	pH	Chlorine, total residual	Chlorine, total residual	Chlorine, total residual	Chlorine, total residual	Temperature, water deg. Centigrade	Temperature, water deg. Centigrade	Turbidity	Hardness, total [as CaCO3]
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	Daily Max	MO AVG	Daily Max	Daily Max	MO AVG	MO AVG	INST MAX	INST MIN	Daily Max	Daily Max	MO AVG	MO AVG	Daily Max	MO AVG	INST MAX	INST MAX
Limit Units	MGD	MGD	mg/L	lb/d	mg/L	lb/d	SU	SU	mg/L	lb/d	mg/L	lb/d	degrees C.	degrees C.	NTU	mg/L
11/30/2017	0.0860	0.0299	1.8	0.23	1.8	0.23	7.1	6.6	0.05	0.024	0.035	0.001	9.5	8.2	0.78	
12/31/2017	0.2120	0.0371	3.86	0.87	3.86	0.87	6.9	6.6	0.03	0.007	0.02	0.004	5.1	2.7	1.5	15.4
01/31/2018	0.1600	0.0372	2	0.43	2	0.43	7	6.6	0.05	0.019	0.024	0.007	87	4.6	3.4	17.4
02/28/2018	0.1120	0.0343	3.31	3.1	3.31	3.1	7.1	6.6	0.03	0.028	0.018	0.009	7.3	3.6	5.3	14.9
03/31/2018	0.0670	0.0278	1.88	0.36	1.88	0.36	7.1	6.8	0.05	0.009	0.023	0.044	7.4	5.4	0.99	17.1
04/30/2018	0.0820	0.0266	1.9	0.4	1.9	0.4	6.8	6.52	0.05	0.018	0.033	0.01	10.1	9.5	2.17	16.5
05/31/2018	0.2490	0.0455	3.32	0.44	3.32	0.44	7	6.6	0.03	0.017	0.025	0.008	15.6	13.8	1.17	8.34
06/30/2018	0.0980	0.0383	3.04	0.41	3.04	0.41	6.9	6.7	0.05	0.006	0.025	0.004	16.5	15.7	2.15	6.28
07/31/2018	0.0640	0.0445	2.1	0.53	2.1	0.53	6.99	6.62	0.03	0.009	0.02	0.005	26.8	22.6	1.03	10.2
08/31/2018	0.0730	0.0399	2.7	0.75	2.7	0.75	7	6.6	0.02	0.007	0.02	0.005	23.8	22.2	1.7	14.7
09/30/2018	0.0840	0.0305	2.19	0.26	2.19	0.26	6.8	6.6	0.02	0.009	0.015	0.004	19.4	16.5	1.1	17.5
10/31/2018	0.0520	0.0227	2.53	0.4	2.53	0.4	7.1	6.6	0.02	0.007	0.016	0.003	12	10.34	2.09	19.7
11/30/2018	0.2710	0.4250	7.93	17.9	7.93	17.9	7.2	6.8	0.04	0.009	0.025	0.005	9.4	6	2.9	14
12/31/2018	0.0560	0.0278	3.09	0.64	3.09	0.64	7	6.6	0.04	0.006	0.028	0.004	4.6	4.2	0.75	18.8
01/31/2019	0.1050	0.0306	1.96	1.16	1.96	1.16	6.9	6.7	0.03	0.013	0.025	0.007	3.1	2.5	0.81	19
02/28/2019	0.0720	0.0294	2.54	1.52	2.54	1.52	6.9	6.7	0.02	0.0073	0.015	0.0048	2.7	1.4	2.7	21.2
03/31/2019	0.2150	0.0482	1.89	0.32	1.89	0.32	7.8	7.1	0.02	0.019	0.02	0.007	4.1	3.1	0.82	23.3
04/30/2019	0.1480	0.0617	2.49	1.2	2.49	1.2	7	6.8	0.05	0.034	0.038	0.021	9.3	8.82	2.11	14.1
05/31/2019	0.1380	0.0407	2.92	0.93	2.92	0.93	6.8	6.6	0.04	0.011	0.025	0.004	13	11.9	1.8	10
06/30/2019	0.1740	0.0525	4	3.8	4	3.8	7	6.7	0.05	0.04	0.025	0.02	18.5	17	2.08	6.1
07/31/2019	0.1120	0.0445	2.67	0.58	2.67	0.58	6.9	6.55	0.02	0.008	0.016	0.004	23.2	21.92	1.25	10.9
08/31/2019	0.1240	0.0490	1.67	0.81	1.67	0.81	6.7	6.6	0.04	0.01	0.023	0.008	22.8	19.55	3.22	14.4
09/30/2019	0.1170	0.0421	1.56	0.39	1.56	0.39	6.9	6.6	0.05	0.02	0.028	0.011	21	16.8	1.89	17.7
10/31/2019	0.2230	0.0412	1.73	0.02	1.73	0.02	6.9	6.8	0.04	0.026	0.028	0.015	11.8	11	0.89	18.4
11/30/2019	0.0610	0.0275	1.5	0.44	1.5	0.44	7	6.7	0.03	0.009	0.023	0.006	5.1	4.3	0.89	15.6
12/31/2019	0.0540	0.0259	1.8	0.47	1.8	0.47	7.3	6.5	0.05	0.008	0.024	0.004	5.8	4.24	2.7	14.4
01/31/2020	0.1010	0.0283	1.29	0.15	1.29	0.15	6.8	6.5	0.04	0.005	0.025	0.004	6.2	4.3	1.67	18.1
02/29/2020	0.2350	0.0439	1.49	2	1.49	2	6.9	6.6	0.04	0.054	0.02	0.015	6.7	4.35	0.8	23.1
03/31/2020	0.0670	0.0266	2.96	1.06	2.96	1.06	6.6	6.6	0.04	0.01	0.022	0.003	7.1	6.02	3.85	17.7
04/30/2020	0.0640	0.0263	3.56	0.5	3.56	0.5	7.2	6.9	0.03	0.004	0.015	0.002	11.3	9	1.01	17.6
05/31/2020	0.0780	0.0303	3.01	0.68	3.01	0.68	7.7	6.6	0.02	0.006	0.018	0.003	13.8	12.5	2.34	7.83
06/30/2020	0.1880	0.0370	5.04	7.6	5.04	7.6	7.5	6.59	0.04	0.006	0.022	0.004	17	14.8	3.98	5.9
07/31/2020	0.0720	0.0397	2.24	0.5	2.24	0.5	7.6	6.5	0.05	0.013	0.023	0.006	21.7	19.5	1.42	9.95
08/31/2020	0.0660	0.0401	4.56	0.98	4.56	0.98	8.2	6.8	0.04	0.018	0.024	0.008	24.1	20.9	1.77	13.7
09/30/2020	0.0600	0.0291	1.23	0.17	1.23	0.17	7.3	6.9	0.03	0.004	0.02	0.003	15.1	14.65	1.38	17
10/31/2020	0.0650	0.0251	3.31	0.47	3.31	0.47	6.9	6.8	0.05	0.015	0.028	0.007	12.9	9.7	2.1	18
11/30/2020	0.0670	0.0252	1.82	0.28	1.82	0.28	7.2	6.8	0.05	0.007	0.03	0.004	8.4	5.7	0.91	11.6
12/31/2020	0.0490	0.0236	2.46	0.82	2.46	0.82	6.8	6.7	0.02	0.007	0.018	0.003	9.5	4.3	1.47	14.7
01/31/2021	0.0760	0.0248	0	0	0	0	7.5	6.8	0.02	0.004	0.015	0.002	6.4	4.8	0.79	15.1
02/28/2021	0.0490	0.0241	0.03	0.17	0.02	0.17	6.9	6.7	0.03	0.005	0.02	0.004	3.9	3.3	1.29	18.1
03/31/2021	0.1010	0.0260	3.42	0.22	3.42	0.22	7.4	6.6	0.03	0.004	0.024	0.003	7.6	5.58	3.32	23.3
04/30/2021	0.0640	0.0274	1.81	0.26	1.81	0.26	7.5	6.6	0.05	0.011	0.028	0.006	11.7	10.1	1.01	16.5
05/31/2021	0.0900	0.0365	4.4	0.67	4.4	0.67	7.2	6.6	0.05	0.038	0.032	0.011	13.9	11.7	1.99	8.39

Parameter	Flow, in conduit or thru treatment plant	Flow, in conduit or thru treatment plant	Solids, total suspended	Solids, total suspended	Solids, total suspended	Solids, total suspended	pH	pH	Chlorine, total residual	Chlorine, total residual	Chlorine, total residual	Chlorine, total residual	Temperature, water deg. Centigrade	Temperature, water deg. Centigrade	Turbidity	Hardness, total [as CaCO3]
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	Daily Max	MO AVG	Daily Max	Daily Max	MO AVG	MO AVG	INST MAX	INST MIN	Daily Max	Daily Max	MO AVG	MO AVG	Daily Max	MO AVG	INST MAX	INST MAX
Limit Units	MGD	MGD	mg/L	lb/d	mg/L	lb/d	SU	SU	mg/L	lb/d	mg/L	lb/d	degrees C.	degrees C.	NTU	mg/L
06/30/2021	0.0940	0.0413	7.4	1.6	7.4	1.6	6.9	6.6	0.05	0.015	0.033	0.008	24.3	18	2.28	5.77
07/31/2021	0.0730	0.0461	2.4	0.62	2.4	0.62	7	6.8	0.04	0.018	0.028	0.01	27.5	23.6	1.14	13.7
08/31/2021	0.0980	0.0406	2.19	0.55	2.19	0.55	7.1	6.6	0.03	0.008	0.02	0.005	26.4	21.9	1	16
09/30/2021	0.0510	0.0270	2.11	0.3	2.11	0.3	7.1	7	0.05	0.011	0.03	0.006	18.9	16.7	1.27	19.8
10/31/2021	0.0420	0.0213	1.76	0.54	1.76	0.54	6.9	6.5	0.02	0.006	0.015	0.002	14.3	11.4	1.64	18.9
11/30/2021	0.0640	0.0237	2.79	1.9	2.79	1.9	6.9	6.6	0.04	0.014	0.024	0.005	10.9	8.24	0.98	16
12/31/2021	0.0530	0.0244	5.5	0.78	5.5	0.78	7.1	6.8	0.03	0.009	0.023	0.004	6	4.1	1.43	11
01/31/2022	0.0840	0.0279	3	0.53	3	0.53	7.3	6.5	0.04	0.006	0.026	0.003	5.5	3.3	0.9	18.1
02/28/2022	0.0650	0.0284	1.7	2.4	1.7	2.4	6.83	6.6	0.03	0.005	0.02	0.004	4.9	3.7	1.25	18.9
03/31/2022	0.0910	0.0267	3.6	0.54	3.6	0.54	6.9	6.5	0.05	0.007	0.035	0.005	9.2	6.9	2.78	17.3
04/30/2022	0.0450	0.0228	0	0	0	0	6.91	6.74	0.04	0.003	0.023	0.002	7.3	7.2	2.1	11.5
05/31/2022	0.1220	0.0363	3.27	0.49	3.27	0.49	6.9	6.6	0.04	0.01	0.02	0.005	12.2	10.9	1.66	11.6
06/30/2022	0.1180	0.0386	5.5	0.4	5.5	0.4	6.5	5.6	0.04	0.012	0.025	0.007	15.8	12.6	2.33	7.2
07/31/2022	0.0780	0.0435	3.24	0.65	3.24	0.65	6.82	6.54	0.05	0.022	0.035	0.011	23	19.4	1.65	9.32
08/31/2022	0.0760	0.0396	2.1	1.1	2.1	1.1	6.8	6.5	0.04	0.009	0.026	0.006	25.7	23.3	1.15	15.1
09/30/2022	0.0870	0.0291	2.4	0.52	2.4	0.52	6.9	6.6	0.04	0.007	0.018	0.004	21.3	17.8	0.88	19.2
10/31/2022	0.0490	0.0231	1.96	0.14	1.96	0.14	6.6	6.6	0.05	0.018	0.028	0.008	15.7	11.9	1.68	19.8
11/30/2022	0.1340	0.0273	1.94	0.28	1.94	0.28	6.7	6.5	0.03	0.005	0.02	0.004	13.5	7.1	1.72	19.2
12/31/2022	0.0980	0.0281	1.46	0.2	1.46	0.2	6.8	6.6	0.04	0.006	0.02	0.004	4.2	2.07	0.81	21.3
01/31/2023	0.0540	0.0251	1.76	0.25	1.76	0.25	6.8	6.5	0.04	0.007	0.02	0.004	5.9	3.7	0.73	20.2
02/28/2023	0.0510	0.0230	1.79	0.6	1.79	0.6	6.7	6.5	0.03	0.004	0.014	0.002	6.2	3.8	0.88	22.5
03/31/2023	0.0900	0.0268	1.22	0.17	1.22	0.17	6.8	6.6	0.04	0.006	0.023	0.003	7.3	6.2	1.86	22
04/30/2023	0.0640	0.0276	1.61	0.23	1.61	0.23	6.7	6.6	0.03	0.006	0.018	0.003	11.1	9.8	2.72	26.3
05/31/2023	0.1110	0.0386	6.28	2.7	6.28	2.7	6.8	6.7	0.04	0.018	0.028	0.007	16.5	13.4	2.11	7.38
06/30/2023	0.0590	0.0371	3.87	0.87	3.87	0.87	7	6.8	0.06	0.013	0.03	0.007	18.8	18.1	3.13	6.22
07/31/2023	0.0630	0.0452	4.82	1.7	4.82	1.7	6.7	6.6	0.05	0.016	0.022	0.006	24.8	23.2	1.61	10.2
08/31/2023	0.1290	0.0416	0	0	0	0	6.7	6.6	0.02	0.007	0.018	0.004	23.3	22.7	1.52	16.9
09/30/2023	0.1740	0.0310	1.95	0.22	1.95	0.22	6.7	6.6	0.02	0.008	0.015	0.004	20.5	18.05	1.54	18.2
10/31/2023	0.0540	0.0261	1.72	0.24	1.72	0.24	6.7	6.6	0.05	0.007	0.024	0.004	15.1	12.7	0.94	20.9
11/30/2023	0.0840	0.0313	14.9	2.1	14.9	2.1	6.8	6.6	0.06	0.028	0.048	0.012	8.9	7.5	1.01	13.9
12/31/2023	0.0780	0.0294	2.2	0.31	2.2	0.31	6.9	6.5	0.04	0.026	0.02	0.09	6.3	4.7	2.1	17.9
01/31/2024	0.0820	0.0350	7.18	2.5	7.18	2.5	6.8	6.6	0.06	0.009	0.034	0.005	4.1	2.8	1.55	16.3
02/29/2024	0.1110	0.0342	5.7	1.2	5.7	1.2	6.8	6.5	0.02	0.004	0.015	0.003	6.7	5	3.09	19.6
03/31/2024	0.0560	0.0244	4.1	0.52	4.1	0.52	6.9	6.7	0.08	0.011	0.03	0.004	12.2	7.3	3.05	20.3
04/30/2024	0.1420	0.0354	14	7.9	14	7.9	6.7	6.5	0.06	0.011	0.034	0.006	12.5	8.46	8.04	13.5
05/31/2024	0.0870	0.0303	3.47	0.58	3.47	0.58	6.9	6.5	0.06	0.015	0.035	0.009	14.2	10.45	3.52	9.91
06/30/2024	0.0630	0.0334	4.11	0.55	4.11	0.55	6.9	6.5	0.04	0.009	0.028	0.005	17.9	15.5	1.62	6.95
07/31/2024	0.0850	0.0473	2.6	1.3	2.6	1.3	6.7	6.54	0.04	0.012	0.02	0.007	24	21	1.3	9.9
08/31/2024	0.1170	0.0433	2	0.9	2	0.9	6.6	6.5	0.05	0.011	0.028	0.007	24.3	23.4	0.99	14
09/30/2024	0.0660	0.0299	1	0.21	1	0.21	6.7	6.5	0.06	0.01	0.034	0.006	22.1	19.6	0.98	18.9
10/31/2024	0.0550	0.0218	2.49	0.85	2.49	0.85	6.8	6.5	0.04	0.006	0.025	0.004	14.7	12.55	2.11	19.5
11/30/2024	0.0860	0.0246	2.5	0.95	2.5	0.95	7	6.6	0.02	0.007	0.018	0.004	9.9	8.5	0.84	19.5
12/31/2024	0.0980	0.0286	1.28	0.16	1.28	0.16	6.8	6.5	0.04	0.016	0.026	0.006	6.7	5.54	1.07	18
01/31/2025	0.0750	0.0276	11.2	5.51	11.2	5.51	6.6	6.5	0.02	0.007	0.015	0.003	7	4.1	7.42	19.5

Parameter	Flow, in conduit or thru treatment plant	Flow, in conduit or thru treatment plant	Solids, total suspended	Solids, total suspended	Solids, total suspended	Solids, total suspended	pH	pH	Chlorine, total residual	Chlorine, total residual	Chlorine, total residual	Chlorine, total residual	Temperature, water deg. Centigrade	Temperature, water deg. Centigrade	Turbidity	Hardness, total [as CaCO3]
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	Daily Max	MO AVG	Daily Max	Daily Max	MO AVG	MO AVG	INST MAX	INST MIN	Daily Max	Daily Max	MO AVG	MO AVG	Daily Max	MO AVG	INST MAX	INST MAX
Limit Units	MGD	MGD	mg/L	lb/d	mg/L	lb/d	SU	SU	mg/L	lb/d	mg/L	lb/d	degrees C.	degrees C.	NTU	mg/L
Average	0.09606	0.03757	3.0928736	1.1603448	3.0927586	1.1603448	6.96264	6.61724	0.03908	0.01214	0.02405	0.00725	14.0206897	10.8877011	1.881264	15.47256
Minimum	0.042	0.02129	0	0	0	0	6.5	5.6	0.02	0.003	0.014	0.001	2.7	1.4	0.73	5.77
Maximum	0.271	0.425	14.9	17.9	14.9	17.9	8.2	7.1	0.08	0.054	0.048	0.09	87	23.6	8.04	26.3
Count	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	86
Std Dev	0.04921	0.04284	2.497907	2.268935	2.4980498	2.268935	0.28465	0.16461	0.01263	0.00889	0.00637	0.01048	10.5306876	6.61351008	1.265773	4.80938
CV	0.51234	1.14019	0.8076331	1.9553972	0.8077093	1.9553972	0.04088	0.02488	0.32327	0.73224	0.26507	1.44525	0.751082	0.60742943	0.672831	0.310833
95th Percentile	0.2141	0.04794	7.334	3.59	7.334	3.59	7.5	6.8	0.06	0.028	0.035	0.015	25.43	22.67	3.751	22.375
5th Percentile	0.0496	0.02304	1.066	0.143	1.066	0.143	6.63	6.5	0.02	0.004	0.015	0.002	4.13	2.89	0.803	6.4475
90th Percentile	0.1656	0.04481	5.5	2.22	5.5	2.22	7.3	6.8	0.05	0.0228	0.0334	0.011	24.04	21.36	3.166	20.6

Parameter	Antimony, total recoverable	Arsenic, total recoverable	Beryllium, total recoverable [as Be]	Copper, total recoverable	Cadmium, total recoverable	Chromium, total recoverable	Lead, total recoverable	Nickel, total recoverable	Selenium, total recoverable	Silver, total recoverable	Thallium, total recoverable	Zinc, total recoverable	Chlorodibromomethane	Dichlorobromomethane	Chloroform	Bromoform
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX
Limit Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
11/30/2017																
12/31/2017													0	0	0	0
01/31/2018																
02/28/2018																
03/31/2018													0	0	0	0
04/30/2018																
05/31/2018																
06/30/2018													0	0	0.65	0
07/31/2018																
08/31/2018																
09/30/2018													0	0	0.61	0
10/31/2018	0	0	0	0	0	0.0013	0	0.0014	0	0	0	0.0071				
11/30/2018																
12/31/2018													0	0	0	0
01/31/2019																
02/28/2019																
03/31/2019													0	0	0	0
04/30/2019																
05/31/2019																
06/30/2019													0	0	1.15	0
07/31/2019																
08/31/2019																
09/30/2019													0	0	0.89	0
10/31/2019	0	0	0	0.001	0	0	0	0.001	0	0	0	0				
11/30/2019																
12/31/2019													0	0	0	0
01/31/2020																
02/29/2020																
03/31/2020													0	0	0.72	0
04/30/2020																
05/31/2020																
06/30/2020													0	0	0.82	0
07/31/2020																
08/31/2020																
09/30/2020													0	0	0.6	0
10/31/2020	0	0	0	0	0	0	0	0	0	0	0	0.001				
11/30/2020																
12/31/2020													0	0	0.92	0
01/31/2021																
02/28/2021																
03/31/2021													0	0	0	0
04/30/2021																
05/31/2021																

Parameter	Antimony, total recoverable	Arsenic, total recoverable	Beryllium, total recoverable [as Be]	Copper, total recoverable	Cadmium, total recoverable	Chromium, total recoverable	Lead, total recoverable	Nickel, total recoverable	Selenium, total recoverable	Silver, total recoverable	Thallium, total recoverable	Zinc, total recoverable	Chlorodibromomethane	Dichlorobromomethane	Chloroform	Bromoform
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX
Limit Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
06/30/2021													0	0	0.51	0
07/31/2021																
08/31/2021																
09/30/2021													0	0	0.54	0
10/31/2021	0	0	0	0	0	0	0	0	0	0	0	0.001				
11/30/2021																
12/31/2021													0	0	0	0
01/31/2022																
02/28/2022																
03/31/2022													0	0	0.78	0
04/30/2022																
05/31/2022																
06/30/2022													0	0	0.5	0
07/31/2022																
08/31/2022																
09/30/2022													0	0	0.69	0
10/31/2022	0	0	0	0	0	0	0	0.001	0	0	0	0.002				
11/30/2022																
12/31/2022													0	0	0.95	0
01/31/2023																
02/28/2023																
03/31/2023													0	0	1.07	0
04/30/2023																
05/31/2023																
06/30/2023													0	0	0.65	0
07/31/2023																
08/31/2023																
09/30/2023													0	0	0	0
10/31/2023																
11/30/2023																
12/31/2023													0	0	0	0
01/31/2024																
02/29/2024																
03/31/2024													0	0	0	0
04/30/2024																
05/31/2024																
06/30/2024													0	0	4.01	0
07/31/2024																
08/31/2024																
09/30/2024													0	0	0.76	0
10/31/2024	0	0	0	0	0	0	0	0	0	0	0	0				
11/30/2024																
12/31/2024													0	0	0	0
01/31/2025																

Parameter	Antimony, total recoverable	Arsenic, total recoverable	Beryllium, total recoverable [as Be]	Copper, total recoverable	Cadmium, total recoverable	Chromium, total recoverable	Lead, total recoverable	Nickel, total recoverable	Selenium, total recoverable	Silver, total recoverable	Thallium, total recoverable	Zinc, total recoverable	Chlorodibromomethane	Dichlorobromomethane	Chloroform	Bromoform
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX	INST MAX
Limit Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Average	0	0	0	0.00016667	0	0.00021667	0	0.00056667	0	0	0	0.00185	0	0	0.58	0
Minimum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	0	0	0	0.001	0	0.0013	0	0.0014	0	0	0	0.0071	0	0	4.01	0
Count	6	6	6	6	6	6	6	6	6	6	6	6	29	29	29	29
Std Dev	0	0	0	0.00040825	0	0.00053072	0	0.0006377	0	0	0	0.00267862	0	0	0.76915074	0
CV	#DIV/0!	#DIV/0!	#DIV/0!	2.44948974	#DIV/0!	2.44948974	#DIV/0!	1.12536038	#DIV/0!	#DIV/0!	#DIV/0!	1.44790219	#DIV/0!	#DIV/0!	1.32612196	#DIV/0!
95th Percentile	0	0	0	0.00075	0	0.000975	0	0.0013	0	0	0	0.005825	0	0	1.118	0
5th Percentile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90th Percentile	0	0	0	0.0005	0	0.00065	0	0.0012	0	0	0	0.00455	0	0	0.974	0

Appendix C. Reasonable Potential and WQBEL Formulae

A. Reasonable Potential Analysis

The EPA uses the process described in the *Technical Support Document for Water Quality-based Toxics Control* (EPA, 1991) to determine reasonable potential. To determine if there is reasonable potential for the discharge to cause or contribute to an exceedance of water quality criteria 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.

1. Mass Balance

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

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

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 WTP)
Q_u	=	Receiving water low flow rate upstream of the discharge (1Q10, 7Q10 or 30B3)

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

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

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:

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

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,

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

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

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

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

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

If the criterion is expressed as dissolved metal, the effluent concentrations are measured in total recoverable metal and must be converted to dissolved metal as follows:

$$C_d = \frac{CF \times C_e - C_u}{D} + C_u \qquad \textit{Equation 7}$$

Where C_e is expressed as total recoverable metal, C_u and C_d are expressed as dissolved metal, and CF is a conversion factor used to convert between dissolved and total recoverable metal.

The above equations for C_d are the forms of the mass balance equation which were used to determine reasonable potential and calculate wasteload allocations.

2. Maximum Projected Effluent Concentration

When determining the projected receiving water concentration downstream of the effluent discharge, the EPA's Technical Support Document for Water Quality-based Toxics Control (TSD, 1991) recommends using the maximum projected effluent concentration (Ce) in the mass balance calculation (see equation 3, page C-5). To determine the maximum projected effluent concentration (Ce) 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 multiplier (RPM) used to derive the maximum projected effluent concentration (Ce) can be calculated using the following equations:

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

$$p_n = (1 - \text{confidence level})^{1/n}$$ *Equation 8*

where,

p_n = the percentile represented by the highest reported concentration

n = the number of samples

confidence level = 99% = 0.99

and

$$RPM = \frac{C_{99}}{C_{P_n}} = \frac{e^{Z_{99} \times \sigma - 0.5 \times \sigma^2}}{e^{Z_{P_n} \times \sigma - 0.5 \times \sigma^2}}$$ *Equation 9*

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 cumul 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 reported effluent concentration by the RPM:

$$C_e = (RPM)(MRC)$$ *Equation 10*

where MRC = Maximum Reported Concentration

3. 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.

4. Reasonable Potential

The discharge has reasonable potential to cause or contribute to an exceedance of water quality criteria 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

1. Calculate the Wasteload Allocations (WLAs)

Wasteload allocations (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 reasonable potential analysis. 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:

$$C_e = WLA = D \times (C_d - C_u) + C_u \qquad \textit{Equation 11}$$

Idaho's water quality criteria for some metals are expressed as the dissolved fraction, but the Federal regulation at 40 CFR 122.45(c) requires that effluent limits be expressed as total recoverable metal. Therefore, the EPA must calculate a wasteload allocation in total recoverable metal that will be protective of the dissolved criterion. This is accomplished by dividing the WLA expressed as dissolved by the criteria translator, as shown in equation __. As discussed in Appendix ___, the criteria translator (CT) is equal to the conversion factor, because site-specific translators are not available for this discharge.

$$C_e = WLA = \frac{D \times (C_d - C_u) + C_u}{CT} \qquad \textit{Equation 12}$$

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 EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD):

$$LTA_a = WLA_a \times e^{(0.5\sigma^2 - z\,\sigma)} \qquad \textit{Equation 13}$$

$$LTA_c = WLA_c \times e^{(0.5\sigma_4^2 - z\sigma_4)} \qquad \textit{Equation 14}$$

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 (LTAc) is calculated as follows:

$$LTA_c = WLA_c \times e^{(0.5\sigma_{30}^2 - z\sigma_{30})} \qquad \textit{Equation 15}$$

where,

$$\sigma_{30}^2 = \ln(CV^2/30 + 1)$$

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

2. Derive the maximum daily and average monthly effluent limits

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

$$MDL = LTA \times e^{(z_m\sigma - 0.5\sigma^2)} \qquad \textit{Equation 16}$$

$$\mathrm{AML} = \mathrm{LTA} \times e^{(z_a \sigma_n - 0.5\sigma_n^2}$$ *Equation 17*

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

σ_n^2	=	ln(CV²/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. For ammonia, 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.

C. Critical Low Flow Conditions

The low flow conditions of a water body are used to determine WQBELs. In general, Idaho’s WQS require criteria be evaluated at the following low flow receiving water conditions (See IDAPA 58.01.02.210.03) as defined below:

Acute aquatic life	687	1Q10 or 1B3
Chronic aquatic life	848	7Q10 or 4B3
Non-carcinogenic human health criteria	1,087	30Q5
Carcinogenic human health criteria	3,079	harmonic mean flow
Ammonia	1,066	30B3 or 30Q10

1. The 1Q10 represents the lowest one day flow with an average recurrence frequency of once in 10 years.
2. The 1B3 is biologically based and indicates an allowable exceedance of once every 3 years.
3. The 7Q10 represents lowest average 7 consecutive day flow with an average recurrence frequency of once in 10 years.
4. The 4B3 is biologically based and indicates an allowable exceedance for 4 consecutive days once every 3 years.
5. The 30Q5 represents the lowest average 30 consecutive day flow with an average recurrence frequency of once in 5 years.
6. The 30Q10 represents the lowest average 30 consecutive day flow with an average recurrence frequency of once in 10 years.
7. The harmonic mean is a long-term mean flow value calculated by dividing the number of daily flow measurements by the sum of the reciprocals of the flows.

Appendix D. Reasonable Potential and WQBEL Calculations

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

Facility Name	Riverside WTP
Facility Flow (mgd)	0.04
Facility Flow (cfs)	0.07

Critical River Flows (CFS)

	[IDAPA 58.01.02 03. b]	Annual Crit. Flow	Seasonal Low Flow	Seasonal High Flow	Annual Crit. Flow	Annual Crit. Flow	Annual Crit. Flow
Aquatic Life - Acute Criteria - Criterion Max. Concentration (CMC)	1Q10	687			687.0	687.0	687.0
Aquatic Life - Chronic Criteria - Criterion Continuous Concentration (CCC)	7Q10 or 4B3	848			848.0	848.0	848.0
Ammonia	30B3 or 30Q10/30Q5 (seaso	1066			1,066.0	1,066.0	1,066.0
Human Health - Non-Carcinogen	Harmonic Mean Flow	3079			3,079.0	3,079.0	3,079.0
Human Health - carcinogen	Harmonic Mean Flow	3079			3,079.0	3,079.0	3,079.0

DF at defined percent of river flow allow	25%	25#2.9	Note: Acute and Chronic dilution factors used for mixed hardness and p
DF at defined percent of river flow allow	25%	31##.#	

Receiving Water Data

			Notes:	Annual Crit. Flow	Seasonal Low Flow	Seasonal High Flow
Hardness, as mg/L $CaCO_3$	= 18.8 mg/L		5[th] % at critical flows			
Temperature, °C		Temperature, °C	95[th] percentile	21.5		
pH, S.U.		pH, S.U.	95[th] percentile	7.89		

Pollutants of Concern			CHLORINE (Total Residual)	COPPER - SEE Toxic BiOp	CHLOROFORM	CHROMIUM(TRI)	NICKEL - SEE Toxic BiOp	ZINC - SEE Toxic BiOp
Effluent Data	**Number of Samples in Data Set (n)**		87	6	23	6	6	6
	Coefficient of Variation (CV) = Std. Dev./Mean (default CV = 0.6)		0.265	2.45	1.33	2.45	1.13	1.45
	Effluent Concentration, µg/L (Maximum) - (C_e)		48	0.001	1.118	0.0013	0.0014	0.0071
	Calculated 50[th] % Effluent Conc. (when n>10), Human Health Only							
Receiving Water Data	**90[th] Percentile Conc., µg/L - (C_u)**							
	Geometric Mean, µg/L, Human Health Criteria Only							
Applicable Water Quality Criteria	Aquatic Life Criteria, µg/L	Acute	19.	1.42	--	.38	113.868	28.435
	Aquatic Life Criteria, µg/L	Chronic	11.	.88	--	.2	12.647	28.667
	Acute:chronic ratio		1.73	1.61	--	1.90	9.00	0.99
	Human Health Water and Organism, µg/L		--	1,300.	61.	Narrative	58.	870.
	Human Health, Organism Only, µg/L		--	--	730.	Narrative	100.	1,500.
	Metals Criteria Translator, decimal (or default use Conversion Factor)	Acute	--	.96	--	.316	.998	.978
		Chronic	--	.96	--	.86	.997	.986
	Carcinogen (Y/N), Human Health Criteria Only		--	N	Y	N	N	N
Percent River Flow Default Value = **25%**	**Aquatic Life - Acute**	**1Q10**	1%	0%	0%	0%	0%	0%
	Aquatic Life - Chronic	7Q10 or 4B3	1%	0%	0%	0%	0%	0%
		30B3 or 30Q10/30Q5	1%	0%	0%	0%	0%	0%
	Human Health - Non-Carcinogen	Harmonic Mean	1%	0%	0%	0%	0%	0%
	Human Health - Carcinogen	Harmonic Mean	1%	0%	0%	0%	0%	0%
Calculated Dilution Factors (DF) (or enter Modeled DFs)	Aquatic Life - Acute	1Q10	104.3	1.0	1.0	1.0	1.0	1.0
	Aquatic Life - Chronic	7Q10 or 4B3	128.5	1.0	1.0	1.0	1.0	1.0
	Aquatic Life - Chronic Ammonia	30B3 or 30Q10/30Q5	161.3	1.0	1.0	1.0	1.0	1.0
	Human Health - Non-Carcinogen	Harmonic Mean	463.9	1.0	1.0	1.0	1.0	1.0
	Human Health - Carcinogen	Harmonic Mean	463.9	1.0	1.0	1.0	1.0	1.0

Aquatic Life Reasonable Potential Analysis

			CHLORINE (Total Residual)	COPPER - SEE Toxic BiOp	CHLOROFORM	CHROMIUM(TRI)	NICKEL - SEE Toxic BiOp	ZINC - SEE Toxic BiOp
σ	$\sigma^2=\ln(CV^2+1)$		0.261	1.395	1.009	1.395	0.907	1.064
P_n	$=(1\text{-confidence level})^{1/n}$, where confidence level =	**99%**	0.948	0.464	0.853	0.464	0.464	0.464
Multiplier (TSD p. 57)	$=\exp(z\sigma-0.5\sigma^2)/\exp[\text{normsinv}(P_n)\sigma-0.5\sigma^2]$, where	**99%**	1.2	29.1	3.6	29.1	9.0	13.1
Statistically projected critical discharge concentration (C_e)			57.55	0.03	4.05	0.04	0.01	0.09
Predicted max. conc.(ug/L) at Edge-of-Mixing Zone		Acute	0.55	0.03	4.05	0.01	0.01	0.09
(note: for metals, concentration as dissolved using conversion factor as translator)		Chronic	0.45	0.03	4.05	0.03	0.01	0.09
Reasonable Potential to exceed Aquatic Life Criteria			**NO**	**NO**	**NA**	**NO**	**NO**	**NO**

Freshwater Temperature Reasonable Potential and Limit Calculation

ID 58.01.02 250

02.b	Cold Water	*22.0 °C*	*or less with maximum daily average temperature of*	*19.0 °C*	
02.f.	Salmonid Spawing	*13.0 °C*	*or less with maximum daily average temperature of*	*9.0 °C*	As determined by IDEQ "Water Body Assessment Guidance"
03.a.	Seasonal Cold	*26.0 °C*	*or less with maximum daily average temperature of*	*23.0 °C*	
04.a.	Warn Water	*33.0 °C*	*or less with maximum daily average temperature of*	*29.0 °C*	

INPUT	Cold Water Critera	Data Source
Chronic Dilution Factor at Mixing Zone Boundary	128.5	High River Flow
Ambient Temperature (T) (Upstream Background)	21.5 °C	95th Percentile based on permittee or USGS data
Effluent Temperature	25.4 °C	95th Percentile of **monthly daily max effluent** based on daily max per DMR data
Aquatic Life Temperature WQ Criterion in Fresh Water	13.0 °C	Lowest daily max criteria
OUTPUT		
Temperature at Chronic Mixing Zone Boundary:	21.5 °C	Mass balance
Incremental Temperature Increase or decrease:	0.0 °C	WQS 401.c – allow for maximum of 0.3ºC rise in receiving water temperature.

Appendix E. Endangered Species Act & Essential Fish Habitat

The Endangered Species Act (ESA) 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.

A review of the threatened and endangered species located in Idaho finds that bull trout (*Salvelinus confluentus*), Snake River fall-run Chinook salmon (*Oncorhynchus tshawytscha*), Snake River Basin steelhead (*Oncorhynchus mykiss*), the North American wolverine (*Gulo gulo luscus*), and the Spalding's catchfly (*Silene spaldingii*) are threatened and have the potential to be impacted by the discharge of the Riverside WTP. Additionally, bull trout have designated critical habitat in the vicinity of the discharge from the Riverside WTP.

Bull Trout

Bull trout are a char species of fish, a subgroup within the salmonid family. They are found native throughout the Pacific Northwest, Alaska, and Canada in waters with the following habitat conditions: cold, clean, complex, and connected. Due to these habitat requirements, bull trout are commonly found in high mountainous areas where the water is fed via snowmelt or glacial runoff. Within water systems, they will mainly be found inhabiting deep pools of large and cold rivers or lakes, where riparian habitats are intact, migration corridors are accessible, and conditions allow for both adult spawning and juvenile rearing. (USFWS, 2024)

Bull trout were listed as threatened under the ESA in 1999 (64 FR 58909). Critical habitat for bull trout was designated in 2005 (70 FR 56212) and revised in 2010 (75 FR 63898). The major threats to bull trout are the destruction/modification of habitats that support the previously mentioned habitat conditions, human take, and predation from nonnative species. The USFWS Mid-Columbia Recovery Unit Implementation Plan for Bull Trout (USFWS, 2015) identified multiple causes of the bull trout threatened listing: operation and maintenance of dams and other diversion structures, forest management practices, livestock grazing, agriculture, agricultural diversions, road construction and maintenance, mining, and introduction of nonnative species. Discharges from water treatment plants were not identified as a contributing factor to the decline in bull trout.

Effects Determination on Species and Critical Habitat

Bull trout require habitats that contain cold, clean, complex and connected environments. The following considerations show how the discharge will affect those requirements.

Water treatment plants are not significant sources of pollutants. The Riverside WTP influent pulls raw river water directly from the Clearwater River. The principal waste streams produced in filtration water treatment plants include filter backwash, filter-to-waste, thickener supernatant, and liquids from dewatering processes. Filter backwash and filter-to-waste account for most of the volume of wastewater discharged.

Table 2 in the Fact Sheet shows the list of pollutants detected in the effluent. From the effluent DMR data between 2017 – 2025, the only effluent limit violation was for pH. In the 2024 inspection, the facility stated that the low pH was due to the pH of the influent water being lower than average. In order to ensure that effluent pH is within the WQBEL range, the facility now incorporates sodium carbonate into the waste stream of the water treatment plant to increase pH values.

The permit contains effluent monitoring requirements for TTHMs because a review of the literature regarding water treatment plants suggest that these pollutants may be present in the discharge. As discussed in the fact sheet, of the 4 TTHMs, only chloroform was detected in the effluent discharge. Reasonable potential calculations showed that the discharge from the facility would not have the reasonable potential to cause or contribute to an excursion of the water quality criteria for chloroform, even without a mixing zone allowance.

Similar to TTHMs, metals monitoring is required because a review of the literature regarding water treatment plants suggest that these pollutants may be present in the discharge. For the Riverside water treatment process iron may be added to the discharge, as the facility uses ferric sulfate as a coagulant. For all other metals, as the influent to the WTP is from the Clearwater River, any metals in the discharge are at the ambient concentrations within the river.

Bull trout require colder temperatures. Riverside pulls water from the Clearwater River and discharges back to the same source water. Riverside's water treatment process does not contribute to higher temperatures in the discharge and is not anticipated to increase temperature in the receiving water body. Effluent DMR data in Table 2 shows a maximum effluent temperature of 23.6 degrees C, while Table 4 shows a maximum receiving water temperature of 26.5 degrees C.

The facility has a low design flow of 0.043 mgd. That combined with the high dilution of the Clearwater River, as listed in Table 9, results in any pollutants that are discharged from the outfall dissipating within the mixing zone. The only pollutant that requires a mixing zone to meet WQS is chlorine. Copper, chloroform, chromium, nickel, and zinc all meet WQS at the end of the pipe. Also, as detailed in Appendix D, the discharge of chlorine only requires a 1% mixing zone to not cause an exceedance the WQS.

Furthermore, the EPA does not expect the proposed action to impact habitat or exacerbate population isolation or contribute to increased water temperatures in areas supporting bull trout. Based on these considerations, the EPA concludes that this permit has no effect on the bull trout nor the physical and biological features associated with its critical habitat.

Chinook Salmon (Snake River Basin Fall Run DPS)

The Snake River Basin Fall Run Chinook salmon (SRBFR Chinook salmon) distinct population segment (DPS) is an anadromous fish species of the *Salmonidae* family, native to the Snake River Basin. The SRBFR Chinook salmon DPS are an evolutionary significant unit (ESU) of steelhead that are taxonomically recognized as an independent species of steelhead by the ESA. The SRB Chinook salmon DPS is defined as including all naturally spawned fall-run Chinook salmon originating from the mainstem Snake River below Hells Canyon Dam and from the Tucannon River, Grande Ronde River, Imnaha River, Salmon River, and Clearwater River subbasins. It also includes fall-run Chinook salmon from the following artificial propagation programs: Lyons Ferry Hatchery, Fall Chinook Acclimation Ponds, Nez Perce Tribal Hatchery, and Idaho Power. The SRBFR Chinook salmon DPS was listed as threatened in 1992 and critical habitat was designated in 1993. (NOAA, 2017)

SRBFR Chinook salmon are born from redds in late winter to early spring and then migrate out to the ocean through the Snake and Columbia rivers before mid-summer. Salmon will spend 2-5 years maturing and growing in the ocean before returning to freshwater to spawn, entering the Columbia River in late summer, entering the Snake River in the fall, and spawning in December. Water temperature variances significantly influence the timing of this cycle. (NOAA, 2017)

Habitat degradation/loss, inaccessible spawning grounds due to physical or biological barriers, water quality degradations (temperature, nutrients, algae), and altered flow regimes present the largest threats to the SRBFR Chinook salmon DPS. Much of this is due to dam operations on the Snake, Clearwater, and Columbia Rivers as well as agricultural operations along the rivers of the Snake River Basin. (NOAA, 2017)

Effects Determination on Species

Similar to bull trout, chinook salmon are a temperature and flow sensitive species. The Fact Sheet does not list nutrients or pollutants that result in algae growth as being pollutants of concern in the discharge. Given that similar factors impact bull trout have also contributed to the decline of Chinook salmon and based on the analysis of impacts to bull trout as result of this action, the EPA determines this permit has no effect on the SRBFR Chinook salmon DPS.

Steelhead (Snake River Basin DPS)

The Snake River Basin steelhead (SRB steelhead) DPS is an anadromous fish species of the *Salmonidae* family, native to the Snake River Basin. SRB steelhead DPS are an ESU of steelhead that are taxonomically recognized as an independent species of steelhead by the ESA. SRB steelhead DPS is defined as including all naturally spawned anadromous steelhead populations below natural and manmade impassable barriers in streams in the Snake River basin of southeast Washington, northeast Oregon, and Idaho, as well as six artificial production programs: the Tucannon River, Dworshak National Fish Hatchery, South Fork Clearwater River B-Run, East Fork Salmon River Natural, Salmon River B-run, and the Little Sheep Creek/Imnaha River steelhead hatchery programs. The SRB steelhead DPS was listed as threatened in 1997. Critical Habitat for the SRB steelhead DPS was designated in 2005. (NOAA, 2025)

Steelhead are born in freshwater streams, where they spend their first 2-3 years of life. They then migrate to the Pacific Ocean where they gain most of their mass. After spending between 1-4 seasons in the ocean, steelhead begin migrating back to freshwater and upstream all the way to their natal waters where they spawn. Unlike Pacific salmon species, steelhead are iteroparous and can migrate back to the ocean after spawning, and then spawn again the next season. (NOAA, 2022)

The largest threats to SRB steelhead DPS are the loss of migration corridors from partial or total human-caused blockages, the destruction/modification of stream and riparian habitats, water-quality impairments such as excessive temperatures and sediments, predation/competition, and human related mortalities. The National Marine Fisheries Service ESA Recovery Plan for

Snake River Spring/Summer Chinook Salmon & Snake River Basin Steelhead identifies the major causes of steelhead declines as historical overharvest, dam operations/change in flow regime, natural resource extraction (logging, mining, irrigation), and agricultural practices. (NMFS, 2017)

Effects Determination on Species

Similar to bull trout and chinook salmon, SRB steelhead DPS are a temperature sensitive species. As discussed in the bull trout determination above, Riverside's water treatment process does not contribute to higher temperatures in the discharge.

Additionally, SRB steelhead DPS are sensitive to sediments on the water column. Table 2 Effluent Characterization shows that the maximum monthly average TSS from 2017 – 2025 is 14.9 mg/L. This is significantly lower than the proposed technology-based effluent limit for TSS. Additionally, as the influent for the Riverside WTP is raw river water, pulled directly from the Clearwater River, the facility is not contributing to an addition of TSS in the discharge.

Given that similar factors impact bull trout and chinook salmon have also contributed to the decline of SRB steelhead DPS, based on the analysis of impacts to bull trout as well as those listed above as result of this action, the EPA determines this permit has no effect on the SRB steelhead DPS.

<u>North American wolverine</u>

The North American wolverine (*Gulo gulo luscus)* is a medium sized mammal and largest terrestrial member of the weasel family (*Mustelidae)*, it was listed as threatened under the ESA as of January 2, 2024. Their historical range includes Central Idaho, where the Riverside WTP is located. Except for the most northern portions of the western contiguous United States, wolverine habitat within Idaho, Washington, Montana, Wyoming, and California is the southern portion of the species range. Within this southern area their distribution is limited to high-alpine regions where snow is deep and persistent throughout the winter and lasts late into the summer. Wolverines tend to live in remote and inhospitable places away from human populations, they are extremely rare to encounter even in regions where populations are known to exist.

Wolverines have large spatial requirements; the availability and distribution of food is likely the primary factor in determining wolverine movements and home range (Hornocker and Hash 1981; Banci 1994). Wolverines can travel long distances over rough terrain and deep snow, with adult males covering greater distances than females (Hornocker and Hash 1981; Banci 1994).

They are opportunistic feeders, consuming a variety of food sources depending on availability. They primarily scavenge carrion but also prey on small mammals and birds when possible. They also will consume a variety of berries, fruits, and insects. (Hornocker and Hash 1981; Banci 1994).

Effects Determination on Species

Based on the distribution and movement patterns of North American wolverines, it is highly unlikely that the species will be present in or near the discharge of the Riverside WTP due to the higher human presence and lack of snow. It is determined that reissuance of the Riverside WTP NPDES permit will have no effect on the North American wolverine.

<u>Spalding's catchfly (*Silene spaldingii)*</u>

Spalding's catchfly is an herbaceous perennial plant. In general, the species is found in open, moist grassland communities, although it is occasionally also found within sagebrush steppe communities, as well as in pine forests. The bunchgrass grasslands where Spalding's catchfly primarily occurs are characterized by one or both of two dominant bunchgrass species, such as blue bunch wheatgrass and Idaho fescue. The plant is typically found at elevations ranging from 420 to 1,555 m (1,380 to 5,100 ft), usually in deep, productive loess soils. Plants are generally found in swales or on north or east facing slopes where soil moisture is relatively higher (USFWS, 2006).

It was listed as a threatened species under the ESA on October 10, 2001 (66 FR 51598). No critical habitat has been designated. Within Idaho is known to be found within 3 counties in Idaho, Idaho County, Lewis County, and Nez Perce County, Riverside is located within Clearwater County.

The most recent five-year status review that was released in 2021 found that Spalding's catchfly is still not secure from threats and has not made enough recovery progress to meet delisting requirements. Spalding's catchfly continues to face threats from habitat loss and fragmentation through development and over usage, invasive nonnative plants, changes to wildfire regime and effects, overgrazing, trampling and predation. The 2021 Five-Year Status Review also found that pollinator conservation, particularly of the golden northern bumble bee (*Bombus fervidus*) and the white-shouldered bumblebee (*Bombus appositus*), can help reduce low seed viability causing declines in Spalding's catchfly populations (USFWS 2021).

Effects Determination on Species

Spalding's catchfly is an upland, terrestrial species. USFWS 2021 five-year review provide maps of known populations of the species that suggest that the species are over 10-20 miles from the Riverside WTP. Monitoring activities from numerous agencies and entities continue to search for new populations, but it appears that the species is not currently found within the vicinity of the Riverside WTP discharge. Further, the life history of the species limits its potential occupation of a site to upland, terrestrial sites, thus eliminating its potential presence near the Riverside WTP or exposure to the discharge from the facility. It is determined that reissuance of the Riverside WTP NPDES permit will have no effect on the Spalding's catchfly.

Table 11. Effects Determination

Species	Effects Determination Species	Effects Determination Critical Habitat
Bull Trout	No Effect	No Effect
Chinook Salmon	No Effect	CH not designated
Steelhead	No Effect	CH not designated
North American Wolverine	No Effect	CH not designated
Spalding's catchfly	No Effect	CH not designated

Appendix F. CWA § 401 Certification

Below is the EPA's draft CWA § 401 Certification. The EPA is taking comment on the EPA's intent to certify this permit as described in Section VI.VI.C.

Clean Water Act (CWA) Section 401 Certification for Discharger Located within Tribal Boundaries

Facility:	Riverside Water and Sewer District
NPDES Permit Number:	ID0021237
Location:	Nez Perce Tribe
Receiving Water:	Clearwater River
Facility Location:	10460 Highway 12 Orofino, Idaho 83544

This grant of certification without conditions applies to the water quality-related impacts from the activity subject to the National Pollutant Discharge Elimination System (NPDES) permit referenced above. The Riverside WTP discharges to the Clearwater River, near Orofino, Idaho within the Nez Perce Reservation.

Section 401 of the Clean Water Act requires applicants for Federal licenses or permits to conduct any activity which may result in any discharge into waters of the United States to obtain a certification or waiver from the certifying authority where the discharge originates or will originate. When a NPDES permit is issued on Tribal Land, the Tribe is the certifying authority where the Tribe has been approved by the EPA for Treatment as a State (TAS) pursuant to CWA Section 518(e) and 40 CFR § 131.8. Where a Tribe does not have TAS, the EPA is the certifying authority. 33 U.S.C. 1341(a)(1). In this case, the Nez Perce Tribe does not have TAS for the reservation. Therefore, the EPA is making the certification decision for the permit.

The EPA has determined that the activity will comply with the applicable water quality requirements, including any limitation, standard, or other requirement under sections 301, 302, 303, 306, and 307 of the CWA; any federal and state or Tribal laws or regulations implementing those sections; and any other water quality-related requirement of state or Tribal law.

The EPA's Public Notice Process

On September 17, 2025, the EPA issued a public notice for the draft permit, including the intent to certify under Section 401, and provided the opportunity for the public to submit comments until October 17, 2025.

Susan Poulsom
Branch Manager
Permitting, Drinking Water and
Infrastructure
EPA Region 10

Appendix G. Antidegradation Analysis

The WQS contain an antidegradation policy providing Tier 1, Tier 2 and Tier 3 levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- Tier 1 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 1 review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier 2 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 3 Protection. The third level of protection applies to those water bodies where an outstanding resource water has been designated by the legislature, that water quality shall be maintained and protected from the impacts of point and nonpoint source activities (IDAPA 58.01.02.051.03).

The EPA is employing a water body by water body approach in conducting the antidegradation analysis. 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 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data was used to determine support status and the Tier protection. (IDAPA 58.01.02.052.05).

According to the 2022 Integrated Report the Clearwater River in the vicinity of the discharge is designated as 3T waters and the water quality of the river is unassessed. Because of this the EPA will provide a Tier 2 antidegradation analysis.

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 this permit, this means determining the permit's effect on water quality based upon the limits for TSS, total residual chlorine, and pH in the current and proposed permits. Table F-1 provides a summary of the current permit limits and the proposed reissued permit limits

Table F-1. Comparison of Proposed and Current Permit Limits						
Parameters	Average Monthly Limit		Average Weekly Limit		Maximum Daily Limit	
	Proposed Permit (2025)	Current Permit[2]	Proposed Permit (2025)	Current Permit[2]	Proposed Permit (2019)	Current Permit[2]
TSS (mg/L)	30	30	---	---	45	45
TSS in (lbs/day[1])	10.8	38	---	---	16.1	56
Total Residual Chlorine (mg/L)	0.3	0.3	---	---	0.5	0.5
Total Residual Chlorine (lbs/day[1])	0.1	0.38	---	---	0.17	0.63
pH	---	---	---	---	6.5 – 9	6.5 – 9
1. Mass-based loadings are based on a design flow of 0.043 mgd. 2. The existing permit limits were issued in 2017.						

The proposed permit concentration limits in Table F-1 of for TSS and total residual chlorine along with the effluent limit for pH are the same as those in the previous permit. The mass-based limits for TSS and total residual chlorine have changed and are more stringent due to a calculation error in the existing permit. Therefore, EPA concludes that the permit complies with the Tier 2 provisions of Idaho’s WQS (IDAPA 58.01.02.051.02 and IDAPA 58.01.02.052.06).