



Fact Sheet

The U.S. Environmental Protection Agency (EPA)

Proposes to Reissue a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) to:

City of Kooskia Wastewater Treatment Plant

Public Comment Start Date: June 15, 2026

Public Comment Expiration Date: July 15, 2026

THE EPA PROPOSES TO REISSUE THE NPDES PERMIT

The EPA proposes to reissue the NPDES permit for the facility referenced above. The draft permit places conditions on the discharge of pollutants from the wastewater treatment 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
- a listing of substantial changes relative to the prior permit

CWA § 401 CERTIFICATION

Since this facility discharges to the Nez Perce 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.VI.C. Comments regarding the intent to certify should be submitted to EPAR10WD-NPDES@epa.gov.

CLEAN WATER ACT §401(A)(2) REVIEW

CWA Section 401(a)(2) requires that, upon receipt of an application and 401 certification, the EPA must notify a neighboring State or Tribe with TAS (neighboring jurisdiction) if the

EPA determines that the discharge may affect the quality of the neighboring jurisdiction'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 "any other" State or Tribe'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 EPAR10WD-NPDES@epa.gov with the subject line "Comments on Draft NPDES Permit (ID0021814)".

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/idaho-npdes-permits>.

The draft Administrative Record for this action contains all documents listed in the References section. The Administrative Record or documents from it are available electronically upon request by emailing EPAR10WD-NPDES@epa.gov.

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ACRONYMS

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
ASR	Alternative State Requirement
AWL	Average Weekly Limit
BE	Biological Evaluation
BOD ₅	Biochemical oxygen demand, five-day
BMP	Best Management Practices
°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
DO	Dissolved oxygen
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
IDEQ	Idaho Department of Environmental Quality
I/I	Infiltration and Inflow
LA	Load Allocation
lbs/day	Pounds per day
LTA	Long Term Average
LTCP	Long Term Control Plan
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
MPN	Most Probable Number
N	Nitrogen
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
SS	Suspended Solids
SSO	Sanitary Sewer Overflow
s.u.	Standard Units
TKN	Total Kjeldahl Nitrogen
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
UV	Ultraviolet
WD	Water Division
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water Quality Standards
WWTP	Wastewater treatment plant

I. BACKGROUND INFORMATION

A. GENERAL INFORMATION

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

Table 1. General Facility Information

NPDES Permit #:	ID0021814
Applicant:	City of Kooskia Wastewater Treatment Facility
Type of Ownership	Municipal – Publicly Owned Treatment Works (POTW)
Physical Address:	104 Airport Road Kooskia, ID 83539
Mailing Address:	P.O. Box 126 Kooskia, ID 83539
Facility Contact:	Justin Lycan Public Works Superintendent kooskiapw@gmail.com (208) 816-8198
Operator Name:	Justin Lycan
Facility Location:	46.132 -115.981
Receiving Water	South Fork of the Clearwater River, Nez Perce Tribe
Facility Outfall	46.132 -115.981

B. PERMIT HISTORY

The most recent NPDES permit for the City of Kooskia Wastewater Treatment Plant (“Kooskia WWTP”) was issued on November 18, 2019, modified on December 5, 2019, became effective on January 1, 2020, and expired on December 31, 2024. An NPDES application for permit issuance was submitted by the permittee on August 19, 2024. 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.

1. Changes Relative to Prior Permit

The draft permit proposes changes relative to the prior permit, as described below:

- Change to the maximum daily effluent limit for *Escherichia coli* (*E. coli*) bacteria,
- Addition of concentration and mass-loading total ammonia effluent limitations,

- Increase in effluent monitoring frequency of total ammonia,
- Increase in effluent monitoring frequency of nitrate-nitrite, total kjeldahl nitrogen (TKN), and phosphorus, and
- Addition of quarterly influent, effluent, and sludge monitoring for per- and polyfluoroalkyl substances (PFAS).

C. TRIBAL 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 Kooskia WWTP is located on the Nez Perce Reservation of the Nez Perce Tribe of Indians. 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

The City of Kooskia owns and operates the Kooskia WWTP located in Kooskia, Idaho. The collection system has no combined sewers. The facility serves a resident population of 697 from both the City of Kooskia and the City of Stites, Idaho. There are no major industries discharging to the facility. The facility is on the Nez Perce Reservation and discharges to Nez Perce Tribal waters.

2. Treatment Process

The design flow of the facility is 0.198 million gallons per day (mgd). The reported actual flows from the facility range from 0.05 to 0.29 mgd (average monthly flow). The 90th percentile of average monthly flows from the facility is 0.198 mgd. When actual flows exceed the design flow, this can lead to exceedances of mass-based effluent limits. In addition to domestic sources of wastewater, another significant source of increased flow rate is from inflow and infiltration. The City of Kooskia is currently finishing a collection system project that is replacing around 8000 feet of sewer main lines, 22 manholes, and 2 lift stations. As 10% of average monthly flows

are greater than or equal to the design flow of the facility, the EPA will utilize the maximum average monthly flow of 0.29 mgd in calculating permit effluent limits.

The WWTP provides treatment using a two-cell aerated lagoon system, followed by a settling contact chamber. Wastewater is then disinfected by ultraviolet radiation prior to a polishing ditch and subsequent flow into the South Fork of the Clearwater River. The facility is currently undergoing a number of scheduled improvements. The work includes the following major components:

1. Improvements to the treatment system lagoon cells, which include:
 - a. Removal of existing lagoon liners, baffle curtains, structures, yard piping.
 - b. Sitework including clearing, grubbing, handling, and disposal of unusable material.
 - c. Grading new and existing lagoon embankments, liner subgrades, dike gravel pad, and site accesses.
 - d. Installation of new lagoon high-density polyethylene plastic (HDPE) liners, anchor trenches, baffle curtains, lagoon transfer structures, waste resource recovery facility manholes, and all associated yard piping, couplings, and appurtenances.
 - e. Overall, replacing the existing two-cell lagoon system with a new HDPE lined, three-cell aerated lagoon system.
2. Improvements to the treatment system headworks, which include:
 - a. Removal of the existing screen equipment, mechanical piping, electrical, and concrete.
 - b. Furnishing and installation of new mechanical screens, mechanical piping, couplings, and appurtenances, and building electrical and HVAC.
3. Improvements to the treatment system aeration building, which include:
 - a. Removal of the existing aeration blowers and equipment, and demolition of the existing blower building.
 - b. Installation of new lagoon aerators, lateral piping, blowers, and process air piping, couplings, and appurtenances.
 - c. Construction of a new blower building including HVAC
4. Improvements to the treatment system electrical, instrumentation and controls
5. Biosolids Removal and Disposal
 - a. Pumping of biosolids from the existing lagoon cells to geotubes located in the designated laydown area.
 - b. Dewatering, handling, and disposing of biosolids within the geotubes away from the project site.

These improvements are scheduled to be completed by December 2026.

Schematics of both the existing and future wastewater treatment processes and a map showing the location of the WWTP and discharge are included in OBecause the design flow is less than 1 mgd, the facility is considered a minor facility.

B. OUTFALL DESCRIPTION

The City of Kooskia WWTP discharges to the South Fork of the Clearwater River through an open pipe adjacent to the facility, at approximately river mile 0.5. The facility does not discharge for the month of August each year.

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 facility. The effluent quality is summarized in Table 2 and Table 4. Data are provided in Appendix B.

Table 2. Effluent Characterization

Parameter		Units	Minimum	Maximum	Percentile	Number of Samples (n)
Flow	Monthly Average	MGD	0.05	0.29	0.198 (90 th)	61
5-day Biochemical Oxygen Demand (BOD ₅)	Monthly Average	mg/L	1.3	23.6	16.2 (95 th)	61
	Weekly Average		1.9	34	30 (95 th)	61
	Percent Removal	%	85.6	99.4	88.3 (5 th)	61
Total Suspended Solids (TSS)	Monthly Average	mg/L	4.8	51	43 (95 th)	61
	Weekly Average		6	85	64 (95 th)	61
	Percent Removal	%	60.9	99	71.7 (5 th)	61
Total Ammonia (as N)	Daily Max	mg/L	0.04	30.2	27.8 (95 th)	61
pH	Inst. Min	s.u.	6.5	8.22	6.78 (5 th)	61
	Inst. Max		7.4	9.6	8.59 (95 th)	61
Temperature	Daily Max	°C	14.29	25.7	23.96 (95 th)	6
<i>E. coli</i> bacteria	Inst. Max	#/100 mL	0	307.6	248.9 (95 th)	61
	Monthly Geomean		0	151.4	41.95 (95 th)	61

Parameter	Units	Minimum	Maximum	Percentile	Number of Samples (n)
Source: DMR Data 3/31/2020 to 10/31/2025					

Table 3. Effluent Characterization – NPDES Application Form

Parameter		Units	Minimum	Maximum	95 th Percentile	Number of Samples (n)
Dissolved Oxygen (DO)	Monthly Average	mg/L	4	8	7.93	4
Nitrate-Nitrite	Daily Max	mg/L	0	1.21	1.21	4
TKN	Monthly Average	mg/L	24	35	34	4
Oil and grease	Daily Max	mg/L	0	1	1	4
Phosphorus	Daily Max	Lbs/day	3.93	4.5	4.5	4
Total Dissolved Solids (TDS)	Daily Max	mg/L	278	295	293	4
Source: NPDES Application Form 2020-2025						

D. COMPLIANCE HISTORY

A summary of effluent violations is provided in Table 4. Between 2020 and 2025 the facility has violated the effluent limit for BOD₅, TSS, pH, and *E. coli*. For pH and *E. coli*, this is a continuation of effluent limit exceedances from the previous permit (2003 – 2018). The EPA sent the facility a notice of violation in October 2023 that included effluent violations of TSS and pH from between 2019 and 2023.

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=ID0021814&sys=ICP>.

Table 4. Summary of Effluent Violations (2020-2025)

Parameter	Limit Type	Units	Number of Instances	Number of Violations
BOD ₅ , 20 deg. C	Weekly Average	lbs/day	1	7
TSS	Monthly Average	mg/L	3	91
TSS	Monthly Average	lbs/day	1	30
TSS	Weekly Average	mg/L	3	27
TSS	Weekly Average	lbs/day	3	27
TSS	Percent Removal	Min Percent Removal	1	31
pH	Instantaneous Max	SU	1	1
<i>E. coli</i> Bacteria	Geometric Mean	#/100ml	1	1
Information accessed in ICIS in December 2025.				

The EPA conducted an inspection of the facility on February 8, 2023. The inspection encompassed the wastewater treatment process, records review, operation and maintenance, and the collection system. No areas of concern were identified in the inspection.

Since the notice of violation in 2023, the facility continues to have seasonal effluent violations for TSS. The TSS effluent violations tend to occur every spring between the months of April and May. The TSS: BOD₅ ratio is an indication in wastewater of the types of sources of solids. Table 5 summarizes the TSS: BOD₅ ratios between 2020 and 2025. The ratios range from 0.9 to 11.5 with a mean of 3.5. High TSS: BOD₅ ratios are an indicator of algal overgrowth in wastewater treatment pond systems.

Table 5. TSS: BOD₅ Ratio of Monthly Average Concentrations

Parameter	Units	Mean	Minimum	Maximum	95 th Percentile
TSS	mg/L	20.5	4.8	51	43
BOD ₅	mg/L	7.5	1.3	23.6	16.2
TSS: BOD ₅ Ratio	Unitless	3.5	0.9	11.5	7.4

During the inspection, the facility reported that they experience annual algal blooms in the spring, which accounts for higher pH. These annual algal blooms result in higher counts of Daphnia. Daphnia are filter feeders and their main contribution to wastewater treatment is the removal of suspended solids, particularly algae. However, when algal blooms occur, daphnia populations increase resulting in visible red streaks in the ponds, which result in TSS exceedances in the discharge. (EPA, 2011b)

In order to address the seasonal effluent exceedances and reduce algal bloom in the lagoons, the facility is currently undertaking major improvements to the treatment facility. See section II.A.2 of the Fact Sheet for a full description of all major improvements to the facility.

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 South Fork Clearwater River in the City of Kooskia, Idaho. The outfall is located at approximately river mile 0.5.

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 the EPA, those tribal WQS will be used for determining effluent limitations. Meanwhile, 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 South Fork Clearwater River in the South Fork Clearwater Basin (HUC 17060305), Water Body Unit C-1. At the point of discharge, the South Fork Clearwater River is protected for the following designated uses:

- cold water communities
- salmonid spawning
- primary contact recreation

In addition, all waters 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 6.

Table 6. Receiving Water Quality Data

Parameter	Units	5 th Percentile	95 th Percentile	Maximum
Temperature	°C	2.2	20.6	21.3
pH	Standard units	7.1	9.4	9.4
Ammonia	mg/L	0.01	0.23	0.25
Source: Data collected by permittee 2020-2024				

1. Water Quality Limited Waters

The Nez Perce Tribe does not have TAS for CWA § 303(d). The State of Idaho reports on the water quality status of upstream and downstream waters in their Integrated Report. The State of Idaho's 2024 Integrated Report Section 5 (CWA § 303(d)) lists the South Fork Clearwater River from the upstream Butcher Creek to the mouth at the City of Kooskia, as impaired for temperature and sediment.

In March 2004, IDEQ published the *South Fork Clearwater River Subbasin Assessment and Total Maximum Daily Loads (2004 TMDL)*. The Nez Perce Tribe worked with IDEQ in the development of the 2004 TMDL. Since the Tribe does not have TAS, on July 22, 2004, the EPA approved the TMDL for State waters and issued the TMDL for tribal waters. As the approval letter states:

“As explained the enclosed co-issuance document, EPA is also issuing TMDLs for those waters in the South Fork Clearwater subbasin which are within Indian country.”

The 2004 TMDL includes wasteload allocations (WLAs) for temperature and sediment for the facility. As explained in more detail below, the draft permit proposes effluent limits consistent with the assumptions and requirements of the WLAs.

2. Low Flow Conditions

Critical low flows for the receiving water are summarized in Table 7. Critical flows were determined using USGS Hydrologic Toolbox and stream data from 1912 – 2025. Stream data were collected from USGS 13338500 South Fork Clearwater River at Stites, ID gage. Low flows are defined in Appendix E.

Table 7. Critical Flows in Receiving Water

Flows	Annual Flow (cfs)
1Q10	72
7Q10	98
30B3	135
30Q5	134
Harmonic Mean	362

Flows	Annual Flow (cfs)
USGS Gage 13338500 located upstream of the City of Kooskia, 1912 – 2025	

IV. EFFLUENT LIMITATIONS AND MONITORING

Table 8, below, presents the effluent limits and monitoring requirements proposed in the draft permit. Changes in effluent limits are highlighted in red font. The existing effluent limits and monitoring requirements in the current Permit are listed in VII.Appendix D.

The draft permit includes several changes to the effluent limitations and monitoring requirements. These are listed in Part I.B.1, above, with additional detail below.

Table 8. Draft Permit - Effluent Limits and Monitoring Requirements

Parameter	Units	Effluent Limitations			Monitoring Requirements		
		Average Monthly	Average Weekly	Maximum Daily	Sample Location	Sample Frequency	Sample Type
Flow	mgd	Report	---	Report	Effluent	Continuous	Recording
Biochemical Oxygen Demand (BOD ₅)	mg/L	30	45	---	Influent and Effluent ¹	1/week	Grab
	lbs/day	50	74	---			Calculation ²
BOD ₅ Percent Removal	%	85 (minimum)	---	---	Influent and Effluent ¹	1/month	Calculation ³
Total Suspended Solids (TSS)	mg/L	45	65	---	Influent and Effluent ¹	1/week	Grab
	lbs/day	74	107	---			Calculation ²
TSS Percent Removal	%	65 (minimum)	---	---	Influent and Effluent ¹	1/month	Calculation ³
<i>E. coli</i> Bacteria	CFU/100 mL	126 ⁴ (monthly geometric mean)	---	410 ⁵ (instantaneous max)	Effluent	1/week	Grab
pH	std units	Between 6.5 – 9.0			Effluent	5/week	Grab
Temperature	°C	---	---	26 ⁶	Effluent	Continuous ⁷	Recording
Total Ammonia as N	mg/L	7.3	---	21.4	Effluent	1/month	24-hour Composite

Parameter	Units	Effluent Limitations			Monitoring Requirements		
		Average Monthly	Average Weekly	Maximum Daily	Sample Location	Sample Frequency	Sample Type
(final limit)	lbs/day	123	---	357			Calculation ²
Nitrate-Nitrite	mg/L	---	---	Report	Effluent	1/quarter	Grab
Total Kjeldahl Nitrogen	mg/L	Report	---	---	Effluent	1/quarter	Grab
Phosphorus	mg/L	---	---	Report	Effluent	1/quarter	Grab
PFAS	ng/L	Report	---	Report	Influent and Effluent ¹	1/quarter ⁸	24-hour Composite
PFAS	mg/kg dry weight	---	---	Report	Sludge	1/quarter ⁸	Grab
NPDES Application Form 2A Effluent Testing Data ⁹	---	---	---	---	Effluent	1/year	---

1. Influent and effluent grab samples shall be collected during the same 8-hour period.
2. Loading is normally calculated by multiplying the concentration in mg/L by the average daily flow for the day of sampling in mgd and a conversion factor of 8.34. If the concentration is measured in µg/L, the conversion factor is 0.00834. For more information on calculating, averaging, and reporting loads and concentrations see the NPDES Self-Monitoring System User Guide (EPA 833-B-85-100, March 1985).
3. Percent Removal. The monthly average percent removal must be calculated from the arithmetic mean of the influent values and the arithmetic mean of the effluent values for that month using the following equation: $((\text{Average monthly influent concentration} - \text{average monthly effluent concentration}) \div \text{average monthly influent concentration}) \times 100$
4. The average monthly *E. coli* bacteria counts must not exceed a geometric mean of 126 #/100 mL based on a minimum of five samples taken every 3–11 days within a calendar month.
5. Exceedance of a daily maximum limit, instantaneous maximum limit, or instantaneous minimum limit requires 24-hour reporting
6. Temperature maximum daily effluent limit applies from July 15 – Aug 31 and from Oct 1-15.
7. Effluent temperature monitoring should occur year-round even though the maximum daily limit is seasonal.
8. Monitoring for PFAS chemicals is required for 2 years (8 quarters), beginning at the start of the first complete quarter in the third year of the permit term.
9. Effluent Testing Data – See NPDES Permit Application Form 2A, Part B. for the list of pollutants to be included in this testing. The Permittee must use sufficiently sensitive analytical methods in accordance with Part I.B.7. of the permit.

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 WLA from a 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

The wastewater treatment process for this facility includes both primary and secondary treatment. Pollutants expected in the discharge from a facility with this type of treatment, include but are not limited to: five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), *E. coli* bacteria, pH, ammonia, temperature, phosphorus, and dissolved oxygen (DO).

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

- Ammonia
- BOD₅
- DO
- *E. coli* bacteria
- Nitrate-Nitrite

- PFAS
- pH
- Phosphorus
- Temperature
- TKN
- TSS

2. Technology-Based Effluent Limits (TBELs)

a. Federal Secondary Treatment Effluent Limits

The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. CWA § 301 established a required performance level, referred to as “secondary treatment,” which POTWs were required to meet by July 1, 1977. The EPA has developed and promulgated “secondary treatment” effluent limitations, which are found in 40 CFR 133.102. These TBELs apply to certain municipal WWTPs and identify the minimum level of effluent quality attainable by application of secondary treatment in terms of BOD₅, TSS, and pH. The federally promulgated secondary treatment effluent limits are listed in Table 9. For additional information and background refer to Part 5.1 *Technology Based Effluent Limits for POTWs* in the Permit Writers Manual.

Table 9. Secondary Treatment Effluent Limits

Parameter	30-day average	7-day average
BOD ₅	30 mg/L	45 mg/L
TSS	30 mg/L	45 mg/L
Removal for BOD ₅ and TSS (concentration)	85% (minimum)	--
pH	within the limits of 6.0 - 9.0 s.u.	
Source: 40 CFR 133.102		

b. Equivalent to Secondary Treatment Effluent Limits

The EPA has additionally established effluent limitations (40 CFR 133.105) that are considered “equivalent to secondary treatment” which apply to facilities meeting certain conditions established under 40 CFR 133.101(g). The federally promulgated equivalent to secondary treatment effluent limits are listed below in Table 10.

Table 10. Equivalent to Secondary Treatment Effluent Limits

Parameter	30-day average	7-day average
BOD ₅	45 mg/L	65 mg/L
TSS	45 mg/L	65 mg/L
Removal for BOD ₅ and TSS (concentration)	65% (minimum)	--
Source: 40 CFR 133.105		

Using DMR data from 2020 to 2025, the EPA evaluated the facility's eligibility for effluent limits based on equivalent to secondary treatment standards. To be eligible, a POTW must meet all three of the following criteria:

Criterion #1 – Consistently Exceeds Secondary Treatment Standards: The first criterion that must be satisfied to qualify for the equivalent to secondary standards is demonstrating that the BOD₅ and TSS effluent concentrations consistently achievable through proper operation and maintenance of the treatment works exceed the secondary treatment standards set forth in 40 CFR 133.102(a) and (b). 40 CFR 133.101(f) defines “effluent concentrations consistently achievable through proper operation and maintenance” as

- (f)(1): For a given pollutant parameter, the 95th percentile value for the 30-day average effluent quality achieved by a treatment works in a period of at least 2 years, excluding values attributable to upsets, bypasses, operational errors, or other unusual conditions, and
- (f)(2): A 7-day average value equal to 1.5 times the value derived under paragraph (f)(1)

Criterion #2 – Principal Treatment Process: The second criterion that a facility must meet to be eligible for equivalent to secondary standards is that its principal treatment process must be a trickling filter or waste stabilization pond (i.e., the largest percentage of BOD₅ and TSS removal is from a trickling filter or waste stabilization pond system).

Criterion #3 – Provide Significant Biological Treatment: The third criterion for applying equivalent to secondary standards is that the treatment works provides significant biological treatment of municipal wastewater. 40 CFR 133.101(k) defines significant biological treatment as using an aerobic or anaerobic biological treatment process in a treatment works to consistently achieve a 30-day average of at least 65 percent removal of BOD₅.

The determinations for the three criteria are listed below. See Table 11 for the detailed Treatment Equivalent to Secondary Treatment determinations for BOD₅ and TSS and Table 12 for the determination regarding Significant Biological Treatment.

- Criterion 1 – Consistently Exceeds Secondary Treatment Standards, BOD₅: No; TSS: Yes
- Criterion 2 – Principal Treatment Process (waste stabilization ponds or trickling filter): Yes
- Criterion 3 – Provide Significant Biological Treatment: Yes

Table 11. Treatment Equivalent to Secondary Treatment Determinations for BOD₅ and TSS (Criterion 1)

BOD ₅	95th Percentile	Secondary Treatment Standard	Exceeds Secondary Standard
Monthly Average	16.2 mg/L	30 mg/L	No
Weekly Average	30 mg/L × 1.5 = 45 mg/L	45 mg/L	No
TSS	95th Percentile	Secondary Treatment Standard	Exceeds Secondary Standard
Monthly Average	43 mg/L	30 mg/L	Yes
Weekly Average	64 mg/L × 1.5 = 96 mg/L	45 mg/L	Yes

Table 12. Significant Biological Treatment (Criterion 3)

BOD ₅	5th Percentile	Treatment Standard	Provides Significant Biological Treatment
Monthly percent removal	88%	65%	Yes

The POTW does not meet the three criteria for treatment equivalent to secondary for BOD₅, therefore the treatment equivalent to secondary/technology-based secondary limits for BOD₅ does not apply.

The POTW meets the three criteria for treatment equivalent to secondary for TSS, therefore the treatment equivalent to secondary/technology-based secondary limits for TSS apply.

Table 13 lists the basis and proposed effluent limits for BOD₅ and TSS.

Table 13. Treatment Equivalent to Secondary Determinations for BOD₅ and TSS

Parameter	Monthly Average	Weekly Average	Percent Removal	Basis
BOD ₅	30 mg/L	45 mg/L	85%	TBELs for secondary treatment (40 CFR 133.102(a)-(b))
TSS	45 mg/L	65 mg/L	65%	Meets criteria for treatment equivalent to secondary treatment (40 CFR 133.105(b))

c. Mass-Based Limits

40 CFR 122.45(f) requires that effluent limits be expressed in terms of mass, except under certain conditions. 40 CFR 122.45(b) 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:

$$\text{Mass based limit} = \text{concentration limit (mg/L)} \times \text{design flow (mgd)} \times 8.34^1$$

Since the design flow for this facility is 0.29 mgd, the technology-based mass limits for BOD₅ are calculated as follows:

$$\text{Average Monthly Limit} = 30 \text{ mg/L} \times 0.29 \text{ mgd} \times 8.34 = 73 \text{ lbs/day}$$

$$\text{Average Weekly Limit} = 45 \text{ mg/L} \times 0.29 \text{ mgd} \times 8.34 = 109 \text{ lbs/day}$$

The mass limits for TSS are calculated as follows:

$$\text{Average Monthly Limit} = 45 \text{ mg/L} \times 0.29 \text{ mgd} \times 8.34 = 109 \text{ lbs/day}$$

$$\text{Average Weekly Limit} = 65 \text{ mg/L} \times 0.29 \text{ mgd} \times 8.34 = 157 \text{ lbs/day}$$

As discussed in Section II.A.2, given the increase in actual flows through the facility, the EPA increased the design flow of the facility from 0.198 mgd to 0.29 mgd. Due to this increase in design flows, the above calculated mass-based limits for BOD₅ and TSS are less stringent than the existing permit. In order to avoid backsliding, the EPA will retain the existing mass-based limits for BOD₅ and TSS, as shown in Table 14.

Table 14. Mass-Based Limits

Parameter	Average Monthly Limit	Average Weekly Limit
BOD ₅	50 lbs/day	74 lbs/day
TSS	74 lbs/day	107 lbs/day

¹ 8.34 is a conversion factor with units (lb × L)/(mg × gallon × 10⁶)

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)).

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 wasteload allocation for the discharge in an approved TMDL. If there are no approved TMDLs that specify wasteload allocations for this discharge; all of the 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.

The Idaho WQS at IDAPA 58.01.02.060 provides Idaho's mixing zone policy for point source discharges. The proposed mixing zones are summarized in Table 15. The EPA also calculated dilution factors for year-round critical low flow

conditions. All dilution factors are calculated with the effluent flow rate set equal to the design flow of 0.29 mgd.

Table 15. Mixing zones

Criteria Type	Critical Low Flow (cfs)	Mixing Zone (% of Critical Low Flow)	Dilution Factor
Acute Aquatic Life	72	25	41.1
Chronic Aquatic Life (except ammonia)	98	25	55.6
Chronic Aquatic Life (ammonia)	135	25	76.2
Non-carcinogenic human health criteria	362	25	202.7

The reasonable potential analysis and WQBEL calculations were based on mixing zones shown in Table 15.

As discussed in Part IV.A.1, the pollutants of concern in the discharge are ammonia, BOD₅, DO, *E. coli*, nitrate-nitrite, PFAS, pH, phosphorus, temperature, TDS, TKN, and TSS. The relevant water quality standards are shown in Table 16. The RPA results, WQBELs, and related monitoring requirements for specific parameters are summarized below. The equations used to conduct the reasonable potential analysis and calculate the WQBELs are provided in Appendix E. and Appendix F.

Table 16. Applicable Water Quality Standards

Pollutant	Designated Use	Criteria	Basis
Dissolved Oxygen	Aquatic Life	Concentrations exceeding 6 mg/L at all times.	IDAPA 58.01.02.250.02
<i>E. coli</i>	Primary Contact Recreation	A geometric mean of 126 <i>E. coli</i> counts per 100 mL based on a minimum of 5 samples taken every 3 to 11 days over a 45 day period Or A statistical threshold value of 410 <i>E. coli</i> counts per 100 mL in more than 10% of samples collected over a 45 day period.	IDAPA 58.01.02.251.02.a

Pollutant	Designated Use	Criteria	Basis
Excess Nutrients	General Surface Water Quality Criteria	Surface Waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses.	IDAPA 58.01.02.200.06
Floating, Suspended or Submerged Matter	General Surface 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
pH	Aquatic Life	Hydrogen ion concentration (pH) values within the range of 6.5 – 9.	IDAPA 58.01.02.250.01(a)
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)
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
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)
Source: IDAPA 58.01.02 – Idaho Water Quality Standards			

i. *Ammonia*

Ammonia criteria are based on a formula which relies on the pH and temperature of the receiving water, because the fraction of ammonia present as the toxic, un-ionized form increases with increasing pH and temperature. Therefore, the criteria become more stringent as pH and temperature increase. Figure 1, below, details the equations used to determine water quality criteria for ammonia. The calculated ammonia criteria are: 0.52 mg/L for acute and 0.2 mg/L for chronic.

Figure 1. Ammonia Criteria

Total ammonia nitrogen criteria (mg N/L): Annual Basis Based on IDAPA 58.01.02			
INPUT		Acute Criteria Equation: Cold Water	
1. Receiving Water Temperature (deg C):	20.6	$CMC = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$	
2. Receiving Water pH:	9.40	Acute Criteria Equation: Warm Water	
3. Is the receiving water a cold water designated use?	Yes	$CMC = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$	
4. Are non-salmonid early life stages present or absent?	Present		
OUTPUT			
Total ammonia nitrogen criteria (mg N/L):		Chronic Criteria: Cold Water, Early Life Stages Present	
Acute Criterion (CMC)	0.52	$CCC = \left(\frac{0.0577}{1 + 10^{7.088 - pH}} + \frac{2.487}{1 + 10^{pH - 7.088}} \right) \bullet MIN(2.85, 1.45 \cdot 10^{0.028(25-T)})$	
Chronic Criterion (CCC)	0.20	Chronic Criteria: Cold Water, Early Life Stages Absent	
		$CCC = \left(\frac{0.0577}{1 + 10^{7.088 - pH}} + \frac{2.487}{1 + 10^{pH - 7.088}} \right) \bullet 1.45 \cdot 10^{0.028(25-T)}$	

A reasonable potential calculation showed that the Kooskia WWTP discharge would have the reasonable potential to cause or contribute to an excursion of the water quality criteria for ammonia. Therefore, the EPA has established the following WQBELs for ammonia. Table 17 lists the average monthly and maximum daily WQBELs.

Table 17. WQBELs for Ammonia

Parameter	Units	Average Monthly Limit	Max Daily Limit
Ammonia	mg/L	7.3	21.4
	lbs/day	123	357

As shown in Table 2, effluent daily maximum discharges of ammonia from the last five years range from 0.04 to 30.2 mg/L. The average effluent daily maximum ammonia discharge was 12.6 mg/L. The Kooskia WWTP does not currently have the technology necessary to meet the WQBEL for ammonia in the draft permit. As such, the EPA has included a five-year compliance schedule in the permit.

The draft permit will increase effluent monitoring frequency to monthly. The draft permit will continue to require the permittee to continue to monitor

the receiving water for ammonia, pH, and temperature. See Appendix E. and O for reasonable potential and effluent limit calculations for ammonia.

ii. *DO and BOD₅*

The Idaho WQS establish a minimum level of 6 mg/L DO. Natural decomposition of organic material in wastewater effluent impacts DO in the receiving water at distances far outside of the regulated mixing zone. The BOD₅ of an effluent sample indicates the amount of biodegradable material in the wastewater and estimates the magnitude of oxygen consumption the wastewater will generate in the receiving water. Nutrients such as ammonia and phosphorus cause excessive plant and algae growth and decay which can also significantly affect the amount of DO available.

The technology-based limits for BOD₅ will ensure that the discharge does not cause or contribute to an excursion of the DO criteria in the receiving water. The City will continue to sample for DO in the effluent and surface water of the South Fork Clearwater River to assess DO impact on water quality.

iii. *Fecal Indicator Bacteria - E. coli or Enterococci*

The Idaho WQS state that waters designated for recreation must meet criteria for indicator bacteria of fecal contamination. Idaho uses either *E. coli* or *Enterococci* as indicator bacteria of fecal contamination in water designated for recreation. The criteria includes both geometric mean and a statistical threshold value (STV) for each indicator bacteria.

The Idaho WQS state that waters designated for recreation are not to contain *E. coli* bacteria in concentrations exceeding 126 organisms per 100 ml based on a minimum of five samples taken every 3 to 11 days over a period of 30 days or less. A mixing zone is not appropriate for bacteria for waters designated for contact recreation. Therefore, the draft permit contains a monthly geometric mean effluent limit for *E. coli* of 126 organisms per 100 ml (IDAPA 58.01.02.251.02).

The Idaho WQS also state that waters designated for recreation are not to exceed concentrations of fecal indicators of a STV (IDAPA 58.01.02.251.02). STVs are counts of *E. coli* per 100 mL in more than 10% of representative samples collected over a period of 30 days or less. The STV for *E. coli* is 410 counts per 100 mL. The STVs are represented in the permit as an instantaneous maximum limit. The instantaneous maximum limit of 410/100mL is a new WQBEL that the facility will be able to meet upon issuance of the permit. This new instantaneous maximum limit is less stringent than the previous limit. See Fact Sheet Section IV.A.3.c for the backsliding analysis.

40 CFR 122.45(d)(2) requires that effluent limitations for continuous discharges from POTWs be expressed as average monthly and average

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

iv. Nitrate-Nitrite, Phosphorus, & TKN

Nitrate-Nitrite, Phosphorus, and TKN were measured at quantifiable concentrations in the effluent. There are no numeric WQS for nitrate-nitrite, phosphorus or TKN. As listed in Table 16, there are narrative WQS for excess nutrients. The section of the South Fork Clearwater River where the facility is discharging is designated as 3T Tribal waters and has not been assessed for any potential nutrient degradation.

As discussed in Section II.D of this Fact Sheet, the latest facility inspection indicated that seasonal algal blooms have been detected in the treatment process, but that the facility is currently undertaking major treatment improvements to address them. As summarized in Table 3, there were only 4 annual samples of effluent data for nitrate-nitrite, TKN, and phosphorus submitted as a part of the permit application. This data set is insufficient to conduct a reasonable potential analysis; therefore, no nutrient limits are proposed in this permit. The permit, however, proposes to increase the effluent monitoring frequency of nitrate-nitrite, phosphorus, and TKN to quarterly which will provide a robust data set to determine reasonable potential in the next permit issuance.

v. 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 were compared to the water quality criteria. There is no reasonable potential for the discharge to cause or contribute to an excursion of the water quality criteria for pH. The permit retains the existing effluent limits and monitoring requirements.

vi. Temperature

The 2004 TMDL assigns a WLA for the Kooskia WWTP for temperature of 26°C. This WLA was based on effluent monitoring conducted by the City in

2003. Peak temperatures were reached during July 2003, with a maximum daily temperature of 26°C (78.8°F) recorded on July 31. Based on these data, the TMDL established a WLA of 26°C (78.8°F) expressed as a maximum daily limit. The WLA applies from July 15 – August 31, and from October 1 – 15, when temperature criteria in the Southfork Clearwater River are expected to be exceeded (See page 185 of the 2004 TMDL). In the draft permit, the EPA is establishing a maximum daily limit of 26°C (78.8°F) from July 15 – August 31, and from October 1 – 15 consistent with the assumptions and requirements of the TMDL. This effluent limit is the same as the previous permit.

vii. TSS

The 2004 TMDL assigns a WLA for the Kooskia WWTP for TSS at 45 mg/L monthly average and 65 mg/L weekly average (See page 217 of the 2004 TMDL) which are equivalent to the TBELs for the facility. See section IV.A.2 of the Fact Sheet. The permit includes monthly and weekly average TSS limits that are consistent with the WLAs in the 2004 TMDL. These effluent limits are the same as the previous permit.

viii. 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*.

The draft permit is proposing less stringent effluent limits for *E. coli*. The existing permit has a maximum daily effluent limit of 406 CFU/100mL. The draft permit increases the maximum daily effluent limit to 410 CFU/100mL. Backsliding of a WQBEL is allowed as long as the provisions of CWA Section 303(d)(4) are met. Where the quality of the water meets or exceeds water quality standards, an effluent limit may be relaxed as long as the revision is consistent with the State's antidegradation policy. See CWA § 303(d)(4)(B).

The Clearwater River is designated as 3T waters, the water quality is unassessed, and there is no indication that the waterbody is not meeting Idaho WQS. The EPA has proposed to make the maximum daily effluent limit less stringent to ensure consistency with the current Idaho WQS which were

approved by the EPA in September 2023. A mixing zone has not been applied to the discharge of *E. coli*.

As explained in Appendix F. Antidegradation Analysis, the permit is consistent with Idaho’s antidegradation policy. Therefore, the provisions of CWA § 303(d)(4) for this proposed action are met and less stringent *E. coli* effluent limits can be included in the draft permit.

4. Additional Effluent Monitoring

a. PFAS

Per- and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals that have been in use since the 1940s. PFAS are found in a wide array of consumer and industrial products. Due to their widespread use and persistence in the environment, most people in the United States have been exposed to PFAS. Discharges of PFAS above certain levels may cause adverse effects to human health or aquatic life.^{2,3}

Since PFAS chemicals are persistent in the environment and may lead to adverse human health and environmental effects, the draft permit requires that the permittee conduct quarterly influent, effluent, and sludge sampling for PFAS chemicals for two years. The monitoring requirements for PFAS chemicals are deferred until the third and fourth years of the permit term (beginning during the first complete quarter⁴ of the third year). This will give the permittee time to plan for this new monitoring requirement (e.g., to obtain funding, train employees, and find a suitable contract laboratory).

The purpose of these monitoring and reporting requirements is to better understand potential discharges of PFAS from this facility and to inform future permitting decisions, including the potential development of water quality-based effluent limits. The EPA is authorized to require this monitoring and reporting by CWA section 308(a). The permit conditions reflect the EPA’s commitments in the PFAS Strategic Roadmap, which directs the Office of Water to leverage NPDES permits to reduce PFAS discharges to waterways “at the source and obtain more comprehensive information through monitoring on the sources of PFAS and quantity of PFAS discharged by these sources.”

2 EPA, EPA’s Per- and Polyfluoroalkyl Substances (PFAS) Action Plan, EPA 823R18004, February 2019. Available at: https://www.epa.gov/sites/production/files/2019-02/documents/pfas_action_plan_021319_508compliant_1.pdf

3 EPA, Fact Sheet: Draft 2022 Aquatic Life Ambient Water Quality Criteria for Perfluorooctanoic acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS). Available at: <https://www.epa.gov/system/files/documents/2022-04/pfoa-pfos-draft-factsheet-2022.pdf>

4 Quarters are defined as: January 1 to March 31; April 1 to June 30; July 1 to September 30; and October 1 to December 31.

The EPA notes that there is currently not an analytical method approved in 40 CFR Part 136 for PFAS. As stated in 40 CFR 122.44(i)(1)(iv)(B), in the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR Part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters. Therefore, the permit specifies that until there is an analytical method approved in 40 CFR Part 136 for PFAS, monitoring shall be conducted using Method 1633A.

b. Monitoring Requirements for Renewal

The permit requires the permittee to perform effluent monitoring required by the NPDES Form 2A application, so that this 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 this 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 the EPA.

B. SURFACE WATER MONITORING

In general, surface water monitoring may be required for pollutants of concern to assess the assimilative capacity of the receiving water for the pollutant. In addition, surface water monitoring may be required for pollutants for which the water quality criteria are dependent and to collect data for TMDL development if the facility discharges to an impaired water body. Table 18 presents the proposed surface water monitoring requirements for the draft permit. Surface water monitoring results must be submitted with the DMR.

Table 18. Surface Water Monitoring in Draft Permit

Parameter	Units	Monitoring Frequency	Sample Location
Flow	mgd	1/quarter	Upstream of outfall
pH	Standard units	1/quarter	Upstream of outfall
Temperature	°C	1/quarter	Upstream of outfall
Ammonia (as N)	mg/L	1/quarter	Upstream of outfall

C. 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>.

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 Tribe in one of three ways: 1) a paper copy may be mailed; 2) The email address for the Tribe may be added to the electronic submittal through NetDMR; or 3) The permittee may provide the Tribe viewing rights through NetDMR.

D. 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 purpose 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 Kooskia WWTP is required to update the Quality Assurance Plan (QAP) within 180 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. OPERATION AND MAINTENANCE PLAN

The permit requires the Kooskia WWTP to properly operate and maintain all facilities and systems of treatment and control. Proper operation and maintenance is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times. The permittee is required to develop and implement an operation and maintenance plan for their facility within 180 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.

C. SANITARY SEWER OVERFLOWS AND PROPER OPERATION AND MAINTENANCE OF THE COLLECTION SYSTEM

SSOs are not authorized under this permit. The permit contains language to address SSO reporting and public notice and operation and maintenance of the collection system. The permit requires that the permittee identify SSO occurrences and their causes. In addition, the permit establishes reporting, record keeping and third party notification of

SSOs. Finally, the permit requires proper operation and maintenance of the collection system.

The following specific permit conditions apply:

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

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

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

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

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

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

D. 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 three consecutive months.

E. PRETREATMENT REQUIREMENTS

The Nez Perce Tribe does not have an approved POTW pretreatment program per 40 CFR 403.8, the EPA is the Control Authority of industrial users that might introduce pollutants into the Kooskia WWTP.

Permit Part II.D. reminds the Permittee that it cannot authorize discharges which may violate the national specific prohibitions of the General Pretreatment Program.

Although, not a permit requirement, the Permittee may wish to consider developing the legal authority enforceable in Federal, State or local courts which authorizes or enables the POTW to apply and to enforce the requirement of CWA §§ 307 (b) and (c) and 402(b)(8), as described in 40 CFR 403.8(f)(1). Where the POTW is a municipality, legal authority is typically through a sewer use ordinance, which is usually part of the city or county code. The EPA has a Model Pretreatment Ordinance for use by municipalities operating POTWs that are required to develop pretreatment programs to regulate industrial discharges to their systems (EPA, 2007). The model ordinance should also be useful for communities with POTWs that are not required to implement a pretreatment program in drafting local ordinances to control nondomestic dischargers within their jurisdictions.

F. COMPLIANCE SCHEDULES

Compliance schedules are authorized by 40 CFR 122.47 and IDAPA 58.01.02.400.03. Compliance schedules allow a discharger to phase in, over time, compliance with WQBELs when limitations are in the permit for the first time. The EPA has found that a compliance schedule is appropriate for total ammonia because the Kooskia WWTP cannot immediately comply with the new effluent limit on the effective date of the permit. Refer to Section 9.1.3 Compliance Schedules in the Permit Writers Manual.

G. 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 the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS), together referred to as the Services, if their actions could beneficially or adversely affect any threatened or endangered species and designated critical habitat that may be present. The EPA will make an ESA determination before reissuance of the permit and, if

determined necessary, complete consultation with the Services prior to taking final action on the draft permit.

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) require the EPA to consult with NMFS when a proposed discharge has the potential to adversely affect EFH (i.e., reduce quality and/or quantity of EFH). The EPA will make an EFH determination before the reissuance of the permit and, if determined necessary, complete consultation with the Services prior to taking final action on the draft permit.

C. CWA § 401 CERTIFICATION

CWA § 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. See 33 USC § 1341(d). Since this facility discharges to Tribal waters, and the Tribe has not been approved for TAS for these waters from the EPA, the EPA is the certifying authority. The EPA is taking comments on the EPA's intent to certify this permit. See the draft certification in Appendix G.

D. ANTIDegradation

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

E. PERMIT EXPIRATION

The permit will expire five years from the effective date.

VII. REFERENCES

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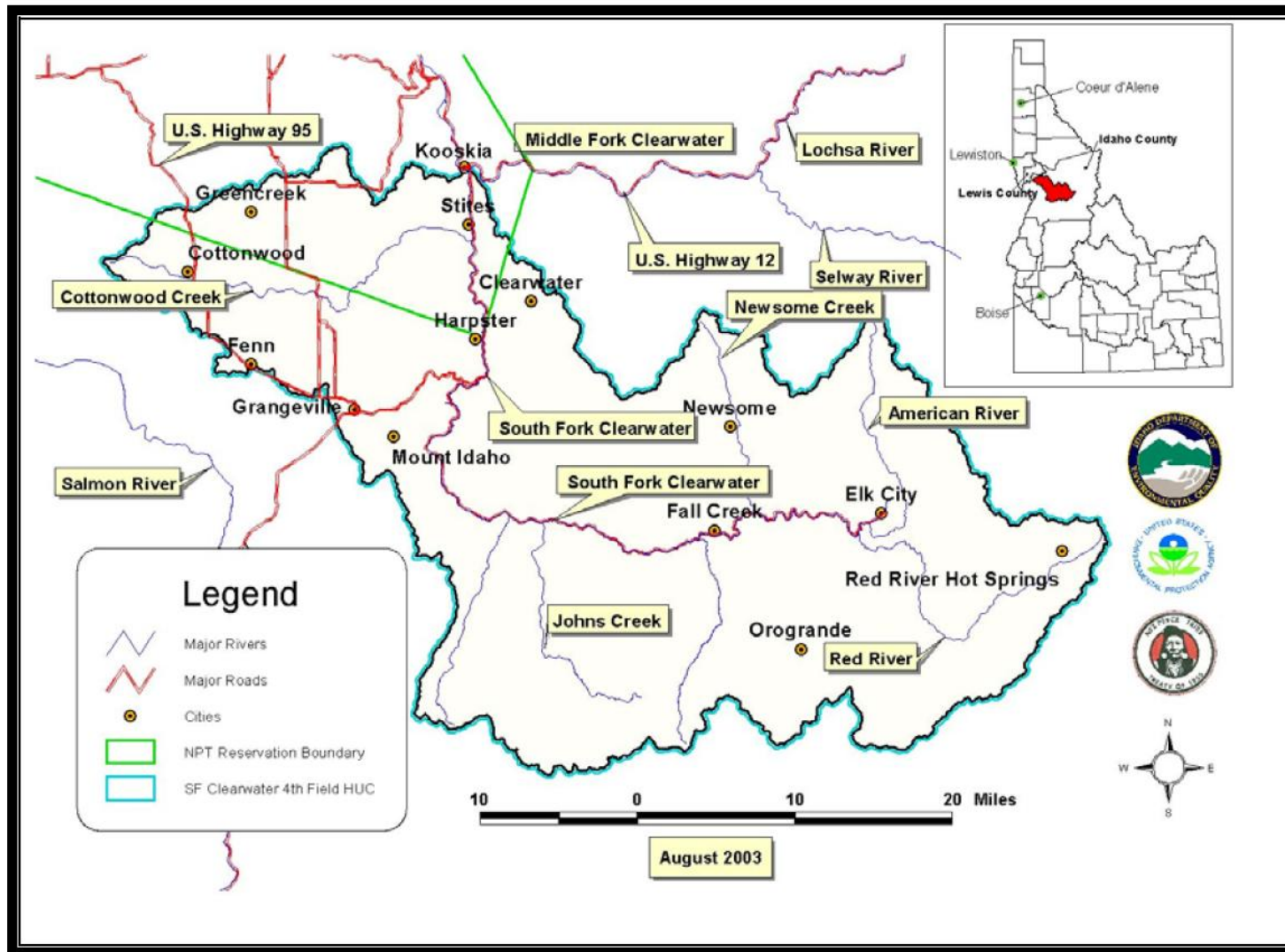
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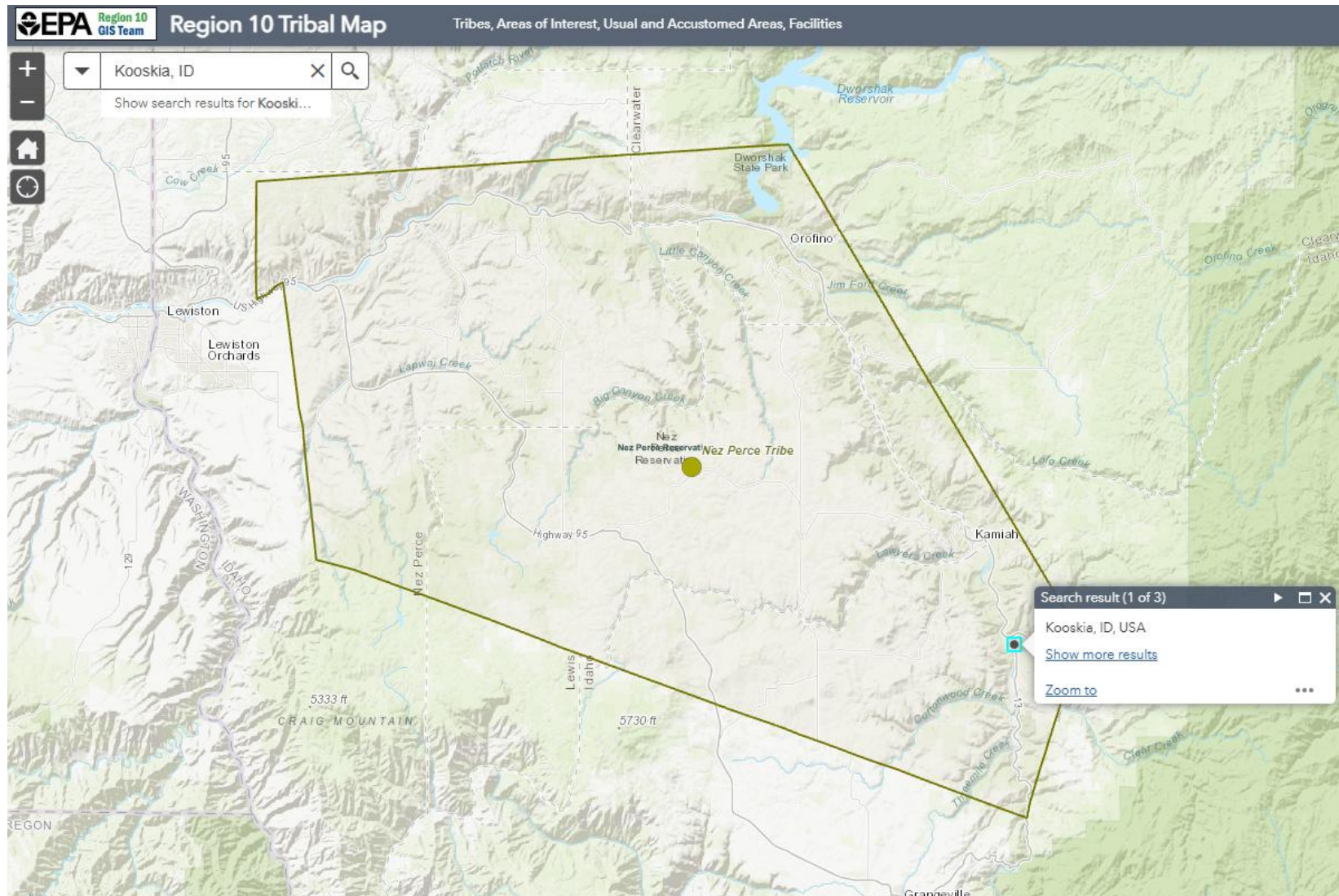
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Appendix A. Facility Information

A. South Fork Clearwater Basin (HUC 17060305)



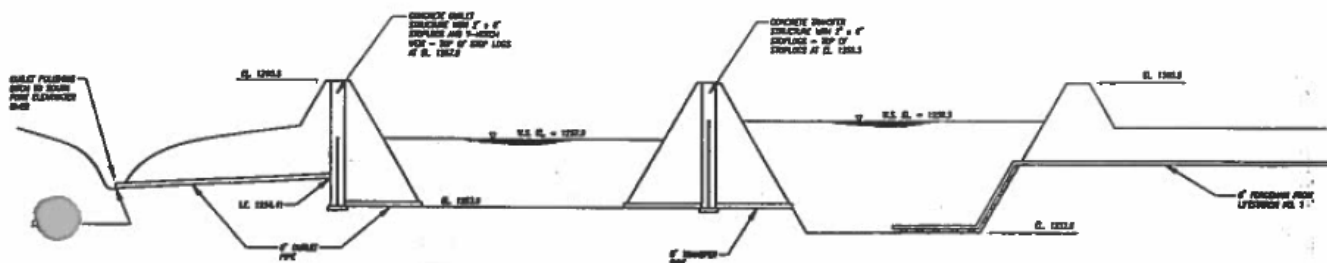
B. Nez Perce Tribal Reservation and the City of Kooskia WWTP



C. City of Kooskia and the WWTP Location



E: Flow Diagram



HYDRAULIC PROFILE - TREATMENT FACILITY

DESIGN CRITERIA

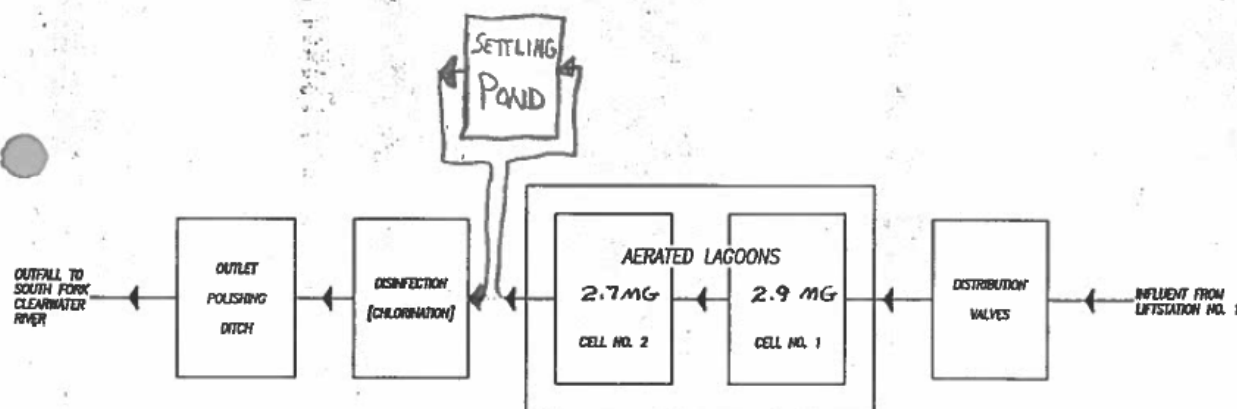
GENERAL

Design Population [2009]	947 peo
Design per Capita Flow	209 gpd
Design Flow [Average]	0.198 m
Bod per Capita	0.15 ppc
TSS per Capita	0.19 ppc
BOD Concentration of Waste	88 mg/l
TSS Concentration of Waste	108 mg/l

AERATED LAGOONS (THO CELLS)

Detention Time [Cell No. 1]	10 days
Detention Time [Cell No. 2]	12 days
Depth [Cell No. 1]	5 feet
Depth [Cell No. 2]	4 feet
Surface Area [Cell No. 1]	1.8 acre
Surface Area [Cell No. 2]	2.1 acre

CHLORINE CONTACT CHAMBER

Detention Time 4 hours

FLOW DIAGRAM - TREATMENT FACILITY

FIGURE 4
KOOSKIA WASTEWATER
TREATMENT PLANT SCHEM

Wyatt-Jaykim Engineers
CONSULTING ENGINEERS
SPOKANE, WASHINGTON

KOOSKIA WASTEWATER
 SYSTEM IMPROVEMENT
 PROJECT

SOUTH LAGOONS



Site Plan:

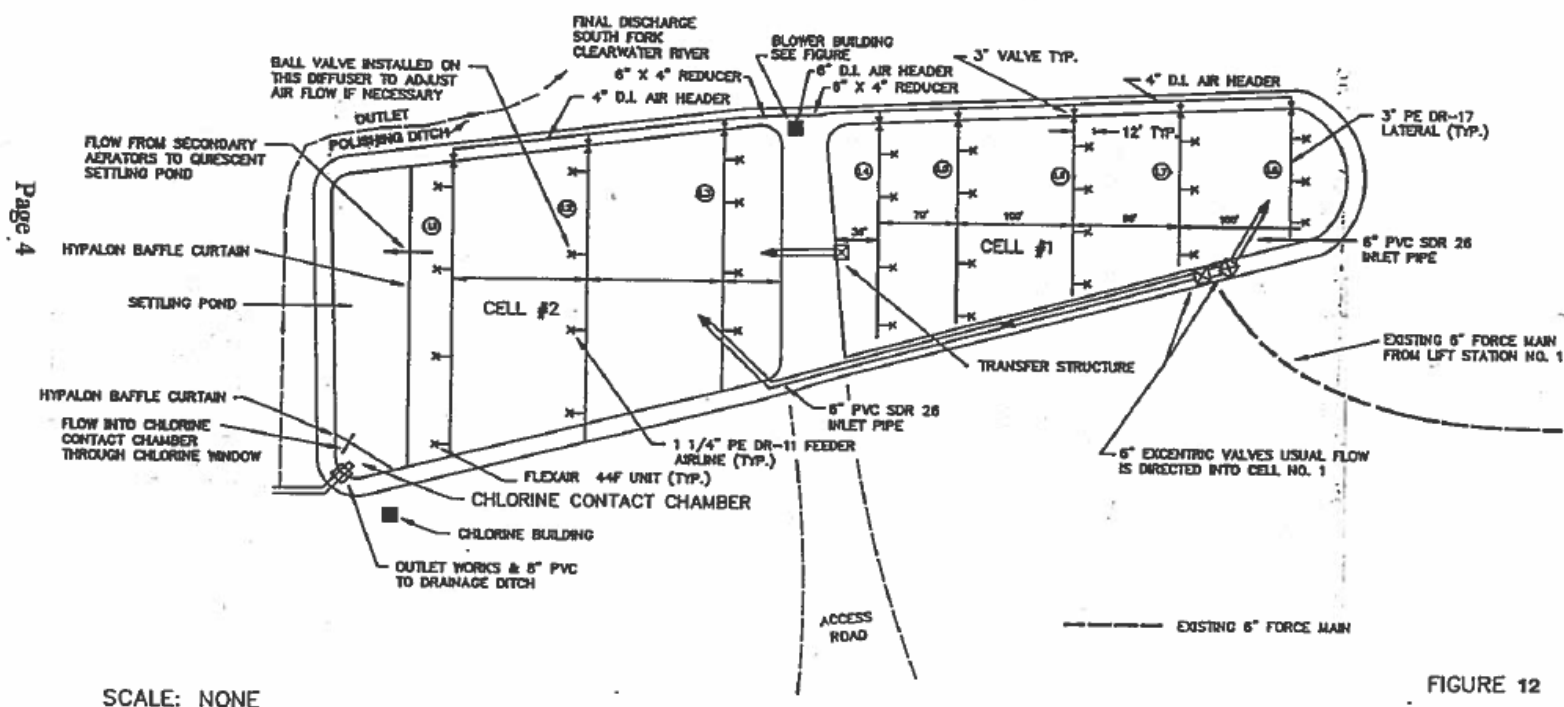
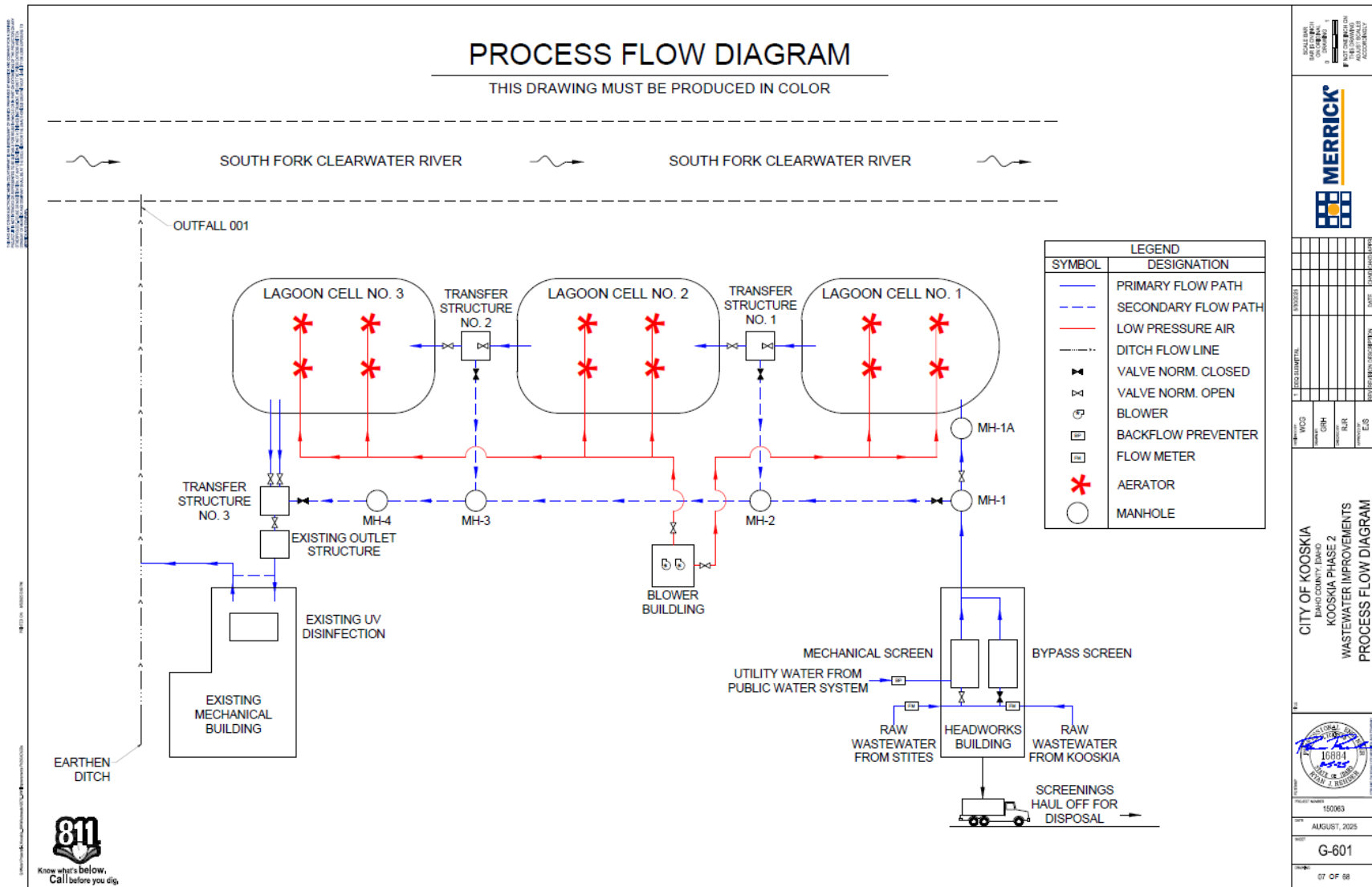


FIGURE 12

Wyatt-Jaykim Engineers
CONSULTING ENGINEERS
SPOKANE, WASHINGTON

F. Schematic of New Kooskia WWTP Process



Appendix B. Effluent Water Quality Data

DMR Data 2020-2025

Parameter	Flow, in conduit or thru treatment plant	Flow, in conduit or thru treatment plant	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	Solids, total suspended	Solids, total suspended	Solids, total suspended	Solids, total suspended	Solids, total suspended	Nitrogen, ammonia total [as N]	pH	pH	Temperature, water deg. centigrade	E. coli	E. coli
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Percent Removal	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Percent Removal	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	Daily MX	MO AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MIN % RMV	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MIN % RMV	DAILY MX	INST MAX	INST MIN	DAILY MX	INST MAX	MO GEOMN
Limit Units	MGD	MGD	mg/L	lb/d	mg/L	lb/d	%	mg/L	lb/d	mg/L	lb/d	%	mg/L	SU	SU	deg C	#/100mL	#/100mL
03/31/2020	0.188	0.129	7.6	7.1	10	11.4	94.2	18	18.8	24	27.4	98.3	10.3	8.2	7.6		25.9	0
04/30/2020	0.239	0.155	9	11.2	19	19.8	94.5	18.2	22	31	37.5	93.6	17.84	8.2	7.5		31	0
05/31/2020	0.197	0.169	4.5	6.7	9	13.6	97	14.3	19.6	35	45	92.8	7.59	7.7	7.6		47.9	0
06/30/2020	0.212	0.146	1.5	1.8	3	3.4	99.3	8.5	9.5	17	19	96.9	1.22	7.7	7.6		0	0
07/31/2020	0.198	0.098	4.2	5.5	7.9	12.5	98.4	11.4	13.3	34	35.4	95.6	10.5	7.88	7.56	25.7	0	0
08/31/2020																		
09/30/2020	1.06	0.099	4.8	6	4.9	20.7	98.6	11	7.4	20	10.4	96.5	0.6	7.7	7.5		0	0
10/31/2020	0.105	0.077	5.4	2.9	15.5	7.4	98.5	19.5	11.5	41	19.5	95.1	2.95	7.82	7.55	14.3	2	0
11/30/2020	0.133	0.095	5.7	5	8.9	7.8	98.5	15	12	25	18.3	95.9	2.2	7.97	7.85		1	0
12/31/2020	0.105	0.086	12.8	9.2	16	13.1	95.8	13.8	9.8	17	12.3	95.4	0.04	7.97	7.92		7.4	0
01/31/2021	0.121	0.11	10.4	9.8	17	17.2	94.9	19.8	18.5	28	28.3	88.6	9.25	7.99	7.41		6.2	2.88
02/28/2021	0.287	0.171	19	30.7	34	71.5	92.4	25.5	37.4	32	67.3	87.2	20.8	8.01	7.45		11.8	5
03/31/2021	0.254	0.162	13	18.4	18	33.2	92.1	16.8	23.8	25	46.1	92.5	16.6	8.1	7.8		6.1	0
04/30/2021	0.136	0.114	23.6	22	32	26.4	86.6	29	26.4	41	33.9	85.2	11.5	8.3	7.95		1	0
05/31/2021	0.132	0.1	19.8	16.8	30	27.3	89.9	49.8	42.2	85	77.3	82.7	18.3	8.12	7.98		1	0
06/30/2021	0.109	0.076	6.4	4.1	9.4	6.8	97.5	5.5	3.6	9	5.8	98.6	22.7	8.18	8.01		0	0
07/31/2021	0.06	0.047	3.5	0.73	5	2	98.4	9	1.9	9	4.1	97.9	15.3	8.25	8.11		0	0
08/31/2021																		
09/30/2021	0.543	0.1	14.7	18.6	25	58.2	90.8	37.6	48.9	50	156.8	88.8	0.32	8.2	7.86		1	0
10/31/2021	0.104	0.072	2	1.1	3.9	2	98.7	21.5	13.1	27	21.6	93.4	3.89	8.19	7.17	14.66	2	0
11/30/2021	0.117	0.104	1.7	1.4	2	1.6	98.6	19.5	15.5	32	27.5	88.5	18.5	8.48	8.09		14.5	0
12/31/2021	0.21	0.159	6.2	8.3	12	18.4	93.2	24.2	31.8	30	46.2	86.3	25.9	8.43	8.22		41.4	3.5
01/31/2022	0.273	0.2	4.4	7.8	7.7	16.7	96.1	10	16.3	14	21.7	90.7	22	8.19	8.04		54.8	0
02/28/2022	0.201	0.168	5.5	8.31	7.7	11.04	94.29	17.25	23.78	25	31.07	84.87	15.25	8.31	7.5		117.8	41.95
03/31/2022	0.225	0.198	8.6	13.8	14.5	24.6	88.8	36.4	58	46	80.9	66.5	10.6	8.21	7.03		261.3	44.4
04/30/2022	0.168	0.143	7.5	9.2	10	13.3	94.8	26.3	32.1	36	40.2	85.9	9.4	8.59	8.06		6	4.1
05/31/2022	0.443	0.262	5.2	10.9	14	25.1	94.9	19.3	39.3	48	86.1	91.8	6.6	8.26	8.11		2	1.1
06/30/2022	0.603	0.294	8.2	13.8	29	37	85.6	12.6	30	26	61.9	88.9	11	8.3	7		45.4	5.3
07/31/2022	0.136	0.109	6.5	6.2	7	6.9	94.2	43	20.5	48	47.2	60.9	12.2	7.8	7.56		2	0
08/31/2022																		
09/30/2022	0.607	0.125	4	2.4	5	2.7	98.3	22.3	14.2	27	24.1	93.2	8.35	7.6	7.4		29.2	0
10/31/2022	0.122	0.076	2.4	1.5	4.1	1.9	99.3	12.5	8.1	15	14.5	97	12.6	7.63	7.55	16.52	14.5	4.5
11/30/2022	0.179	0.129	16.2	16.6	30	24.8	92.1	16.6	15.7	29	23.9	95.2	20.8	7.68	7.61		101	29

Parameter	Flow, in conduit or thru treatment plant	Flow, in conduit or thru treatment plant	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	Solids, total suspended	Solids, total suspended	Solids, total suspended	Solids, total suspended	Solids, total suspended	Nitrogen, ammonia total [as N]	pH	pH	Temperature, water deg. centigrade	E. coli	E. coli
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Percent Removal	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Percent Removal	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	Daily MX	MO AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MIN % RMV	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MIN % RMV	DAILY MX	INST MAX	INST MIN	DAILY MX	INST MAX	MO GEOMN
Limit Units	MGD	MGD	mg/L	lb/d	mg/L	lb/d	%	mg/L	lb/d	mg/L	lb/d	%	mg/L	SU	SU	deg C	#/100mL	#/100mL
12/31/2022	0.205	0.132	5.9	5.8	13	11.5	96	21.5	22.7	28	27.8	94	25.2	7.67	7.62		60.2	20.1
01/31/2023	0.218	0.171	12.3	17.7	15	22.2	88.9	15.3	22	18	25.6	90	21.5	7.65	7.5		47.7	36.5
02/28/2023	0.164	0.127	15.3	17.4	19	21.1	91.3	24.8	27.8	33	32.8	93.1	15.1	7.8	6.7		88.9	79.4
03/31/2023	0.197	0.138	8.3	9.1	22.6	24.7	96.1	38.4	41.3	57	68.9	91.6	18.5	8.03	6.78		116	25.2
04/30/2023	0.242	0.218	11.1	21.7	17	33.7	88.1	45.8	88.1	67	126.8	66.4	0.9	8.1	6.5		22.6	5
05/31/2023	0.215	0.165	6.4	8.5	15.2	18.1	94.1	8.8	12.6	15	22.6	94.6	7.25	7.7	7.4		2	0
06/30/2023	0.148	0.097	1.3	1	2	1.5	99.4	5	3.9	7	5.1	99	1.7	7.5	7.5		1	0
07/31/2023																		
08/31/2023																		
09/30/2023	0.524	0.109	4.7	7.2	7	21.9	97.6	17.3	26.5	20	78.7	95.2	0.14	8.4	7.6		5.2	0
10/31/2023	0.084	0.065	3.6	2	6	3.1	97.9	17	9.3	25	12.7	93.6	9.8	7.7	7.5	14.29	6.2	0
11/30/2023	0.149	0.092	5.3	4	9.7	6.9	97.4	12.8	8.2	21	14.9	95.8	13	8.1	7.7		4.1	0
12/31/2023	0.165	0.109	7.5	7.2	9	11.7	95.7	18.5	17.7	20	26	93.1	30.2	8.04	7.8		18.7	6.6
01/31/2024	0.156	0.117	8.5	8.3	10.2	11.7	89.9	26.2	25.6	32	35.1	85.9	29	8.1	7.8		128.1	37.8
02/29/2024	0.269	0.211	10	17.1	11	19.9	91.1	26.3	44.2	37	56.5	75.9	20.5	8	7.8		56.9	40.4
03/31/2024	0.198	0.15	8	9.3	16	14.8	90.5	41.3	51.5	47	65.3	74.1	7.7	7.9	7.7		231	0
04/30/2024	0.4	0.26	14.8	37.4	30	98.6	88.5	34	73.5	48	134.7	71.7	16.3	7.8	7.3		21.6	0
05/31/2024	0.207	0.141	3	4.1	5	6.9	98	6.4	8.2	11	19	97	8.95	7.9	7.7		3	0
06/30/2024	0.14	0.089	3.6	3	8	5.9	94.9	4.8	3.2	8	4.4	96.3	13.6	7.9	7.8		3	0
07/31/2024	0.061	0.051	1.3	0.28	1.9	0.74	98.9	9	1.8	17	6.7	98.8	0.96	7.86	7.83		0	0
08/31/2024																		
09/30/2024	0.528	0.125	2.4	1.6	4.7	2.4	97.9	17.8	23.6	36	72.1	93.1	20.5	7.9	6.7		0	0
10/31/2024	0.112	0.068	3.8	1.8	10	4.6	97	13.2	8.3	19	16.3	94.7	6	7.4	7.2	18.74	26.2	0
11/30/2024	0.129	0.09	4.1	3	7	4.7	94.4	22.3	15.8	28	18.7	89.6	9.8	7.8	7.5		56.1	13.6
12/31/2024	0.143	0.101	12.2	10.3	27	23.6	90	24.5	20.6	53	46.4	88.5	28.6	8.1	7.8		28.7	7.6
01/31/2025	0.2	0.133	4.5	4.8	8.6	8.8	95.1	10.4	10.7	20	23.5	95.6	27.5	8.1	7.9		74.3	23.7
02/28/2025	0.353	0.18	13.8	21	17	42.1	88.3	32.5	49.6	40	97.2	81.6	20	8.6	8		307.6	151.4
03/31/2025	0.302	0.157	8.25	10.7	14	16.6	92.5	22.8	31.5	26	56.1	94.6	12.1	9.31	7.49		261	0
04/30/2025	0.134	0.109	8	7.3	15	11.9	91.4	51	46.5	80	63.4	74.3	4	9.6	7.7		248.9	25.1
05/31/2025	0.117	0.091	2.5	1.9	5	3.4	96.4	26	21.3	46	43	88.1	10.4	8	7.4		48.7	0
06/30/2025	0.07	0.056	5.8	2.8	17	8.5	95.1	5.5	2.5	6	2.9	98.7	27.8	7.8	7.6		4.1	0
07/31/2025	0.062	0.045	1.5	0.3	2	0.8	98.7	7.8	1.5	9	3.5	98.1	3.3	7.8	7.7		1	0

Parameter	Flow, in conduit or thru treatment plant	Flow, in conduit or thru treatment plant	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	BOD, 5- day, 20 deg. C	Solids, total suspended	Solids, total suspended	Solids, total suspended	Solids, total suspended	Solids, total suspended	Nitrogen, ammonia total [as N]	pH	pH	Temperature, water deg. centigrade	E. coli	E. coli
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Percent Removal	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Percent Removal	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	Daily MX	MO AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MIN % RMV	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MIN % RMV	DAILY MX	INST MAX	INST MIN	DAILY MX	INST MAX	MO GEOMN
Limit Units	MGD	MGD	mg/L	lb/d	mg/L	lb/d	%	mg/L	lb/d	mg/L	lb/d	%	mg/L	SU	SU	deg C	#/100mL	#/100mL
08/31/2025																		
09/30/2025	0.407	0.113	6	5.5	18	10.2	96.4	16.5	21.2	17	50.9	96	1.22	8.2	7.4		22.3	4.9
10/31/2025	0.079	0.06	9.6	5	12	6.1	96.4	20.8	10.2	64	28.8	93.6	9.75	7.55	7.32		11.8	8.4
Average	0.23	0.13	7.50	8.77	12.89	16.67	94.59	20.47	22.89	30.84	40.29	90.12	12.56	8.04	7.59	17.37	44.94	10.29
Minimum	0.06	0.05	1.30	0.28	1.90	0.74	85.60	4.80	1.50	6.00	2.90	60.90	0.04	7.40	6.50	14.29	0.00	0.00
Maximum	1.06	0.29	23.60	37.40	34.00	98.60	99.40	51.00	88.10	85.00	156.80	99.00	30.20	9.60	8.22	25.70	307.60	151.40
Count	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	61.00	6.00	61.00	61.00
Std Dev	0.17	0.05	4.91	7.55	8.29	17.18	3.65	11.23	17.58	17.11	32.55	8.59	8.51	0.38	0.36	4.43	73.15	23.97
CV	0.76	0.42	0.65	0.86	0.64	1.03	0.04	0.55	0.77	0.55	0.81	0.10	0.68	0.05	0.05	0.26	1.63	2.33
5th Percentile	0.07	0.06	1.50	1.00	2.00	1.60	88.30	5.50	2.50	9.00	4.40	71.70	0.60	7.60	6.78	14.29	0.00	0.00
90th Percentile	0.44	0.20	14.70	18.40	27.00	33.20	98.60	37.60	46.50	50.00	78.70	97.90	25.20	8.40	8.01	22.22	117.80	36.50
95th Percentile	0.54	0.22	16.20	21.70	30.00	42.10	98.90	43.00	51.50	64.00	97.20	98.60	27.80	8.59	8.09	23.96	248.90	41.95

NPDES Application Data

Parameter	Oxygen, dissolved [DO]	Nitrate + Nitrite [N]	Nitrogen, Kjeldahl, total [as N]	Oil and Grease	Phosphorus [as P]	Solids, Total Dissolved
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	MO AV MN	Daily MX	MO AVG	Daily MX	Daily MX	Daily MX
Limit Units	mg/L	mg/L	mg/L	mg/L	lb/d	mg/L
12/31/2021	8	1.08	24.1	0	3.93	279
12/31/2022	7.38	0	25.6	0	4.41	278
12/31/2023	4	1.21	35	1.02	4.5	295
12/31/2024	7.53	1.18	29.3	1	4.45	287
Average	6.73	0.87	28.50	0.51	4.32	284.75
Minimum	4.00	0.00	24.10	0.00	3.93	278.00
Maximum	8.00	1.21	35.00	1.02	4.50	295.00
Count	4.00	4.00	4.00	4.00	4.00	4.00
Std Dev	1.84	0.58	4.85	0.58	0.26	7.93
CV	0.27	0.67	0.17	1.15	0.06	0.03
95th Percentile	7.93	1.21	34.15	1.02	4.49	293.80
5th Percentile	4.51	0.16	24.33	0.00	4.00	278.15

TSS: BOD Ratio

Parameter	BOD, 5-day, 20 deg. C	Solids, total suspended	TSS/BOD Ratio
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	MO AVG	MO AVG	MO AVG
Limit Units	mg/L	mg/L	unitless
03/31/2020	7.6	18	2.37
04/30/2020	9	18.2	2.02
05/31/2020	4.5	14.3	3.18
06/30/2020	1.5	8.5	5.67
07/31/2020	4.2	11.4	2.71
08/31/2020			
09/30/2020	4.8	11	2.29
10/31/2020	5.4	19.5	3.61
11/30/2020	5.7	15	2.63
12/31/2020	12.8	13.8	1.08
01/31/2021	10.4	19.8	1.90
02/28/2021	19	25.5	1.34
03/31/2021	13	16.8	1.29
04/30/2021	23.6	29	1.23
05/31/2021	19.8	49.8	2.52
06/30/2021	6.4	5.5	0.86
07/31/2021	3.5	9	2.57
08/31/2021			
09/30/2021	14.7	37.6	2.56
10/31/2021	2	21.5	10.75
11/30/2021	1.7	19.5	11.47
12/31/2021	6.2	24.2	3.90
01/31/2022	4.4	10	2.27
02/28/2022	5.5	17.25	3.14
03/31/2022	8.6	36.4	4.23
04/30/2022	7.5	26.3	3.51
05/31/2022	5.2	19.3	3.71
06/30/2022	8.2	12.6	1.54
07/31/2022	6.5	43	6.62
08/31/2022			
09/30/2022	4	22.3	5.58
10/31/2022	2.4	12.5	5.21
11/30/2022	16.2	16.6	1.02
12/31/2022	5.9	21.5	3.64
01/31/2023	12.3	15.3	1.24

Parameter	BOD, 5-day, 20 deg. C	Solids, total suspended	TSS/BOD Ratio
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	MO AVG	MO AVG	MO AVG
Limit Units	mg/L	mg/L	unitless
02/28/2023	15.3	24.8	1.62
03/31/2023	8.3	38.4	4.63
04/30/2023	11.1	45.8	4.13
05/31/2023	6.4	8.8	1.38
06/30/2023	1.3	5	3.85
07/31/2023			
08/31/2023			
09/30/2023	4.7	17.3	3.68
10/31/2023	3.6	17	4.72
11/30/2023	5.3	12.8	2.42
12/31/2023	7.5	18.5	2.47
01/31/2024	8.5	26.2	3.08
02/29/2024	10	26.3	2.63
03/31/2024	8	41.3	5.16
04/30/2024	14.8	34	2.30
05/31/2024	3	6.4	2.13
06/30/2024	3.6	4.8	1.33
07/31/2024	1.3	9	6.92
08/31/2024			
09/30/2024	2.4	17.8	7.42
10/31/2024	3.8	13.2	3.47
11/30/2024	4.1	22.3	5.44
12/31/2024	12.2	24.5	2.01
01/31/2025	4.5	10.4	2.31
02/28/2025	13.8	32.5	2.36
03/31/2025	8.25	22.8	2.76
04/30/2025	8	51	6.38
05/31/2025	2.5	26	10.40
06/30/2025	5.8	5.5	0.95
07/31/2025	1.5	7.8	5.20
08/31/2025			
09/30/2025	6	16.5	2.75
10/31/2025	9.6	20.8	2.17

Parameter	BOD, 5-day, 20 deg. C	Solids, total suspended	TSS/BOD Ratio
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	MO AVG	MO AVG	MO AVG
Limit Units	mg/L	mg/L	unitless
Average	7.5	20.5	3.5
Minimum	1.3	4.8	0.9
Maximum	23.6	51.0	11.5
5th Percentile	1.5	5.5	1.1
10th Percentile	2.4	8.5	1.3
90th Percentile	14.7	37.6	6.4
95th Percentile	16.2	43.0	7.4

Appendix C. Receiving Water Quality Data

Date Collected	Temp.	Units	pH	Flow	Units	Ammonia	Units
3/18/2020	3.8	°C	7.76	676	cfs	0.1	mg/L
6/24/2020	15	°C	7.62	2450	cfs	0.04	mg/L
9/17/2020	17.9	°C	9.16	185	cfs	ND	
12/2/2020	2.1	°C	9.12	222	cfs	0.04	mg/L
3/31/2021	10	°C	9.4	804	cfs	0.08	mg/L
6/23/2021	21.3	°C	7.2	1040	cfs	0.03	mg/L
9/22/2021	16	°C	7.47	175	cfs	0.07	mg/L
11/23/2021	2.2	°C	7.3	253	cfs	0.02	mg/L
3/16/2022	9.6	°C	7.4	1060	cfs	0.19	mg/L
6/15/2022	11.4	°C	6.7	5210	cfs	0.02	mg/L
9/29/2022	19.1	°C	7.9	151	cfs	0.03	mg/L
12/21/2022	8.2	°C	8.4	158	cfs	0.03	mg/L
3/8/2023	4.7	°C	7.21	226	cfs	0.25	mg/L
6/14/2023	16.3	°C	7.2	1740	cfs	0.03	mg/L
9/27/2023	14	°C	7.15	203	cfs	0.1	mg/L
12/20/2023	4	°C	7.74	393	cfs	0.07	mg/L
3/27/2024	6.3	°C	7.69	1800	cfs	0.23	mg/L
6/26/2024	12.2	°C	7.13	1090	cfs	0.01	mg/L
9/25/2024	20.6	°C	8.1	165	cfs	0.03	mg/L
12/18/2024	4.8	°C	9.4	233	cfs	0.01	mg/L
Average	10.98	°C	7.85	911.70	cfs	0.07	mg/L
Minimum	2.10	°C	6.70	151.00	cfs	0.01	mg/L
Maximum	21.30	°C	9.40	5210.00	cfs	0.25	mg/L
Count	20.00	°C	20.00	20.00	cfs	19.00	mg/L
Std Dev	6.32	°C	0.82	1210.50	cfs	0.07	mg/L
CV	0.58	°C	0.10	1.33	cfs	1.01	mg/L
5th Percentile	2.20	°C	7.11	157.65	cfs	0.01	mg/L
90th Percentile	19.25	°C	9.18	1865.00	cfs	0.20	mg/L
95th Percentile	20.64	°C	9.40	2588.00	cfs	0.23	mg/L

Appendix D. Existing Permit - Effluent Limits and Monitoring Requirements

Parameter	Units	Effluent Limitations			Monitoring Requirements		
		Average Monthly	Average Weekly	Maximum Daily	Sample Location	Sample Frequency	Sample Type
Flow	mgd	Report	---	Report	Effluent	Continuous	Recording
Biochemical Oxygen Demand (BOD ₅)	mg/L	30	45	---	Influent and Effluent	1/week	24-Hour Composite
	lbs/day	50	74	---			
BOD ₅ Percent Removal	%	85 (minimum)	---	---	Influent and Effluent	1/month	Calculation
Total Suspended Solids (TSS)	mg/L	45	65	---	Influent and Effluent	1/week	24-Hour Composite
	lbs/day	74	107	---			
TSS Percent Removal	%	65 (minimum)	---	---	Influent and Effluent	1/month	Calculation
<i>E. coli</i> Bacteria	CFU/100 mL	126	---	406 (instantaneous max)	Effluent	1/week	Grab
pH	std units	Between 6.5 – 9.0			Effluent	5/week	Grab
Temperature from July 15 – Aug 31 and from Oct 1-15	°C	---	---	26	Effluent	Continuous	Recording
Total Ammonia as N	mg/L	---	---	Report	Effluent	1/quarter	24-hour Composite

Appendix E. Reasonable Potential and WQBEL Formulae

A. Reasonable Potential Analysis

The EPA uses the process described in the 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.

1. Mass Balance

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

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

where,

C_d	=	Receiving water concentration downstream of the effluent discharge (that is, the concentration at the edge of the mixing zone)
C_e	=	Maximum projected effluent concentration
C_u	=	95th percentile measured receiving water upstream concentration
Q_d	=	Receiving water flow rate downstream of the effluent discharge = $Q_e + Q_u$
Q_e	=	Effluent flow rate (set equal to the design flow of the WWTP)
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:

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

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

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

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

Where:

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

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

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

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

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

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

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

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:

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

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 TSD recommends using the maximum projected effluent concentration (C_e) in the mass balance calculation (see equation 3, page C-5). To determine the maximum projected effluent concentration (C_e), the EPA has developed a statistical approach to better characterize the effects of effluent variability. The approach combines knowledge of effluent variability as estimated by a coefficient of variation (CV) with the uncertainty due to a limited number of data to project an estimated maximum concentration for the effluent. Once the CV for each pollutant parameter has been calculated, the reasonable potential multiplier (RPM) used to derive the maximum projected effluent concentration (C_e) can be calculated using the following equations:

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

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

where,

p_n = the percentile represented by the highest reported concentration

n = the number of samples

confidence level = 99% = 0.99

and

$$\text{RPM} = \frac{C_{99}}{C_{p_n}} = \frac{e^{Z_{99} \times \sigma - 0.5 \times \sigma^2}}{e^{Z_{p_n} \times \sigma - 0.5 \times \sigma^2}} \quad \text{Equation 9}$$

Where,

σ^2 = $\ln(\text{CV}^2 + 1)$

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

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

CV = coefficient of variation (standard deviation ÷ mean)

The maximum projected effluent concentration is determined by simply multiplying the maximum reported effluent concentration by the RPM:

$$C_e = (\text{RPM})(\text{MRC}) \quad \text{Equation 10}$$

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:

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

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 12. The criteria translator (CT) is equal to the conversion factor, because site-specific translators are not available for this discharge.

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

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

$$\text{LTA}_a = \text{WLA}_a \times e^{(0.5\sigma^2 - z\sigma)} \quad \text{Equation 13}$$

$$\text{LTA}_c = \text{WLA}_c \times e^{(0.5\sigma_4^2 - z\sigma_4)} \quad \text{Equation 14}$$

where,

$$\sigma^2 = \ln(\text{CV}^2 + 1)$$

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

$$\text{CV} = \text{coefficient of variation (standard deviation} \div \text{mean)}$$

$$\sigma_4^2 = \ln(\text{CV}^2/4 + 1)$$

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

$$\text{LTA}_c = \text{WLA}_c \times e^{(0.5\sigma_{30}^2 - z\sigma_{30})} \quad \text{Equation 15}$$

where,

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

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:

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

$$AML = LTA \times e^{(z_a \sigma_n - 0.5 \sigma_n^2)} \quad \text{Equation 17}$$

where σ , and σ^2 are defined as they are for the LTA equations above, and,

$$\sigma_n^2 = \ln(CV^2/n + 1)$$

$$z_a = 1.645 \text{ (z-score for the 95}^{\text{th}} \text{ percentile probability basis)}$$

$$z_m = 2.326 \text{ (z-score for the 99}^{\text{th}} \text{ percentile probability basis)}$$

$$n = \begin{array}{l} \text{number of sampling events required per month. With the} \\ \text{exception of ammonia, if the AML is based on the LTA}_c, \text{ i.e.,} \\ \text{LTA}_{\text{minimum}} = \text{LTA}_c, \text{ the value of "n" should be set at a} \\ \text{minimum of 4. For ammonia, in the case of ammonia, if the} \\ \text{AML is based on the LTA}_c, \text{ i.e., LTA}_{\text{minimum}} = \text{LTA}_c, \text{ the value} \\ \text{of "n" should be set at a minimum of 30.} \end{array}$$

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	1Q10 or 1B3
Chronic aquatic life	7Q10 or 4B3
Non-carcinogenic human health criteria	30Q5
Carcinogenic human health criteria	harmonic mean flow
Ammonia	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.	

Reasonable Potential and WQBEL Calculations

Facility Name	Kooskia		
Facility Flow (mgd)	0.2900		
Facility Flow (cfs)	0.44863		
Critical River Flows			
		(IDAPA 58.01.02 03. b)	Annual Crit. Flows
Aquatic Life - Acute Criteria - Criterion Max. Concentration (CMC)	1Q10		72.00000
Aquatic Life - Chronic Criteria - Criterion Continuous Concentration (CCC)	7Q10 or 4B3		98.00000
Ammonia	30B3/30Q10 (seasonal)		135.00000
Human Health - Non-Carcinogen	30Q5		134.00000
Human Health - carcinogen	Harmonic Mean Flow		362.00000
Receiving Water Data			
Hardness, as mg/L CaCO ₃	Hardness, as mg/L CaCO ₃	5 th prctile at critical flow	Annual
Temperature, °C	Temperature, °C	90 th - 95 th percentile	0
pH, S.U.	pH, S.U.	90 th - 95 th percentile	20.6
			9.4
Pollutants of Concern			AMMONIA, default: cold water, fish early life stages
Effluent Data	Number of Samples in Data Set (n)		61
	Coefficient of Variation (CV) = Std. Dev./Mean (default CV = 0.6)		0.7
	Effluent Concentration, µg/L (Maximum) - (C _e)		30200
Receiving Water Data	90 th Percentile Conc., µg/L - (C _w)		
Applicable Water Quality Criteria	Aquatic Life Criteria, µg/L	Acute	520
	Aquatic Life Criteria, µg/L	Chronic	200
	Aquatic Life - Acute	1Q10	25%
Percent River Flow Default Value = 25%	Aquatic Life - Chronic	7Q10 or 4B3	25%
		30B3 or 30Q10/30Q5	25%
Calculated Dilution Factors (DF)	Aquatic Life - Acute	1Q10	41.1
	Aquatic Life - Chronic	7Q10 or 4B3	55.6
	Aquatic Life - Chronic Ammonia	30B3 or 30Q10/30Q5	76.2
Aquatic Life Reasonable Potential Analysis			
σ	σ ² =ln(CV ² +1)		0.631
P _n	=(1-confidence level) ^{1/n} , where confidence level = 99%		0.927
Multiplier (TSD p. 57)	=exp(zσ-0.5σ ²)/exp(normsinv(P _n)σ-0.5σ ²), where 99%		1.7
Statistically projected critical discharge concentration (C _s)			52329
Predicted max. conc.(ug/L) at Edge-of-Mixing Zone	Acute		1273
	Chronic (4-day)		941
	Chronic (30-day)		686
(note: for metals, concentration as dissolved using conversion factor as translator)			
Reasonable Potential to exceed Aquatic Life Criteria			YES

Aquatic Life Effluent Limit Calculations

Number of Compliance Samples Expected per month (n)		
n used to calculate AML (if chronic is limiting then use min=4 or for ammonia min=30)		30
LTA Coeff. Var. (CV), decimal (Use CV of data set or default = 0.6)		0.700
Permit Limit Coeff. Var. (CV), decimal (Use CV from data set or default = 0.6)		0.700
Acute WLA, ug/L	C _a = (Acute Criteria x MZ _c) - C _u x (MZ _c -1)	Acute
Chronic WLA, ug/L	C _c = (Chronic Criteria x MZ _c) - C _u x (MZ _c -1)	Chronic (4-day)
		Chronic (30-day)
Long Term Ave (LTA), ug/L	WLA _a x exp(0.5σ ² -zσ), Acute	99%
(99 th % occurrence prob.)	WLA _c x exp(0.5σ ² -zσ); ammonia n=4, Chronic	99%
	WLA _c x exp(0.5σ ² -zσ); ammonia n=30, Chronic	99%
Limiting LTA, ug/L	used as basis for limits calculation	6,007.6
Average Monthly Limit (AML), ug/L, where % occurrence prob =	95%	7,346.969
Maximum Daily Limit (MDL), ug/L, where % occurrence prob =	99%	21,385.108
Average Monthly Limit (AML), mg/L		7.3
Maximum Daily Limit (MDL), mg/L		21.4
Average Monthly Limit (AML), lb/day		123
Maximum Daily Limit (MDL), lb/day		357

Appendix F. Antidegradation Analysis

The WQS contain an antidegradation policy providing Tier 1 and Tier 2 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).

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 2024 Integrated Report South Fork Clearwater River in the vicinity of the discharge is designated as 3T waters and the water quality of the river is unassessed. Therefore, 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 the City of Kooskia permit, this means determining the permit's effect on water quality based upon the limits for BOD₅, TSS, *E. coli*, temperature and total ammonia in the current and proposed permits. Table 19 provides a summary of the changes between the current permit limits and the proposed reissued permit limits.

Table 19. Comparison of Proposed and Current Permit Limits

Parameters	Average Monthly Limit		Average Weekly Limit		Maximum Daily Limit	
	Proposed Permit	Current Permit ²	Proposed Permit	Current Permit ²	Proposed Permit	Current Permit ²
<i>E. coli</i> Bacteria	126	126	---	---	410	406
Total Ammonia (mg/L)	7.3	---	---	---	21.4	---
Total Ammonia(lbs/day)	123	---	---	---	357	---
1. Mass-based loadings for BOD ₅ and TSS are based on a design flow of 0.198 mgd.						
2. The existing permit limits were issued in 2019.						

The proposed permit limits of BOD₅, TSS, pH, and temperature are the same as those in the existing permit. The proposed permit contains a new effluent limit for total ammonia and *E. coli*. The proposed *E. coli* bacteria instantaneous maximum effluent limits are less stringent, due to changes in the WQS. The proposed *E. coli* limit is consistent with the Idaho WQS approved by the EPA in September 2023. The bacteria criteria are applied at the end of pipe; thus, water quality standards will be met at the end of pipe and no degradation will occur. Therefore, no adverse change in water quality and no degradation will result from the discharge of these pollutants in the reissued permit and the quality of the receiving water is maintained and protected.

New Permit Limits for Pollutants Currently Discharged

When new limits are proposed in a reissued permit for pollutants in the existing discharge, the effect on water quality is based upon the current discharge quality and the proposed discharge quality resulting from the new limits. Current discharge quality for pollutants that are not currently limited is based upon available discharge quality data (IDAPA 58.01.02.052.06.a.i). Future discharge quality is based upon proposed permit limits (IDAPA 58.01.02.052.06.a.ii).

The reissued permit for Kooskia includes new limits for total ammonia and *E. coli* bacteria (Table 8). The maximum daily limits are less than the 95th percentile concentrations of the maximum daily discharge quality and are just as stringent. Therefore, no adverse change in water quality and no degradation will result from the discharge of these pollutants in the reissued permit.

In sum, the EPA concludes that this discharge permit complies with the Tier 2 provisions of Idaho's WQS (IDAPA 58.01.02.051.02 and IDAPA 58.01.02.052.06).

Appendix G. 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:	City of Kooskia Wastewater Treatment Plant
NPDES Permit Number:	ID0021814
Location:	Nez Perce Tribe
Receiving Water:	South Fork Clearwater River
Facility Location:	004 Airport Road Kooskia, ID 83539

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 Kooskia WWTP discharges to the South Fork Clearwater River, in Kooskia, 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 June 15, 2026, 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 July 15, 2026.

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