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:

Denali National Park
Front Country Wastewater Treatment Plant

Public Comment Start Date: September 30, 2025

Public Comment Expiration Date: October 30, 2025

Technical Contact: Jamey Stoddard
(206) 553-6110
800-424-4372, ext. 6110 (within Alaska, Idaho, Oregon and Washington)
stoddard.jamey@epa.gov

THE EPA PROPOSES TO REISSUE THE NPDES PERMIT

The EPA proposes to reissue the NPDES permit for the facility referenced above. The draft permit places conditions on the discharge of pollutants from the 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 (see Part IV)

CWA § 401 Certification

Since the U.S. has exclusive federal jurisdiction within Denali National Park and Preserve, the EPA is the 401-certification authority for NPDES permits issued within Denali National Park and Preserve. A draft 401 certification is included in Appendix E; comments regarding the intent to certify should be directed to the technical contact listed above.

Clean Water Act §401(A)(2) Review

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

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

Public Comment

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

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

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

Documents are Available for Review

The draft NPDES permit, fact sheet and other information can be downloaded from the internet at: https://www.epa.gov/npdes-permits/npdes-permit-denali-national-park-front-country-wastewater-treatment-plant-alaska

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

For technical questions regarding the Fact Sheet, or for services for persons with disabilities, contact Jamey Stoddard at (206) 553-6110 or stoddard.jamey@epa.gov.

TABLE OF CONTENTS

LIST OF TABLES

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
BA	Biological Assessment
BAT	Best Available Technology economically achievable
BCT	Best Conventional pollutant control Technology
BOD_5	Biochemical oxygen demand, five-day
BOD_{5u}	Biochemical oxygen demand, ultimate
BMP	Best Management Practices
BPT	Best Practicable
°C	Degrees Celsius
$CBOD_5$	Carbonaceous Biochemical Oxygen Demand
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
COD	Chemical Oxygen Demand
CSO	Combined Sewer Overflow
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
LA	Load Allocation
lbs/day	Pounds per day
LTA	Long Term Average

mg/L	Milligrams per liter
mL	Milliliters
ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit
MPN	Most Probable Number
N	Nitrogen
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
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
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 #:	AK0053775
Applicant:	Denali National Park and Preserve Front Country Wastewater Treatment Plant
Type of Ownership	Federal - National Park Service
Physical Address:	Milepost 237 Parks Highway Denali National Park, Alaska 99755
Mailing Address:	P.O. Box 9 Denali National Park, AK 99755
Facility Contact:	Robert Young Utility Systems Repair Operator 907-683-9569 robert_young@NPS.gov
Operator Name:	Denali National Park and Preserve
Facility Location:	63.731296° N, 148.888944° W
Receiving Water	Nenana River, Denali Borough, Alaska
Facility Outfall	63°43'46.2"N 148°52'29.28"W [63.729500, -148.874800]

B. PERMIT HISTORY

The Alaska Statehood Act, Section 11, states that the U.S. shall exercise exclusive jurisdiction in Denali National Park "as now or hereafter constituted." Since the U.S. has exclusive federal jurisdiction within Denali National Park and Preserve, the EPA is the permitting authority for this facility.

The most recent NPDES permit for the Front Country Wastewater Treatment Plant (WWTP) was issued on July 3, 2019, became effective on September 1, 2019, and expired on August 31, 2024. An NPDES application for permit issuance was submitted by the permittee on February 25, 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.

C. TRIBAL CONSULTATION

The EPA consults on a government-to-government basis with federally recognized Tribal governments when the 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 December 2023, the EPA issued the "EPA Policy on Consultation with Indian Tribes" which updated national guidelines and institutional controls for consultation.

The Front Country WWTP is located within the traditional and historical territory of Healy Lake Village and the Native Village of Cantwell, federally recognized Tribes. The EPA shared the preliminary draft permit and draft fact sheet with both Tribes on August 19, 2025. The EPA will invite both Tribes to participate in formal government-to-government consultation during the public notice period.

II. FACILITY INFORMATION

A. TREATMENT PLANT DESCRIPTION

1. Service Area

Denali National Park and Preserve owns and operates the Front Country WWTP located in Denali National Park and Preserve, Denali Borough, Alaska (hereafter "WWTP" or "facility"). The collection system has no combined sewers. The facility provides wastewater service to park visitors and employees – a transient population estimated at 3,000 visitors per day with 180 employees. There are no major industries discharging to the facility.

2. Treatment Process

The design flow of the facility is 0.11 mgd. The reported actual flows from the facility range from 0.06 to 0.10 mgd (average monthly flow).

The majority of influent to the plant is via gravity collection, with a small quantity coming from septage truck delivery. The Dual Power Multi Cell (DPMC) lagoon system operates and discharges about 153 days per year during the summer (May-September). Wastewater is collected, stored and then discharged in a batch process. The batch discharge typically takes 3 to 5 weeks but could take slightly more or less time. The batch discharge typically occurs in August but can also occur in September and possibly in July. During the winter months, influent flow is diverted to a winter storage lagoon. Because discharges are sent to the water storage lagoon during winter and the facility does not discharge from October through April, discharges are authorized only from May through September.

Most flow through the DPMC system occurs via gravity. Pumping is required to return wastewater stored in the winter storage lagoon to the DPMC for additional

treatment. Flow from the system is to the complete mix cell, where the majority of biological treatment occurs. Mechanical aerators mix and aerate the cell.

Flow is then sent to stabilization cells for solids separation and storage. The number of cells in series is adjustable to meet expected hydraulic changes through 2030. Prior to discharge, wastewater flows from the stabilization cells into an ultra-violet (UV) radiation disinfection system installed in 2020.

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

B. OUTFALL DESCRIPTION

The outfall is a diffuser located at the bank of the Nenana River inside the boundary of Denali National Park and Preserve, at 63°43'46.2"N, 148°52'29.28"W [63.729500, -148.874800].

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 between 2020-2024 is summarized in Table 2.

Table 2. Effluent Characterization

Parameter	Minimum	Maximum	95th Percentile	Notes
$CBOD_5$ (mg/L)	4.3	16	15.3	Monthly Average
TSS (mg/L)	2	66	64.3	Monthly Average
Fecal coliform (#/100mL)	0	7	5.9	Weekly Geometric Mean
Dissolved oxygen (mg/L)	9.2	18.5	18.4	Instantaneous Minimum
pH (s.u.)	6.6	8.8	8.7	Instantaneous
Total Residual Chlorine (µg/L)	9	5.2	4.1	Monthly Average
Nitrite+Nitrate (as N) (mg/L)	2.7	45.0	44.4	Annual Maximum

Table 2. Effluent Characterization				
Parameter	**Minimum**	**Maximum**	**95th Percentile**	**Notes**
Total Ammonia (as N) (mg/L)	0.1	44	29.1	Monthly Average
Nitrogen, Kjeldahl (as N) (mg/L)	3.3	24	22.5	Annual Maximum
Oil and Grease (mg/L)	0	1.3	1.2	Annual Maximum
Total Phosphorous (as P) (µg/L)	9.3	13	13	Annual Maximum
Source: DMR Data (2020-2024)				

D. COMPLIANCE HISTORY

A summary of effluent violations is provided in Table 3.

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=110064616330.

Table 3. Summary of Effluent Violations					
Month	**Parameter**	**Reported Value**	**Permit Limit**	**Unit**	**Limit Type**
Sept 2019	TSS	1	85	%	Monthly Average Minimum
Sept 2019	TSS	0	85	%	Monthly Average Minimum
Aug 2022	TSS	96	45	mg/L	Weekly Average
Aug 2022	TSS	66	30	mg/L	Monthly Average
Aug 2022	TSS	77.7	41.3	lbs/day	Weekly Average
Aug 2022	TSS	68.1	27.5	lbs/day	Monthly Average
Aug 2022	pH	8.8	8.5	standard units (su)	Instantaneous Maximum
July 2023	TSS	51	45	mg/L	Weekly Average
July 2023	TSS	41	30	mg/L	Monthly Average

June 2024	Ammonia	44	2.5	mg/L	Weekly Average
June 2024	Ammonia	44	5.4	mg/L	Monthly Average

The EPA conducted an inspection of the facility in July 2022. The inspection encompassed the wastewater treatment process, records review, operation and maintenance, and the collection system. Areas of concern identified during the inspection included:

- Quality Assurance Plan – submitted late, incorrect format, missing information, signature, and certification
- Emergency Response and Public Notification Plan – submitted late, missing signature and certification
- Operations and Maintenance Plan – never submitted
- Discharge Monitoring Reports – late submittal for July 2021 monitoring period
- Records Retention – missing chain-of-custody documents from July 2017 – June 2022.

The permittee has resolved the areas of concern identified above and provided documentation regarding the causes of the 2022 violations and the measures taken to prevent future violations.

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 Nenana River in Denali Borough, Alaska, within the boundaries of Denali National Park and Preserve.

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.

Since the facility discharges to an area of exclusive federal jurisdiction, Alaska WQS do not apply at the point of discharge. There are no federal WQS applicable to the receiving

waters. However, to protect downstream uses in the State of Alaska, the Alaska WQS were used as reference for setting permit limits.

1. Designated Beneficial Uses

This facility discharges to the Nenana River in the Nenana River Watershed (HUC 19040508). Alaska WQS state in 18 AAC 70.050 that unless specifically designated for other uses in 18 AAC 70.230(e), all fresh waters of the State of Alaska are to be protected for all uses. The designated use classes for freshwater include:

- water supply
  - drinking, culinary, and seafood processing
  - agriculture, including irrigation and stock watering
  - aquaculture
  - industrial
- water recreation
  - contact recreation
  - secondary recreation
- growth and propagation of fish, shellfish, and other aquatic life, and wildlife

B. RECEIVING WATER QUALITY

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

Table 4. Receiving Water Quality Data

Parameter	Units	Percentile	Value
Temperature	°C	95th	12.7
pH	Standard units	5th – 95th	6.4 - 8.02
Hardness (as $CaCO_3$)	mg/L	5th – 95th	260
Ammonia	mg/L	maximum	2

Source: Data collected by permittee 2014-2017

1. Water Quality Limited Waters

The Nenana River is not listed as water quality limited in Alaska's 2024 Integrated Report.

2. Low Flow Conditions

Critical low flows for the receiving water are summarized in Table 5. Low flows are defined in Appendix D. Low flows were calculated using United States Geological Service (USGS) Toolbox and data from station 1551800, which was operational between 1951-1978.

Table 5. Critical Flows in Receiving Water		
Flows	**Annual Flow (cfs)**	**Seasonal Flows (cfs) (May – September)**
1Q10	276	463
7Q10	280	533
30B3	242	241
30Q5	339	2510
Harmonic Mean	918	928
Source: USGS Toolbox, Station 15518000 – Nenana River		

IV. EFFLUENT LIMITATIONS AND MONITORING

Table 6 presents the existing effluent limits and monitoring requirements in the current Permit. presents the effluent limits and monitoring requirements proposed in the draft permit.

The draft permit includes several changes to the effluent limitations and monitoring requirements, which are as follows:

- New requirement to monitor the effluent for total nitrate and nitrite – see Part IV.A.3.b.v.
- New WQBELs for dissolved oxygen (DO) – see Part IV.A.3.b.iii.
- Chlorine limits from the 2019 permit have been removed – see Part IV.A.3.b.ii.
- Average weekly limits (AWL) for fecal coliform and ammonia have been replaced with maximum daily limits (MDL) – see Parts IV.A.3.b.i and IV.A.3.b.iv.
- New requirement to monitor the effluent for per- and polyfluoroalkyl substances (PFAS) – see Part IV.A.4.a.
- New requirement to monitor the effluent for aluminum – the applicant will begin a trial using alum to control summer algae blooms. Monitoring is required when alum is used in the treatment process – See Part IV.B.
- New requirement to monitor the receiving water – the Nenana River – for pH, temperature, ammonia, and DO – see Part IV.B.

Table 6 - Existing Permit – Effluent Limits and Monitoring Requirements							
Parameter	**Units**	**Effluent Limitations**			**Monitoring Requirements**		
		Average Monthly Limit	**Average Weekly Limit**	**Max Daily Limit**	**Sample Location**	**Sample Frequency**	**Sample Type**
Flow, mgd[1]	Flow	0.11	--	--	Effluent	Continuous	Recorder

Five-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	mg/L	25	40	--	Influent and Effluent	1/week	Grab
	lbs/day	22.9	36.7	--			Calculation[2]
BOD_5 Percent Removal	%	85 (min)	--	--	--	1/month	Calculation[3]
Total Suspended Solids (TSS)	mg/L	30	45	--	Influent and Effluent	1/week	Grab
	lbs/day	27.5	41.3				Calculation[2]
TSS Percent Removal	%	85% (min)	--	--	--	1/month	Calculation[3]
Total Residual Chlorine[7]	µg/L	8.0	--	18[5]	Effluent	1/week	Grab
	lbs/day	0.01	--	0.02[5]			Calculation[2]
Fecal Coliform Bacteria	#/100 mL	20[4]	40[4]	--	Effluent	1/week	Grab
pH	s.u.	Between 6.5 – 8.5[5]			Effluent	3/week	Grab
Total Ammonia (as N)	mg/L	2.5	5.4	--	Effluent	1/week	Grab
	lbs/day	2.3	5.0	--			
Narrative	There shall be no discharge of floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.				Receiving Water	1/month	Visual
Permit Application Effluent Testing Data	--				Effluent	1/year	--

1. Discharge is authorized from May through September. Limits and monitoring requirements apply during discharge.

2. Loadings are calculated by multiplying the concentration in mg/L by the flow in mgd and a conversion factor of 8.34.

3. Percent removal is calculated using the following equation:

(average monthly influent – average monthly effluent)/average monthly influent.

4. The permittee must report the geometric mean fecal coliform concentration. If any value used to calculate the geometric mean is less than 1, the permittee must round that value up to 1 for purposes of

calculating the geometric mean. No more than 10% of the fecal coliform samples analyzed during a calendar month may exceed 40 FC/100 ml. See Part VI for a definition of geometric mean.

5. Reporting is required within 24 hours of a maximum daily limit or instantaneous maximum limit violation. See Parts I.B.2 and III.G.

6. 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.4 of this permit.

7.The limits for chlorine are not quantifiable using EPA-approved analytical methods. The minimum level (ML) for chlorine is 50 µg/L for this parameter. The EPA will use 50 µg/L as the compliance evaluation level for this parameter. The permittee will be in compliance with the total residual chlorine limitations if the average monthly and maximum daily concentrations are less than 50 µg/L and the average monthly and maximum daily mass loadings are less than 0.05 lbs/day.

Table 7. Draft Permit – Effluent Limits and Monitoring Requirements

Parameter	Units	Effluent Limitations			Monitoring Requirements		
		Average Monthly Limit	Average Weekly Limit	Max Daily Limit	Sample Location	Sample Frequency	Sample Type
Flow, mgd	Flow	0.11	--	--	Effluent	Continuous	Recorder
Five-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	mg/L	25	40	--	Influent and Effluent	1/week	Grab
	lbs/day	22.9	36.7	--			Calculation[1]
$CBOD_5$ Percent Removal	%	85 (min)	--	--	--	1/month	Calculation[2]
Total Suspended Solids (TSS)	mg/L	30	45	--	Influent and Effluent	1/week	Grab
	lbs/day	27.5	41.3				Calculation[1]
TSS Percent Removal	%	85 (min)	--	--	--	1/month	Calculation[2]
Fecal Coliform Bacteria	#/100 mL	20[3]	--	40[3,4,5]	Effluent	1/week	Grab
pH	s.u.	Between 6.5 – 8.5[4]			Effluent	3/week	Grab

Dissolved Oxygen (DO)	mg/L	Between 7 - 17			Effluent	1/month	Grab
Total Ammonia (as N)	mg/L	2.1	--	5.4[5]	Effluent	1/week	Grab
	lbs/day	1.9	--	5.0			Calculation[1]
Total Nitrate and Nitrite	mg/L	Report	--	Report	Effluent	2/month	Grab
	lbs/day	--	--	--			
E. Coli Bacteria	CFU/100 mL	Report	--	Report	Effluent	1/week	Grab
Per- and Polyfluoroal-kyl Substances (PFAS)[7]	ng/L	Report	--	Report	Influent and effluent	Quarterly[7,8]	Grab
	mg/kg dry weight	--	--	Report	Sludge	Quarterly[7,8]	Grab
Aluminum, total recoverable	µg/L	Report		Report	Effluent	Monthly[9]	Grab
Effluent Testing for Permit Renewal							
Permit Application Effluent Testing Data[10]	--	--	--	--	Effluent	1/year	--

1. Loadings are calculated by multiplying the concentration in mg/L by the flow in mgd and a conversion factor of 8.34.
2. Percent removal is calculated using the following equation:
   (average monthly influent – average monthly effluent)/average monthly influent.
3. The permittee must report the geometric mean fecal coliform and *E. coli* concentrations. If any value used to calculate the geometric mean is less than 1, the permittee must round that value up to 1 for purposes of calculating the geometric mean. See Permit Part VI. for a definition of geometric mean.
4. If less than 10 samples are collected, the effluent limit cannot be exceeded. If ten or more samples are collected during the monthly reporting period, not more than 10% of the samples may exceed the effluent limit.
5. Reporting is required within 24 hours of a maximum daily limit or instantaneous maximum limit violation. See Permit Parts I.B.3. and III.G.
6. See Permit Part I.B.9.
7. 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. Monitoring must occur during quarters when discharge occurs.
8. Monitoring for PFAS chemicals is required two quarters per year beginning the third May after the effective date of the permit. Since discharge is only authorized between May through September,

two quarters of monitoring is required per year. Monitoring can be discontinued after eight (8) quarterly samples have been collected.
9. Monitoring is required monthly when aluminum is used in the treatment process.
10. Effluent Testing Data - See NPDES Permit Application Form 2A, Table B for the list of pollutants to be included in this testing. The permittee must use sufficiently sensitive analytical methods in accordance with Permit Part I.B.5.

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

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples must be used for averaging if they are conducted using EPA-approved test methods (generally found in 40 CFR Part 136) or as specified in the permit.

1. Pollutants of Concern

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

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

The wastewater treatment process for this facility includes both primary and secondary treatment, as well as disinfection with UV radiation. Pollutants of concern include five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), *E. coli* bacteria, pH, ammonia, nitrate and nitrite, temperature, DO, and PFAS.

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 BOD_5, TSS, and pH. The federally promulgated secondary treatment effluent limits are listed in Table 8. For additional information and background refer to Part 5.1 *Technology Based Effluent Limits for POTWs* in the Permit Writers Manual.

Table 8. 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. $CBOD_5$

40 CFR 133.102(a)(4) provides that in lieu of BOD_5 and the levels of effluent quality specified in Table 8, the parameter carbonaceous biological oxygen demand ($CBOD_5$) may be substituted with the following levels of effluent quality:

- The 30-day average shall not exceed 25 mg/L
- The 7-day average shall not exceed 40 mg/L
- The 30-day average percent removal shall not be less than 85 percent

The permittee has requested the continued use of $CBOD_5$ in lieu of BOD_5 to help eliminate test interference from nitrogenous oxygen demand. The EPA is retaining the use of $CBOD_5$ in lieu of BOD_5.

c. Mass-Based Limits

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

Mass based limit = concentration limit (mg/L) × design flow (0.11 mgd) × 8.34[1]

Mass based limits have been established for $CBOD_5$, TSS, total ammonia, and total nitrate and nitrite. Ammonia is discussed below.

$CBOD_5$

Ave Monthly = 25 mg/L X 0.11 X 8.34 = 22.9 lbs/day

Ave Weekly = 36.7 mg/L X 0.11 X 8.34 = 36.7 lbs/day

TSS

Ave monthly = 30 mg/L X 0.11 X 8.34 = 27.5 lbs/day

Ave Weekly = 45 mg/L X 0.11 X 8.34 = 41.3 lbs/day

3. Water Quality-Based Effluent Limits (WQBELs)

a. Statutory and Regulatory Basis

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

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, 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

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

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 by state water quality standards. 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.

Mixing zones are granted by states under the authority of their respective WQS. Since the Nenana River downstream of the discharge is identified as salmonid spawning habitat, WQBELs have been calculated assuming no mixing with the receiving water. To protect for downstream uses, Alaska WQS were used as reference in the development of WQBELs.

As discussed in Part IV.A.1, the pollutants of concern in the discharge are BOD_5, TSS, *E. coli* bacteria, fecal coliform, pH, ammonia, nitrate and nitrite, DO, and PFAS. Each parameter is summarized below, and the equations used to conduct the reasonable potential analysis and calculate the WQBELs are provided in Appendix D. Alaska WQS are shown in Table 9, below.

Table 9. Alaska Water Quality Standards

Pollutant	Designated Use	Criteria	Basis
Total Ammonia	Aquatic Life	Fresh water ammonia criteria are dependent on the pH and temperature of the receiving water. See Part IV.A.3.b.i. below.	18 AAC 70.020(b)(11)(C)

Table 9. Alaska Water Quality Standards			
Pollutant	**Designated Use**	**Criteria**	**Basis**
Dissolved Oxygen	Aquaculture	D.O. must be greater than 7 mg/l in waters used by anadromous or resident fish. In no case may D.O. be less than 5 mg/l to a depth of 20 cm in the interstitial waters of gravel used by anadromous or resident fish for spawning (see note 2). For waters not used by anadromous or resident fish, D.O. must be greater than or equal to 5 mg/l. In no case may D.O. be greater than 17 mg/l. The concentration of total dissolved gas may not exceed 110% of saturation at any point of sample collection.	18 AAC 70.020(b)(3)(C)
E. coli	Contact Recreation	In a 30-day period, the geometric mean of samples may not exceed 126 *Escherichia coli (E. coli*) colony forming units (CFU)/ 100ml, and not more than 10% of the samples may exceed a statistical threshold value (STV) of 410 *E. coli* CFU/100 ml.	18 AAC 70.020(b)(2)(B)(i)
Fecal Coliform	Water Supply – drinking, culinary, and food processing	In a 30-day period, the geometric mean may not exceed 20 fecal coliform/100 ml, and not more than 10% of the samples may exceed 40 fecal coliform/100 ml. For groundwater, the fecal coliform concentration must be less than 1 fecal coliform/100 ml, using the fecal coliform Membrane Filter Technique, or less than 3 fecal coliform/100 ml, using the fecal coliform most probable number (MPN) technique.	18 AAC 70.020(b)(2)(A)(i)
Total Nitrate and Nitrite	Drinking Water	10 mg/L	18 AAC 70.020(b)(11) & 18 AAC 80.300(b)
pH	Aquatic Life	May not be less than 6.5 or greater than 8.5. May not vary more than 0.5 pH unit from natural conditions.	18 AAC 70.020(b)(6)(C)

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 95th percentile of ambient temperature and pH data was used. The calculated ammonia criteria are: 5.41 mg/L (acute) and 2.36 mg/L (chronic).

Figure 1. Ammonia Criteria

Total ammonia nitrogen criteria (mg N/L):

Seasonal Basis (May - Sept) - LOW Flow

Based on 18 AAC 70.020(b)(23) and Alaska Water Quality Criteria Manual for Toxics and Other Deleterious Organic and Inorganic Substances

INPUT	
1. Receiving Water Temperature (deg C):	12.7
2. Receiving Water pH:	8.02
3. Is the receiving water a cold water designated use?	Yes
4. Are non-salmonid early life stages present or absent?	Present
OUTPUT	
Total ammonia nitrogen criteria (mg N/L):	
Acute Criterion (CMC)	**5.41**
Chronic Criterion (CCC)	**2.36**

Acute Criteria Equation: Cold Water

$$CMC = \frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}$$

Acute Criteria Equation: Warm Water

$$CMC = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$$

Chronic Criteria: Cold Water, Early Life Stages Present

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \bullet MIN(2.85, 1.45 \cdot 10^{0.028(25-T)})$$

Chronic Criteria: Cold Water, Early Life Stages Absent

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \bullet 1.45 \cdot 10^{0.028(25-T)})$$

A reasonable potential calculation shows the discharge has reasonable potential to cause or contribute to a violation of the water quality criteria for ammonia from May through September. Therefore, the draft permit contains WQBELs for ammonia from May through September.

40 CFR 122.45(d) requires permit limits for POTWs be expressed as average weekly and average monthly limits, unless impracticable. However, Section 5.2.3. of the 1991 *Technical Support Document for Water Quality-based Toxics Control* provides that, in lieu of average weekly limits (AWLs) for POTWs, maximum daily limits (MDLs) should be established for toxic pollutants such as ammonia. Given this, the EPA has removed the average weekly limit for ammonia and has replaced it with a MDL. There are no backsliding issues with the removal of the AWL because there is a comparable limit that is being imposed in the permit; thus, the permit is not becoming less stringent.

See Appendix D for reasonable potential and effluent limit calculations for ammonia.

ii. Chlorine

The prior permit contained WQBELs for chlorine. Disinfection is now provided by UV radiation and chlorine is no longer used in the treatment process. Therefore, chlorine limits have been removed from the draft permit. There are no backsliding issues because the facility will not be

authorized to discharge chlorine, thus, the permit is not becoming less stringent.

iii. Dissolved Oxygen (DO) and BOD_5

Natural decomposition of organic material in wastewater effluent impacts dissolved oxygen in the receiving water at distances far outside of the regulated mixing zone. The BOD_5 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.

Alaska does not have WQS for BOD and instead uses DO. The standard applicable to fresh water with anadromous fish requires DO concentrations between 7.0 – 17 mg/L.

The reasonable potential to cause or contribute to a violation of the dissolved oxygen criteria of 7 mg/L can be evaluated using the Streeter-Phelps model. The Streeter-Phelps model (also known as the "dissolved oxygen sag" equation) is based on a mass balance that is affected by two processes. The first process is that oxygen is removed from water by the degradation of organic materials. In other words, the biochemical oxygen demand of an organic waste is satisfied by oxygen taken from the water. The second process is "reaeration" by oxygen transfer into the water from the atmosphere.

The analysis was done using data submitted by the applicant between 2020 – 2025. The model shows that the downstream DO will read a low of 8 mg/L and therefore is unlikely to contribute to a violation of the 7 mg/L standard. However, in August 2022 and 2023 facility reported DO concentrations of 18.15 and 18.47 mg/L, respectively. As both of these values are above the 17 mg/L standard, the data demonstrate that the discharge has reasonable potential to cause or contribute to an excursion above Alaska's WQS for DO.

The draft permit contains a DO limit of 7 – 17 mg/L. See Appendix C for calculations.

iv. Bacteria – E. Coli and Fecal Coliform

E. coli bacteria are indicator organisms of harmful pathogens in fresh water used for recreation. The Nenana River is used for contact recreation during the summer months.

Alaska WQS for *E. coli* were promulgated by ADEC and approved by the EPA in 2017. The WQS require that in a 30-day period, the geometric mean of samples may not exceed 126 *E. coli* colony forming units (CFU)/100ml, and not more than 10% of the samples may exceed a statistical threshold value

(STV) of 410 *E. coli* CFU/100 ml. A mixing zone is not appropriate for bacteria for waters designated for contact recreation[2].

The 2019 permit did not require effluent monitoring for *E. coli* and so the amount of *E. coli* in the discharge is uncertain. The draft permit requires effluent monitoring for *E. coli.* The data will be used to assess whether the discharge has reasonable potential to cause or contribute to an excursion of Alaska's WQS for *E. coli* at the next permit cycle.

Alaska WQS for fecal coliform require that in a 30-day period, the geometric mean may not exceed 20 fecal coliform/100 mL, and not more than 10% of the samples may exceed 40 fecal coliform/100 mL. The EPA has determined the discharge has reasonable potential to cause or contribute to an excursion of Alaska WQS for fecal coliform.

The draft permit retains the effluent limits from the 2019 permit: an average monthly limit of 20 fecal coliform/100 mL and a maximum daily limit of 40 fecal coliform/100mL. If more than ten samples are collected during the monthly reporting period, not more than 10% of the samples may exceed 40 fecal coliform/100 mL. If fewer than 10 samples are collected during the monthly reporting period, no sample may exceed 40 fecal coliform/100 mL.

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

v. Nitrate and Nitrite

Alaska WQS for total nitrate and nitrite state that the "concentration of substances in water may not exceed the numeric criteria for drinking water and human health consumption of water and aquatic organisms shown in the *Alaska Water Quality Criteria Manual for Toxics and Other Deleterious Organic and Inorganic Substances* (Toxics Manual). The total nitrate and

[2] Water Quality Standards Handbook, Part 5.1.2. USEPA Office of Water. EPA 820-B-14-004. September 2014.

nitrite criterion for drinking water is 10 mg/L. The Nenana River downstream of discharge is protected for all uses – including drinking water.

Nitrate and nitrite discharge data provided by the permittee are limited and highly variable, ranging from 2.7 – 45 mg/L. With only three samples over five years, the concentration of nitrate and nitrite in the discharge is uncertain and it is not clear the data are representative of the discharge. The permit requires twice per month monitoring to gather representative data on the concentration of nitrate and nitrite in the discharge for use at permit renewal.

vi. pH

The Alaska WQS at 18 AAC 70.020(b)(6)(C) require pH values to be within the range of 6.5 to 8.5 standard units. Since there is no mixing zone, the most stringent water quality criterion must be met at the point of discharge. Effluent pH data were compared to the water quality criteria, and they did not exceed criteria; the existing WQBELs for pH were maintained in the draft permit.

c. Antibacksliding

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

There are no aspects of the permit that are less stringent than those established in the previous permit.

4. Additional Effluent Monitoring

a. PFAS

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. [3,4]

3 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

4 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

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 when discharge occurs (discharge is only authorized from May through September). The monitoring requirements for PFAS chemicals are deferred until the third year of the permit term to give the permittee time to plan for this new monitoring requirement (e.g., to obtain funding, train employees, and find a suitable contract laboratory). Additionally, monitoring for PFAS chemicals can be discontinued after eight (8) quarterly samples have been collected.

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 § 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."

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

POTW applicants with a design flow of at least 0.1 mgd are required to test for the pollutants listed in Table B of NPDES Application Form 2A (40 CFR 122.21(j)(4)(iv)). The draft permit contains this requirement.

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 upon the characteristics of the receiving water, such as ammonia and metals. Table 10 presents the proposed surface water monitoring requirements for the draft permit – these data are needed to determine the applicable ammonia criteria for the next permit reissuance. The permittee must submit all surface water monitoring results for the previous calendar year for all parameters in an annual report to the EPA

by January 31st of the following year as an attachment to the DMR, and with the permit reapplication.

Table 10. Surface Water Monitoring in Draft Permit			
Parameter	**Units**	**Monitoring Frequency**	**Sample Type/Location**
DO	mg/L	Once Per Month from May – September for four years	Grab/ Upstream of Discharge
Temperature	°C	Once Per Month from May – September for four years	Grab/ Upstream of Discharge
pH	s.u.	Once Per Month from May – September for four years	Grab Upstream of Discharge
Ammonia	mg/L	Once Per Month from May – September for four years	Grab Upstream of Discharge

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

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 purposes of regulating biosolids. The EPA may issue a sludge-only permit to each facility at a later date, as appropriate.

Until future issuance of a sludge-only permit, sludge management and disposal activities at each facility continue to be subject to the national sewage sludge standards at 40 CFR Part 503 and any requirements of the State's biosolids program. The Part 503 regulations are self-implementing, which means that facilities must comply with them whether or not a permit has been issued.

V. OTHER PERMIT CONDITIONS

A. QUALITY ASSURANCE PLAN

The Front Country 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 upon request.

B. OPERATION AND MAINTENANCE PLAN

The permit requires the Front Country 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 days of the effective date of the permit. The plan must be retained on site and made available to the EPA upon request.

C. SANITARY SEWER OVERFLOWS (SSOs) 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. PRETREATMENT REQUIREMENTS

The Front Country WWTP does not have an approved POTW pretreatment program. Pursuant to 40 CFR 403.8, the EPA is the Control Authority for industrial users that might introduce pollutants into the Front Country WWTP. The POTW does not have any industrial users that discharge into it, so the permit does not contain a pretreatment program.

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

Background on the pretreatment program may be found at Introduction to the National Pretreatment Program (EPA, 2011).

E. STANDARD PERMIT PROVISIONS

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

VI. OTHER LEGAL REQUIREMENTS

A. ENDANGERED SPECIES ACT

The Endangered Species Act requires federal agencies to consult with National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. There are no ESA-listed species or designated critical habits within the receiving waters. Therefore, the EPA has determined that the permit will have no effect on ESA-listed species or designated critical habitat.

B. ESSENTIAL FISH HABITAT

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

The discharge is of low volume and domestic in nature, with no industrial users or significant sources of toxics, and all water quality criteria apply at the point of discharge with no mixing authorized within the river. For these reasons, the EPA has determined the draft permit will not adversely affect EFH within the Nenana River.

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 State or Tribal Law. See 33 USC § 1341(d). Since this facility discharges within a land of exclusive federal jurisdiction, the EPA is the certifying authority. The EPA is taking comment on the EPA's intent to certify this permit. See the draft certification in Appendix A.

D. PERMIT EXPIRATION

The permit will expire five years from the effective date.

VII. REFERENCES

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

EPA. 2007. *EPA Model Pretreatment Ordinance*. Environmental Protection Agency, Office of Wastewater Management/Permits Division. January 2007.

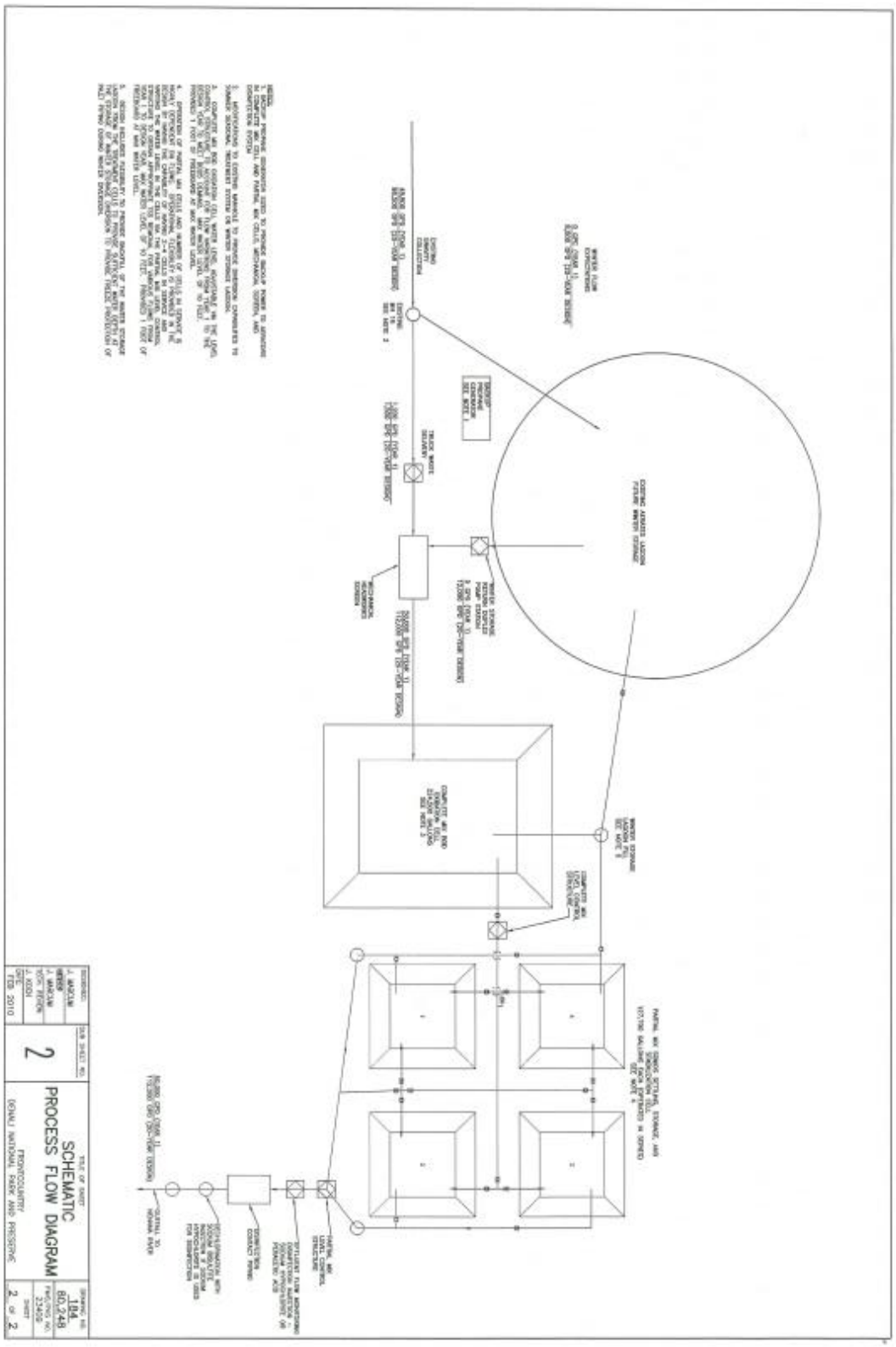
EPA. 2010. *NPDES Permit Writers' Manual.* Environmental Protection Agency, Office of Wastewater Management. EPA-833-K-10-001. September 2010. https://www3.epa.gov/npdes/pubs/pwm_2010.pdf.

EPA. 2011. *Introduction to the National Pretreatment Program*. Environmental Protection Agency, Office of Wastewater Management. EPA 833-B-11-011. June 2011.

EPA. 2014. *Water Quality Standards Handbook Chapter 5: General Policies*. Environmental Protection Agency, Office of Water. EPA 820-B-14-004. September 2014. https://www.epa.gov/sites/production/files/2014-09/documents/handbook-chapter5.pdf.

Water Pollution Control Federation. 1976. *Chlorination of Wastewater.* Water Pollution Control Federation, Subcommittee on Chlorination of Wastewater. Washington, D.C.

Appendix A. Facility Information


SCHEMATIC
PROCESS FLOW DIAGRAM
DENALI NATIONAL PARK AND PRESERVE
2
FEB 2010

Appendix B. Water Quality Data

Treatment Plant Effluent Data

Parameter	Flow	CBOD5, 20 deg. C (mg/L)	CBOD5, 20 deg. C (mg/L)	CBOD5, 20 deg. C (lbs/day)	CBOD5, 20 deg. C (mg/L)	CBOD5, 20 deg. C (lbs/day)	CBOD5 (% removal)	TSS (mg/L)	TSS (mg/L)	TSS (mg/L)	TSS (lbs/day)	TSS (mg/L)	TSS (lbs/day)	TSS (% removal)	Fecal coliform, MPN, 44.5 C (#/100mL)	Fecal coliform, MPN, 44.5 C (#/100mL)
Statistical Basis	EFFLUENT (MO. AVE)	INFLUENT (MO. AVE)	EFFLUENT (MO. AVE)	EFFLUENT (MO. AVE)	EFFLUENT (WK. AVE)	EFFLUENT (WK. AVE)	Min % Removal	INFLUENT (MO. AVE)	EFFLUENT (ANNL. MAX)	EFFLUENT (MO. AVE)	EFFLUENT (MO. AVE)	EFFLUENT (WK. AVE)	EFFLUENT (WK. AVE)	Min % Removal	WKLY GEO	MO. GEO
2/29/2020																
3/31/2020																
4/30/2020																
5/31/2020																
6/30/2020																
7/31/2020																
8/31/2020																
9/30/2020																
10/31/2020																
11/30/2020																
12/31/2020																
1/31/2021																
2/28/2021																
3/31/2021																
4/30/2021																
5/31/2021																
6/30/2021																
7/31/2021																
8/31/2021																
9/30/2021	0.085	1578	11	11	15	13	99	10650		25.8	25.8	25.8	25.8	100	1	1
10/31/2021																
11/30/2021																
12/31/2021																
1/31/2022																
2/28/2022																
3/31/2022																
4/30/2022																
5/31/2022																
6/30/2022																
7/31/2022																
8/31/2022	0.1	3953	14	14.7	21	16.9	100	4075	756	66	68.1	96	77.7	98	0	0
9/30/2022	0.088	1155	8	6.2	9	8	99	2720		28.4	24.7	33	32	99	1	1
10/31/2022																
11/30/2022																
12/31/2022																
1/31/2023																
2/28/2023																
3/31/2023																
4/30/2023																
5/31/2023																
6/30/2023																
7/31/2023	0.068	8	8	4.5	9	4.5	99	1494		41	24.2	51	24.8	96	4	4
8/31/2023	0.09414	3422	16	12.9	11	16.9	99	3837	33	7	6.2	10	7.8	98	7	7
9/30/2023																
10/31/2023																
11/30/2023																
12/31/2023																
1/31/2024																
2/29/2024																
3/31/2024																
4/30/2024																
5/31/2024																
6/30/2024	0.061	738	12	7.4	14	7.4	98	89		2	19	5	19.2	98	0	0
7/31/2024																
8/31/2024	0.09795	5077	4.3	4.3	4.3	4.3	100	7190	22.7	24	15.1	30	15.1	100	2	2
9/30/2024	0.1014	2643	7	5.5	7	5.5	100	2920		23	19.1	23	19.1	99	1	1
10/31/2024																
11/30/2024																
12/31/2024																
1/31/2025																
Average	0.1	2321.8	10.0	8.3	11.3	9.6	99.3	4121.9	270.6	27.2	25.3	34.2	27.7	98.5	2.0	2.0
Maximum	0.1	5077.0	16.0	14.7	21.0	16.9	100.0	10650.0	756.0	66.0	68.1	96.0	77.7	100.0	7.0	7.0
Minimum	0.1	8.0	4.3	4.3	4.3	4.3	98.0	89.0	22.7	2.0	6.2	5.0	7.8	96.0	0.0	0.0
Count	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	3.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Std Dev	0.0	1746.1	3.9	4.0	5.3	5.3	0.7	3352.9	420.4	19.9	18.4	28.7	21.5	1.3	2.4	2.4
CV	0.2	0.8	0.4	0.5	0.5	0.6	0.0	0.8	1.6	0.7	0.7	0.8	0.8	0.0	1.2	1.2
99th Percntile	0.1	4998.3	15.9	14.6	20.6	16.9	100.0	10407.8	741.5	64.3	65.1	92.9	74.5	100.0	6.8	6.8
95th Percentile	0.1	4683.6	15.3	14.1	18.9	16.9	100.0	9439.0	683.7	57.3	53.3	80.3	61.7	100.0	6.0	6.0

D.O. (mg/L)	pH (S.U.)		TRC (ug/L)	TRC (ug/L)	TRC (lbs/day)	TRC (ug/L)	TRC (lbs/day)	Nitrite+Nitrate (as N), (mg/L)	Total Ammonia, (as N), (mg/L)	Total Ammonia (as N), (mg/L)	Total Ammonia (as N), (lbs/day)	Total Ammonia (as N), (mg/L)	Total Ammonia (as N), (lbs/day)	Nitrogen, Kjeldahl (as N), (mg/L)	Oil and Grease (mg/L)	Total Phosphorous (as P), (ug/L)
INST. MIN	MAX	MIN	ANNL. MAX	MO. AVE	MO. AVE	Daily Max	Daily Max	ANNL. MAX	ANNL. MAX	MO. AVE	MO. AVE	WK. AVE	WK. AVE	ANNL. MAX	ANNL. MAX	ANNL. MAX
	8.2	7		0	0	0	0			1.4	1.4	1.4	1.4			
18.15	8.8	7.1	0	0	0	0	0	2.7	64	0.3	0.3	0.3	0.3	24	0	13
	8.4	7.5		0	0	0	0			1	1	3	3			
	8.23	6.6		5.2	0.02949	39	0.02211			0.8	0.2	0.8	0.2			
18.47	8.3	7.1	0	1	0	1	0	39	2.7	0.3	0.3	0.3	0.3	8.5	0	13
	8.3	7.7		0	0	0	0			44	0.21	44	0.17			
9.18	8.11	6.98	2	2	0.01	3	0.01	45	0.1	0.1	0.1	0.1	0.1	3.3	1.3	9.3
	8.3	7.7		2	0.0002	2	0.0002			0.1	0.1	0.1	0.1			
15.3	8.3	7.2	0.7	1.3	0.0	5.6	0.0	28.9	22.3	6.0	0.5	6.3	0.7	11.9	0.4	11.8
18.5	8.8	7.7	2.0	5.2	0.0	39.0	0.0	45.0	64.0	44.0	1.4	44.0	3.0	24.0	1.3	13.0
9.2	8.1	6.6	0.0	0.0	0.0	0.0	0.0	2.7	0.1	0.1	0.1	0.1	0.1	3.3	0.0	9.3
3.0	8.0	8.0	3.0	8.0	8.0	8.0	8.0	3.0	3.0	8.0	8.0	8.0	8.0	3.0	3.0	3.0
5.3	0.2	0.4	1.2	1.8	0.0	13.5	0.0	22.9	36.2	15.4	0.5	15.3	1.0	10.8	0.8	2.1
0.3	0.0	0.1	1.7	1.4	2.1	2.4	2.0	0.8	1.6	2.6	1.1	2.4	1.5	0.9	1.7	0.2
18.5	8.8	7.7	2.0	5.0	0.0	36.5	0.0	44.9	62.8	41.0	1.4	41.1	2.9	8.4	1.3	13.0
18.4	8.7	7.7	1.8	4.1	0.0	26.4	0.0	44.4	57.9	29.1	1.3	29.7	2.4	22.5	1.2	13.0

Appendix C. Reasonable Potential and WQBEL Formulae

A. Reasonable Potential Analysis

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

1. Mass Balance

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

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

where,

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

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

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

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

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

Where:

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

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

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

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

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

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

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

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

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

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

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

2. Maximum Projected Effluent Concentration

When determining the projected receiving water concentration downstream of the effluent discharge, the EPA's Technical Support Document for Water Quality-based Toxics Control (TSD, 1991) recommends using the maximum projected effluent concentration (Ce) in the mass balance calculation (see equation 3, page C-5). To determine the maximum projected effluent concentration (Ce) EPA has developed a statistical approach to better characterize the effects of effluent variability. The approach combines knowledge of effluent variability as estimated by a coefficient of variation (CV) with the uncertainty due to a limited number of data to project an estimated maximum concentration for the effluent. Once the CV for each pollutant parameter has been calculated, the reasonable potential multiplier (RPM) used to derive the maximum projected effluent concentration (Ce) can be calculated using the following equations:

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

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

where,

p_n = the percentile represented by the highest reported concentration

n = the number of samples

confidence level = 99% = 0.99

and

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

Where,

σ^2 = $\ln(CV^2 + 1)$

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

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

CV = coefficient of variation (standard deviation ÷ mean)

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

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

where MRC = Maximum Reported Concentration

3. Maximum Projected Effluent Concentration at the Edge of the Mixing Zone

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

4. Reasonable Potential

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

B. WQBEL Calculations

1. Calculate the Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated using the same mass balance equations used to calculate the concentration of the pollutant at the edge of the mixing zone in the reasonable potential analysis. To calculate the wasteload allocations, C_d is set equal to the acute or chronic criterion and the equation is solved for C_e. The

calculated C_e is the acute or chronic WLA. Equation 6 is rearranged to solve for the WLA, becoming:

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

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

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

The next step is to compute the "long term average" concentrations which will be protective of the WLAs. This is done using the following equations from the EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD):

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

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

where,

σ^2	=	$\ln(CV^2 + 1)$
Z_{99}	=	2.326 (z-score for the 99th percentile probability basis)
CV	=	coefficient of variation (standard deviation ÷ mean)
σ_4^2	=	$\ln(CV^2/4 + 1)$

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

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

where,

σ_{30}^2	=	$\ln(CV^2/30 + 1)$

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

2. Derive the maximum daily and average monthly effluent limits

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

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

$$AML = LTA \times e^{\left(z_a\sigma_n - 0.5\sigma_n^2\right.} \qquad \textit{Equation 17}$$

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

σ_n^2 = $\ln(CV^2/n + 1$

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

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

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

C. Critical Low Flow Conditions

The low flow conditions of a water body are used to determine WQBELs. In general, WQS require criteria be evaluated at the following low flow receiving water conditions 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.

Appendix D. Reasonable Potential and WQBEL Calculations

Streeter-Phelps Analysis of Critical Dissolved Oxygen Sag

INPUT			
1. EFFLUENT CHARACTERISTICS			
Discharge (cfs):			0.17017
CBOD5 (mg/L):			25
NBOD (mg/L):			2.6
Dissolved Oxygen (mg/L):			3.2
Temperature (deg C):			14
2. RECEIVING WATER CHARACTERISTICS			
Upstream Discharge (cfs):			533
Upstream CBOD5 (mg/L):			0.0
Upstream NBOD (mg/L):			0.2
Upstream Dissolved Oxygen (mg/L):			8
Upstream Temperature (deg C):			12.74
Elevation (ft NGVD):			1600
Downstream Average Channel Slope (ft/ft):			0.00088
Downstream Average Channel Depth (ft):			4
Downstream Average Channel Velocity (fps):			1
3. REAERATION RATE (Base e) at 20 deg C (day^-1):			3.65
Reference	Applic. Vel (fps)	Applic. Dep (ft)	Suggested Values
Churchill	1.5 - 6	2 - 50	1.14
O'Connor and Dobbins	0.1 - 1.5	2 - 50	1.62
Owens	0.1 - 6	1 - 2	1.66
Tsivoglou-Wallace	0.1 - 6	0.1 - 2	3.65
4. BOD DECAY RATE (Base e) AT 20 deg C (day^-1):			2.51
(Suggested value = 2.51, *Wright and McDonnell, 1979*)			
OUTPUT			
1. INITIAL MIXED RIVER CONDITION			
CBOD5 (mg/L):			0.0
NBOD (mg/L):			0.2
Dissolved Oxygen (mg/L):			8.0
Temperature (deg C):			12.7
2. TEMPERATURE ADJUSTED RATE CONSTANTS (Base e)			
Reaeration (day^-1):			3.07
BOD Decay (day^-1):			1.80
3. CALCULATED INITIAL ULTIMATE CBODU AND TOTAL BODU			
Initial Mixed CBODU (mg/L):			0.0
Initial Mixed Total BODU (CBODU + NBOD, mg/L):			0.2
4. INITIAL DISSOLVED OXYGEN DEFICIT			
Saturation Dissolved Oxygen (mg/L):			9.996
Initial Deficit (mg/L):			2.00
5. TRAVEL TIME TO CRITICAL DO CONCENTRATION (days):			0.00
6. DISTANCE TO CRITICAL DO CONCENTRATION (miles):			0.00
7. CRITICAL DO DEFICIT (mg/L):			2.00
8. CRITICAL DO CONCENTRATION (mg/L):			**8.00**

Appendix E. CWA § 401 Certification

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

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

Facility:	Front Country Wastewater Treatment Plant
NPDES Permit Number:	AK0053755
Location:	Denali National Park and Preserve
Receiving Water:	Nenana River, Alaska - 63.729392° N, 148.873901° W
Facility Location:	Milepost 237 Parks Highway Denali National Park, Alaska, 99755

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 Front Country Wastewater Treatment Plant (WWTP) serves the summer visitors to Denali National Park and Preserve in Alaska.

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. In lands of exclusive federal jurisdiction, such as Denali National Park and Preserve, the State of Alaska does not have the authority to provide CWA Section 401 certification of EPA's NPDES permit. Therefore, the EPA is making the certification decision for the permit.

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

The EPA's Public Notice Process

On September 30, the EPA issued a public notice for the draft permit, including the intent to certify under Section 401, and provided the opportunity for the public to submit comments until October 30, 2025.

DRAFT

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