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:

Confederated Tribes of Warm Springs

Wastewater Treatment Plant

Warm Springs, Oregon 97761

Public Comment Start Date: March 1, 2021

Public Comment Expiration Date: March 31, 2021

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EPA Proposes to Reissue NPDES Permit

EPA proposes to reissue the NPDES permit for the facility referenced above. The draft permit places conditions on the discharge of pollutants from the Confederated Tribes of Warm Springs (hereinafter referred to as the Tribe) wastewater treatment plant to Shitike Creek. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from the facility.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations and other conditions for the facility
- a map and description of the discharge location and biosolids disposal locations
- technical material supporting the conditions in the permit

Clean Water Act Section 401 Tribal Certification

Pursuant to Section 401 of the Clean Water Act (CWA), EPA may not issue a final permit until the State or Tribe (with Treatment as a State) where the discharge originates, has granted or waived 401 certification. The State and/or Tribes must either certify that the Permit complies with State or Tribal water quality standards or waive certification before the final permit is issued. The Confederated Tribes of Warm Springs are approved for Treatment as State (TAS) under the CWA.

EPA is requesting that the Confederated Tribes of Warm Springs certify the permit under Section 401 of the CWA. Comments regarding the certification should be directed to:

The Confederated Tribes of Warm Springs

Warm Springs Natural Resources Department

Attn: Mr. Robert Brunoe

P.O. Box C

Warm Springs, OR 97761

Public Comment

Because of the COVID-19 virus, access to the Region 10 EPA building is limited. Therefore, EPA requests that all comments on the draft permit or requests for a public hearing be submitted via email to earl.james@epa.gov If you are unable to submit comments via email, please call 503-326-2653.

Persons wishing to comment on or request a Public Hearing for the draft permit for this facility may do so 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 submitted to the EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, the EPA's regional Director for the Water Division 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 Permit, and other information is available on EPA Region 10 website at:

https://www.epa.gov/npdes-permits/oregon-npdes-permits

Because of COVID-19 response, there is no public access to the Region 10 EPA buildings at this time. Therefore, EPA cannot make hard copies available for viewing at our offices.

For technical questions regarding the Permit listed above or this Fact Sheet, contact James Earl at the e-mail or phone number listed above. Services for persons with disabilities are available by contacting Audrey Washington at (206) 553-0523.

I. 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
BE	Biological evaluation
BOD_5	Biochemical oxygen demand, five-day
°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
HUC	Hydrologic unit code
ICIS	Integrated Compliance Information System
IHS	Indian Health Service
I/I	Infiltration and inflow
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
N	Nitrogen
NEPA	National Environmental Policy Act
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
SS	Suspended solids
SSO	Sanitary sewer overflow
s.u.	Standard units
TMDL	Total maximum daily load
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
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water quality standards
WWTP	Wastewater treatment plant

II. 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 #:	OR0032638
Applicant:	Warm Springs Wastewater Treatment Plant The Confederated Tribes of Warm Springs
Type of Ownership	POTW, Tribal
Physical Address:	End of Victory Lane Warm Springs, Oregon 97761
Mailing Address:	Confederated Tribes of Warm Springs PO Box 1196 Warm Springs, Oregon 97761
Facility Contact:	Chico Holliday Water/Wastewater Supervisor 541-460-2707 (c) 541-615-0962 (w) chico.holliday@wstribes.org
Operator Name:	Chico Holliday
Facility Location:	Latitude 44.760939 N Longitude 121.260202 W
Receiving Water	Shitike Creek, The Confederated Tribes of Warm Springs
Facility Outfall	Latitude 44.761912 N Longitude 121.257757 W

B. Permit History

The most recent NPDES permit for the Warm Springs wastewater treatment plant (WWTP) was issued on 3/7/2000, became effective on 4/10/2000**,** and expired on 4/10/2005. Pursuant to Title 40 Code of Federal Regulations (CFR) 122.6 (b), the permit has been administratively continued and remains fully effective and enforceable.

C. Tribal Consultation

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, EPA issued the "EPA Policy on Consultation and Coordination with Indian Tribes" which established national guidelines and institutional controls for consultation.

The Warm Springs WWTP is located on the reservation of the Confederated Tribes of Warm Springs. Consistent with the executive order and EPA tribal consultation policies, EPA coordinated with the Tribe during development of the draft permit and is inviting the Tribe to engage in formal tribal consultation.

III. Facility Information

A. Treatment Plant Description

1. Service Area

The Confederated Tribes of Warm Springs owns and operates the Warm Springs WWTP located in Warm Springs, Oregon. The WWTP serves a resident population of approximately 1,500 people and a community consisting of approximately 450 homes and businesses. The WWTP receives residential and commercial domestic wastewater from the Warm Springs Agency Campus area. There are no industrial dischargers to the system and the collection system consists of separate sewer lines. The collection system has no known combined sewers. Appendix A includes a map of the location of the treatment plant and discharge.

2. Treatment Process

The design flow of the facility is 0.87 mgd. The average flow reported from February 2005 to March 2020 is 0.25 MGD. The maximum and minimum facility flows in this time period range from 0.00882 (1/31/2015) to 0.767 MGD (12/21/2015). The WWTP has a treatment capacity maximum flow rate of 0.86 MGD. The treatment process consists of proprietary technology patented by Parkson, the Biolac® long sludge age treatment process. Biolac® is an extended aeration, activated sludge treatment system. The WWTP utilizes a grinder and trash removal screen at the headworks but does not utilize separate primary clarification. The WWTP has parallel secondary treatment trains for aeration and clarification, each capable of treating a maximum combined flow 0.435 MGD. The average flow into the plant is approximately 0.25 mgd, so only one of the treatment trains is routinely used while the other is maintained in a stand-by status. Effluent from the secondary clarifier is disinfected in a UV basin and discharged to Shitike Creek. Wasted sludge from the secondary clarification process is pumped to the aerated solids digester. Treated biosolids are discharged from the digester to the drying beds on a periodic basis. 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.

3. Outfall Description

The outfall is submerged in Shitike Creek and located near lat/long 44.761912 N, 121.257757 W. Discharge is continuous.

4. Effluent Characterization

To characterize the effluent, EPA evaluated discharge monitoring report (DMR) data, and additional data provided by the Warm Springs WWTP. The effluent quality is summarized in Table 2. Data are provided in Appendix B.

Table 2 Effluent Characterization

Parameter	Minimum	Maximum	Notes
BOD, 5-day, 20 deg. C Apr 1 - Oct 31 Monthly Average	0.4 mg/L 0.7 lbs/day	82.8 mg/L 555 lbs/day	
BOD, 5-day, 20 deg. C Apr 1 - Oct 31 Weekly Average	2.0 mg/L 2.9 lbs/day	270 mg/L 622 lbs/day	
BOD, 5-day, 20 deg. C Nov 1 - Mar 31 Monthly Average	0.3 mg/L 0.6 lbs/day	65.3 mg/L 708 lbs/day	
BOD, 5-day, 20 deg. C Nov 1 - Mar 31 Weekly Average	1.0 mg/L 2.3 lbs/day	90 mg/L 1126 lbs/day	
Solids, total suspended Apr 1 - Oct 31 Monthly Average	1.0 mg/L 1.9 lbs/day	442 mg/L 2280 lbs/day	
Solids, total suspended Apr 1 - Oct 31 Weekly Average	3.3 mg/L 5.8 lbs/day	533 mg/L 3584 lbs/day	
Solids, total suspended Nov 1 - Mar 31 Monthly Average	1.21 mg/L 2.56 lbs/day	334 mg/L 5048 lbs/day	

Solids, total suspended Nov 1 - Mar 31 Weekly Average	1 mg/L 2.56 lbs/day	450 mg/L 1660 lbs/day	
E. coli bacteria Daily Maximum	0.18 #/100 ml	2420 #/100 ml	
E. coli bacteria Monthly Average	0.01 #100/ml	283#100/ml	
Nitrogen, ammonia total [as N] Daily Maximum	0.057 mg/L 0.16 lbs/day	101 mg/L 89.8 lbs/day	
Nitrogen, ammonia total [as N] Monthly Average	0.057 mg/L 0.16 lbs/day	24.9 mg/L 89.8 lbs/day	
Effluent temperature Monthly	0.6 C	28.1 C	
Effluent pH Twice Weekly	6	10.5	

Source: DMR data from 1/31/2005 to 6/30/2020 submitted electronically by permittee.

5. Compliance History

A summary of effluent violations is provided in Table 3 below. The facility has had difficulty meeting permit limits.

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=110055021453

Table 3. Summary of Effluent Violations (accessed October 2020)

Parameter	Limit	Units	Number of Violations	Number of Instances
BOD, 5-day, 20 deg. C Apr 1 - Oct 31	Monthly Average	mg/L	25	750

BOD, 5-day, 20 deg. C Apr 1 - Oct 31	Monthly Average	lb/day	9	270
BOD, 5-day, 20 deg. C Apr 1 - Oct 31	Weekly Average	mg/L	28	196
BOD, 5-day, 20 deg. C Apr 1 - Oct 31	Weekly Average	lb/day	10	70
BOD, 5-day, 20 deg. C Nov 1 - Mar 31	Monthly Average	mg/L	1	30
BOD, 5-day, 20 deg. C Nov 1 - Mar 31	Monthly Average	lb/day	9	270
BOD, 5-day, 20 deg. C Nov 1 - Mar 31	Weekly Average	mg/L	2	14
BOD, 5-day, 20 deg. C Nov 1 - Mar 31	Weekly Average	lb/day	4	28
Solids, total suspended Apr 1 - Oct 31	Monthly Average	mg/L	40	1200
Solids, total suspended Apr 1 - Oct 31	Monthly Average	lb/day	14	420
Solids, total suspended Apr 1 - Oct 31	Weekly Average	mg/L	55	385
Solids, total suspended Apr 1 - Oct 31	Weekly Average	lb/day	14	98
Solids, total suspended Nov 1 - Mar 31	Monthly Average	mg/L	8	240
Solids, total suspended Nov 1 - Mar 31	Monthly Average	lb/day	13	390
Solids, total suspended Nov 1 -	Weekly Average	mg/L	6	42

Mar 31				
Solids, total suspended Nov 1 - Mar 31	Weekly Average	lbs/day	6	42
E. coli bacteria	Daily Maximum	#/100 ml	46	46
E. coli bacteria	Monthly Average	#/100 ml	23	690
Nitrogen, ammonia total [as N]	Daily Maximum	mg/L	75	75
Nitrogen, ammonia total [as N]	Daily Maximum	lbs/day	2	2
Nitrogen, ammonia total [as N]	Monthly Average	mg/L	96	2880
Nitrogen, ammonia total [as N]	Monthly Average	lbs/day	55	1650
Effluent pH Twice Weekly	6.5 to 8.5		13	13

Source: DMR data from 1/31/2005 to 6/30/2020 submitted electronically by permittee.

EPA has not conducted an inspection of the facility in conjunction with the permit renewal, however documents relating to current condition and operation of the Warm Springs WWTP were provided to EPA by Indian Health Service (IHS) as part of project documentation for IHS project PO-19-M63 Warm Springs Community Wastewater Treatment Plant Improvements. As part of project scope development, the IHS with assistance from Rural Community Assistance Corp (RCAC) and TSS Consultants, completed detailed inspections and technical reports. The reports encompassed the wastewater treatment process, records review, operation and maintenance, and the collection system. TSS Consultants was hired by the Tribe in 2018 to review current and historical permit compliance for all the water and wastewater systems owned and operated by the Tribe. In a memo to the Tribe dated June 2018, TSS Consultants noted the Warm Springs WWTP is under a 2013 EPA Administrative Order on Consent to provide required documents and corrective action plans for the facility. TSS Consultants also noted the Warm Springs WWTP had numerous discharge violations. At the Tribe's request, IHS and RCAC conducted a condition assessment and review of discharge monitoring reports (DMRs) in September 2018. Equipment failures were observed in each of the major unit processes. Review of the DMRs found persistent discharge violations for total suspended solids (TSS), biochemical oxygen demand (BOD_5), ammonia, and *E. coli*. In 2019, IHS and the Tribe agreed to cooperatively fund IHS Project PO-19-M63 to provide approximately 2.6 million dollars in rehabilitation and upgrades to the WWTP.

IV. Receiving Water

In drafting permit conditions, 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 section below. This section summarizes characteristics of the receiving water that impact that analysis.

A. Receiving Water

This facility discharges to Shitike Creek in the City of Warm Springs, Oregon near lat/long 44.761912 N, 121.257757 W. The outfall is located upstream of Shitike Creek's confluence with the Deschutes River at approximately lat/long 44.761636 N, 121.228897 W. The discharge is located approximately 1.5 miles from the Deschutes River which is subject to both Oregon and Tribal water quality standards.

B. Water Quality Standards

1. Overview

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limitations in permits necessary to meet water quality standards. 40 CFR 122.4(d) requires that the conditions in NPDES permits ensure compliance with the water quality standards of all affected States and Tribes. A State's or Tribe's water quality standards 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 Confederated Tribes of Warm Springs received treatment in a manner similar to a state (TAS) status for administering water quality standards (WQS) over Shitike Creek and the portions of the Deschutes River that lie within the boundaries of the Confederated Tribes of Warm Springs Reservation. These waters are referred to as "Reservation TAS Waters".

The facility is located within the exterior boundaries of the Confederated Tribes of Warm Springs Reservation and discharges to Reservation TAS waters. Oregon State waters are located downstream of the point of discharge. EPA used the Reservation TAS water quality standards in developing permit conditions and effluent limitations. EPA also considered Oregon water quality standards because Oregon State waters are located approximately 1.5 river miles downstream. This will ensure that the permit conditions are protective of the downstream uses.

The current applicable water quality standards were compared between the Confederated Tribes of Warm Springs Reservation and the State of Oregon. For all pollutants of concern, the water quality standards for Confederated Tribes of Warm Springs Reservation were either equivalent to or more stringent than the State of Oregon water quality basin specific standards with the exception of the ammonia acute criteria for pH of 8.5 and temperature of 21 C. Current State of Oregon water quality standards Table 30(a) gives an acute criterion of 1.4 mg/L total ammonia nitrogen vs. 1.9 mg/L total ammonia nitrogen given by the current Tribal standard. This difference does not impact the proposed limits, due to the limiting long-term average (LTA)

being used to calculate the proposed limits is based on the Tribal ammonia chronic criteria, which is 0.26 mg/L total ammonia nitrogen vs. 0.33 mg/L given by current State of Oregon water quality standards Table 30(c).

2. Designated Beneficial Uses

This facility discharges to Shitike Creek in the Deschutes Basin downstream of the Pelton Dam (HUC 17070306). At the point of discharge, Shitike Creek is protected for the following designated uses according to Table 1: Beneficial Uses for the Deschutes, Clackamas, and Santiam River Basins on the Reservation found in the Confederated Tribes of Warm Springs Reservation water quality standards.

- Public and private domestic water supply
- Industrial water supply
- Irrigation
- Livestock watering
- Anadromous fish passage
- Salmonid fish rearing
- Salmonid fish spawning
- Resident fish and aquatic life
- Wildlife and fishing
- Boating/rafting
- Water contact recreation
- Aesthetic quality
- Cultural and religious practices

C. 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	95^{th}	21.2
pH	Standard units	5^{th} – 95^{th}	7.0/8.51

Source:

EPA water quality database, Water Quality eXchange, accessed October 2020. Data date range 2010 to 2017.

Data collected by permittee 2010-2017

https://www.waterqualitydata.us/portal/#within=10&lat=44.762222&long=-121.256667&huc=17070306&providers=STORET&mimeType=csv

D. Water Quality Limited Waters

Shitike Creek is entirely under the jurisdiction of the Tribe and is not currently listed by the Tribe as a CWA section 303(D) impaired water for any parameter.

E. Low Flow Conditions

Critical low flows* for the receiving water are summarized in Table 5. Critical Flows in Receiving Water. Low flows were calculated with USGS Surface Water Toolbox software using Shitike Creek streamflow data from USGS station 14093000 downstream of the discharge.

Table 5. Critical Flows in Receiving Water

Flows	Annual Flow (cfs)
1Q10	29.0
7Q10	33.9
30Q10	37.3
30Q5	40.4
Harmonic Mean	80.1

*Low flows used in calculations are shown in Appendix D.

V. Effluent Limitations and Monitoring

Table 6 below presents the existing effluent limits and monitoring requirements in the Warm Springs WWTP permit.

Table 7 below presents the proposed effluent limits and monitoring requirements in the draft proposed permit.

Table 6. 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
Parameters with Effluent Limits							
Biochemical Oxygen Demand (BOD_5) April 1 - October 31	mg/L	10	15	--	Influent and Effluent	1/week	24-hour composite
	lbs/day	73	109	--			Calculation[1]
Biochemical Oxygen Demand (BOD_5) November 1 - March 31	mg/L	30	45	--	Influent and Effluent	1/week	24-hour composite
	lbs/day	218	327	--			Calculation[1]
Biochemical Oxygen Demand (BOD5) Percent Removal	%	85% (minimum)	--	--	--	1/month	Calculation[2]
Total Suspended Solids (TSS) April 1 - October 31	mg/L	10	15	--	Influent and Effluent	1/week	24-hour composite
	lbs/day	73	109	--			Calculation[1]
Total Suspended Solids (TSS) November 1 - March 31	mg/L	30	45	--	Influent and Effluent	1/week	24-hour composite
	lbs/day	218	327	--			Calculation[1]
TSS Percent Removal	%	85 (minimum)	--	--	--	1/month	Calculation[2]
E. coli [3]	CFU/ 100 ml	126	--	406 (instant. max) [4]	Effluent	5/month	Grab
Total Ammonia (as N)	mg /L	2.4	--	6.8 [4]	Effluent	1/month	24-hour composite
	lbs/day	17.4	--	49.3			Calculation[1]
pH	std units	Between 6.5 – 8.5			Effluent	2/week [5]	Grab
Temperature	°C	--	Report	Report	Effluent	1/month	Grab

Table 7. 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
Parameters with Effluent Limits							
Biochemical Oxygen Demand (BOD_5) April 1 - October 31	mg/L	10	15	--	Influent and Effluent	1/week	24-hour composite
	lbs/day	73	109	--			Calculation[1]
Biochemical Oxygen Demand (BOD_5) November 1 - March 31	mg/L	30	45	--	Influent and Effluent	1/week	24-hour composite
	lbs/day	218	327	--			Calculation[1]
Biochemical Oxygen Demand (BOD_5) Percent Removal	%	85% (minimum)	--	--	--	1/month	Calculation[2]
Total Suspended Solids (TSS) April 1 - October 31	mg/L	10	15	--	Influent and Effluent	1/week	24-hour composite
	lbs/day	73	109	--			Calculation[1]
Total Suspended Solids (TSS) November 1 - March 31	mg/L	30	45	--	Influent and Effluent	1/week	24-hour composite
	lbs/day	218	327	--			Calculation[1]
TSS Percent Removal	%	85 (minimum)	--	--	--	1/month	Calculation[2]
E. coli [3]	CFU/ 100 ml	126	--	406 (instant. max) [4]	Effluent	5/month	Grab
Total Ammonia (as N) (Interim Compliance Schedule)	mg/L	2.4	--	6.8[4]	Effluent	1/week	24-hour composite
	lbs/day	17.4	--	49.3			Calculation[1]
Total Ammonia (as N)[6]	mg /L	1.4	--	3.8 [4]	Effluent	1/week	24-hour composite
	lbs/day	10.2	--	27.6			Calculation[1]
pH	std units	Between 6.5 – 8.5			Effluent	1/week [5]	Grab

Report Parameters							
Temperature	°C	--	--	Report	Effluent	1/week	Grab
Flow	mgd	Report	--	Report	Effluent	1/month	Grab
Floating, Suspended, or Submerged Matter	--	See Paragraph I.B.2 in Permit.				1/month	Visual Observation

The effluent limits that changed between the existing permit and the proposed draft permit are the total ammonia limits (as N), see summary below in Table 8.

Table 8. Summary of Proposed Effluent Limit Changes

Total Ammonia (as N)	Existing Limits			Proposed Limits		
	mg /L	2.4	6.8	mg /L	1.4	3.8
	lbs/day	17.4	49.3	lbs/day	10.2	27.6
Sample Frequency and Sample Type	1/month		24-hour composite	1/week		Grab

A. Basis for Effluent Limits

In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards applicable to a waterbody are being met and may be more stringent than technology-based effluent limits.

B. Pollutants of Concern

Pollutants of concern are those that either have technology-based limits or may need water quality-based limits. EPA identifies pollutants of concern for the discharge based on those which:

- Have a technology-based limit
- Have an assigned wasteload allocation (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, as well as disinfection with ultraviolet light. Pollutants expected in the discharge from a facility with this type of treatment include but are not limited to: BOD_5, TSS, E. coli bacteria, pH, ammonia, and temperature.

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

- BOD_5
- DO
- TSS
- *E. coli* bacteria
- pH
- Temperature
- Ammonia

C. Technology-Based Effluent Limits

1. Federal Secondary Treatment Effluent Limits

The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as "secondary treatment," which POTWs were required to meet by July 1, 1977. EPA has developed and promulgated "secondary treatment" effluent limitations, which are found in 40 CFR 133.102. These technology-based effluent limits 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		

2. Equivalent to Secondary Treatment Effluent Limits

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 9.

Table 9. Equivalent to Secondary Treatment Effluent Limits

Parameter	30-day average	7-day average
BOD_5	45 mg/L	65 mg/L

Parameter	30-day average	7-day average
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 2005 to 2020, 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 BOD_5 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). The regulations at 40 CFR 133.101(f) define "effluent concentrations consistently achievable through proper operation and maintenance" as
    - (f)(1): For a given pollutant parameter, the 95^{th} 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 BOD_5 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 BOD_5.

See Table 10 for the Treatment Equivalent to Secondary Treatment determinations for BOD_5 and TSS.

Table 10. Treatment Equivalent to Secondary Treatment Determinations for BOD_5 and TSS

Criterion 1: Consistently Exceeds Secondary Treatment Standards

BOD_5	**95th Percentile**	**Secondary Treatment Standard**	**Exceeds Secondary Standard**
Average Monthly	44 mg/L	30 mg/L	No
Weekly Average	66 mg/L × 1.5 = 99 mg/L	45 mg/L	No
TSS	**95th Percentile**	**Secondary Treatment Standard**	**Exceeds Secondary Standard**
Average Monthly	72 mg/L	30 mg/L	No
Weekly Average	115 mg/L × 1.5 = 173 mg/L	45 mg/L	No

Criterion 2: Principal Treatment Process

Waste stabilization ponds are the primary treatment method; No.

Criterion 3: Provides Significant Biological Treatment

BOD_5 30-day Average Percent Removal	**5th Percentile**	**Secondary Treatment Standard**	**Provides Significant Biological Treatment**
	74%	65%	Yes

The POTW does not meet the three criteria for treatment equivalent to secondary for BOD_5 and TSS, therefore the treatment equivalent to secondary/technology-based secondary limits, for BOD5 and for TSS, do not apply.

3. 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 (lb/day) = concentration limit (mg/L) × design flow (mgd) × 8.34[1]

Since the design flow for this facility is 0.87 mgd, the technology-based mass limits for BOD_5 and TSS are calculated as follows:

Average Monthly Limit = 30 mg/L × 0.87 mgd × 8.34 = 218 lbs/day

Average Weekly Limit = 45 mg/L × 0.87 mgd × 8.34 = 327 lbs/day

4. Chlorine

The facility uses ultraviolet disinfection and does not use chlorine for disinfection.

Therefore, no technology-based effluent limits for chlorine are applicable to this facility.

D. Water Quality-Based Effluent Limits

1. Statutory and Regulatory Basis

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards. 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 section 401 of the CWA. 40 CFR 122.44(d)(1) implementing Section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters 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 water quality standard, 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 Section 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 water quality standards 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 the water quality-based effluent limits are calculated directly from the applicable water quality standards.

2. Reasonable Potential Analysis and Need for Water Quality-Based

Effluent Limits

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, 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 water quality-based effluent limit 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.

Under the Tribe's water quality standards, dischargers are generally not authorized to use the entire upstream flow for dilution of their effluent. A mixing zone of 25 percent of the volume of the stream flow was used for determining compliance with chronic and acute criteria for total ammonia because the Tribe's WQS require that mixing zones "be as small as feasible."

The 1Q10 and 7Q10 flows are 29 cfs and 34 cfs, respectively. Based on the above standards, twenty five percent of these flows (7.25 and 8.5 cfs, respectively) were used in the mass balance equations for ammonia to determine whether there was reasonable potential to cause exceedances of the acute and chronic criteria.

In accordance with Tribal Code Section 432.100(4)(c), only the Tribe may authorize mixing zones within the reservation. If the Tribe authorizes a different size mixing zone in its 401 certification, EPA will recalculate the effluent limits based on the final mixing zone. If the Tribe does not authorize a mixing zone in its 401 certification, EPA will recalculate the permit limits based on meeting water quality standards at the point of discharge.

3. Reasonable Potential and Water Quality-Based Effluent Limits

The reasonable potential and water quality-based effluent limit for specific parameters are summarized below. The calculations are provided in Appendix D.

a) <u>DO and BOD_5</u>

The Tribe's water quality standards at Tribal Code Section 432.100(2)(a)(A)(i) require DO in Shitike Creek to be at least 11 mg/L at all times to protect aquatic life uses and Section 432.200(1)(c) include technology-based limits for BOD for all waters within the reservation. Section 432.200(1)(c) of the Tribe's WQS also states that during periods of low stream flow (approximately April 1 to October 31), treatment is required that results in meeting monthly average concentrations of 10 mg/L of BOD and SS. This Section also requires that during periods of high stream flow (approximately November 1 to March 31), a minimum of secondary treatment or equivalent control be used unless otherwise specifically authorized by the Tribe. 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. The draft permit includes seasonal water quality-based limits for BOD_5 of

10 mg/L average monthly and 15 mg/L average weekly. Compliance with BOD_5 limits will be protective of DO in the receiving water.

b) TSS

The Tribe's water quality standards at Tribal Code Section 432.200(1)(c) include technology-based limits for suspended solids (SS) for all waters within the reservation. Section 432.200(1)(c) of the Tribe's WQS also states that during periods of low stream flow (approximately April 1 to October 31), treatment is required that results in meeting monthly average concentrations of 10 mg/L of SS. This Section also requires that during periods of high stream flow (approximately November 1 to March 31), a minimum of secondary treatment or equivalent control be used unless otherwise specifically authorized by the Tribe. In addition, the Tribe's water quality standards at Tribal Code Section 432.100(2)(k) require that surface waters to be free from floating, suspended or submerged matter of any kind in concentrations impairing designated beneficial uses. The draft permit contains seasonal water quality-based limits for TSS of 10 mg/L average monthly and 15 mg/L average weekly as well as a narrative limitation prohibiting the discharge of such materials.

c) E. coli

The Tribe's water quality standards per Tribal Code 432.100(2)(e)(A) state that waters of the reservation, are not to contain *E. coli* bacteria in concentrations exceeding 126 organisms per 100 ml based on a minimum of five samples taken every three to seven days over a thirty-day period. A mixing zone is not appropriate for bacteria for waters designated for contact recreation. Therefore, the draft permit contains a monthly geometric mean effluent limit for *E. coli* of 126 organisms per 100 ml.

The Tribe's water quality standards also state that a water sample that exceeds certain "single sample maximum" values indicates a likely exceedance of the geometric mean criterion, although it is not, in and of itself, a violation of water quality standards. For waters designated for primary contact recreation, the "single sample maximum" value is 406 organisms per 100 ml.

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

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

and comply with" the geometric mean water quality criterion, as required by 40 CFR 122.44(d)(1)(vii)(A), it is necessary to express the effluent limits as a monthly geometric mean and an instantaneous maximum limit.

d) pH

The Tribe's water quality standards per Tribal Code 432.100(2)(d) require pH values of the receiving water to be within the range of 6.5 to 8.5. 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. Monitoring of effluent pH is included in the current permit and will also be included in the proposed permit. The draft permit proposes to reduce the frequency of pH monitoring from two times per week to one time per week to be consistent with other sampling parameters. The Warm Springs WWTP consistently met pH limits for effluent discharge with few exceptions, therefore monitoring effluent pH once per week will provide sufficient representation of effluent characteristics.

e) Temperature

The Tribe's WQS per Tribal Code 432.100(2)(b)(A) include temperature water quality criterion that state no measurable surface water increase resulting from anthropogenic activities is allowed unless a management plan is approved by the Tribe. The Tribe has specific temperature limit triggers for protection of salmonid and other native fish species. The most stringent criterion is for the protection of native Bull trout. The criterion applies to Shitike Creek when surface water temperatures exceed 10.0 °C per Tribal Code 432.100(2)(b)(A)(iii). Temperature monitoring was conducted during the summer months in Shitike Creek both upstream and downstream of the point of discharge. While the data suggest the Warm Springs WWTP effluent is not raising the receiving water temperature, Shitike Creek's water temperature exceeds 10.0°C for a significant portion of the year. The design flow of the Warm Springs WWTP is 0.87 mgd (1.35 cfs), which is less than 5% of the 1Q10 flow (29 cfs) of Shitike Creek. Therefore, EPA does not expect that the Warm Springs WWTP discharge will have any effect upon the temperature of downstream Shitike Creek waters. Due to the limited data available however, EPA is requiring additional monitoring for temperature in order to evaluate the effluent's impact on the temperature of Shitike Creek during the next reissuance of the permit. This draft permit includes effluent temperature monitoring requirements established by the previous permit and increases the upstream receiving water temperature monitoring requirements.

f) 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. The tables below show the parameters used to determine water quality criteria for ammonia.

Table 11 Ammonia Criteria (from Quality Criteria for Water 1986 EPA 440/5-86-001)

(2) 4-day average concentrations for ammonia.*

pH	0 C	5 C	10 C	15 C	20 C	25 C	30 C
A. Salmonids or Other Sensitive Coldwater Species Present							
Un-ionized Ammonia (mg/liter NH_3)							
6.50	0.0007	0.0009	0.0013	0.0019	0.0019	0.0019	0.0019
6.75	0.0012	0.0017	0.0023	0.0033	0.0033	0.0033	0.0033
7.00	0.0021	0.0029	0.0042	0.0059	0.0059	0.0059	0.0059
7.25	0.0037	0.0052	0.0074	0.0105	0.0105	0.0105	0.0105
7.50	0.0066	0.0093	0.0132	0.0186	0.0186	0.0186	0.0186
7.75	0.0109	0.0153	0.022	0.031	0.031	0.031	0.031
8.00	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
8.25	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
8.50	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
8.75	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
9.00	0.0126	0.0177	0.025	0.035	0.035	0.035	0.035
Total Ammonia (mg/liter NH_3)							
6.50	2.5	2.4	2.2	2.2	1.49	1.04	0.73
6.75	2.5	2.4	2.2	2.2	1.49	1.04	0.73
7.00	2.5	2.4	2.2	2.2	1.49	1.04	0.74
7.25	2.5	2.4	2.2	2.2	1.50	1.04	0.74
7.50	2.5	2.4	2.2	2.2	1.50	1.05	0.74
7.75	2.3	2.2	2.1	2.0	1.40	0.99	0.71
8.00	1.53	1.44	1.37	1.33	0.93	0.66	0.47
8.25	0.87	0.82	0.78	0.76	0.54	0.39	0.28
8.50	0.49	0.47	0.45	0.44	0.32	0.23	0.17
8.75	0.28	0.27	0.26	0.27	0.19	0.15	0.11
9.00	0.16	0.16	0.16	0.16	0.13	0.10	0.08

(1) One-hour average concentrations for ammonia.*

pH	0 C	5 C	10 C	15 C	20 C	25 C	30 C
A. Salmonids or Other Sensitive Coldwater Species Present							
Un-ionized Ammonia (mg/liter NH_3)							
6.50	0.0091	0.0129	0.0182	0.026	0.036	0.036	0.036
6.75	0.0149	0.021	0.030	0.042	0.059	0.059	0.059
7.00	0.023	0.033	0.046	0.066	0.093	0.093	0.093
7.25	0.034	0.048	0.068	0.095	0.135	0.135	0.135
7.50	0.045	0.064	0.091	0.128	0.181	0.181	0.181
7.75	0.056	0.080	0.113	0.159	0.22	0.22	0.22
8.00	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.25	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.50	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.75	0.065	0.092	0.130	0.184	0.26	0.26	0.26
9.00	0.065	0.092	0.130	0.184	0.26	0.26	0.26
Total Ammonia (mg/liter NH_3)							
6.50	35	33	31	30	29	20	14.3
6.75	32	30	28	27	27	18.6	13.2
7.00	28	26	25	24	23	16.4	11.6
7.25	23	22	20	19.7	19.2	13.4	9.5
7.50	17.4	16.3	15.5	14.9	14.6	10.2	7.3
7.75	12.2	11.4	10.9	10.5	10.3	7.2	5.2
8.00	8.0	7.5	7.1	6.9	6.8	4.8	3.5
8.25	4.5	4.2	4.1	4.0	3.9	2.8	2.1
8.50	2.6	2.4	2.3	2.3	2.3	1.71	1.28
8.75	1.47	1.40	1.37	1.38	1.42	1.07	0.83
9.00	0.86	0.83	0.83	0.86	0.91	0.72	0.58

The current Tribal WQS refer to Quality Criteria for Water 1986 EPA 440/5-86-001 to determine limits for acute and chronic ammonia concentrations. The 1986 Criteria recommends not using interpolation between tabulated values due to the non-linear nature of the ammonia concentrations based on pH and temperature. From the tables above using pH of 8.5 and temperature of 20 C (closest tabulated value of receiving water temperature 95th percentile of 21.5 C), total ammonia for acute and chronic criteria are 2.3 and 0.32 mg/L NH_3 respectively. To convert NH3 to total N, the tabular values are multiplied by 0.822 yielding 1.9 and 2.6 mg/L used in the calculation of the proposed ammonia limits.

A reasonable potential calculation showed that the Warm Springs WWTP discharge would have the reasonable potential to cause or contribute to a violation of the water quality criteria for

ammonia**.** Therefore, the draft permit contains water quality-based effluent limits for ammonia. The draft permit requires that the permittee monitor the receiving water for ammonia, pH and temperature in order to determine the applicable ammonia criteria for the next permit reissuance. See Appendices C and D for reasonable potential and effluent limit calculations for ammonia. The proposed draft permit contains a compliance schedule for ammonia requiring the Tribe to meet the revised ammonia limits within 5 years of permit issuance.

E. Anti-backsliding

Section 402(o) of the Clean Water Act 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 anti-backsliding exceptions refer to Chapter 7 of the NPDES Permit Writers Manual *Final Effluent Limitations and Anti-backsliding*. The proposed permit contains effluent limits, permit conditions or standards that are equal to or more stringent than the current permit, therefore no anti-backsliding analysis is required.

VI. Monitoring Requirements

A. Basis for Effluent and Surface Water Monitoring

Section 308 of the CWA 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.

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

In addition, the permit also requires the permittee to perform effluent and ambient water quality monitoring, so that these data will be available when the permittee applies for a renewal of its NPDES permit.

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

B. Effluent Monitoring

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

C. Surface Water Monitoring

In general, surface water monitoring may be required for pollutants of concern to assess the assimilative capacity of the receiving water for the pollutant. In addition, surface water monitoring may be required for pollutants for which the water quality criteria are dependent and

to collect data for TMDL development if the facility discharges to an impaired water body. Table **12** presents the proposed surface water monitoring requirements for the draft permit to verify background concentrations and determine compliance limits consistent with the ammonia criteria when the permit is reissued. Surface water monitoring results must be submitted with the DMR. In addition to the upstream parameters in Table 13, the Tribe must continue to collect downstream temperature data to assess the potential impact of effluent on stream temperatures.

Table 12. Surface Water Monitoring in Draft Permit

Ambient Surface Water Monitoring Requirements				
Parameter	**Unit of Measurement**	**Sample Location**	**Sample Frequency**	**Sample Type**
Total Ammonia (as N)	mg/L	Upstream	1/month	Grab
pH	std units	Upstream	1/month	Grab
Temperature	C	Upstream	1/month	Grab

D. Electronic Submission of Discharge Monitoring Reports

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

The EPA currently conducts free training on the use of NetDMR. Further information about NetDMR, including upcoming trainings and contacts, is provided on the following website: https://netdmr.epa.gov. The permittee may use NetDMR after requesting and receiving permission from EPA Region 10.

Part III B of the Permit requires that the Permittee submit a copy of the DMR to Confederated Tribes of the Warm Springs Indian Reservation of Oregon Water Control Board. Currently, the permittee may submit a copy to Confederated Tribes of the Warm Springs Indian Reservation of Oregon Water Control Board by one of three ways: 1. A paper copy may be mailed. 2. The email address for Confederated Tribes of the Warm Springs Indian Reservation of Oregon Water Control Board may be added to the electronic submittal through NetDMR, or 3. The permittee may provide Confederated Tribes of the Warm Springs Indian Reservation of Oregon Water Control Board viewing rights through NetDMR.

VII. Sludge (Biosolids) Requirements

EPA Region 10 separates wastewater and sludge permitting. EPA has authority under the CWA to issue separate sludge-only permits for the purposes of regulating biosolids. 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.

VIII. Other Permit Conditions

A. Compliance Schedules

Compliance schedules are authorized by federal NPDES regulations at 40 CFR 122.47. Compliance schedules allow a discharger to phase in, over time, compliance with water quality-based effluent limitations when limitations are in the permit for the first time. EPA has found that a compliance schedule is appropriate for the Warm Spring WWTP because Warm Spring WWTP cannot immediately comply with the new effluent limits for ammonia of 1.4 and 3.8 mg/L on the effective date of the permit. DMR data shows the Warm Spring WWTP consistently has difficulty meeting current ammonia limits. Violations for ammonia discharge limit violations was one of the primary reasons the Tribe requested assistance from IHS that resulted in IHS project PO-19-M63 Warm Springs Community Wastewater Treatment Plant Improvements. One principle goal of the project scope is to identify and construct a solution to allow the Warm Springs WWTP to consistently meet proposed ammonia limits. The compliance schedule found in the proposed permit will be linked to the schedule for IHS project PO-19-M63. Monitoring and reporting must be completed in accordance with Table 1. Effluent Limitations and Monitoring Requirements for the duration of the compliance schedule and the permit.

B. Quality Assurance Plan

The Tribe is required to update the Quality Assurance Plan within 180 days of the effective date of the final permit. The Quality Assurance Plan 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 EPA upon request.

C. Operation and Maintenance Plan

The permit requires the Tribe to properly operate and maintain all facilities and systems of treatment and control. Proper operation and maintenance are 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 final permit. The plan must be retained on site and made available to the EPA upon request.

D. Sanitary Sewer Overflows & Proper O&M of the Collection System

Sanitary Sewer Overflows (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.

E. Environmental Justice

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

The Warm Springs WWTP is located within or near a Census block group that is potentially overburdened because of the following EJScreen indices: PM2.5, Ozone, NATA Air Toxics Cancer Risk, NATA Respiratory Hazard Index, Lead Paint Indicator, Superfund Proximity, and Wastewater Discharge Indicator.

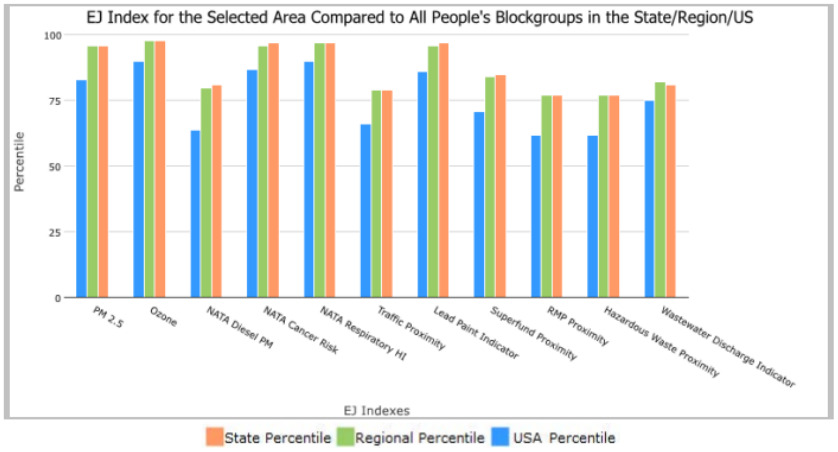
EJSCREEN Report (Version 2019)

the User Specified Area, OREGON, EPA Region 10

Approximate Population: 174

Input Area (sq. miles): 1.67

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	96	96	83
EJ Index for Ozone	98	98	90
EJ Index for NATA* Diesel PM	81	80	64
EJ Index for NATA* Air Toxics Cancer Risk	97	96	87
EJ Index for NATA* Respiratory Hazard Index	97	97	90
EJ Index for Traffic Proximity and Volume	79	79	66
EJ Index for Lead Paint Indicator	97	96	86
EJ Index for Superfund Proximity	85	84	71
EJ Index for RMP Proximity	77	77	62
EJ Index for Hazardous Waste Proximity	77	77	62
EJ Index for Wastewater Discharge Indicator	81	82	75



In order to ensure that individuals near the facility are able to participate meaningfully in the permit process, EPA will work collaboratively with the Tribe to conduct enhanced outreach activities such as posting the draft permit and fact sheet in public places, the Tribe's website, and other media the Tribe feels is necessary to ensure membership are able to participate in the review and comment period.

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

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

F. Design Criteria

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

G. Pretreatment Requirements

Since the Tribe does not have an approved POTW pretreatment program per 40 CFR 403.8, EPA is also the Control Authority of industrial users that might introduce pollutants into the Warm Spring WWTP.

Special Condition Section II.E of the permit 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 sections 307 (b) and (c) and 402(b)(8) of the Clean Water Act, 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. 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.

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

H. Standard Permit Provisions

Sections III, IV and V of the draft permit 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.

IX. Other Legal Requirements

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. A review of the threatened and endangered species found bull trout and Middle Columbia steelhead as threatened species found in the vicinity of Warm Spring's WWTP discharge. EPA has determined the discharge proposed by this permit will have no effect on threatened and endangered species. See Appendix E.

B. Essential Fish Habitat

Essential fish habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires the EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect EFH (i.e., reduce quality and/or quantity of EFH). A review of the Essential Fish Habitat documents shows that the Middle Columbia steelhead uses the area of Shitike Creek near the proposed discharge as a migrational corridor.

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

The EPA has determined that issuance of this permit will not adversely affect EFH.

C. Tribal Certification

Section 401 of the CWA requires the EPA to seek State or Tribal certification before issuing a final permit. As a result of the certification, the State or Tribe may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards, or treatment standards established pursuant to any State or Tribal law or regulation. Since this facility discharges to tribal waters of the Confederated Tribes of Warm Springs and the Tribe has been approved for TAS from the EPA for purposes of the Clean Water Act, the Confederated Tribes of Warm Springs is the certifying authority. EPA requested final certification under Section 401 of the CWA from the Confederated Tribes of Warm Springs on February 23rd, 2021.

D. Antidegradation

In addition to water quality-based limitations for pollutants that could cause or contribute to exceedances of numeric or narrative criteria, EPA must consider the Tribe's antidegradation policy (Section 432.020). This policy is designed to protect existing water quality when the existing quality is better than that required to meet the standard and to prevent water quality from being degraded below the standard when existing quality just meets the standard. For high quality waters, antidegradation requires that the Tribe find that allowing lower water quality is necessary to accommodate important economic or social development before any degradation is authorized. This means that, if water quality is better than necessary to meet the water quality standards, increased permit limits can be authorized only if they do not cause degradation or if the Tribe makes the determination that it is necessary. Because the limits in the draft permit are protective of the Shitike Creek's designated uses, the draft permit complies with the Tribe's antidegradation policy.

E. Permit Expiration

The permit will expire five years from the effective date.

X. References

Confederated Tribes of Warm Springs. *Water Quality Standards, Beneficial Uses, and Treatment Criteria*. July 20th, 2006. https://www.epa.gov/sites/production/files/2014-12/documents/confederated-tribes-warmsprings.pdf

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

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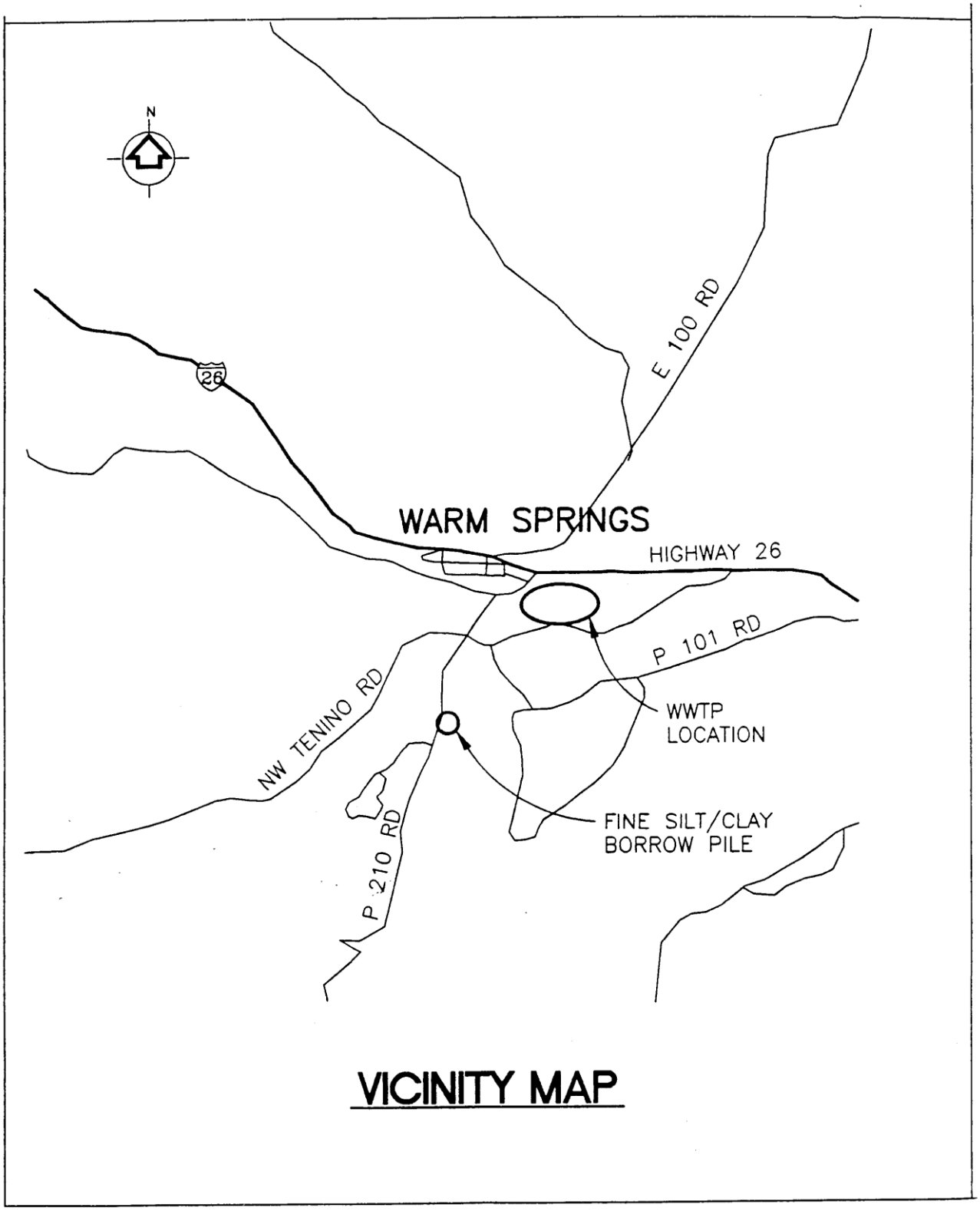
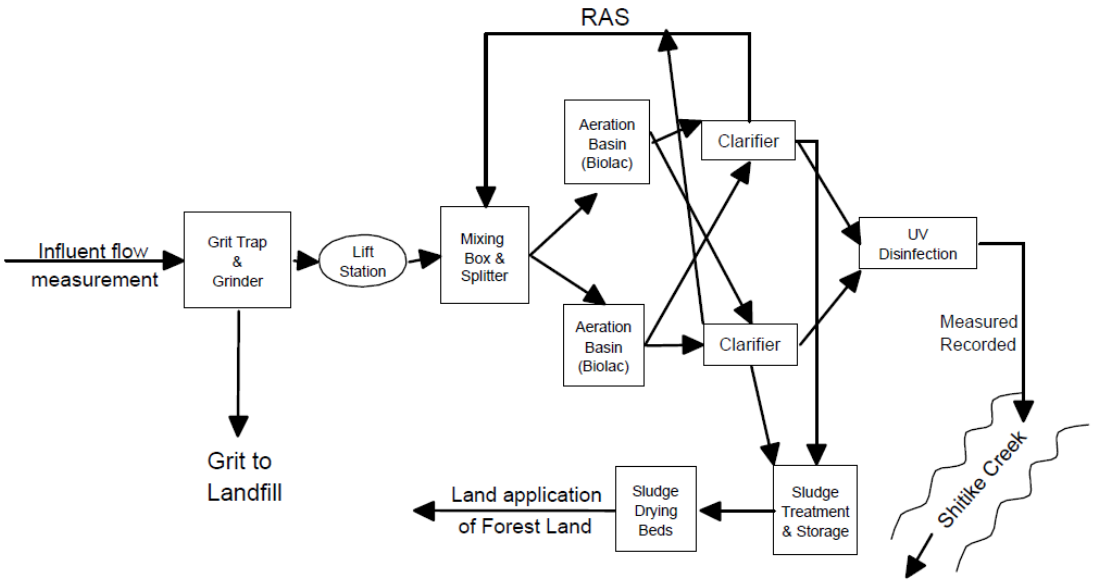
EPA. 1986. *Quality Criteria for Water.* Environmental Protection Agency. Office of Water Regulations and Standards. EPA 440/5-86-001. https://www.epa.gov/sites/production/files/2018-10/documents/quality-criteria-water-1986.pdf

Oregon Department of Environmental Quality. Chapter 340 Division 41. *Water Quality Standards: Beneficial Uses, Policies, and Criteria for Oregon.* https://secure.sos.state.or.us/oard/displayDivisionRules.action;JSESSIONID_OARD=d10bJnhkX3j7Ca7j9aekUfaW8JohOPKVmKg1DvUMdmXtRi9F-PZM!-528628539?selectedDivision=1458

Appendix A. Facility Information





Process Flow Diagram for the Warm Springs Wastewater Treatment Plant

Appendix B. Water Quality Data

A. Treatment Plant Effluent Data

Parameter	Flow, in conduit or thru treatment plant	BOD, 5-day, 20 deg. C Apr 1 - Oct 31	BOD, 5-day, 20 deg. C Apr 1 - Oct 31	BOD, 5-day, 20 deg. C Apr 1 - Oct 31	BOD, 5-day, 20 deg. C Apr 1 - Oct 31	BOD, 5-day, 20 deg. C Nov 1 - Mar 31	BOD, 5-day, 20 deg. C Nov 1 - Mar 31	BOD, 5-day, 20 deg. C Nov 1 - Mar 31	BOD, 5-day, 20 deg. C Nov 1 - Mar 31	BOD, 5-day, 20 deg. C	Solids, total suspended Apr 1 - Oct 31	Solids, total suspended Apr 1 - Oct 31	Solids, total suspended Apr 1 - Oct 31	Solids, total suspended Apr 1 - Oct 31	Solids, total suspended Nov 1 - Mar 31	Solids, total suspended Nov 1 - Mar 31	Solids, total suspended Nov 1 - Mar 31	Solids, total suspended Nov 1 - Mar 31	Solids, total suspended
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Percent Removal	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Percent Removal
Statistical Base	MO AVE	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MIN % RMV	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MIN % RMV
Limit Units	MGD	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	%	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	%
Current Limit	0.87	10	73	15	109	30	218	45	327	85	10	73	15	109	30	218	45	327	85
01/31/2005						1.3	2.8	5	11.3	98.2					4.8	10.2	8	18.1	93.1
02/28/2005	0.181					1.8	3.1	4	7	98					6	10.4	8	14.1	89.9
03/31/2005	0.196					3.2	6.1	10	20.7	97.4					9.2	17.8	23	47.6	89.9
04/30/2005	0.192	2	4.5	4.4	18.1					93.3	6.8	12.96	15.6	29.94					91.3
05/31/2005	0.241	5.8	12.5	6	17					94.3	8.5	12.96	15.6	29.94					91.5
06/30/2005	0.212	1.42	2.68	4.4	8.92					98.9	7	12.96	15.6	29.94					95.7
07/31/2005	0.216	4.5	10.1	6	12.6					96	14.3	31.7	24	50.2					89.7
08/31/2005	0.235	1.8	3.7	3	6.7					98.7	3.8	7.6	5	11.2					97.5
09/30/2005	0.233	2.3	5.8	3	7.4					98.4	7.3	17.7	10	21.4					95.2
10/31/2005	0.24	3	5.6	6	10.3					97.9	7.5	14.1	15	25.8					95
11/30/2005	0.23					1.9	4.2	2.7	6.2	98.6					6.1	13.3	12	25.7	96.5
12/31/2005	0.22					3.9	10.6	9.1	27.8	96.3					5.7	15.2	10.7	32.7	91.8
01/31/2006	0.269																		
02/28/2006	0.259					4.6	12.8	8.7	8.7	97.4					9	23.6	14	37.4	98.9
03/31/2006	0.234																		
04/30/2006	0.225																		
05/31/2006	0.239										15.2	15.2	15.2	47.4					98.4
06/30/2006	0.24																		
07/31/2006	0.238	0.5	1.2	2	4.6					99.7									
08/31/2006	0.24																		
09/30/2006	0.229																		
10/31/2006	0.2133																		
11/30/2006	0.226																		
12/31/2006	0.241														2.5	2.9	10	11.8	99.6
01/31/2007	0.237																		
02/28/2007	0.246					2	4.8	8	19.1	99.6					10.1	24.1	40.3	96.5	99.4
03/31/2007	0.293					0.3	0.6	1	2.3	99.8									
04/30/2007	0.232	1	2.2	2	4.5					99.8	2.2	4.8	3.3	7.2					99.7
05/31/2007	0.225																		
06/30/2007	0.223																		
07/31/2007	0.233	4.6	9.8	23	48.9					99.3	6.7	14.3	33.6	71.5					99.2
08/31/2007	0.231																		
09/30/2007	0.237																		
10/31/2007	0.244										2	4.2	10	20.9					99.8
11/30/2007	0.224																		
12/31/2007	0.229																		
01/31/2008	0.242																		
02/29/2008	0.286																		
03/31/2008	0.26																		
04/30/2008	0.235																		
05/31/2008	0.211																		
06/30/2008	0.236																		
07/31/2008	0.255																		
08/31/2008	0.222																		
09/30/2008	0.229	0.4	0.7	2	3.5					99.9									
10/31/2008	0.256																		
11/30/2008	0.233																		
12/31/2008	0.218																		
01/31/2009	0.23																		
02/28/2009	0.24																		
03/31/2009																			
04/30/2009	0.249										4	8.1	16	32.3					98.8
05/31/2009	0.247																		
06/30/2009	0.257																		
07/31/2009																			
08/31/2009	0.274																		
09/30/2009	0.302	5.1	9	25.4	45.1					99.2	5.6	9.9	28	49.7					99.3
10/31/2009	0.276																		
11/30/2009	0.223																		
12/31/2009	0.263														1.21	2.56	1.21	2.56	100
01/31/2010	0.287																		
02/28/2010	0.29																		
03/31/2010	0.257					0.6	1.4	3.14	6.9	99.8					7.81	16.72	8.73	18.89	100
04/30/2010	0.264	1.6	3.2	3.55	6.8					99.7									
05/31/2010	0.303	1.3	2.8	3	6.4					99.5									
06/30/2010	0.295	3.3	6.2	5.7	11.8					99.5									
07/31/2010	0.34	4.1	8.5	6.6	13.5					99.1					2.5	5.1	10	20.3	99.4
08/31/2010	0.32	3.1	7.1	4	9.8					99.2									
09/30/2010	0.302	15	34.7	55.8	130.3					97.6	4.8	10	24	49.8					98.2
10/31/2010	0.293	2.2	4.6	3.5	7.4					99.6	12.8	24	40	73.1					97.8
11/30/2010	0.293					3.8	7.8	5.4	10.3	99.5					2.8	6.9	14	34.3	99.8
12/31/2010	0.281					3.3	5.9	6.4	12.7	99.6					20.5	36.8	31	56.9	98.8
01/31/2011	0.272					6.7	18.8	11.3	34.9	98					10.3	23.5	30	69.8	98.3
02/28/2011	0.289					7	17.3	9.6	28.3	96.6					11.8	28.5	18	40.3	95.2
03/31/2011	0.293					11.9	27.1	26.2	62.3	96.7					28	64	62.9	149.5	94.5
04/30/2011	0.265	9.1	18.3	10.3	21					97.7	43.3	86.7	56	105.1					91.5
05/31/2011	0.244	18.4	34.2	31.9	59.9					94.6	39	72	43	85.4					93.4
06/30/2011	0.307	60	122	190	380					64	99.9		310						63.3
07/31/2011	0.248	15.5	34.4	24.3	56.5					93.9	24.3	52.8	51	111					93.9
08/31/2011	0.273	4.6	10	10.2	22.5					98.6	5	9.6	14	29.5					99.6
09/30/2011	0.303	4.4	8.5	10	20.1					98.9	25.8	43	103	171.8					97.8
10/31/2011	0.28	7.3	16.3	21.3	48					96.8	7.8	17.3	18	40.5					97.1
11/30/2011	0.31					3.7	7.6	4.6	8.7	99.2					4.4	9.3	11	24.4	98.7
12/31/2011	0.265					3.5	10	5.05	16.4	98.5					4	13	16	52	99.6
01/31/2012	0.283					5.8	13.5	7.3	19.1	97.4					4.4	11.1	11	29.5	99.1
02/29/2012	0.295					8.1	16	9.89	22.8	97.8					14.4	29.5	16.6	37.1	97.3
03/31/2012	0.29					8	15.8	10.7	24.6	98.1					7	12.4	15	34.5	99
04/30/2012	0.45	7.8	15.4	12.7	29.4					97.76	10	21	23.3	30.2					97.89
05/31/2012	0.264	7.8	15.4	12.7	29.4					98	18.8	37	38	88.1					98
06/30/2012	0.285	6.1	11.9	11.6	23.2					98.9	12.5	24.4	21	42					98.6
07/31/2012	0.251	3.6	6.5	5.8	8.9					98.7	442	973	533	1116					97.1
08/31/2012	0.265	3.3	456	4.7	622					99.5	4.7	866	7.3	1235					99.9
09/30/2012	0.249	2.7	3.7	3	4.3					98.8	99.5	2280	99.8	3584					99.8
10/31/2012	0.219	8	198	10.9	161					93.9	10.9	382	18.8	537					91.5

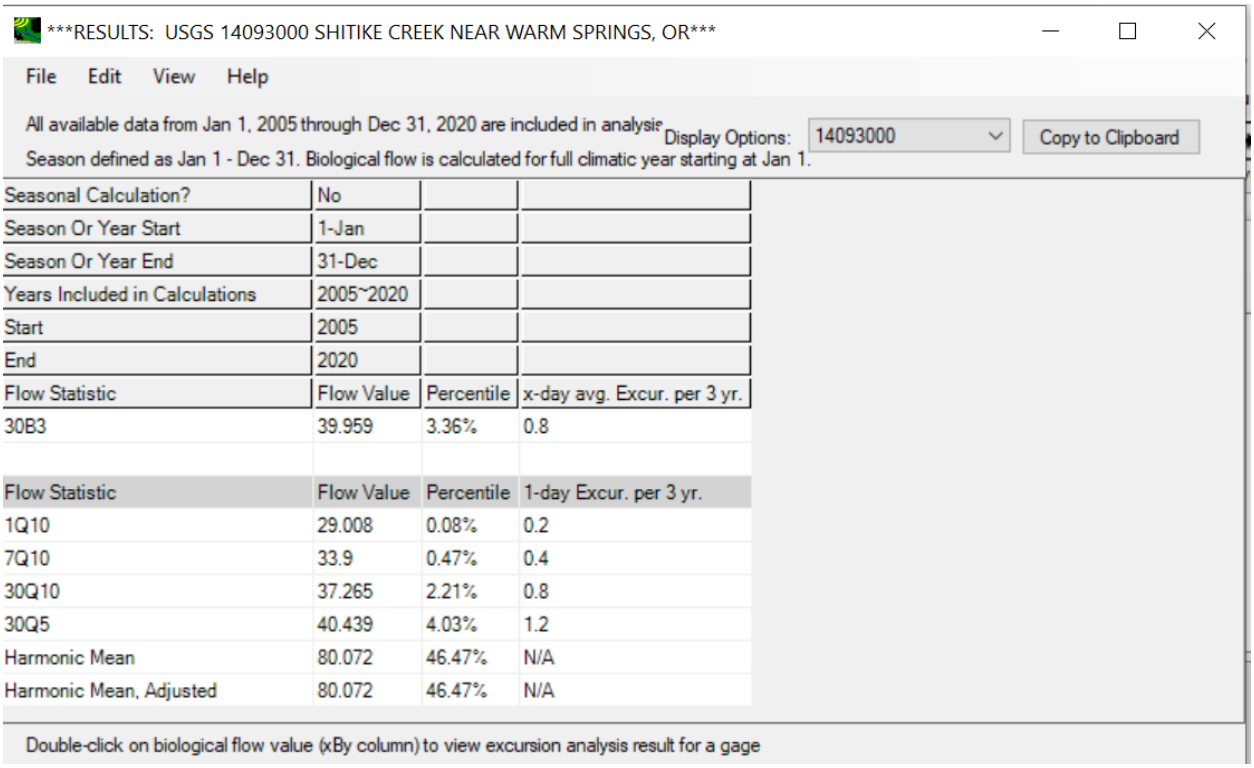
Parameter	Flow, in conduit or thru treatment plant	BOD, 5-day, 20 deg. C Apr 1 - Oct 31	BOD, 5-day, 20 deg. C Apr 1 - Oct 31	BOD, 5-day, 20 deg. C Apr 1 - Oct 31	BOD, 5-day, 20 deg. C Apr 1 - Oct 31	BOD, 5-day, 20 deg. C Nov 1 - Mar 31	BOD, 5-day, 20 deg. C Nov 1 - Mar 31	BOD, 5-day, 20 deg. C Nov 1 - Mar 31	BOD, 5-day, 20 deg. C Nov 1 - Mar 31	BOD, 5-day, 20 deg. C	Solids, total suspended Apr 1 - Oct 31	Solids, total suspended Apr 1 - Oct 31	Solids, total suspended Apr 1 - Oct 31	Solids, total suspended Apr 1 - Oct 31	Solids, total suspended Nov 1 - Mar 31	Solids, total suspended Nov 1 - Mar 31	Solids, total suspended Nov 1 - Mar 31	Solids, total suspended Nov 1 - Mar 31	Solids, total suspended
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Percent Removal	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Percent Removal
Statistical Base	MO AVE	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MIN % RMV	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MO AVG	MO AVG	WKLY AVG	WKLY AVG	MIN % RMV
Limit Units	MGD	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	%	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	mg/L	lb/d	%
Current Limit	0.87	10	73	15	109	30	218	45	327	85	10	73	15	109	30	218	45	327	85
11/30/2012	0.241					16.5	296	12.6	713	93					28.3	631	39.2	1332	92
12/31/2012						6	104	3.8	348						10	180	28	1660	
01/31/2013						6.5	9.1	10.9	14.6	95.9					12.6	17.5	26	34.9	96.2
02/28/2013						15.4	21	36	46.8	92.3					26.4	37.7	39	61.5	91.8
03/31/2013	0.1979					65.3	96.7	90	141.1	46.7					43.1	64.3	70	109.8	87.6
04/30/2013		82.8	139.9	120	193.2					80	45.4	77.7	89.1	89.2					90
05/31/2013		46	86.9	90	219.2					84	48.5	95.1	98.3	239.4					89.7
06/30/2013		12.3	24	18	37.2					97	14.3	28.1	22.9	47.4					97
07/31/2013	0.232	10.6	17.8	13	23.3					97	13	21.6	19.3	29.7					98
08/31/2013	0.274	13	22.8	18	31.6					97	13.8	24.3	19.3	35.9					95
09/30/2013	0.2	7	11.3	10	17.3					98	9.7	15.5	12.6	20.7					94
10/31/2013	0.1795	20.2	420	33	600					99.4	17.8	319	34.5	758					91.9
11/30/2013						11	183	3	200	93.7					14.9	196	10.9	118	95.3
12/31/2013	0.225					16.2	269	8	96	85					64	425	14.2	83	77.6
01/31/2014	0.2					18	387	35	185	93.1					78	543	17	204	84
02/28/2014	0.18					26.3	708	51	110	72.3					64.6	1171	134	700	87.5
03/31/2014	0.257					15	297	22	250	91.6					33.7	654	49.5	523	79.3
04/30/2014	0.244	9	19.4	17	35.4					96.2	17.7	38.3	28.5	61.6					91.4
05/31/2014	0.249	14.3	29.7	20	44.9					92.1	17.2	29.7	22.8	44.9					89.3
06/30/2014	0.286	19.5	29.4	28	33.9					93.7	21.2	35.5	23.7	42.3					89
07/31/2014	0.2812	8.8	21.9	11.5	27.4					94.9	14	351	23	554					95
08/31/2014		11.7	24.7	16	29.8					94	18.6	39.6	26	48.4					91
09/30/2014		8.6	16.1	14	25.9					93.2	9	16.7	11.8	20.7					94.8
10/31/2014		4	555	2	190					98									
11/30/2014						3.5	195	1	140	96					10.9		18.8		93
12/31/2014						20.3	115	2	74	90					54.3		1		89
01/31/2015	0.0082					10.3	165	5	48	68					30.5	252	9.6	74	25
02/28/2015	0.1567					6.7	183	4	83	90					14.4	226	6	82	67
03/31/2015	0.2173					13.2	142	3.4	48	66.9					19	154	9.3	94	81.9
04/30/2015	0.227	6	11.2	12.7	26.2					96.2	9.1	17.3	18.5	38.7					96.3
05/31/2015	0.217	23.9	52.2	27.8	59.4					74.2	90	202	158	357.1					20
06/30/2015	0.4	19.8	32.4	33.6	69.8					94	45.3	82.1	92	203.3					89
07/31/2015	0.252	9.1	19.26	14.7	31.1					94	1	32.1	15.2	63.8					91.7
08/31/2015	0.252	5.6	30.35	7.8	96.7					96.7	10	21.5	50	50					68.8
09/30/2015	0.252	3.1	5.12	5.6	20.5					97.5	1	8.7	13	18.9					94.5
10/31/2015	0.561	2.4	4.2	3.9	6.8					99.1	3.5	14.4	13	23.4					97.5
11/30/2015	0.465					2.1	255	5.6	159	99.1					10.5	573	15	264	98.3
12/31/2015	0.767					6.3	130	11.5	106	95.9					6.3	199	11.5	286	96.2
01/31/2016	0.494					27.7	120	14	100	91.5					26	245	29	308	93.1
02/29/2016	0.211					5.4	204	14.9	129	95.8					16.2	330	28	684	90.8
03/31/2016	0.278					19.2	245	28.6	167	87.4					27.3	384	40	662	79.1
04/30/2016	0.201	8.1	14.1	13.3	23.6					95.4	14.3	24.8	19	33.8					91.3
05/31/2016	0.2053	13.2	24.4	19	38.5					94.2	20.2	36	28	56.7					80.7
06/30/2016	0.212	20.6	34.8	25	40.4					90.8	27	45.4	36	58.2					86.4
07/31/2016	0.283	22.3	39.7	25.5	45.9					91.9	71	1273	92	165.7					82
08/31/2016	0.246	64.5	130	270	502					90.1	73.2	182.9	174	555.8					48.1
09/30/2016	0.285	4.3	7.8	10.5	20					97.6	7.6	13.5	18	34.2					97.7
10/31/2016	0.2283	17.8	37.4	37.5	76.6					73.6	19	39.7	38	77.6					93.3
11/30/2016	0.2124					18.3	32.7	23.7	43.5	87.4					334	59.1	450	79.6	92.2
12/31/2016	0.1711					14.7	14.7	26.4	26.4	85					20.4	104.1	29	34.7	82.9
01/31/2017																			
02/28/2017																			
03/31/2017																			
04/30/2017																			
05/31/2017																			
06/30/2017																			
07/31/2017																			
08/31/2017																			
09/30/2017																			
10/31/2017																			
11/30/2017																			
12/31/2017																			
01/31/2018	0.1798					3.4	488	12.1	973	98.9					2.2	410	2	150	98.6
02/28/2018	0.1986					2.3	3.3	5	5	99.7					3.7	5048	7.6		99.9
03/31/2018	0.1904					8	657	15	1126	97.8					8.5	12.5	15.2	25.5	98.5
04/30/2018	0.205	3.8	6	7	10.7					99	6.5	10.4	8.6	13.5					97.8
05/31/2018	0.201	0.6	5.1	3	5.1					99.9	1.1	1.9	3.4	5.8					99.9
06/30/2018	0.1969	1.5	2.1	2	2.9					99.6									100
07/31/2018	0.1602	32.3	46	50	75.5					93.8	21.3	30.4	32.3	48.8					98
08/31/2018	0.19	62.5	87.5	90	130.6					89.1	30.1	41.6	41	59.5					97.6
09/30/2018	0.1393	3.8	4.9	9	11.2					99.3	4.9	6.5	9	11.2					99.6
10/31/2018	0.1824	2.2	3.4	5	8.3					99.8	5.2	8	9.1	15					99.7
11/30/2018	0.1815					7.5	11.8	17	26.2	97					10.2	16	20.9	32.2	96.4
12/31/2018	0.1748					2.8	4.7	4	7.1	98.4					2.9	4.8	6.5	10.3	98.9
01/31/2019	0.1628					2.4	3.7	3	4.6	99.3					6.9	10.6	6.89	8.9	98.6
02/28/2019	0.1529					7.8	11.9	13	19.4	99					9.1	13.7	16	23.9	99.5
03/31/2019	0.1738					6.4	10.8	10	15.3	97.5					5	8	13.3	20	98.2
04/30/2019	0.2268	9.9	15.3	12.5	28.7					96	7.4	9.1	13.6	23.5					98.9
05/31/2019	0.2139	14.5	30.3	19	41.8					85.5	19.7	45.3	33.3	99.4					47.4
06/30/2019	0.2283	14	22	28	38.3					97	12.3	27.7	15.5	54.2					95.9
07/31/2019	0.219	14.4	22.4	18	29.6					87	15.7	24.6	30	49.3					69.5
08/31/2019	0.23	4.4	7.4	7.5	13.9					97.2	5.6	10	10.4	18.6					92.3
09/30/2019	0.209	9.5	16.9	12	21					95.6	8.8	15.2	16.5	27.8					97.3
10/31/2019	0.184	4.2	6.3	13	19.1					99.2	8.5	12.7	19	27.9					79.7
11/30/2019	0.168					4.4	6.2	12	16.8	98.6					11.8	16.9	16	22.7	97.2
12/31/2019	0.184					6.8	9.7	20	28.2	96.9					17.8	25.9	45.3	63.8	90.8
01/31/2020	0.196					2.8	4.6	3	5.2	98.2					5.7	9.4	13.3	22.7	96.1
02/29/2020	0.202					2.5	4.4	5	8.6	98.4					18.5	32.1	36.8	64.1	85.8
03/31/2020	0.189					10	15.6	26	40.1	91.6					14.8	23.3	33.6	51.8	89.8
04/30/2020											38.7	61.5	52.3	94.2					85
05/31/2020											35.3	58	50.8	83.5					70.6
06/30/2020											66.4	109.1	78	128.2					53.3
Average	0.24654231	11.83627	42.9721	22.962	64.842	9.118519	103.52	13.0663	108.41	94.46766	26.276389	121.447606	44.8111111	172.052394	22.0539286	230.625556	29.9969643	164.987736	91.0882031
Minimum	0.0082	0.4	0.7	2	2.9	0.3	0.6	1	2.3	46.7	1	1.9	3.3	5.8	1.21	2.56	1	2.56	20
Maximum	0.767	82.8	555	270	622	65.3	708	90	1126	99.9	442	2280	533	3584	334	5048	450	1660	100
Count	156	75	75	75	75	54	54	54	54	128	72	71	72	71	56	54	56	53	128
Std Dev	0.07354247	15.571	96.2407	40.621	120.93	10.12885	161.33	14.71183	218.66	8.038516	54.545819	338.065111	74.5180318	469.782505	45.5488025	705.484291	60.9180535	316.365816	13.1659835
CV	0.29829553	1.315533	2.23961	1.7691	1.8649	1.1108	1.55843	1.125937	2.017	0.085093	2.0758491	2.78362928	1.66293649	2.73046188	2.06533735	3.05900311	2.03080728	1.91751111	0.14454104
95th Percentile	0.4766	44.38	104.5	66	154.36	20.08	441.4	26.32	811.8	99.615	71.77	254.15	115.1	426.015	49.54	556.7	44.24	644.3	99.71
5th Percentile	0.15518	1.92	3.88	2.6	6.12	2.32	3.84	2.2	5.04	74.11	1.065	7.475	8.86	12.695	3.06	8.14	2.8	10.785	48.065
90th percentile	0.2858	23.58	50.96	36.72	92.68	18.84	251	25.08	163.8	99.23	60.07	160.76	87.8	192.02	29.22	404.8	38.72	305.8	98.96

Parameter	Nitrogen, ammonia total [as N]	Nitrogen, ammonia total [as N]	Nitrogen, ammonia total [as N]	Nitrogen, ammonia total [as N]	pH	pH	E. coli	E. coli	Temperature
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	DAILY MAX	DAILY MAX	MO AVG	MO AVG	INST MAX	INST MIN	INST MAX	MO GEO MN	MO AVG
Limit Units	mg/L	lb/d	mg/L	lb/d	SU	SU	#/100mL	#/100mL	C
Current Limit	6.8	49.3	2.4	17.4	8.5	6.5	406	126	
01/31/2005					8.7	6	308	0.745	9.3
02/28/2005	0.5				7.2	6.5	1	0.317	9.8
03/31/2005	2.6				7	6.5	117	0.651	15.8
04/30/2005	1	2	0.25	0.5	7.4	6.5	10	0.562	14.1
05/31/2005	4	11.31	2	5.65	7.3	6.6	111	7.04	13.2
06/30/2005	2	3.42	1	1.74	7.2	6.5	23	4	17.5
07/31/2005					8.4	7	12	2.213	21.4
08/31/2005					7.8	6.8	2	0.095	22.9
09/30/2005	16	34.29	5.33	11.43	7.2	6.8	34	5.89	20.1
10/31/2005	14	37.3	9.25	20.1	8.4	7	15	5.73	14.4
11/30/2005	13	27.8	7.28	15.6	8.4	7	1	0.25	13.7
12/31/2005	12	27.6	6	13.8	8	6.7	28	2.55	13.6
01/31/2006	0.163	0.46	0.163	0.23	7.3	6.5	6.3	3.52	12.2
02/28/2006	0.115	0.31	0.115	0.31	7.2	6.7	126	18.63	12.9
03/31/2006	0.882	2.71	0.882	2.71	7.8	6.4			10
04/30/2006	0.23	0.58	0.23	0.58	7.4	6.6	726	2.44	12.7
05/31/2006	0.057	0.16	0.057	0.16	7.5	6.6	14.6	28.34	12.9
06/30/2006	0.31	0.68	0.31	0.68	8	7	7.5	4.16	16.3
07/31/2006	0.21	0.42	0.21	0.42	7.8	7.1	10.9	6.43	13.3
08/31/2006	1.11	2.3	1.11	2.3	7.6	6.5	14.8	5.44	
09/30/2006	0.12	0.23	0.12	0.23	7.5	6.9	6.3	2.5	14.5
10/31/2006	0.24		0.24		7.9	6.8	45.9	2.11	17.58
11/30/2006					7.8	6.9	5.2	0.85	16.1
12/31/2006	1.78		1.78		7.5	6.9	1	0.18	13.4
01/31/2007	0.41	1.01	0.41	1.01	7.4	6.5	0.18	0.18	13.6
02/28/2007	1.36	3.01	1.36	3.01	7.8	6.9	0.242	0.242	11.8
03/31/2007	0.26	0.62	0.26	0.62	7.8	7.1	0.7	0.7	13.6
04/30/2007	1.89	3.88	1.89	3.88	7.8	6.9	1	1	14.6
05/31/2007	1.49	3.27	1.49	3.27	7.7	6.5	11	1.02	15.1
06/30/2007	5.42	12.79	5.42	12.79	7.8	7	12.1	4.74	15.2
07/31/2007	6.27	15.16	6.27	15.16	7.5	6.7	2420	28.4	21.7
08/31/2007	0.27	0.58	0.27	0.58	7.2	6.5	7.4	0.927	20.1
09/30/2007	3.69	9.82	3.69	9.82	7.2	6.7	14.6	0.879	19.3
10/31/2007	0.66	1.3	0.66	1.3	7.5	6.8	272	5.26	17.8
11/30/2007	0.43	0.95	0.43	0.95	7.8	7	1	0.316	17.02
12/31/2007					7.8	6.9	3.1	0.887	16.6
01/31/2008	0.33	0.67	0.33	0.67	7.6	6.5	90.8	12.55	13.4
02/29/2008	0.94	2.74	0.94	2.74	7.6	7	5.2	1.51	12
03/31/2008	2.92	9.03	2.92	9.03	7.2	6.9	27.9	8.82	14.2
04/30/2008	0.43	0.94	0.43	0.94	7.3	6.9	3.1	0.08	15.5
05/31/2008	0.2	0.39	0.2	0.39	7.3	7	2	0.04	16.6
06/30/2008	0.39	0.86	0.39	0.86	7.4	6.6	2	0.14	20.1
07/31/2008	6.33	16.1	6.33	16.1	7.3	6.8	38.9	11.2	21.9
08/31/2008	2.9	6.66	2.9	6.66	7.3	6.7	435	9.99	21.9
09/30/2008	0.43	0.87	0.43	0.87	7.4	7	7.3	0.32	21.5
10/31/2008	1.06	2.36	1.06	2.36	7.3	7	14.6	0.232	21.4
11/30/2008	1.02	2.08	1.02	2.08	7.3	7	4.1	0.597	21.4
12/31/2008	1.83	3.74	1.83	3.74	7.3	7	90.6	11.14	21.4
01/31/2009	13.9	27.24	13.9	27.24	6.7	6.5	11	0.321	
02/28/2009					7.9	6.7	20	6.7	
03/31/2009					7.4	6.8	108	33	
04/30/2009	0.62	1.27	0.62	1.27	7.6	6.5	54.3	2.47	14.1
05/31/2009	1.02	2.37	1.02	2.37	7.3	6.8		0.01	18
06/30/2009	1.14	2.4	1.14	2.4	7.3	7.2	6.2	0.66	18.4
07/31/2009	1.17	2.04	1.17	2.04	7.3	6.6	1	0.031	20.8
08/31/2009					7.3	7	20.6	4.77	21.4
09/30/2009	1.63	4.76	1.63	4.76	7.5	6.8	124	0.17	19.6
10/31/2009	1.69	2.73	1.69	2.73	7.4	7	5.1	0.57	16.5
11/30/2009					7.5	7.1	1	0.1	14.3
12/31/2009	4.1		0.1		7.3	7	4.1	0.1	11.6
01/31/2010	1.4	2.9	1.4	2.9	7.6	6.9	9.7	2.1	12
02/28/2010	3.07	6.43	3.07	6.43	7.6	6.7	12.1	3.4	10.7
03/31/2010	101		15		7.4	6.9	101	15	11
04/30/2010	12.4	23.89	10.58	20.24	7.6	7.1	18.1	2.1	
05/31/2010	11	21.56	10.6	20.52	7.2	7	1	1	15
06/30/2010	9.93	19.3	9.93	19.3	7.5	7.2	3.1	1.25	14.7
07/31/2010	5.72	13.36	5.72	13.36	7.4	7	57.1	12.9	18.5
08/31/2010	1.44	3.25	1.44	3.25	7.5	7	7.4	2.8	18.8
09/30/2010	1.6	3.32	1.6	3.32	7.3	6.9	12.2	2.2	15
10/31/2010	7.71	16.2	4.4	9.06	7.3	7	31.3	2.37	16.9
11/30/2010	2.58	5.5	2.58	5.5	7.2	7	16	3.95	15.4
12/31/2010	5.92	10.86	5.92	10.86	7.5	6.9	228	32.56	9.9
01/31/2011	8.73	20.31	8.73	20.31	7.3	6.6	517	255	8.5
02/28/2011	7.48	16.84	7.48	16.84	7.2	7	649	27	9.1
03/31/2011	8.88	21.55	8.88	21.55	7.4	7.1	2420	631	10.6
04/30/2011	11	22.38	11	22.38	7.5	6.7	2420	1644	11
05/31/2011	11.2	21.02	11.2	21.02	7.2	7	2420	588	10.9
06/30/2011	10.7	20.35	10.7	20.35	7.5	7.3	2420	331	10.7
07/31/2011	10.6	21.22	10.6	21.22	7.4	7.1	194	27.4	10.6
08/31/2011	7.26	16.05	7.26	16.05	7	6.7	48.8	5.9	18.6
09/30/2011	0.21	0.4	0.21	0.4	7.1	6.9	1	1	16.2
10/31/2011	8.41	18.94	8.41	18.94	7.4	6.9	2420	47.4	16.9
11/30/2011	2.2	4.5	2.2	4.5	7.3	7	4.1	1.9	15
12/31/2011	0.75	1.41	0.75	1.41	7.4	7.1	5.2	2.1	9.8
01/31/2012	2.97	5.4	2.97	5.4	7.3	7	2	1.1	10.6
02/29/2012	3.29	3.32	3.29	3.32	7.2	7	2	1.4	12.8
03/31/2012	6.77	13.78	6.77	13.78	7.3	7	2	1.2	12.2
04/30/2012	8.27	49.2	8.27	49.2			1410	90	
05/31/2012	10.3	24.57	10.3	24.57				16.76	
06/30/2012	9.15	17.55	9.15	17.55			80.8	21.64	
07/31/2012							3	24.25	
08/31/2012	1	15.7	1	15.7			1	1	
09/30/2012	4.45	6.53	4.45	6.53			1	1	
10/31/2012	5.08	15.4	0.41	14.3	7.7	7.2	2419	309	17.7

Parameter	Nitrogen, ammonia total [as N]	Nitrogen, ammonia total [as N]	Nitrogen, ammonia total [as N]	Nitrogen, ammonia total [as N]	pH	pH	E. coli	E. coli	Temperature
Monitoring Location	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross	Effluent Gross
Statistical Base	DAILY MAX	DAILY MAX	MO AVG	MO AVG	INST MAX	INST MIN	INST MAX	MO GEO MN	MO AVG
Limit Units	mg/L	lb/d	mg/L	lb/d	SU	SU	#/100mL	#/100mL	C
Current Limit	6.8	49.3	2.4	17.4	8.5	6.5	406	126	
11/30/2012	1	14.4	1	14.4	8	7.6	2420	2420	16.9
12/31/2012					8	7.7			13
01/31/2013	15.8	24.11	15.8	24.11	7.8	7.6	579	579	9.4
02/28/2013	9.77	15.24	9.77	15.24	6.9	6.5	1730	52	10.1
03/31/2013	21.17		21.17		6.8	6.1		2420	10.8
04/30/2013	20	20	20	20			242	242	
05/31/2013	13.4	13.4	13.4	13.4			32	12	
06/30/2013	6.61	11.25	6.61	11.25			387	62	
07/31/2013	6.9	13.41	6.9	13.41		6.5	411	115.5	
08/31/2013	1.52	2.57	1.52	2.57		6.7	276	42.1	
09/30/2013	11	18.9	11	18.9		6.5	11	3	
10/31/2013	9.89	19.2	5.3	17.8		7	5	41.6	21
11/30/2013	12.7	19.6	12.7	19.6	6.9	6.8	26	12	14.6
12/31/2013					6.8	6.7	1200	144	12.1
01/31/2014	5.31	12.2	5.31	12.2	7.2	6.9			12.6
02/28/2014	11.3	14.9	11.3	14.9	7.2	6.9			12.9
03/31/2014	11.3	15.2	11.3	15.2	7	6.8			12.1
04/30/2014	5.28	11.01	5.28	11.01	7.4	6.9	13.4	1.3	13.8
05/31/2014						6.9	2420	33.31	15.6
06/30/2014	14.5	32.7	14.5	32.7		7	2419.6	13.3	15.6
07/31/2014	6.67	19.9	6.67	19.9	7.7	6.8	58	14.53	22.7
08/31/2014	7.23	7.23	7.23	7.23		7.2	28	6.83	22.8
09/30/2014	7.93	12.47	7.93	12.43		7.3	49	4.26	21.4
10/31/2014	1	13.9	1	13.9		7.2	4.2	4.2	7.3
11/30/2014	1	14	1	14		7	1.9	1.9	14.1
12/31/2014						7.3	3.9	3.9	14.3
01/31/2015	0.84	0.84	0.84	0.84		6.9	3.28	3.28	10.8
02/28/2015	14.2	14.2	14.2	14.2	7.2	6.9	28.8	28.8	0.6
03/31/2015	12.2	12.2	12.2	12.2		6.4	995	995	13.9
04/30/2015	14.7	27.2	14.7	8.6	7.11	6.3		40.4	17.5
05/31/2015					7.4	6.6	2420	49.19	17.9
06/30/2015					7.7	6.1	2420	586.5	27.7
07/31/2015	1	1	1	1	7.6	6.6		445.7	7.6
08/31/2015	10.6	16.8	10.6	16.8	6.8	6.5		393	22.6
09/30/2015	1.68	15.7	1.68	15.7	7.5	6.8		4.59	7.5
10/31/2015	1.96	3.53	1.96	3.53		6.6	9	1.84	18.2
11/30/2015					6.8	6.6	4.1	0.74	16.9
12/31/2015	10.8	22.4	10.1	19.9	7.6	6.98	2420	144.8	14.4
01/31/2016	14.8	89.8	14.8	89.8	7.7	6.8	2420	1392	13.2
02/29/2016	9.8	19.9	9.8	19.9	7.6	6.6	548	20.9	13.6
03/31/2016	15.4	26.6	15.4	26.6	7.4	6.8	2420	284.5	13.8
04/30/2016	10.1	17.6	10.1	17.6	7.9	6.3	2420	386.97	17.3
05/31/2016	18.2	23.68	18.2	23.68	7.5	6.2	2420	1370.9	19.6
06/30/2016	24.9	40.29	24.9	40.29	7.6	7.1	2420	2420	22.2
07/31/2016	15.7	28.8	15.7	28.8	7.5	7.1		10659	22.2
08/31/2016	10.6	19.71	10.6	19.71	8.3	7		64.99	21.9
09/30/2016	10.1	17.2	10.1	17.2	7.5	7.2		6.005	20.4
10/31/2016	20.2	43.46	19.75	42.37		6.9	1299	1299.2	17.4
11/30/2016	15.2		15.2	27.89	7.7	7	1274	1274	17.23
12/31/2016	6.53	80.6	6.53	80.6	9.5	7.1	375	375	9.7
01/31/2017									
02/28/2017									
03/31/2017									
04/30/2017									
05/31/2017									
06/30/2017									
07/31/2017									
08/31/2017									
09/30/2017									
10/31/2017									
11/30/2017									
12/31/2017									
01/31/2018		17.8		17.8	7.4	7	2	2	
02/28/2018					7.4	6.8	19	19	
03/31/2018	16.2	40.2	16.2	40.2	7.3	7.2	525	9	
04/30/2018	8.8	26.6	8.8	26.6	7.3	7.1	18.7	4.98	
05/31/2018		24.5		24.5	7.1	6.8	1	1	
06/30/2018	9.1	32.28	9.1	32.28	7.1	6.8			
07/31/2018	14.3	20.2	14.3	20.2	7.5	7.3	2419	1765.9	
08/31/2018	18.1	21.7	18.1	21.7	7.7	7.4	2420	2419.2	
09/30/2018	18.6	33.2	18.6	33.2	7.6	6.9	579	579	
10/31/2018	0.3	26	0.3	26	7.5	7.1	2	2	
11/30/2018	10.8	15.8	10.8	15.8	7.5	7.3	488	20.32	28.1
12/31/2018	11.7	23.6	11.7	23.6	7.5	6.2	5	5	19
01/31/2019	2.09	23.6	1.45	23.6	8.2	6.6	1	1	18.3
02/28/2019	11.3	22.2	11.3	22	10.5	8.7	89.5	141	9.4
03/31/2019	14.4	17.3	14.4	17.3	7.4	7	1010	99.3	9.75
04/30/2019	12.5	20.5	12.1	17	7.9	7.1	2420	1150	13.9
05/31/2019	15.7	28.26	14.53	26.26	7.6	7.5	2419.6		16.2
06/30/2019	5.64	6.54	5.64	6.54	7.6	7.5	1	3.4225	18.6
07/31/2019	6.13	15.2	6.13	15.2	7.67	7.64	517	73.44	14.9
08/31/2019	10.8	17.8	8.97	13.9	7.49	7.4	25.9	11.75	
09/30/2019	18	18.9	14.62	15.5	7.7	7.5	154	33.32	
10/31/2019	28.5	41.83	20.06	30.31	8	7.5	372		15.9
11/30/2019	18.8	26.34	15.93	22.94	7.6	7.4	2420	60.9	13.4
12/31/2019	14.3	20.27	10.4	15.21	9.2	7	2420	12.19	10.9
01/31/2020	17.1	27.24	15.68	25	7.6	6.9	13.2	9.1	10.97
02/29/2020	15.9	27.61	15	25.95	7.5	7	23.8	11.7	9.9
03/31/2020	20	30.86	17.65	28.16	7.4	6.9	2419.6	442.4	11.9
04/30/2020	21.6	36.39	19.35	30.31	7.3	6.6	2419	2419	13.08
05/31/2020	20.2	33.19	18.53	30.44	7.4	6.9	2419	2419	7.13
06/30/2020	22.6	37.13	19.57	32.15	7.4	6.9	2419	2419	7.15
Average	8.2028377	15.786081	7.1648487	14.759396	7.5245	6.8916	554.68	282.98	15.1373103
Minimum	0.057	0.16	0.057	0.16	6.7	6	0.18	0.01	0.6
Maximum	101	89.8	24.9	89.8	10.5	8.7	2420	10659	28.1
Count	154	148	152	149	150	165	158	166	145
Std Dev	10.002907	13.987574	6.210766	13.362395	0.4589	0.3361	914.82	983.8	4.44356983
CV	1.2194447	0.88607	0.8668384	0.9053484	0.061	0.0488	1.6493	3.4765	0.29355082
95th Percentile	21.95	42.319	19.633	40.81	8.75	7.5	2420	2419	22.76
5th Percentile	1	5.637	1	5.7875	7.1	6.3	1.54	1.714	7.21
90th percentile	20.14	38.972	18.579	32.95	8	7.4	2420	1961.8	22.28

B. Receiving Water Data

Low Flow Statistics for Shitike Creek



Seasonal Calculation?	No		
Season Or Year Start	1-Jan		
Season Or Year End	31-Dec		
Years Included in Calculations	2005~2020		
Start	2005		
End	2020		
Flow Statistic	Flow Value	Percentile	x-day avg. Excur. per 3 yr.
30B3	39.959	3.36%	0.8
Flow Statistic	Flow Value	Percentile	1-day Excur. per 3 yr.
1Q10	29.008	0.08%	0.2
7Q10	33.9	0.47%	0.4
30Q10	37.265	2.21%	0.8
30Q5	40.439	4.03%	1.2
Harmonic Mean	80.072	46.47%	N/A
Harmonic Mean, Adjusted	80.072	46.47%	N/A

pH Data for Shitike Creek

Warm Springs Museum monitoring station 1/6/2010 to 7/17/2017

Max Value	**8.97**
95th Percentile	**8.51**
5th Percentile	**7.0**

Temperature Data for Shitike Creek

Warm Springs Museum monitoring station 1/1/2015 to 7/17/2017

Max Value	**23.8**	**deg C**
95th Percentile	**21.2**	**deg C**
5th Percentile	**3.6**	**deg C**

Appendix C. Reasonable Potential and Effluent Limit 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 water quality-based effluent limit 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:

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

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:

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

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

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

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

Where:

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

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

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

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

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

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

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

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:

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

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 Technical Support Document for Water Quality-based Toxics Controls (TSD, 1991) recommends using the maximum projected effluent concentration (C_e) in the mass balance calculation (see equation 3 above). 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.

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

where,

p_n	=	the percentile represented by the highest reported concentration
n	=	the number of samples

confidence level = 99% = 0.99

and

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

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 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:

$C_e = (RPM)(MRC)$ 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

5. 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:

$$C_e = WLA = D \times (C_d - C_u) + C_u$$ Equation 11

Some state and tribal 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.

$$C_e = WLA = \frac{D \times (C_d - C_u) + C_u}{CT}$$ 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):

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

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

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, the Tribe's chronic criterion is based on a 4-day averaging period, the Chronic Long Term Average (LTAc) is calculated as follows:

$$LTA_c = WLA_c \times e^{(0.5\sigma_4^2 - z\sigma_4)} \qquad \text{Equation 15}$$

where,

σ_4^2	=	$\ln(CV^2/4 + 1)$

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

6. Derive the maximum daily and average monthly effluent limits

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

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

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

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. If the AML is based on the LTA_c, i.e., $LTA_{minimum} = LTA_c$), the value of ''n'' should is set at a minimum of 4. In the case of ammonia, if the AML is based on the LTA_c, i.e., $LTA_{minimum} = LTA_c$), the value of ''n'' will also be set at 4 according to Tribal WQS.

C. Critical Low Flow Conditions

The low flow conditions of a water body are used to determine water quality-based effluent limits. In general, the Tribe's water quality standards 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 & Effluent Limit Calculations

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

Facility Name	Warm Springs WWTP
Facility Flow (mgd)	0.87
Facility Flow (cfs)	1.35

Critical River Flows (CFS)	(IDAPA 58.01.02 03. b)	Annual Crit. Flows
Aquatic Life - Acute Criteria - Criterion Max. Concentration (CMC)	**1Q10**	29
Aquatic Life - Chronic Criteria - Criterion Continuous Concentration (CCC)	**7Q10 or 4B3**	34
Ammonia	**30B3 or 30Q10/30Q5** (seasonal)	37
Human Health - Non-Carcinogen	**Harmonic Mean Flow**	80
Human Health - carcinogen	**Harmonic Mean Flow**	80

DF at defined percent of river flow allow	25%	**6.4**
DF at defined percent of river flow allow	25%	**7.3**

Receiving Water Data		Notes:	Annual Crit. Flows
Hardness, as mg/L $CaCO_3$	= 100 mg/L	5th % at critical flows	
Temperature, °C	Temperature, °C	95th percentile	21.2
pH, S.U.	pH, S.U.	95th percentile	8.51

Pollutants of Concern			**AMMONIA,** default: cold water, fish early life stages present
Effluent Data	**Number of Samples in Data Set (n)**		154
	Coefficient of Variation (CV) = Std. Dev./Mean (default CV = 0.6)		1.219
	Effluent Concentration, µg/L (Max. or 95th Percentile) - (C_e)		21,950
	Calculated 50th % Effluent Conc. (when n>10), Human Health Only		
Receiving Water Data	**90th Percentile Conc., µg/L - (C_u)**		0
	Geometric Mean, µg/L, Human Health Criteria Only		
Applicable Water Quality Criteria	Aquatic Life Criteria, µg/L	Acute	1,900
	Aquatic Life Criteria, µg/L	Chronic	260
	Human Health Water and Organism, µg/L		--
	Human Health, Organism Only, µg/L		--
	Metals Criteria Translator, decimal (or default use Conversion Factor)	Acute	
		Chronic	
	Carcinogen (Y/N), Human Health Criteria Only		--
Percent River Flow Default Value = **25%**	**Aquatic Life - Acute**	**1Q10**	25%
	Aquatic Life - Chronic	7Q10 or 4B3	
		30B3 or 30Q10/30Q5	
	Human Health - Non-Carcinogen	Harmonic Mean	25%
	Human Health - Carcinogen	Harmonic Mean	
Calculated Dilution Factors (DF) (or enter Modeled DFs)	Aquatic Life - Acute	1Q10	6.4
	Aquatic Life - Chronic	7Q10 or 4B3	
	Aquatic Life - Chronic Ammonia	30B3 or 30Q10/30Q5	7.9
	Human Health - Non-Carcinogen	Harmonic Mean	
	Human Health - Carcinogen	Harmonic Mean	

Aquatic Life Reasonable Potential Analysis

σ	$\sigma^2=\ln(CV^2+1)$		0.954
P_n	=(1-confidence level)$^{1/n}$, where confidence level =	**99%**	0.971
Multiplier (TSD p. 57)	$=\exp(z\sigma-0.5\sigma^2)/\exp[\text{normsinv}(P_n)\sigma-0.5\sigma^2]$, where	**99%**	1.5
Statistically projected critical discharge concentration (C_e)			33326
Predicted max. conc.(ug/L) at Edge-of-Mixing Zone		Acute	5216
(note: for metals, concentration as dissolved using conversion factor as translator)		Chronic	4206
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)			4
LTA Coeff. Var. (CV), decimal	(Use CV of data set or default = 0.6)		1.219
Permit Limit Coeff. Var. (CV), decimal	(Use CV from data set or default = 0.6)		1.219
Acute WLA, ug/L	$C_d = (\text{Acute Criteria} \times MZ_a) - C_u \times (MZ_a-1)$	Acute	12,138
Chronic WLA, ug/L	$C_d = (\text{Chronic Criteria} \times MZ_c) - C_u \times (MZ_c-1)$	Chronic	2,060
Long Term Ave (LTA), ug/L	WLAa x $\exp(0.5\sigma^2-z\sigma)$, Acute	**99%**	2,079
(99th % occurrence prob.)	WLAc x $\exp(0.5\sigma^2-z\sigma)$; ammonia n=30, Chronic	**99%**	653
Limiting LTA, ug/L	used as basis for limits calculation		653
Applicable Metals Criteria Translator (metals limits as total recoverable)			
Average Monthly Limit (AML), ug/L	, where % occurrence prob =	**95%**	**1,404**
Maximum Daily Limit (MDL), ug/L	, where % occurrence prob =	**99%**	**3,811**
Average Monthly Limit (AML), mg/L			**1.4**
Maximum Daily Limit (MDL), mg/L			**3.8**
Average Monthly Limit (AML), lb/day			**10**
Maximum Daily Limit (MDL), lb/day			**28**

Appendix E. Endangered Species Act

A. Overview

As discussed in Section H of this fact sheet, Section 7 of the Endangered Species Act requires federal agencies to consult with USFWS and NOAA Fisheries if there are potential affects a federal action may have on threatened and endangered species. The US Fish and Wildlife Service in a letter dated November 25th, 2020 identified the bull trout *Salvelinus confluentus*, a federally listed threatened species, may occur within the Warm Springs WWTP's discharge location. In addition, the NOAA Fisheries Protected Resource Application accessed November 25th, 2020 identified Shitike Creek as a migrational corridor for Middle Columbia steelhead *Oncorhynchus mykiss.* A summary of threatened and endangered species located in the vicinity of the discharge is summarized below.

B. Species List

USFWS Species and Critical Habitat

- Bull trout *Salvelinus confluentus* listed threatened
- Bull Trout Critical Habitat

NOAA Fisheries Species and Critical Habitat

- Middle Columbia steelhead *Oncorhynchus mykiss* (migrational corridor)

C. Potential Impacts on Listed Species

The U.S. Fish and Wildlife Service Bull Trout Recover Plan identified causes of the bull trout listing. They are historical habitat loss and fragmentation, interaction with nonnative species, fish passage issues, drought and wildfire impacts, and invasive predatory fish species (USFWS 2015). Similar causes were identified for Middle Columbia steelhead. No sewage treatment plant is identified as a contributing factor to the decline in bull trout or Middle Columbia steelhead. In addition, there are site-specific factors supporting EPA's no effect determination. The Warm Springs WWTP is an extended aeration activated sludge facility capable of producing high quality effluent. The facility is required to meet stringent water quality based seasonal limits for BOD_5 and TSS, as well as year-round water quality-based criteria for ammonia. The facility utilizes ultraviolet disinfection, and the discharge location is in a swiftly flowing portion of Shitike Creek ensuring rapid complete mixing and dilution. Limits developed in this draft permit were calculated using parameters protective of salmonids and other cold-water aquatic species.

D. Conclusion

The EPA has determined that the discharge proposed by this draft permit will have no effect on bull trout, bull trout critical habitat, or migration of Middle Columbia steelhead.

E. References

National Marine Fisheries Service. 2009. Middle Columbia River Steelhead

Distinct Population Segment ESA Recovery Plan. NW Region.

https://www.salmonrecovery.gov/Files/RecoveryPlans/mid-c-plan.pdf

U.S. Fish and Wildlife Service. 2015. Recovery Plan for the Coterminous United States Population of Bull Trout (Salvelinus confluentus). Portland, Oregon. https://www.fws.gov/pacific/ecoservices/endangered/recovery/documents/Final_Bull_Trout_Recovery_Plan_092915.pdf

U.S. Fish and Wildlife Service. 2010. Revised Designation of Critical Habitat for bull Trout in the Coterminous United States. Federal Register Vol. 75 No. 200. Pages 63898 – 64070.

https://www.federalregister.gov/documents/2010/10/18/2010-25028/endangered-and-threatened-wildlife-and-plants-revised-designation-of-critical-habitat-for-bull-trout

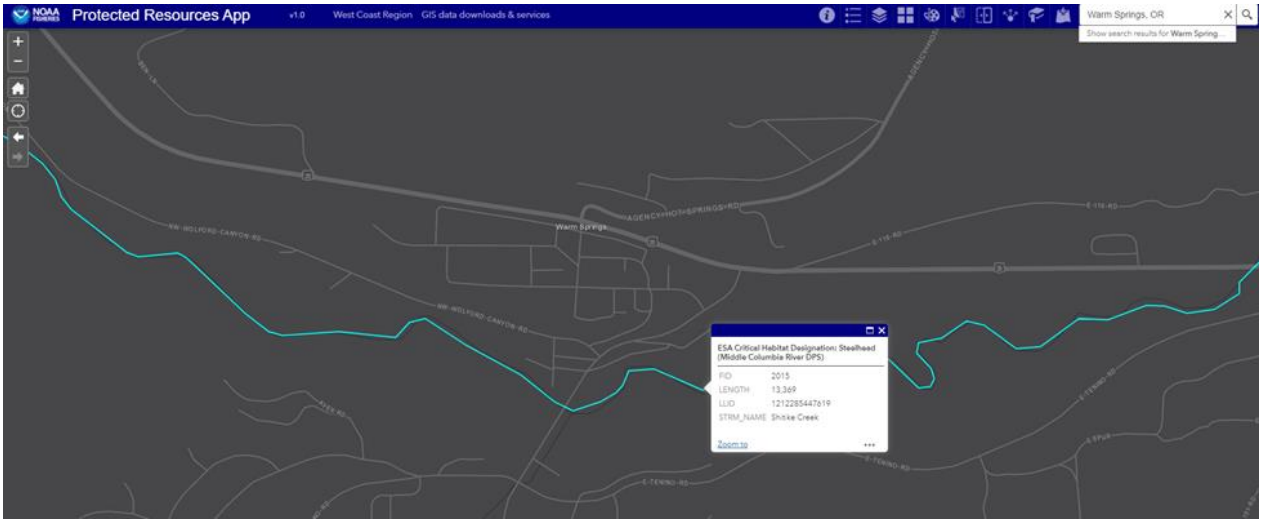
Appendix F. Essential Fish Habitat Assessment

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

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

A. Listing of EFH Species in the Facility Area

According to NOAA Fisheries, the receiving water is a migrational corridor for Middle Columbia steelhead *Oncorhynchus mykiss*, a federally listed threatened species.



B. Description of the Facility and Discharge Location

The activities and sources of wastewater at the Warm Springs WWTP are described in detail in Section C and Appendix A of this fact sheet. The location of the outfall is described in Section D ("Receiving Water").

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

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

7. Effluent Characterization

Characterization of the Warm Springs WWTP's effluent was accomplished using a variety of sources, including:

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

8. Identification of Pollutants of Concern and Threshold Concentrations

The pollutants of concern include pollutants with aquatic life criteria in the Tribe's water quality standards. Threshold concentrations are equal to the numeric water quality criteria for the protection of aquatic life. No other pollutants of concern were identified by NMFS.

9. Exposure and Wasteload Allocation

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

- Mixing zone policies in the Tribe's water quality standards
- Dilution modeling and analysis
- Exposure considerations (e.g., prevention of lethality to passing organisms)
- Consideration of multiple sources and background concentrations

10. Statistical Evaluation for Permit Limit Development

Calculation of permit limits using statistical procedures addressing the following:

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

11. Monitoring Programs

Development of monitoring requirements, including:

- Compliance monitoring of the effluent
- Ambient monitoring

12. Protection of Aquatic Life in NPDES Permitting

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

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

13. Effects Determination

Since the proposed permit has been developed to protect aquatic life species in the receiving water in accordance with the Tribe's water quality standards, EPA has determined that issuance of this permit is will not adversely affect any EFH in the vicinity of the discharge. EPA will provide NMFS with copies of the draft permit and fact sheet during the public notice period. Any recommendations received from NMFS regarding EFH will be considered prior to reissuance of this permit.

Appendix G. CWA 401 Tribal Certification

Date & Initials	Change