

## Fact Sheet for IPDES Permit No. ID0020087

7/31/2020

Idaho Department of Environmental Quality (DEQ) proposes to reissue an Idaho Pollutant Discharge Elimination System (IPDES) Permit to discharge pollutants pursuant to the provisions of IDAPA 58.01.25 to:

**City of Council POTW  
500 South Hornet  
Council, Idaho 83612**

Public Comment Start Date: 03/04/2020

Public Comment Expiration Date: 04/03/2020

Technical Contact: Michael Snider, 208.373.0178,  
michael.snider@deq.idaho.gov

### **Purpose of this Fact Sheet**

This fact sheet explains and documents the decisions the Idaho Department of Environmental Quality (DEQ) made in writing the Idaho Pollutant Discharge Elimination System (IPDES) permit for the City of Council POTW (Publicly Owned Treatment Works).

This fact sheet complies with IDAPA 58.01.25.108.02 of the Idaho Administrative Code, which requires DEQ to prepare a draft permit and accompanying fact sheet for public evaluation before issuing an IPDES permit.

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## Acronyms

1Q10	1-day, 10 year low flow
7Q10	7-day, 10 year low flow
30Q5	30-day, 5 year low flow
AML	Average Monthly Limit
BOD <sub>5</sub>	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
DEQ	Idaho Department of Environmental Quality
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
IDAPA	Refers to citations of Idaho administrative rules
IPDES	Idaho Pollutant Discharge Elimination System
IDWR	Idaho Department of Water Resources
lbs/day	Pounds per day
LTA	Long Term Average
MDL	Maximum Daily Limit or Method Detection Limit
mgd	Million gallons per day
mg/L	Milligrams per liter
mL	Milliliters
POC	Pollutant(s) of Concern
POTW	Publicly Owned Treatment Works
QAPP	Quality Assurance Project Plan
RPA	Reasonable Potential Analysis
RPMF	Reasonable Potential Multiplication Factor
RPTE	Reasonable Potential To Exceed
SIU	Significant Industrial User
s.u.	Standard Units
TBEL	Technology Based Effluent Limits

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TMDL	Total Maximum Daily Load
TRC	Total Residual Chlorine
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
TSS	Total suspended solids
USGS	United States Geological Survey
UV	Ultraviolet
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQC	Water Quality Criteria
WQS	Water Quality Standards
WWTP	Wastewater treatment plant

# 1 Introduction

This fact sheet provides information on the permit for the Idaho Department of Environmental Quality (DEQ) Idaho Pollutant Discharge Elimination System (IPDES) permit for the City of Council (City) POTW. This fact sheet complies with the Rules Regulating the Idaho Pollutant Discharge Elimination System Program (IDAPA 58.01.25), which requires DEQ to prepare a draft permit and accompanying fact sheet for public evaluation before issuing an IPDES permit.

DEQ proposes to reissue the IPDES permit for the POTW. To ensure protection of water quality and human health, the permit places conditions on the type, volume, and concentration of pollutants discharged from the facility to waters of the United States.

This fact sheet includes:

- A map and description of the discharge location;
- A listing of effluent limits and other conditions the facility must comply with;
- Documentation supporting the effluent limits;
- Technical material supporting the conditions in the permit; and
- Information on public comment, public hearing, and appeal procedures.

Terms used in this fact sheet are defined in Section 5, Definitions, of the permit.

## Public Comment

The permit application, permit, and fact sheet describing the terms and conditions applicable to the permit are available for public review and comment during a public comment period. The public is provided at least 30 days to provide comments to DEQ. Persons wishing to request a public meeting for this facility's draft permit must do so in writing within 14 calendar days of public notice being published that a permit has been prepared; requests for public meetings must be submitted to DEQ by 3/18/2020. Requests for extending a public comment period must be provided to DEQ in writing before the last day of the comment period. For more details on preparing and filing comments about these documents, please see the IPDES guidance *Public Participation in the Permitting Process* at "<http://www.deq.idaho.gov/media/60178029/ipdes-public-participation-permitting-process-0216.pdf>". For more information, please contact the permit writer.

After the close of the public comment period, DEQ considers information provided by the public, prepares a document summarizing the public comments received, and may make changes to the permit in response to the public comments. DEQ will include the summary and responses to comments in Appendix D of the final fact sheet. DEQ may request more information from the applicant in order to respond to public comments (IDAPA 58.01.25.109.02.h.). After the public comment period and prior to issuing the final permit decision, DEQ will also provide the applicant an opportunity to submit additional information to address proposed changes and support the response to public comments. DEQ will assess the public comment in conjunction with any additional information received from the applicant and develop a proposed permit.

The Environmental Protection Agency (EPA) may take up to 90 days from the publication of public notice of the permit to develop and document specific grounds for objections to a proposed permit. If EPA objects to a proposed permit DEQ must satisfactorily address the

objections within the time period specified in the memorandum of agreement between EPA and DEQ (40 CFR §123.44). Otherwise, EPA may issue a permit in accordance with 40 CFR Parts 121, 122, 124. If EPA issues the permit, any state, interstate agency, or interested person may request EPA hold a public hearing regarding the objection.

### **Permit Issuance**

Following the public comment periods on a draft permit and after receipt of any comments on the proposed permit from EPA, DEQ will issue a final permit decision, the final permit, and the fact sheet. A final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit (IDAPA 58.01.25.107.04.). The final permit and final fact sheet will be posted on the DEQ webpage. Response to comments will be located in the final fact sheet as an appendix.

The public has access to a permit appeals process (IDAPA 58.01.25.204). Appeal of a final IPDES permit decision begins by filing a petition for review with DEQ's hearing coordinator within 28 days after DEQ serves notice of the final permit decision. The permit holder or applicant and any person or entity who filed comments or who participated in the public meeting on the draft permit may file a petition for review. Ultimately, any person aggrieved by a final IPDES action or determination has a right to judicial review by filing a petition for review (IDAPA 58.01.25.204.26).

### **Documents are Available for Review**

The IPDES permit and fact sheet can be reviewed or obtained by visiting or contacting the DEQ State office between 8:00 a.m. and 5:00 p.m., Monday through Friday at the address below. The permit, and fact sheet can also be found by visiting the DEQ website at "<http://www.deq.idaho.gov/news-public-comments-events/>."

DEQ  
1410 N. Hilton St.  
Boise, ID 83706  
208-373-0502

The fact sheet and permits are also available at the DEQ Regional Office:

Boise Regional Office  
1445 North Orchard Street  
Boise, ID 83706

### **Disability Reasonable Accommodation Notice**

For technical questions regarding the permit or fact sheet, contact the permit writer at the phone number or e-mail address at the beginning of this fact sheet. Those with impaired hearing or speech may contact a TDD operator at 1-800-833-6384 (ask to be connected to the permit writer at the above phone number). Additional services can be made available to a person with disabilities by contacting the permit writer.

## 2 Background Information

### 2.1 Facility Description

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

**Table 1. Facility information.**

Permittee	City of Council POTW
Facility Physical Address	500 South Hornet Council, Idaho 83612
Facility Mailing Address	P.O. Box 606 Council, Idaho 83612
Facility Contact	Merle DeHaas Wastewater Operator 208.253.4201
Responsible Official	Bruce Gardner Mayor 208.253.4201
Facility Location	Latitude: 44.72027° Longitude: -116.4497°
Receiving Water Name	Weiser River
Outfall Location	Latitude: 44.72083° Longitude: -116.4497°
<b>Permit Status</b>	
Application Submittal Date	October 30, 2008
Date Application Deemed Complete	April 9, 2009

The City of Council owns and operates the POTW located in Council, Idaho. The collection system has roof drains connected to it, which the City intends to remove per their 2018 facility plan. The facility serves a resident population of 816 based on their permit application. There are no major or minor industries discharging to the facility.

#### 2.1.1 Facility Information

The design flow of the facility is 0.4 mgd. Details about 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 1.0 mgd and there are no significant industrial users, the facility is considered a minor facility.

#### 2.1.2 Treatment Process

The City is in the midst of upgrading their facility during permit development. The treatment system includes aerated lagoons followed by a Submerged Attached Growth Reactor (SAGR) and UV Disinfection system. The treatment improvements include re-lining the existing Lagoon Cells 1A, 1B, and 2, installing a new manual bar screen, installation of the SAGR beds, removing the existing chlorine disinfection system and installing an open channel UV disinfection system. The collection system is also being improved by replacing or repairing

approximately 40% of the collection system pipes and manholes. The new facility maintains the same design flow as the existing facility.

### 2.1.3 Permit History

The most recent NPDES permit for the facility was issued on February 17, 2004, became effective on May 1, 2004, and expired on April 30, 2009. An application for permit issuance was submitted to EPA by the permittee on October 30, 2008, and additional information was requested. EPA determined that the application was timely and complete on April 8, 2009. Therefore, pursuant to 40 CFR 122.6, the permit was administratively extended and remains fully effective and enforceable.

### 2.1.4 Compliance History

A summary of effluent violations since the previous permit became effective is provided in Table 2 below. There have been 195 effluent limit violations from May 2004 through June 2019. From January 2014 through June 2019, there were 33 violations.

**Table 2. Effluent limit violations from May 2004 – June 2019.**

Parameter Exceeding Permit Limits	Limit	Units	Number of Instances
BOD <sub>5</sub>	Monthly Average	mg/L	18
BOD <sub>5</sub>	Percent Removal	%	24
TSS	Monthly Average	mg/L	63
TSS	Percent Removal	%	30
pH	Maximum	s.u.	1
pH	Minimum	s.u.	3
<i>E. coli</i>	Monthly Average	cfu/100/mL	9
<i>E. coli</i>	Daily Maximum	cfu/100/mL	25
Chlorine	Daily Maximum	mg/L	22

DEQ conducted an inspection of the facility in September 2016. The inspection encompassed the wastewater treatment process, records review, operation and maintenance, and the collection system. The facility was found to be struggling with infiltration and inflow (I/I), though problematic sections of the collection system are being replaced as budget allows. In addition, there have been several failed seepage tests for Lagoon 3 since 2011, which have resulted in a Compliance Agreement Schedule with DEQ. Lagoon 3 was originally intended to be removed from the treatment train in 2017, however that has been delayed until a new treatment process can be constructed, currently estimated to be completed in 2020.

### 2.1.5 Sludge/Biosolids

The EPA Region 10, under the authority of the CWA, issues separate sludge-only permits for the purpose of regulating biosolids. Permits for sludge management are independent of IPDES discharge permits and must be obtained from EPA. The IPDES Bureau will take over permitting of sludge/biosolids in July 2021. In addition, sludge management plans must be submitted to DEQ and must follow the procedures in IDAPA 58.01.16.

Seepage tests on Lagoon 3 failed in 2011, 2012, 2014, and 2015, which has resulted in the City pursuing an alternative treatment process. The City intended to remove Lagoon 3 from the treatment process, however sludge removal from this was deemed too expensive. The City is in the process of replacing the existing treatment process with an aerated lagoon and submerged attached growth reactor (SAGR) process during permit development. Sludge will be removed as a part of the facility upgrades. The permittee must submit a report detailing sludge accumulation with their permit renewal application.

### 2.1.6 Outfall Description

Outfall 001 is located on the eastern bank of the Weiser River, approximately 20 feet from the river. The 2004 permit authorized discharge continuously throughout the year. The outfall consists of a 15-inch diameter PVC pipe discharging to a slough adjacent to the Weiser River.

### 2.1.7 Wastewater Influent Characterization

The City reported the concentration of influent pollutants in Discharge Monitoring Reports (DMRs) and results are characterized in Table 3. The tabulated data represents the quality of the influent wastewater received from January 2013 through June 2019.

**Table 3. Wastewater influent characterization from January 2013 – June 2019.**

Parameter	Units	# of Samples	Average Value	Maximum Value	Data Source
BOD	mg/L	65	549	2620	DMRs
TSS	mg/L	65	912	2880	DMRs

### 2.1.8 Wastewater Effluent Characterization

The City reported the effluent pollutant concentrations in DMRs and results are characterized in Table 4. The tabulated data represents the quality of the effluent discharged from January 2013 through June 2019.

**Table 4. Wastewater effluent characterization from January 2013 – June 2019.**

Parameter	Units	# of Samples	Average Values	Maximum Values	Data Source
BOD	mg/L	43	18.5	48	DMRs
TSS	mg/L	57	26.4	76	DMRs
Chlorine	mg/L	64	0.03	0.08	DMRs
Ammonia <sup>a</sup>	mg/L	10	3.6	9.9	DMRs
Phosphorus <sup>a</sup>	mg/L	10	1.9	3.9	DMRs
Parameter	Units	# of Samples	Average Geometric Mean	Maximum Reported Geometric Mean	Data Source
<i>E. coli</i>	#/ 100 mL	33	8.4	128	DMRs
Parameter	Units	# of Samples	Minimum Value	Maximum Value	Data Source
pH	standard units	57	6.5	8.9	DMRs

<sup>a</sup> Ammonia and Phosphorus Data from Monthly Sampling in 2006.

## 2.2 Description of Receiving Water

The POTW discharges to the Weiser River in the Weiser Subbasin (HUC 17050124) Water Body Unit ID17050124SW007\_05. At the point of discharge, the Weiser River is protected for the following designated uses (IDAPA 58.01.02.140.18): cold water aquatic life, primary contact recreation, and domestic water supply.

According to DEQ's 2016 Integrated Report, this AU is not fully supporting one or more of its assessed uses. The aquatic life use is not fully supported. Causes of impairment include temperature. The contact recreation beneficial use is fully supported. As such, DEQ will provide Tier I protection (IDAPA 58.01.02.051.01) for the aquatic life use and Tier II protection (IDAPA 58.01.02.051.02) in addition to Tier I for the contact recreation use (IDAPA 58.01.02.052.05.c). There is insufficient data to determine whether there is a healthy, balanced biological community in the reach where the City of Council discharges.

The outfall is located approximately 4 miles downstream of the Council Cuprum Bridge. For more information on the outfall see 2.1.8, Wastewater Effluent Characterization. Other nearby point sources include the City of Cambridge approximately 30 miles south. There are no drinking water intakes near the City; drinking water is supplied by three drinking water wells. Potential non-point sources that are present in the watershed are agriculture, forestry, and natural and urban storm water. Section 2.2.1 describes any receiving waterbody impairments.

The ambient background data used for this permit includes the following from the submitted analytical reports dated March 2014 through September 2017.

**Table 5. Ambient background data from March 2014 – September 2017.**

Parameter	Units	Percentile	Value
Temperature	°C	95th	18
pH	s.u.	5th – 95th	6.26 – 7.94
Ammonia	mg/L	90th	0.04
Total Phosphorus	mg/L	maximum	0.14

### 2.2.1 Water Quality Impairments

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations (WLAs) for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limits that are consistent with the assumptions and requirements of WLAs that have been assigned to the discharge in an EPA-approved TMDL.

The Weiser River Subbasin Temperature Total Maximum Daily Loads: Addendum to the Weiser River Subbasin Assessment and TMDL (June 2006) establishes WLAs for temperature. These WLAs are designed to meet narrative and numeric criteria and ultimately help restore the water body to a condition that supports existing and beneficial uses. The temperature addendum provided an equation on page 39 which is the waste load allocation. The equation is included in the permit as the limit. The effluent limits and associated requirements contained in the permit are set at levels that are consistent with the TMDL.

### 2.3 Pollutants of Concern

DEQ may identify pollutants of concern (POC) for the discharge based on, but not limited to, those which:

- Have a technology-based limit (TBEL)
- Have an assigned WLA from a TMDL
- Had an effluent limit in the previous permit
- Are present in the effluent monitoring data reported in the application, DMRs, or special studies
- Are expected to be in the discharge based on the nature of the discharge
- Are impairing the beneficial uses of the receiving water

To determine POCs for further analysis, DEQ evaluated all pertinent and available information such as the permit application, previous DMRs, raw discharge data provided by the facility, TMDLs, and the facility's industrial user surveys. The wastewater treatment process for this facility includes three lagoons in sequence, with aeration in the first and third lagoon, followed by chlorine disinfection and then dechlorination. Pollutants expected in the discharge from a facility with this type of treatment, include but are not limited to:

- TSS
- BOD<sub>5</sub>
- *E. coli* bacteria

- TRC
- pH
- Temperature
- Ammonia
- Phosphorus

After the City completes their planned facility upgrades, including switching to UV disinfection and removing chlorine from the facility, chlorine will no longer be on the list of pollutants of concern.

### 2.3.1 Critical Conditions

The low flow conditions of a water body are used to determine water quality-based effluent limits (WQBELs). In general, Idaho's water quality standards (WQS) require criteria be evaluated at the following low flow design conditions (See IDAPA 58.01.02.210.03) as defined in Table 6. The 1Q10 represents the lowest 1 day flow with an average recurrence frequency of once in 10 years. The 7Q10 represents lowest average 7 consecutive day flow with an average recurrence frequency of once in 10 years. The 30Q5 represents the lowest average 30 consecutive day flow with an average recurrence frequency of once in 5 years.

**Table 6. Estimated Low Flows for the Weiser River near Council.**

Criteria	Flow Condition	Critical Flow (cfs)
Acute aquatic life	1Q10	15
Chronic aquatic life	7Q10	18.7
Ammonia	30Q5	28.5

Sources for data that DEQ examines are the United States Geological Survey (USGS), Idaho Department of Water Resources (IDWR) and other available data for the receiving water. For this permit, DEQ determined critical low flows upstream of the discharge from the USGS Streamstats application. The estimated low flows are presented in Table 6.

## 3 Effluent Limits and Monitoring

Table 7 presents the effluent limits and monitoring requirements in the 2005 Permit. Table 8 and Table 9 present the effluent limits and monitoring requirements in the 2020 permit.

**Table 7. 2005 Permit - Effluent Limits and Monitoring Requirements.**

Parameter	Effluent Limits			Monitoring Requirements		
	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Sample Location	Sample Frequency	Sample Type
Flow	---	---	---	Effluent	Continuous	recording
BOD <sub>5</sub>	30 mg/L	45 mg/L	---	Influent and Effluent	1/month	8-hour composite
	100 lbs/day	150 lbs/day	---			
TSS	30 mg/L	45 mg/L	---	Influent and Effluent	1/month	8-hour composite
	100 lbs/day	150 lbs/day	---			
<i>E. coli</i> <sup>1,2</sup>	126/100 ml	---	406/100 ml	Effluent	5/month	Grab
Total Residual Chlorine <sup>2</sup>	0.1 mg/L	---	0.2 mg/L	Effluent	1/week	Grab
	0.3 lbs/day	---	0.7 lbs/day			
Total Phosphorus <sup>3</sup>	---	---	---	Effluent	1/month	8-hour composite
Total Ammonia <sup>3</sup>	---	---	---	Effluent	1/month	8-hour composite

<sup>1</sup> The average monthly *E. coli* counts must not exceed a geometric mean of 126/100 mL based on a minimum of five samples taken every 3-5 days within a calendar month.

<sup>2</sup> Reporting is required within 24 hours of a maximum daily limit or instantaneous maximum limit violation. See Part II.G.

<sup>3</sup> Monitoring shall be conducted once per month starting in January 2006 and lasting for one year.

The pH range shall be between 6.5 – 9.0 standard units. The permittee shall monitor for pH once per week. Sample analysis shall be conducted on a grab sample from the effluent.

There shall be no discharge of floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.

85% removal requirements for BOD<sub>5</sub> and TSS: for each month, the monthly average effluent concentration shall not exceed 15 percent of the monthly average influent concentration.

**Table 8. 2020 Permit - Effluent Limits and Monitoring Requirements.**

Parameter	Discharge Period	Units	Effluent Limits						Monitoring Requirements		Reporting Period (DMR Months)
			Monthly Average	Weekly Average	Monthly Geometric Mean	Instantaneous Minimum	Instantaneous Maximum	Daily Maximum	Sample Type	Sample Frequency	
Biochemical Oxygen Demand (BOD <sub>5</sub> )	01/01 – 12/31	mg/L	30	45	—	—	—	—	Grab <sup>f</sup>	2/month	Monthly (All Months)
		lb/day	100	150	—	—	—	—	Calculation <sup>a</sup>		
BOD <sub>5</sub> Percent Removal	01/01 – 12/31	%	85 (min)	—	—	—	—	—	Calculation <sup>b</sup>	1/month	
Total Suspended Solids (TSS)	01/01 – 12/31	mg/L	30	45	—	—	—	—	Grab <sup>f</sup>	2/month	Monthly (All Months)
		lb/day	100	150	—	—	—	—	Calculation <sup>a</sup>		
TSS Percent Removal	01/01 – 12/31	%	85 (min)	—	—	—	—	—	Calculation <sup>b</sup>	1/month	
<i>E. coli</i> <sup>c</sup>	01/01 – 12/31	#/100 ml	—	—	126 <sup>d</sup>	—	—	—	Grab <sup>e,f</sup>	5/month	Monthly (All Months)
pH	01/01 – 12/31	standard units (s.u.)	—	—	—	6.5	9.0	—	Grab <sup>f</sup>	2/week	Monthly (All Months)
Total Ammonia	01/01 – 12/31	mg/L	11.3	—	—	—	—	29.6	8-hour composite	1/week	Monthly (All Months)
		lb/day	36.7	—	—	—	—	96.1	Calculation <sup>a</sup>		
Total Residual Chlorine <sup>g</sup>	01/01 – 12/31	mg/L	0.1	—	—	—	—	0.2	8-hour composite	1/week	Monthly (All Months)
		lb/day	0.3	—	—	—	—	0.7	Calculation <sup>a</sup>		
Temperature	01/01/ - 12/31	°C	See Table 9						Recorded	Continuous	Monthly (All Months)

a. Calculation - Calculated means figured concurrently with the respective sample, using the following formula: Concentration (in mg/L) X Flow (in mgd) X Conversion Factor (8.34) = lb/day

- b. % Removal=  $([\text{Influent}](\text{mg/L}) - [\text{Effluent}](\text{mg/L})) / ([\text{Influent}](\text{mg/L})) \times 100\%$   
Braces “[ ]” indicate concentration of the attribute contained inside
- c. Exceedance of a maximum daily limit, instantaneous maximum limit, or instantaneous minimum limit for this parameter requires 24-hour reporting in accordance with 2.2.7. For *E. coli*, the maximum daily threshold that triggers 24-hour reporting is 406 organisms/100mL. Please see 2.2.7 for additional 24-hour reporting requirements.
- d. Idaho’s water quality standards for primary contact recreation include a single sample value of 406/100 ml. Exceedance of this value indicates likely exceedance of the 126/100 ml average monthly effluent limit; however, it is not an enforceable limit for a daily value, nor is exceeding this value a violation of water quality standards. If this value is exceeded at any point within the month, the facility should consider monitoring according to IDAPA 58.01.02.251.01.a to determine compliance with the monthly geomean.
- e. The average monthly *E. coli* bacteria counts must not exceed a geometric mean of 126/100 ml based on a minimum of five samples taken every 3 – 7 days within a calendar month.
- f. A grab sample is an individual sample collected over a 15-minute period or less.
- g. When facility upgrades are completed and UV disinfection replaces chlorine disinfection, the appropriate No Data Indicator (NODI) code “9” may be reported for Total Residual Chlorine.

**Table 9. TMDL Temperature effluent limits for the City of Council POTW.**

Effluent Flow (MGD)	Effluent Limit Type	Units	Weiser River Flow (cfs)		
			≤15	>15 ≤ 30	>30
≤0.2	Maximum Daily Average <sup>c,d</sup>	°C	19.3 <sup>a,b</sup>	24.9 <sup>a,b</sup>	30.6 <sup>a,b</sup>
>0.2 ≤ 0.4		°C	19.3 <sup>a,b</sup>	22.1 <sup>a,b</sup>	24.9 <sup>a,b</sup>
>0.4		°C	19.3 <sup>a,b</sup>	20.7 <sup>a,b</sup>	22.1 <sup>a,b</sup>

- a. TMDL temperature effluent limit equation:  $\text{Effluent temperature } (^{\circ}\text{C}) = [(Average\ Daily\ Effluent\ Flow + (0.25 \times Average\ Daily\ River\ Flow)) \times (19^{\circ}\text{C} + 0.3^{\circ}\text{C})] - [(0.25 \times Average\ Daily\ River\ Flow) \times 19^{\circ}\text{C}] / Average\ Daily\ Effluent\ Flow$  Each cell is calculated using the upper limit of the effluent range, and the lower limit of the receiving water range. Effluent temperature limits calculated by the equation will always take precedent over table values for compliance purposes.
- b. This effluent limit is subject to a compliance schedule as described in Section 3.1.
- c. Maximum of the daily averages for the reporting period (calendar month).
- d. Temperature data must be recorded using DEQ-approved temperature monitoring devices set to record at 60-minute or more frequent intervals. DEQ’s Protocol for Placement and Retrieval of Temperature Data Loggers contains protocols for continuous temperature sampling. This document is available online at: [http://www.deq.idaho.gov/media/487602-wq\\_monitoring\\_protocols\\_report10.pdf](http://www.deq.idaho.gov/media/487602-wq_monitoring_protocols_report10.pdf). Report the following temperature monitoring data on the DMR: maximum daily average and maximum weekly average

### 3.1 Basis for effluent limits

Regulations require that effluent limits in an IPDES permit must be either technology-based or water quality-based.

TBELs are set according to the level of treatment that is achievable using available technology. TBELs are based upon the treatment processes used to reduce specific pollutants. TBELs are set by the EPA and published as a regulation. DEQ may develop a TBEL on a case-by-case basis (40 CFR 125.3, IDAPA 58.01.25.302, and IDAPA 58.01.25.303).

WQBELs are calculated so the effluent will comply with the Surface Water Quality Standards (IDAPA 58.01.02) or the National Toxics Rule (40 CFR 131.36) applicable to the receiving water.

DEQ must apply the most stringent of these limits to each POC. These limits are described below.

### 3.2 Technology-Based Effluent Limits

IDAPA 58.01.25.302 requires that IPDES permits include applicable TBELs and standards, while 40 CFR 125.3(a)(1) states that TBELs for POTWs must be based on secondary treatment standards or as specified in 40 CFR 133. The following section explains secondary treatment effluent limits for the conventional pollutants discharged by POTWs: 5-day biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), and pH. These effluent limits are given in 40 CFR 133 and are outlined in Table 10.

**Table 10. Secondary treatment effluent limits.**

Parameter	30-day average	7-day average
BOD <sub>5</sub>	30 mg/L	45 mg/L
TSS	30 mg/L	45 mg/L
Removal for BOD <sub>5</sub> and TSS (concentration)	85% (minimum)	—
pH	within the limits of 6.0 - 9.0 s.u.	

The POTW does not meet the three requirements for equivalent to secondary treatment listed under 40 CFR 133.101(g). 40 CFR 133.101(g) states:

*“Facilities eligible for treatment equivalent to secondary treatment. Treatment works shall be eligible for consideration for effluent limitations described for treatment equivalent to secondary treatment (§ 133.105), if:*

*(1) The BOD<sub>5</sub> and SS effluent concentrations consistently achievable through proper operation and maintenance (§ 133.101(f)) of the treatment works exceed the minimum level of the effluent quality set forth in § 133.102(a) and 133.102(b),*

*(2) A trickling filter or waste stabilization pond is used as the principal process, and*

(3) *The treatment works provide significant biological treatment of municipal wastewater. Significant biological treatment (§133.101(k)) is defined as the use of an aerobic or anaerobic biological treatment process in a treatment works to consistently achieve a 30-day average of a least 65 percent removal of BOD<sub>5</sub>”*

The minimum effluent limits for equivalent to secondary treatment from 40 CFR 133.105(a) and 40 CFR 133.105(b) are listed in Table 11.

**Table 11. Equivalent to secondary treatment effluent limits (40 CFR 133.105).**

Parameter	30-day average	7-day average
BOD <sub>5</sub>	45 mg/L	65 mg/L
TSS	45 mg/L	65 mg/L
Removal for BOD <sub>5</sub> /cBOD <sub>5</sub> and TSS (concentration)	65% (minimum)	—
pH	within the limits of 6.0 - 9.0 s.u.	

The rationales for how the POTW performs relative to the three criteria are explained below:

Rationale for criterion (1) from 40 CFR 133.101(g):

To meet criterion (1), the 95<sup>th</sup> percentile of the monthly averages for BOD<sub>5</sub> must be greater than 0 mg/L. The 95<sup>th</sup> percentile of the monthly average is 34.9, when looking at the period from January 2013 through May 2019. However, the facility has not been properly maintained and operated in this time frame, which is why the facility is in the midst of facility upgrades. The facility does not satisfy criterion (1).

To meet criterion (1), the 95<sup>th</sup> percentile of the monthly averages for TSS must be greater than 30 mg/L. The 95<sup>th</sup> percentile of the monthly average is 68, when looking at the period from January 2013 through May 2019. However, the facility has not been properly maintained and operated in this time frame, which is why the facility is in the midst of facility upgrades. The facility does not satisfy criterion (1).

Rationale for meeting criterion (2) from 40 CFR 133.101(g):

The POTW historically met this criterion because it used waste stabilization ponds as the principal process of treating waste waters. Upon completion of facility upgrades, the principal treatment will still be a form of waste stabilization pond, therefore the facility satisfies criterion (2).

Rationale for meeting criterion (3) from 40 CFR 133.101(g):

This criterion is based on 40 CFR 133.101(k) (i.e., a 30-day average of a minimum of 65% reduction of BOD<sub>5</sub> is consistently attained). The POTW meets the criterion because it has demonstrated by its previously submitted DMRs that it could consistently achieve the 65% percent removal rates for the Federal Equivalent to Secondary treatment limits for BOD<sub>5</sub>. This is demonstrated because for available DMRs January 2013 to May 2019, the 5th percentile of BOD<sub>5</sub> removal rates is 89%, which is greater than the 65% removal rate required by Treatment Equivalent to Secondary standard.

Due to the fact that all conditions in 40 CFR 133.101(g) are met, the POTW is eligible for the “treatment equivalent to secondary treatment” standards found in 40 CFR 133.105. Based on the above regulations and taking into account the DMR data from the last permit cycle the technology based effluent limits are as follows:

For BOD<sub>5</sub>:

The POTW does not meet the requirements for equivalent to secondary treatment, so the AML is 30 mg/L, the AWL is 45 mg/L, and the percent removal minimum is 85%.

For TSS:

The POTW does not meet the requirements for equivalent to secondary treatment, so the AML is 30 mg/L, the AWL is 45 mg/L, and the percent removal minimum is 85%.

### 3.2.1 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 limits for POTWs be calculated based on the design flow of the facility. The mass-based limits are expressed in pounds per day and are calculated as follows:

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

Since the design flow for this facility is 0.4 mgd, the technology-based mass limits, limited to two significant figures, for:

BOD<sub>5</sub>:

$$\text{Average Monthly Limit} = 30 \text{ mg/l} \times 0.4 \text{ mgd} \times 8.34 = 100 \text{ lbs/day}$$

$$\text{Average Weekly Limit} = 45 \text{ mg/L} \times 0.4 \text{ mgd} \times 8.34 = 150 \text{ lbs/day}$$

TSS:

$$\text{Average Monthly Limit} = 30 \text{ mg/L} \times 0.4 \text{ mgd} \times 8.34 = 100 \text{ lbs/day}$$

$$\text{Average Weekly Limit} = 45 \text{ mg/L} \times 0.4 \text{ mgd} \times 8.34 = 150 \text{ lbs/day}$$

## 3.3 Water Quality-Based Effluent Limits

### 3.3.1 Statutory and Regulatory Basis

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limits in permits necessary to meet WQS. The IPDES regulation IDAPA 58.01.25.302.06 implementing Section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or

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<sup>i</sup> 8.34 is a conversion factor with units (lbs × L)/(mg × gallon × 10<sup>6</sup>)

parameters that are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any WQS including narrative criteria for water quality. Effluent limits must also meet the applicable water quality requirements of affected States other than the State in which the discharge originates, which may include downstream States (IDAPA 58.01.25.103.03, IDAPA 58.01.25.302.06, see also CWA Section 401(a)(2)).

The regulations require the permitting authority to make this evaluation using procedures that account for existing controls on point and non-point sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that WQS are met and must be consistent with any available TMDL WLA for the discharge. If there are no approved TMDLs that specify WLAs for this discharge, all of the WQBELs are calculated directly from the applicable WQS.

### 3.3.2 Reasonable Potential Analysis (RPA) and Need for Water Quality-Based Effluent Limits

DEQ uses the process described in the *Effluent Limit Development Guidance* (DEQ 2017) 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 (WQC) for a given pollutant, DEQ compares the maximum projected receiving water concentration to the WQC for that pollutant. If the projected receiving water concentration exceeds the criteria, there is reasonable potential, and a WQBEL must be included in the permit.

In some cases, a dilution allowance or mixing zone is permitted. A mixing zone is a limited area or volume of water where initial dilution of a discharge takes place and within which certain water quality criteria may be exceeded (IDAPA 58.01.02.060). While the criteria may be exceeded within the mixing zone, the use and size of the mixing zone must be limited such that the waterbody as a whole will not be impaired, all designated uses are maintained and acutely toxic conditions are prevented.

The mixing zones for this facility's pollutants are summarized in Table 12. The calculated limits based on the size of the mixing zones do not impede receiving water beneficial uses. At the mixing zone percentages below there is reasonable potential to cause or contribute an exceedance of WQS for total ammonia, but no reasonable potential to cause or contribute to an exceedance of WQS for total residual chlorine.

**Table 12. Authorized mixing zones for the City of Council POTW.**

Pollutant	Discharge Period	Authorized Mixing Zone (% of Critical Low Flow)			
		Aquatic Life		Human Health	
		Acute (1Q10)	Chronic (7Q10) <sup>a</sup>	Water and Fish	Fish Only
Total Residual Chlorine	Annual	9% of 15.0 cfs	15% of 18.7 cfs	---	---
Total Ammonia	Annual	15% of 15.0 cfs	25% of 28.5 cfs	---	---

a. Chronic total ammonia mixing zone is based on 30Q5 critical low flow.

The RPA and WQBEL calculations were based on mixing zones shown in Table 12. The equations used to conduct the RPA and calculate the WQBELs are provided in Appendix B. If DEQ revises the allowable mixing zone before final issuance of the permit, the RPA and WQBEL calculations will be revised accordingly.

### 3.3.3 Reasonable Potential and Water Quality-Based Effluent Limits

The reasonable potential and WQBELs for specific parameters are summarized below. The calculations are provided in Appendix B.

#### 3.3.3.1 Ammonia

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

**Table 13. Ammonia criteria.**

Total ammonia nitrogen criteria (mg N/L): Annual Basis Based on IDAPA 58.01.02			
<b>INPUT</b>		<b>Acute Criteria Equation: Cold Water</b>	$CMC = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$
1. Receiving Water Temperature (deg C):	18.0		
2. Receiving Water pH:	7.94	<b>Acute Criteria Equation: Warm Water</b>	$CMC = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$
3. Is the receiving water a cold water designated use?	Yes		
4. Are non-salmonid early life stages present or absent?	Absent		
<b>OUTPUT</b>			
<b>Total ammonia nitrogen criteria (mg N/L):</b>		<b>Chronic Criteria: Cold water, early life stages Present</b>	$CCC = \left( \frac{0.0577}{1 + 10^{7.088 - pH}} + \frac{2.487}{1 + 10^{pH - 7.088}} \right) \cdot MIN(2.85, 1.45 \cdot 10^{0.038(25 - T)})$
<b>Acute Criterion (CMC)</b>	<b>6.28</b>	<b>Chronic Criteria: Cold water, early life stages Absent</b>	$CCC = \left( \frac{0.0577}{1 + 10^{7.088 - pH}} + \frac{2.487}{1 + 10^{pH - 7.088}} \right) \cdot 1.45 \cdot 10^{0.038(25 - T)}$
<b>Chronic Criterion (CCC)</b>	<b>2.12</b>		

When granted a mixing zone of 25% of the chronic low flow, ammonia still has the reasonable potential to exceed water quality standards, therefore a limit for ammonia is included in the permit.

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

DEQ’s *Effluent Limit Development Guidance* states that DEQ will use the 90<sup>th</sup> to 95<sup>th</sup> percentile of the ambient upstream receiving water temperature and pH to calculate ammonia criteria. Because the Weiser River is impaired for temperature, DEQ determined that the 95<sup>th</sup> percentile temperature and pH were appropriate for the ammonia calculation. However, DEQ only received one receiving water temperature data point, so that data point was used.

#### 3.3.3.2 E. coli

The Idaho WQS states that waters of the State of Idaho that are designated for recreation (primary or secondary) are not to contain *E. coli* bacteria in concentrations exceeding a geometric mean of 126 organisms per 100 ml based on a minimum of five samples taken every three to seven days over a 30-day period. A mixing zone is not appropriate for bacteria for waters designated for contact recreation. Therefore, the permit contains a monthly geometric mean effluent limit for *E. coli* of 126 organisms per 100 ml (IDAPA 58.01.02.251.01.a.).

The Idaho WQS also state that a water sample that exceeds certain single sample maximum values indicates a likely exceedance of the geometric mean criterion, although it is not, in and of itself, a violation of WQS. For waters designated for primary contact recreation, the single sample maximum value is 406 organisms per 100 ml (IDAPA 58.01.02.251.01.b.ii.). For waters designated only for secondary contact recreation the single sample maximum value is 576 organisms per 100 ml (IDAPA 58.01.02.251.01.b.i.).

When a single sample maximum is exceeded, additional samples should be taken to assess compliance with the geometric mean criterion. Weekly monitoring of the effluent will ensure compliance with the criterion can be assessed. If the single sample maximum is exceeded, the permittee may choose to monitor more frequently to ensure adequate disinfection and compliance with permit effluent limits. Regulations at IDAPA 58.01.25.303.04 require that effluent limits 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 IDAPA 58.01.25.10.06 and .07 respectively 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.

### **3.3.3.3 Chlorine, Total Residual**

The Idaho WQS in Table 1 at IDAPA 58.01.02.210 establish an acute criterion of 19 µg/L and a chronic criterion of 11 µg/L for the protection of aquatic life. An RPA showed that the discharge from the facility would not exceed this water quality criterion even when granted the mixing zones described in Table 12. However, total residual chlorine limits have been maintained to prevent backsliding, as described further in Section 3.6. See Appendix B for the reasonable potential and effluent limit calculations for chlorine.

The City is working on a project to replace the existing 3 lagoon system with chlorination with 3 new lagoons including activated sludge, a polishing reactor and UV disinfection. The City must notify DEQ when the UV disinfection system is in operation. When the UV disinfection has replaced chlorine disinfection, and chlorine is removed from the facility, the monitoring requirements and effluent limits for chlorine will no longer be applicable.

### **3.3.3.4 pH**

The Idaho WQS at IDAPA 58.01.02.250.01.a require pH values of the receiving water to be within the range of 6.5 to 9.0. Mixing zones are generally not granted for pH; therefore the most stringent WQC must be met before the effluent is discharged to the receiving water.

### **3.3.3.5 Total Phosphorus (as P)**

Total phosphorus has no numeric criteria; however, dischargers are required to meet narrative criteria in IDAPA 58.01.02.200.

### 3.3.3.6 Temperature

The Weiser River Subbasin Temperature Total Maximum Daily Loads: Addendum to the Weiser River Subbasin Assessment and TMDL (June 2006) contained the following equation to calculate temperature limits for the effluent discharge for the City of Council:

$$\text{Effluent temperature (}^{\circ}\text{C)} = \frac{((\text{effluent flow} + (0.25 \times \text{river flow})) \times (19 + 0.3)) - ((0.25 \times \text{river flow}) \times 19)}{\text{effluent flow}}$$

The equation has been included in the permit as the limit. To determine compliance with the TMDL, the City is required to monitor effluent flow, effluent temperature, and receiving water flow.

## 3.4 Narrative Criteria

DEQ must consider the narrative criteria described in IDAPA 58.01.02.200 when it determines permit limits and conditions. Narrative WQC limit the hazardous, toxic, radioactive, or other deleterious material concentrations that the facility may discharge which have the potential to adversely affect designated uses, cause acute or chronic toxicity to biota, impair aesthetic attributes, or adversely affect human health. The permit contains a narrative limitation prohibiting the discharge of any such materials described in IDAPA 58.01.02.200.

The Idaho WQS require that surface waters of the State be free from floating, suspended, or submerged matter of any kind in concentrations impairing designated beneficial uses. The permit contains a narrative limitation prohibiting the discharge of such materials. The Idaho WQS require that surface waters of the State be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses. The permit contains a narrative limitation prohibiting the discharge of such materials.

## 3.5 Antidegradation

DEQ's antidegradation policy provides three levels of protection to water bodies in Idaho subject to Clean Water Act (CWA) jurisdiction (IDAPA 58.01.02.051).

- Tier I of antidegradation protection is designed to ensure that existing uses and the water quality necessary to protect those uses is maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). A Tier I review is performed for all new or reissued permits (IDAPA 58.01.02.052.07).
- Tier II protection applies to any water bodies considered to be high quality waters (where the water quality exceeds levels necessary to support propagation of fish, shellfish, wildlife, and recreation in and on the water) and provides that water quality will be maintained and protected unless allowing for lower water quality is deemed by the state as necessary to accommodate important economic or social development in the area. In allowing any lowering of water quality DEQ must ensure adequate water quality to protect existing uses fully and must assure that there will be achieved the highest statutory and regulatory requirements for all new and existing point sources (IDAPA 58.01.02.051.02; 58.01.02.052.08).

- Tier III protection applies to water bodies that have been designated by the Idaho Legislature as outstanding national resource waters and provides that water quality is to be maintained and protected (IDAPA 58.01.02.051.03; 58.01.02.052.09).

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

### **3.5.1 Protection and Maintenance of Existing Uses (Tier I Protection)**

A Tier I review is performed for all new or reissued permits, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. In order to protect and maintain existing and designated beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality-limited, and a TMDL must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limits that are consistent with wasteload allocations in the approved TMDL.

Prior to the development of the TMDL, the WQS require the application of the antidegradation policy and implementation provisions to maintain and protect uses (IDAPA 58.01.02.055.04). The EPA-approved Weiser River Subbasin Temperature Total Maximum Daily Loads: Addendum to the Weiser River Subbasin Assessment and TMDL (June 2006) establishes WLAs for temperature. The effluent limits and associated requirements contained in the 2020 permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS and the wasteload allocations established in the TMDL above. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Weiser River in compliance with the Tier I provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

### **3.5.2 High-Quality Waters (Tier II Protection)**

The Weiser River is considered high quality for primary contact recreation. As such, the water quality relevant to primary contact recreation of the Weiser River must be maintained and protected, unless a lowering of water quality is insignificant or is deemed necessary to accommodate important social or economic development (IDAPA 58.01.02.052.08). The Weiser River aquatic life use is not fully supported. The cause of impairment is temperature. There is insufficient data to determine whether a healthy, balanced biological community exists in this reach, so it is not considered high quality for aquatic life.

To determine whether degradation will occur, DEQ must evaluate how the discharge will affect water quality for each pollutant of concern that is relevant to primary contact recreation uses of the Weiser River (IDAPA 58.01.02.052.06); these include temperature, total ammonia, *E. coli* and total phosphorus. The flow based temperature limit in the permit is based on the wasteload allocation in the TMDL. Total ammonia received a new limit in the 2020 permit that will ensure compliance with water quality standards at the edge of the mixing zone. Effluent limits for *E. coli* are set in the 2020 and 2005 permits for this pollutant. Total phosphorus has no numeric limit because it has no reasonable potential to cause or contribute to a water quality exceedance at the discharge.

For a reissued permit, the effect on water quality is determined by looking at the difference in water quality that would result from the activity or discharge as authorized in the 2005 permit and the water quality that would result from the activity or discharge in the reissued permit (IDAPA 58.01.02.052.06.a). For a new permit, the effect on water quality is determined by reviewing the difference between the existing receiving water quality and the water quality that would result from the activity or discharge as proposed in the new permit (IDAPA 58.01.02.052.06.a).

### **3.5.2.1 Pollutants with Limits in the 2005 and 2020 Permit**

For pollutants that are currently limited and will have limits under the reissued permit, the current discharge quality is based on the limits in the 2005 permit (IDAPA 58.01.02.052.06.a.i), and the future discharge quality is based on the 2020 permit limits (IDAPA 58.01.02.052.06.a.ii). For this permit, it means determining the permit's effect on water quality based upon the limits for pollutants with limits in both 2005 permit and the 2020 permit. Table 14 provides a summary of the 2005 permit limits and the 2020 permit limits.

Since the design flow of the facility is unchanged, there will be no degradation of water quality based on the *E. coli* limits.

### **3.5.2.2 Pollutants with new Limits in the 2020 Permit**

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

The permit includes new limits for total ammonia and temperature. The temperature limit is based on the equation in the TMDL. The temperature limits in the permit reflect a maintenance or improvement in water quality from current conditions, and are consistent with the TMDL WLA. Therefore no adverse change in water quality and no degradation will occur with respect to temperature.

The total ammonia limit is based on the reasonable potential calculations in Appendix B. The existing discharge was determined to have the reasonable potential to exceed water quality criteria. The total ammonia limit in the 2020 permit reduces the discharge of total ammonia to the Weiser River, so it will result in an improvement in water quality from current conditions. Therefore no adverse change in water quality and no degradation will occur with respect to ammonia.

### 3.5.2.3 Pollutants with no Limits

For pollutants that do not have limits in the existing permit and which will not be limited in the new permit, a change in water quality is determined by reviewing whether changes in production, treatment, or operation will likely increase the discharge of those pollutants. Total phosphorus doesn't have limits in either the 2005 permit or the 2020 permit. The new treatment plant should treat phosphorus better than the old lagoon system did. The design flow of the facility is the same, so there should be no change or a reduction in phosphorus discharge.

**Table 14. Antidegradation comparison for protection of the primary contact recreation beneficial use**

Pollutant	Units	2005 Permit			2020 Permit			Degradation <sup>a</sup>
		Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Average Monthly Limit	Average Weekly Limit	Single Sample Limit	
<b>Pollutants with limits in both the 2005 and 2020 permit</b>								
<i>E. coli</i>	no./100 ml	126	---	406	126	---	---	No
<b>Pollutants with new limits in the 2020 permit</b>								
Total Ammonia	mg/L	---	---	---	11.1	---	29.0	No
	lb/day	---	---	---	36.9	---	96.7	No
Temperature	°C	---	---	---	See Table 9			No
<b>Pollutants with no limits in both the 2005 and 2020 permit</b>								
Phosphorus total (as P)	mg/L	Monitor	---	---	---	---	---	No

<sup>a</sup> No = No degradation, Yes - S = Increase in pollutant load or concentration resulting in significant degradation, Yes - I = Increase in pollutant load or concentration resulting in insignificant degradation

## 3.6 Antibacksliding

Sections 303(d)(4) and 402(o) of the CWA, and regulations at IDAPA 58.01.25.200, generally prohibit the renewal, reissuance, or modification of an existing IPDES permit that contains effluent limits, permit conditions, or standards that are less stringent than those established in the existing permit (i.e., antibacksliding) but provides limited exceptions. For explanation of the antibacksliding exceptions refer to section 4.1 of the Effluent Limit Development Guidance (DEQ 2017).

DEQ compared the effluent limits in the 2005 permit with the 2020 permit in Table 15 below.

Chlorine limits are included in the 2020 permit to prevent backsliding. When the City completes the installation of and begins using the UV disinfection, and has removed chlorine from their facility, chlorine limits will be removed because it will no longer be associated with the treatment process.

**Table 15. Comparison of 2005 and 2020 effluent limits.**

Pollutant	Units	2005 Permit			2020 Permit			Change <sup>a</sup>
		Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Average Monthly Limit	Average Weekly Limit	Single Sample Limit	
<b>Pollutants with limits in both the 2005 and 2020 permit</b>								
Five-Day BOD	mg/L	30	45	---	30	45	---	NC
	lb/day	100	150	---	100	150	---	
	% removal	85	---	---	85	---	---	
TSS	mg/L	30	45	---	30	45	---	NC
	lb/day	100	150	---	100	150	---	
	% removal	85	---	---	85	---	---	
pH	standard units	6.5–9.0 all times			6.5–9.0 all times			NC
<i>E. coli</i>	no./100 mL	126	---	406	126	---	---	LS
Total Residual Chlorine	mg/L	0.1	---	0.2	0.1	---	0.2	NC
	lb/day	0.3	---	0.7	0.3	---	0.7	
<b>Pollutants with new limits in the 2020 permit</b>								
Total Ammonia	mg/L	---	---	---	11.1	---	29.0	MS
	lb/day	---	---	---	36.9	---	96.7	
Temperature	°C	---	---	---	See Table 9			MS
<b>Pollutants with no limits in both the 2005 and 2020 permit</b>								
Total Phosphorus	lb/day	Monitor	---	---	--- <sup>b</sup>	---	---	NC

<sup>a</sup> MS = More stringent pollutant load or concentration limit, LS = Less stringent pollutant load or concentration limit, NC = No change in pollutant load or concentration limit <sup>b</sup> Phosphorus monitoring is still required for permit renewal monitoring. See section 4.4.

### 3.6.1 BOD<sub>5</sub>

The 2005 permit granted 85% removal efficiency for BOD<sub>5</sub>, an average monthly limit of 30 mg/L, and an average weekly limit of 45 mg/L. The 2020 permit proposes to maintain the average monthly limit of 30 mg/L and the average weekly of 45 mg/L. In the 2005 permit, the average monthly lb/day limit was 100, and the average weekly was 150 lb/day. The 2020 permit proposes to maintain these limits of 100 lb/day monthly average and 150 lb/day weekly average. Therefore the 2020 permit is as stringent as 2005 permit and there is no backsliding.

### 3.6.2 Total Suspended Solids

The 2005 permit granted 85% removal efficiency for TSS, an average monthly limit of 30 mg/L, and an average weekly limit of 45 mg/L. The 2020 permit proposes to maintain the average monthly limit of 30 mg/L and the average weekly of 45 mg/L. In the 2005 permit, the average monthly lb/day limit was 100, and the average weekly was 150 lb/day. The 2020 permit proposes to maintain these limits of 10 lb/day monthly average and 150 lb/day weekly average. Therefore the 2020 permit is as stringent as the 2005 permit and there is no backsliding.

### **3.6.3 pH**

The 2005 permit contains an instantaneous maximum limit of 9.0, and an instantaneous minimum of 6.5. These limits have been maintained in the permit. Therefore the 2020 permit is as stringent as the 2005 permit and there is no backsliding.

### **3.6.4 E. coli**

The 2005 permit contains a maximum daily limit (i.e. single sample limit) of 406 organisms per 100 mL. This limit has been removed in the permit as per IDAPA 58.01.02.251.01.b. The water quality standards include the 406 organisms per 100 mL threshold as a trigger value for additional testing and not a water quality criterion, therefore it is not applicable as a water quality based effluent limit. This limit removal is allowed under anti-backsliding exceptions in IDAPA 58.01.25.200.03 since:

- The primary contact beneficial use is attained; and
- The resulting water quality effects are consistent with the state's anti-degradation policy

### **3.6.5 Total Residual Chlorine**

The 2005 permit contains an average monthly limit of 0.1 mg/L (0.3 lb/day) and a maximum daily limit of 0.2 mg/L (90.7 lb/day) for total residual chlorine. The new permit maintains the same limits as the previous permit, therefore there is no backsliding.

### **3.6.6 Total Ammonia**

Total ammonia was given a new limit in the permit because it had the reasonable potential to exceed water quality criteria at the edge of the authorized mixing zone. Thus, the proposed permit is at least as stringent as the previous permit, and there is no backsliding.

### **3.6.7 Temperature**

Temperature was given a new limit in the 2020 permit to comply with the temperature TMDL. The proposed permit is at least as stringent as the previous permit, and there is no backsliding.

## **4 Monitoring Requirements**

Idaho regulations IDAPA 58.01.02 and 58.01.25 require that monitoring be included in permits to determine compliance with effluent limits and other permit restrictions. Monitoring may also be required to gather data to assess the need for future effluent limits or to monitor effluent impacts on receiving water quality. Permittees are responsible for conducting the monitoring and reporting the results on monthly DMRs and in annual reports.

### **4.1 Influent Monitoring**

Flow, TSS, and BOD<sub>5</sub> monitoring requirements are listed below in Table 16. 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.

**Table 16. Influent monitoring requirements.**

Parameter	Monitoring Period	Units	Sample Frequency	Sample Type	Report	Reporting Period (DMR Months)
Flow	01/01 to 12/31	mgd	Continuous <sup>a</sup>	Recorded	Average Monthly, Daily Maximum	Monthly (All Months)
TSS	01/01 to 12/31	mg/L	2/month	8-hour composite	Average Weekly, Average Monthly	Monthly (All Months)
BOD <sub>5</sub>	01/01 to 12/31	mg/L	2/month	8-hour composite	Average Weekly, Average Monthly	Monthly (All Months)

- a. Continuous means uninterrupted data logger time intervals no greater than 30 minutes except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance.

#### 4.1.1 Influent Monitoring Changes from the 2005 Permit

Monitoring frequency increased for BOD<sub>5</sub> and TSS relative to the 2005 permit. Changes in monitoring are presented in Table 17, below.

**Table 17. Changes in Influent monitoring frequency from 2005 permit.**

Parameter	2005 Permit	2020 Permit	Rationale
TSS	1/month	2/month	Increased frequency will better confirm compliance with percent removal requirements.
BOD <sub>5</sub>	1/month	2/month	Increased frequency will better confirm compliance with percent removal requirements.

## 4.2 Additional 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.

Parameters that must be monitored but do not have effluent limits are presented in Table 18. The sampling location must be after the last treatment unit and prior to discharge to the receiving water. The samples must be representative of the volume and nature of the monitored discharge. If no discharge occurs during the reporting period, "no discharge" shall be reported on the DMR.

**Table 18. Additional Effluent Monitoring.**

Parameter	Monitoring Period	Units	Monthly Average	Instantaneous Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
<i>E.coli</i>	01/01 – 12/31	#/100 ml	—	Report <sup>a</sup>	5/month	Grab <sup>b</sup>	Monthly (All Months)
Flow	01/01 – 12/31	mgd	Report	—	Continuous <sup>c</sup>	Recorded	Monthly (All Months)

- Reporting is required within 24 hours of discovery of a single sample value greater than 406 #/100 ml. A value greater than this indicates likely exceedance of the geometric mean criterion, but is not by itself a violation of water quality standards or permit effluent limits.
- A grab sample is an individual sample collected over a 15-minute period or less.
- Continuous means uninterrupted data logger time intervals no greater than 30 minutes except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance.

#### 4.2.1 Effluent Monitoring Changes from the 2005 Permit

Monitoring frequency increased for temperature, BOD<sub>5</sub>, TSS, pH, ammonia and dissolved oxygen relative to the 2005 permit. Changes in monitoring are presented in Table 19, below.

**Table 19. Changes in Effluent monitoring frequency from 2005 permit.**

Parameter	2005 Permit	2020 Permit	Rationale
Temperature	---	Continuous	Monitoring frequency increased due to new permit limits from TMDL WLA
BOD <sub>5</sub>	1/month	2/month	Monitoring frequency increased to better confirm compliance with permit limits
TSS	1/month	2/month	Monitoring frequency increased to better confirm compliance with permit limits
pH	1/week	2/week	Monitoring frequency increased to better confirm compliance with permit limits
Total Ammonia as N	1/month	1/week	Monitoring frequency increased due to new permit limits
Total Phosphorus	1/month	---	Monitoring is not required on a monthly basis. Permit renewal monitoring will provide sufficient data for the following permit cycle.

#### 4.3 Receiving Water Monitoring

Table 20 presents the receiving water monitoring requirements for the permit. The City should establish receiving water monitoring at the identified locations. Receiving water monitoring results must be submitted with the DMR.

**Table 20. Receiving water monitoring requirements.**

Parameter	Units	Sample Frequency	Sample Type	Report	Reporting Frequency (DMR Months)
Flow	cfs	Continuous <sup>a</sup>	Recorded	Instantaneous Minimum, Average Monthly	Monthly (All Months) <sup>b</sup>
Temperature	°C	Continuous <sup>a</sup>	Recorded	Maximum Daily Average	Monthly (All Months)

pH	s.u.	1/quarter <sup>c</sup>	Grab <sup>d,e</sup>	Instantaneous Maximum, Instantaneous Minimum	Quarterly (March, June, September, December)
Total Ammonia (as N)	mg/L	1/quarter <sup>b</sup>	8-hour composite	Monthly Average	Quarterly (March, June, September, December)

- Continuous means uninterrupted data logger time intervals except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance.
- Daily average receiving water flow will be reported via an excel spreadsheet and uploaded to the IDPES E-Permitting system. These data are due when DMR reports are due.
- Quarters are defined as: January 1-March 31; April 1-June30; July 1-September 30; and October 1-December 31.
- Grab means an individual sample collected over a 15 minute, or less, period.
- pH must be analyzed within 15 minutes of sample collection.

#### 4.3.1 Receiving Water Monitoring Changes from the 2005 Permit

Receiving water monitoring has increased for flow (cfs) because it is necessary in order to determine compliance with the TMDL WLA for temperature. Changes in monitoring are presented in Table 21, below.

**Table 21. Changes in Receiving Water monitoring frequency from 2005 permit.**

Parameter	2005 Permit	2020 Permit	Rationale
Flow	---	1/month	Receiving water flow monitoring is required in order to determine compliance with the temperature TMDL WLA.
Phosphorus	1/quarter	---	The receiving water is not listed as impaired for phosphorus in the 2016 Integrated Report, so quarterly monitoring will not be required. Permit renewal monitoring will provide sufficient data for the following permit cycle.

#### 4.4 Permit Renewal Monitoring

The permit renewal monitoring requires data collected to characterize the effect of the effluent on the Weiser River. At a minimum, three scans of the final wastewater effluent for the parameters listed in Table 22 and Table 23 are required so that DEQ can assess the surface water impacts.

**Table 22. Effluent monitoring required for all permit renewals.**

Parameter	Units	Sample Type	Report
pH	s.u.	Grab	Minimum and maximum value
Flow	mgd	Continuous <sup>a</sup>	Maximum daily value, average daily value, number of samples
Temperature <sup>b</sup>	°C	Grab	
BOD <sub>5</sub>	mg/L	Grab	Maximum daily value, average daily value, analytical method and ML or MDL
TSS	mg/L	Grab	
<i>E. coli</i>	#/100 mL	Grab	

- Continuous means uninterrupted data logger time intervals no greater than 30 minutes except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance.
- The permittee must collect during the middle month of each quarter (i.e. August for the third quarter of 2020, November for the fourth quarter of 2021, and February for the first quarter of 2022).

The facility has a design flow greater than 0.1 mgd and must also complete sampling of effluent testing for the parameters in Table 23.

**Table 23. Effluent testing required for permit renewals of facilities with flow greater than 0.1 mgd.**

Parameter	Units	Sample Type	Report
Ammonia (as N)	mg/L	Grab	Maximum daily value, average daily value, analytical method and ML or MDL
Chlorine, Total Residual	mg/L	Grab	
Dissolved oxygen	mg/L	Grab	
Total Kjeldahl Nitrogen	mg/L	Grab	
Nitrate plus Nitrite	mg/L	Grab	
Oil and grease	mg/L	Grab	
Phosphorus, Total (as P)	mg/L	Grab	
Total dissolved solids	mg/L	Grab	

An individual scan includes all parameters in Table 22 and Table 23. For parameters in which a grab sample must be collected, each scan consists of a minimum of four grab samples, analyzed individually. For parameters requiring a 24-hour composite sample, only one analysis of the composite of aliquots is required for each scan.

The permittee must conduct one permit renewal monitoring scan of the effluent according to the following schedule:

- 2020: Fourth quarter (Oct-Dec)
- 2022: First quarter (Jan-Mar)
- 2023: Second quarter (Apr-Jun)

This schedule spreads monitoring over the permit effective period, as well as captures a range of seasons.

## 5 Special Conditions

### 5.1 Compliance Schedules

IDAPA 58.01.25.305 and 40 CFR 122.47 allow for compliance schedules in IPDES permits to provide additional time for permittees to achieve compliance.

The permit includes a compliance schedule for temperature. The facility does not have sufficient data to determine whether it can comply with the final temperature limit. The compliance schedule provides time for the permittee to collect data to demonstrate compliance with the final effluent limits. If permit compliance is not immediately achievable, the compliance schedule outlines actions to take to meet permit limits by May 31, 2029.

The permit includes a compliance schedule for total ammonia. Currently, the facility does not have sufficient data to determine whether it can comply with the final total ammonia limit. The compliance schedule provides time for the permittee to complete facility upgrades and optimize

processes to comply with final permit limits. The compliance schedule outlines actions to take to meet permit limits by March 31, 2021.

## 5.2 Nondomestic Waste Management

The permittee has nonsignificant, nondomestic (industrial/commercial) users, which are neither subject to the pretreatment standards in 40 CFR 405 through 471, nor meet any of the criteria of a significant industrial user (SIU) as specified in 40 CFR 403.3(v), and therefore, DEQ does not require an authorized pretreatment program. The permittee must ensure that pollutants from nondomestic wastes discharged to their system do not negatively impact system operation or pass through the wastewater treatment facility. The permittee must not authorize indirect discharges of pollutants that would inhibit, interfere with, or otherwise be incompatible with operation of the wastewater treatment works, including interference with the use or disposal of municipal sludge.

## 5.3 Inflow and Infiltration Report

The City is in the process of upgrading their facility. One of the reasons for this upgrade, stated in their facility plan (2018), is that there is excessive I/I. Upon completion of the facility upgrades, the City must verify that I/I has been reduced by analyzing their influent flow rate over the first year after completion of the facility upgrades and notifying DEQ of the results of the analysis. The permittee must prepare a brief report summarizing the results of the influent monitoring.

## 5.4 Spill Control Plan

The permittee shall update and implement a plan for possible spills of all chemicals.

## 6 Standard Conditions

Section 4 of the permit contains standard regulatory language that must be included in all IPDES permits. DEQ bases the Standard Conditions on state and federal law and regulations. The standard regulatory language covers requirements such as monitoring, recording, and reporting requirements, compliance responsibilities, and other general requirements.

### 6.1.1 Quality Assurance Project Plan

In accordance with IDAPA 58.01.25.300.05, permittees are required to develop procedures to ensure that the monitoring data submitted is accurate and explain data anomalies if they occur. The permittee is required to develop, maintain, and implement a plan for how to properly conduct sample collection and analysis for influent, effluent and receiving water. The quality assurance project plan (QAPP) shall consist of standard operating procedures for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. The plan shall be retained on site and made available to DEQ upon request.

### **6.1.2 Operation and Maintenance Manual**

The permit requires the POTW to properly operate and maintain all facilities and systems of conveyance, treatment, and control. Proper operation and maintenance is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times. The permittee is required to update and implement an operation and maintenance plan for their facility by 12/28/2020. The plan must be retained on site and made available to DEQ upon request.

### **6.1.3 Emergency Response Plan**

The permittee must update and implement an emergency response plan that identifies measures to protect public health and the environment. At a minimum, the plan must include mechanisms for the following:

1. Ensure that the permittee is aware (to the greatest extent possible) of all overflows from portions of the collection system over which the permittee has ownership or operational control as well as any unanticipated treatment unit bypass or upset that may exceed any effluent limit in the permit.
2. Ensure that reports of an overflow or of an unanticipated bypass or upset that may exceed any effluent limit in this permit are immediately dispatched to appropriate personnel for investigation and response.
3. Ensure immediate notification to DEQ of any noncompliance that may endanger public health or the environment and identify the public health district and other officials who will receive immediate notification for items that require 24-hour.
4. Ensure that appropriate personnel understand, are appropriately trained on, and follow the Emergency Response Plan; and
5. Provide emergency facility operation.

## **7 Compliance with other DEQ Rules**

### **7.1 Operator's License**

The permittee must meet the requirements and operator license levels listed in the wastewater rules at IDAPA 58.01.16.203 for the types of operations at the facility.

### **7.2 Lagoon Seepage Testing**

The permittee must comply with the Wastewater Rules in IDAPA 58.01.16, including the seepage testing requirements in IDAPA 58.01.16.493 for municipal lagoons. Prior to lagoon seepage testing, the permittee must consult DEQ. The seepage test report submittals to DEQ must be up-to-date per the IDAPA 58.01.16 timelines.

### 7.3 Sludge/Biosolids

DEQ separates wastewater and sludge permitting for the purposes of regulating biosolids. DEQ 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 503 and the requirements of Idaho's Wastewater Rules (IDAPA 58.01.16.480 and 650). The 503 regulations are self-implementing, and facilities must comply with them whether or not a permit has been issued. Idaho's Wastewater Rules require a POTW to have the capability to process sludge accumulated on site in preparation for final disposal or reuse (IDAPA 58.01.16.650). Operations of these sludge processing, storage, and disposal activities must comply with the facility's sludge management plan.

The City of Council is in the process of upgrading their facility. As a component of the facility upgrades, the existing lagoons will have their sludge removed. In addition, the facility will monitor sludge accumulation in the new lagoons after construction, and remove the sludge as necessary.

## 8 Permit Expiration

The permit will expire five years after the effective date.

DEQ may modify a permit before its expiration date only for causes specified in IDAPA58.01.25.201.02. A modification other than a minor modification requires preparing a draft permit that incorporates the proposed changes, preparing a fact sheet, and conducting a public review period. Only the permit conditions subject to the modification will be reopened when a permit is modified. All other conditions of the existing permit remain in effect. Modifying a permit does not change the expiration date of the original permit.

## 9 References for Text and Appendices

DEQ. 2006. *Weiser River Subbasin Temperature Total Maximum Daily Loads: Addendum to the Weiser River Subbasin Assessment and TMDL*. Idaho Department of Environmental Quality. State Office. June 2006.

DEQ. 2006. *Weiser River Watershed Subbasin Assessment and Total Maximum Daily Loads*. Idaho Department of Environmental Quality. State Office. July 2006

DEQ . 2016. *Idaho's 2016 Integrated Report*. Boise, ID: DEQ. [www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report/](http://www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report/)  
<https://www.deq.idaho.gov/media/60182296/idaho-integrated-report-2016.pdf>

DEQ. 2017. *Effluent Limit Development Guidance*. Idaho Department of Environmental Quality. State Office. December 2017.

USGS *USGS Streamstats Application*. <https://streamstats.usgs.gov/ss/>

## **Appendix A. Facility Maps/Process Schematics**

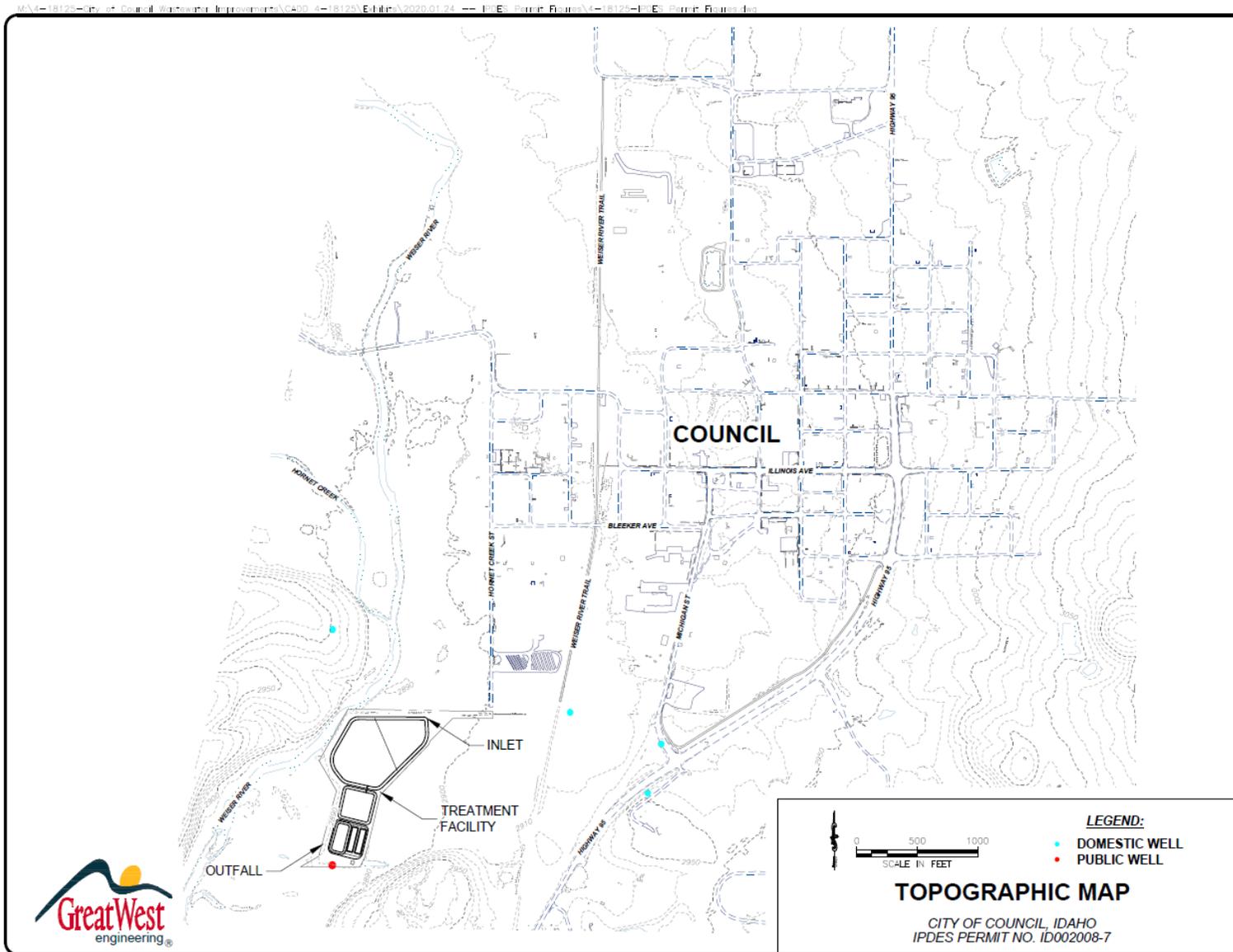


Figure 1: Topographic Map of City of Council Wastewater Treatment Plant

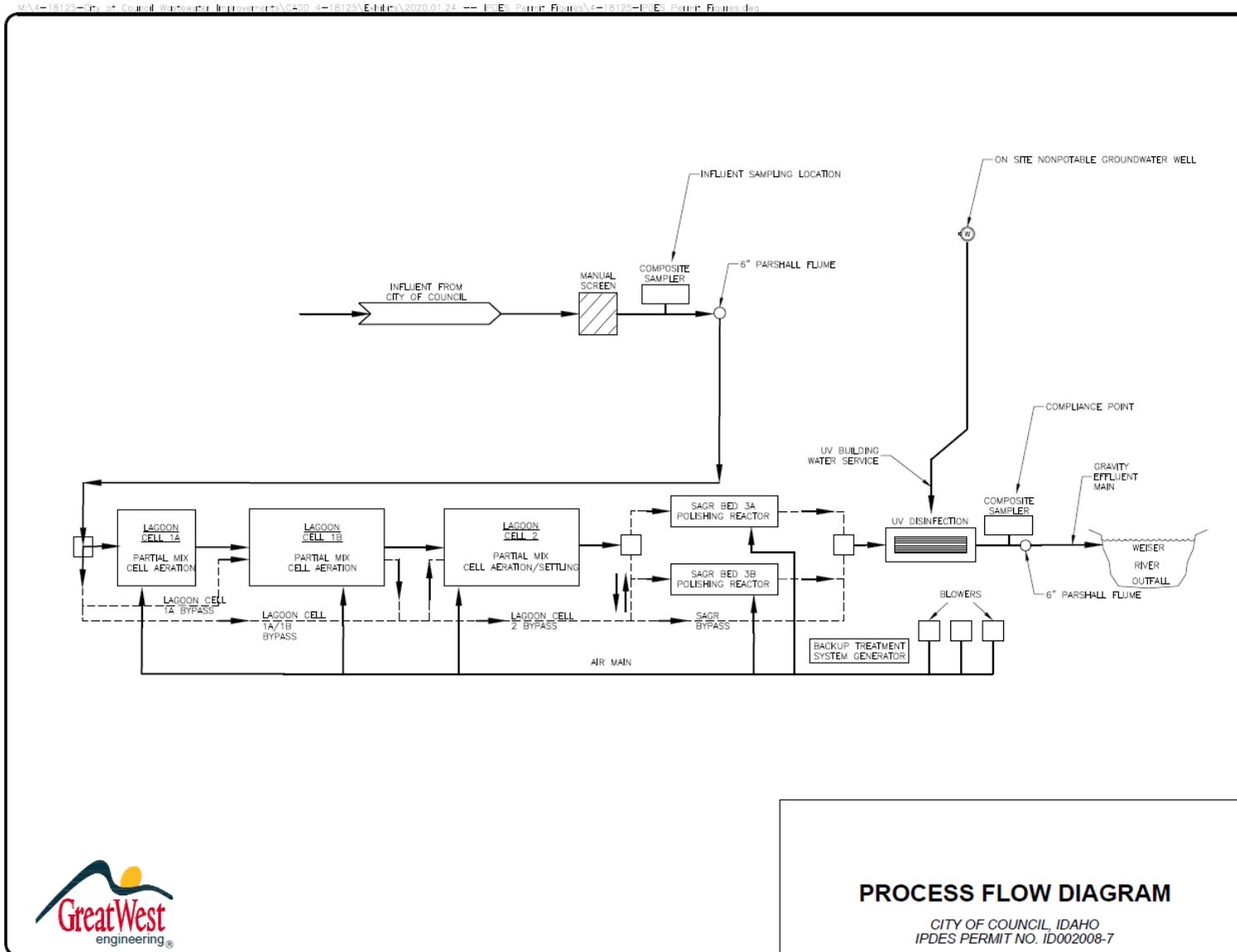


Figure 2: Process Flow Diagram of City of Council Wastewater Treatment Plant

## Appendix B. Technical Calculations

The results of the technical calculations are discussed above in sections 3.2 and 3.3 of the fact sheet.

### A. Technology-Based Effluent Limits

The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as secondary treatment, which all POTWs were required to meet by July 1, 1977. The EPA has developed and promulgated secondary treatment effluent limits, which are found in 40 CFR 133. These TBELs apply to all municipal wastewater treatment facilities and identify the minimum level of effluent quality attainable by application of secondary treatment in terms of BOD<sub>5</sub>, TSS, and pH.

The concentration and removal rate limits for BOD<sub>5</sub> and TSS are the technology-based effluent limits of 40 CFR 133.102. As explained below, DEQ has determined that more stringent WQBELs are necessary for pH, as well as *E. coli*, TRC, ammonia, and temperature, in order to ensure compliance with WQS.

### B. Reasonable Potential and Water Quality-Based Effluent Limit Calculations

DEQ uses the process in the *Effluent Limit Development Guidance* (DEQ 2017) to determine reasonable potential. After characterizing the effluent and receiving water, DEQ compares the projected receiving water concentration after the effluent is discharged to the water quality criteria for the pollutant of concern. If the projected concentration exceeds the criterion, there is reasonable potential and an effluent limit is developed.

If DEQ chooses to authorize a mixing zone, the water quality criteria must still be met at the edge of the mixing zone. If after the analysis of the mixing zone, water quality criteria are not being met, the facility will receive an effluent limit that identifies both the size of the mixing zone and the final effluent limit.

#### Mass-Balance

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

$$C_d = \frac{(C_e Q_e) + [C_u (Q_u \times \%MZ)]}{Q_e + (Q_u \times \%MZ)} \quad \text{Equation 1. Simple mass-balance equation.}$$

Where:

$C_d$ = downstream receiving water concentration	Calculated value
$Q_e$ = critical effluent flow	From discharge flow data (design flow for POTW)
$Q_u$ = critical upstream flow (1Q10 acute criterion, 7Q10 chronic, or harmonic mean)	From water quality standards
$\%MZ$ = percent of critical low flow provided by mixing zone	From mixing zone analysis

$C_u$ = critical upstream pollutant concentration (90th to 95th percentile)	From receiving water data
$C_e$ = critical effluent pollutant concentration	Calculated value using

A dilution factor (D) can be introduced to describe the allowable mixing. A dilution factor represents the ratio of the receiving water body low flow percentage (i.e., the low-flow design discharge conditions) to the effluent discharge volume and is expressed as:

$$\text{Dilution Factor} = D_f = \frac{(Q_s \times P + Q_e)}{Q_e} = \frac{(Q_s \times P)}{Q_e} + 1 \quad \text{Equation 2. Dilution factor calculation.}$$

Where:  $D_f$  = Dilution factor

$Q_s$  = Receiving water low-flow condition (cfs)

P = Mixing zone percentage

$Q_e$  = Effluent discharge flow (cfs)

The above equations for  $C_d$  are the forms of the mass-balance equation, which were used to determine reasonable potential and calculate WLAs.

### Critical Effluent Pollutant Concentration

When determining the projected receiving water concentration downstream of the effluent discharge, DEQ's *Effluent Limit Development Guidance* (DEQ 2017) recommends using the critical effluent pollutant concentration ( $C_e$ ) in the mass balance calculation (see Equation 1). To determine the  $C_e$  DEQ has adopted EPA's statistical approach that accounts for day-to-day variability in effluent quality by identifying the number of samples, calculating the coefficient of variation (CV) (Equation 7, below), and selecting a reasonable potential multiplying factor (RPMF) from the tables in the *Effluent Limit Development Guidance* (DEQ 2017).

$$CV = \frac{\text{Standard Deviation}}{\text{Mean}} \quad \text{Equation 3. CV calculation.}$$

$$C_e = MOEC \times RPMF \quad \text{Equation 4. } C_e \text{ calculation.}$$

If the  $C_e$  exceeds water quality criteria then a reasonable potential analysis is conducted.

### Reasonable Potential Analysis

The discharge has reasonable potential to cause or contribute to an exceedance of WQC, referred to as a reasonable potential to exceed (RPTE), if the critical concentration of the pollutant at the end of pipe exceeds the most stringent WQC for that pollutant. This RPTE may result in end-of-pipe limits or may be accommodated if the receiving water has sufficient low flows to provide a mixing zone and the POC does not have acute toxicity attributes. Other conditions may also be applicable that may restrict the use of a mixing zone for the POC.

### C. WQBEL Calculations

The following calculations demonstrate how the WQBELs in the permit were calculated. The permit includes calculated WQBELs for TRC and ammonia. The following discussion presents the general equations used to calculate the WQBELs.

#### Calculate the Wasteload Allocations (WLAs)

WLAs are calculated using the same mass-balance equations used to calculate the concentration of the pollutant at the mixing zone boundary in the RPA. WLAs must be calculated for both acute and chronic criteria. To calculate the WLAs,  $C_d$  is set equal to the appropriate criterion and the equation is solved for  $C_e$ . The calculated  $C_e$  is the WLA. Equation 9 is rearranged to solve for the WLA:

$$C_e = WLA_{(a\ or\ c)} = \frac{WQC_{(a\ or\ c)}[Q_e + (Q_u \times \%MZ)] - [C_u \times (Q_u \times \%MZ)]}{Q_e}$$

**Equation 5. Simple mass-balance equation for calculating WLA for flowing water.**

Where:

$WQC_{(a\ or\ c)}$ = Pollutant water quality criterion (acute or chronic)	Calculated value
$Q_e$ = Critical effluent flow	From discharge flow data (design flow for POTW)
$Q_u$ = Critical upstream flow (1Q10 acute criterion or 7Q10 chronic)	From water quality standards
$\%MZ$ = Percent of critical low flow provided by mixing zone	From mixing zone analysis
$C_u$ = Critical upstream pollutant concentration (90th to 95th percentile)	From receiving water data
$C_e = WLA_{(a\ or\ c)}$ = wasteload allocation (acute or chronic)	Calculated from Equation 4

Idaho's WQC for some metals are expressed as the dissolved fraction, but the rules regulating IPDES (IDAPA 58.01.25.303.03) and federal regulations (40 CFR 122.45(c)) require that effluent limits be expressed as total recoverable metal unless standards have been promulgated allowing limits specified in dissolved, valent, or total forms, a case-by-case basis has been established for limits specified in dissolved, valent, or total form, or all approved analytical methods for the metal inherently measure only its dissolved form. Therefore, the permit writer should calculate a WLA 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 discussed in *Guidance Document on Dynamic Modeling and Translators* (EPA 1993), the criteria translator (CT) is equal to the conversion factor when site-specific translators are not available. Conversion factors for metals criteria are listed in DEQ's Water Quality Standards (WQS) at IDAPA 58.01.02.210.02. The WQS also lists several guidance documents at IDAPA 58.01.02.210.04 that are recommended for the development of site specific translators.

The next step is to compute the acute and chronic long-term average (LTA<sub>(a or c)</sub>) concentrations, which will be derived from the acute and chronic WLAs. This is done using the following equations from the *Effluent Limit Development Guidance* (DEQ 2017):

$$LTA_a = WLA_a \times e^{(0.5\sigma^2 - z_{99}\sigma)}$$

**Equation 6. Acute LTA for toxics.**

Where:

LTA <sub>a</sub> = Acute long-term average	Calculated value
WLA <sub>a</sub> = Acute wasteload allocation	Calculated value. See Equation 5.
e = Base of natural log	Approximately 2.718
σ = Square root of σ <sup>2</sup>	
σ <sup>2</sup> = Ln(CV <sup>2</sup> +1)	Ln is the natural log
CV = Coefficient of variation	Calculated using field data. If 10 or less samples available, use default value of 0.6. See Equation 3
	2.326
Z <sub>99</sub> = z score of the 99th percentile of the normal distribution	

$$LTA_c = WLA_c \times e^{(0.5\sigma_n^2 - z_{99}\sigma_n)}$$

**Equation 7. Chronic LTA average for toxics.**

Where:

LTA <sub>c</sub> = Chronic long-term average	Calculated value
WLA <sub>c</sub> = Chronic wasteload allocation	Calculated value. See Equation 5.
e = Base of natural log	Approximately 2.718
σ <sub>n</sub> = Square root of σ <sub>n</sub> <sup>2</sup>	
σ <sub>n</sub> <sup>2</sup> = Ln[(CV <sup>2</sup> )/n + 1]	Ln is the natural log
CV = Coefficient of variation	Calculated using field data. If 10 or less, samples available use default value of 0.6. See Equation 3.
	2.326
Z <sub>99</sub> = z score of the 99th percentile of the normal distribution	
n = Averaging period for the chronic water quality criterion (typically 4 days)	Varies

The acute and chronic LTAs are compared, and the more stringent of the two is used to calculate the maximum daily and average monthly limits.

### Derive the Maximum Daily and Average Monthly Effluent Limits

Using the *Effluent Limit Development Guidance* (DEQ 2017) equations, the maximum daily limit (MDL) and average monthly limit (AML) are calculated as follows:

$$\text{Maximum Daily Limit} = LTA_m \times e^{(z_{99}\sigma - 0.5\sigma^2)}$$

**Equation 8. Maximum daily limit for toxics.**

Where:

LTA <sub>m</sub> = Minimum long-term average value	Lesser value calculated from Equation 6 and Equation 7
e = Base of natural log	Approximately 2.718

$\sigma$ = Square root of $\sigma^2$	
$\sigma^2 = \text{Ln}(\text{CV}^2+1)$	Ln is the natural log of base e
$Z_{99}$ = z score of the 99th percentile of the normal distribution	2.326
CV = Coefficient of variation	See Equation 3.

$$AML = LTA_m \times e^{(z_{95}\sigma_n - 0.5\sigma_n^2)}$$

**Equation 9. Average monthly limit for toxics.**

Where:

$LTA_m$ = Minimum long-term average	Lesser value calculated from Equation 6 and Equation 7
AML = Average monthly limit	Calculated value
e = Base of natural log	Approximately 2.718
$\sigma_n$ = Square root of $\sigma_n^2$	
$\sigma_n^2 = \text{Ln}[(\text{CV}^2)/n + 1]$	Ln is the natural log of base e
$Z_{95}$ = z score of the 95th percentile of the normal distribution	1.645
n = Number of sample specified in the permit to be analyzed each month	Typically n = 1, 2, 4, 10, or 30.
CV = Coefficient of variation	See Equation 3

Table 24 details the calculations for WQBELs.

**Table 24. City of Council WQBEL calculations.**

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

<b>Facility Name</b>	City of Council WWTP
<b>Facility Flow (mgd)</b>	0.4000
<b>Facility Flow (cfs)</b>	0.61880

Critical River Flows	(IDAPA 58.01.02 03. b)	Annual	
		Crit. Flows	Units
Aquatic Life - Acute Criteria - Criterion Max. Concentration (CMC)	1Q10	15.00000	cfs
Aquatic Life - Chronic Criteria - Criterion Continuous Concentration (CCC)	7Q10 or 4B3	18.70000	cfs
Ammonia	30B3/30Q10 (seasonal)		cfs
Human Health - Non-Carcinogen	30Q5	28.50000	cfs
Human Health - carcinogen	Harmonic Mean Flow		cfs

Receiving Water Data	Notes:	Annual
Hardness, as mg/L CaCO <sub>3</sub>	Hardness, as mg/L CaCO <sub>3</sub> 5 <sup>th</sup> prtile at critical flow	25
Temperature, °C	Temperature, °C 90 <sup>th</sup> - 95 <sup>th</sup> percentile	18
pH, S.U.	pH, S.U. 90 <sup>th</sup> - 95 <sup>th</sup> percentile	7.94

Pollutants of Concern		AMMONIA, default: cold water, fish early life stages	CHLORINE (Total Residual)	
Effluent Data	Number of Samples in Data Set (n)	10	64	
	Coefficient of Variation (CV) = Std. Dev./Mean (default CV = 0.6)	0.6	0.015	
	Effluent Concentration, µg/L (Max. or 95 <sup>th</sup> Percentile) - (C <sub>e</sub> )	9,492	60	
	Calculated 50 <sup>th</sup> prtile Effluent Conc. (when n>10), Human Health Only			
Receiving Water Statistics	90 <sup>th</sup> Percentile Conc., µg/L - (C <sub>u</sub> )	40	0	
	Geometric Mean, µg/L, Human Health Criteria Only			
Applicable Water Quality Criteria	Aquatic Life Criteria, µg/L Acute	6,283.509	19.	
	Aquatic Life Criteria, µg/L Chronic	2,116.529	11.	
	Human Health Water and Organism, µg/L	--	--	
	Human Health, Organism Only, µg/L	--	--	
	Metals Criteria Translator, decimal (or default use Conversion Factor)	Acute	--	
		Chronic	--	
	Carcinogen (Y/N), Human Health Criteria Only	--	N	
Assign Percent Mixing	Use this row to set the mixing zone size instead of letting it auto-calculate			
Percent River Flow	Aquatic Life - Acute 1Q10	14.78%	9.07%	
	Aquatic Life - Chronic 7Q10 or 4B3		14.97%	
		30B3 or 30Q10		--
	Human Health - Non-Carcinogen and Chronic Ammonia 30Q5	25.00%	--	
	Human Health - Carcinogen Harmonic Mean		--	
Calculated Dilution Factors (DF) (or enter Modeled DFs)	Aquatic Life - Acute 1Q10	4.58	3.20	
	Aquatic Life - Chronic 7Q10 or 4B3		5.52	
		30B3 or 30Q10		--
	Human Health - Non-Carcinogen and Chronic Ammonia 30Q5	12.51	--	
	Human Health - Carcinogen Harmonic Mean		--	

### Aquatic Life Reasonable Potential Analysis

$\sigma$	$\sigma^2 = \ln(CV^2 + 1)$		0.555	0.015
$P_n$	$= (1 - \text{confidence level})^{1/n}$ , where confidence level = 99%		0.631	0.931
Multiplier (TSD p. 57)	$= \exp(z\sigma - 0.5\sigma^2) / \exp[\text{normsinv}(P_n)\sigma - 0.5\sigma^2]$ , where 99%		3.0	1.0
Statistically projected critical discharge concentration ( $C_c$ )			28646	60.77
Predicted max. conc.(ug/L) at Edge-of-Mixing Zone		Acute	6284	19.00
(note: for metals, concentration as dissolved using conversion factor as translator)		Chronic	2326	11.00
Reasonable Potential to exceed Aquatic Life Criteria			Yes	No

### Aquatic Life Effluent Limit Calculations

Number of Compliance Samples Expected per month (n)			4	
n used to calculate AML (if chronic is limiting then use min=4 or for ammonia min=30)			30	--
LTA Coeff. Var. (CV), decimal (Use CV of data set or default = 0.6)			0.600	0.015
Permit Limit Coeff. Var. (CV), decimal (Use CV from data set or default = 0.6)			0.600	0.015
Acute WLA, ug/L	$C_a = (\text{Acute Criteria} \times MZ_a) - C_{0a} \times (MZ_a - 1)$	Acute	28,646	--
Chronic WLA, ug/L	$C_c = (\text{Chronic Criteria} \times MZ_c) - C_{0c} \times (MZ_c - 1)$	Chronic	26,026	60.8
Long Term Ave (LTA), ug/L	WLA <sub>a</sub> x exp(0.5σ <sup>2</sup> -zσ), Acute	99%	9,196	--
(99 <sup>th</sup> % occurrence prob.)	WLA <sub>a</sub> x exp(0.5σ <sup>2</sup> -zσ); ammonia n=30, Chronic	99%	20,307	59.7
Limiting LTA, ug/L	used as basis for limits calculation		9,196	59.7
Applicable Metals Criteria Translator (metals limits as total recoverable)				--
Average Monthly Limit (AML), ug/L, where % occurrence prob =			10,940	--
Maximum Daily Limit (MDL), ug/L, where % occurrence prob =			28,646	--
Average Monthly Limit (AML), mg/L			10.9	--
Maximum Daily Limit (MDL), mg/L			28.6	--
Average Monthly Limit (AML), lb/day			36.497	--
Maximum Daily Limit (MDL), lb/day			95.563	--

### D. Council Flow Estimator Equation Derivation

The equation to estimate flows for the City of Council, based on USGS recorded flows at the USGS stream gage near Cambridge, was derived utilizing the Hirsch MOVE.1 method. This method correlates flow data between stream gages. The period of record of the USGS stream gage near Cambridge was 1939 – 2020, and the period of record for the USGS stream gage near Council was 1939 – 1953.

## **Appendix C. Your Right to Appeal**

Persons aggrieved, as specified in IDAPA 58.01.25.204.01.a., have a right to appeal the final permit decision. A Petition for Review must be filed with the Department's Hearing Coordinator within twenty eight (28) days after the Department serves notice of the final permit decision under IDAPA 58.01.25.107 (Decision Process).

All documents concerning actions governed by these rules must be filed with the Hearing Coordinator at the following address: Hearing Coordinator, Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255. Documents may also be filed by FAX at FAX No. (208) 373-0481 or may be filed electronically. The originating party is responsible for retaining proof of filing by FAX. The documents are deemed to be filed on the date received by the Hearing Coordinator. Upon receipt of the filed document, the Hearing Coordinator will provide a conformed copy to the originating party. Additional requirements for appeals of IPDES final permit decisions can be found in IDAPA 58.01.25.204.

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## Appendix D. Public Involvement and Public Comments

### A. Public Involvement Information

DEQ proposes to reissue a permit to the City of Council POTW. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and DEQ's reasons for requiring permit conditions.

DEQ placed a Public Notice of Draft on 03/04/2020 in The Adams County Record to inform the public and to invite comment on the draft Idaho Pollutant Discharge Elimination System permit and fact sheet.

The notice:

- Tells where copies of the draft permit and fact sheet are available for public evaluation (a local public library, the closest regional or field office, posted on our website).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Asks people to tell us how well the draft permit would protect the receiving water.
- Invites people to suggest fairer conditions, limits, and requirements for the permit.
- Invites comments on DEQ's determination of compliance with antidegradation rules.
- Urges people to submit their comments, in writing, before the end of the comment period.
- Tells how to request a public hearing about the draft IPDES permit.
- Explains the next step(s) in the permitting process.

## **B. Public Comments and Response to Comments**

### **Idaho Pollutant Discharge Elimination System Discharge Permit No. ID0020087**

#### **Response to Comments on Draft City of Council IPDES Permit**

#### **April 3, 2020 comment deadline**

#### **Association of Idaho Cities, April 3, 2020 Letter**

1. The Idaho Department of Environmental Quality (DEQ) is seeking public comment on a draft Idaho Pollutant Discharge Elimination System (IPDES) permit for the City of Council Wastewater Treatment Facility (draft Permit). AIC and Great West Engineering, Inc. have worked with the City of Council to review and develop comments on the draft Permit.

The City appreciates the opportunity to submit the attached comments on the March 4, 2020 draft IPDES permit for the City of Council, Idaho. AIC and Great West Engineering, Inc. appreciate DEQ staff efforts and understands the advantages to Idaho cities for delegation of the Clean Water Act discharge permit program to Idaho including (1) access to regulators and technical compliance assistance, (2) increased competency of state regulators and technical compliance assistance, and (3) access to and improved coordination of state and federal financial and technical resources for facility planning and capital improvements.

*Response 1. Thank you for your comment.*

*Changes to draft permit: None.*

2. General Comments

AIC and Great West Engineering, Inc. have consulted with the City of Council (City) and are submitting these on behalf of the City. We appreciate the opportunity to comment on the proposed IPDES Permit (draft Permit) for the City of Council and look forward to working with our State of Idaho partners in the development of final Permit conditions and Fact Sheet that conform with state and federal regulations, protects water quality in Idaho, and achieves a cost-effective use of local funding and resources to treat and constructively manage municipal sewage.

The protection of public health and safety is an important responsibility of Idaho communities. These stakeholders consistently seek to ensure compliance, and wish to preserve their ability to comply over the long term with Clean Water Act regulations. Both financial and technical resources are required by Idaho communities in order to ensure these investments are made in a manner that will ensure long-term compliance under the Clean Water Act. Idaho communities' investments must be informed through a well-supported IPDES permitting program that takes into account the need to sometimes apply integrative planning and management strategies over the long term.

The City of Council Supports a Number of Proposed Permit Requirements

The City supports several proposed Permit requirements and wishes to draw attention to a few in particular:

- Providing a table that lists all of the important compliance deadlines in a clear, and easy to use format (See Submission Schedule, page 2).
- Addressing the City of Council's need to comply with IDAPA 58.01.02.200 through a streamlined approach for Narrative Limits monitoring and compliance (See Section 1.2.1).
- Clarifying that the required monitoring must be completed using sufficiently sensitive methods and conducted according to test procedures approved under 40 CFR 136, in general (See Section 2.1.6).

*Response 2: Thank you for the comment.*

*Changes to draft permit: None.*

3. 2.1.3 Page 11 Sewage Sludge Monitoring

Request:

Delay the requirement for an updated Biosolids Management Plan until late in the current permit cycle.

Explanation:

The City has an approved Biosolids Management Plan and will be removing all biosolids during the current construction Project. Sludge accumulation will be minimal during the first permit cycle after the project is completed.

*Response 3: DEQ concurs that the management plan update can be delayed.*

*Changes to draft permit: The sewage sludge monitoring section has been updated. The requirements in this section now clearly reflect that the permittee need only supply a report summarizing sludge depth during this permit cycle.*

4. 2.1.4 Receiving Water Monitoring

Request:

Remove the requirement for the City to install a continuous flow monitoring station within the receiving water.

Explanation:

IPDES Guidance and other IPDES permits issued provide examples of how existing USGS gage flow data may be interpolated for the flow at facilities' outfalls. The City understands the importance of how the downstream USGS gage must be in place and acknowledges that if this gage was ever to be decommissioned, that an alternative gage or analysis would be needed in order to interpolate the flow at the City's facility.

*Response 4: DEQ acknowledges that there are alternatives to installing a continuous flow monitoring gage. The permittee will be required to obtain continuous flow data, though an alternative approach is now included.*

*Changes to draft permit: Provided an equation to convert flow data at the USGS stream gage near Cambridge (13258500) to expected flow near Council.*

5. 2.1.4 Table 7, Footnote - Time Interval for Temperature Logger Maintenance, etc.

Request:

The City requests that the interrupted data collection interval be increased to 1 hour.

Explanation:

The City appreciates IDEQ's acknowledgement of the brief and occasional outages that will occur on continuously monitored equipment for reasons such as equipment failure, calibrations, and vandalism. However, the requirement for the data outage to be no more than 30 minutes may be challenging. Additional time may be needed to identify an equipment/data issue, get equipment replaced, and recalibrated. It would be reasonable to include a larger data gap window to allow this unplanned event to be reasonably and realistically resolved. The City would of course have to report this data outage in their files, as noted in current footnotes.

*Response 5: The time interval is the frequency that the data logger records the flow, not the length of time that the data logger may be interrupted. A power failure or other unanticipated repair can take longer than 30 minutes to fix.*

*Changes to draft permit: Reworded the footnote to clarify that the data logger intervals may be no longer than 30 minutes, rather than the interruptions being no longer than 30 minutes.*

6. 2.1.5 Permit Reapplication Effluent Monitoring, Table 9 – Dissolved Oxygen

Request:

For the final Permit to require a Grab sample for Dissolved Oxygen, not a 24-hour composite.

Explanation:

AIC has submitted this same request for ALL IPDES permits and is sincerely hoping that the IPDES permit writers stop including this sample type for Dissolved Oxygen in ALL IPDES permits going forward. It is not a valid sample analysis method according to 40CFR 146, a grab sample provides sufficient data for reapplication and other purposes, and AIC is prepared to seek an official exemption from a 24-hour composite sample requirement from the IDEQ Director and EPA Region 10 Administrator if the IDEQ staff deem that as necessary in order to address this issue.

*Response 6: DEQ concurs with the request for a grab sample for Dissolved Oxygen, rather than a 24-hour composite. In addition, it is noted that retention time will be greater than 1 day, so all permit renewal monitoring may be conducted via "grab" sample rather than "24-hour composite" sample.*

*Changes to draft permit: Sampling requirements changed to “Grab” sample type in Table 9. Effluent Testing Required for Permit Renewals of Facilities with Flow Greater than or Equal to 0.1 mgd, consistent with 40 CFR 136.*

7. 2.1.6 Analytical and Sampling Procedures, Table 10 – Total Ammonia and Total Residual Chlorine

**Request:**

The City seeks a schedule of compliance through then of 2020 for total ammonia in order to ensure the facility upgrade design achieves the new water quality-based effluent limits for ammonia. Also, instruction regarding how the total residual chlorine monitoring will end following the major facility upgrade, scheduled for completion by December 31, 2020.

**Explanation:**

The City respectfully reminds the IDEQ that a major facility and conveyance system update is scheduled to be completed by early fall, 2020. Part of the upgrade is for the disinfection method to switch from chlorine to UV disinfection; therefore, total residual chlorine testing should not be required once the facility upgrades are completed. Furthermore, as a new water quality-based effluent limit, the City needs time to ensure the facility is operating as designed during the first few months of operation. As discussed with IDEQ staff during the public comment period, the City believes that a January or February target date for compliance with these new effluent limits provides adequate time for this type of verification.

*Response 7: DEQ concurs that a compliance schedule for Ammonia, Total as N, is appropriate for the City to complete facility upgrades and optimize their processes to meet the new permit limits.*

*DEQ also concurs that when facility upgrades are complete, and UV disinfection has replaced chlorine disinfection, there will be no need to report total residual chlorine in the effluent.*

*Changes to draft permit: A compliance schedule for Ammonia, Total as N has been added to Section 3.1 Compliance Schedules.*

*A footnote indicating that a No Data Indicator (NODI) code “9” may be used instead of reporting total residual chlorine in the effluent has been added to Table 2. Pollutants with Effluent Limits and Monitoring Requirements for Outfall 001.*

8. 3.1 Compliance Schedule for Temperature – Table 11

**Request:**

For the following revisions to be made to Table 11 in the final Permit:

- **Item 1** – Change Due Date to September 2021 – Due to financial planning for next fiscal year
- **Item 2** – Change Due Date to July 30, 2022 – Due to change in item 1
- **Items 2, 3, 4, are redundant** – they can stay, but can we just say the report is due Annually by July 31.

- **Item 7** – If a facility plan begins on July 31, 2024 (item 6). The final design cannot be completed 6 months later. The facility plan must be completed and then public input and then begin design. This item should be moved to January 31, 2026.
- **Item 8** – Move year to 2027
- **Item 9** – Move year to 2028
- **Item 10** – Move year to 2029
- **Item 11** – Move to October 30, 2029
- **Item 12** – Move date to January 31, 2030.

**Explanation:**

These changes address concerns the City has regarding the new water quality based effluent for temperature. Potential requirements to mechanically cool treated effluent cause more harm to the environment than a slight, temporary warming of the receiving water body every 10 years or more. Temperature is a non-toxic, non-conservative parameter, and the current approach in Idaho neglects to consider natural system thermal regimes when establishing temperature limits for point sources. AIC looks forward to working on these issues with the IDEQ in order to ensure adequate aquatic life protection, balanced with prudent temperature management strategies.

*Response 8:*

*Item 1: Compliance schedules may not have more than 1 year between permit issuance and the first compliance schedule requirement or between compliance schedule requirements. DEQ has added a new “item 1” requiring the permittee to choose where to conduct monitoring and determine how to obtain funding to conduct monitoring, with the existing “item 1” becoming “item 2” and requiring that monitoring has begun, per the permittee’s request.*

*Item 2, 3, 4: DEQ has maintained these annual progress/status reports.*

*Items 7 – 12: due dates have been extended.*

*Changes to draft permit: Added new Task 1 to accommodate greater than 1 year until receiving water sampling begins. Extended the due date for when continuous receiving water temperature monitoring must begin. Consolidated each of the annual monitoring reports to have the opportunity to cease the compliance schedule if the facility is able to meet effluent limits and removed the subsequent “Task 5” which previously was the permit limit evaluation. Extended due dates for tasks 7-12, though only by 4 months, due to the consolidation of the permit limit evaluation into Tasks 3 – 5.*

9. 3.4 Spill Control Plan

**Request:**

The removal of a spill control plan in the final Permit.

**Explanation:**

There are no stored chemicals at the facility. That is, the chlorination system will not be in use as of early fall, 2020, and the generator is propane. The city questions whether a plan is still necessary.

*Response 9: DEQ concurs that the spill control plan was only necessary due to the presence of chlorine at the facility. With the change to UV disinfection, this requirement has been removed.*

*Changes to draft permit: Removed section 3.4 Spill Control Plan.*

#### 10. 4.1.1. Quality Assurance Program Plan, Notification of Revisions

**Request:**

Removal of the requirement to notify IDEQ of all modifications to the QAPP in the final Permit.

**Explanation:**

The draft permit is written to require the permittee to notify IDEQ of significant QAPP modifications. QAPPs are living documents that reflect the real-time practices of the laboratory operations and sampling. This document should be kept up to date. However, requiring the permittee to notify IDEQ of significant updates to the QAPP and the requirement to have an up to date QAPP available for IDEQ inspection at any time is reasonable. The manual must be retained on site and made available. Further, the City acknowledges that it would be a good idea to discuss changes to the QAPP with the regional IPDES compliance officer to avoid any potential issues that may result.

*Response 10: DEQ concurs that the QAPP should be a living document and should be updated as needed; therefore, the requirement to notify DEQ of all changes to the QAPP may be onerous to the permittee.*

*Changes to draft permit: The permittee is still required to notify DEQ that the QAPP has been updated once during the permit term. The requirement to notify DEQ of every update has been removed, and a requirement that all changes to monitoring or laboratory operations be reflected in the QAPP has been added.*

#### 11. Fact Sheet Page 16 table 8

Can we remove testing on total residual chlorine. The City will no longer be using chlorine for disinfection; the system will be UV

*Response 11: Based on discussions with the facility, chlorine will still be used for the very beginning of the permit term; therefore, it requires monitoring and a limit. However, when UV disinfection has replaced chlorine disinfection, the permittee will no longer need to monitor for total residual chlorine.*

---

*Changes to draft permit: Added a footnote to Table 2. Pollutants with effluent limits and monitoring requirements for Outfall 001 which states that the permittee may indicate a No Data Indicator (NODI) code “9” when chlorine disinfection is not being used.*

12. Fact Sheet Page 30 Table 16

TSS and BOD testing twice monthly. All previous testing requirements have been monthly; the added expense for testing and time needed to travel to a certified lab is difficult. The reason for additional testing is for when a facility does not meet their permit limits. The city is undergoing a major improvement project that will minimize the risks of violating a permit, and therefore should be allowed to stay on a monthly testing cycle.

*Response 12: In order to calculate an average weekly limit (AWL), at least 2 samples per month are required. DEQ is requiring at least twice per month testing for all POTWs to meet the requirement to calculate the AWL.*

*Changes to draft permit: None.*

13. Fact Sheet Page 30 Table 17

The same comment as table 16, do not change permit testing requirement

*Response 13: See response 12.*

*Changes to draft permit: None*

14. Fact Sheet Page 31 Table 19

The same comment as table 16, do not change permit testing requirement. Also, is weekly ammonia testing necessary? Can we have an interim period for 18 months after the facility is completed to prove that the new facility meets ammonia limits and then change testing frequency to monthly?

*Response 14: See response 12.*

*Changes to draft permit: None.*

15. Fact Sheet Page 25, Antidegradation Narrative:

The Fact Sheet includes imprecise language referring to Tier 1 protection and antidegradation. We have grave concerns that important IDAPA language is being misquoted in this legal document and is not received adequate internal legal review. Permits are legal documents that can enforce stipulations that are more stringent than IDEQ regulations, so we believe it is critical that regulatory language, especially language dealing with antidegradation and Tier 1 protection, is precise and matches the department's source materials. Please address this issue carefully in order to avoid a permit appeal. The City requests that the IDEQ perform an internal review of Section 3.5 antidegradation and revise the language to conform to federal and state regulations. The City further requests a follow up meeting to discuss how this issue is addressed prior to the issuance of the final permit. Please review the comment submitted by JUB on the draft City of Grangeville Permit for more detailed redline/strikethrough revisions to the template language.

*Response 15: Multiple requirements work in tandem to maintain and improve the quality of Idaho water subject to Clean Water Act jurisdiction. Under one such set of requirements, Idaho's federally-approved antidegradation policy, all waters receive Tier 1 protection (IDAPA 58.01.02.052.01). For unimpaired waterbodies, Tier 1 prohibits degradation that would cause or contribute to a violation of water quality criteria after any authorized mixing (IDAPA 58.01.02.052.07). For impaired waterbodies, Tier 1 prohibits degradation that would contribute to an existing violation of water quality criteria.*

*Changes to draft permit: Though in some circumstances designated uses may in fact receive protection under Tier 1, to more closely reflect the exact rule language and reduce confusion, the first two instances of "and designated" in the first paragraph of Fact Sheet 3.5.1 have been removed.*

*Because TMDLs are developed where existing or designated uses are not fully supported (IDAPA 58.01.02.055.02), "existing" has been kept in the second paragraph of Fact Sheet 3.5.1.*