



Colorado Discharge Permit System (CDPS)  
Fact Sheet to Permit Number CO0047627  
CITY OF FORT COLLINS, *DRAKE WATER RECLAMATION FACILITY WWTF*, LARIMER COUNTY

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**I. TYPE OF PERMIT**

- A. Permit Type:** Domestic - Major Municipal, Mechanical Plant, First Renewal
- B. Discharge To:** Surface Water

**II. FACILITY INFORMATION**

- A. SIC Code:** 4952 Sewerage Systems
- B. Facility Location:** 3036 Environmental Drive, Fort Collins, CO 80524,  
Latitude: 40.55607° N, Longitude: 105.02162° W
- C. Permitted Feature:** 001A, following disinfection and prior to mixing with Fossil Creek Reservoir, 40.55655° N, 105.01962° W  
002A, following disinfection and prior to mixing with the Cache La Poudre River 40.55654° N, 105.01893° W
- UST1A is an in-stream outfall located upstream from the facility discharge and in the same water body segment to collect continuous ambient temperature data. The location for this outfall will be approximately at 40.49919 ° North latitude, 105.00062° longitude West, which is within two miles upstream from Fossil Creek Reservoir.
- UST2A is an in-stream outfall located upstream from the facility discharge and in the same water body segment to collect continuous ambient temperature data. The location for this outfall is at 40.559874 ° North latitude, 105.021624° longitude West, which is approximately





0.8 miles upstream on the Cache La Poudre River.

The location(s) provided above will serve as the point(s) of compliance for this permit and are appropriate as they are located after all treatment and prior to discharge to the receiving water.

**D. Facility Flows:** 23 MGD

**E. Major Changes From Last Renewal:**

- Continuous Temperature monitoring has been added.
- The Division will require the facility to establish an in-stream monitoring station within a mile or two upstream (the most suitable and representative location) from the facility discharge to collect ambient temperature data to be used in the next renewal. For this, the Division included outfall (UST1A, UST2A) in the permit and added a short delayed effective date for starting to collect data. The permittee can provide specific location for the temperature probe during the public notice period.
- A compliance schedule for total phosphorus has been added to the permit.

**III. RECEIVING STREAM**

**A. Waterbody Identification:** COSPCP22, Fossil Creek Reservoir  
COSPCP11, Cache La Poudre River

**B. Water Quality Assessment:**

An assessment of the stream standards, low flow data, and ambient stream data has been performed to determine the assimilative capacities for Fossil Creek Reservoir and Cache La Poudre River for potential pollutants of concern. This information, which is contained in the Water Quality Assessment (WQA) for this receiving stream(s), also includes an antidegradation review, where appropriate. The Division's Permits Section has reviewed the assimilative capacities to determine the appropriate water quality-based effluent limitations as well as potential limits based on the antidegradation evaluation, where applicable. The limitations based on the assessment and other evaluations conducted as part of this fact sheet can be found in Part I.A of the permit.

Permitted Feature 001A will be the authorized discharge point to Fossil Creek Reservoir.  
Permitted Feature 002A will be the authorized discharge point to Cache La Poudre River.

**IV. FACILITY DESCRIPTION**

**A. Infiltration/Inflow (I/I)**

The highest influent flow as reported on the City of Fort Collins' DMR was 16.07 MGD. Based on a population in the service area of 129,000 as indicated by the City of Fort Collins permit application, the flow per capita per day is 125 gallons/person/day.

The City of Fort Collins has an ongoing sewer system maintenance, repair and rehabilitation program. The City conducted a four-year inflow study for the wastewater treatment collection system and identified portions of the system that have the highest rainfall induced flow. The City has an active program that lines pipes that are in high priority areas.



**B. Lift Stations**

There are no lift stations in the service area.

**C. Chemical Usage**

The permittee stated in the application that they utilize six chemicals in their treatment process. The MSDS sheets have been reviewed and the following chemicals have been approved for use and are summarized in the following table.

**Table IV-2 - Chemical Additives**

Chemical Name	Purpose	Constituents of Concern
<i>Intercool (Glycol)</i>	<i>Heat transfer fluid</i>	<i>None</i>
<i>Chlorine</i>	<i>Disinfection</i>	<i>Chlorine</i>
<i>Sulfur Dioxide</i>	<i>Dechlorination</i>	<i>pH</i>
<i>Hy Mag (Magnesium Hydroxide)</i>	<i>pH adjustment</i>	<i>Magnesium Hydroxide</i>
<i>Hydrofloc 1688 Polymer</i>	<i>Flocculation</i>	<i>Unknown</i>
<i>Ferric Chloride</i>	<i>Phosphorus removal</i>	<i>Ferric Chloride</i>

Chemicals deemed acceptable for use in waters that will or may be discharged to waters of the State are acceptable only when used in accordance with all state and federal regulations, and in strict accordance with the manufacturer's site-specific instructions.

**D. Treatment Facility, Facility Modifications and Capacities**

The facility consists of headworks, grit chambers, primary clarifiers, biotowers, intermediate clarifiers, aeration basins, final clarifiers, and chlorine contact. The permittee has not performed any construction at this facility that would change the hydraulic capacity of 23 MGD or the organic capacity of 57,000 lbs BOD<sub>5</sub>/day, which were specified in Site Approval 4020. That document should be referred to for any additional information.

Pursuant to Section 100.5.2 of the Water and Wastewater Facility Operator Certification Requirements, this facility will require a certified operator. If the facility has a question on the level of the certified operator it needs then the facility will need to contact the Engineering Section of the Division.

**E. Biosolids Treatment and Disposal**

Biosolids are treated in an anaerobic digester, and liquid is removed in a centrifuge. Some of the biosolids are applied to rangeland and the remaining biosolids are air dried on a five-acre concrete





pad. Dried biosolids are stored in a storage building and hauled to irrigated agricultural land in Yuma County, CO or applied to the City-owned Mead Springs Ranch.

### 1. EPA Regulation

The Facility is required under the Direct Enforceability provision of 40 CFR §503.3(b) to meet the applicable requirements of the regulation.

### 2. Biosolids Regulation (Regulation No. 64, Colorado Water Quality Control Commission)

Colorado facilities that land apply biosolids must comply with requirements of Regulation No. 64, such as the submission of annual reports as discussed later in this fact sheet.

## V. PERFORMANCE HISTORY

### A. Monitoring Data

- Discharge Monitoring Reports - The following tables summarize the effluent data reported on the Discharge Monitoring Reports (DMRs) for the previous permit term, from May 2011 to April 2015. Because Drake WWTF only discharged to Fossil Creek Reservoir (Outfall 001A) during the previous permit term, the DMR summary table for Outfall 002A was not included.

**Table V-1 - Summary of DMR Data for Permitted Feature 001A**

Parameter	# Samples or Reporting Periods	Reported Average Concentrations Avg/Min/Max	Reported Maximum Concentrations Avg/Min/Max	Previous Avg/Max/AD Permit Limit	Number of Limit Excursions
Effluent Flow (MGD)	48	8.6/4.3/17	11/6.1/20	23/Report	
E. coli (#/100 ml)	48	18/3/60	42/5/244	126/252	
TRC (mg/l)	48	NA/NA/NA	0.055/<0.05/2	NA/0.5	1
NH <sub>3</sub> as N, Tot (mg/l) Jan	4	2.3/0.28/4.2	5.3/1.2/7.8	40/64	
NH <sub>3</sub> as N, Tot (mg/l) Feb	4	1.6/0.07/3.9	4.6/0.55/6.5	42/72	
NH <sub>3</sub> as N, Tot (mg/l) Mar	4	3/0.17/5.5	9/0.71/14	21/64	
NH <sub>3</sub> as N, Tot (mg/l) Apr	4	3/0.84/4.6	8.1/4.4/11	13/64	
NH <sub>3</sub> as N, Tot (mg/l) May	4	1.2/0.07/2.8	4.8/0.99/8.1	10/64	
NH <sub>3</sub> as N, Tot (mg/l) Jun	4	0.81/0.23/1.6	4.3/0.7/9.3	12/65	
NH <sub>3</sub> as N, Tot (mg/l) Jul	4	0.88/0.64/1.5	3.1/2.9/3.3	16/65	
NH <sub>3</sub> as N, Tot (mg/l) Aug	4	1.7/0.16/3.7	5/0.56/9.4	20/65	
NH <sub>3</sub> as N, Tot (mg/l) Sep	4	1.2/0.15/2.3	4/0.83/8.9	26/65	
NH <sub>3</sub> as N, Tot (mg/l) Oct	4	0.88/0.04/2	2.2/0.64/3.7	33/64	
NH <sub>3</sub> as N, Tot (mg/l) Nov	4	1.5/0.01/4.1	2.7/0.07/7.3	38/64	
NH <sub>3</sub> as N, Tot (mg/l) Dec	4	1.3/0.07/3.8	3.8/0.9/9.9	39/64	
BOD <sub>5</sub> , effluent (mg/l)	48	9.1/4/23	11/4/33	30/45/	
BOD <sub>5</sub> (% removal)	48	96/94/98	NA/NA/NA	85/NA/	
TSS, effluent (mg/l)	48	9.8/5/26	13/6/43	30/45/	
TSS (% removal)	37	96/93/98	NA/NA/NA	85/NA/	
As, TR (µg/l)	4	0.64/0.5/0.7	NA/NA/NA	NA/NA	
Cd, Dis (µg/l)	4	0/<0.2/0	0/<0.2/0	NA/NA	





Cr, TR (µg/l)	4	0.14/<0.2/0.37	0.2/<0.2/0.4	NA/NA	
Cu, Dis (µg/l)	12	12/7.6/24	17/9.4/41	Report/Report	
CN, Free (µg/l)	12	NA/NA/NA	0/<4/0	NA/12	
Fe, Dis (µg/l)	4	43/30/63	NA/NA/NA	NA/NA	
Fe, TR (µg/l)	4	90/86/94	NA/NA/NA	NA/NA	
Pb, Dis (µg/l)	4	0.49/0.42/0.6	0.49/0.42/0.6	NA/NA	
Mn, Dis (µg/l)	16	27/15/84	27/15/84	NA/NA	
Hg, Tot (µg/l)	11	0.0042/0.0017/0.011	NA/NA/NA	NA/NA	
Ni, Dis (µg/l)	4	1.7/1.7/1.9	1.7/1.7/1.9	NA/NA	
Se, Dis (µg/l)	12	0.81/<1/1.9	0.45/<1/1.4	Report/Report	
Ag, Dis (µg/l)	4	0/<0.2/0	0/<0.2/0	NA/NA	
Zn, Dis (µg/l)	4	46/39/52	46/39/52	NA/NA	
WET, chronic					
pimephales lethality, Stat Diff	12	//	55/4.3/100	NOEC or IC25>=IWC=17%	
pimephales lethality, IC25	12	//	97/79/100		
ceriodaphnia lethality, Stat Diff	12	//	100/100/100	NOEC or IC25>=IWC=17%	
ceriodaphnia lethality, IC25	12	//	100/100/100		
pimephales toxicity, Stat Diff	4	//	88/50/100	Report	
pimephales toxicity, IC25	4	//	100/100/100		
ceriodaphnia toxicity, Stat Diff	4	//	100/100/100	Report	
ceriodaphnia toxicity, IC25	4	//	100/100/100		
*The pH data shows the minimum reported values in the "average" column, and the maximum reported values in the "maximum column					
*The temperature data shows the MWAT values in the "average" column, and the daily maximum reported values in the "maximum column					

\*\* Geometric mean

NA means Not Applicable

NV means No Visible Sheen

**Table V-2 - Summary of Effluent Temperature Data**

Parameter	Weekly Average Temperature Avg/Min/Max	Daily Maximums Avg/Min/Max
Temp (°C) Jan	14.6/11.9/15.4	14.8/13.6/16.0
Temp (°C) Feb	14.4/13.2/15.5	14.7/12.8/18.4
Temp (°C) Mar	14.7/13.7/16.3	15.2/13.7/17.4
Temp (°C) Apr	16.1/15/17.9	16.7/15.1/19.2
Temp (°C) May	17/15.5/18.7	17.6/15.5/20.7
Temp (°C) Jun	18.3/16.8/20.7	18.9/16.7/21.2
Temp (°C) Jul	20.1/18.3/21.8	20.7/18.2/22.4
Temp (°C) Aug	21.3/20/22.1	21.8/20.1/26.1
Temp (°C) Sep	21.5/20.5/22.4	21.7/20.4/22.9
Temp (°C) Oct	20.1/18.6/21.7	20.2/18.4/21.9
Temp (°C) Nov	18/16.6/19.3	18/16.4/19.6
Temp (°C) Dec	16.1/14.7/17.9	16.2/14.7/18.7

**B. Compliance With Terms and Conditions of Previous Permit**




1. Effluent Limitations - The data shown in the preceding table(s) indicates compliance with the numeric limitations of the previous permit, except for one limit excursion for chlorine. Drake WWTF experienced an incident on August 3, 2011 for an accidental overdose of chlorine resulting in a discharge in excess of chlorine to receiving waters. The Division issued and the City of Fort Collins accepted an expedited settlement agreement.

In accordance with 40 CFR Part 122.41(a), any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

## VI. DISCUSSION OF EFFLUENT LIMITATIONS

### A. Regulatory Basis for Limitations

1. Technology Based Limitations
  - a. Federal Effluent Limitation Guidelines - The Federal Effluent Limitation Guidelines for domestic wastewater treatment facilities are the secondary treatment standards. These standards have been adopted into, and are applied out of, Regulation 62, the Regulations for Effluent Limitations.
  - b. Regulation 62: Regulations for Effluent Limitations - These Regulations include effluent limitations that apply to all discharges of wastewater to State waters and are shown in Section VIII of the WQA. These regulations are applicable to the discharge from the City of Fort Collins Drake WWTF.
2. Numeric Water Quality Standards - The WQA contains the evaluation of pollutants limited by water quality standards. The mass balance equation shown in Section VI of the WQA was used for most pollutants to calculate the potential water quality based effluent limitations (WQBELs),  $M_2$ , that could be discharged without causing the water quality standard to be violated. For ammonia, the AMMTOX Model was used to determine the maximum assimilative capacity of the receiving stream. A detailed discussion of the calculations for the maximum allowable concentrations for the relevant parameters of concern is provided in Section VI of the Water Quality Assessment developed for this permitting action.

The maximum allowable pollutant concentrations determined as part of these calculations represent the calculated effluent limits that would be protective of water quality. These are also known as the water quality-based effluent limits (WQBELs). Both acute and chronic WQBELs may be calculated based on acute and chronic standards, and these may be applied as daily maximum (acute) or 30-day average (chronic) limits.
3. Narrative Water Quality Standards - Section 31.11(1)(a)(iv) of The Basic Standards and Methodologies for Surface Waters (Regulation No. 31) includes the narrative standard that State surface waters shall be free of substances that are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.
  - a. Whole Effluent Toxicity - The Water Quality Control Division has established the use of WET testing as a method for identifying and controlling toxic discharges from wastewater treatment facilities. WET testing is being utilized as a means to ensure that there are no







discharges of pollutants "in amounts, concentrations or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life" as required by Section 31.11 (1) of the Basic Standards and Methodologies for Surface Waters. The requirements for WET testing are being implemented in accordance with Division policy, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010). Note that this policy has recently been updated and the permittee should refer to this document for additional information regarding WET.

#### 4. Water Quality Regulations, Policies, and Guidance Documents

- a. Antidegradation - Since the Cache la Poudre River is Reviewable, an antidegradation evaluation is required pursuant to Section 31.8 of The Basic Standards and Methodologies for Surface Water. As set forth in Section VII of the WQA, an antidegradation evaluation was conducted for pollutants when water quality impacts occurred and when the impacts were significant. Based on the antidegradation requirements and the reasonable potential analysis discussed below, antidegradation-based average concentrations (ADBACs) may be applied.

According to Division procedures, the facility has three options related to antidegradation-based effluent limits: (1) the facility may accept ADBACs as permit limits (see Section VII of the WQA); (2) the facility may select permit limits based on their non-impact limit (NIL), which would result in the facility not being subject to an antidegradation review and thus the antidegradation-based average concentrations would not apply (the NILs are also contained in Section VII of the WQA); or (3) the facility may complete an alternatives analysis as set forth in Section 31.8(3)(d) of the regulations which would result in alternative antidegradation-based effluent limitations.

The effluent must not cause or contribute to an exceedance of a water quality standard and therefore the WQBEL must be selected if it is lower than the NIL. Where the WQBEL is not the most restrictive, the discharger may choose between the NIL or the ADBAC: the NIL results in no increased water quality impact; the ADBAC results in an "insignificant" increase in water quality impact. The ADBAC limits are imposed as two-year average limits.

- b. Antibacksliding - As Fossil Creek Reservoir is designated Use-Protected, the antibacksliding requirements in Regulation 61.10 have been met.

As the Cache La Poudre River is designated Reviewable, and the Division has performed an antidegradation evaluation, in accordance with the Antidegradation Guidance, the antibacksliding requirements in Regulation 61.10 have been met.

- c. Determination of Total Maximum Daily Loads (TMDLs) -The receiving stream to which the Drake WWTF discharges is currently listed on the State's 303(d) list for development of TMDLs for selenium. However, the TMDL has not yet been finalized. Although this permit establishes limits for these pollutants, they do not represent the TMDLs and waste load allocations, and are therefore subject to change upon finalization of an approved TMDL for this segment. The permit may be reopened to include limitations based upon a finalized TMDL.
- d. Colorado Mixing Zone Regulations - Pursuant to section 31.10 of The Basic Standards and Methodologies for Surface Water, a mixing zone determination is required for this permitting action. The Colorado Mixing Zone Implementation Guidance, dated April 2002, identifies the process for determining the meaningful limit on the area impacted by a discharge to surface





water where standards may be exceeded (i.e., regulatory mixing zone). This guidance document provides for certain exclusions from further analysis under the regulation, based on site-specific conditions.

The guidance document provides a mandatory, stepwise decision-making process for determining if the permit limits will not be affected by this regulation. Exclusion, based on Extreme Mixing Ratios, may be granted if the ratio of the facility design flow to the chronic low flow (30E3) is greater than 2:1. Since the ratio of the design flow to the chronic low flow is 360:1 (002A), the permittee is eligible for an exclusion from further analysis under the regulation. For the discharge to Fossil Creek Reservoir (001A) a mixing zone study was submitted to the Division on February 3, 2009. The results from the mixing zone study were used in this permit renewal.

- e. **Reasonable Potential Analysis** - Using the assimilative capacities contained in the WQA, an analysis must be performed to determine whether to include the calculated assimilative capacities as WQBELs in the permit. This reasonable potential (RP) analysis is based on the Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, dated December, 2002. This guidance document utilizes both quantitative and qualitative approaches to establish RP depending on the amount of available data.

A qualitative determination of RP may be made where ancillary and/or additional treatment technologies are employed to reduce the concentrations of certain pollutants. Because it may be anticipated that the limits for a parameter could not be met without treatment, and the treatment is not coincidental to the movement of water through the facility, limits may be included to assure that treatment is maintained.

A qualitative RP determination may also be made where a federal ELG exists for a parameter, and where the results of a quantitative analysis results in no RP. As the federal ELG is typically less stringent than a limitation based on the WQBELs, if the discharge was to contain concentrations at the ELG (above the WQBEL), the discharge may cause or contribute to an exceedance of a water quality standard.

To conduct a quantitative RP analysis, a minimum of 10 effluent data points from the previous 5 years, should be used. The equations set out in the guidance for normal and lognormal distribution, where applicable, are used to calculate the maximum estimated pollutant concentration (MEPC). For data sets with non-detect values, and where at least 30% of the data set was greater than the detection level, MDLWIN software is used consistent with Division guidance to generate the mean and standard deviation, which are then used to establish the multipliers used to calculate the MEPC. If the MDLWIN program cannot be used the Division's guidance prescribes the use of best professional judgment.

For some parameters, recent effluent data or an appropriate number of data points may not be available, or collected data may be in the wrong form (dissolved vs total) and therefore may not be available for use in conducting an RP analysis. Thus, consistent with Division procedures, monitoring will be required to collect samples to support a RP analysis and subsequent decisions for a numeric limit. A compliance schedule may be added to the permit to require the request of an RP analysis once the appropriate data have been collected.

For other parameters, effluent data may be available to conduct a quantitative analysis, and therefore an RP analysis will be conducted to determine if there is RP for the effluent







discharge to cause or contribute to exceedances of ambient water quality standards. The guidance specifies that if the MEPC exceeds the maximum allowable pollutant concentration (MAPC), limits must be established and where the MEPC is greater than half the MAPC (but less than the MAPC), monitoring must be established. Table VI-1 contains the calculated MEPC compared to the corresponding MAPC, and the results of the reasonable potential evaluation, for those parameters that met the data requirements. The RP determination is discussed for each parameter in the text below.

**Table VI-1 - Quantitative Reasonable Potential Analysis for Outfall 001A to Fossil Creek Reservoir**

Parameter	30-Day Average			7-Day Ave or Daily Max		
	MEPC	WQBEL (MAPC)	Reasonable Potential	MEPC	WQBEL (MAPC)	Reasonable Potential
<i>E. coli</i> (#/100 ml)	66	862	Yes (Qual)	268	1724	Yes (Qual)
TRC (mg/l)	NA	0.076**	Yes (Qual)	2.2	0.064	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Jan	4.2	39.6	Yes (Qual)	7.8	64.4	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Feb	3.9	42.2	Yes (Qual)	6.5	72.3	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Mar	5.5	21.3	Yes (Qual)	14	64.4	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Apr	4.6	12.6	Yes (Qual)	11	64.4	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) May	2.8	10.3	Yes (Qual)	8.1	64.5	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Jun	1.6	12.2	Yes (Qual)	9.3	64.6	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Jul	1.5	15.7	Yes (Qual)	3.3	64.8	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Aug	3.7	20.0	Yes (Qual)	9.4	64.8	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Sep	2.3	25.9	Yes (Qual)	8.9	64.5	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Oct	2	32.7	Yes (Qual)	3.7	63.8	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Nov	4.1	38.0	Yes (Qual)	7.3	63.8	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Dec	3.8	39.2	Yes (Qual)	9.9	64.2	Yes (Qual)
As, TR (µg/l)	0.7	689	No (Qual)			
As, Dis (µg/l)				NA	1152	No (Qual)
Cd, Dis (µg/l)	ND*	8.3	No (Qual)	ND*	31	No (Qual)
Cr+3, TR (µg/l)	NA	689	No (Qual)			
Cr+3, Dis (µg/l)	NA	1591	No (Qual)	NA	6009	No (Qual)
Cr+6, Dis (µg/l)	NA	76	No (Qual)	NA	54	No (Qual)
Cu, Dis (µg/l)	32	200	No	57	169	No
CN, Free (µg/l)				ND*	17	Monitor
Fe, TR (µg/l)	94	6889	No (Qual)			
Pb, Dis (µg/l)	0.6	76	No (Qual)	0.6	952	No (Qual)
Mn, TR (µg/l)	NA	1378	Monitor			
Mn, Dis (µg/l)				109	16057	No
Mo, TR (µg/l)	NA	1033	Monitor			
Hg, Tot (µg/l)	0.019	0.069	No			
Ni, Dis (µg/l)	1.9	1157	No (Qual)	1.9	5127	No (Qual)
Se, Dis (µg/l)	2.6	32	No	2.7	62	No
Ag, Dis (µg/l)	ND*	24	No (Qual)	ND*	75	No (Qual)
Zn, Dis (µg/l)	52	2948	No (Qual)	52	1911	No (Qual)

\*ND- Non-detect; \*\* will be set to daily maximum

**Table VI-2 - Quantitative Reasonable Potential Analysis for Outfall 002A to Cache la Poudre River**

Parameter	30-Day Average			7-Day Ave or Daily Max			Antideg (2 Year Roll. Ave)		
	MEPC	WQBEL (MAPC)	Reasonable Potential	MEPC	WQBEL (MAPC)	Reasonable Potential	MEPC	ADBAC (MAPC)	Reasonable Potential



**COLORADO**Department of Public  
Health & Environment

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<i>E. coli</i> (#/100 ml)	66	126	Yes (Qual)	268	252	Yes (Qual)	NA	33	Yes (Qual)
Temp Daily Max (°C) Apr				21.2	29	Monitor			
Temp Daily Max (°C) May				22.7	29	Monitor			
Temp Daily Max (°C) Jun				23.4	29	Monitor			
Temp Daily Max (°C) Jul				24.7	29	Monitor			
Temp Daily Max (°C) Aug				28.7	29	Monitor			
Temp Daily Max (°C) Sep				25.2	29	Monitor			
Temp Daily Max (°C) Oct				24.1	29	Monitor			
Temp MWAT (°C) Apr	19.7	24.2	Monitor						
Temp MWAT (°C) May	20.6	24.2	Monitor						
Temp MWAT (°C) Jun	22.8	24.2	Monitor						
Temp MWAT (°C) Jul	24.0	24.2	Monitor						
Temp MWAT (°C) Aug	24.3	24.2	Yes						
Temp MWAT (°C) Sep	24.6	24.2	Yes						
Temp MWAT (°C) Oct	23.9	24.2	Monitor						
TRC (mg/l)	NA	0.011	Yes (Qual)	2.2	0.019	Yes (Qual)	NA	0.0017	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Jan	4.2	6.2	Yes (Qual)	7.8	21	Yes (Qual)	NA	0.9	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Feb	3.9	6.5	Yes (Qual)	6.5	19	Yes (Qual)	NA	1.0	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Mar	5.5	5.8	Yes (Qual)	14	19	Yes (Qual)	NA	0.9	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Apr	4.6	5.4	Yes (Qual)	11	18	Yes (Qual)	NA	0.8	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) May	2.8	4.9	Yes (Qual)	8.1	30	Yes (Qual)	NA	0.7	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Jun	1.6	4.5	Yes (Qual)	9.3	42	Yes (Qual)	NA	0.7	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Jul	1.5	3.7	Yes (Qual)	3.3	36	Yes (Qual)	NA	0.5	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Aug	3.7	3.6	Yes (Qual)	9.4	37	Yes (Qual)	NA	0.5	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Sep	2.3	3.7	Yes (Qual)	8.9	33	Yes (Qual)	NA	0.5	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Oct	2	4.3	Yes (Qual)	3.7	10	Yes (Qual)	NA	0.6	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Nov	4.1	5.2	Yes (Qual)	7.3	14	Yes (Qual)	NA	0.8	Yes (Qual)
NH <sub>3</sub> as N, Tot (mg/l) Dec	3.8	6.1	Yes (Qual)	NA	25	Yes (Qual)	NA	0.9	Yes (Qual)
As, TR (µg/l)	0.7	7.6	Monitor				NA	1.1	Monitor
As, Dis (µg/l)				NA	341	No (Qual)	NA	51	No (Qual)
Cd, Dis (µg/l)	ND*	1.2	Monitor	ND*	9.1	No (Qual)	NA	0.18	Monitor
Cr+3, TR (µg/l)	NA	100	No (Qual)				NA	15	No (Qual)
Cr+3, Dis (µg/l)	NA	232	No (Qual)	NA	1778	No (Qual)	NA	35	No (Qual)
Cr+6, Dis (µg/l)	NA	11	Monitor	NA	16	No (Qual)	NA	1.7	No (Qual)
Cu, Dis (µg/l)	32	29	Yes	57	50	Yes	14	4.4	Yes
CN, Free (µg/l)				ND*	5	Yes (Qual)	NA	0.75	Yes (Qual)
Fe, TR (µg/l)	94	1002	Monitor				NA	150	Monitor
Pb, Dis (µg/l)	0.6	11	No (Qual)	0.6	282	No (Qual)	NA	1.7	No (Qual)
Mn, TR (µg/l)	NA	201	Monitor				NA	79	Monitor
Mn, Dis (µg/l)	109	2625	No	109	4751	No	27	480	No
Mo, TR (µg/l)	NA	150	Monitor				NA	23	Monitor
Hg, Tot (µg/l)	0.019	0.01	Yes				0.0054	0.0021	Yes
Ni, Dis (µg/l)	NA	168	No (Qual)	NA	1517	No (Qual)	NA	25	No (Qual)
Se, Dis (µg/l)	2.6	4.6	Monitor	2.7	18	No	0.54	3.2	No
Ag, Dis (µg/l)	ND*	3.5	No (Qual)	ND*	22	No (Qual)	NA	0.53	No (Qual)
Zn, Dis (µg/l)	52	429	Monitor	52	566	No (Qual)	NA	71	Monitor

Note: While Drake WWTF did not discharge from 002A over the previous permit term, the DMR data from 001A were used to conduct an RP analysis for Outfall 002A.

\* ND- Non-detect



**B. Parameter Evaluation**

BOD<sub>5</sub> - 001A and 002A: The BOD<sub>5</sub> concentrations in Reg 62 are the most stringent effluent limits and are therefore applied. The removal percentages for BOD<sub>5</sub> also apply based on the Regulations for Effluent Limitations.

These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

Total Suspended Solids - 001A and 002A: The TSS concentrations in Reg 62 are the most stringent effluent limits and are therefore applied. The removal percentages for TSS also apply based on the Regulations for Effluent Limitations.

These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

Oil and Grease - 001A and 002A: The oil and grease limitations from the Regulations for Effluent Limitations are applied as they are the most stringent limitations.

This limitation is the same as those contained in the previous permit and is imposed upon the effective date of this permit.

pH - 001A and 002A: This parameter is limited by the water quality standards of 6.5-9.0 s.u., as this range is more stringent than other applicable standards.

This limitation is the same as that contained in the previous permit and is imposed upon the effective date of this permit.

E. coli - 001A and 002A: The limitation for *E. coli* is based upon the WQBEL as described in the WQA. A qualitative determination of RP has been made as the treatment facility has been designed to treat specifically for this parameter.

Previous monitoring as shown in Table V-1 indicates that this limitation can be met and is therefore imposed upon the effective date of the permit.

Total Residual Chlorine (TRC) - 001A and 002A: The limitation for TRC is based upon the WQBEL as described in the WQA. A qualitative determination of RP has been made as chlorine may be used in the treatment process.

Previous monitoring as shown in Table V-1 indicate that this limitation can be met and is therefore imposed upon the effective date of the permit.

Ammonia - 001A and 002A: The limitation for ammonia is based upon the WQBELs and NILs as described in the WQA. A qualitative determination of RP has been made as the treatment facility has been designed to treat specifically for this parameter.

Outfall 001A: Previous monitoring as shown in Table V-1 indicates that this limitation can be met and is therefore effective immediately.

Outfall 002A: This limitation is more stringent than the previous permit limit and the permittee may





not be able to consistently meet this limitation and a compliance schedule has been added to the permit to give the permittee time to meet this limitation.

Nitrite - The previous fact sheet states “nitrite is a very short lived decay product of ammonia. Because of the short life this parameter, these discharges are not anticipated to cause or contribute to an exceedance of the nitrite standard and no routine monitoring of nitrite will be required in the permit.” However, a permit monitoring limit was included in the permit for both outfalls. The previous permit term included a monitoring requirement for both outfalls, but was only included in the DMRs for Outfall 002A and therefore, the facility did not report any nitrite effluent data. Since the facility did not discharge from Outfall 002A, there was no data to conduct an RP analysis. At this renewal the Division will not include the nitrite in the permit.

Total Arsenic - 001A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for were as high as 0.7µg/l, compared to the WQBEL of 689 µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

002A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results were as high as 0.7 µg/l, compared to the WQBEL of 7.6 µg/l and the ADBAC of 1.1 µg/l. Since the sample result was greater than half the ADBAC, a monitoring requirement will be added to the permit for the 30-day average and the two-year rolling average.

Dissolved Arsenic - A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. While there were no dissolved arsenic data, total arsenic was used in this RP analysis. 001A: Sample results were as high as 0.7µg/l, compared to the WQBEL of 1152µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results. 002A: Sample results were as high as 0.7µg/l, compared to the WQBEL of 341µg/l and the ADBAC of 51µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

Potentially Dissolved Cadmium - 001A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for potentially dissolved cadmium were all non-detects with a detection limit of 0.2µg/l, compared to the WQBELs of 8.2µg/l (30-day average) and 31µg/l (daily maximum). A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

002A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for potentially dissolved cadmium were all non-detects with a detection limit of 0.2µg/l, compared to the WQBELs of 1.2µg/l (30-day average), 9.1 (daily maximum) and the ADBAC of 0.18µg/l. Since the detection limit is greater than the ADBAC, a monitoring requirement for the 30-day average and the two-year rolling average will be added to the permit.

Total Trivalent Chromium - While there were no total trivalent chromium data, the facility collected DMR data for total chromium. Since trivalent chromium is included in total chromium, the total chromium data will be used for the RP analysis. 001A: Sample results for total chromium were as high as 1µg/l, compared to the WQBEL of 689 µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

002A: Sample results for total chromium were as high as 1µg/l, compared to the WQBEL of 100 µg/l and the ADBAC of 15 µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.





Potentially Dissolved Trivalent Chromium - While there were no potentially dissolved trivalent chromium data, the facility collected DMR data for total chromium. Since trivalent chromium is included in total chromium, the total chromium data will be used for the RP analysis. 001A: Sample results for total chromium were as high as 1µg/l, compared to the WQBELs of 1591 µg/l and 6009 µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

002A: Sample results for total chromium were as high as 1µg/l, compared to the WQBELs of 232 µg/l (30-day average) and 1778 µg/l (daily maximum) and the ADBAC of 51 µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

Dissolved Hexavalent Chromium - While there were no dissolved hexavalent chromium data, the facility collected DMR data for total chromium. Since hexavalent chromium is included in total chromium, the total chromium data will be used for the RP analysis. 001A: Sample results for total chromium were as high as 1µg/l, compared to the WQBELs of 76 µg/l (30-day average) and 54 µg/l (daily maximum). A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results. 002A: Sample results for total chromium were as high as 1µg/l, compared to the WQBELs of 11µg/l (30-day average) and 16 µg/l (daily maximum) and the ADBAC of 1.7µg/l. Since the 1 ug/l of total chromium includes other chromium form(s) the Division at this time made a qualitative no RP and therefore no limits will be added to the permit.

Potentially Dissolved Copper - 001A: The RP analysis for potentially dissolved copper was based upon the WQBELs as calculated in the WQA. With the available data the log-normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than half of the MAPC and therefore limitations are not necessary at this time.

002A: The RP analysis for potentially dissolved copper was based upon the WQBELs as described in the WQA. With the available data the log-normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC was greater than the MAPC and therefore limitations are required. Therefore a 30-day average, daily maximum, and two-year rolling average requirement has been added to the permit. Based upon previous monitoring, the permittee may not be able to consistently meet this limitation and a compliance schedule has been added to the permit to give the permittee time to meet this limitation.

Cyanide - 001A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for cyanide were as all below the detection limit of 10µg/l, compared to the WQBEL of 17µg/l. Since the detection limit is greater than 50% of the WQBEL a monitoring requirement will be added to the permit.

002A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for cyanide were as all below the detection limit of 10µg/l, compared to the WQBEL of 5µg/l and the ADBAC of 0.75µg/l. Therefore, a qualitative determination of RP has been made and limitations will be added and imposed upon the effective date of the permit. Based upon previous monitoring, the permittee may not be able to consistently meet this limitation and a compliance schedule has been added to the permit to give the permittee time to meet this limitation.

Total Recoverable Iron - 001A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for were as high as 94.05µg/l, compared to the WQBEL of 6889µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

002A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for were as high as 94.05µg/l, compared to the WQBEL of







1002µg/l and the ADBAC of 150µg/l. Since the highest sample result was greater than 50% of the ADBAC, a monitoring requirement will be required in the permit.

Potentially Dissolved Lead - 001A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for were as high as 0.6µg/l, compared to the WQBELs of 76µg/l (30-day average) and 952µg/l (daily maximum). A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.  
002A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for were as high as 0.6µg/l, compared to the WQBELs of 11µg/l (30-day average) and 282µg/l (daily maximum) and the ADBAC of 1.7µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

Total Recoverable Manganese - 001A and 002A: There is no data available regarding the presence/absence or quantification of this parameter in the discharge. Since the potential exists for this parameter to be present, monitoring has been added to the permit.

Potentially Dissolved Manganese - 001A: The RP analysis for potentially dissolved manganese was based upon the WQBELs as calculated in the WQA. With the available data the log/normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than half of the MAPC and therefore limitations are not necessary at this time.  
002A: The RP analysis for potentially dissolved manganese was based upon the WQBELs as described in the WQA. With the available data the log/normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than the MAPC and therefore limitations are not necessary at this time.

Total Molybdenum - 001A and 002A: There is no data available regarding the presence/absence or quantification of this parameter in the discharge. Since the potential exists for this parameter to be present, monitoring has been added to the permit.

Total Mercury - 001A: The RP analysis for total mercury was based upon the WQBEL as calculated in the WQA. With the available data the log-normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than half of the MAPC and therefore limitations are not necessary at this time.

002A: The RP analysis for total mercury was based upon the WQBEL as described in the WQA. With the available data the log-normal program was used to determine the appropriate statistics to determine the MEPC. The MEPC was greater than the MAPC and therefore limitations are required. Therefore a 30-day average and two year rolling average requirement has been added to the permit. Previous monitoring as shown in Table V-1 indicates that this limitation can be met and is therefore imposed upon the effective date of the permit. Based upon previous monitoring, the permittee may not be able to consistently meet this limitation and a compliance schedule has been added to the permit to give the permittee time to meet this limitation.

Potentially Dissolved Nickel - 001A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for were as high as 1.9µg/l, compared to the WQBELs of 1157µg/l (30-day average) and 5127µg/l (daily maximum). A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

002A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for were as high as 1.9µg/l, compared to the WQBELs of







168µg/l (30-day average) and 1517µg/l (daily maximum) and the ADBAC of 25µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

Potentially Dissolved Selenium - 001A: The RP analysis for potentially dissolved selenium was based upon the WQBELs as calculated in the WQA. With the available data the MDLWIN program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than half of the MAPC and therefore limitations are not necessary at this time.

002A: The RP analysis for potentially dissolved selenium was based upon the WQBELs as described in the WQA. With the available data the MDLWIN program was used to determine the appropriate statistics to determine the MEPC. The MEPC was less than the MAPC and therefore limitations are not necessary at this time, however the MEPC was greater than 50% of the MAPC and therefore monitoring is required. Therefore, a report only requirement has been added to the permit, effective immediately.

Potentially Dissolved Silver - 001A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for potentially dissolved silver were all non-detects at a detection limit of 0.2µg/l, compared to the WQBELs of 24µg/l (30-day average) and 75µg/l (daily maximum). A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

002A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for potentially dissolved silver were all non-detects at a detection limit of 0.2µg/l, compared to the WQBELs of 3.5µg/l (30-day average) and 22µg/l (daily maximum) and the ADBAC of 0.53µg/l. A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

Potentially Dissolved Zinc - 001A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for potentially dissolved zinc were as high as 52.01µg/l, compared to the WQBELs of 2948µg/l (30-day average) and 1911µg/l (daily maximum). A qualitative determination of no RP has been made as the potential limitation is significantly greater than the sample results.

002A: A qualitative RP analysis was conducted as there was not enough data to conduct a quantitative RP analysis. Sample results for potentially dissolved zinc were as high as 52.01µg/l, compared to the WQBELs of 429µg/l (30-day average) and 566µg/l (daily maximum) and the ADBAC of 71µg/l. Because the sample results are greater than 50% of the ADBAC, a monitoring requirement will be added to the permit for the 30-day average and the two-year rolling average.

Temperature- The MWAT is the maximum weekly average temperature, as determined by a seven day rolling average, using at least 3 equally spaced temperature readings in a 24-hour day (at least every 8 hours for a total of at least 21 data points). The daily maximum is defined as the maximum 2 hour average, with a minimum of 12 equally spaced measurements throughout the day. Based on the reporting requirements from the previous permit, the facility already has the necessary equipment in place to measure effluent temperature in the correct forms.

Outfall 001A: However, there is no ambient data in the correct form to correctly calculate the temperature limitations; therefore, the facility will be required to install continuous monitoring equipment and to perform monitoring at the required intervals to collect data for future RP analysis. Additional reporting has been added to the permit via UST1A.

As it is unknown whether the facility can meet the new temperature limitation, or whether there is reasonable potential for the facility to cause or contribute to an exceedance of the water quality





standard for temperature, report only conditions will be required for the duration of this permit. Upon the next permit renewal, the collected temperature data will be used to determine if there is reasonable potential, and/or if the permittee can meet the limitation.

Outfall 002A: The facility provided four years of 15-minute interval temperature data. From that data the Division calculated MWAT and DM values to conduct an RP analysis. The Division's practice for temperature is to use a multiplier of 1.1 (minimum multiplier) rather than to statistically derive a multiplier from the data set based on sample size and coefficient of variation. This is because for temperature the sample size is expected to be greater than 47 samples in all cases.

For August and September, the Division determined reasonable potential exists for temperature for the MWAT. Therefore a limitation has been added to the permit. As shown in Table V-2, effluent temperature data for August and September was 22.1 and 22.4, and the MEPC was calculated by using a multiplier of 1.1. The effluent temperature data was two degrees less than the limit. Therefore, this limitation can be met and is imposed upon the effective date of the permit. For April through October DM and MWAT (except August and September) the MEPC was less than the MAPC and therefore limitations are not necessary at this time, however the MEPC was greater than 50% of the MAPC, so monitoring is required. Therefore, a report only requirement has been added to the permit, effective immediately. For March and November, ambient data in the correct format is needed to calculate WQBELs. Therefore, a monitoring requirement will be added to the permit. Due to the temporary modification set to "current conditions" for Upper South Platte River segment 11, a monitoring requirement will be added to the permit for December through February.

Organics - The effluent is not expected or known to contain organic chemicals, and therefore, limitations for organic chemicals are not needed in this permit.

Nutrients - The technology based effluent limitations set forth in Regulation 85.5.1.a.iii for total inorganic nitrogen and total phosphorus will be implemented into this permit.

Based on previous Regulation 85 monitoring data, the facility is able to meet the total inorganic nitrogen limitation, which is imposed on the effective date of the permit. The facility may not be able to consistently meet the total phosphorus limitation. Therefore a compliance schedule has been added to the permit to give the facility time to meet this limitation.

Whole Effluent Toxicity (WET) Testing - For this facility, chronic WET testing has been determined to be applicable based on the instream waste concentrations calculated in the WQA.

This facility is expected to discharge metals at concentrations found to have toxic effects to fish and other aquatic life. Additionally this facility discharges ammonia, which can cause toxicity at low concentrations. Contributions from industrial users increase the reasonable potential for the discharge to interfere with attainment of applicable water quality classifications or standards. On these bases, a chronic WET testing limit has been incorporated into the permit.

The permittee should read the WET testing section of Part I of the permit carefully, as this information has been updated in accordance with the Division's updated policy, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010) . The permit outlines the test requirements and the required follow-up actions the permittee must take to resolve a toxicity incident. The permittee should also read the above mentioned policy which is available on the Permit Section website. The permittee should be aware that some of the conditions outlined above may be subject to change if the facility experiences a change in discharge, as outlined in Part II.A.2. of the permit. Such changes shall be reported to the Division immediately.





### C. Parameter Speciation

#### Total / Total Recoverable Metals

For standards based upon the total and total recoverable methods of analysis, the limitations are based upon the same method as the standard.

#### Total / Total Recoverable Arsenic

For total recoverable arsenic, the analysis may be performed using a graphite furnace, however, this method may produce erroneous results and may not be available to the permittee. Therefore, the total method of analysis will be specified instead of the total recoverable method.

#### Total Mercury

Until recently there has not been an effective method for monitoring low-level total mercury concentrations in either the receiving stream or the facility effluent. To ensure that adequate data are gathered to show compliance with the limitation and consistent with Division initiatives for mercury, quarterly effluent monitoring for total mercury at low-level detection methods will be required by the permit.

#### Dissolved Metals / Potentially Dissolved

For metals with aquatic life-based dissolved standards, effluent limits and monitoring requirements are typically based upon the potentially dissolved method of analysis, as required under Regulation 31, Basic Standards and Methodologies for Surface Water. Thus, effluent limits and/or monitoring requirements for these metals will be prescribed as the “potentially dissolved” form.

#### Cyanide:

For cyanide, the acute standard is in the form of “free” cyanide concentrations. Historically, analytical procedures were not readily available for measuring the concentration of free cyanide in a complex effluent therefore the Division required weak acid dissociable cyanide to be reported instead. Even though methods are now available to measure free cyanide, weak acid dissociable cyanide will be still required as this analytical procedure will detect free cyanide plus those forms of complex cyanide that are most readily converted to free cyanide. Therefore, ASTM (American Society for Testing and Materials) analytical procedure **D2036-81, Method C**, will be used to measure weak acid dissociable cyanide in the effluent.

## VII. ADDITIONAL TERMS AND CONDITIONS

### A. Monitoring

Effluent Monitoring - Effluent monitoring will be required as shown in the permit document. Refer to the permit for locations of monitoring points. Monitoring requirements have been established in accordance with the frequencies and sample types set forth in the Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Industrial and Domestic Wastewater Treatment Facilities. This policy includes the methods for reduced monitoring frequencies based upon facility compliance as well as for considerations given in exchange for instream monitoring programs initiated by the permittee. Table VII-1 shows the results of the reduced monitoring frequency analysis for Permitted Feature 001A, based upon compliance with the previous permit.

**Table VII-1 - Monitoring Reduction Evaluation-001A**





<i>Parameter</i>	<i>Proposed Permit Limit</i>	<i>Average of 30- Day (or Daily Max) Average Conc.</i>	<i>Standard Deviation</i>	<i>Long Term Characterization (LTC)</i>	<i>Reduction Potential</i>
<i>E. coli (#/100 ml)</i>	862	16	14	44	3 Levels
<i>TRC (mg/l)</i>	0.064	0.0021	0.01	0.0221	3 Levels
<i>NH3 as N, Tot (mg/l)</i>	10.3	2.4	1.6	5.6	2 Levels
<i>BOD5, effluent (mg/l)</i>	30	11	3.7	18.4	2 Levels
<i>TSS, effluent (mg/l)</i>	30	11	4.2	19.4	2 Levels

## B. Reporting

1. Discharge Monitoring Report - The Drake WWTF facility must submit Discharge Monitoring Reports (DMRs) on a monthly basis to the Division. These reports should contain the required summarization of the test results for all parameters and monitoring frequencies shown in Part I.A.2 of the permit. See the permit, Part I.D for details on such submission.
2. Special Reports - Special reports are required in the event of an upset, bypass, or other noncompliance. Please refer to Part II.A. of the permit for reporting requirements. As above, submittal of these reports to the US Environmental Protection Agency Region VIII is no longer required.

## C. Signatory and Certification Requirements

Signatory and certification requirements for reports and submittals are discussed in Part I.D.8. of the permit.

## D. Stormwater

Pursuant to 5 CCR 1002-61.3(2), wastewater treatment facilities with a design flow of 1.0 mgd or more, or that are required to have an approved pretreatment program, are specifically required to obtain stormwater discharge permit coverage or a Stormwater No Exposure Certification, in order to discharge stormwater from their facilities to state waters. The stormwater discharge permit applicable to wastewater treatment facilities is the CDPS General Permit for Stormwater Discharges Associated with Non-Extractive Industrial Activity.

Division records indicate that the City of Fort Collins applied for and obtained coverage under this permit for the Drake Water Reclamation Facility. The CDPS certification number is COR900823.

## E. Additional Permit Requirements

### The Use of the Pretreatment Framework to identify, characterize, and control sources of pollutants to POTWs

The Division reviewed the pretreatment framework and its implementation in Colorado, and determined that this framework is the most appropriate tool to identify, characterize, and control sources of pollutants to the POTW. The Division reviewed both the ADD FACILITY NAME permit provisions, and the Division's standard permit provisions to ensure that the requirements are equivalent to those provided by EPA (EPA implements the federal pretreatment program in Colorado





because the state has not been delegated its own pretreatment program).

Permit provisions differ for POTWs required to maintain a pretreatment program and for POTWs not required to maintain a pretreatment program. The Division found that the provisions for POTWs that are required to maintain a pretreatment program met these requirements, and therefore there is no need to change these provisions in Colorado's permits. These POTWs are required to identify and locate all possible industrial users ("IUs"), identify the character and volume of pollutants, maintain current information regarding IUs and conduct periodic pollutant scans of both influent and effluent for a list of parameters. The permit provisions also conformed to those provided by EPA for inclusion in Division issued permits.

POTWs not required to maintain a pretreatment program are not held to this level of requirement, and as such are less likely to generate the level of information described in the statement of basis and purpose. These POTWs are required to submit information in their permit applications regarding industrial discharges. EPA as the pretreatment authority also notifies POTWs without pretreatment programs to conduct a comprehensive industrial user survey, as needed, to further evaluate these POTWs for development of a program. EPA also recommends that permits for all POTWs require periodic pollutant scans of effluent, require periodic pollutant scans of effluent.

## F. Economic Reasonableness Evaluation

Section 25-8-503(8) of the revised (June 1985) Colorado Water Quality Control Act required the Division to "determine whether or not any or all of the water quality standard based effluent limitations are reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons, and are in furtherance of the policies set forth in sections 25-8-192 and 25-8-104."

The Colorado Discharge Permit System Regulations, Regulation No. 61, further define this requirement under 61.11 and state: "Where economic, environmental, public health and energy impacts to the public and affected persons have been considered in the classifications and standards setting process, permits written to meet the standards may be presumed to have taken into consideration economic factors unless:

- a. A new permit is issued where the discharge was not in existence at the time of the classification and standards rulemaking, or
- b. In the case of a continuing discharge, additional information or factors have emerged that were not anticipated or considered at the time of the classification and standards rulemaking."

The evaluation for this permit shows that the Water Quality Control Commission, during their proceedings to adopt the Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill Basin, considered economic reasonableness.

Furthermore, this is not a new discharger and no new information has been presented regarding the classifications and standards. Therefore, the water quality standard-based effluent limitations of this permit are determined to be reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons and are in furtherance of the policies set forth in Sections 25-8-102 and 104. If the permittee disagrees with this finding, pursuant to 61.11(b)(ii) of the Colorado Discharge Permit System Regulations, the permittee should submit all pertinent information to the Division during the public notice period.





**VIII. REFERENCES**

- A. Colorado Department of Public Health and Environment, Water Quality Control Division Files, for Permit Number CO0047627.
- B. “Design Criteria Considered in the Review of Wastewater Treatment Facilities”, Policy 96-1, Colorado Department of Public Health and Environment, Water Quality Control Commission, April 2007.
- C. Basic Standards and Methodologies for Surface Water, Regulation No. 31, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective January 31, 2013.
- D. Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin, Regulation No. 38, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective June 30, 2015.
- E. Colorado Discharge Permit System Regulations, Regulation No. 61, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective June 30, 2015.
- F. Regulations for Effluent Limitations, Regulation No. 62, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective July 30, 2012.
- G. Pretreatment Regulations, Regulation No. 63, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 01, 2007.
- H. Biosolids Regulation, Regulation No. 64, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective June 30, 2014.
- I. Colorado River Salinity Standards, Regulation No. 39, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective August 30, 1997.
- J. Section 303(d) List of Water Quality Limited Segments Requiring TMDLs, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective March 30, 2012.
- K. Colorado’s Section 303(d) List of Impaired Waters and Monitoring and Evaluation List, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective March 30, 2012.
- L. Antidegradation Significance Determination for New or Increased Water Quality Impacts, Procedural Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2001.
- M. Memorandum Re: First Update to (Antidegradation) Guidance Version 1.0, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 23, 2002.
- N. Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, Policy Number CW-1, Colorado Department of Public Health and Environment, Water Quality Control Division, effective November 18, 2013.





- O. The Colorado Mixing Zone Implementation Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 2002.
- P. Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Domestic and Industrial Wastewater Treatment Facilities, Water Quality Control Division Policy WQP-20, May 1, 2007.
- Q. Implementing Narrative Standards in Discharge Permits for the Protection of Irrigated Crops, Water Quality Control Division Policy WQP-24, March 10, 2008.
- R. Implementing Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (WET) Testing, Colorado Department of Public Health and Environment, Water Quality Control Division Policy Permits-1, September 30, 2010.
- S. Policy for Conducting Assessments for Implementation of Temperature Standards in Discharge Permits, Colorado Department of Public Health and Environment, Water Quality Control Division, Policy Number WQP-23, effective July 3, 2008.
- T. Permit Compliance Schedules, Colorado Department Public Health and Environment, Water Quality Control Division Policy Number CW-3, effective March 4, 2014.
- U. Procedural Regulations for Site Applications for Domestic Wastewater Treatment Works, Regulation No. 22, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2009.
- V. Regulation Controlling discharges to Storm Sewers, Regulation No. 65, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective May 30, 2008.
- W. Water and Wastewater Facility Operator Certification Requirements, Regulation No. 100, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective June 30, 2012.

## VIII. PUBLIC NOTICE COMMENTS

