

**FACT SHEET  
CITY OF CORINNE  
UPDES PERMIT NUMBER: UT0020931  
RENEWAL DISCHARGE PERMIT FOR MINOR MUNICIPAL**

**FACILITY CONTACTS**

Person Name:	Brett Merkley	Person Name:	Kelly Nichols
Position:	Mayor	Position:	Operator
Facility Name:	City of Corinne		
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**DESCRIPTION OF FACILITY**

The Corinne wastewater lagoon system (Corinne WLS) system was constructed in 1971 with seven cells. In 1981 it was expanded to eight cells. The facility serves Corinne City with a current population of 700 people (2014 application) with an average design flow of 70,000 gallons per day (GPD). The facility consists of a bar screen, 45° V-notch inlet weir, comminutor, sump and pump station, eight facultative lagoons operated in series, a Stevens discharge flow recorder, and a ten inch diameter concrete discharge pipe that runs approximately 200 feet, and discharges directly into the Bear River. The facility is located about ½ mile south of Corinne in Box Elder County, at latitude 41° 32' 14" longitude 112° 06' 37" (STORET number 490116).

The Corinne WLS is currently under taking projects to address BOD<sub>5</sub> and *E. coli* effluent limitation exceedances. The Corinne WLS has plans to change the chlorination system from a tablet system to a chlorine gas system. The Corinne WLS is also pursuing a project to begin land application of the effluent to a nearby parcel and land disposal Outfall 001D has been permitted as part of the 2015 permit renewal. This project might ultimately completely remove the effluent from the Bear River.

**DESCRIPTION OF DISCHARGE**

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	The Corinne Wastewater Lagoon system is located approximately a half mile south of the City of Corinne on the west side of the Bear River. The discharge is from a twelve inch corrugated metal pipe discharging directly to the Bear River. Located at latitude 41° 32' 13.8" longitude 112° 06' 40".
001D	This outfall is to a retention ditch for land disposal. Located at latitude 41° 32' 15" and longitude -112° 06' 42".

## RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge flows into the Bear River, thence to the Great Salt Lake. The Bear River is classified as 2B, 3B, 3D and 4 according to *Utah Administrative Code (UAC) R317-2-13.3 (a)*.

- Class 2B -Protected for secondary contact recreation such as boating, wading, or similar uses.
- Class 3B -Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 3D - Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
- Class 4 -Protected for agricultural uses including irrigation of crops and stock watering.

## TOTAL MAXIMUM DAILY LOADS (TMDL) AND IMPARMENT LISTINGS

The Corinne WLS discharge to the Bear River which is 303(d) listed for total phosphorous and total suspended solids (TDS). A total phosphorous TMDL was completed for the Bear River on September 9th, 2002. The TMDL indicated that the three point sources in this segment, Corinne, Bear River and Tremonton cities accounted for approximately 3% of the total phosphorous load to the Lower Bear River. The remaining 97% is attributed to nonpoint sources. Given that the non-point source total phosphorous loads overshadow the point source contributions, the time-frame for including total phosphorous effluent limits for the small towns of Bear River City, Tremonton and Corinne is not urgent. The Lower Bear River total phosphorous TMDL may be reevaluated in the future so continued total phosphorous monitoring is required. In addition, a future TMDL for TDS in the Lower Bear River will include an evaluation of TDS loading from the treatment plant. Thus, TDS monitoring is being added during this permit renewal.

## DISCHARGE MONITORING RESULTS

The Corinne WLS has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. Below is DMR data for the past 5 years of effluent limitation exceedances for flow, BOD<sub>5</sub>, TSS, *E. coli* and pH. Eleven of these events exceed the effluent limitation by 40% or more on the sampling date. During January 2014 to April 2014 the BOD<sub>5</sub> effluent limitation was exceeded and a letter of violation was sent. This letter also covered the exceedingly high *E. coli* violation during February 2013. Since many of the other exceedances span over a number of years for each constituent no additional letters of violation or notices of violation have been issued to the facility.

Flow, in conduit or thru treatment plant	Limit = 0.07
Monitoring Period	30 Day Average (mgd)
November 2011	0.14
March 2012	0.17
May 2012	0.26
June 2012	0.26
July 2012	0.26

BOD, 5-day, 20 deg. C	Limit = 35	Limit = 25
Monitoring Period	7 Day Average (mg/L)	30 Day Average (mg/L)
March 2010	49.6	49.6
April 2011	39.3	39.3
February 2013	32.8	32.8
April 2013	26	26
June 2013	50.3	50.3
September 2013	29	29
January 2014	26.9	26.9
February 2014	30.6	30.6
March 2014	46	46
April 2014	40.2	40.2
September 2014	27	27

Solids, total suspended	Limit = 35	Limit = 25
Monitoring Period	7 Day Average (mg/L)	30 Day Average (mg/L)
March 2010	<b>55.4</b>	<b>55.4</b>
April 2011	<b>67</b>	<b>67</b>
February 2014	28	28
March 2014	<b>68</b>	<b>68</b>

<i>E. coli</i>	Limit = 158	Limit = 126
Monitoring Period	7 Day Geomean (cfu/100mL)	30 Day Geomean (cfu/100mL)
March 2010	<b>361</b>	<b>361</b>
June 2012	<b>816</b>	<b>816</b>
February 2013	<b>1414</b>	<b>1414</b>
June 2013	141	141

pH	Limit < 9.0
Monitoring Period	Daily Maximum (SU)
June 2012	9.31
July 2012	9.46
August 2012	9.36
September 2012	9.27
April 2013	9.28
August 2013	9.28
September 2013	9.08
April 2014	9.4
June 2014	10.2
July 2014	9.32

**BASIS FOR EFFLUENT LIMITATIONS FOR SURFACE WATER DISCHARGE**

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD<sub>5</sub>), *E. coli*, and pH requirements are based on current Utah Secondary Treatment Standards, *UAC Code R317-1-3.2*. The dissolved oxygen minimum is based on the waste load analysis (attached) and indicates these parameters should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. Ammonia and total residual chlorine effluent limitations were evaluated however the Corinne WLS has no reasonable potential to exceed the maximum levels calculated in the WLA. Based on self-monitoring data during the last permit period, the Corrine WLS should not have any difficulty meeting the permit parameters indicated below:

Parameter	Effluent Limitations <sup>1</sup>			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Flow, mgd	0.07			
BOD <sub>5</sub> , mg/L	25	35		
Total Suspended Solids (TSS) mg/L	25	35		
<i>E. coli</i> , No./100mL	126	158		
pH, Standard Units			6.5	9.0
Dissolved Oxygen, mg/L			4.0	

1. See Definitions, *Part VI* of the permit, for definition of terms.

**SELF-MONITORING AND REPORTING REQUIREMENTS FOR SURFACE WATER DISCHARGE**

The following self-monitoring requirements are the same as in the previous permit. The permit will require reports to be submitted monthly and yearly, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period.

Influent Self-Monitoring and Reporting Requirements <sup>1</sup>			
Parameter	Frequency	Sample Type	Units
BOD <sub>5</sub> <sup>2</sup>	Monthly	Grab	mg/L
TSS <sup>2</sup>	Monthly	Grab	mg/L
Total Phosphorus (as P)	Monthly	Composite <sup>3</sup>	mg/L
Total Kjeldahl Nitrogen (as N)	Monthly	Composite <sup>3</sup>	mg/L
Metals <sup>4</sup>	Quarterly	Composite <sup>3</sup>	mg/L
Organic Toxics <sup>5</sup>	2 <sup>nd</sup> and 4 <sup>th</sup> year	Grab	mg/L

Effluent Self-Monitoring and Reporting Requirements <sup>1</sup>			
Parameter	Frequency	Sample Type	Units
Total Flow <sup>2</sup>	Continuous	Recorder	mgd
BOD <sub>5</sub> <sup>2</sup>	Monthly	Grab	mg/L
TSS <sup>2</sup>	Monthly	Grab	mg/L
<i>E. coli</i>	Monthly	Grab	No./100mL
pH	Monthly	Grab	SU
Dissolved Oxygen	Monthly	Grab	mg/L
Oil & Grease <sup>6</sup>	Monthly	Grab	mg/L
Total Dissolved Solids	Monthly	Grab	mg/L
Total Phosphorus (as P)	Monthly	Composite <sup>3</sup>	mg/L
Orthophosphate (as P)	Monthly	Composite <sup>3</sup>	mg/L
Ammonia (as N)	Monthly	Composite <sup>3</sup>	mg/L
Nitrate-Nitrite (as N)	Monthly	Composite <sup>3</sup>	mg/L
Total Kjeldahl Nitrogen (as N)	Monthly	Composite <sup>3</sup>	mg/L
Metals <sup>4</sup>	Quarterly	Composite <sup>3</sup>	mg/L
Organic Toxics <sup>5</sup>	2 <sup>nd</sup> and 4 <sup>th</sup> year	Grab	mg/L

1. See Definitions, *Part VI* of the permit, for definition of terms.
2. Influent samples and the influent flow shall be monitored and measured at the same frequency as the effluent samples and the effluent flow.
3. Composite samples shall be by use of an automatic sampler or minimum of four grab samples collected a minimum of two hours apart.
4. As defined in Section II.A.1. of the Permit.
5. The toxic pollutants are listed in *40 CFR 122 Appendix D Table II (Organic Toxic Pollutants)*.
6. Sample only if a sheen is observed.

## BASIS FOR EFFLUENT LIMITATIONS FOR LAND DISPOSAL

The BOD, TSS, pH, and *E. coli* limits are set in accordance with UAC R317-3-11.5.C.5.

- Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge effluent for Land Disposal from Outfall 001D. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Effluent Limitations for Type II Land Disposal at Outfall 001D <sup>1,2</sup>		
	Maximum Weekly Avg	Daily Minimum	Daily Maximum
BOD <sub>5</sub> , mg/L	35		
Total Suspended Solids (TSS) mg/L	35		
<i>E. coli</i> , No./100mL	158		500
pH, Standard Units		6.5	9.0

Self-Monitoring and Reporting Requirements for Type II Land Disposal at Outfall 001D <sup>1,2</sup>			
Parameter	Frequency	Sample Type	Units
Applied Flow	Continuous	Recorder	mgd
Irrigated Acreage	Monthly	Estimated	acres
BOD <sub>5</sub>	Monthly	Grab	mg/L
TSS	Monthly	Grab	mg/L
<i>E. coli</i>	Monthly	Grab	No./100mL
pH	Monthly	Grab	SU
Total Inorganic Nitrogen	Monthly	Grab	mg/L

- See Definitions, *Part VI*, for definition of terms.
- Effluent shall only be disposed of by methods allowed by R317-3-11.5.A.

### B. Management Practices for Land Application of Treated Effluent

- The application of treated effluent to frozen, ice-covered, or snow covered land is prohibited.
- No person shall apply treated effluent where the slope of the site exceeds 6 percent.
- The use should not result in a surface water runoff except as authorized under I.C. of this permit.
- The use must not result in the creation of an unhealthy or nuisance condition, as determined by the local health department.
- Any irrigation with treated effluent must be at least 300 feet from a potable well.
- Spray irrigation must be at least 100 feet from areas intended for public access. This distance may be reduced or increased by the Director.
- Impoundments of treated effluent, if not sealed, must be at least 500 feet from any potable well.

8. Public access to effluent storage and irrigation or disposal sites shall be restricted by a stock-tight fence or other comparable means which shall be posted and controlled to exclude the public.

Monitoring results obtained during the previous year shall be summarized and submitted in an Annual Report by May 1<sup>st</sup>. The report shall include a tabular summary of the monthly minimum, average, and maximum values. This report may be submitted as a standalone report or as an inclusion in the facility's Municipal Wastewater Planning Program (MWPP). This report is intended to provide information for the Division to provide oversight of the land disposal.

## **BIOSOLIDS**

Because the permitted facility is a lagoon, there is no regular sludge production. Therefore, the requirements of *40 CFR 503* do not apply unless sludge is removed from the lagoon system and disposed.

## **STORM WATER**

Wastewater Treatment Facilities, which includes Lagoon Systems, are required to comply with storm water permit requirements if they meet one or both of the following criteria,

1. The facility has an approved pretreatment program as described in 40 CFR Part 403.
2. The facility has a design flow of 1.0 MGD or greater.

The Corinne WLS does not meet either of the criteria, therefore a storm water permit is not required at this time. A storm water re-opener provision is included in the permit should a storm water permit be needed in the future.

## **PRETREATMENT REQUIREMENTS**

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD, industrial discharges comprise less than 1 percent of the flow through the treatment facility, and there is no indication of pass through or interference with the operation of the treatment facility such as upsets or violations of the POTW's UPDES permit limits.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to *Section 307* of the *Clean Water Act*, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in *40 CFR 403* and the State Pretreatment Requirements found in *UAC R317-8-8*.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is recommended that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions 40 CFR, Part 403.5(a) and Part 403.5(b). This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed. It is required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review and if needed public notice.

The permit requires quarterly influent and effluent monitoring for metals.

## **BIOMONITORING REQUIREMENTS**

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring)*. Authority to require effluent biomonitoring is provided in *Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3* and *Water Quality Standards, UAC R317-2-5* and *R317-2-7.2*.

The permittee is a minor municipal intermittent discharger that will be contributing a small volume of effluent when compared to the existing receiving waters, in which toxicity is not likely to be present. Based on these considerations, and the fact that there are no present or anticipated industrial users on the system, there is no reasonable potential for toxicity in the permittee's discharge (*per State of Utah Permitting and Enforcement Guidance Document for WET Control*). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

## **SUMMARY OF CHANGES FROM PREVIOUS PERMIT**

Monitoring for total phosphorus, orthophosphate, total kjeldahl nitrogen, nitrate-nitrite, and ammonia were added in accordance with *UAC R317-1-3.3.D*. Monitoring for Organic Toxics was added based on pretreatment program requires for having an industrial discharger. Total phosphorus monitoring was reduced to once per month as required by *UAC R317-1-3.3.D*. Total dissolved solids monitoring was added for future TMDL evaluation. Land disposal Outfall 001D was added to the permit with corresponding disposal limitations, monitoring requirements, and annual reporting requirements.

## **PERMIT DURATION**

It is recommended that this permit be effective for duration of five (5) years. Drafted by:  
Permit Writer Ken Hoffman, P.E. 801-536-4313 ([kenhoffman@utah.gov](mailto:kenhoffman@utah.gov))

Biosolids	Dan Griffin
Pretreatment	Jen Robinson
Storm water	Mike George
WET	Mike Herkimer
TMDL	Mike Allred
WLA	Dave Wham

**PUBLIC NOTICE**

Began: March 3, 2016

Ended: April 4, 2016

Comments will be received at: 195 North 1950 West  
PO Box 144870  
Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published in the Herald Journal.

During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

No comments were received during the public notice period.

DWQ-2015-010324

PUBLIC NOTICE DRAFT