

**FACT SHEET AND STATEMENT OF BASIS
RIVERTON CITY
RIVERTON CITY GREEN ARTESIAN WELL DRINKING WATER PLANT
PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0026212**

FACILITY CONTACTS

Person Name: Trent Staggs
Position: Mayor of Riverton City
Phone Number: (801) 208-3129

Person Name: Stacie Olson
Position: Water Operator
Phone Number: (801) 208-3187

Person Name: Camille Smithson
Position: Consultant/ Engineer
Phone Number: (435) 406-4996

Permitee: Riverton City (Riverton)
Facility Name: Riverton City Green Artesian Well Drinking Water Plant
Mailing and Facility Address: 12830 South Redwood Road
Riverton, Utah 84065
Telephone: (801) 208-3187

DESCRIPTION OF FACILITY

Riverton City Green Artesian Well Drinking Water Plant will be a newly constructed facility designed to treat groundwater from the Riverton City Green Artesian Well. The new water treatment facility will supply clean drinking water to Riverton City and surrounding areas. The water will be treated using reverse osmosis and the reject waste stream water will be discharged into the Jordan River.

DISCHARGE

DESCRIPTION OF DISCHARGE

Riverton will discharge the reverse osmosis reject waste stream into the Jordan River. Water from Riverton City Green Artesian Well is expected to be constant and not highly varied.

<u>Outfall</u>	<u>Description of Discharge Point</u>
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01	Located at latitude 40°31'39" and longitude -111°55'13". The discharge from the Riverton City Green Artesian Well Drinking Water Plant enters the Jordan River.
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RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge is to the Jordan River, which is classified 2B, 3B, and 4 according to *Utah Administrative Code (UAC) R317-2-13*:

- Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.
- 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 4 -- Protected for agricultural uses including irrigation of crops and stock watering.

TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

A QUAL2Kw model of the Jordan River was populated and calibrated as part of the TMDL study (Stantec Consulting 2010, UDWQ 2010). The model was subsequently validated to a synoptic survey conducted by UDWQ and the Jordan River/Farmington Bay Water Quality Council (JRFBWQC) during July 2014 (UDWQ 2015). The model validation identified areas for future improvement of the model; however, the model was considered suitable for application to the wasteload allocation for ammonia only. Due to ongoing studies related to the TMDL, this wasteload allocation used for permit development does not address parameters related to dissolved oxygen, including biochemical oxygen demand (BOD), dissolved oxygen (DO), total nitrogen (TN), and total phosphorus (TP).

BASIS FOR EFFLUENT LIMITATIONS

In accordance with regulations promulgated in *40 Code of Federal Regulations (CFR) Part 122.44* and *Utah Administrative Code (UAC) R317-8-4.2*, effluent limitations are derived from technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (UAC R317-1-3.2) or Utah Water Quality Standards (UAC R317-2). In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits have been developed, Best Professional Judgment (BPJ) may be used where applicable. Limitations on total suspended solids (TSS), *E. coli*, and pH are based on current Utah Secondary Treatment Standards; oil and grease are based on BPJ. Total dissolved solids (TDS) and dissolved oxygen (DO) have been determined by the Wasteload Analysis (WLA), which is attached.

Antidegradation Level I and II reviews (ADR) are required because this is a new discharge to the Jordan River (R317-2-3). As documented by the waste load allocation and reasonable potential analyses, the Level I ADR ensures that existing and designated uses are protected. The Level II ADR documents that any degradation of water quality is necessary to accommodate important economic or social development. Degradation occurs when effluent concentrations of a parameter are greater (e.g. metals) than ambient concentrations in the receiving waters. The Level II ADR also documents that the least degrading, feasible treatment option is being implemented. The Level II ADR identifies selenium as a pollutant of concern (POC) – a limit has been included in this permit based on the concentration capabilities and limitations provided by Riverton. When more information is available regarding the effluent concentrations of other metals, the permit may be modified to reflect the new findings which may include adding additional permit limitations. Until the new information is obtained and the potential modification completed, the permit includes highest expected values (listed below) for the other metals. These values have been determined by the effluent concentration presented in the Level II ADR and are intended to protect the assimilative capacity of the Jordan River. If during any sampling event the results are higher than the highest expected values, DWQ will be notified verbally within 24 hours and within 14 days by writing of Riverton receiving the results. The information will be reviewed by DWQ, and the permit may be modified to include a specific metal limit.

Metals to be Monitored			
Parameter	Sample Type	Highest expected value	Units
Arsenic	Composite	0.0091	mg/L
Cadmium	Composite	0.0004	mg/L
Chromium (VI)	Composite	0.0093	mg/L
Copper	Composite	0.0030	mg/L
Cyanide	Grab	0.0037	mg/L
Iron	Composite	0.1111	mg/L
Lead	Composite	0.0009	mg/L
Mercury*	Grab/Composite	0.0004	mg/L
Nickel	Composite	0.0093	mg/L
Selenium	Composite	0.0072 (Effluent Limit)	mg/L
Silver	Composite	0.0009	mg/L
Zinc	Composite	0.0185	mg/L

*Mercury samples must be analyzed using Method 1631 or other sufficiently sensitive method.

As presented below, the discharge will not cause a violation of water quality standards. The permittee is expected to be able to comply with these limitations.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date, however, due to the lack of data, RP was not run for this permit. RP for this permit will be run before the next renewal using data and information collected during this permit cycle.

The permit limitations are:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD	1.0	--	--	--	--
TSS, mg/L	25	35	--	--	--
Dissolved Oxygen, mg/L	--	--	--	5.0	--
<i>E. coli</i> , No./100mL	126	157	--	--	--
WET, Chronic Biomonitoring	--	--	--	--	IC ₂₅ > 4.8% effluent
Selenium, mg/L	--	--	--	--	0.0072
Oil & Grease, mg/L	--	--	--	--	10.0
pH, Standard Units	--	--	--	6.5	9
TDS, mg/L	--	--	--	--	1,200

SELF-MONITORING AND REPORTING REQUIREMENTS

The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned

for an exception. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be attached to the DMRs.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
TSS *j	Weekly	Composite	mg/L
<i>E. coli</i> *j	Weekly	Grab	No./100mL
pH	Weekly	Grab	SU
DO	Weekly	Grab	mg/L
WET – Biomonitoring *e	Quarterly		
Ceriodaphnia - Chronic	2 nd & 4 th Quarter	Composite	Pass/Fail
Fathead Minnows - Chronic	1 st & 3 rd Quarter	Composite	Pass/Fail
Oil & Grease *d	Weekly/When Sheen Observed	Grab	mg/L
TDS, mg/L *j	Weekly	Composite	mg/L
Temperature, mg/L *f	Weekly	Composite	mg/L
Selenium, mg/L *g	Monthly	Composite	mg/L
Metals *h *i	Monthly	Grab /Composite	mg/L

- *a See Definitions, *Part VIII*, for definition of terms.
- *b Flow measurements of effluent shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- *c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- *d Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- *e The acute Ceriodaphnia will be tested during the 1st and 3rd quarters and the acute fathead minnows will be tested during the 2nd and 4th quarters. The chronic Ceriodaphnia will be tested during the 2nd and 4th quarters, and the chronic fathead minnows will be tested during the 1st and 3rd quarters.
- *f Pollutant is being sampled in support of the work being done for the TMDL currently underway for the Jordan River. This Pollutant Of Concern (POC) will be monitored and reported (on a monthly basis by the facility on Discharge Monitoring Report), but will not have a limit associated with it. Riverton will report the results of all sampling done for the POC. If Riverton decides to sample more frequently for this POC, the additional data will be welcome.
- *g Selenium has been identified as a POC. The ADR and associated reports were used to determine limit to be protective of water quality in the receiving waterbody.
- *h Below are the metals to be monitored at frequency listed in table. If during any sampling event the ‘highest expected values’ are exceeded, DWQ needs to be notified within 24 hours of receiving the sample. The information will be reviewed by DWQ, and the permit may be modified to include specific metal limit.

Metals to be Monitored			
Parameter	Sample Type	Highest expected value	Units
Arsenic	Composite	0.0091	mg/L
Cadmium	Composite	0.0004	mg/L
Chromium (VI)	Composite	0.0093	mg/L
Copper	Composite	0.0030	mg/L
Cyanide	Grab	0.0037	mg/L
Iron	Composite	0.1111	mg/L
Lead	Composite	0.0009	mg/L
Mercury*	Grab/Composite	0.0004	mg/L
Nickel	Composite	0.0093	mg/L
Selenium	Composite	0.0072 (Effluent Limit)	mg/L
Silver	Composite	0.0009	mg/L
Zinc	Composite	0.0185	mg/L

*Mercury samples must be analyzed using Method 1631 or other sufficiently sensitive method.

- *i After twelve months of metal value results below the ‘highest expected values’ presented in the permit, Riverton may request Director’s Approval to reduce metals monitoring frequency. These results must be from fully operational plant effluent.
- *j After twelve months of value results below the effluent limits presented in the permit, Riverton may request Director’s Approval to reduce monitoring frequency or to completely remove the limit. These results must be from fully operational plant effluent.

BIOSOLIDS

The State of Utah has adopted the 40 CFR 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, since this facility is a drinking water facility, there is not any regular sludge production. Therefore 40 CFR 503 does not apply at this time.

STORM WATER

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturb an acre or more, or is part of a common plan of development or sale that is an acre or greater. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction.

Information on storm water permit requirements can be found at <http://stormwater.utah.gov>

PRETREATMENT REQUIREMENTS

Process wastewater is not discharged to a publicly owned treatment works (POTW). Any process wastewater that the facility may discharge to a POTW, either as direct discharge or as a hauled waste, is subject to federal, state and local pretreatment regulations. Pursuant to section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated in 40 CFR Section 403, the State Pretreatment Requirements found in UAC R317-8-8, and any specific local

discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the waste. In addition, in accordance with *40 CFR 403.12(p)(1)*, the permittee must notify the POTW, the EPA Regional Waste Management Director, and the State hazardous waste authorities, in writing, if they discharge any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under *40 CFR 261*. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. 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.

Since the permittee is a new facility, the permit will require whole effluent toxicity (WET) testing. For this permit cycle Riverton will be required to conduct Chronic Wet tests quarterly alternating between *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnows) test species. Decisions on type of WET testing and species were based on the revised UPDES Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control dated February 2018. The permit will also contain the standard requirements for accelerated testing upon failure of a WET test and PTI (Preliminary Toxicity Investigation) and TRE (Toxicity Reduction Evaluation) as necessary.

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted and Reviewed by
Danielle Lenz, Discharge Permit Writer
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Carl Adams, Storm Water
Sandy Wingert, TMDL/Watershed
Nick von Stackelberg, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: Month Day, Year
Ended: Month Day, Year

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 on the DWQ webpage.

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.

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

Responsiveness Summary

(Explain any comments received and response sent. Actual letters can be referenced, but not required to be included).

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ATTACHMENT 1

Wasteload Analysis

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ATTACHMENT 2

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at water Quality. There are four outcomes for the RP Analysis¹. They are;

- Outcome A: A new effluent limitation will be placed in the permit.
- Outcome B: No new effluent limitation. Routine monitoring requirements will be placed or increased from what they are in the permit,
- Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit,
- Outcome D: No limitation or routine monitoring requirements are in the permit.

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date, however, due to the lack of data, RP was not run for this permit. RP for this permit will be ran before the next renewal using data and information collected during this permit cycle.

¹ See Reasonable Potential Analysis Guidance for definitions of terms

ATTACHMENT 3

Antidegradation Review

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