

**FACT SHEET AND STATEMENT OF BASIS
BRIGHAM CITY CORPORATION
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT0022365
UPDES BIOSOLIDS PERMIT NUMBER: UTL-022365
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT PROVISIONS (UTR000000)
MAJOR MUNICIPAL**

FACILITY CONTACTS

Person Name: Bryce Lofthouse
Position: General Manager
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Person Name: Jenifer Michelson
Position: Pretreatment Coordinator, Laboratory Director

Facility Name: Brigham City Wastewater Treatment Plant

Mailing Address: 20 North Main
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Telephone: (435) 723-3146

Actual Address: 600 North 1200 West
Brigham City, Utah

DESCRIPTION OF FACILITY

Brigham City uses an activated sludge treatment process with ultra violet (UV) disinfection. The physical plant consists of; 2 aerated grit chambers; 2 carousel oxidation ditches; 3 final clarifiers operated in parallel; 1 aerobic digester; 4 UV disinfection units in series; a post aeration chamber; and 18 sludge drying beds. In addition to the drying beds the facility now has two screw presses. The facility was placed in service in 1987 replacing a 3.0 million gallons per day (MGD) trickling filter plant. The existing facility has a design capacity of 6.0 MGD. The facility is designed for a population equivalent of 29,000 and influent organic loadings of 490 milligrams per liter (mg/l) biochemical oxygen demand (BOD₅) and 240 mg/l total suspended solids (TSS). The area population serviced by the plant is estimated at 17,665 including the town of Brigham City (17,000) and Mantua (665). The facility is located at 600 North 1200 West, Brigham City, Box Elder County. The sludge generated from the ditches is dried and composted onsite, then utilized for landscape and gardening purposes.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Water Quality adopted *UAC R317-1-3.3*, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 2014. The TBPEL rule as it relates to "non-lagoon" wastewater treatment plants establishes new

regulations for the discharge of phosphorus to surface waters and is self-implementing. The TBPEL rule includes the following requirements for non-lagoon wastewater treatment plants:

The TBPEL requires that all non-lagoon wastewater treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus. This TBPEL shall be achieved by January 1, 2020.

In R317-1-3.3, D, 3 the rule states that all monitoring shall be based on 24-hour composite samples by use of an automatic sampler or a minimum of four grab samples collected a minimum of two hours apart.

DISCHARGE

DESCRIPTION OF DISCHARGE

The Brigham City Wastewater Treatment Plant has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	Located at latitude 41°31'22" and longitude 112°02'33". The discharge is through a pipe to the old Box Elder Creek bed.

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge is through a pipe to the abandoned Box Elder Creek bed, which rejoins the realigned Box Elder Creek ½ mile down, and continues on to Blacks Slough (not classified). Class 2B, 3C, and 4 definitions are provided below

Class 2B	-Protected for secondary contact recreation such as boating, wading, or similar uses.
Class 3C	-Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.
Class 4	-Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD₅) for fall and winter, E-Coli, pH and percent removal for BOD₅ and TSS are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The oil and grease is based on best professional judgment (BPJ). All other limits are based on the waste load analysis dated December 10, 2018.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance: Outcome A, B, C, or D. These Outcomes provide a frame work for what routine monitoring or effluent limitations are required

A quantitative RP analysis was performed on Ag, As, Al, Cd, Cu, Pb, Hg, Ni, Se, and Zn to determine if there was reasonable potential for the discharge to exceed the applicable water quality standards. Based on the RP analysis, the following parameters exceeded the most stringent chronic water quality standard or were determined to have a reasonable potential to exceed the standard: Hg. RP was triggered for

chronic toxicity. However, this parameter had a limited number of data points (4). One of these data points was roughly an order of magnitude lower than the other measured values. This data point increased the Coefficient of Variation (CV) enough to trigger RP. If this data point is removed, RP is not triggered. Additionally, this value was equal to the background Hg concentration in the receiving water and only slightly above the detection limit. If this value is removed, RP is not triggered. It is recommended that due to the low number of samples that additional monitoring be conducted for this parameter. There were low numbers of samples for all parameters. Because of this, increase monitoring is recommended. It is also recommended that additional RP analysis be conducted with a more robust data set. Based on these results, no metals limitations will be included in the permit at this time. A copy of the RP analysis is included at the end of this Fact Sheet.

The permit limitations are:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Annual Average	Daily Minimum	Daily Maximum
Flow, MGD *b, *c	6.0	NA	NA	NA	NA
BOD ₅ , mg/L					
Summer	15	25	NA	NA	NA
Fall	25	35	NA	NA	NA
Winter	25	35	NA	NA	NA
Spring	20	35	NA	NA	NA
BOD ₅ Min. % Removal	85	NA	NA	NA	NA
TSS, mg/L	25	35	NA	NA	NA
TSS Min. % Removal	85	NA	NA	NA	NA
E-Coli, No./100mL	126	157	NA	NA	NA
Ammonia, mg/L					
Summer (Jul-Sept)	1.3	NA	NA	NA	10.0
Fall (Oct-Dec)	4.5	NA	NA	NA	10.0
Winter (Jan-Mar)	5.0	NA	NA	NA	10.0
Spring (Apr-Jun)	2.5	NA	NA	NA	10.0
WET, Chronic Biomonitoring					
Summer (Jul-Sept)	NA	NA	NA	NA	IC ₂₅ > 98% effluent
Fall (Oct-Dec)	NA	NA	NA	NA	IC ₂₅ > 67% effluent
Winter (Jan-Mar)	NA	NA	NA	NA	IC ₂₅ > 59% effluent
Spring (Apr-Jun)	NA	NA	NA	NA	IC ₂₅ > 88% effluent
Oil & Grease, mg/L	NA	NA	NA	NA	10
pH, Standard Units	NA	NA	NA	6.5	9.0
Dissolved Oxygen					
Summer	NA	NA	NA	6.5	NA
Fall, Winter	NA	NA	NA	5.0	NA
Spring	NA	NA	NA	6.0	NA

Total Phosphorus (as P), *i Effluent	NA	NA	1.0	NA	NA
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SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring 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
BOD ₅ , Influent *d Effluent	3x Weekly 3x Weekly	Composite Composite	mg/L mg/L
TSS, Influent *d Effluent	3x Weekly 3x Weekly	Composite Composite	mg/L mg/L
<i>E. coli</i>	3x Weekly	Grab	No./100mL
pH	3x Weekly	Grab	SU
Total Ammonia (as N)	3x Weekly	Grab	mg/L
DO	3x Weekly	Grab	mg/L
WET – Biomonitoring *h Ceriodaphnia - Chronic Fathead Minnows - Chronic	2 nd & 4 th Quarter 1 st & 3 rd Quarter	Composite Composite	Pass/Fail Pass/Fail
TRC, mg/L, *e, *g	How Often?	Grab	mg/L
Oil & Grease *f	When Sheen Observed	Grab	mg/L
Orthophosphate (as P), *i Effluent	Monthly	Composite	mg/L
Total Phosphorus (as P), *i Influent Effluent	Monthly Monthly	Composite Composite	mg/L mg/L
Total Kjeldahl Nitrogen TKN (as N), *i, Influent Effluent	Monthly Monthly	Composite Composite	mg/L mg/L
Nitrate, NO ₃ *i,	Monthly	Composite	mg/L
Nitrite, NO ₂ *i,	Monthly	Composite	mg/L
TDS, mg/L	Monthly	Composite	mg/L
Temperature, mg/L	Monthly	Composite	mg/L
Metals, Influent Effluent	Quarterly Quarterly	Composite Composite	mg/L mg/L
Organic Toxics	Yearly	Grab	mg/L

*a See Definitions, *Part VIII*, for definition of terms.

*b Flow measurements of influent/effluent volume 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 In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- *e Analytical results less than 0.06 mg/l will not be considered out of compliance with the permit. For purposes of calculating averages and reporting on the Discharge Monitoring Report form, the following will apply:
 - 1) analytical values less than 0.02 mg/L shall be considered zero; and
 - 2) analytical values less than 0.06 mg/L and equal to or greater than 0.02 mg/L will be recorded as measured.
- *f Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- *g Total residual chlorine monitoring frequency is (How Often?) times a week. The chlorine disinfection is a backup system to the ultra violet system and therefore should not be needed unless the ultra violet system has a failure and is by passed. The TRC limits are low enough to require analysis in the onsite lab which is open only 6 days a week. Frequency reduction will remove a requirement that the lab be opened for a 7th day. In case of a bypass on any day the lab is closed, (Permittee) will bring in lab personnel to open the lab for TRC analysis
- *h 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.
- *i These reflect changes required with the adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.

BIOSOLIDS

For clarification purposes, sewage sludge is considered solids, until treatment or testing shows that the solids are safe, and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids, may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

DESCRIPTION OF TREATMENT AND DISPOSAL

The solids (sewage sludge) at the Brigham City Water Reclamation Facility are stabilized in an oxidation ditch with a mean cell residence time of about 55 days. The solids are then pumped from the oxidation ditch to an aerobic digester with an additional mean cell residence time of 60 days at an average temperature of 10 °C (50 °F). After stabilization the solids are dewatered with a pair of screw presses to about 18% solids and stored in drying beds for further drying. After drying, the biosolids are mixed with green waste and wood chips and formed into windrows for composting and the “process to further reduce pathogens” (PFRP) is begun.

The last inspection conducted at the facility was September 13, 2016. The inspection showed that Brigham City was in compliance with all aspects of the biosolids management program.

SELF-MONITORING REQUIREMENTS

Under *40 CFR 503.16(a)(1)*, the self-monitoring requirements are based upon the amount of biosolids disposed per year and shall be monitored according to the chart below.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

Brigham City has produced between 300 and 800 DMT every year since 2012, therefore they need to sample at least four times a year.

Landfill Monitoring

Under *40 CFR 258*, the landfill monitoring requirements include a paint filter test. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill (*40 CFR 258.28(c)(1)*).

BIOSOLIDS LIMITATIONS

Heavy Metals

Class A Biosolids for Home Lawn and Garden Use

The intent of the heavy metals regulations of Table 3, *40 CFR 503.13* is to ensure the heavy metals do not build up in the soil in home lawn and gardens to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C.* of the permit) to made available to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions of the information sheet are followed to any reasonable degree, the Class A biosolids will be able to be land applied year after year, to the same lawns and garden plots without any deleterious effects to the environment. The information sheet must be provided to the public, because the permittee is not required, nor able to track the quantity of Class A biosolids that are land applied to home lawns and gardens.

Class A Requirements With Regards to Heavy Metals

If the biosolids are to be applied to a lawn or home garden, the biosolids shall not exceed the maximum heavy metals in Table 1 and the monthly average pollutant concentrations in Table 3 (see Table 1 and Table 3 below). If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

Class B Requirements for Agriculture and Reclamation Sites

The intent of the heavy metals regulations of Tables 1, 2 and 3, of *40 CFR 503.13* is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C.* of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites (if biosolids are only applied to land owned by the permittee, the information sheet requirements are waived). If the biosolids are land applied according to the regulations of *40 CFR 503.13*, to any reasonable degree, the Class B biosolids will be able to be land

applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

Class B Requirements With Regards to Heavy Metals

If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation site it must meet at all times:

The maximum heavy metals listed in *40 CFR Part 503.13(b) Table 1* and the heavy metals loading rates in *40 CFR Part 503.13(b) Table 2*; or

The maximum heavy metals in *40 CFR Part 503.13(b) Table 1* and the monthly heavy metals concentrations in *40 CFR Part 503.13(b) Table 3*.

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits ^{1, 2} (mg/kg)	CPLR ³ (mg/ha)	Pollutant Conc. Limits ^{1, 2} (mg/kg)	APLR ⁴ (mg/ha-yr)
Total Arsenic	75	41	41	2.0
Total Cadmium	85	39	39	1.9
Total Copper	4300	1500	1500	75
Total Lead	840	300	300	15
Total Mercury	57	17	17	0.85
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	21
Total Selenium	100	100	100	5.0
Total Zinc	7500	2800	2800	140

Any violation of these limitations shall be reported in accordance with the requirements of Part III.F.1. of the permit .If the biosolids do not meet these requirements they cannot be land applied.

Pathogens

The Pathogen Control class listed in the table below must be met;

Pathogen Control Class	
503.32 (a)(1) - (5), (7),-(8), Class A	503.32 (b)(1) - (5), Class B

¹ The limitations represent the maximum allowable levels of heavy metals in any biosolids intended for land application

² These limitations represent the maximum allowable levels of heavy metals based on an average of all samples taken during a 30-day period.

³ CPLR -- Cumulative Pollutant Loading Rate

⁴ APLR – Annual Pollutant Loading Rate

Pathogen Control Class	
503.32 (a)(1) - (5), (7),-(8), Class A	503.32 (b)(1) - (5), Class B
B Salmonella species –less than three (3) MPN ⁵ per four (4) grams total solids (DWB) ⁶ or Fecal Coliforms – less than 1,000 MPN per gram total solids (DWB).	Fecal Coliforms – less than 2,000,000 MPN or CFU ⁷ per gram total solids (DWB).
503.32 (a)(6) Class A—Alternative 4	
B Salmonella species –less than three (3) MPN per four (4) grams total solids (DWB) or less than 1,000 MPN Fecal Coliforms per gram total solids (DWB),	
And - Enteric viruses –less than one (1) plaque forming unit per four (4) grams total solids (DWB)	
And - Viable helminth ova –less than one (1) per four (4) grams total solids (DWB)	

Class A Requirements for Home Lawn and Garden Use

If biosolids are land applied to home lawns and gardens, the biosolids need to be treated by a specific process to further reduce pathogens (PFRP), and meet a microbiological limit of less than less than 3 most probable number (MPN) of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids. The Brigham City will achieve PFRP through a method of composting.

1. Windrow Method- Using the windrow method of composting, the temperature needs to be maintained at 55 °C (131 °F) or higher for fifteen days, with a minimum of five turnings during those fifteen days,

The composting method is found under (40 CFR 503.32(a)(8)(ii)).

The practice of sale or giveaway to the public is an acceptable use of biosolids of this quality as long as the biosolids continue to meet Class A standards with respect to pathogens. If the biosolids do not meet Class A pathogen standards the biosolids cannot be sold or given away to the public, and the permittee will need find another method of beneficial use or disposal.

Pathogens Class B

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP). The PSRP may be accomplished through composting:

1. Under 40 CFR 503.32 (b)(2), Brigham City may test the biosolids and must meet a microbiological limit of less than 2,000,000 MPN of fecal coliform per gram for the biosolids to be considered Class B biosolids with respect to pathogens.
2. Under 40 CFR 503.32 (b)(3) the PSRP may be accomplished through

⁵ MPN – Most Probable Number

⁶ DWB – Dry Weight Basis.

⁷ CFU – Colony Forming Units

composting. To achieve this, the temperature must be above 40° C (104° F) or higher, and remain at 40° C or higher for a minimum of five days. For four hours, during the five days, the temperature needs to exceed 55° C (113° F).

Vector Attraction Reduction (VAR)

If the biosolids are land applied Brigham City will be required to meet VAR through the use of a method of listed under *40 CFR 503.33*. The Brigham City intends to meet the vector attraction reduction requirements through one of the methods listed below.

1. Under *40 CFR 503.33(b)(1)*, the solids need to be treated through anaerobic digestion for at least 15 days at a temperature of at least 35° C (95° F) with a 38% reduction of volatile solids.
2. Under *40 CFR 503.33(b)(5)* the solids need treated through composting with a temperature of 40° C (104° F) or higher for at least 14 days with an average temperature of over 45° C (113° F).

If the biosolids do not meet a method of VAR, the biosolids cannot be land applied.

If the permittee intends to use another one of the listed alternatives in *40 CFR 503.33*, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice

Landfill Monitoring

Under *40 CFR 258*, the landfill monitoring requirements include a paint filter test to determine if the biosolids exhibit free liquid. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill (*40 CFR 258.28(c)(1)*).

Record Keeping

The record keeping requirements from *40 CFR 503.17* are included under *Part III.G.* of the permit. The amount of time the records must be maintained are dependent on the quality of the biosolids in regards to the metals concentrations. If the biosolids continue to meet the metals limits of *Table 3* of *40 CFR 503.13*, and are sold or given away the records must be retained for a minimum of five years. If the biosolids are disposed in a landfill the records must retained for a minimum of five years.

Reporting

Permittee must report annually as required in *40 CFR 503.18*. This report is to include the results of all monitoring performed in accordance with *Part III.B* of the permit, information on management practices, biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

MONITORING DATA

METALS MONITORING DATA

The Brigham City was required to sample for metals at least four times a year since 2012. All biosolids land produced since 2012 have met *Table 3* of *40 CFR 503.13*, therefore the Brigham City biosolids qualify as EQ with regards to metals. The monitoring data is below.

Brigham City Metals Monitoring Data

Brigham City Metals Monitoring Data, 2012 Through 2018			
Parameter	Table 3, mg/kg (Exceptional Quality)	Average, mg/kg	Maximum, mg/kg
Arsenic	41.0	8.4	14
Cadmium	39.0	0.62	1.04
Copper	1,500.0	475	683
Lead	300.0	14.5	22.3
Mercury	17.0	1.32	2.7
Molybdenum	75.0	39.7	606
Nickel	400.0	12.26	19.7
Selenium	36.0	9.4	31
Zinc	2,800.0	487	767

PATHOGEN MONITORING DATA

The Brigham City has sampled for Fecal Coliforms in the past. All biosolids distributed and land applied met the pathogen standards prior to distribution.

<i>Fecal Coliform Monitoring Results</i>			
Maximum	<i>Fecal</i>	Coliform,	Geomean <i>Fecal</i> Coliform,
MPN/gram			MPN/gram
364			241

STORM WATER

STORMWATER REQUIREMENTS

Storm water provisions are included in this combined UPDES permit.

The storm water requirements are based on the UPDES Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity, General Permit No. UTR000000 (MSGP). All sections of the MSGP that pertain to discharges from wastewater treatment plants have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Elements of this plan are required to include:

1. The development of a pollution prevention team,
2. Development of drainage maps and materials stockpiles,
3. An inventory of exposed materials,
4. Spill reporting and response procedures,
5. A preventative maintenance program,
6. Employee training,
7. Certification that storm water discharges are not mixed with non-storm water discharges,
8. Compliance site evaluations and potential pollutant source identification, and
9. Visual examinations of storm water discharges.

PRETREATMENT REQUIREMENTS

The pretreatment requirements, regarding administering an approved pretreatment program, remain the same as in the current permit. Any substantial and/or non-substantial changes to the program as defined in *40 CFR 403.18*, must be submitted for approval to the Division of Water Quality. Authority to require a pretreatment program is provided for in *19-5-108 UCA, 1953 ann.* and *UAC R317-8-8*.

The sampling of metals will be conducted quarterly and the sampling of organic toxics yearly, see Part II of the UPDES Permit. This is consistent with the guidance developed by the Division of Water Quality. Additional requirements have been added to the permit to ensure that if the allowable headworks loading is above the value calculated for the local limit development that additional monitoring and notification must occur.

The permittee will be required to perform an annual evaluation of the need to revise or develop technically based local limits to implement the general and specific prohibitions of *40 CFR, Part 403.5(a)* and *Part 403.5(b)*. This evaluation may indicate that present local limits are sufficiently protective, or that they must be revised. The initial evaluation is due twelve months after the effective date of the permit. As part of this evaluation, the permit requires influent and effluent monitoring for metals and organic toxics. The permittee should utilize EPA's Local Limits Development Guidance to justify the re-evaluation of the local limits.

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.

The permittee is a minor municipal facility that will be discharging an infrequent amount of effluent, in which toxicity is neither an existing concern, nor likely to be present. Also, the receiving irrigation ditch is regularly dry; therefore there is not any available data to conclude that the irrigation ditch is impaired. Based on these considerations, and the absence of receiving stream water quality monitoring data, 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.

PERMIT DURATION

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

Drafted by
Daniel Griffin, Discharge, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Lisa Stevens, Storm Water
Nick von Stackelberg/Dave Wham, 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 in the (NEWSPAPER OF RECORD FOR AREA).

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).

ATTACHMENT 1

Wasteload Analysis

PND Draft

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ATTACHMENT 2

Reasonable Potential Analysis

PND Draft

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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 Analysis⁸. 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.

(REASONABLE POTENTIAL LANGUAGE)

Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at some of the metals is needed. A copy of the initial screening is included in the “Effluent Metals and RP Screening Results” table in this attachment. The initial screening check for metals showed that the full model needed to be run on Ag, As, Al, Cd, Cu, Pb, Hg, Ni, Se, and Zn.

The RP model was run on all metals using the most recent data back through 2019. Data that was received previous to 2019 was not used, as the method used resulted in non-detects. Since then Brigham City has used a method that has a lower minimum detection limit. This resulted in between 2 and 4 data points. The results showed that was only Reasonable Potential for a chronic limit for Mercury. However, reviewing the data showed that there could be at least one outlier in the data.

The value was excluded from the data set and RP was rerun at both the 95% and 99% confidence levels. The results of the model are that there is not chronic RP at 95% confidence, and there is not chronic RP at 99% Confidence. This result indicates that the inclusion of an effluent limit for Hg is not required at this time, and that routine monitoring requirements can be added or increased in the permit. (Outcome C from Reasonable Potential Guide)

A Summary of the RP Model inputs and outputs are included in the table below. The Metals Initial Screening Table and RP Outputs Table are included in this attachment.

⁸ See Reasonable Potential Analysis Guidance for definitions of terms