Official Draft Public Notice Version **August 28th, 2024**
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STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Major Municipal Permit No. **UT0021725**
Biosolids Permit No. **UTL-021725**

In compliance with provisions of the Utah *Water Quality Act, Title 19, Chapter 5, Utah Code* (the *"Act"*),

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

is hereby authorized to discharge from

SALT LAKE CITY WATER RECLAMATION FACILITY

to receiving waters named **NORTHWEST OIL DRAIN CANAL**,

to dispose of biosolids,

in accordance with specific limitations, outfalls, and other conditions set forth herein.

This permit shall become effective on January 1, 2025

This permit expires at midnight on December 31, 2029.

Signed this XXth day of Month, 2024.

_____
John K. Mackey, P.E.
Director

DWQ-2024-004122

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I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

A. Description of Discharge Points. The authorization to discharge wastewater provided under this part is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are violations of the *Act* and may be subject to penalties under the *Act*. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the *Act*.

Outfall Numbers	Location of Discharge Outfalls
001	Located at latitude 40°49'54.9" N and longitude 111°56'09.5" W. Discharging a portion of the total effluent flows to future wetlands. After passing through the wetlands the effluent discharges directly to the Northwest Oil Drain Canal.
003	Located at latitude 40°48'47.5" N and longitude 111°55'46.3" W. Primary effluent flow discharging directly to the Northwest Oil Drain Canal.

B. Narrative Standard. It shall be unlawful, and a violation of this permit, for the Permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum, or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by a bioassay or other tests performed in accordance with standard procedures.

C. Specific Limitations and Self-Monitoring Requirements.

1. Effective immediately and lasting through the life of this permit, there shall be no acute or chronic toxicity discharged as defined in *Part VIII*, and determined by test procedures described in *Part I. C.3.a & b* of this permit.

2. Effective immediately and lasting the duration of this permit, the Permittee is authorized to discharge from Outfall 001 & 003. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD *b, *c	56	--	--	--	Report
BOD_5, mg/L	25	35	--	--	--
BOD_5 Min. % Removal	85	--	--	--	--
TSS, mg/L	25	35	--	--	--
TSS Min. % Removal	85	--	--	--	--
E. coli, No./100mL	126	158	--	--	--
Total Ammonia (as N), mg/L					
Interim limits 1-1-2025 – 12/31/2027:					
Summer (June-July-Aug)	16.1	--	--	--	--
Fall (Sept-Oct-Nov)	17.8	--	--	--	--
Winter (Dec-Jan-Feb)	20.8	--	--	--	--
Spring (Mar-Apr-May)	20.7	--	--	--	--
Final limits beginning 1/1/2028:					
Summer (June-July-Aug)	5.4	--	--	--	12.8
Fall (Sept-Oct-Nov)	5.9	--	--	--	17.7
Winter (Dec-Jan-Feb)	11.8	--	--	--	15.1
Spring (Mar-Apr-May)	5.8	--	--	--	15.1
WET, Acute Biomonitoring	--	--	--	--	LC_{50}> 100% effluent
WET, Chronic Biomonitoring	--	--	--	--	Report
pH, Standard Units	--	--	--	6.5	9.0
Dissolved Oxygen, mg/L	--	--	--	Report	Report
Oil & Grease, mg/L *e	--	--	--	--	10.0
TRC, mg/L	Report	--	--	--	Report
Total Phosphorus (as P), mg/L					
Interim limit 1/1/2025 – 12/31/2025	--	--	3.0	--	--
Interim limit 1/1/2026 – 12/31/2026	--	--	2.5	--	--
Interim limit 1/1/2027 – 12/31/2027	--	--	2.0	--	--
Final limit beginning 1/1/2028	--	--	1.0	--	--

Outfall 003 Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD_5, Influent *d Effluent	6 x Week 6 x Week	Composite Composite	mg/L mg/L
TSS, Influent *d Effluent	6 x Week 6 x Week	Composite Composite	mg/L mg/L
E. coli	6 x Week	Grab	No./100mL
pH	6 x Week	Grab	SU
TRC	6 x Week	Grab	mg/L
WET, Acute Biomonitoring *f	Monthly	Composite	Pass/Fail
WET, Chronic Biomonitoring *f	Monthly	Composite	TU_c *g
Total Ammonia (as N)	3 x Week	Composite	mg/L
Dissolved Oxygen	3 x Week	Grab	mg/L
Oil & Grease *e	3 x Week	Visual/Grab	mg/L
Total Metals, *d, *h Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Organic Toxic Pollutants, *d, *h Influent Effluent	 Once every six Months Once every six Months	 Grab Grab	 mg/L mg/L
Orthophosphate (as P) Effluent	 Monthly	 Composite	 mg/L
Total Phosphorus (as P), *d Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N) *d Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Nitrate, NO3	Monthly	Composite	mg/L
Nitrite, NO2	Monthly	Composite	mg/L

*a See Definitions, Part VIII of the permit, for definition of terms. As in previous permits, routine monitoring is required at Outfall 003 only since any discharges via Outfall 001 are directly diverted from Outfall 003 prior to discharge. However, a violation of any parameter from Outfall 003 will also be viewed as a violation of the same parameter from Outfall 001.

*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 Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.

*f As per Part I.C.3. of the permit, Acute and Chronic WET testing shall alternate each **month** between the *Ceriodaphnia dubia* and the fathead minnows test species.

*g TUc (toxicity unit for chronic tests) is calculated by dividing the receiving water effluent concentration by the chronic test IC_{25}. $TU_c \leq 1.6$ is applicable when the receiving water effluent concentration is >50%. The TUc is an indicator and an exceedance is not used for determining compliance.

*h Total Metals and Organic Toxic Pollutant parameters shall be monitored as per Part II.F. of the permit. The Permittee is currently designing a new treatment facility. Therefore, the sampling will be suspended for Part II. F.1. until the new treatment facility is in a steady state or twelve months after the Director sends the letter indicating the facility is authorized to operate, whichever occurs first.

3. Acute/Chronic Whole Effluent Toxicity (WET) Testing.

a. *Whole Effluent Testing – Acute Toxicity*. Starting on the effective date of this permit, the permittee shall **monthly** conduct acute static renewal toxicity tests on a composite sample of the final effluent at Outfall 003. The sample shall be collected at the point of compliance before mixing with the receiving water.

The monitoring frequency for acute tests shall be monthly unless a sample is found to be acutely toxic during a routine test. If that occurs, the monitoring frequency shall become weekly (See Part 3.c., Accelerated Testing). Unless otherwise approved by the Director, samples shall be collected on a two-day progression; i.e., if the first sample is on a Monday, during the next sampling period, the sampling shall begin on a Wednesday, etc.

The static-renewal acute toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012 as per 40 CFR 136.3(a)* TABLE IA-LIST OF APPROVED BIOLOGICAL METHODS. The permittee shall conduct the 48-hour static renewal toxicity test using *Ceriodaphnia dubia* (solution renewal every 24 hours) and the acute 96-hour static renewal toxicity test using *Pimephales promelas* (fathead minnow) with alternating the test species **monthly** and with solution renewal every 24 hours. A carbon dioxide (CO_2) atmosphere may be used (in conjunction with an unmodified test) in order to account for artificial pH drift, as previously demonstrated to and authorized by the Director. Based on the Test Acceptability Criteria included in Utah Pollutant Discharge Elimination System (UPDES) Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (Biomonitoring) February 2018, the Director may require acceptable variations in the test, i.e. temperature, carbon dioxide atmosphere, or any other acceptable variations in the testing procedure, as documented in the Fact Sheet Statement of Basis. If possible, dilution water should be taken from the receiving stream. A valid replacement test is required within the specified sampling period to remain in compliance.

Acute toxicity occurs when 50 percent or more mortality is observed for either species at any effluent concentration. Mortality in the control must simultaneously be 10 percent or less for the results to be considered valid. If more than 10 percent control mortality occurs, the test shall be repeated until satisfactory control mortality is achieved. The permittee shall meet all QA/QC requirements of the acute WET testing method listed in this Section of the permit.

Monthly test results shall be reported along with the DMR submitted for the end of the required reporting period. **Monthly** test results shall be reported along with the DMR submitted for that month. The format for the report shall be consistent with Appendix C of "Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (Biomonitoring), Utah Division of Water Quality, February 2018.

If the results for ten consecutive tests indicate no acute toxicity, the permittee may request a reduction in acute toxicity testing by a reduction in monitoring frequency, alternating test species, or using only the most sensitive species. The Director may approve or deny the request. If the request is approved, the test procedures are to be the same as specified above for the test species. Under no circumstances shall monitoring for WET at major facilities be reduced less than quarterly. Minor facilities may be less than quarterly at the discretion of the Director.

b. *Whole Effluent Testing – Chronic Toxicity*.
Chronic WET tests are considered an indicator for Class 5 waters (Great Salt Lake) because of uncertainties regarding the representativeness of the standard test species for Great Salt Lake. If a separate acute test is not conducted, the results of the acute duration portion of a chronic test are reported as specified in Part a. Whole Effluent Testing – Acute Toxicity. As an indicator, the chronic test results can demonstrate compliance with portions of the Narrative Standards (R317-2-7.2). However, the chronic WET test results alone do not demonstrate noncompliance with the Narrative Standards. As indicators, the chronic WET test results alone are not used for determining reasonable potential for toxicity or noncompliance with the permit.)

Starting on the effective date of this permit, the permittee shall **monthly** conduct chronic static renewal toxicity tests on a composite sample of the final effluent at Outfall 003. The sample shall be collected at the point of compliance before mixing with the receiving water.

Three samples are required and samples shall be collected on Monday, Wednesday and Friday of each sampling period or collected on a two-day progression for each sampling period. This may be changed with Director approval. The chronic toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition*, October 2002, *EPA—821-R-02-013* as per *40 CFR 136.3(a)* TABLE IA-LIST OF APPROVED BIOLOGICAL METHODS. Test species shall consist of *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow) alternating **monthly**. A CO_2 atmosphere may be used (in conjunction with an unmodified test) in order to account for artificial pH drift, as previously demonstrated to and authorized by the Director

A multi dilution test consisting of at least five concentrations and a control is required at two dilutions below and two above the RWC, if possible. If test acceptability criteria are not met for control survival, growth, or reproduction, the test shall be considered invalid. A valid replacement test is required within the specified sampling period to remain in compliance with this permit. Chronic toxicity may be present when the calculated toxicity unit (TU_c) for a chronic toxicity test is greater than 1.6. The TU_c is calculated by dividing the receiving water effluent concentration by the chronic test inhibition concentration (IC_{25}) During a chronic toxicity test, the IC_{25} is calculated on the basis of test organism survival and growth or survival and reproduction. If a sample is found to be chronically toxic during a routine test, the monitoring frequency shall become biweekly (see Part 3.c., Accelerated Testing). (the Director may enter acceptable variations in the test procedure here as documented in the Fact Sheet Statement of Basis and based on the test acceptability criteria as contained in Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control February, 2018). If possible, dilution water should be obtained from the receiving stream.

A multi dilution test consisting of at least five concentrations and a control is required at two dilutions below and two above the RWC, if possible. If test acceptability criteria are not met for control survival, growth, or reproduction, the test shall be considered invalid. A valid replacement test is required within the specified sampling period to remain in compliance with this permit. Chronic toxicity occurs when, during a chronic toxicity test, the 25% inhibition concentration (IC_{25}) calculated on the basis of test organism survival and growth or survival and reproduction, is less than or equal to the full effluent concentration (equivalent to the RWC). If a sample is found to be chronically toxic during a routine test, the monitoring frequency shall become biweekly (see Part 3.c., Accelerated Testing). (the Director may enter acceptable variations in the test procedure here as documented in the Fact Sheet Statement of Basis and based on the test acceptability criteria as contained in Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control February, 2018). If possible, dilution water should be obtained from the receiving stream.

Monthly test results shall be reported along with the DMR submitted for the end of the required reporting period. **Monthly** test results shall be reported along with the DMR submitted for that month. The format for the report shall be consistent with Appendix C of "Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity, Utah Division of Water Quality, February, 2018.

If the results for ten consecutive tests indicate no chronic toxicity, the permittee may submit a request to the Director to allow a reduction in chronic toxicity testing by a reduction in monitoring frequency, alternating test species, or using only the most sensitive species. The permit issuing authority may approve or deny the request based on the results and other available information without public notice. If the request is approved, the test procedures are to be the same as specified above for the test species. Under no circumstances shall monitoring for WET at major facilities be reduced less than quarterly. Minor facilities may be less than quarterly at the discretion of the Director.

c. *Accelerated Testing*. When whole effluent toxicity is indicated during routine WET testing as specified in this permit, the permittee shall notify the Director in writing within 5 days after becoming aware of the test result. The permittee shall perform an accelerated schedule of WET testing to establish whether a pattern of toxicity exists unless the permittee notifies the Director and commences a PTI, TIE, or a TRE. Accelerated testing or the PTI, TIE, or TRE will begin within fourteen days after the permittee becomes aware of the test result. Accelerated testing shall be conducted as specified under Part I. Pattern of Toxicity. If the accelerated testing demonstrates no pattern of toxicity, routine monitoring shall be resumed.

d. *Pattern of Toxicity*. A pattern of toxicity is defined by the results of a series of up to five biomonitoring tests pursuant to the accelerated testing requirements using a full set of dilutions for acute (five plus the control) and five effluent dilutions for chronic (five plus the control), on the species found to be more sensitive, once every week for up to five consecutive weeks for acute and once every two weeks up to ten consecutive weeks for chronic.

If two (2) consecutive tests (not including the scheduled test which triggered the search for a pattern of toxicity) do not result in an exceedance of the acute or chronic toxicity criteria, no further accelerated testing will be required and no pattern of toxicity will be found to exist. The permittee will provide written verification to the Director within 5 days of determining no pattern of toxicity exists, and resume routine monitoring. A pattern of toxicity may or may not be established based on:

WET tests should be run at least weekly (acute) or every two weeks (chronic) (note that only one test should be run at a time), for up to 5 tests, until either:

1) 2 consecutive tests fail, or 3 out of 5 tests fail, at which point a pattern of toxicity will have been identified, or
2) 2 consecutive tests pass, or 3 out of 5 tests pass, in which case no pattern of toxicity is identified.

e. *Preliminary Toxicity Investigation*.

(1) When a pattern of toxicity is detected the permittee will notify the Director in writing within 5 days and begin an evaluation of the possible causes of the toxicity. The permittee will have 15 working days from demonstration of the pattern of toxicity to complete an optional Preliminary Toxicity Investigation (PTI) and submit a written report of the results to the Director. The PTI may include, but is not limited to: additional chemical and biological monitoring, examination of Pretreatment Program records, examination of discharge monitoring reports, a thorough review of the testing protocol, evaluation of treatment processes and chemical use, inspection of material storage and transfer areas to determine if any spill may have occurred.

(2) If the PTI identifies a probable toxicant and/or a probable source of toxicity, the permittee shall submit, as part of its final results, written notification of that effect to the Director. Within thirty days of completing the PTI the permittee shall submit to the Director for approval a control program to control effluent toxicity and shall proceed to implement such plan in accordance with the Director's approval. The control program, as submitted to or revised by the Director, will be incorporated into the permit. After final implementation, the permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit. With adequate justification, the Director may extend these deadlines.

(3) If no probable explanation for toxicity is identified in the PTI, the permittee shall notify the Director as part of its final report, along with a schedule for conducting a Phase I Toxicity Reduction Evaluation (TRE) (see Part I.3.f. Toxicity Reduction Evaluation)

(4) If toxicity spontaneously disappears during the PTI, the permittee shall submit written notification to that effect to the Director, with supporting testing evidence.

f. *Toxicity Reduction Evaluation (TRE)*. If a pattern of toxicity is detected the permittee shall initiate a TIE/TRE within 7 days unless the Director has accepted the decision to complete a PTI. With adequate justification, the Director may extend the 7-day deadline. The purpose of the TIE portion of a TRE will be to establish the cause of the toxicity, locate the source(s) of the toxicity, and the TRE will control or

provide treatment for the toxicity. A TRE may include but is not limited to one, all, or a combination of the following:

(1) Phase I – Toxicity Characterization
(2) Phase II – Toxicity Identification Procedures
(3) Phase III – Toxicity Control Procedures
(4) Any other appropriate procedures for toxicity source elimination and control.

If the TRE establishes that the toxicity cannot be immediately eliminated, the permittee shall submit a proposed compliance plan to the Director. The plan shall include the proposed approach to control toxicity and a proposed compliance schedule for achieving control. If the approach and schedule are acceptable to the Director, this permit may be reopened and modified. If toxicity spontaneously disappears during the TIE/TRE, the permittee shall submit written notification to that effect to the Director.

If the TRE shows that the toxicity is caused by a toxicant(s) that may be controlled with specific numerical limitations, the permittee shall submit the following:

(a) An alternative control program for compliance with the numerical requirements.
(b) If necessary, as determined by the Director, provide a modified biomonitoring protocol which compensates for the pollutant(s) being controlled numerically.

This permit may be reopened and modified to incorporate any additional numerical limitations, a modified compliance schedule if judged necessary by the Director, and/or modified WET testing requirements without public notice. Failure to conduct an adequate TIE/TRE plan or program as described above, or the submittal of a plan or program judged inadequate by the Director, shall be considered a violation of this permit. After implementation of TIE/TRE plan, the permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit.

D. Reporting of Monitoring Results.

1. Reporting of Wastewater Monitoring Results Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1)* or by NetDMR, post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part VII.G*), and submitted by NetDMR, or to the Division of Water Quality at the following address:

Department of Environmental Quality
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870

* Starting January 1, 2017 monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

II. PRETREATMENT REQUIREMENTS

A. Pretreatment Program Delegation. The Permittee has been delegated primary responsibility for enforcing against discharges prohibited by *40 CFR 403.5* and applying and enforcing any national Pretreatment Standards established by the United States Environmental Protection Agency in accordance with Section 307 (b) and (c) of *The Clean Water Act (CWA)*, as amended by *The Water Quality Act (WQA), of 1987*.

The Permittee shall implement an Approved POTW Pretreatment Program in accordance with the legal authorities, policies, and procedures described in the Approved POTW Pretreatment Program submission. Such program commits the Permittee to do the following:

1. Carry out inspection, surveillance, and monitoring procedures, which will determine, independent of information supplied by the Industrial User, whether the Industrial User is in compliance with the pretreatment standards. At a minimum, all Significant Industrial Users (SIUs) shall be inspected and sampled by the Permittee at least once per year;

2. Control through permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable pretreatment standards and requirements;

3. Require development, as necessary, of compliance schedules by each Industrial User for the installation of control technologies to meet applicable pretreatment standards;

4. Maintain and update Industrial User information as necessary, to ensure that all IUs are properly permitted or controlled at all times;

5. An updated listing of the Industrial Users. This list must provide the following and must be provided to the Director, if requested:

   a. Identifying each Industrial User (IU) and determining if the IU is an SIU,

   b. Determination of qualitative and quantitative characteristics of each discharge, and

   c. Appropriate production data.

6. Enforce all applicable pretreatment standards and requirements and obtain appropriate remedies for noncompliance by any Industrial User;

7. Annually publish a list of Industrial Users that were determined to be in significant noncompliance during the previous year. The notice must be published before March 28 of the following year;

8. Maintain an adequate revenue structure and staffing level for continued implementation of the Pretreatment Program.

9. Evaluate all SIUs at least once every two years to determine if they need to develop a slug prevention plan. If a slug prevention plan is required, the Permittee shall insure that the plan contains at least the minimum elements required in *40 CFR Part 403.8(f)(2)(v);*

10. Establish and enforce specific Local Limits as necessary to implement the provisions of the *40 CFR Parts 403.5(a)* and *(b)*, and as required by *40 CFR Part 403.5(c)*.

11. Notify all IUs of their obligation to comply with applicable requirements under *Subtitles C and D* of the *Resource* Conservation and Recovery Act (RCRA); and

12. Develop, implement, and maintain an enforcement response plan as required by *40 CFR Part 403.8(f)(5)* which shall, at a minimum,

    a. Describe how the POTW will investigate instances of noncompliance;

    b. Describe the types of escalating enforcement responses the POTW will take in response to all anticipated type of Industrial User violations; and

    c. Describe the time periods within which such responses will be taken and identify the POTW staff position(s) responsible for pursuing these actions.

B. Program Updates. The Permittee is required to modify its Pretreatment Program, as necessary, to reflect changes in the regulations of *40 CFR Part 403*. Such modifications shall be completed within the time frame set forth by the applicable regulations. Modification of the Approved POTW Pretreatment Program must be done in accordance with the requirements of *40 CFR Part 403.18*. Modifications of the approved program which result in less stringent Industrial User requirements shall not be effective until after approval has been granted by the Director.

C. Annual Report. The Permittee shall provide the Division of Water Quality and EPA with an annual report briefly describing the Pretreatment Program activities over the previous calendar year for the Permittee. Reports shall be submitted no later than March 28 of each year. The Permittee shall submit an annual report, that includes at a minimum, the following:

1. An updated listing of the Industrial Users.

2. A descriptive summary of the compliance activities including numbers of any major enforcement actions, i.e., administrative orders, penalties, civil actions, etc.

3. An assessment of the compliance status of the Industrial Users and the effectiveness of the Pretreatment Program in meeting its needs and objectives.

4. A description of all changes made to the Pretreatment Program.

5. Changes to pollutants of concern.

6. Other information as may be determined necessary by the Director.

D. General and Specific Prohibitions. Pretreatment standards (*40 CFR 403.5*) specifically prohibit the introduction of the following pollutants into the waste treatment system from any source of non-domestic discharge:

1. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste streams with a closed cup flashpoint of less than 140˚F (60˚C);

2. Pollutants, which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;

3. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in Interference;

4. Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge at such volume or strength as to cause Interference in the POTW;

5. Heat in amounts, which will inhibit biological activity in the POTW, resulting in Interference, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104˚F (40˚C));

6. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through;

7. Pollutants, which result in the presence of toxic gases, vapor, or fumes within the POTW in a quantity that may cause worker health or safety problems;

8. Any trucked or hauled pollutants, except at discharge points designated by the POTW; or

9. Any pollutant that causes Pass Through or Interference at the POTW.

10. Any specific pollutant which exceeds any Local Limit established by the POTW in accordance with the requirement of *40 CFR Parts 403.5(c)* and *403.5(d)*.

E. Categorical Standards. In addition to the general and specific limitations expressed in *Part D* of this section, applicable National Categorical Pretreatment Standards must be met by all Industrial Users of the POTW. These standards are published in the federal regulations at *40 CFR 405* et. seq.

F. Self-Monitoring and Reporting Requirements.

1. Influent and Effluent Monitoring and Reporting Requirements. The Permittee shall sample and analyze both the influent and effluent, for the parameters listed in the Monitoring for Pretreatment Program Table.

Monitoring for Pretreatment Program Table				
Parameter	Reporting Limit, mg/L	Sample Type	Frequency	Units
Total Arsenic	0.208	Composite	Monthly*	mg/L
Total Cadmium	0.0044			
Total Chromium	0.0139			
Total Copper	0.0533			
Total Lead	0.0432			
Total Molybdenum	NA			
Total Nickel	0.33			
Total Selenium	0.0048			
Total Silver	0.099			
Total Zinc	0.647			
Total Cyanide	NA	Composite/Grab		
Total Mercury **	0.00016/0.000017			
TTOs	NA		Twice Yearly*	

* The Permittee is currently designing a new treatment facility. Therefore, the sampling will be suspended for Part II. F.1. until the new treatment facility is in a steady state or twelve months after the Director sends the letter indicating the facility is authorized to operate.

** The reporting limit for Total Mercury shall be not greater than 0.00016 mg/L during the first two years of this permit. Beginning on January 1, 2027, the reporting limit for Total Mercury shall be not greater than 0.000017 mg/L.

2. A test method with a reporting limit not greater than those stated in the table above must be used. If a test method is not available, the Permittee must submit documentation to the Director regarding the method that will be used.

3. The influent and effluent shall be analyzed by the Permittee for total toxic organic pollutants (TTOs) listed in 40 CFR Part 122 Appendix D Table II (Organic Toxic Pollutants). The pesticides fraction of Appendix D, Table II is suspended unless pesticides are expected to be present.

4. The results of the analyses of metals, cyanide and toxic organics shall be submitted along with the DMR at the end of the earliest possible reporting period. Also, the Permittee must submit a copy of the toxic organics data to the Pretreatment Coordinator for DWQ via email.

5. For Local Limit parameters it is recommended that the most sensitive method be used for analysis. This will determine if the parameter is present and provide removal efficiencies based on actual data rather than literature values.

6. If a parameter load is greater than the allowable head works load, for any pollutant listed in Part II.F.1. or Part I, or a pollutant of concern listed in the Local Limit development document, or the concentration is greater than the value listed in Part II.F.1 the Permittee must report the information to the Pretreatment Coordinator for the DWQ. If the loading exceeds the allowable headworks load or is greater than the concentration in Part II.F.1, increased sampling may need to occur based on the requirements given by the Pretreatment Coordinator for the DWQ. If needed sampling may need to occur to find the source(s) of the increase. This may include sampling of the collection system or additional sampling of Industrial Users. Notification regarding this information can be provided via email.

G. Local Limit Development.

1. In accordance with the requirements of *40 CFR Part 403.5(c),* the Permittee shall determine if there is a need to develop or revise its Local Limits in order to implement the general and specific prohibitions of *40 CFR Part 403.5 (a)* and *Part 403.5 (b).*

2. A technical evaluation of the need to develop or revise Local Limits shall be submitted to the Division within 12 months of the effective date of this permit. This evaluation should be conducted in accordance with the latest revision of the EPA Local Limits Development Guidance.

3. If a technical evaluation reveals that the development or revision of Local Limits is necessary, the Permittee shall submit the proposed Local Limits revision to the Division of Water Quality for approval per the requirements of the Division of Water Quality

4. Following the approval by the Director, the Permittee must:

a. Within 90 days submit the approval of the Local Limits by the Salt Lake City Council to the Division of Water Quality, and

b. Within 12 months implement the revised Local Limits, or

c. If the Salt Lake City Council does not approve the Local Limits, provide a timeframe for resubmitting the revised Local Limits to the Director. This must be completed within 10 days of the Salt Lake City Council determining that the Local Limits will not be approved for implementation.

H. Enforcement Notice. *Section 19-5-104 of the Act* provides that the State may issue a notice to the POTW stating that a determination has been made that appropriate enforcement action must be taken against an Industrial User for noncompliance with any pretreatment requirements within 30 days. The issuance of such notice shall not be construed to limit the authority of the Director.

I. Formal Action. The Director retains the right to take legal action against any Industrial User and/or POTW for those cases where a permit violation has occurred because of the failure of an Industrial User to meet an applicable pretreatment standard.

III. BIOSOLIDS REQUIREMENTS

A. Biosolids Treatment and Disposal. The authorization to dispose of biosolids provided under this permit is limited to those biosolids produced from the treatment works owned and operated by the Permittee. The treatment methods and disposal practices are designated below.

1. Treatment

a. Anaerobic Digestion - Under *40 CFR 503.32 (b)(3) Appendix (B)(3)* The PSRP may be accomplished through anaerobic digesters that have a minimum retention time of 15 days at 95° F (35° C) or 60 days at 68° F (20°C), and/or

b. Air Drying - Under *40 CFR 503.32 (b)(3*), *Appendix B.2.* The PSRP may be accomplished through air drying. The biosolids are applied to an impervious surface and dried at a depth of no more than 9 inches (23 cm) deep. The biosolids are allowed to dry for a minimum of 3 months. During 2 of the 3 months, the ambient average daily temperature is above 32º F (0º C).

2. Description of Biosolids Disposal Method

a. Class A biosolids may be sold or given away to the public for lawn and garden use or land application.

b. Class B biosolids may be land applied for agriculture use or at reclamation sites at agronomic rates.

c. Biosolids may be disposed of in a landfill or transferred to another facility for treatment and/or disposal.

3. Changes in Treatment Systems and Disposal Practices.

a. Should the Permittee change their disposal methods or the biosolids generation and handling processes of the plant, the Permittee must notify the Director at least 30 days in advance if the process/method is specified in *40 CFR Part 503*. This includes, but is not limited to, the permanent addition or removal of any biosolids treatment units (i.e., digesters, drying beds, belt presses, etc.) and/or any other change.

b. Should the Permittee change their disposal methods or the biosolids generation and handling processes of the plant, the Permittee must notify the Director at least 180 days in advance if the process/method is not specified in *40 CFR Part 503*. This includes, but is not limited to, the permanent addition or removal of any biosolids treatment units (i.e., digesters, drying beds, belt presses, etc.) and/or any other change.

For any biosolids that are land filled, the Permittee shall follow the requirements in *Section 2.12* of the latest version of the *EPA Region VIII Biosolids Management Handbook* must be followed

B. Specific Limitations and Monitoring Requirements. All biosolids generated by this facility to be sold or given away to the public shall meet the requirements of *Part III.B.1, 2, 3* and *4* listed below.

1. Metals Limitations. All biosolids sold or given away in a bag or similar container for application to lawns and home gardens must meet the metals limitations as described below. If these metals limitations are not met, the biosolids must be landfilled.

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], (mg/kg)	CPLR [2], (mg/ha)	Pollutant Conc. Limits [3] (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
1, If the concentration of any 1 (one) of these parameters exceeds the Table 1 limit, the biosolids cannot be land applied or beneficially used in any way.				
2, CPLR - Cumulative Pollutant Loading Rate - The maximum loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially used on agricultural, forestry, or a reclamation site.				
3, If the concentration of any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids cannot be land applied or beneficially used in on a lawn, home garden, or other high potential public contact site. If any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids may be land applied or beneficially reused on an agricultural, forestry, reclamation site, or other high potential public contact site, as long as it meets the requirements of Table 1, Table 2, and Table 4.				
4, APLR - Annual Pollutant Loading Rate - The maximum annual loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially reused on agricultural, forestry, or a reclamation site, when they do not meet Table 3, but do meet Table 1.				

2. Pathogen Limitations. All biosolids sold or given away in a bag or a similar container for application to lawns and home gardens must meet the pathogen limitations for Class A. Land applied biosolids must meet the pathogen limitations for Class B as described below. If the pathogen limitations are not met, the biosolids must be landfilled.

    a. Class A biosolids shall meet one of the pathogen measurement requirements in the following Pathogen Control Class table or shall meet the requirements for a Process to Further Reduce Pathogens as defined in *40 CFR Part 503.32(a) Sewage Sludge – Class A.*

        (1) At this time the permitted facility does not intend to distribute biosolids to the public for use on the lawn and garden and thus is not required meet Class A Biosolids requirements currently.

    b. Class B biosolids shall meet the pathogen measurement requirements in the following Pathogen Control Class table or shall meet the requirements for a Process to Significantly Reduce Pathogens as defined in *40 CFR Part 503.32(b) Sewage Sludge – Class B*.

        (1) The permitted facility has chosen to meet PSRP through methods under *40 CFR Part 503.32 (b)(3*).

(a) Anaerobic Digestion - Under *40 CFR 503.32 (b)(3) Appendix (B)(3)* The PSRP may be accomplished through anaerobic digesters that have a minimum retention time of 15 days at 95° F (35° C) or 60 days at 68° F (20°C), and/or

(b) Air Drying - Under *40 CFR 503.32 (b)(3*), *Appendix B.2.* The PSRP may be accomplished through air drying. The biosolids are applied to an impervious surface and dried at a depth of no more than 9 inches (23 cm) deep. The biosolids are allowed to dry for a minimum of 3 months. During 2 of the 3 months, the ambient average daily temperature is above 32º F (0º C).

c. In addition, the permittee shall comply with all applicable site restrictions listed below *(40 CFR 503.32,(b),(5)):*

(1) Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application.

(2) Food crops with harvested parts below the land surface shall not be harvested for 20 months after application if the biosolids remains on the land surface for four months or more prior to incorporation into the soil.

(3) Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil.

(4) Food crops, feed crops, and fiber crops shall not be harvested from the land for 30 days after application.

(5) Animals shall not be allowed to graze on the land for 30 days after application.

(6) Turf grown on land where biosolids is applied shall not be harvested for one year after application if the harvested turf is placed on either land with a high potential for public exposure or a lawn.

(7) Public access to land with a high potential for public exposure shall be restricted for one year after application.

(8) Public access to land with a low potential for public exposure shall be restricted for 30 days after application.

(9) The sludge or the application of the sludge shall not cause or contribute to the harm of a threatened or endangered species or result in the destruction or adverse modification of critical habitat of a threatened or endangered species after application.

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[1] per four (4) grams total solids (DWB)[2] or Fecal Coliforms – less than 1,000 MPN per gram total solids (DWB).	Fecal Coliforms – less than 2,000,000 MPN or CFU[3] per gram total solids (DWB).

Pathogen Control Class	
503.32 (a)(1) - (5), (7), (8), Class A	503.32 (b)(1) - (5), Class B
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)	
1 - MPN – Most Probable Number	
2 - DWB – Dry Weight Basis	
3 - CFU – Colony Forming Units	

3. Vector Attraction Reduction Requirements.

   a. The permitted facility will meet vector attraction reduction through use of one of the methods listed in *40 CFR Part 503.33*. Facility is meeting the requirements though the following methods.

      (1) SLCWRF is meeting vector attraction reduction 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 a least 35° C (95° F) with a 38% reduction of volatile solids.

      (2) SLCWRF is meeting vector attraction reduction under 40 CFR 503.33(b)(11), the solids are transferred to another facility (E.T. Technologies) where they incorporated into soil treatment cells daily and are stabilized and use as cover on the Salt Lake County Landfill.

      (3) SLCWRF will meet vector attraction reduction under 40 CFR 503.33(b)(10), the land applied solids will be incorporated into the soils at the end of the operating day.

   If the Permittee intends to use another one of the alternatives, the Director and the EPA must be informed at least thirty (30) days prior to its use.

4. Self-Monitoring Requirements.

   a. At a minimum, upon the effective date of this permit, all chemical pollutants, pathogens and applicable vector attraction reduction requirements shall be monitored according to *40 CFR Part 503.16(1)(a)*.

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
Over the past 10 years, the facility produced and disposed of 3,400 DMT of biosolids per year on average, therefore they need to sample at least six times a year.		

b. Sample collection, preservation and analysis shall be performed in a manner consistent with the requirements of *40 CRF 503* and/or other criteria specific to this permit. A metals analysis is to be performed using *Method SW 846* with *Method 3050* used for digestion. For the digestion procedure, an amount of biosolids equivalent to a dry weight of one gram shall be used. The methods are also described in the latest version of the *Region VIII Biosolids Management Handbook.*

c. The Director may request additional monitoring for specific pollutants derived from biosolids if the data shows a potential for concern.

d. After two (2) years of monitoring at the frequency specified, the Permittee may request that the Director reduce the sampling frequency for the heavy metals. The frequency cannot be reduced to less than once per year for biosolids that are sold or given away to the public for any parameter. The frequency also cannot be reduced for any of the pathogen or vector attraction reduction requirements listed in this permit.

C. Management Practices of Biosolids.

1. Biosolids Distribution Information

a. For biosolids that are sold or given away, an information sheet shall be provided to the person who receives the biosolids. The label or information sheet shall contain:

(1) The name and address of the person who prepared the biosolids for a sale or to be given away.

(2) A statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet.

2. Biosolids Application Site Storage

a. For biosolids or material derived from biosolids that are stored in piles for one year or longer, measures shall be taken to ensure that erosion (whether by wind or water) does not occur. However, best management practices should also be used for piles used for biosolids treatment. If a treatment pile is considered to have caused a problem, best management practices could be added as a requirement in the next permit renewal

3. Land Application Practices

a. The permittee shall operate and maintain the land application site operations in accordance with the following requirements:

(1) The permittee shall provide to the Director and the EPA within 90 days of the effective date of this permit a land application plan.

(2) Application of biosolids shall be conducted in a manner that will not contaminate the groundwater or impair the use classification for that water underlying the sites.

(3) Application of biosolids shall be conducted in a manner that will not cause a violation of any receiving water quality standard from discharges of surface runoff from the land application sites. Biosolids shall not be applied to land 10 meters or less from waters of the United States (as defined in 40 CFR 122.2).

(4) No person shall apply biosolids for beneficial use to frozen, ice-covered, or snow-covered land where the slope of such land is greater than three percent and is less than or equal to six percent unless one of the following requirements is met:

(a) there is 80 percent vegetative ground cover; or,

(b) approval has been obtained based upon a plan demonstrating adequate runoff containment measures.

(5) Application of biosolids is prohibited to frozen, ice-covered, or snow-covered sites where the slope of the site exceeds six percent.

(6) Agronomic Rate

(a) Application of biosolids shall be conducted in a manner that does not exceed the agronomic rate for available nitrogen of the crops grown on the site. At a minimum, the permittee is required to follow the methods for calculating agronomic rate outlined in the latest version of the *Region VIII Biosolids Management Handbook* (other methods may be approved by the Director). The treatment plant shall provide written notification to the applier of the biosolids of the concentration of total nitrogen (as N on a dry weight basis) in the biosolids. Written permission from the Director is required to exceed the agronomic rate.

(b) The permittee may request the limits of *Part III.C.6*. be modified if different limits would be justified based on local conditions. The limits are required to be developed in cooperation with the local agricultural extension office or university.

(c) Deep soil monitoring for nitrate-nitrogen is required for all land application sites (does not apply to sites where biosolids are applied less than once every five years). A minimum of six samples for each 320 (or less) acre area is to be collected. These samples are to be collected down to either a 5-foot depth, or the confining layer, whichever is shallower (sample at 1 foot, 2 foot, 3 foot, 4 foot and 5 foot intervals). Each of these one-foot interval samples shall be analyzed for nitrate-nitrogen. In addition to the one-foot interval samples, a composite sample of the 5-foot intervals shall be taken, and analyzed for nitrate-nitrogen as well. Samples are required to be taken once every five years for non-irrigated sites that receive more than 18 inches of precipitation annually or for irrigated sites

(7) Biosolids shall not be applied to any site area with standing surface water. If the annual high groundwater level is known or suspected to be within five feet of the surface, additional deep soil monitoring for nitrate-nitrogen as described in *Part III.C.(6)(c).* is to be performed. At a minimum, this additional monitoring will involve a collection of more samples in the affected area and possibly more frequent sampling. The exact number of samples to be collected will be outlined in a deep soil monitoring plan to be submitted to the Director and the EPA within 90 days of the effective date of this permit. The plan is subject to approval by the Director.

(8) The specified cover crop shall be planted during the next available planting season. If this does not occur, the permittee shall notify the Director in writing. Additional restrictions may be placed on the application of the biosolids on that site on a case-by-case basis to control nitrate movement. Deep soil monitoring may be increased under the discretion of the Director.

(9) When weather and or soil conditions prevent adherence to the biosolids application procedure, biosolids shall not be applied on the site.

(10) For biosolids that are sold or given away, an information sheet shall be provided to the person who receives the biosolids. The label or information sheet shall contain:

(a) The name and address of the person who prepared the biosolids for sale or give away for application to the land.

(b) A statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet.

(c) The annual whole biosolids application rate for the biosolids that do not cause the metals loading rates in Tables 1, 2, and 3 (*Part III.B.1.*) to be exceeded.

(11) Biosolids subject to the cumulative pollutant loading rates in Table 2 (*Part III.B.1.*) shall not be applied to agricultural land, forest, a public contact site, or a reclamation site if any of the cumulative pollutant loading rates in Table 2 have been reached.

(12) If the treatment plant applies the biosolids, it shall provide the owner or leaseholder of the land on which the biosolids are applied notice and necessary information to comply with the requirements in this permit.

(13) The permittee shall inspect the application of the biosolids to active sites to prevent malfunctions and deterioration, operator errors and discharges, which may cause or lead to the release of biosolids to the environment or a threat to human health. The permittee must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment. The permittee shall keep an inspection log or summary including at least the date and time of inspection, the printed name and the handwritten signature of the inspector, a notation of observations made and the date and nature of any repairs or corrective action.

D. Special Conditions on Biosolids Storage. Permanent storage of biosolids is prohibited. Biosolids shall not be temporarily stored for more than two (2) years. Written permission to store biosolids for more than two years must be obtained from the Director. Storage of biosolids for more than two years will be allowed only if it is determined that significant treatment is occurring.

E. Representative Sampling. Biosolids samples used to measure compliance with *Part III* of this Permit shall be collected at locations representative of the quality of biosolids generated at the treatment works and immediately prior to land application.

F. Reporting of Monitoring Results.

1. Biosolids. The Permittee shall provide the results of all monitoring performed in accordance with Part III.B, and information on management practices, biosolids treatment, site restrictions and certifications shall be provided no later than February 19 of each year. Each report is for the previous calendar year. If no biosolids were sold or given away during the reporting period, "no biosolids were sold or given away" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the Signatory Requirements (see Part VII.G), and submitted to the Utah Division of Water Quality and the EPA by the NeT-Biosolids system through the EPA Central Data Exchange (CDX) System.

G. Additional Record Keeping Requirements Specific to Biosolids.

1. Unless otherwise required by the Director, **the permittee is not required to keep records** on compost products if the permittee prepared them from biosolids that meet the limits in Table 3 (*Part III.B.1*), the Class A pathogen requirements in *Part III.B.2* and the vector attraction reduction requirements in *Part III.B.3*. The Director may notify the permittee that additional record keeping is required if it is determined to be significant to protecting public health and the environment.

2. **The permittee is required** to keep the following information for at least 5 years:

   a. Concentration of each heavy metal in Table 3 (*Part III.B.1*).

   b. A description of how the pathogen reduction requirements in *Part III.B.2* were met.

   c. A description of how the vector attraction reduction requirements in *Part III.B.3* were met.

   d. A description of how the management practices in *Part III.C* were met (if necessary).

   e. The following certification statement:

      "I certify under the penalty of law, that the heavy metals requirements in *Part III.B.1*, the pathogen requirements in *Part III.B.2*, the vector attraction requirements in *Part III.B.3*, the management practices in *Part III.C*. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements, the vector attraction reduction requirements and the management practices have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment."

3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit for the life of the permit. Data collected on site, copies of Biosolids Report forms, and a copy of this UPDES biosolids-only permit must be maintained on site during the duration of activity at the permitted location.

IV. STORM WATER REQUIREMENTS.

A. Industrial Storm Water Permit. Based on the type of industrial activities occurring at the facility, the permittee is required to maintain separate coverage or an appropriate exclusion under the Multi-Sector General Permit (MSGP) for Storm Water Discharges Associated with Industrial Activities (UTR000000). If the facility is not already covered, the permittee has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation.

B. Construction Storm Water Permit. Any construction at the facility that disturbs an acre or more of land, including less than an acre if it is part of a common plan of development or sale, is required to obtain coverage under the UPDES Construction General Storm Water Permit (UTRC00000). Permit coverage must be obtained prior to land disturbance. If the site qualifies, a Low Erosivity Waiver (LEW) Certification may be submitted instead of permit coverage.

V. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS

A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Samples of biosolids shall be collected at a location representative of the quality of biosolids immediately prior to the use-disposal practice.

B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under Utah Administrative Code ("UAC") *R317-2-10*, *UAC R317-8-4.1(10)(d)*, and/or *40 CFR 503* utilizing sufficiently sensitive test methods unless other test procedures have been specified in this permit. Monitoring must be conducted according to the test procedures listed above unless another method is required under 40 CFR subchapters N or O. Sufficiently sensitive test method means: (1) The method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or (2) The method has the lowest ML of the analytical methods approved under *40 CFR part 136* or required under *40 CFR chapter I, subchapter N or O* for the measured pollutant or pollutant parameter as per *40 CFR 122.44(i)(1)(iv)(A).*

C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

D. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under Permit Part V.B., the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or the Biosolids Report Form.

F. Records Contents. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements:
2. The individual(s) who performed the sampling or measurements;
3. The date(s) and time(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and,
6. The results of such analyses.

G. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality (DWQ) via the 24-hour answering service (801) 536-4123.

2. The following occurrences of noncompliance shall initially be reported by telephone to the DWQ via the 24-hour answering service as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:

   a. Any noncompliance which may endanger health or the environment;

   b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part VI.G, Bypass of Treatment Facilities.)*;

   c. Any upset which exceeds any effluent limitation in the permit (See *Part VI.H*, *Upset Conditions*.);

   d. Violation of a daily discharge limitation for any of the pollutants listed in the permit. For other permit violations which will not endanger health or the environment, DWQ may otherwise be notified during business hours (801) 536-4300; or,

   e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.

3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:

   a. A description of the noncompliance and its cause;

   b. The period of noncompliance, including exact dates and times;

   c. The estimated time noncompliance is expected to continue if it has not been corrected;

   d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,

   e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.

4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 536-4300.

5. Reports shall be submitted to the addresses in *Part I.D*, *Reporting of Monitoring Results*.

I. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part I.D* are submitted. The reports shall contain the information listed in *Part V.H.3*

J. Inspection and Entry The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,

5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

VI. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply. The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of *the Act* and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

B. Penalties for Violations of Permit Conditions. The *Act* provides that any person who violates a permit condition implementing provisions of the *Act* is subject to a civil penalty not to exceed $10,000 per day of such violation. Except as provided at *Part VI.G*, *Bypass of Treatment Facilities* and *Part VI.H*, *Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment. The permittee shall also take all reasonable steps to minimize or prevent any land application in violation of this permit.

E. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances. Collected screening, grit, solids, sludge, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

1. Bypass Not Exceeding Limitations. The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to paragraph 2 and 3 of this section.

2. Prohibition of Bypass.

a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;

(2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and

(3) The Permittee submitted notices as required under *Part VI.G.3*.

b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in *Parts VI.G.2.a (1), (2) and (3)*.

3. Notice.

a. *Anticipated bypass*. Except as provided above in *Part VI.G.2* and below in *Part VI.G.3.b*, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:

(1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages:

(2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;

(3) Description of specific measures to be taken to minimize environmental and public health impacts;

(4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;

(5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and,

(6) Any additional information requested by the Director.

b. *Emergency Bypass*. Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in *Part VI.G.3.a.(1) through (6)* to the extent practicable.

c. *Unanticipated bypass*. The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part IV.H*, Twenty-Four Hour Reporting. The permittee shall also immediately notify the Director of the Department of Natural

Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the requirements of paragraph 2 of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;

   b. The permitted facility was at the time being properly operated;

   c. The permittee submitted notice of the upset as required under *Part V.H*, *Twenty-four Hour Notice of Noncompliance Reporting*; and,

   d. The permittee complied with any remedial measures required under *Part VI.D*, *Duty to Mitigate*.

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

VII. GENERAL REQUIREMENTS

A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 122.29(b); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit nor to notification requirements under Subsection R317-8-4.1(15).

3. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. The permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.

B. Anticipated Noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.

E. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.

G. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.

1. All permit applications shall be signed by either a principal executive officer or ranking elected official. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described above and submitted to the Director, and,

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

(1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
   (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
   (b) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
   (a) The chief executive officer of the agency, or
   (b) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person.

3. Changes to authorization. If an authorization under *paragraph VII.G.2* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *paragraph VII.G.2.* must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than $10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.

K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers. This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;

2. The notice includes a written agreement between the existing and new permittee's containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,

3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph *2* above.

N. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties

established pursuant to any applicable state law or regulation under authority preserved by Sections 19-5-117 and 510 of the Clean Water Act or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.

O. Water Quality - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.
3. Revisions to the current CWA § 208 areawide treatment management plans or promulgations/revisions to TMDLs (40 CFR 130.7) approved by the EPA and adopted by DWQ which calls for different effluent limitations than contained in this permit.

P. Biosolids – Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate biosolids limitations (and compliance schedule, if necessary), management practices, other appropriate requirements to protect public health and the environment, or if there have been substantial changes (or such changes are planned) in biosolids use or disposal practices; applicable management practices or numerical limitations for pollutants in biosolids have been promulgated which are more stringent than the requirements in this permit; and/or it has been determined that the permittees biosolids use or land application practices do not comply with existing applicable state of federal regulations.

Q. Toxicity Limitation - Reopener Provision.
This permit may be reopened and modified (following proper administrative procedures) to include, whole effluent toxicity (WET) limitations, a compliance date, a compliance schedule, a change in the whole effluent toxicity (biomonitoring) protocol, additional or modified numerical limitations, or any other conditions related to the control of toxicants if one or more of the following events occur;

1. Toxicity is detected, as per *Part I.C.3.a* and/or *b* of this permit, during the duration of this permit.
2. The TRE results indicate that the toxicant(s) represent pollutant(s) or pollutant parameter(s) that may be controlled with specific numerical limits, and the Director concludes that numerical controls are appropriate.
3. Following the implementation of numerical control(s) of toxicant(s), the Director agrees that a modified biomonitoring protocol is necessary to compensate for those toxicants that are controlled numerically.
4. The TRE reveals other unique conditions or characteristics, which in the opinion of the permit issuing authority justify the incorporation of unanticipated special conditions in the permit.

VIII. DEFINITIONS

A. Wastewater.

1. The "7-day (and weekly) average", other than for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains Saturday.

2. The "30-day (and monthly) average," other than for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

3. "Average annual discharge limit" means maximum allowable average of monthly discharges over a calendar year, calculated as the sum of all monthly discharges measured during a calendar year divided by the number of monthly discharges measured during the year. The timeframe is defined as from January 1st to December 31st.

4. "Act," means the *Utah Water Quality Act*.

5. "Acute toxicity" occurs when 50 percent or more mortality is observed for either test species at any effluent concentration (lethal concentration or "LC_{50}").

6. "Bypass," means the diversion of waste streams from any portion of a treatment facility.

7. "Chronic toxicity" occurs when during a chronic test, the 25% inhibition concentration (IC_{25}) calculated on the basis of test organism survival and growth, or survival and reproduction, is less than or equal to the effluent dilution designated as the receiving water concentration (RWC).

8. "IC_{25}" is the concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.

9. "Composite Samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;

b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;

c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,

d. Continuous sample volume, with sample collection rate proportional to flow rate.

10. "CWA" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.

11. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.

12. "EPA," means the United States Environmental Protection Agency.

13. "Director," means Director of the Division of Water Quality.

14. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

15. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

16. "Severe Property Damage," means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

17. "Upset," means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

B. Biosolids.

1. "Biosolids," means any material or material derived from sewage solids that have been biologically treated.

2. "Dry Weight-Basis," means 100 percent solids (i.e. zero percent moisture).

3. "Land Application" is the spraying or spreading of biosolids onto the land surface; the injection of biosolids below the land surface; or the incorporation of biosolids into the land so that the biosolids can either condition the soil or fertilize crops or vegetation grown in the soil. Land application includes distribution and marketing (i.e. the selling or giving away of the biosolids).

4. "Pathogen," means an organism that is capable of producing an infection or disease in a susceptible host.

5. "Pollutant" for the purposes of this permit is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or pathogenic organisms that after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food-chain, could on the basis of information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.

6. "Runoff" is rainwater, leachate, or other liquid that drains over any part of a land surface and runs off the land surface.

7. "Similar Container" is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.

8. "Total Solids" are the materials in the biosolids that remain as a residue if the biosolids are dried at 103^{o} or 105^{o} Celsius.

9. "Treatment Works" are either Federally owned, publicly owned, or privately owned devices or systems used to treat (including recycling and reclamation) either domestic sewage or a combination of domestic sewage and industrial waste or liquid manure.

10. "Vector Attraction" is the characteristic of biosolids that attracts rodents, flies mosquito's or other organisms capable of transporting infectious agents.

11. "Animals" for the purpose of this permit are domestic livestock.

12. "Annual Whole Sludge Application Rate" is the amount of sewage sludge (dry-weight basis) that can be applied to a unit area of land during a cropping cycle.

13. "Agronomic Rate is the whole sludge application rate (dry-weight basis) designed to: (1) provide the amount of nitrogen needed by the crop or vegetation grown on the land; and (2) minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

14. "Annual Pollutant Loading Rate" is the maximum amount of a pollutant (dry-weight basis) that can be applied to a unit area of land during a 365-day period.

15. "Application Site or Land Application Site" means all contiguous areas of a users' property intended for sludge application.

16. "Cumulative Pollutant Loading Rate" is the maximum amount of an inorganic pollutant (dry-weight basis) that can be applied to a unit area of land.

17. "Grit and Screenings" are sand, gravel, cinders, other materials with a high specific gravity and relatively large materials such as rags generated during preliminary treatment of domestic sewage at a treatment works and shall be disposed of according to *40 CFR 258*.

18. "High Potential for Public Contact Site" is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

19. "Low Potential for Public Contact Site" is the land with a low potential for contact by the public. This includes, but is not limited to, farms, ranches, reclamation areas, and other lands which are private lands, restricted public lands, or lands which are not generally accessible to or used by the public.

20. "Monthly Average" is the arithmetic mean of all measurements taken during the month.

21. "Volatile Solids" is the amount of the total solids in sewage sludge lost when the sludge is combusted at 550 degrees Celsius for 15-20 minutes in the presence of excess air.

Official Draft Public Notice Version **August 28th, 2024**
The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

FACT SHEET AND STATEMENT OF BASIS
SALT LAKE CITY WATER RECLAMATION FACILITY
RENEWAL PERMIT: DISCHARGE & BIOSOLIDS
UPDES PERMIT NUMBER: UT0021725
UPDES BIOSOLIDS PERMIT NUMBER: UTL-021725
MAJOR MUNICIPAL FACILITY

FACILITY CONTACT INFORMATION

Person Name:	Jamey N. West
Position:	Water Reclamation Administrator
Person Name:	Jose Rubalcaba
Position:	Water Reclamation Facility Operations Manager
Person Name:	Terrance Price
Position:	Regulatory Compliance Manager
Person Name:	Laura Briefer
Position:	Public Utilities Director
Permittee Name:	Salt Lake City Department of Public Utilities
Facility Name:	Salt Lake City Water Reclamation Facility
Facility Address:	1365 West 2300 North Salt Lake City, Utah 84116
Telephone:	801-799-4000
Mailing Address:	2020 North Redwood Road Salt Lake City, UT 84116

DESCRIPTION OF FACILITY

The Salt Lake City Water Reclamation Facility (SLCWRF), originally constructed in 1965, is located at 1365 West 2300 North in Salt Lake City, Utah, and at an approximate latitude 40º48'47.50" North and longitude 111º55'50.90" West. The SLCWRF mailing address and adjacent administration building is located at 2020 North Redwood Road, in Salt Lake City, Utah. The SLCWRF serves Salt Lake City, located in the northern portion of Salt Lake County, Utah, with a resident population of approximately 200,500 people, with approximately 91,000 equivalent residential sewer connections, and with both commercial and industrial facilities located within its service boundaries. Since initial construction, SLCWRF has completed numerous upgrades, improvements, and expansions to the original facility. Currently a completely new wastewater treatment facility is under construction, with an anticipated completion date in mid-2026. The SLCWRF design monthly average flow remains at 56 million gallons per day (MGD) with a secondary treatment peak hourly flow of 96 MGD. An additional 44 MGD could bypass secondary treatment to disinfection for an effective facility peak hour flow of 140 MGD if necessary under extreme

conditions. Over the past five years, SLCWRF has averaged between 29-34 MGD, as recorded and reported monthly.

SLCWRF currently consists of two distinct operations, those being the pump plant and main treatment plant. The pump plant, located approximately one-half mile south of the main plant, is the collection point for all Salt Lake City sanitary sewer flows. Flows from three reinforced concrete pipe interceptors (a 48-inch, a 66-inch, and a 78-inch) combine into two influent channels and through one of two 1/4-inch motorized mechanical bar screens, which screen the combined influent flows. The flows are then directed through up to four grit chambers and then to two wet wells feeding four sewage pumps utilizing up to three 48-inch force mains to the influent structure of the main treatment plant. The screenings and grit are washed, dewatered, and stored in storage bins until transported to the landfill. Raw sewage from the pump plant enters the main treatment plant through up to three 48-inch force mains into the influent structure.

Flows then proceed through up to two aerated grit channels and are distributed to as many as four primary clarifiers. After which, the flow is directed through up to eight trickling filters, an aerated snail removal channel, up to six aeration basins, four secondary clarifiers, and splits between four chlorine disinfection contact basins and then discharged through Outfall 003 directly to the Northwest Oil Drain Canal. Currently, Outfall 001 is not in use as the previously existing wetlands and associated outflow have been temporarily removed in support of the new wastewater treatment facility construction project, but the outfall itself remains in the permit for any potential discharges to a future wetland as requested by SLCWRF.

Regarding SLCWRF solids processing and biosolids handling, settled solids from the primary clarifiers are screened and fed to two gravity thickening clarifiers and then to one of three primary anaerobic digesters. Settled solids from the secondary clarifiers are either returned to the aeration basins (return activated sludge) or removed from the secondary treatment process (waste activated sludge) and pumped to one of four rotary drum thickeners prior to being pumped to one of three primary anaerobic digesters. Digested sludge from the primary digesters is transferred into the secondary digester. Stabilized solids from the secondary digester are sent to one of two screw presses for dewatering. After dewatering, biosolids are placed on a temporary self-contained storage pad and then transported to Western Basin Land and Livestock, located in Weber County, Utah, for land application. As a secondary disposal option, biosolids may be transported to E.T. Technologies for soil use as landfill cover.

This renewal permit will once again authorize SLCWRF wastewater discharges and biosolids management for the next five years as appropriate.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

There are a few changes with this renewal permit when compared to the previous permit, as listed below:

1. Stormwater permit provisions have been removed as part of a Division of Water Quality (DWQ) programmatic separation of the previously combined UPDES permits. SLCWRF will now be required to apply for and obtain separate UPDES Industrial Storm Water Permit coverage under the UPDES MSGP No. UTR000000, or an applicable exemption, as described further in the **STORMWATER** section of this Fact Sheet.
2. Both Acute and Chronic Biomonitoring tests are once again to be conducted monthly instead of quarterly, at least initially during the first year of the permit, to be consistent with DWQ policy as described further in the **BIOMONITORING REQUIREMENTS** section of this Fact Sheet.
3. Oil & Grease monitoring has been added back into the permit as described further in the **BASIS FOR EFFLUENT LIMITATIONS** section of this Fact Sheet.

4. The final effluent limits for total ammonia have been updated to reflect the current Wasteload Analysis (WLA) conducted as part of the development of this renewal permit as described further in the **BASIS FOR EFFLUENT LIMITATIONS** section of this Fact Sheet.
5. The interim effluent limits for total phosphorus, as well as some of the Pretreatment requirements, have been updated to better align with the completion schedule of the new wastewater treatment facility as described further in their respective **BASIS FOR EFFLUENT LIMITATIONS** and **PRETREATMENT** sections of this Fact Sheet.
6. With the new SLCWRF scheduled to be completed in mid-2026 and fully operational by early 2027, the permittee will be requesting ahead of that time frame, a permit modification to account for the new facility process and any updated outfall location information as appropriate.

DISCHARGE INFORMATION

DESCRIPTION OF DISCHARGE

SLCWRF has two discharge outfalls as permitted and listed below. Outfall 003 remains as the primary discharge point, while Outfall 001 remains as an option to discharge a portion of the treated effluent to nearby wetlands once constructed in the future.

Outfalls	Description of Discharge Outfalls
001	Located at latitude 40º49'54.9" N and longitude 111º56'09.5" W. Discharging a portion of the total effluent flows to future wetlands. After passing through the wetlands the effluent discharges directly to the Northwest Oil Drain Canal.
003	Located at latitude 40º48'47.5" N and longitude 111º55'46.3" W. Primary effluent flows discharging directly to the Northwest Oil Drain Canal.

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge flows directly into the Northwest Oil Drain Canal, which then flows into the Salt Lake City Sewage Canal and then into Farmington Bay of the Great Salt Lake. According to the Utah Administrative Code (UAC) R317-2-13, the Northwest Oil Drain Canal and Salt Lake City Sewage Canal are classified as 2B and 3E and Farmington Bay of the Great Salt Lake is classified as 5D, as described further below.

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 3E -- Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.

Class 5D -- Farmington Bay of The Great Salt Lake.
Geographical Boundary -- All open waters at or below approximately 4,208-foot elevation east of Antelope Island and south of the Antelope Island Causeway, excluding salt evaporation ponds.

Beneficial Uses -- Protected for infrequent primary and secondary contact recreation, waterfowl, shore birds, other water-oriented wildlife including their necessary food chain.

TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

Currently, there is no TMDL information available for the receiving water according to Utah's 2022 and 2024 Integrated Reports on Water Quality. Therefore, no additional monitoring requirements or parameters of concern (POCs) have been included in this permit as a result of any TMDL requirements. Further POCs discussion can be found in the Wasteload Analysis (WLA) document, which is attached to this Fact Sheet.

BASIS FOR EFFLUENT LIMITATIONS

In accordance with regulations promulgated in 40 Code of Federal Regulations 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) as applicable. In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits or multiple limits have been developed, Best Professional Judgment (BPJ) of the permitting authority may be used where applicable. Best Professional Judgment, or BPJ, refers to a discretionary, best professional decision made by the permit writer based upon precedent, prevailing regulatory standards, or other relevant information.

Permit limits can also be derived from the WLA, which incorporates Secondary Treatment Standards, Water Quality Standards, including any applicable TMDL impairments as appropriate, Antidegradation Reviews (ADR), and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were completed as appropriate and determined that this discharge will not cause a violation of water quality standards. An ADR Level I review was performed and concluded that an ADR Level II review was not required at this time since water quality will not be further lowered by the proposed activity, as per UAC R317-2-3.5.b.1.(b). The WLA indicates that the effluent limitations will be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The WLA with ADR information is attached to this Fact Sheet.

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD_5), *E. coli*, pH and percent removal for BOD_5 and TSS are based on current Utah Secondary Treatment Standards, as found in UAC R317-1-3.2. The oil and grease monitoring and limitation is based on BPJ of the permitting authority to be consistent with other similar facilities in Utah. As mentioned previously, the final ammonia limits are derived from the current WLA to be protective of aquatic wildlife uses in downstream receiving waters, while the interim ammonia limits remain in place and unchanged from the previous permit until completion and startup operations of the new wastewater treatment facility. The total phosphorous final effluent limitation is based upon the Technology-Based Phosphorus Effluent Rule as found in UAC R317-1-3.3, while the interim limits for total phosphorus were derived from SLCWRF's letter request dated February 27, 2024, to better align with the completion and startup operations of the new wastewater treatment facility. The effluent flow limitation remains unchanged and is based upon the treatment design average flows of the SLCWRF. The permittee is expected to be able to continue complying 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. 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 qualitative RP analysis was performed on the applicable metals constituents from the facility discharge data since 2020. Initial screening for metals parameter values that were submitted through the discharge monitoring reports showed that a closer look at any of the metals parameters is not needed since all of the concentration results were either below the appropriate method detection limits and/or below the applicable water quality standards. Therefore, no RP currently exists at the facility for any of the metals parameters and a more quantitative RP analysis using the RP model was not necessary at this time. A copy of the RP analysis summary is included as an addendum to this Fact Sheet.

SLCWRF is expected to be able to continue complying with the permit limitations are as follows:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD *b, *c	56	--	--	--	Report
BOD_5, mg/L	25	35	--	--	--
BOD_5 Min. % Removal	85	--	--	--	--
TSS, mg/L	25	35	--	--	--
TSS Min. % Removal	85	--	--	--	--
E. coli, No./100mL	126	158	--	--	--
Total Ammonia (as N), mg/L					
Interim limits 1-1-2025 – 12/31/2027:					
Summer (June-July-Aug)	16.1	--	--	--	--
Fall (Sept-Oct-Nov)	17.8	--	--	--	--
Winter (Dec-Jan-Feb)	20.8	--	--	--	--
Spring (Mar-Apr-May)	20.7	--	--	--	--
Final limits beginning 1/1/2028:					
Summer (June-July-Aug)	5.4	--	--	--	12.8
Fall (Sept-Oct-Nov)	5.9	--	--	--	17.7
Winter (Dec-Jan-Feb)	11.8	--	--	--	15.1
Spring (Mar-Apr-May)	5.8	--	--	--	15.1
WET, Acute Biomonitoring	--	--	--	--	LC_{50}> 100% effluent
WET, Chronic Biomonitoring	--	--	--	--	Report
pH, Standard Units	--	--	--	6.5	9.0
Dissolved Oxygen, mg/L	--	--	--	Report	Report
Oil & Grease, mg/L *e	--	--	--	--	10.0
TRC, mg/L	Report	--	--	--	Report
Total Phosphorus (as P), mg/L					
Interim limit 1/1/2025 – 12/31/2025	--	--	3.0	--	--
Interim limit 1/1/2026 – 12/31/2026	--	--	2.5	--	--

Interim limit 1/1/2027 – 12/31/2027 Final limit beginning 1/1/2028	-- --	-- --	2.0 1.0	-- --	-- --

SELF-MONITORING AND REPORTING REQUIREMENTS

SLCWRF has an excellent compliance history of reporting self-monitoring results via Discharge Monitoring Reports (DMRs) through NetDMR on a monthly basis as required. A summary of the SLCWRF effluent discharge data over the past five years has been included as an attachment to this Fact Sheet. The following self-monitoring requirements are very similar to the previous permit, with minor changes as mentioned previously. The permit will require reports to be submitted monthly and annually, as applicable, on DMRs due 28 days after the end of each 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, metals and toxic organics must be attached to the DMRs.

Outfall 003 Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD_5, Influent *d Effluent	6 x Week 6 x Week	Composite Composite	mg/L mg/L
TSS, Influent *d Effluent	6 x Week 6 x Week	Composite Composite	mg/L mg/L
E. coli	6 x Week	Grab	No./100mL
pH	6 x Week	Grab	SU
TRC	6 x Week	Grab	mg/L
WET, Acute Biomonitoring *f	Monthly	Composite	Pass/Fail
WET, Chronic Biomonitoring *f	Monthly	Composite	TU_c *g
Total Ammonia (as N)	3 x Week	Composite	mg/L
Dissolved Oxygen	3 x Week	Grab	mg/L
Oil & Grease *e	3 x Week	Visual/Grab	mg/L
Total Metals, *d, *h Influent Effluent	 Once every two Months Once every two Months	 Composite Composite	 mg/L mg/L
Organic Toxic Pollutants, *d, *h Influent Effluent	 Once every six Months Once every six Months	 Grab Grab	 mg/L mg/L
Orthophosphate (as P) Effluent	 Monthly	 Composite	 mg/L
Total Phosphorus (as P), *d Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N) *d Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Nitrate, NO3	Monthly	Composite	mg/L
Nitrite, NO2	Monthly	Composite	mg/L

*a See Definitions, Part VIII of the permit, for definition of terms. As in previous permits, routine monitoring is required at Outfall 003 only since any discharges via Outfall 001 are directly diverted from Outfall 003 prior to discharge. However, a violation of any parameter from Outfall 003 will also be viewed as a violation of the same parameter from Outfall 001.

*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 Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.

*f As per Part I.C.3. of the permit, Acute and Chronic WET testing shall alternate each **month** between the *Ceriodaphnia dubia* and the fathead minnows test species.

*g TU_c (toxicity unit for chronic tests) is calculated by dividing the receiving water effluent concentration by the chronic test IC_{25}. $TU_c \leq 1.6$ is applicable when the receiving water effluent concentration is >50%. The TU_c is an indicator and an exceedance is not used for determining compliance.

*h Total Metals and Organic Toxic Pollutant parameters shall be monitored as per Part II.F. of the permit. The Permittee is currently designing a new treatment facility. Therefore, the sampling will be suspended for Part II. F.1. until the new treatment facility is in a steady state or twelve months after the Director sends the letter indicating the facility is authorized to operate, whichever occurs first.

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.

SUBSTANTIAL BIOSOLIDS TREATMENT CHANGES

SLCWRF had replaced the belt presses with two screw presses which will be moved and installed in a new Solids Dewatering Building during the final stages of construction at the plant. SLCWRF had also constructed two new drying pads to temporarily stage the biosolids before they are delivered to farm fields for land application.

When construction is completed the biosolids will be pumped up to the top floor of the dewatering building for dewatering in the screw presses. Then it will drop out of the screw presses into a hopper which will be able to directly fill the trucks. This will reduce the amount of handling of the biosolids before land application.

SLC has switched from landfilling biosolids to land applying them on agricultural land as their preferred disposal method. Metals sampling results indicate that for more than the last 10 years the biosolids have met the *40 CFR Part 503.13* Table 3 requirements to be considered high quality, or Exceptional Quality (EQ) Biosolids.

DESCRIPTION OF TREATMENT AND DISPOSAL

Settled solids from the primary clarifiers are screened and fed to two gravity thickening clarifiers and then to one of three primary anaerobic digesters. Settled solids from the secondary clarifiers are either returned

to the aeration basins (return activated sludge) or removed from the secondary treatment process (waste activated sludge) and pumped to one of four rotary drum thickeners prior to being pumped to one of three primary anaerobic digesters. Digested sludge from the primary digesters is transferred into the secondary digester. Stabilized solids from the secondary digester are sent to one of two screw presses for dewatering. After dewatering, biosolids are placed on a temporary self-contained storage pad and then transported to Western Basin Land and Livestock, located in Weber County, Utah for land application. As a secondary disposal option, biosolids may be transported to E.T. Technologies for soil use as landfill cover.

The Permittee submitted their 2022 annual biosolids report on November 20, 2023. The report states the Permittee produced 3,492 dry metric tons (DMT) of solids.

The last biosolids inspection conducted at the facility was November 15, 2023. The inspection showed that the facility 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

Over the past 10 years, the facility produced and disposed of 3,400 DMT of biosolids per year on average, therefore they need to sample at least six 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).* The facility did not dispose of any biosolids at a landfill, as all 3,492 DMT of biosolids produced at the facility were disposed at the Western Basin Land and Livestock, located in Weber County, Utah for land application.

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 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], (mg/kg)	CPLR [2], (mg/ha)	Pollutant Conc. Limits [3] (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
1, If the concentration of any 1 (one) of these parameters exceeds the Table 1 limit, the biosolids cannot be land applied or beneficially used in any way.				
2, CPLR - Cumulative Pollutant Loading Rate - The maximum loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially used on agricultural, forestry, or a reclamation site.				

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], (mg/kg)	CPLR [2], (mg/ha)	Pollutant Conc. Limits [3] (mg/kg)	APLR [4], (mg/ha-yr)
3, If the concentration of any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids cannot be land applied or beneficially used in on a lawn, home garden, or other high potential public contact site. If any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids may be land applied or beneficially reused on an agricultural, forestry, reclamation site, or other high potential public contact site, as long as it meets the requirements of Table 1, Table 2, and Table 4.				
4, APLR - Annual Pollutant Loading Rate - The maximum annual loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially reused on agricultural, forestry, or a reclamation site, when they do not meet Table 3, but do meet Table 1.				

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
B Salmonella species –less than three (3) MPN[1] per four (4) grams total solids (DWB)[2] or Fecal Coliforms – less than 1,000 MPN per gram total solids (DWB).	Fecal Coliforms – less than 2,000,000 MPN or CFU[3] 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)	
1 - MPN – Most Probable Number	
2 - DWB – Dry Weight Basis	
3 - CFU – Colony Forming Units	

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. At this time the facility does not intend to distribute biosolids to the public for use on the lawn and garden and thus is not

required meet Class A Biosolids requirements currently.

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). Currently, the facility has chosen to achieve PSRP through air drying, which is one of the following three approved methods:

1. Under 40 CFR 503.32 (b)(3) Appendix (B)(3) The PSRP may be accomplished through anaerobic digesters that have a minimum retention time of 15 days at 95° F (35° C) or 60 days at 68° F (20° C), and.

2. Under 40 CFR 503.32 (b)(3), Appendix B.2. The PSRP may be accomplished through air drying. The biosolids are applied to an impervious surface and dried at a depth of no more than 9 inches (23 cm) deep. The biosolids are allowed to dry for a minimum of 3 months. During 2 of the 3 months, the ambient average daily temperature is above 32° F (0° C).

Vector Attraction Reduction (VAR)

If the biosolids are land applied the facility will be required to meet VAR through the use of a method of listed under *40 CFR 503.33.* The facility intends to meet the vector attraction reduction requirements through the method 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 a least 35° C (95° F) with a 38% reduction of volatile solids.

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

The facility 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 SLCWRF has been sampling for metals 12 times a year over the past decade. All biosolids land applied in in that period met *Table 3* of *40 CFR 503.13,* therefore the SLCWRF biosolids qualify as EQ with regards to metals. The monitoring data is below.

SLCWRF Metals Monitoring Data

Metals Monitoring Data, 2013 – 2023			
Parameter	Table 3, mg/kg (Exceptional Quality)	Average, mg/kg	Maximum, mg/kg
Arsenic	41.0	26	48.7
Cadmium	39.0	11	68.74
Copper	1,500.0	977	1340
Lead	300.0	6352	91.8
Mercury	17.0	1.32	20.8
Molybdenum	75.0	43	70.1
Nickel	400.0	94	157
Selenium	36.0	14	53
Zinc	2,800.0	1140	1600

PATHOGEN MONITORING DATA

The SLCWRF is required to monitor the anaerobic biosolids (sludge cake) for pathogens. The SLCWRF had stopped land applying biosolids, and restarted the practice in 2019. They restarted monitoring and reporting in 2018. All biosolids Land Applied met the pathogen limits. The SLCWRF Pathogen Monitoring Data is below.

Fecal Coliform		
Year	Geomean	Max
2018	344	699
2019	2142	1197917
2020	6107	6107
2021	3696	150943
2022	1435	116162
2023	2166	236967
2018	344	699
2019	2142	1197917

STORM WATER PERMITS

Separate UPDES storm water permits may be required based on the types of activities occurring on site. Permit coverage under the Multi Sector General Permit (MSGP) for Storm Water Discharges from

Industrial Activities is required based on the Standard Industrial Classification (SIC) code for the facility and the types of industrial activities occurring. If the facility is not already covered, it has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation. Previously storm water discharge requirements and coverage were combined in this individual permit. These have been separated to provide consistency among permittees, electronic reporting for storm water discharge monitoring reports, and increase flexibility to changing site conditions.

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

SLCWRF implements an Approved Publicly Owned Treatment Works Pretreatment Program (Program). Authority to require a Program is provided for in 19-5-108 UCA, 1953 ann. and UAC R317-8-8. Any changes to the Program must be submitted to the DWQ per the requirements of UAC R317-8-8.

The Pretreatment Requirements in *Part II* of the UPDES Permit were modified to add additional language to clarify requirements. The changes are consistent with 40 CFR 122, UAC R317 and 40 CFR 403. Also, changes have occurred requiring notification of the data being above the Maximum Allowable Head Works Loading stated in the SLCWRF Local Limits or concentrations above values noted in *Part II.F.1.* If this occurs, SLCWRF must report this information to DWQ.

The SLCWRF is being upgraded and replaced. Due to the upgrade, sampling for the priority pollutants in *Part II* of the permit will be temporarily suspended. This is due to the understanding that the information will not assist in the future development of Local Limits. However, an evaluation must determine 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 must be revised. The evaluation must be completed within a year of the permit being issued.

The sampling of the priority pollutants will be suspended until the new WRF is in a steady state or twelve months following receiving the authorization to operate letter from the Director for the new WRF. Following this period, the metals must be sampled at least monthly. Organic toxics are required to be sampled twice a year and will also be suspended; see *Part II* of the UPDES Permit. Sampling results for organic toxics shall be submitted to the DWQ Pretreatment Coordinator.

Metals analysis must utilize a minimum detection limit to ensure that the metals are not above the allowable levels determined by the wasteload analysis for the receiving stream, see *Part II* of the permit. If a test is unavailable, then the lowest test available must be used; see *Part II* of the permit for additional requirements.

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 (Policy).

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 major municipal discharger, the renewal permit will again require whole effluent toxicity (WET) testing. The aforementioned WET Policy requires both acute and chronic WET testing for effluent discharges into receiving waters with a dilution ratio <20:1, as well as for discharges to class 3E streams flowing into the Great Salt Lake. SLCWRF meets both of these criteria and therefore, this renewal permit will once again require both acute and chronic WET testing requirements as appropriate. Test species shall consist of *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow) alternating monthly and a carbon dioxide (CO_2) atmosphere may be used (in conjunction with an unmodified test) in order to account for any artificial pH drift, as previously requested by SLCWRF and authorized by DWQ. The WET testing frequency, which was previously reduced to quarterly in December 2020, has been reset to monthly, at least initially during the first year of the permit, based upon SLCWRF design flows to be consistent with the WET Policy.

SLCWRF has had no WET testing failures in many years and upon successful passing of at least ten consecutive Acute and Chronic WET tests beginning in 2025, SLCWRF may once again request a reduction in testing frequency for Acute and/or Chronic biomonitoring as detailed in the permit. The request will be evaluated by DWQ and if a reduction to the testing frequency is granted, then the permit shall be modified accordingly. The permit will also once again contain the standard requirements for accelerated testing upon failure of a WET test and a Preliminary Toxicity Investigation (PTI) and Toxicity Reduction Evaluation (TRE), as well as 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 and Reviewed by
Jeff Studenka, Discharge Permit Writer
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Jordan Bryant, Storm Water
Jim Harris, TMDL/Watershed
Chris Shope, Wasteload Analysis/ADR
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE INFORMATION (to be updated after)

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 Notice of the draft permit shall be published on the DWQ website for at least 30 days as required.

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 (if applicable)

(Explanation of any comments received and responses sent. Actual letters can be referenced, but not required to be included).

DWQ-2024-004261

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ATTACHMENT 1

Effluent Monitoring Data

(DWQ-2024-005567)

Final Effluent UPDES Permit Data 2020-2024*

		Outfall Flow to Canal Daily (MGD)	pH Grab Daily (SU)	TBOD Daily (mg/L)	TBOD % Removal Monthly Average(%)	TSS Daily (mg/L)	TSS % Removal Monthly Average(%)	E-COLI Weekly Geomean (#/100ML	NH3-N Daily (mg/L)	T-Phos Daily (mg/L)	TRC Daily (mg/L)	DO Daily (mg/L)	Ortho-Phos Daily (mg/L)	TKN Daily (mg/L)	Nitrate Daily (mg/L)	Nitrite Daily (mg/L)
2020	Average	30.60	7.30	8.86	95.71	11.28	93.40	3.32	6.11	2.42	1.21	4.31	2.13	8.82	8.130	0.647
	Max	41.73	7.70	42.00	97.24	34.00	95.67	12.30	24.30	3.13	1.88	5.71	2.89	21.60	15.500	4.300
	Min	21.88	7.00	4.00	92.42	6.00	90.68	1.00	.18	.64	0.31	3.49	1.52	1.12	0.794	0.014
2021	Average	29.27	7.27	8.31	96.43	12.47	93.53	5.43	5.14	2.44	1.24	4.31	2.07	7.37	11.078	0.600
	Max	44.75	7.70	18.00	97.08	29.60	95.70	30.38	20.30	3.45	2.09	5.15	3.15	21.50	19.280	1.740
	Min	23.44	7.00	3.00	95.65	5.20	90.49	1.00	.17	1.52	0.55	3.70	1.26	1.36	4.240	0.060
2022	Average	29.70	7.27	8.69	96.01	11.86	93.81	4.50	5.48	2.63	0.96	4.25	2.32	7.85	10.857	0.765
	Max	39.17	7.70	22.00	96.64	25.20	94.89	14.33	19.50	3.65	1.98	5.20	3.46	16.40	18.880	2.110
	Min	24.07	7.00	4.00	94.75	6.00	91.72	1.00	.26	1.74	0.11	3.63	1.35	4.08	2.200	0.109
2023	Average	33.10	7.27	9.19	95.72	12.02	93.43	6.15	5.72	2.40	0.95	4.09	2.11	8.11	9.900	0.744
	Max	53.33	7.60	27.00	97.43	40.00	96.19	26.60	12.70	3.43	2.14	4.69	3.83	13.40	18.500	1.440
	Min	21.21	7.00	4.00	92.81	6.00	89.19	1.00	.44	1.60	0.28	3.14	1.30	3.58	3.130	0.223
2024*	Average	33.93	7.25	7.64	96.87	12.01	93.94	25.23	7.67	2.37	1.44	4.14	2.10	10.49	8.345	0.616
	Max	46.40	7.50	26.00	98.21	51.20	96.74	681.91	15.60	3.15	2.16	5.19	5.03	18.10	15.700	1.160
	Min	25.71	7.00	3.00	95.65	4.40	90.55	1.00	.37	1.49	0.56	0.51	1.22	3.27	1.610	0.109

Final Effluent UPDES Permit Data (Metals) 2020-2024*

		Arsenic Daily (mg/L)	Cadmium Daily (mg/L)	Chromium Daily (mg/L)	Copper Daily (mg/L)	Lead Daily (mg/L)	Nickel Daily (mg/L)	Silver Daily (mg/L)	Zinc Daily (mg/L)	Selenium Daily (mg/L)	Mercury Daily (mg/L)
2020	Average	0.00893	0.00046	0.00219	0.01112	0.00183	0.00832	0.00179	0.03484	0.00191	0.00009
	Max	0.01080	0.00050	0.00328	0.01490	0.00200	0.02090	0.00200	0.04610	0.00200	0.00009
	Min	0.00748	0.00013	0.00194	0.00809	0.00043	0.00411	0.00010	0.02140	0.00120	0.00009
2021	Average	0.00780	0.00053	0.00277	0.01433	0.002	0.00738	0.002	0.03399	0.00153	0.00009
	Max	0.00899	0.00089	0.00884	0.02200	0.002	0.01240	0.002	0.04550	0.00200	0.00009
	Min	0.00701	0.00050	0.00200	0.01040	0.002	0.00424	0.002	0.02610	0.00102	0.00009
2022	Average	0.00778	0.00023	0.00199	0.01151	0.00063	0.00573	0.00063	0.02459	0.00159	0.00016
	Max	0.01030	0.00050	0.00280	0.01920	0.00200	0.00930	0.00200	0.03000	0.00240	0.00020
	Min	0.00570	0.00020	0.00150	0.00710	0.00050	0.00390	0.00050	0.02000	0.00060	0.00009
2023	Average	0.00838	0.00020	0.00235	0.01253	0.00050	0.00482	0.00050	0.02333	0.00176	0.00015
	Max	0.01060	0.00020	0.00400	0.02190	0.00050	0.00800	0.00050	0.03000	0.00360	0.00015
	Min	0.00710	0.00020	0.00140	0.00770	0.00050	0.00050	0.00050	0.02000	0.00050	0.00015
2024*	Average	0.00845	0.00020	0.00202	0.01237	0.00052	0.00447	0.00050	0.03000	0.00175	0.00015
	Max	0.00970	0.00020	0.00310	0.03000	0.00060	0.00530	0.00050	0.05000	0.00230	0.00016
	Min	0.00730	0.00020	0.00110	0.00600	0.00050	0.00380	0.00050	0.02000	0.00120	0.00015

*** 2024 data is from 1/1/2024 - 7/31/2024**

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ATTACHMENT 2

Wasteload Analysis

(DWQ-2024-003974)

Utah Division of Water Quality
Statement of Basis
ADDENDUM
Wasteload Analysis and Antidegradation Level I Review

Date: **May 15, 2024**

Prepared by: **Christopher L. Shope**
Standards and Technical Services

Facility: **Salt Lake City Water Reclamation Facility**
UPDES Permit No. UT0021725

This addendum summarizes the wasteload analysis that was performed to determine water quality based effluent limits (WQBEL) for this discharge. Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses (UAC R317-2-8). Projected concentrations are compared to numeric water quality standards to determine acceptability. The numeric criteria in this wasteload analysis may be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

Discharge
Outfall 003 discharges to the Northwest Oil Drain Canal, then to the Salt Lake City Sewage Canal, and then into Farmington Bay of the Great Salt Lake.

The maximum monthly average design flow rate is 56.00 MGD, the maximum daily flow rate is 53.33 MGD, and the annual average flow rate is 33.48 MGD.

Receiving Water
According to the Utah Administrative Code (UAC) R317-2-13, the Oil Drain Canal and Salt Lake City Sewage Canal are drainage canals classified as 2B and 3E under R317-2-13.10, and the Great Salt Lake is classified as 5.

- *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 3E - Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.*

- *Class 5D - Farmington Bay of the Great Salt Lake. Protected for infrequent primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including their necessary food chain.*

Basis for Effluent Limitations

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD_5), E. coli, pH and percent removal for BOD_5 and TSS are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The DWQ has determined that this discharge will not cause or contribute to a violation of water quality standards based upon the Reasonable Potential Analysis and Level 1 Review that follows. An Antidegradation Level II Review is not required since water quality will not be further lowered by the proposed activity and there is not an increase in capacity, per UAC R317-2-3.5.b.1.(b).

Numeric criteria are available for pH, E. coli and turbidity for the recreational use in the Northwest Oil Drain (NWOD). However, no numeric criteria are available for the aquatic life uses in the NWOD or Farmington Bay. The Level I Antidegradation Review, protection of existing uses, was conducted in accordance with UDWQ (2016). No existing uses are identified that require more stringent protection than the designated uses.

As described in the UDWQ (2016), effluent pollutant concentrations were screened against Class 3D aquatic life numeric criteria to determine reasonable potential and the protection of the uses. Based on application of Narrative Standards, acute criteria were screening values for the NWOD and chronic criteria were used at Farmington Bay under the Narrative Standards.

The 2013 permit required monitoring in the NWOD. The purpose of this investigation was to decrease uncertainties regarding selenium, ammonia, and dilution. The results of this monitoring are documented in Stantec (2018).

Total Maximum Daily Load (TMDL)

No TMDL information is available for this waterbody according to the Utah's Final 2022 Integrated Report on Water Quality dated December 9, 2022.

Mixing Zone

Typically, the maximum allowable mixing zone is 15 minutes of travel time for acute conditions, not to exceed 50% of stream width, and 2,500 feet for chronic conditions, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone. Acute limits were calculated using 50% of the seasonal critical low flow.

However, no mixing was considered for this Wasteload Analysis because upstream flow contributions, i.e. Warm Springs, were unable to be measured.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were determined in consultation with the UPDES Permit Writer, the Watershed Coordinator, the Utah Water Quality Assessment Reports, and the industry SIC codes from https://www.osha.gov/data/sic-search. The parameters of concern identified for this facility include: TSS, BOD_5, total phosphorus, total ammonia, *E. coli* and pH.

WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC_{50} (lethal concentration, 50%) percent effluent for acute toxicity and the IC_{25} (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC_{50} is typically 100% effluent and does not need to be determined by the WLA.

The SLCWRF currently monitors for toxicity using acute WET testing. For this permit cycle, chronic WET testing will continue as recommended by the 2018 Utah WET implementation guidance, Great Salt Lake WET Policy. The maximum observed dilution reported in the NWOD Report, 2.3:1 is well below the 20:1 threshold and chronic monthly testing is recommended. The chronic test results will be used as an indicator for protecting aquatic life in Farmington Bay, Great Salt Lake. Chronic WET testing is conducted at 100% effluent (no dilution).

The acute WET testing from the previous permit cycle remains in place and the frequency remains at monthly as recommended by the 2018 Utah WET implementation guidance because SLCWRF is classified as a major facility with greater than 20 MGD design flow.

Wasteload Allocation Methods

As described previously, total suspended solids (TSS), biochemical oxygen demand (BOD_5), E. coli, pH and percent removal for BOD_5 and TSS limits are based on secondary standards. Total phosphorus (TP) is a technology-based effluent limit. Total dissolved solids (TDS) did not pass numeric criteria.

Again, for this permit cycle, total ammonia required further analysis and an effluent limit. The 2013 EPA ammonia criteria were used for screening because these criteria represent the potential for ammonia toxicity for the aquatic life expected at this location. The 2013 EPA chronic criteria applied are based on an absence of salmonids (trout) and unionid mussels in the receiving waters. This is appropriate, as the NWOD is too warm for salmonids and the substantial habitat modifications (similar to the segments identified in the Jordan River site specific ammonia criteria) preclude unionid mussels as resident taxa.

This evaluation concluded that these chronic criteria are appropriate screening values for determining effluent limits for the discharge to Farmington Bay. Ammonia is generally toxic to aquatic life but species vary widely in their sensitivity. Ammonia is also a nutrient that is taken up rapidly by plants and bacteria when present at sub-toxic concentrations. Farmington Bay includes freshwater taxa such as daphniids and mayflies. Fish can be sensitive to ammonia and fish have been observed in Farmington Bay and surrounding wetlands. Fish are observed in similar freshwater habitats at Great Salt Lake and fish presence in nearby waters such as waterfowl management areas and observations of fish-eating birds support that fish should be considered residents for the comparison criteria. Studies are ongoing to better characterize fish populations in Farmington Bay. For this permit cycle, early life-stages of fish were presumed to be absent for the winter months similar to the lower Jordan River.

Consistent with Utah Wasteload Analysis procedures, acute limits are based on the maximum observed pH and temperature of the effluent (ammonia limits are very sensitive to pH and to a lesser extent temperature - Table 1). Chronic limits are based on the average pH and temperature in the NWOD at the Farmington Bay discharge (Table 1) effluent. No mixing was considered for the comparisons to acute screening values because upstream flow contributions, i.e. Warm Springs, were unable to be measured. The chronic comparisons were based on the measurements made in the NWOD at the discharge to Farmington Bay. Table 2 shows the recommended effluent limit for ammonia to ensure protection of the aquatic life uses.

Table 1
pH and Temperature used for Total Ammonia Nitrogen Effluent Limits

Season	June-August	Sept.-Nov.	Dec.-Feb.	March-May
pH (acute)	7.7	7.6	7.7	7.7
Temp. °C (acute)	24.1	22.1	14.9	21.5
pH (chronic)	7.4	7.2	7.4	7.2
Temp °C (chronic)	20.9	11.9	8.7	15.5

Table 2
Maximum Effluent Total Ammonia Nitrogen Concentrations (mg/L)

Season	Acute (1 hr)	Chronic (4 day ave)
June through August	12.8	5.4
September through November	17.7	5.9
December through February	15.1	11.8
March through May	15.1	5.8

Dissolved oxygen (DO) concentrations were also monitored as part of the NWOD Study. Observed DO concentrations were lower than saturation at the discharge to Farmington Bay. Effluent DO concentrations from the Salt Lake City Water Reclamation Facility are greater both in range as well as average concentration, relative to the receiving water. Therefore, it is not expected that DO is a parameter of concern. Based on the currently available data, the causes of the lower dissolved oxygen concentrations are still unknown because the NWOD receives other water sources (i.e.: City Drain, stormwater overflow, multiple point sources) prior to discharging to Farmington Bay. DO and ammonia can interact and DO concentrations in the NWOD should be investigated further after ammonia concentrations have stabilized. Thereby, DO should remain in the permit for monitoring purposes.

Antidegradation Level I Review

The objective of the Level I ADR is to ensure the protection of existing uses, defined as the beneficial uses attained in the receiving water on or after November 28, 1975. No evidence is known that the existing uses deviate from the designated beneficial uses for the receiving water. Therefore, the beneficial uses will be protected if the discharge remains below the WQBELs presented in this Wasteload.

A Level II Antidegradation Review (ADR) is not required for this facility. The proposed permit is a is a renewal with no additional flow or concentration of pollutants over those authorized.

Documents:

WLA Document : *240507-SLC_WRF_WLA_2024.docx*

References:

Stantec. 2018. Northwest Oil Drain and Salt Lake Sewage Canal Selenium, Ammonia and Flow Characterization Report (Stantec, May 10, 2018) (NWOD Report)

Utah Division of Water Quality. 2022. Final 2022 Integrated Report on Water Quality. https://documents.deq.utah.gov/water-quality/monitoring-reporting/integrated-report/DWQ-2022-002386.pdf

Utah Division of Water Quality. 2021. Utah Wasteload Analysis Procedures Version 2.0. https://documents.deq.utah.gov/water-quality/standards-technical-services/DWQ-2021-000684.pdf

Utah Division of Water Quality. 2016. Interim Methods for Evaluating Use Support for Great Salt Lake Utah Pollution Discharge Elimination System (UPDES) Permits (v. 1.0 January 4, 2016) (Interim Methods). https://documents.deq.utah.gov/legacy/destinations/g/great-salt-lake/docs/2014/10Oct/InterimUPDESpermitting.pdf

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ATTACHMENT 3

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

DWQ has worked to improve the reasonable potential analysis (RP) for the inclusion of limits for certain 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 DWQ. There are four outcomes for the RP Analysis[1]. 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.

Initial screening for metals parameter values that were submitted through the discharge monitoring reports showed that a closer look at the metal parameters is not needed. The RP Initial Screening Table is included below.

2020-2024 Metals RP Initial Screening Table for Salt Lake City (UT0021725)

Parameter	Outfall	No. of Samples	MEC*a mg/L	Water Quality Standard MAC*b		Outcome/Result
				Acute mg/L	Chronic mg/L	
Total Arsenic	003	>50	0.0125	0.408	0.208	MEC < MAC*c
Total Cadmium	003	>50	0.00089	0.0131	0.0044	MEC < MAC
Total Chromium	003	>50	0.00884	0.0185	0.0139	MEC < MAC
Total Copper	003	>50	0.0219	0.0874	0.0533	MEC < MAC
Total Lead	003	>50	<0.001	0.961	0.0432	MEC < MAC
Total Mercury	003	>50	<0.00009 *d	0.000212	0.000017 *d	MEC < MAC
Total Nickel	003	>50	0.0209	2.569	0.33	MEC < MAC
Total Selenium	003	>50	0.0036	0.0233	0.0048	MEC < MAC
Total Silver	003	>50	<0.002	0.099	NA	MEC < MAC
Total Zinc	003	>50	0.046	0.647	0.749	MEC < MAC
Total Molybdenum	003	>50	0.0289	NA	NA	NA

Notes/Legend
NA – Not Applicable, no current Water Quality Standard (WQS).

*a – MEC = Maximum expected effluent concentration as determined from existing data set and sufficiently sensitive method detection limits.

*b – MAC = Maximum allowable concentration from current WQS and/or wasteload analysis.

*c – MEC < (less than) MAC = No Acute or Chronic limit required.

*d – Since 2018, effluent analyses for total mercury has not resulted in a detected concentration above the laboratory method detection limits (MDLs) as reported. Although the previous and/or current MDLs for total

[1] See Reasonable Potential Analysis Guidance for definitions of terms

mercury (0.00015 and/or 0.00009 mg/L) are higher in concentration than the applicable Chronic WQS (0.000017 mg/L), laboratory MDLs continue to improve upon the sufficiently sensitive test methodologies. Thereby, this can be re-evaluated in the future as appropriate. Based upon all relevant information as evaluated, including a permit limit for total mercury is not appropriate at this time.

Result: From the table above, the RP analysis of the effluent discharge data for all of the listed parameters is: MEC < MAC, therefore no additional Acute or Chronic limits are required. This equates to ***RP Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit.***

Summary: Based upon the RP Guide developed by DWQ and implemented on September 10, 2015; it was determined not to include any new total metal effluent limits in the 2024 renewal permit. A qualitative RP analysis was performed on the applicable metals constituents from the facility discharge data since 2020. Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at any of the metals is not needed. This is because the data points reviewed for all parameters were below the applicable WQS and/or MDLs with the lone exception as noted above for the total mercury Chronic WQS. Therefore, no RP currently exists at the facility and a more quantitative RP analysis using the RP model was not necessary at this time. Metals monitoring will continue however, as detailed in the permit. This will be re-evaluated during the next permit cycle as appropriate.