

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. **UT0021717**
Biosolids Permit No. **UTL021717**

In compliance with provisions of the *Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended (the "Act")*,

PROVO CITY

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named **MILL RACE**,

to dispose of biosolids,

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

This permit shall become effective on June 1st, 2021.

This permit expires at midnight on May 31st, 2026.

Signed this 31st day of May, 2021.



Erica Brown Gaddis, PhD
Director

**Major Municipal
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BIOSOLIDS PERMIT NO. UTL021717**

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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 Number
001

Location of Discharge Outfall
The discharge point is located at latitude 40°12'45", longitude 111°39'00". The effluent is discharged into the Mill Race, thence to East Bay Golf Course then into Utah Lake. Total residual chlorine (TRC) can be sampled at the sampling port 60 feet downstream from Outfall 001 at the property boundary or at end of pipe before entering the receiving water.

- 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 in Outfall 001 as defined in *Part VIII*, and determined by test procedures described in *Part I. C.3.* of this permit.
 2. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

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Parameter	Effluent Limitations *a				
	Monthly Average	Weekly Minimum Average	Weekly Average	Daily Minimum	Daily Maximum
Flow, MGD	21.0	NA	NA	NA	NA
BOD ₅ , mg/L	25	NA	35	NA	NA
BOD ₅ Min. % Removal	85	NA	NA	NA	NA
TSS, mg/L	25	NA	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA	NA
E-Coli, No./100mL	126	NA	157	NA	NA
TRC, mg/L *j	0.013	NA	NA	NA	0.022
Ammonia, mg/L					
Summer (July – September)	3.0	NA	NA	NA	8.0
Fall (Oct – Dec)	4.0	NA	NA	NA	12.0
Winter (Jan – Mar)	5.0	NA	NA	NA	14.0
Spring (Apr – Jun)	3.5	NA	NA	NA	12.0
WET, Chronic Biomonitoring					
January – March	NA	NA	NA	NA	Pass, IC ₂₅ > 95% effluent
April — December	NA	NA	NA	NA	Pass, IC ₂₅ > 94% effluent
Oil & Grease, mg/L	NA	NA	NA	NA	10
pH, Standard Units	NA	NA	NA	6.5	9.0
Dissolved Oxygen (DO), mg/L	NA	6.0	NA	5.0	NA

NA – Not Applicable

Effluent Limitations Changes		
Parameter	Current Annual Average	New Annual Average
Interim Total Phosphorous, mg/L (Effective Jan 1, 2020 – December 31, 2024)	No Limit	3.5 (Interim limit)
Final Total Phosphorous, mg/L, (Effective Jan 1, 2025)	No Limit	1.0 (Final Limit)

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Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD ₅ , Influent *d	5 x Weekly	Composite	mg/L
Effluent	5 x Weekly	Composite	mg/L
TSS, Influent *d	5 x Weekly	Composite	mg/L
Effluent	5 x Weekly	Composite	mg/L
E. Coli	5 x Weekly	Grab	No./100mL
TRC	Daily	Grab	mg/L
pH	5 x Weekly	Grab	SU
Total Ammonia (as N)	5 x Weekly	Grab	mg/L
DO	5 x Weekly	Grab	mg/L
WET – Biomonitoring *f	Quarterly	Composite	Pass/Fail
Oil & Grease *e	When Sheen is Observed	Grab	mg/L
Total Dissolved Solids	Monthly	Composite	mg/L
Total Ammonia, *h	Monthly	Composite	mg/L
Orthophosphate, (as P) *h Effluent	Monthly	Composite	mg/L
Phosphorus, Total *h Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) *h Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrite-Nitrate, NO ₃ *h	Monthly	Composite	mg/L
Metals, Influent *g, *i	Quarterly	Grab/Composite	mg/L
Effluent	Quarterly	Grab/Composite	mg/L
Organic Toxics, Influent	Yearly	Grab	mg/L
Effluent *i	Yearly	Grab	mg/L

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

*b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

*d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

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- *e Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- *f In the even calendar years Ceriodaphnia will be tested during the 1st and 3rd quarters and fathead minnows will be tested during the 2nd and 4th quarters. In the odd calendar years fathead minnows will be tested during the 1st and 3rd quarters and Ceriodaphnia will be tested during the 2nd and 4th quarters.
- *g No metal limits are required at this time.
- *h Composite samples shall be 24 hour composites collected by use of an automatic sampler or minimum of four grab samples collected a minimum of two hours apart. Unless the rule regarding sampling for nutrients is changed, then the rule must be followed.
- *i See Part II of this permit for additional requirements regarding sampling for metals and organic toxics.
- *j The TRC limitation will only be applicable if chlorine is being utilized as disinfection on the effluent.

3. Chronic Whole Effluent Toxicity (WET) Testing.

- a. *Whole Effluent Testing – Chronic Toxicity.* Starting immediately, the permittee shall quarterly, conduct chronic short-term toxicity tests on a composite sample of the final effluent. The sample shall be collected at outfall 001.

The monitoring frequency shall be quarterly. Samples shall be collected on a two-day progression; i.e., if the first sample is on a Monday, during the next sampling period, sampling shall be on a Wednesday. If chronic toxicity is detected, the test shall be repeated in less than four weeks from the date the initial sample was taken. The need for any additional samples, and/or a Toxicity Reduction Evaluation (TRE), see *Part I.C.3.c*, shall be determined by the Director. If the second test shows no chronic toxicity, routine monitoring shall be resumed.

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, 4th Edition, (EPA 821/R-02-13), October 2002* as per 40 CFR 136.3(a) *TABLE 1A-LIST OF APPROVED BIOLOGICAL METHODS*. Test species shall consist of Ceriodaphnia dubia and Pimephales promelas (fathead minnow).

Chronic toxicity occurs when the IC₂₅ is equal to or less than the 95 % effluent dilution. If any of the acceptable control performance criteria are not met, the test shall be considered invalid. IC₂₅ is the inhibition 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.

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Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the reporting calendar quarter (e.g., biomonitoring results for the calendar quarter ending March 31 shall be reported with the DMR due April 28, with the remaining biomonitoring reports submitted with DMRs due each July 28, October 28, and January 28). All test results shall be reported along with the DMR submitted for that reporting period. The format for the report shall be consistent with the latest revision of the *Region VIII Guidance for Chronic Whole Effluent Reporting* and shall include all the physical testing as specified.

The current Utah whole effluent toxicity (WET) policy is in the process of being updated and revised to assure its consistency with the Environmental Protection Agency's national and regional WET policy. When said revised WET policy has been finalized and officially adopted, this permit will be reopened and modified to incorporate satisfactory follow-up chronic toxicity language (chronic pattern of toxicity, PTI and/or TIE/TRE, etc.) without a public notice, as warranted and appropriate.

- b. *Toxicity Reduction Evaluation (TRE)*. If toxicity is detected during the life of this permit and it is determined by the Director that a TRE is necessary, the permittee shall be so notified and shall initiate a TRE immediately thereafter. The purpose of the TRE will be to establish the cause of toxicity, locate the source(s) of the toxicity, and 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 the TRE shows that the toxicity is caused by a toxicant(s) that may be controlled with specific numerical limitations, the permittee may:

- (a) Submit an alternative control program for compliance with the numerical requirements.

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- (b) If necessary, provide a modified biomonitoring protocol, which compensates for the pollutant(s) being controlled numerically.

If acceptable to the Director, 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 a modified biomonitoring protocol.

Failure to conduct an adequate TRE, or failure to submit a 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.

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. The first report is due on Date. 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

II. INDUSTRIAL PRETREATMENT PROGRAM

- 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 the Industrial Pretreatment Program in accordance with the legal authorities, policies, and procedures described in the permittee's approved 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 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 and/or controlled at all times;
5. Enforce all applicable pretreatment standards and requirements and obtain appropriate remedies for noncompliance by any industrial user;
6. 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;
7. Maintain an adequate revenue structure and staffing level for continued implementation of the Pretreatment Program.
8. Evaluate all significant industrial users 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 403.8(f)(2)(v)*;
9. Notify all significant industrial users of their obligation to comply with applicable requirements under *Subtitles C and D* of the *Resource Conservation and Recovery Act (RCRA)*; and
10. Develop, implement, and maintain an enforcement response plan as required by *40 CFR 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

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- c. Describe the time periods within which such responses will be taken and identify the POTW staff position(s) responsible for pursuing these actions.
11. 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)*.
- B. Program Updates. The permittee is required to modify its pretreatment program, as necessary, to reflect changes in the regulations of *40 CFR 403*. Such modifications shall be completed within the time frame set forth by the applicable regulations. Modification of the approved pretreatment program must be done in accordance with the requirements of *40 CFR 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 permittee's pretreatment program activities over the previous calendar year. Reports shall be submitted no later than March 28 of each year. These annual reports shall, at a minimum, include:
1. An updated listing of the permittee's 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 permittee's industrial users and the effectiveness of the permittee's Pretreatment Program in meeting its needs and objectives.
 4. A summary of all sampling data taken of the influent and effluent for those pollutants listed in *Part II.H*.
 5. A description of all substantive changes made to the permittee's pretreatment program referenced in *Section B* of this section. Substantive changes include, but are not limited to, any change in any ordinance, major modification in the program's administrative structure or operating agreement(s), a significant reduction in monitoring, or a change in the method of funding the program.
 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, wastestreams 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;

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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 limitation established by the POTW in accordance with the requirement of 40 CFR 403.5(c) and 40 CFR 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	MDL a*	Sample Type	Frequency	Units
Total Arsenic	0.16	Composite	Quarterly	mg/L
Total Cadmium	0.0006			
Total Chromium	0.011			
Total Copper	0.022			
Total Lead	0.011			
Total Molybdenum	NA			
Total Nickel	0.127			
Total Selenium	0.005			
Total Silver	0.020			
Total Zinc	0.29			
Total Cyanide	0.0054	Composite/Grab	Yearly	
Total Mercury	0.000012			
TTOs, b*	NA			

a* The minimum detection limit (MDL) of the test method used for analysis must be below this limit, if a test method is not available the permittee must submit documentation to the Director regarding the method that will be used.

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b* In addition, the permittee shall analyze the treatment facility influent and effluent for the presence of the toxic pollutants listed in 40 CFR 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.

2. 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). 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. If a technical evaluation, reveals that 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, and after approval implement the new local limits, within 12 months of the Division's determination that a revision is necessary.
 3. The results of the analyses of metals, cyanide and toxic organics shall be submitted along with the Discharge Monitoring Report (DMR) at the end of the earliest possible reporting period. Also, the permittee must submit a copy of the toxic organics data to the DWQ's Pretreatment Coordinator via email.
 4. 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. If a parameter load is greater than the allowable head works load, for any pollutant listed in Part II.F.1. or a pollutant of concern listed in the local limit development document, the permittee must report the exceedances to the DWQ's Pretreatment Coordinator. If the loading exceeds the allowable headworks load, increase sampling must occur based on the requirements given by the DWQ's Pretreatment Coordinator. If needed sampling may need to occur to find the source(s) of the increase. This may include sampling of the collection system. Notification regarding the exceedances of the allowable headworks loading can be provided via email.
- G. Enforcement Notice. *UCA 19-5-104* 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.
- H. 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. 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).
- b. Under *40 CFR 503.32 (b)(2) - Alternative 1*, The PSRP may be accomplished through testing and the biosolids must meet a microbiological limit of less than 2,000,000 MPN of fecal coliform per gram for the biosolids to be considered Class B biosolids with respect to pathogens.

2. 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/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 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, centrifuge, 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 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, centrifuge, etc.) and/or any other change.

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

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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, (mg/kg)	CPLR*, (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR†, (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	0.82
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

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*.
- 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*. In addition, the permittee shall comply with all applicable site restrictions listed below (*40 CFR Part 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.

* CPLR -- Cumulative Pollutant Loading Rate
 † APLR – Annual Pollutant Loading Rate

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- (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	
Class A	Class B
B Salmonella species –less than three (3) MPN‡ per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids)	Fecal Coliforms –less than 2,000,000 colony forming units (CFU) per gram total solids
Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
Viable helminth ova –less than one (1) MPN per four (4) grams total solids	

3. Vector Attraction Reduction Requirements.

‡ MPN –Most Probable Number

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- a. The permittee will meet vector attraction reduction through use of one of the methods listed in *40 CFR 503.33*. PWRF intends to meet the VAR requirements through one of the methods listed below.

- (1) Under *40 CFR 503.33(b)(1)*, the solids need to be treated through anaerobic digestion for at least 15 days at a temperature of at least 35° C (95° F) with a 38% reduction of volatile solids.

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. This change may be made without additional public comment.

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 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

- 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.

[§] Over the last decade, the PWRF has produced on average 940 DMT of biosolids annually, therefore they need to sample at least four times a year.

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 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:

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- (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-
- (8) 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.

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- (9) 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.
- (10) When weather and or soil conditions prevent adherence to the biosolids application procedure, biosolids shall not be applied on the site.
- (11) 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.
- (12) 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.
- (13) 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.
- (14) 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

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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:

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"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). DWQ will regulate and the permittee will manage storm water discharges associated with industrial activity that are not treated and discharged to designated outfall(s) via a separate storm water permit, as necessary. 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 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 and 40CFR Part 503*, unless other test procedures have been specified in this permit.
- 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 *UAC R317-2-10 and 40 CFR 503* or as specified in this permit, 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. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.
- 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

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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, (801) 536-4300, or 24-hour answering service (801) 536-4123.
2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4300 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 maximum daily discharge limitation for any of the pollutants listed in the permit; 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.

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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. Any person who willfully or negligently violates permit conditions or the Act is subject to a fine not exceeding \$25,000 per day of violation. Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding \$50,000 per day. 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

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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 *section 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 *sections VI.G.2.a (1), (2) and (3).*

3. Notice.

- a. *Anticipated bypass.* Except as provided above in *section VI.G.2* and below in *section 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;

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- (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 *section 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 V.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 the alteration or addition could significantly change the nature or increase the quantity of parameters discharged or pollutant sold or given away. This notification applies to pollutants, which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, 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.
- H.
 - 1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

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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. 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.
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."

- I. 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.
- J. 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

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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.

- K. 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*.
- L. 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.
- M. 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.
- N. 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.
- O. 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 *UCA 19-5-117* and *Section 510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.
- P. 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:

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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.
- Q. 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.
- R. 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.* of this permit, during the duration of this permit.
 2. The TRE results indicate that the toxicant(s) represent pollutant(s) that may be controlled with specific numerical limits, and the Director agrees that numerical controls are the most appropriate course of action.
 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 toxicant 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. “Act,” means the *Utah Water Quality Act*.
4. “Acute toxicity” occurs when 50 percent or more mortality is observed for either test species at any effluent concentration (lethal concentration or “LC₅₀”).
5. “Bypass,” means the diversion of waste streams from any portion of a treatment facility.
6. “Chronic toxicity” occurs when the survival, growth, or reproduction for either test species exposed to a specific percent effluent dilution is significantly less (at the 95 percent confidence level) than the survival, growth, or reproduction of the control specimens.
7. "IC₂₅" 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.
8. “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

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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.
9. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
10. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
11. "EPA," means the United States Environmental Protection Agency.
12. "Director," means Director of the Division of Water Quality.
13. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
14. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
15. "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.
16. "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.

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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° or 105° 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, mosquitos or other organisms capable of transporting infectious agents.

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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.

**FACT SHEET
STATEMENT OF BASIS
PROVO CITY WATER ADVANCED TREATMENT RESOURCE RECOVERY
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORMWATER
UPDES PERMIT NUMBER: UT0021717
UPDES BIOSOLIDS PERMIT NUMBER: UTL-0021717
MAJOR MUNICIPAL**

FACILITY CONTACTS

Facility Address

1685 South East Bay Boulevard
Provo, Utah 84606

Mailing Address

Provo City Water Advanced Treatment Resource
Recovery (WATRR)
1377 South 350 East
Provo, Utah 84606

Gary Calder, Director of Water Resources
(801) 852-6771

David Torgersen, Water Advanced Treatment Resource Recovery (WATRR) Manager
(801) 852-6790

DESCRIPTION OF FACILITY

The Provo City Water Advanced Treatment Resource Recovery (WATRR) or “facility” serves the City of Provo with an average design flow of 21 MGD, and a design population equivalent of 160,000. The facility is located at 1685 South East Bay Boulevard in Provo City, Utah County, Utah, latitude 40° 12’ 45” and longitude 111° 39’ 00”, with STORET Number 499656. Provo’s wastewater treatment plant was originally constructed in 1954 and was upgraded in 1978 and 1988 and is currently undergoing an upgrade.

The final build out for the current upgrade will include the installation of a membrane bioreactor system including new process basins, associated piping and equipment, and the repurposing of the four existing aeration basins for equalization and surge storage. The existing trickling filters and the existing secondary clarifiers are to be demolished. The existing final clarifiers, filter building, and backwash tank will be decommissioned. The majority of the plant’s influent will flow to the existing influent junction structure, where the flow will be directed to the existing headworks facilities. A new, in-plant lift station will be constructed to receive additional sanitary sewer flows from the area southwest of the facility. Flow received at the new lift stations will be pumped directly to the existing headworks facility.

The existing 6mm headworks screens and grit removal facilities would continue to be used. The solids processing facilities would be refurbished as necessary for continued use, including the primary sludge pump station, primary and secondary digesters, dissolved air flotation thickener (DAFT) tank, and dewatering facility. A biosolids vacuum struvite control system would be added

to the existing solids stream process to promote the removal of phosphorous from the plant and to prevent struvite scaling.

Solids are handled by the following: one dissolved air flotation sludge thickener tank, two primary anaerobic sludge digesters with linear mixers, one unmixed secondary anaerobic sludge digester, a final secondary anaerobic sludge digester with a linear mixer, and two centrifuges. After treatment the solids are land applied.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

The QUAL2Kw model was calibrated with data collect by DWQ. The data is summarized in Appendix A of the wasteload analysis. Due to the data used to calibrate the model, limits for BOD₅, ammonia, chlorine and chronic biomonitoring changed. The permittee has completed a Level II anti-degradation review (ADR) in order to allow for the relaxation of BOD₅ and ammonia limits. The ADR documentation is included with the permit documentation. The changes to the limits were incorporated into the permit.

The chronic ammonia standard is dependent on temperature and pH, the acute ammonia standard is dependent on pH. Due to the data inputted into the model the monthly average effluent limit for ammonia have changed to a daily maximum in the winter months (January – March) to 14.0 mg/L. No other ammonia limits have changed based upon the QUAL2K model.

The permittee is changing from chlorine to UV disinfection. The TRC limitation will only be applicable if chlorine is being utilized as disinfection on the effluent.

Storm Water permit provisions have been removed as part of a programmatic separation of the previously combined UPDES Industrial permit. Provo will now be required to apply for and obtain separate UPDES Industrial Storm Water Permit coverage under the MSGP No. UTR000000, or an applicable exemption, as described further in the Storm Water Requirements section of this Fact Sheet.

DISCHARGE

DESCRIPTION OF DISCHARGE

Provo City has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. In the last five years Provo City has had a good compliance history, with minimal violations. For more information regarding Provo City's compliance history see the following website echo.epa.gov/effluent-charts#UT0021717.

Outfall Number
001

Location of Discharge Point
After the UV channels at latitude 40°12'45", longitude 111°39'00". If the facility is utilizing chlorine, TRC can be sampled at the sampling port 60 feet downstream from Outfall 001

at the property boundary or at end of pipe before the effluent enters the receiving water.

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge flows into the Mill Race and then to Utah Lake. Mill Race is Class 2B, 3B, and 4 and Utah Lake is Class 2A and 3B, according to Utah Administrative Code (UAC) R317-2-13.5.c.:

- Class 2A - Protected for frequent primary contact recreation where there is a high likelihood of ingestion of water or a high degree of bodily contact with the water. Examples include, but are not limited to, swimming, rafting, kayaking, diving, and water skiing.
- Class 2B - Protected for secondary contact recreation such as boating, wading, or similar uses.
- Class 3B - Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.

IMPAIRED WATERS CONSIDERATIONS

This facility ultimately discharges to Provo Bay and Utah Lake which is listed on Utah's 2016 303(d) list of impaired waterbodies. Provo Bay has been identified as impaired for PCB in fish tissue, pH, ammonia and total phosphorus. Utah Lake has been identified as impaired for harmful algal blooms, PCB in fish tissue, total phosphorous (TP) and total dissolved solids (TDS). Due to the listing of TDS the facility will be required to self-monitor for TDS on a monthly basis in order to better quantify loading of this pollutant of concern. The TP listing was based on an indicator of 0.025 mg/L in 2004.

Currently, a Utah Lake strategy is in the process of being developed. The process will include time frames for further assessment and decision points for developing a Use Attainability Analysis, TMDL, or site-specific standards for phosphorus and/or nitrogen. This process may result in pollutant load reductions and wasteload allocations. Wasteload allocations would then be translated to effluent limits in UPDES permits.

At this time there is not a water quality based standard for nutrients. Provo City applied for and received a variance to the Total Based Phosphorus Effluent Limit rule. They will be required to meet the requirements of a 1 mg/L based on the TBPEL rule on January 1, 2025.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5), E. coli, pH and percent removal for BOD5 and TSS are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The oil and grease is based on best professional judgment (BPJ). A wasteload Analysis is attached for this discharge into the receiving water. It has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level II review is required because of the upgrades to the facility. The Antidegradation Level II forms submitted

by the facility can be found in the appendix at the end of this document. The permittee is expected to be able to comply with these limitations. Total residual chlorine (TRC), whole effluent toxicity (WET), ammonia, and dissolved oxygen (DO) are based on the WLA.

Reasonable Potential Analysis

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

A quantitative RP analysis was performed on metals to determine if there was reasonable potential for the discharge to exceed the applicable water quality standards. Based on the RP analysis, none of the analyzed metals exceeded the most stringent chronic water quality standard or were determined to have a reasonable potential to exceed the standard. A copy of the RP analysis is included at the end of this Fact Sheet.

The permit limitations are listed in the following table:

Parameter	Effluent Limitations *a				
	Monthly Average	Weekly Minimum Average	Weekly Average	Daily Minimum	Daily Maximum
Flow, MGD	21.0	NA	NA	NA	NA
BOD ₅ , mg/L	25	NA	35	NA	NA
BOD ₅ Min. % Removal	85	NA	NA	NA	NA
TSS, mg/L	25	NA	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA	NA
E-Coli, No./100mL	126	NA	157	NA	NA
TRC, mg/L *j	0.013	NA	NA	NA	0.022
Ammonia, mg/L					
Summer (July – September)	3.0	NA	NA	NA	8.0
Fall (Oct – Dec)	4.0	NA	NA	NA	12.0
Winter (Jan – Mar)	5.0	NA	NA	NA	14.0
Spring (Apr – Jun)	3.5	NA	NA	NA	12.0
WET, Chronic Biomonitoring					
January – March	NA	NA	NA	NA	Pass, IC ₂₅ > 95% effluent
April — December	NA	NA	NA	NA	Pass, IC ₂₅ > 94% effluent
Oil & Grease, mg/L	NA	NA	NA	NA	10

pH, Standard Units	NA	NA	NA	6.5	9.0
Dissolved Oxygen (DO), mg/L	NA	6.0	NA	5.0	NA

NA – Not Applicable

Effluent Limitations Changes		
Parameter	Current Annual Average	New Annual Average
Interim Total Phosphorous, mg/L (Effective Jan 1, 2020 – December 31, 2024)	No Limit	3.5 (Interim limit)
Final Total Phosphorous, mg/L, (Effective Jan 1, 2025)	No Limit	1.0 (Final Limit)

SELF-MONITORING AND REPORTING REQUIREMENTS

The self-monitoring requirements stated in the following table and are the same as in the previous permit.

The permit will require reports to be submitted monthly and quarterly, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Lab sheets for biomonitoring must be attached to the biomonitoring DMR.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD ₅ , Influent *d	5 x Weekly	Composite	mg/L
Effluent	5 x Weekly	Composite	mg/L
TSS, Influent *d	5 x Weekly	Composite	mg/L
Effluent	5 x Weekly	Composite	mg/L
E. Coli	5 x Weekly	Grab	No./100mL
TRC	Daily	Grab	mg/L
pH	5 x Weekly	Grab	SU
Total Ammonia (as N)	5 x Weekly	Grab	mg/L
DO	5 x Weekly	Grab	mg/L
WET – Biomonitoring *f	Quarterly	Composite	Pass/Fail
Oil & Grease *e	When Sheen is Observed	Grab	mg/L
Total Dissolved Solids	Monthly	Composite	mg/L
Total Ammonia, *h	Monthly	Composite	mg/L
Orthophosphate, (as P) *h	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L

Phosphorus, Total *h Influent Effluent	Monthly Monthly	Composite Composite	mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N) *h Influent Effluent	Monthly Monthly	Composite Composite	mg/L mg/L
Nitrite-Nitrate, NO3 *h	Monthly	Composite	mg/L
Metals, Influent *g, *i Effluent	Quarterly Quarterly	Grab/Composite Grab/Composite	mg/L mg/L
Organic Toxics, *i	Yearly	Grab	mg/L

- *a See Definitions, *Part VIII*, for definition of terms.
- *b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- *c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- *d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- *e Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- *f In the even calendar years Ceriodaphnia will be tested during the 1st and 3rd quarters and fathead minnows will be tested during the 2nd and 4th quarters. In the odd calendar years fathead minnows will be tested during the 1st and 3rd quarters and Ceriodaphnia will be tested during the 2nd and 4th quarters.
- *g No metal limits are required at this time.
- *h Composite samples shall be 24 hour composites collected by use of an automatic sampler or minimum of four grab samples collected a minimum of two hours apart. Unless the rule regarding sampling for nutrients is changed, then the rule must be followed.
- *i See Part II of this permit for additional requirements regarding sampling for metals and organic toxics.
- *j The TRC limitation will only be applicable if chlorine is being utilized as disinfection on the effluent.

BIOSOLIDS

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

DESCRIPTION OF TREATMENT AND BENEFICIAL USE

The Permittee submitted their 2020 annual biosolids report on February 16, 2021. The report states the Permittee produced 881 dry metric tons (DMT) of solids.

The solids from the primary settlement and activated sludge aeration basins are thickened by dissolved air flotation then stabilized in primary and secondary anaerobic digesters with a mean cell residence time of at least 15 days with a minimum temperature of at least 95° F (35° C).

After stabilization the biosolids are de-watered with a high-speed centrifuge to about twenty one percent solids. The facility still maintains drying beds for storage and back up dewatering when systems are down for maintenance.

The WATRR has been producing on average 940 metric tons (DMT) of Class B biosolids over the last 10 years. But the annual amount is trending upwards with them producing 1003 DMT in 2018 and 1165 DMT in 2019. They will not have to increase the minimum frequency of monitoring until they expect to exceed 1500 DMT annual production. The biosolids met the heavy metals requirements to be considered Exceptional Quality and met Class B pathogen reduction requirements through time and temperature of the anaerobic digesters.

The WATRR beneficially reuses the biosolids through land application at the Farmland Reserve Incorporated farm in Utah County. They also have the ability to transport the biosolids to the South Utah Valley Solid Waste District (SUVSWD).

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.

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 last decade, the WATRR has produced on average 940 DMT of biosolids annually, therefore they need to sample at least four times a year.

Landfill Monitoring

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

BIOSOLIDS LIMITATIONS

Heavy Metals

Class A Biosolids for Home Lawn and Garden Use

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

Class A Requirements With Regards to Heavy Metals

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

Class B Requirements for Agriculture and Reclamation Sites

The intent of the heavy metals regulations of Tables 1, 2 and 3, of *40 CFR 503.13* is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C.* of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites (if biosolids are only applied to land owned by the permittee, the information sheet requirements are waived). If the biosolids are land applied according to the regulations of *40 CFR 503.13*, to any reasonable degree, the Class B biosolids will be able to be land applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

Class B Requirements With Regards to Heavy Metals

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

The maximum heavy metals listed in Table 1 and the heavy metals loading rates in Table 2; or

The maximum heavy metals in Table 1 and the monthly heavy metals concentrations in Table 3.

Tables 1, 2, and 3 of Heavy Metal Limitations

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

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

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

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

³ CPLR -- Cumulative Pollutant Loading Rate

⁴ APLR – Annual Pollutant Loading Rate

⁵ MPN – Most Probable Number

⁶ DWB – Dry Weight Basis.

⁷ CFU – Colony Forming Units

Pathogen Control Class	
503.32 (a)(1) - (5), (7),-(8), Class A	503.32 (b)(1) - (5), Class B
And - Viable helminth ova –less than one (1) per four (4) grams total solids (DWB)	

Class A Pathogen 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. WATRr transfers the biosolids to the Southern Utah Solid Waste District (Permit #ULT-025585) for further processing to Class A through composting prior to distribution to the public.

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.

Class B Pathogen Requirements for Land Application

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP). The WATRr has chosen to achieve a PSRP through Anaerobic Digesters:

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

Vector Attraction Reduction (VAR)

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

1. Under 40 CFR 503.33(b)(1), the solids need to be treated through anaerobic digestion for at least 15 days at a temperature of 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 be retained for a minimum of five years.

Reporting

The WATRR 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 WATRR is required to sample for metals at least four times annually. All biosolids land applied over the last decade have met *Table 3* of *40 CFR 503.13*, therefore the WATRR biosolids qualify as EQ with regards to metals. The monitoring data is summarized below.

WATRR Metals Monitoring Data

Provo Monitoring Data, 2012 - 2020 (Land Application)			
Parameter	Table 3, mg/kg (Exceptional Quality)	Average, mg/kg	Maximum, mg/kg
Arsenic	41	8.8	25
Cadmium	39	2.1	5
Copper	1,500	715.3	891
Lead	300	18.1	27.6
Mercury	17	1.0	1.98
Molybdenum	NA	20.0	42.1
Nickel	420	30.9	287
Selenium	100	21.7	52.8
Zinc	2,800	948.5	1400

PATHOGEN MONITORING DATA

The WATRR is required to monitor the Centrifuge Cake for pathogens at least four times annually

The WATRR had the choice to sample for *fecal* coliform or *salmonella*, and the WATRR chose *fecal* coliform. Each monitoring episode needs to consist of seven samples, for a total 28 samples. All biosolids land applied in 2since 2016 met the Class B pathogen standards through anaerobic digestion and testing. The monitoring data is below.

WATRR Fecal Coliform Monitoring Data 2016 - 2019 (Centrifuge Cake)

Geometric Mean of 28 Samples, Most Probable Number Per Gram	
2019	159658
2018	562829
2017	22066
2016	59988

STORM WATER REQUIREMENTS

As mentioned previously, the Storm Water provisions have been omitted from this UPDES permit. However, based on the type of industrial activities occurring at the facility, the permittee is required to maintain separate permit coverage, or an appropriate exclusion, under the Multi-Sector General Permit (MSGP) for Storm Water Discharges Associated with Industrial Activities (UTR000000). If the facility has not already done so, it has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP, or exclusion documentation. This can be accomplished online at: <https://deq.utah.gov/water-quality/general-multi-sector-industrial-storm-water-permit-updes-permits>.

In addition, separate permit coverage under the Construction General Storm Water Permit (CGP) may be required for any construction at the facility which disturbs an acre or more of land, 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. This can also be accomplished online: <https://deq.utah.gov/water-quality/general-construction-storm-water-updes-permits>.

PRETREATMENT REQUIREMENTS

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

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

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

BIOMONITORING REQUIREMENTS

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

Since the permittee is a major municipal discharger, the renewed permit will again require WET testing. A review of the past three years of WET testing results indicates that no toxicity has been reported. Therefore, the permittee will continue Chronic WET testing using one species quarterly, alternating between *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). The permit will contain the standard requirements for re-testing upon failure of a WET test, and for a Toxicity Reduction Evaluation (TRE) as appropriate.

Chronic toxicity occurs when the survival, growth, or reproduction for either test species, when exposed to a dilution of 95% effluent or lower, is significantly less (at 95% confidence level) than that of the control specimens. The 95% effluent dilution criterion is based upon the waste load analysis and is consistent with previous permit conditions. The permit will also contain a toxicity limitation re-opener provision. This provision allows for modification of the permit at any time to include WET limitations and/or increased WET monitoring, should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

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

Drafted by
Lonnie Shull, Discharge, Biomonitoring
Daniel Griffin, Biosolids
Jennifer Robinson/Sarah Ward Pretreatment
Carl Adams, Storm Water
Nick von Stackelberg, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: April 16, 2021

Ended: May 17, 2021

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

The Public Noticed of the draft permit was published on the Division of Water Quality's website from April 16, 2021 until May 17, 2021. No comments were received during the public comment period.

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

No comments were received during the public comment period.

DWQ-2021-000350

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ATTACHMENT 1

Industrial Waste Survey

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Industrial Pretreatment Wastewater Survey



Do you periodically experience any of the following treatment works problems:

- foam, floaties or unusual colors
- plugged collection lines caused by grease, sand, flour, etc.
- discharging excessive suspended solids, even in the winter
- smells unusually bad
- waste treatment facility doesn't seem to be treating the waste right

Perhaps the solution to a problem like one of these may lie in investigating the types and amounts of wastewater entering the sewer system from industrial users.

An industrial user (IU) is defined as a non-domestic user discharging to the waste treatment facility which meets any of the following criteria:

1. **has a lot of process wastewater (5% of the flow at the waste treatment facility or more than 25,000 gallons per work day.)**

Examples: Food processor, dairy, slaughterhouse, industrial laundry.

2. **is subject to Federal Categorical Pretreatment Standards;**

Examples: metal plating, cleaning or coating of metals, blueing of metals, aluminum extruding, circuit board manufacturing, tanning animal skins, pesticide formulating or packaging, and pharmaceutical manufacturing or packaging,

3. **is a concern to the POTW.**

Examples: septage hauler, restaurant and food service, car wash, hospital, photo lab, carpet cleaner, commercial laundry.

All users of the water treatment facility are **prohibited** from making the following types of discharges:

1. A discharge which creates a fire or explosion hazard in the collection system.
2. A discharge which creates toxic gases, vapor or fumes in the collection system.
3. A discharge of solids or thick liquids which creates flow obstructions in the collection system.
4. An acidic discharge (low pH) which causes corrosive damage to the collection system.
5. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause problems in the collection system or at the waste treatment facility.
6. Waste haulers are prohibited from discharging without permission. (No midnight dumping!)

When the solution to a sewer system problem may be found by investigating the types and amounts of wastewater entering the sewer system discharged from IUs, it's appropriate to conduct an Industrial Waste Survey.

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

Make a list of all the commercial and industrial sewer connections.

Sources for the list:

business license, building permits, water and wastewater billing, Chamber of Commerce, newspaper, telephone book, yellow pages.

Split the list into two groups:

domestic wastewater only--no further information needed
everyone else (IUs)

Step 2: Preliminary Inspection

Go visit each IU identified on the "everybody else" list.

Fill out the **Preliminary Inspection Form** during the site visit.

Step 3: Informing the State

Please fax or send a copy of the Preliminary inspection form (both sides) to:

Jennifer Robinson

Division of Water Quality
288 North 1460 West
PO Box 144870
Salt Lake City, UT 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-mail: jenrobinson@utah.gov

PRELIMINARY INSPECTION FORM

INSPECTION DATE ___ / ___ /

Name of Business _____ Person Contacted _____
Address _____ Phone Number _____

Description of Business _____

Principal product or service: _____

Raw Materials used: _____

Production process is: Batch Continuous Both

Is production subject to seasonal variation? yes no

If yes, briefly describe seasonal production cycle.

This facility generates the following types of wastes (check all that apply):

- | | |
|---|--|
| 1. <input type="checkbox"/> Domestic wastes | (Restrooms, employee showers, etc.) |
| 2. <input type="checkbox"/> Cooling water, non-contact | 3. <input type="checkbox"/> Boiler/Tower blowdown |
| 4. <input type="checkbox"/> Cooling water, contact | 5. <input type="checkbox"/> Process |
| 6. <input type="checkbox"/> Equipment/Facility washdown | 7. <input type="checkbox"/> Air Pollution Control Unit |
| 8. <input type="checkbox"/> Storm water runoff to sewer | 9. <input type="checkbox"/> Other describe |

Wastes are discharged to (check all that apply):

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Sanitary sewer | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Surface water | <input type="checkbox"/> Ground water |
| <input type="checkbox"/> Waste haulers | <input type="checkbox"/> Evaporation |
| <input type="checkbox"/> Other (describe) | |

Name of waste hauler(s), if used

Is a grease trap installed? Yes No

Is it operational? Yes No

Does the business discharge a lot of process wastewater?

Does the business do any of the following:

- | | |
|---|--|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Car Wash |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Carpet Cleaner |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Dairy |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Food Processor |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Hospital |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Laundries |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |
| <input type="checkbox"/> Nonferrous Metals Manufacturing | |
| <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging | |
| <input type="checkbox"/> Paint & Ink Manufacturing | |
| <input type="checkbox"/> Pesticides Formulating or Packaging | |
| <input type="checkbox"/> Petroleum Refining | |
| <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging | |
| <input type="checkbox"/> Plastics Manufacturing | |
| <input type="checkbox"/> Rubber Manufacturing | |
| <input type="checkbox"/> Soaps & Detergents Manufacturing | |
| <input type="checkbox"/> Steam Electric Generation | |
| <input type="checkbox"/> Tanning Animal Skins | |
| <input type="checkbox"/> Textile Mills | |

Are any process changes or expansions planned during the next three years? Yes No
If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Inspector

Waste Treatment Facility

Please send a copy of the preliminary inspection form (both sides) to:

**Jennifer Robinson
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870**

**Phone: (801) 536-4383
Fax: (801) 536-4301
E-Mail: jenrobinson@utah.gov**

	Industrial User	Jurisdiction	SIC Codes	Categorical Standard Number	Total Average Process Flow (gpd)	Total Average Facility Flow (gpd)	Facility Description
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

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ATTACHMENT 2

Wasteload Analysis

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Utah Division of Water Quality

Statement of Basis

ADDENDUM

Wasteload Analysis and Antidegradation Level I Review - FINAL

Facility Upgrade at Current Capacity – Preliminary Intended for Planning Purposes

Date: April 9, 2019

Facility: Provo City Water Reclamation Facility
UPDES No. UT0021717

Receiving water: Mill Race (2B, 3B, 4)

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 001: Mill Race → Provo Bay in Utah Lake

The maximum daily design discharge is 28.0 MGD and the maximum monthly design discharge is 21.0 MGD for the facility.

Receiving Water

The receiving water for Outfall 001 is Mill Race, which is tributary to Provo Bay in Utah Lake.

Per UAC R317-2-13.5.c, the designated beneficial uses for Mill Race from Interstate Highway 15 to the Provo City wastewater treatment plant discharge are 2B, 3B, and 4.

- *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.*
- *Class 3B - Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.*
- *Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

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Wasteload Analysis
Provo City Water Reclamation Facility
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Typically, the critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Due to a lack of flow records for Mill Race, the 20th percentile of flow measurements from sampling station 4996570 Mill Race above Provo WWTP was calculated to estimate annual critical flow in the receiving water (Table 1).

Table 1: Annual critical low flow

Season	Flow (cfs)
Summer	2.0
Fall	2.0
Winter	1.8
Spring	2.0

Protection of Downstream Uses

Per UAC R317-2-8, *all actions to control waste discharges under these rules shall be modified as necessary to protect downstream designated uses.* The effluent limits for the discharge to Mill Race must be protective of downstream uses in Provo Bay and Utah Lake.

TMDL

Mill Race Creek was listed as impaired for benthic macroinvertebrates on the 303(d) list in the 2016 Integrated Report (DWQ, 2016). Utah Lake was listed for harmful algal blooms, total dissolved solids, total phosphorus and PCBs in fish tissue and Provo Bay was listed for pH, total ammonia, total phosphorus and PCBs in fish tissue on the 2016 303(d) list of impaired waterbodies.

The Utah Lake Water Quality Study is ongoing with the objective to develop numeric nutrient criteria for Utah Lake and Provo Bay.

Mixing Zone

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. The discharge is considered instantaneously fully mixed since the effluent discharge is twice the background receiving water flow; therefore, no mixing zone is allowed per UAC R317-2-5.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were total suspended solids (TSS), dissolved oxygen (DO), BOD₅, total phosphorus (TP), total nitrogen (TN), total ammonia (TAN), and pH as determined in consultation with the UPDES Permit Writer.

Water Quality Modeling

A QUAL2Kw model of the receiving water was built and calibrated to synoptic survey data collected by DWQ staff in October and November of 2014 and is documented in the *QUAL2Kw Calibration Report for Mill Race* (DWQ 2019). The model of Mill Race extends 4.2 kilometers

**Utah Division of Water Quality
Wasteload Analysis
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downstream from the treatment facility outfall across I-15 and into Provo Bay.

Ambient receiving water quality data were obtained from monitoring site 4996570 Mill Race above Provo WWTP. The average seasonal value was calculated for each constituent with available data in the receiving water. Effluent parameters were characterized using data from monitoring site 4996560 Provo WWTP.

The QUAL2Kw model was used for determining the WQBELs for parameters related to eutrophication and in-stream DO criteria, as well as ammonia toxicity. Effluent concentrations were adjusted so that water quality standards were not exceeded in the receiving water. Where WQBELs exceeded secondary standards or technology based effluent limits (TBEL), the concentration in the model was set at the secondary standard or TBEL.

The QUAL2Kw model was also used to determine the limits for ammonia. The water quality standard for chronic ammonia toxicity is dependent on temperature and pH, and the water quality standard for acute ammonia toxicity is dependent on pH. QUAL2Kw rates, input and output for DO and eutrophication related constituents are summarized in Appendix A.

A mass balance mixing analysis was conducted for conservative constituents such as dissolved metals. The WQBELs for conservative constituents are summarized in Appendix B.

The calibration and wasteload models are available for review by request.

Whole Effluent Toxicity (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 LC₅₀ (lethal concentration, 50%) percent effluent for acute toxicity and the IC₂₅ (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 LC₅₀ is typically 100% effluent and does not need to be determined by the WLA.

Table 2: WET Limits for IC₂₅

Season	Percent Effluent
Summer	94%
Fall	94%
Winter	95%
Spring	94%

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Ammonia Limits

The water quality criteria for ammonia toxicity are dependent on the temperature and pH of the waterbody. The temperature and pH of the effluent after the proposed plant upgrade were provided by WaterWorks Engineers on behalf of Provo City. If the pH of the effluent is different under the plant upgrade than assumed, the ammonia limits calculated in this WLA will be modified in the future. The chronic ammonia criterion is also dependent on the presence or absence of fish early life stages (ELS). Presence of fish ELS was assumed for all seasons.

In 2013, EPA adopted new criteria for ammonia that are lower than current criteria based on the presence of unionid mussels and nonpulmonate snails. States are required to adopt the criteria or establish alternative, scientifically defensible criteria. For planning purposes, ammonia limits were determined to meet both the current criteria and the most stringent potential future criteria with mussels present (Table 2 and 3). The proposed future criteria with mussels absent are higher than the current criteria with fish ELS present. Therefore, the limits to meet the current criteria are sufficient to meet the potential future criteria with mussels absent and are not repeated in the tables.

As a result of the downstream impairment of Provo Bay, the ammonia limits were not to exceed the limits in the current permit (2016).

Table 2: Ammonia Limits (mg/L) to Meet Acute Ammonia Criteria (1 hour average)

Season	Current 1999 Criteria	2013 EPA Mussels Present
Summer (July-September)	8.0	4.0
Fall (October-December)	12.0	7.5
Winter (January-March)	14.0	11.0
Spring (April-June)	12.0	8.0

Table 3: Ammonia Limits (mg/L) to Meet Chronic Ammonia Criteria (30 day average)

Season	Current 1999 Criteria	2013 EPA Mussels Present
Summer (July-September)	3.0	1.5
Fall (October-December)	4.0	2.0
Winter (January-March)	5.0	2.5
Spring (April-June)	3.5	2.0

Effluent Limits

The effect of the effluent on the DO in the receiving water was evaluated using the QUAL2Kw model. Based on secondary standards for BOD₅ and minimum DO limits, the DO sag downstream of the plant discharge in Mill Race was predicted to remain above the minimum instream criteria (Table 4).

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Table 4: Water Quality Based Effluent Limits Summary

Effluent Constituent	Acute			Chronic		
	Standard	Limit	Averaging Period	Standard	Limit	Averaging Period
Flow (MGD)	N/A	28.0	1 day	N/A	21.0	30 days
Min. Dissolved Oxygen (mg/L)	5.0	5.0	Instantaneous	6.0	6.0	7 days
BOD ₅ (mg/L)	N/A	35.0	7 days	N/A	25.0	30 days

For parameters without a WQBEL, permit limits should be set according to rules found in R317-1-3 and categorical UPDES discharge requirements.

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 since the pollutant concentrations and loads are not being increased from the current permit.

Prepared by: Nicholas von Stackelberg, P.E.
Watershed Protection Section

Files

WLA Document: *provo_potw_wla_upgrade_21mgd_2019-04-09.docx*
QUAL2Kw Calibration Model: *provo_potw_q2kw_cal_2019.xlsm*
QUAL2Kw Wasteload Model: *provo_potw_wla_upgrade_2019_v2.xlsm*

References

Utah 2016 Integrated Report. 2016. Utah Division of Water Quality.
Utah Wasteload Analysis Procedures Version 1.0. 2012. Utah Division of Water Quality.
QUAL2Kw Model Calibration Report for Mill Race. 2019. Utah Division of Water Quality.

WASTELOAD ANALYSIS [WLA]

Date: 4/9/2019

Appendix A: QUAL2Kw Analysis for Eutrophication

Discharging Facility: Provo WWTP
 UPDES No: UT-0021717
 Permit Flow [MGD]: 21.00 Maximum Monthly Flow
 28.00 Maximum Daily Flow

Receiving Water: Mill Race
 Stream Classification: 2B, 3B, 4
 Stream Flows [cfs]: 2.0 Summer (July-Sept) Critical Low Flow
 2.0 Fall (Oct-Dec)
 1.8 Winter (Jan-Mar)
 2.0 Spring (Apr-June)

Acute River Width: 100.0%
 Chronic River Width: 100.0%

Modeling Information

A QUAL2Kw model was used to determine these effluent limits.

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis.
 Dry washes are considered to have an upstream flow equal to the flow of the discharge.

Headwater/Upstream Information	Summer	Fall	Winter	Spring
Flow (cfs)	2.0	2.0	1.8	2.0
Temperature (deg C)	25.0	14.3	9.9	13.9
Specific Conductance (µmhos)	850	882	998	824
Inorganic Suspended Solids (mg/L)	2.9	6.5	10.2	6.1
Dissolved Oxygen (mg/L)	10.6	9.9	12.1	11.2
CBOD ₅ (mg/L)	2.5	2.7	2.7	1.9
Organic Nitrogen (mg/L)	0.376	0.488	0.251	0.263
NH ₄ -Nitrogen (mg/L)	0.030	0.044	0.052	0.051
NO ₃ -Nitrogen (mg/L)	2.366	2.643	2.675	2.011
Organic Phosphorus (mg/L)	0.000	0.000	0.000	0.000
Inorganic Ortho-Phosphorus (mg/L)	0.090	0.082	0.215	0.075
Phytoplankton (µg/L)	0.0	0.0	0.0	0.0
Detritus [POM] (mg/L)	0.3	0.7	1.1	0.7
Alkalinity (mg/L)	294	300	300	261
pH	8.2	8.3	8.5	8.6

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Discharge Information					
Chronic	Summer	Fall	Winter	Spring	
Flow (cfs)	21.0	21.0	21.0	21.0	
Temperature (deg C)	22.1	18.3	13.1	16.2	
Inorganic Suspended Solids (mg/L)	0.0	0.0	0.0	0.0	
Organic Nitrogen (mg/L)	2.000	2.000	2.000	2.000	
NO3-Nitrogen (mg/L)	5.000	5.000	5.000	5.000	
Organic Phosphorus (mg/L)	0.100	0.100	0.100	0.100	
Inorganic Phosphorus (mg/L)	0.900	0.900	0.900	0.900	
Alkalinity (mg/L)	158	141	134	161	
pH	7.2	7.2	7.2	7.2	
Acute	Summer	Fall	Winter	Spring	
Flow (cfs)	28.0	28.0	28.0	28.0	
Temperature (deg C)	22.1	18.3	13.1	16.2	
Inorganic Suspended Solids (mg/L)	0.0	0.0	0.0	0.0	
Organic Nitrogen (mg/L)	2.000	2.000	2.000	2.000	
NO3-Nitrogen (mg/L)	5.000	5.000	5.000	5.000	
Organic Phosphorus (mg/L)	0.000	0.000	0.100	0.100	
Inorganic Phosphorus (mg/L)	0.900	0.900	0.900	0.900	
Alkalinity (mg/L)	158	141	134	161	
pH	7.7	7.7	7.7	7.7	

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort reflect the environmental conditions expected at low stream flows.

Effluent Limitations based upon Water Quality Standards for DO and Ammonia Toxicity

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent limitation as follows:

Chronic	Time Period	Standard	Summer	Fall	Winter	Spring
Flow (MGD)	Monthly	N/A	21.0	21.0	21.0	21.0
NH4-Nitrogen (mg/L)	30 day	Varies	3.0	4.0	5.0	3.5
CBOD ₅ (mg/L)	7 day	N/A	35.0	35.0	35.0	35.0
CBOD ₅ (mg/L)	30 day	N/A	25.0	25.0	25.0	25.0
Dissolved Oxygen [Minimum] (mg/L)	30 day	5.5	6.0	6.0	6.0	6.0
Acute	Time Period	Standard	Summer	Fall	Winter	Spring
Flow (MGD)	Daily	N/A	28.0	28.0	28.0	28.0
NH4-Nitrogen (mg/L)	1 hour	Varies	8.0	12.0	14.0	12.0
Dissolved Oxygen [Minimum] (mg/L)	Instantaneous	5.0	5.0	5.0	5.0	5.0
2013 EPA Ammonia Criteria with Mussels Present						
	Time Period	Standard	Summer	Fall	Winter	Spring
NH4-Nitrogen (mg/L)	1 hour	Varies	4.0	7.5	11.0	8.0
NH4-Nitrogen (mg/L)	30 day	Varies	1.5	2.0	2.5	2.0

Summary Comments

The mathematical modeling and best professional judgement indicate that violations of receiving water beneficial uses with their associated water quality standards, including important downstream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

Utah Division of Water Quality

Coefficients and Other Model Information

<i>Parameter</i>	<i>Value</i>	<i>Units</i>
<i>Stoichiometry:</i>		
Carbon	40	gC
Nitrogen	7.2	gN
Phosphorus	1	gP
Dry weight	100	gD
Chlorophyll	1	gA
<i>Inorganic suspended solids:</i>		
Settling velocity	0.001	m/d
<i>Oxygen:</i>		
Reaeration model	Tsvoglou-Neal	
Temp correction	1.024	
Reaeration wind effect	None	
O2 for carbon oxidation	2.69	gO2/gC
O2 for NH4 nitrification	4.57	gO2/gN
Oxygen inhib model CBOD oxidation	Exponential	
Oxygen inhib parameter CBOD oxidation	0.60	L/mgO2
Oxygen inhib model nitrification	Exponential	
Oxygen inhib parameter nitrification	0.60	L/mgO2
Oxygen enhance model denitrification	Exponential	
Oxygen enhance parameter denitrification	0.60	L/mgO2
Oxygen inhib model phyto resp	Exponential	
Oxygen inhib parameter phyto resp	0.60	L/mgO2
Oxygen enhance model bot alg resp	Exponential	
Oxygen enhance parameter bot alg resp	0.60	L/mgO2
<i>Slow CBOD:</i>		
Hydrolysis rate	0	/d
Temp correction	1.047	
Oxidation rate	0.103	/d
Temp correction	1.047	
<i>Fast CBOD:</i>		
Oxidation rate	10	/d
Temp correction	1.047	
<i>Organic N:</i>		
Hydrolysis	0.95792212	/d
Temp correction	1.07	
Settling velocity	0.069088	m/d
<i>Ammonium:</i>		
Nitrification	0.9821269	/d
Temp correction	1.07	
<i>Nitrate:</i>		
Denitrification	0.85318796	/d
Temp correction	1.07	
Sed denitrification transfer coeff	0.01274	m/d
Temp correction	1.07	
<i>Organic P:</i>		
Hydrolysis	0.45860194	/d
Temp correction	1.07	
Settling velocity	0.006892	m/d
<i>Inorganic P:</i>		
Settling velocity	0.064225	m/d
Sed P oxygen attenuation half sat constant	0.58451	mgO2/L

Utah Division of Water Quality

Phytoplankton:			
Max Growth rate	2.8944	/d	
Temp correction	1.07		
Respiration rate	0.480803	/d	
Temp correction	1.07		
Death rate	0.86518	/d	
Temp correction	1		
Nitrogen half sat constant	15	ugN/L	
Phosphorus half sat constant	2	ugP/L	
Inorganic carbon half sat constant	1.30E-05	moles/L	
Phytoplankton use HCO3- as substrate	Yes		
Light model	Smith		
Light constant	57.6	langleys/d	
Ammonia preference	25.4151	ugN/L	
Settling velocity	0.468545	m/d	
Bottom Plants:			
Growth model	Zero-order		
Max Growth rate	11.11173	gD/m2/d or /d	
Temp correction	1.07		
First-order model carrying capacity	100	gD/m2	
Basal respiration rate	0.1667726	/d	
Photo-respiration rate parameter	0.01	unitless	
Temp correction	1.07		
Excretion rate	0.186706	/d	
Temp correction	1.07		
Death rate	0.687408	/d	
Temp correction	1.07		
External nitrogen half sat constant	205.8336	ugN/L	
External phosphorus half sat constant	161.0464	ugP/L	
Inorganic carbon half sat constant	3.30E-05	moles/L	
Bottom algae use HCO3- as substrate	Yes		
Light model	Smith		
Light constant	82.9662	mgO ² /L	
Ammonia preference	25.72375	ugN/L	
Subsistence quota for nitrogen	28.8914	mgN/gD	
Subsistence quota for phosphorus	2.53193	mgP/gD	
Maximum uptake rate for nitrogen	76.144	mgN/gD/d	
Maximum uptake rate for phosphorus	117.8042	mgP/gD/d	
Internal nitrogen half sat ratio	1.1499745		
Internal phosphorus half sat ratio	3.396379		
Nitrogen uptake water column fraction	1		
Phosphorus uptake water column fraction	1		
Detritus (POM):			
Dissolution rate	2.196361	/d	
Temp correction	1.07		
Settling velocity	0.89671	m/d	
pH:			
Partial pressure of carbon dioxide	370	ppm	

Atmospheric Inputs:	Summer	Fall	Winter	Spring
Min. Air Temperature, F	89.5	49.4	42.5	74.1
Max. Air Temperature, F	61.6	31.4	24.5	48.4
Dew Point, Temp., F	58.6	35.0	30.3	48.5
Wind, ft./sec. @ 21 ft.	6.6	5.2	6.0	7.4
Cloud Cover, %	10%	10%	10%	10%

Other Inputs:	
Bottom Algae Coverage	100%
Bottom SOD Coverage	100%
Prescribed SOD, gO ₂ /m ² /day	0

WASTELOAD ANALYSIS [WLA]

Date: 4/9/2019

Appendix B: Mass Balance Mixing Analysis for Conservative Constituents

Discharging Facility:	Provo WWTP		
UPDES No:	UT-0021717		
Permit Flow [MGD]:	21.00	Maximum Monthly Flow	
	28.00	Maximum Daily Flow	
Receiving Water:	Mill Race		
Stream Classification:	2B, 3B, 4		
Stream Flows [cfs]:	2.0	Summer (July-Sept)	Critical Low Flow
	2.0	Fall (Oct-Dec)	
	1.8	Winter (Jan-Mar)	
	2.0	Spring (Apr-June)	
Acute River Width:	100.0%		
Chronic River Width:	100.0%		

Modeling Information

A simple mixing analysis was used to determine these effluent limits.

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis. Dry washes are considered to have an upstream flow equal to the flow of the discharge.

Headwater/Upstream Information

	7Q10 Flow	
	cfs	
Summer		2.0
Fall		2.0
Winter		1.8
Spring		2.0

Discharge Information

	Flow	
	MGD	
Maximum Daily		28.0
Maximum Monthly		21.0

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort reflect the environmental conditions expected at low stream flows.

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Effluent Limitations for Protection of Recreation (Class 2B Waters)

Parameter	Maximum Concentration
Physical	
pH Minimum	6.5
pH Maximum	9.0
Bacteriological	
E. coli (30 Day Geometric Mean)	206 (#/100 mL)
E. coli (Maximum)	668 (#/100 mL)

Effluent Limitations for Protection of Aquatic Wildlife (Class 3B Waters)

Parameter	Maximum Concentration	
Physical		
Inorganics		
	Chronic Standard (4 Day Average) Standard	Acute Standard (1 Hour Average) Standard
	Limit	Limit
Phenol		0.010 mg/L
Hydrogen Sulfide (Undissociated)		0.002 mg/L

Total Recoverable Metals

Parameter (µg/L)	Chronic Standard (4 Day Average)			Acute Standard (1 Hour Average)		
	Standard ¹	Background ²	Limit	Standard ¹	Background ²	Limit
Aluminum	N/A ³	20.6	N/A	750	20.6	802
Arsenic	150	2.8	164	340	2.8	364
Cadmium	0.5	0.2	0.6	5.6	0.2	6.0
Chromium VI	11.0	2.9	11.8	16.0	2.9	16.9
Chromium III	188	2.9	206	3,931	2.9	4,212
Copper	21.0	3.4	22.7	34.3	3.4	36.5
Cyanide	5.2	3.5	5.4	22.0	3.5	23.3
Iron				1,000	19.3	1,070
Lead	10.7	0.6	11.6	274.2	0.6	294
Mercury	0.012	0.008	0.012	2.4	0.008	2.6
Nickel	117	3.7	127	1,050	3.7	1,124
Selenium	4.6	2.0	4.8	18.4	2.0	19.6
Silver				19.4	9.7	20.1
Tributyltin	0.072	0.048	0.074	0.46	0.048	0.49
Zinc	268	13.0	293	268	13.0	287

1: Based upon a Hardness of 259 mg/l as CaCO₃

2: Background concentration assumed 67% of chronic standard

3: Where the pH is equal to or greater than 7.0 and the hardness is equal to or greater than 50 ppm as CaCO₃ in the receiving water after mixing, the 87 ug/L chronic criterion (expressed as total recoverable) will not apply, and aluminum will be regulated based on compliance with the 750 ug/L acute aluminum criterion (expressed as total recoverable).

Utah Division of Water Quality

Organics [Pesticides]

Parameter (µg/L)	Chronic Standard (4 Day Average)			Acute Standard (1 Hour Average)		
	Standard	Background	Limit	Standard	Background	Limit
Aldrin				1.500	1.000	1.536
Chlordane	0.0043	0.0029	0.0044	1.200	0.003	1.286
DDT, DDE	0.001	0.0007	0.0010	0.550	0.001	0.589
Diazinon	0.17	0.1133	0.175	0.17	0.113	0.174
Dieldrin	0.0056	0.0037	0.0058	0.240	0.004	0.257
Endosulfan, a & b	0.056	0.0373	0.058	0.110	0.037	0.115
Endrin	0.036	0.0240	0.037	0.086	0.024	0.090
Heptachlor & H. epoxide	0.0038	0.0025	0.0039	0.260	0.003	0.278
Lindane	0.08	0.0533	0.08	1.000	0.053	1.068
Methoxychlor				0.030	0.020	0.031
Mirex				0.001	0.001	0.001
Nonylphenol	6.6	4.4	6.8	28.0	4.4	29.7
Parathion	0.0130	0.0087	0.0134	0.066	0.009	0.070
PCB's	0.014	0.0093	0.014			
Pentachlorophenol	15.00	10	15.5	19.000	10.0	19.643
Toxephene	0.0002	0.0001	0.00020635	0.730	0.0001	0.782

Radiological

Parameter	Maximum Concentration
Gross Alpha	15 pCi/L

Effluent Limitation for Protection of Agriculture (Class 4 Waters)

Parameter	Maximum Concentration		
	Standard	Background	Limit
Total Dissolved Solids (mg/L)	1,200	521	1,200 * Utah Lake impaired
Boron (µg/L)	750	110	796
Arsenic (µg/L)	100	2.8	107
Cadmium (µg/L)	10	0.2	10.7
Chromium (µg/L)	100	2.9	107
Copper (µg/L)	200	3.4	214
Lead (µg/L)	100	0.6	107
Selenium (µg/L)	50	2.0	53.4
Gross Alpha (pCi/L)	15	10	15.4

ATTACHMENT 3

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at water Quality. There are four outcomes for the RP Analysis⁸. They are;

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

(REASONABLE POTENTIAL LANGUAGE)

The RP model was run on (metal) using the most recent data back through 2015. This resulted in 22 data points. Reviewing the original dataset showed that there could be at least one outlier in the data by a significant margin, so we contacted the facility to check the validity of the data. The facility provided the original laboratory bench sheets which were checked against the dataset in ICIS. It was revealed that the data had be entered incorrectly into ICIS. Adjustments were made to the data set and RP was run.

The results of the model are that there is not acute and/or chronic Reasonable Potential at 95% confidence, and there is not acute and/or chronic RP at 99% Confidence. This result indicates that the inclusion of an effluent limit for individual metals is not required at this time, and that routine quarterly monitoring requirements for influent and effluent metals should be continued in the permit. (Outcome C from Reasonable Potential Guide)

RP input/output summary

All data points are reported in ug/L.

RP Procedure Output	Outfall Number: 001	
	Data Units: µg/L	
Parameter	Arsenic	Cadmium
Distribution	Lognormal	Lognormal
Reporting Limit	10	10
Significant Figures	2	3
Effluent Data Points	23	23
Maximum Reported Effluent Conc.	1.9	0.5
Coefficient of Variation (CV)	0.279	0.193
Acute Criterion	364	5.08
Chronic Criterion	164	0.6
Confidence Interval	95	95
Projected Maximum Effluent Conc. (MEC)	2.17	0.548
RP Multiplier	1.14	1.1
RP for Acute?	NO	NO
RP for Chronic?	NO	NO
Outcome	C	C

⁸ See Reasonable Potential Analysis Guidance for definitions of terms

RP Procedure Output	Outfall Number: 001 Data Units: µg/L	
Parameter	Chromium	Copper
Distribution	Lognormal	Lognormal
Reporting Limit	10	10
Significant Figures	2	2
Effluent Data Points	23	23
Maximum Reported Effluent Conc.	5	13
Coefficient of Variation (CV)	0.744	0.324
Acute Criterion	4212	36.5
Chronic Criterion	206	22.7
Confidence Interval	95	95
Projected Maximum Effluent Conc. (MEC)	6.88	15.1
RP Multiplier	1.38	1.16
RP for Acute?	NO	NO
RP for Chronic?	NO	NO
Outcome	C	C

RP Procedure Output	Outfall Number: 001 Data Units: ug/L	
Parameter	Cyanide	Lead
Distribution	Lognormal	Lognormal
Reporting Limit	10	0.5
Significant Figures	2	2
Effluent Data Points	14	23
Maximum Reported Effluent Conc.	2	1
Coefficient of Variation (CV)	NA	0.149
Acute Criterion	23.3	294
Chronic Criterion	5.4	11.6
Confidence Interval	95	95
Projected Maximum Effluent Conc. (MEC)	2	1.08
RP Multiplier	1	1.08
RP for Acute?	NO	NO
RP for Chronic?	NO	NO
Outcome	C	C

RP Procedure Output	Outfall Number: 001 Data Units: µg/L	
Parameter	Mercury	Mercury (Outlier Removed)
Distribution	Lognormal	Lognormal
Reporting Limit	0.0001	0.0001
Significant Figures	2	2
Effluent Data Points	23	23
Maximum Reported Effluent Conc.	0.5	0.005
Coefficient of Variation (CV)	3.77	1.19
Acute Criterion	2.4	2.4
Chronic Criterion	0.012	0.012
Confidence Interval	95	95
Projected Maximum Effluent Conc. (MEC)	0.024	0.00846
RP Multiplier	2	1.69
RP for Acute?	NO	NO
RP for Chronic?	YES	NO
Outcome	A	C

*The EPA ProUCL model was used to evaluate the data for outliers.

Dixon's Outlier Test for Mercury	
Number of Observations = 23	Observation Value 0.5 µg/L is a Potential Outlier (Upper Tail)?
Test Statistic = 0.990	
10% Critical Value = 0.374	For 10% significance level, 0.5 µg/L is an outlier.
5% Critical Value = 0.421	For 5% significance level, 0.5 µg/L is an outlier.
1% Critical Value = 0.505	For 1% significance level, 0.5 µg/L is an outlier.

RP Procedure Output	Outfall Number: 002 Data Units: ug/L	
Parameter	Nickel	Selenium
Distribution	Lognormal	Lognormal
Reporting Limit	10	10
Significant Figures	2	2
Effluent Data Points	23	23
Maximum Reported Effluent Conc.	6.4	2.1
Coefficient of Variation (CV)	0.425	0.272
Acute Criterion	1124	19.6
Chronic Criterion	127	4.8
Confidence Interval	95	95
Projected Maximum Effluent Conc. (MEC)	7.86	2.39
RP Multiplier	1.23	1.14
RP for Acute?	NO	NO
RP for Chronic?	NO	NO
Outcome	C	C

RP Procedure Output	Outfall Number: 001 Data Units: ug/L	
Parameter	Silver	Zinc
Distribution	Lognormal	Lognormal
Reporting Limit	10	10
Significant Figures	2	2
Effluent Data Points	23	23
Maximum Reported Effluent Conc.	0.58	70
Coefficient of Variation (CV)	0.031	0.557
Acute Criterion	20.1	287
Chronic Criterion	NA	293
Confidence Interval	95	95
Projected Maximum Effluent Conc. (MEC)	0.589	89.9
RP Multiplier	1.02	1.28
RP for Acute?	NO	NO
RP for Chronic?	NO	NO
Outcome	C	C

Metals Monitoring and RP Check

See Attached Worksheets

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ATTACHMENT 4

Antidegradation Level II Form



UPDES Municipal (POTW) Permit Application

Part I. General Information (40 CFR 122.21(j)(1) and (9))

UPDES Permit No.: UT0021717

Facility Name: Provo Water Advanced Treatment and Resource Recovery (WATRR)

Facility Location: 1685 South East Bay Boulevard
 City Provo State Utah Zip 84606

Facility Mailing Address: 1377 South 350 East
 City Provo State Utah Zip 84606

Facility Contact: Mark Ogren Title: Section Manager

Phone Number: 801-376-4011 Email Address: mogren@provo.org

Name of Signatory: Gary Calder Title: Water Resource Manager

Is the applicant the facility owner, operator or both? (check only one response.)

- Owner Operator Both

Indicate below any existing environmental permits. (Check all that apply and type the corresponding permit number for each.)

- RCRA (hazardous waste) UIC (underground injection control) PSD (air emissions)
- Nonattainment program (CAA) NESHAPs (CAA) Dredge or fill (CWA Section 404)
- Other (specify) Biosolids UTL-021717 Storm Water UTL-000000

Nature of Business CFR (40 CFR 122.21(f)(8))

Describe the nature of your business

Treat 11.6 MGD of commercial, industrial and residential waste water from Provo City. Neighbouring Orem City has 152 residential and six (6) commercial connections to Provo's system, there is one (1) industrial connection from Utah County. Water is treated to a standard for Recreation 2B-Secondary Contact, 3B-Warm Water Aquatic Life, 4-Agricultural Irrigation water supply. Treated waste water is discharge through one out-fall (001) to receiving stream, Mill Race which flows through East Bay Golf Course to Provo Bay then in to Utah Lake. Provo City is requesting a reduction in Effluent sampling and monitoring. Provo has maintained 100% compliance for 10 years. All UPDES Permit parameters continue to be significantly lower than effluent limitations. Please consider Provo's request, our staff would invite further discussion with DWQ permit writer.



UPDES Municipal (POTW) Permit Application

Part II. Facility Information

Population served? 122,971

Design and Actual Flow Rates

Provide design and actual flow rates in designated spaces.

Design Flow Rate	
21	mgd

Annual Average Flow Rates (Actual)					
Five Years Ago		Four Years Ago		Three Years Ago	
10.9	mgd	11.4	mgd	12.4	mgd
Two Years Ago		Last Year		Current Year	
11.1	mgd	11.6	mgd	6-Mo. Ave	mgd

Maximum Daily Flow Rates (Actual)					
Five Years Ago		Four Years Ago		Three Years Ago	
13.2	mgd	13.9	mgd	15.5	mgd
Two Years Ago		Last Year		Current Year	
15.0	mgd	13.8	mgd	12.3	6-Mo. mgd

Describe the treatment for each outfall

	Outfall No. <u>001</u>	Outfall No. _____	Outfall No. _____
Highest Level of Treatment (check all that apply per outfall)	<input checked="" type="checkbox"/> Primary <input checked="" type="checkbox"/> Equivalent to secondary <input checked="" type="checkbox"/> Secondary <input checked="" type="checkbox"/> Advanced <input type="checkbox"/> Other (specify) _____	<input type="checkbox"/> Primary <input type="checkbox"/> Equivalent to secondary <input type="checkbox"/> Secondary <input type="checkbox"/> Advanced <input type="checkbox"/> Other (specify) _____	<input type="checkbox"/> Primary <input type="checkbox"/> Equivalent to secondary <input type="checkbox"/> Secondary <input type="checkbox"/> Advanced <input type="checkbox"/> Other (specify) _____
Design Removal Rates by Outfall			
BOD ₅	85 %	%	%
TSS	85 %	%	%
Phosphorus	<input checked="" type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %
Nitrogen	<input checked="" type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %
Other (specify)	<input checked="" type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %



UPDES Municipal (POTW) Permit Application

Part II. Facility Information *continued*

Does the POTW use chlorine for disinfection, use chlorine elsewhere in the treatment process, or otherwise have reasonable potential to discharge chlorine in its effluent? YES NO

Describe the type of disinfection used for the effluent for each outfall. If disinfection varies by season, describe below.

Chlorine can be used to control irregularly filaments in the activated sludge process. Remove algae from secondary clarifier weirs. Control organisms, bacteria and/or organic build up in gravity filters. Chlorine can also be used as an alternate disinfection during emergency, if ultraviolet disinfection system fails.

	Outfall No. <u>001</u>	Outfall No. _____	Outfall No. _____
Disinfection type	Ultraviolet		
Seasons used	Ultraviolet		
Dechlorination used?	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Not applicable <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Not applicable <input type="checkbox"/> Yes <input type="checkbox"/> No

MAP: Attach a USGS topographic map or aerial photo extending one mile beyond the property boundaries of the site, the facility or activity boundaries, any treatment area(s), outfall(s), major drainage patterns, and the receiving surface waters stated above.

Map Attached



UPDES Municipal (POTW) Permit Application

Part II. Facility Information *continued*

Are improvements to the facility scheduled?

YES If YES, explain below.

NO If NO, Skip to Part III

Briefly list and describe the schedule improvements.

1.
Primary Digester heat exchangers, Boiler water tank, Gas flare

2.
 Sludge Thickening, Dissolved Air Flotation, Dewatering, Primary sludge/scum pumps, Struvite control

3.
Secondary Fine Screening, Intermediate pumps, Equalization, Odor Control

4.
Biological Nutrient Removal, Membranes, Blowers, Compressors, Chemical Storage

Provide scheduled or actual dates of completion for improvements.

Scheduled or Actual Dates of Completion for Improvements

Scheduled Improvement (from above)	Affected Outfalls (list outfall number)	Begin Construction (MM/DD/YYYY)	End Construction (MM/DD/YYYY)	Begin Discharge (MM/DD/YYYY)	Attainment of Operational Level (MM/DD/YYYY)
1. 12/31/2024	001	08/01/2020	12/31/2024	06/01/2024	12/31/2024
2.					
3.					
4.					



UPDES Municipal (POTW) Permit Application

Part III. Sampling Information

Provide all parameter sampling data with analytical results, reporting limit and any laboratory flags on an Excel spreadsheet. *An Excel Spreadsheet will be provided upon request.*

Has WET testing been conducted during the last 5 years? YES NO

Indicate the acute and chronic WET tests (PASS or FAIL) results for the past 5 years. If no WET testing for the quarter, then leave blank (e.g., for semi-annual or annual testing or missed testing events).

Year	Outfall No. <u>001</u>		Outfall No. _____		Outfall No. _____							
	Acute	Chronic	Acute	Chronic	Acute	Chronic						
2016	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
2017	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
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	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
2018	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
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2019	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
2020	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 1	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 2	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 3	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL	Qtr 4	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL

Describe any cause(s) of toxicity:

Due to Provo City's excellent history (10 plus yrs. Two permit cycles) of Passing their Chronic Whole Effluent Toxicity (WET) Testing. Provo is requesting a reduction in sampling and monitor frequency. Provo is requesting that Chronic WET monitoring be reduced to semiannual with alternating species. Species shall include Ceriodaphnia dubia and Pimephales promelas (fathead minnows).



UPDES Municipal (POTW) Permit Application

Part IV. Compliance Information

Has the facility had an parameter exceedances over the past five years? YES NO

If Yes, provide the below information:

Parameter	Exceedance	Month/Year	Cause
N/A	N/A		



UPDES Municipal (POTW) Permit Application

Part V. Outfalls and Receiving Water(s)

Provide the latitude and longitude to the nearest second for each dewatering outfall. The specified location should be after all treatment and before release to the receiving water. Provide the name of the initial receiving water. If the initial receiving water is unnamed, please also indicate the closed named drainage the receiving water flows into (i.e. unnamed tributary of City Creek). Attach additional sheets if necessary for more outfalls.

Each outfall to a different receiving water segment is subject to additional application fees and annual fees.

Outfall No.	Average daily flow rate	Latitude	Longitude	Receiving Surface Waters (Name)
001	11.6 mgd	40 ^o 12 ' 45 "	111 ^o 39 ' 00 "	Mill Race
	mgd	o ' "	o ' "	
	mgd	o ' "	o ' "	

Do any of the outfalls described above have a season or periodic discharges?

YES NO

If so, provide the following information for each applicable outfall.

	Outfall No. <u>001</u>	Outfall No. _____	Outfall No. _____
Number of times per year discharges occurs	N/A		
Average duration of each discharge (specify units)	N/A		
Average flow of each discharge	N/A mgd	mgd	mgd
Months in which discharge occurs	N/A		

Part VI. Collection System

Service Area(s)
Provo City
Orem City
Utah County

Population Served
122,971
790
250

Miles of Pipe
308
1.9
2.0

Total Population Served

124,011

Total Miles of Pipe

311.9

USMP Program implemented? YES NO



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information

Does the facility have an approved pretreatment program? YES NO

If YES, skip to next section

If No, complete the below industrial user forms and inspections as needed.

A. Industrial Pretreatment Wastewater Survey

Check any of the following that have occurred in the past five years either at the wastewater treatment plant or in the collection system:

- Foaming
- Unusual colors
- Plugged collection lines caused by grease
- Plugged collection lines caused by sand
- Plugged collection lines caused by other debris
- Discharging of excessive BOD
- Discharging of excessive suspended solids
- Smells unusually bad or unusual smells
- Upsets of the treatment plant due to unknown conditions

Does the facility have any industrial users (IUs) which meet any of the following criteria:

1. Has a lot of process wastewater (5% of the flow at the waste treatment facility or more than 25,000 gallons per work day.)

a. Examples: food processor, dairy, slaughterhouse, industrial laundry.

YES NO

1. Is subject to federal categorical pretreatment standards;

a. Examples: metal plating, cleaning or coating of metals, blueing of metals, aluminum extruding, circuit board manufacturing, tanning animal skins, pesticide formulating or packaging, and pharmaceutical manufacturing or packaging,

YES NO

2. Is a concern to the POTW.

a. Examples: septage hauler, restaurant and food service, car wash, hospital, photo lab, carpet cleaner, commercial laundry.

YES NO

Do any users of the water treatment facility caused any of the following to occur:

- YES NO A discharge which creates a fire or explosion hazard in the collection system.
- YES NO A discharge which creates toxic gases, vapor or fumes in the collection system.
- YES NO A discharge of solids or thick liquids which creates flow obstructions in the collection system.
- YES NO An acidic discharge (low pH) which causes corrosive damage to the collection system.
- YES NO Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause problems in the collection system or at the waste treatment facility.
- YES NO Waste haulers are prohibited from discharging without permission.
- YES NO Does the facility believe that illegal dumping is occurring in the jurisdiction?



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date See Attachment Pretreatment Permitted I.U. List Inspection Time _____
 Name of Business _____ Person Contacted _____
 Street Address _____ City _____
 Email Address _____ Phone Number _____

Description of Business:

Principal product or service:

Raw Materials used:

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|---|--|
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input type="checkbox"/> Sanitary sewer | <input type="checkbox"/> Waste haulers |
| <input type="checkbox"/> Other (describe below) | |

Name of waste hauler(s), if used

Is a grease trap installed? Yes No
 Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|---|---|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
 Pretreatment Coordinator
 Division of Water Quality
 P. O. Box 144870
 Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
 Fax: (801) 536-4301
 E-Mail: jenrobinson@utah.gov



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Either list all businesses below or provide a list of business licenses issued in the facilities service area.

	Name of Business	Jurisdiction	SIC Codes	Total Average Process Flow (gpd)	Total Average Facility Flow (gpd)	Facility Description (dentist, manufacturing [state product], dairy, assisted living facility, etc.)
1	See Attachment					
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						



UPDES Municipal (POTW) Permit Application

Part VIII. Biosolids Information

Was the Biosolids Annual Report submitted? YES NO

Attach a Biosolids Management Plan with application

Serve Connections?

Provide the total dry metric tons per the latest 365-day period of sewage sludge generated, treated, used and disposed of:

Practice	Dry Metric Tons per 365-day Period
Amount generated at the facility	1153
Amount treated at the facility	1153
Amount used (i.e., received from offsite) at the facility	0
Amount disposed of at the facility	0

Treatment Provided at Your Facility

Identify the treatment process(es) used at your facility to reduce pathogens in sewage sludge

- | | |
|--|--|
| <input type="checkbox"/> Preliminary operations (e.g., sludge grinding and degritting) | <input checked="" type="checkbox"/> Thickening (concentration) |
| <input type="checkbox"/> Stabilization | <input checked="" type="checkbox"/> Anaerobic digestion |
| <input type="checkbox"/> Composting | <input type="checkbox"/> Conditioning |
| <input type="checkbox"/> Disinfection | <input checked="" type="checkbox"/> Dewatering (e.g. centrifugation, sludge drying beds, sludge lagoons) |
| <input type="checkbox"/> Heat drying | <input type="checkbox"/> Thermal reduction |
| <input type="checkbox"/> Methane or biogas capture and recovery | |

Sewage Sludge Disposal Method

Land Application of Bulk Sewage Sludge

Is sewage sludge from your facility applied to the land? YES NO If No, Skip to next section

Total dry metric tons per 365-day period of sewage sludge applied to all land sites:

Surface Disposal

Is sewage sludge from your facility placed on a surface disposal site? YES NO If No, Skip to next section

Total dry metric tons of sewage sludge from your facility placed on all surface disposal sites per 365-day period: 1153 DMT

Do you own or operate all surface disposal sites to which you send sewage sludge for disposal? YES NO If No, complete the below information

Surface disposal site *you do not operate*

Site name Elberta Valley Ag. / Farmland Reserve, Inc. P.O. Box 10

Mailing address _____

City Elberta State UT Zip 84626

Contact Name Merril West Title Manager

Phone Number 801-420-3474 Email Address MWest@elbertavalleyag.com



UPDES Municipal (POTW) Permit Application

Part VIII. Bisolids Information *continued*

Incineration

Is sewage sludge from your facility fired in a sewage sludge incinerator?

YES NO If No, Skip to next section

Total dry metric tons of sewage sludge from your facility fired in all sewage sludge incinerators per 365-day period: N/A

Do you own or operate all sewage sludge incinerators in which sewage sludge from facility is fired?

YES NO If No, complete the below information

Incinerator location *you do not operate*

Site name N/A

Mailing address _____

City _____ State _____ Zip _____

Contact Name _____ Title _____

Phone Number _____ Email Address _____

Disposal in a Municipal Solid Waste Landfill

Is sewage sludge from your facility placed on a municipal solid waste landfill?

YES NO If No, Skip to next section

Total dry metric tons of sewage sludge from your facility placed in this municipal solid waste landfill per 365-day period: 2019 - 0 DMT

Do you own or operate the municipal solid waste landfill in which sewage sludge is disposed?

YES NO If No, complete the below information

Municipal Solid Waste Landfill *you do not operate*

Site name South Utah Valley Solid Waste District (North Point)

Mailing address 2450 West 400 South

City Springville State UT Zip 84663

Contact Name Terry Ficklin Title Manager

Phone Number 801-489-3027 Email Address TFicklin@SUVSWD.ORG



UPDES Municipal (POTW) Permit Application

Part IX. Reuse Information

Is wastewater applied to land?

YES NO If YES, complete the below information.

Land Application Site and Discharge Data			
Location	Size	Average Daily Volume Applied	How often
N/A	acres	gpd	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
	acres	gpd	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
	acres	gpd	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

Seasonal land application.

Indicate months of seasonal land application

- | | | | |
|-----------------------------------|--------------------------------|------------------------------------|-----------------------------------|
| <input type="checkbox"/> January | <input type="checkbox"/> April | <input type="checkbox"/> July | <input type="checkbox"/> October |
| <input type="checkbox"/> February | <input type="checkbox"/> May | <input type="checkbox"/> August | <input type="checkbox"/> November |
| <input type="checkbox"/> March | <input type="checkbox"/> June | <input type="checkbox"/> September | <input type="checkbox"/> December |

Where is the Reuse water distributed

- Residential irrigation
- Urban uses
 - Non-residential landscape irrigation
 - Golf course irrigation
 - Toilet flushing
 - Fire protection
- Irrigation of food crops (direct contact with edible part) – spray irrigation
- Irrigation of food crops (*Non direct contact with edible part*) – no spray irrigation
- Irrigation
 - Sod farms
 - Silviculture
 - Limited access highway rights of way
 - Other areas where human access is restrict or unlikely to occur
- Irrigation of animal feed crops other than pasture for milking animals
- Impoundment of wastewater where direct human contact is not allowed or is unlikely to occur
- Cooling water
- Soil compaction or duct control in construction areas
- Other

Attached an updated Reuse Project Plan

An updated Reuse Project Plan is required during every permit renewal.



UPDES Municipal (POTW) Permit Application

Part X. Antidegradation Review

The objective of antidegradation rules and policies is to protect existing high quality waters and set forth a process for determining where and how much degradation is allowable for socially and/or economically important reasons. In accordance with Utah Administrative Code (UAC R317-2-3), an antidegradation review (ADR) is a permit requirement for any project that will increase the level of pollutants in waters of the state. The rule outlines requirements for both Level I and Level II ADRs, as well as public comment procedures. This review form is intended to assist the applicant and Division of Water Quality (DWQ) staff in complying with the rule but is not a substitute for the complete rule in R317-2-3.5. Additional details can be found in the *Utah Antidegradation Implementation Guidance* and relevant sections of the guidance are cited in this review form.

ADRs should be among the first steps of an application for a UPDES permit because the review helps establish treatment expectations. The level of effort and amount of information required for the ADR depends on the nature of the project and the characteristics of the receiving water. To avoid unnecessary delays in permit issuance, DWQ recommends that the process be initiated at least one year prior to the date a final approved permit is required.

DWQ will determine if the project will impair beneficial uses (Level I ADR) using information provided by the applicant and whether a Level II ADR is required. The applicant is responsible for conducting the Level II ADR. For the permit to be approved, the Level II ADR must document that all feasible measures have been undertaken to minimize pollution for socially, environmentally or economically beneficial projects resulting in an increase in pollution to waters of the state.

For permit requiring a Level II ADR, this antidegradation form must be completed and approved by DWQ before any UPDES permit can be issued. Typically, the ADR form is completed in an iterative manner in consultation with DWQ. The applicant should first complete the statement of social, environmental and economic importance (SEEI) in Section C and determine the parameters of concern (POC) in Section D. Once the POCs' are agreed upon by DWQ, the alternatives analysis and selection of preferred alternative Section E can be conducted based on minimizing degradation resulting from discharge of the POCs. Once the applicant and DWQ agree upon the preferred alternative, the review is considered complete, and the form is submitted to DWQ.

What are the designated uses of the receiving water (R317-2-6)?

- Domestic Water Supply
- Recreation
- Aquatic Life
- Agricultural Water Supply
- Great Salt Lake

Antidegradation Category 1, 2 or 3 of receiving water (R317-2-3.2, -3.3, and -3.4):

2B-Secondary Contact, 3B-Warm Water Aquatic Life,
4-Agricultural Irrigation & Stock Watering



UPDES Municipal (POTW) Permit Application

Part X. Antidegradation Review *continued*

Effluent flow reviewed: *typically, this should be the maximum daily discharge at the design capacity of the facility. Exceptions should be noted.*

Design Flow Criteria MGD:

Ave. Annual 18.5, Ave. Peak 21,
Ave Daily Peak 26, Max. Hydraulic 42.

See Attached Antidegradation Review Form

What is the application for? (Check all that apply)

- A UPDES permit for a new facility, project, or outfall.
- A UPDES permit renewal with an expansion of modification of an existing wastewater treatment works.
- A UPDES permit renewal requiring limits for a pollutant not covered by the previous permit and/or an increase to existing permit limits.
- A UPDES permit renewal with no charges in facility operations.

Section B. Is a Level II ADR required?

This section of the form is intended to help applicants determine if a Level II ADR is required for specific permitted activities. In addition, the Executive Secretary may require a Level II ADR for an activity with the potential for major impact on the quality of waters of the state (R317-2-3.5a.1).

B1. The UPDES permit is new or is being renewed and the proposed effluent concentration and loading limits are higher than the concentration and loading limits in the previous permit and any previous antidegradation review(s).

- YES – (Proceed to B3 of the Form)
- NO – No Level II ADR is required and there is no need to proceed further with the review questions. Continue to the Certification Statement and Signature page.

B2. Will any pollutants use assimilative capacity of the receiving water, i.e. do the pollutant concentrations in the effluent exceed those in the receiving waters at critical conditions? For most pollutants, effluent concentrations that are higher than the ambient concentrations require an antidegradation review? For a few pollutants such as dissolved oxygen, and antidegradation review is required if the effluent concentrations are less than the ambient concentrations in the receiving water. (Section 3.3.3 of Implementation Guidance)

- YES – (Proceed to B4 of the Form)
- NO – No Level II ADR is required and there is no need to proceed further with the review questions. Continue to the Certification Statement and Signature page.



UPDES Municipal (POTW) Permit Application

Part X. Antidegradation Review *continued*

B3. Are water quality impacts of the proposed project temporary and limited (Section 3.3.4 of Implementation Guidance)? Proposed projects that will have temporary and limited effects on water quality can be exempted from a Level II ADR.

- YES – Identify the reason used to justify this determination if B4.1 and proceed to Section G. No Level II ADR is required.
- NO – A Level II ADR is required (Proceed to Section C)

B3.1 Complete this question only if the applicant is requesting a Level II review exclusion for temporary and limited projects (See R317-2-3.5(b)(3) and R317-2-3.5(b)(4)). For projects requesting a temporary and limited exclusion please indicate the factor(s) used to justify this determination (check all that apply and provide details as appropriate) (Section 3.3.4 of Implementation Guidance):

- Water quality impacts will be temporary and related exclusively to sediment or turbidity and fish spawning will not be impaired.

Factors to be considered in determining whether water quality impacts will be temporary and limited:

- a) The length of time during which water quality will be lowered:
- b) The perfect change in ambient concentrations of pollutants:
- c) Pollutants affected:
- d) Likelihood for long-term water quality benefits:
- e) Potential for any residual long-term influences on existing uses:
- f) Impairment of fish spawning, survival and development of aquatic fauna excluding fish removal efforts:

Additional justification, as needed:



UPDES Municipal (POTW) Permit Application

Part X. Antidegradation Review *continued*

Level II ADR

Section C, D, E, and F of the form constitute the Level II ADR Review. The applicant must provide as much detail as necessary for DWQ to perform the antidegradation review. Questions are provided for the convenience of applicants; however, for more complex permits it may be more effective to provide the required information in a separate report. Applicants that prefer a separate report should record the report name here and proceed to Section G of the form.

Option Report Name: _____

Section C. Is the degradation from the project socially and economically necessary to accommodate important social or economic development in the area in which the waters are located? *The applicant must provide as much detail as necessary for DWQ to concur that the project is socially and economically necessary when answering the questions in the section. More information is available in Section 6.2 of the Implementation Guidance.*

C1. Describe the social and economic benefits that would be realized through the proposed project, including the number and nature of jobs created and anticipated tax revenues.

C2. Describe any environmental benefits to be realized through implementation of the proposed project.

Reduction in effluent phosphorus, which reduces loadings to Provo Bay and Utah Lake. All current permit parameters will continue being met. BOD, TSS, E-Coli, Ammonia, Toxicity, Oil & Grease, pH, Dissolved Oxygen.

C3. Describe any social and economic losses that may result from the project, including impacts to recreation or commercial development.

Reduction of phosphorus to the water body may reduce alga blooms. Reducing cyanobacteria will increase recreation. More appealing water body may increase development around the lake shore.

C4. Summarize any supporting information from the affected communities on preserving assimilative capacity to support future growth and development.



UPDES Municipal (POTW) Permit Application

Part X. Antidegradation Review *continued*

C5. Please describe any structures or equipment associated with the project that will be placed within or adjacent to the receiving water.

No new facilities will be constructed near the receiving waters.

C6. Will the discharge potentially impact a drinking water source, e.g., Class 1C waters? Depending upon the locations of the discharge and its proximity to downstream drinking water diversions, additional treatment or more stringent effluent limits or additional monitoring, beyond that which may otherwise be required to meet minimum technology standards or in stream water quality standards, may be required by the Director in order to adequately protect public health and the environment (R317-2-3.5 d.).

YES

NO

Section D. Identify and rank (from increasing to decreasing potential threat to designated uses) the parameters of concern. Parameters of concern are parameters in the effluent at concentrations greater than ambient concentrations in the receiving water. The applicant is responsible for identifying parameter concentrations in the effluent and DWQ will provide parameter concentrations for the receiving water. More information is available in Section 3.3.3 of the Implementation Guidance.

Parameters of Concern:

Rank	Pollutant	Ambient Concentration	Effluent Concentration
1. N/A			
2.			
3.			
4.			
5.			



UPDES Municipal (POTW) Permit Application

Part X. Antidegradation Review *continued*

Pollutants Evaluated that are not Considered Parameters of Concern:

Pollutant	Ambient Concentration	Effluent Concentration	Justification
1.			
2.			
3.			
4.			
5.			

Section E. Alternative Analysis Requirements of Level II Antidegradation Review. *Level II ADRs require the applicant to determine whether there are feasible less-degrading alternatives to the proposed project. More information is available in Section 5.5 and 5.6 of the Implementation Guidance.*

E1. The UPDES permit is being renewed without any changes to flow or concentrations. Alternative treatment and discharge options including changes to operations and maintenance were considered and compared to the current processes. NO economically feasible treatment or discharge alternatives were identified that were not previously considered for any previous antidegradation review(s).

- YES – (Proceed to Section F)
- NO or Does Not Apply (Proceed to E2)

E2. Attach as an appendix to this form a report that describes that following factors for all alternative treatment options (see 1) a technical descriptions of the treatment process, including construction costs and continued operation and maintenance expenses, 2) the mass and concentration of discharge constituents, and 3) a description of the reliability of the system, including the frequency where recurring operation and maintenance may lead to temporary increases in discharged pollutants. Most of this information is typically available from a Facility Plan, if available.

Report Name: _____

E3. Describe the proposed method and cost of the baseline treatment alternative. The baseline treatment alternative is the minimum treatment required to meet water quality based effluent limits (WQBEL) as determined by the preliminary or final wasteload analysis (WLC) and any secondary or categorical effluent limits.



UPDES Municipal (POTW) Permit Application

Part X. Antidegradation Review *continued*

E4. Were any of the following alternatives feasible and affordable?

Alternative	Feasible	Reason Not Feasible/Affordable
Pollutant Trading	<input type="checkbox"/> YES <input type="checkbox"/> NO	N/A
Water Recycling/Reuse	<input type="checkbox"/> YES <input type="checkbox"/> NO	"
Land Application	<input type="checkbox"/> YES <input type="checkbox"/> NO	"
Connection to Other Facilities	<input type="checkbox"/> YES <input type="checkbox"/> NO	"
Upgrade to Existing Facility	<input type="checkbox"/> YES <input type="checkbox"/> NO	"
Total Containment	<input type="checkbox"/> YES <input type="checkbox"/> NO	"
Improved O&M of Existing Systems	<input type="checkbox"/> YES <input type="checkbox"/> NO	"
Seasonal or Controlled Discharge	<input type="checkbox"/> YES <input type="checkbox"/> NO	"
New Construction	<input type="checkbox"/> YES <input type="checkbox"/> NO	"
No Discharge	<input type="checkbox"/> YES <input type="checkbox"/> NO	"

E5. From the applicant's perspective, what is the preferred treatment option?

See Attached Antidegradation Review Forms



UPDES Municipal (POTW) Permit Application

Part X. Antidegradation Review *continued*

E6. Is the preferred option also the least polluting feasible alternative?

- YES NO

If No, what were less degrading feasible alternative(s)?

[Empty text box for less degrading feasible alternative(s)]

If No, provide a summary of the justification for not selecting the least polluting feasible alternative and if appropriate, provide a more detailed justification as an attachment.

[Empty text box for justification summary]

Section F. Optional Information

F1. Does the applicant want to conduct optional public review(s) in addition to the mandatory public review? Level II ADRs are public noticed for a thirty day comment period. More information is available in Section 3.7.1 of the Implementation Guidance.

- YES NO

F2. Does the project include an optional mitigation plan to compensate for the proposed water quality degradation?

- YES NO

Report Name: _____



UPDES Municipal (POTW) Permit Application

Part XI. Certification Statement and Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with 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 of knowing violations.

Gary E. Calder [Signature] Provo City Water Resource Director 8-24-2020
PRINT Signatory Authority Signature Title Date

The Division of Water Quality may request additional information.

Important: The UPDES Permit Application will not be considered complete unless you answer every question. If an item does not apply to you, enter "Not Applicable" to show that you considered the question.

The UPDES Permit Application, must be signed as follows:

- 1) For a corporation, a responsible corporate officer shall sign the NOT, 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, if
 - i. The manager is authorized to make management decisions that 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 statutes and regulations;
 - ii. The manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and
 - iii. Authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- 2) For a partnership or sole proprietorship, the general partner or the proprietor, respectively; or
- 3) For a municipality, state or other public agency, either a principal executive officer or ranking elected official shall sign the application; in this subsection, a principal executive officer of any agency means:
 - 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 or division of the agency.

Where to File the UPDES Permit Application form:

Please submit the original form with a signature in ink to the below address. Remember to retain a copy for your records.

UPDES sent by mail:

**Division of Water Quality
195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870**

OFFICE USE ONLY

Date received: ___ / ___ / ___ Received by: _____ Document No: _____
via: Email Fax Webportal Mail Hand Delivery



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Either list all businesses below or provide a list of business licenses issued in the facilities service area.

	Name of Business	Jurisdiction	SIC Codes	Total Average Process Flow (gpd)	Total Average Facility Flow (gpd)	Facility Description (dentist, manufacturing [state product], dairy, assisted living facility, etc.)
1	BYU Dairy Processing Lab	Provo City	2022, 2024, 2026	5100	5100	Dairy products.
2	Duncan Aviation	Provo City	3721, 4581	Zero Discharge	200	Aircraft maintenance and painting.
3	Fort Dearborn	Provo City	2672	60	289	Print shop.
4	Industrial Plating	Provo City	3471	3643	3643	Plater/Anodizing Ni, Cr, Cu and Zn
5	IntelliServ	Provo City	3999	Zero Discharge	770	Zero Discharger, Phosphater
6	MegaDiamond	Provo City	3999	8706	13042	Chemical etching and pH neutralization
7	Powder River	Provo City	3523	2690	5277	Phosphater
8	Elevate Health Science	Provo City	2834, 8734	14705	19876	Nutraceutical manufacturer
9	UVRMC	Provo City	8062	140803	140803	Hospital
10	Union Pacific Railroad	Provo City	4011, 5171	887	887	Railroad fueling yard
11	Utah Railroad	Provo City	4011,5172	88	227	Railroad fueling yard



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date January 15, 2020 Inspection Time 0900
 Name of Business Fort Dearborn Person Contacted Stephen Gardner
 Street Address 2101 E Sierra Vista WQay City Provo
 Email Address sgardiner@fortdearborn.com Phone Number 801-642-3515

Description of Business: **Print shop**

Principal product or service: They have 8 printing presses that print with both standard and UV inks. They print labels for multiple companies.

Raw Materials used: **Standard, water based and UV inks.**

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.
NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input checked="" type="checkbox"/> Sanitary sewer | <input checked="" type="checkbox"/> Waste haulers |
| <input type="checkbox"/> Other (describe below) | |

NA

Name of waste hauler(s), if used

Pumpers Plus

Is a grease trap installed? Yes No
 Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|---|---|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
Pretreatment Coordinator
Division of Water Quality
P. O. Box 144870
Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-Mail: jenrobinson@utah.gov



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date December 5, 2019 Inspection Time 0800
 Name of Business BYU Dairy Processing Lab Person Contacted Brian Harris
 Street Address 1500 N 700 E Provo, UT 84602 City Provo
 Email Address Brian_harris@byu.edu Phone Number 801-422-2804

Description of Business: Dairy processing.

Principal product or service: Manufacturing dairy products for retail sale. Products include ice cream, yogurt, cottage cheese, buttermilk, sour cream, salad dressings, cheese, and juices.

Raw Materials used: 2000 gallons of raw milk and 3000 gallons of cream blend are used every week.

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.
NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input checked="" type="checkbox"/> Sanitary sewer | <input checked="" type="checkbox"/> Waste haulers |
| <input type="checkbox"/> Other (describe below) | |

4500-6000 gallons/week of whey waste are hauled to BYU's off-site compost yard in Mapleton fur use as part of composting material.

Name of waste hauler(s), if used
Internal BYU hauler for the whey waste. Kuhni's for the grease trap

Is a grease trap installed? Yes No
 Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|---|---|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input checked="" type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
 Pretreatment Coordinator
 Division of Water Quality
 P. O. Box 144870
 Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
 Fax: (801) 536-4301
 E-Mail: jenrobinson@utah.gov



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date December 10, 2019 Inspection Time 0900
 Name of Business Duncan Aviation Person Contacted Todd Walker
 Street Address 262 S 3800 W Provo, UT 84601 City Provo
 Email Address todd.walker@duncanavaiation.com Phone Number 801-342-5583

Description of Business: Aircraft maintenance and painting.

Principal product or service: Full-service maintenance and rework facility of jet aircraft. All maintenance and repair services for civilian jet aircraft. Depainting and coating bays are the source of industrial wastewater.

Raw Materials used: Phosphating, acetone, toluene, benzyl alcohol, methyl acetate, ethylene glycol, lubricants.

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.

NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|--|---|
| <input checked="" type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input checked="" type="checkbox"/> Sanitary sewer | <input checked="" type="checkbox"/> Waste haulers |
| <input type="checkbox"/> Other (describe below) | |

Name of waste hauler(s), if used

Clean Harbors

Is a grease trap installed? Yes No
 Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|--|---|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input checked="" type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
 Pretreatment Coordinator
 Division of Water Quality
 P. O. Box 144870
 Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
 Fax: (801) 536-4301
 E-Mail: jenrobinson@utah.gov



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date July 1, 2020 Inspection Time 1130

Name of Business Elevate Health Science Person Contacted Eddie Mendivil
 Street Address 3421 Sierra Vista Way City Provo
 Email Address eddie@elevatehs.com Phone Number 801-592-2999

Description of Business: Nutraceutical manufacturer.

Principal product or service: Manufacturer of soft gel and 2-piece encapsulated nutraceuticals (including vitamin packs, fish oil etc.)

Raw Materials used: Plant and animal based gelatin. Fish oils, glycerin, vitamins and extracts.

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.

NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input checked="" type="checkbox"/> Sanitary sewer | <input checked="" type="checkbox"/> Waste haulers |
| <input checked="" type="checkbox"/> Other (describe below) | |

A large portion of their water usage is from their water pumps they use to pull a vacuum for the soft gel side of their process. It is noncontact but can generate 13,000+ gallons.

Name of waste hauler(s), if used

SOS Pumping

Is a grease trap installed? Yes No
 Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|---|--|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input checked="" type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
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UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date August 26, 2019 Inspection Time 1000

Name of Business Industrial Plating/Peak Finish (Alpine Creation) Person Contacted Brad Day
 Street Address 1773 S. East Bay Blvd. Provo, UT 84606 City Provo
 Email Address brad@peakfinish.com Phone Number 801-373-1141

Description of Business: Plater/anodizing Ni, Cr, Cu and Zn.

Principal product or service: Current plating process includes: anodizing, nickel plating , electroless nickel, gold plating, passivation and conversion coatings.

Raw Materials used: Nickel, electroless nickel, chrome, zinc, chromate, zincate, electroclean, pickle acid, manganese phosphate, sulfuric acid, etchers, cleaners.

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.
NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input checked="" type="checkbox"/> Sanitary sewer | <input checked="" type="checkbox"/> Waste haulers |
| <input type="checkbox"/> Other (describe below) | |

NA

Name of waste hauler(s), if used
AET Environmental Alpha Omega Clean Harbors

Is a grease trap installed? Yes No
 Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|--|---|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input checked="" type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
 Pretreatment Coordinator
 Division of Water Quality
 P. O. Box 144870
 Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
 Fax: (801) 536-4301
 E-Mail: jennifer@utah.gov



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date March 12, 2020 Inspection Time 0930

Name of Business IntelliServ Person Contacted Trent Bird
 Street Address 2241 S Larsen Parkway Provo, UT 84606 City Provo
 Email Address trent.bird@nov.com Phone Number 801-888-6739

Description of Business: Zero discharger, phosphater

Principal product or service: Design, manufacture and install drill string telemetry equipment.

Raw Materials used: Old and used pipe. Phosphoric acid, detergent cleaning solution, rust prevention oils and phosphate coatings.

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.
NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input checked="" type="checkbox"/> Sanitary sewer | <input checked="" type="checkbox"/> Waste haulers |
| <input type="checkbox"/> Other (describe below) | |

NA

Name of waste hauler(s), if used
Safety Kleen Nexeo Solutions The Big Green Box

Is a grease trap installed? Yes No
 Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

<input type="checkbox"/> Adhesives	<input type="checkbox"/> Nonferrous Metals Manufacturing
<input type="checkbox"/> Aluminum Forming	<input type="checkbox"/> Organic Chemicals Manufacturing or Packaging
<input type="checkbox"/> Battery Manufacturing	<input type="checkbox"/> Paint & Ink Manufacturing
<input type="checkbox"/> Car Wash	<input type="checkbox"/> Pesticides Formulating or Packaging
<input type="checkbox"/> Carpet Cleaner	<input type="checkbox"/> Petroleum Refining
<input type="checkbox"/> Copper Forming	<input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging
<input type="checkbox"/> Dairy	<input type="checkbox"/> Photo Lab
<input type="checkbox"/> Electric & Electronic Components	<input type="checkbox"/> Plastics Manufacturing
<input type="checkbox"/> Explosives Manufacturing	<input type="checkbox"/> Restaurant & Food Service
<input type="checkbox"/> Food Processor	<input type="checkbox"/> Rubber Manufacturing
<input type="checkbox"/> Foundries	<input type="checkbox"/> Septage Hauler
<input type="checkbox"/> Hospital	<input type="checkbox"/> Slaughter House
<input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing	<input type="checkbox"/> Soaps & Detergents Manufacturing
<input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging	<input type="checkbox"/> Steam Electric Generation
<input type="checkbox"/> Iron & Steel	<input type="checkbox"/> Tanning Animal Skins
<input type="checkbox"/> Laundries	<input type="checkbox"/> Textile Mills
<input checked="" type="checkbox"/> Metal Finishing, Coating or Cleaning	
<input type="checkbox"/> Mining	

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
 Pretreatment Coordinator
 Division of Water Quality
 P. O. Box 144870
 Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
 Fax: (801) 536-4301
 E-Mail: jenrobinson@utah.gov



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date June 25, 2020 Inspection Time 0800

Name of Business Smith-Megadiamond-- A Schlumberger Co. Person Contacted Todd Hyatt
 Street Address 275 W. 2230 N. Provo, UT 84604 City Provo
 Email Address thyatt@slb.com Phone Number 801-818-4511

Description of Business: **Chemical etching/ pH neutralization**

Principal product or service: **MegaDiamond manufactures synthetic diamonds for industrial uses.**

Raw Materials used: **Hydraulic oil, acetone, methanol, isopropanol, KOH dry flakes, sulfuric acid.**

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.

NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input checked="" type="checkbox"/> Sanitary sewer | <input checked="" type="checkbox"/> Waste haulers |
| <input type="checkbox"/> Other (describe below) | |

NA

Name of waste hauler(s), if used

Clean Harbors _____

Is a grease trap installed? Yes No

Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|--|---|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input checked="" type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
 Pretreatment Coordinator
 Division of Water Quality
 P. O. Box 144870
 Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
 Fax: (801) 536-4301
 E-Mail:jenrobinson@utah.gov



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date August 3, 2020 Inspection Time 0900

Name of Business Powder River Person Contacted Brain Manwarning
 Street Address 485 E 1130 S Provo, UT 84606 City Provo
 Email Address brianm@powderriver.com Phone Number 801-374-2983

Description of Business: Phosphater

Principal product or service: Livestock handling equipment.

Raw Materials used: After metal fabrication takes place, cleaning, etching and bonding chemicals are used for powder coating.

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.
NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

<input type="checkbox"/> Evaporation	<input type="checkbox"/> Storm sewer
<input type="checkbox"/> Ground water	<input type="checkbox"/> Surface water
<input checked="" type="checkbox"/> Sanitary sewer	<input checked="" type="checkbox"/> Waste haulers
<input type="checkbox"/> Other (describe below)	

NA

Name of waste hauler(s), if used
 Clean Harbors _____

Is a grease trap installed? Yes No
 Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|--|---|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input checked="" type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
Pretreatment Coordinator
Division of Water Quality
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Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-Mail: jennifer@utah.gov



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date November 4, 2019 Inspection Time 1000

Name of Business Union Pacific Railroad Person Contacted Brian Beazer
 Street Address 1200 S 720 E Provo, UT 84606 City Provo
 Email Address bwbeazer@up.com Phone Number 801-212-5403

Description of Business: Railroad fueling yard.

Principal product or service: Tasked with refueling, refueling of sand, light maintenance work and car transfers.

Raw Materials used: Used oil (recovered) and diesel fuel.

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.

NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input checked="" type="checkbox"/> Sanitary sewer | <input checked="" type="checkbox"/> Waste haulers |
| <input type="checkbox"/> Other (describe below) | |

NA

Name of waste hauler(s), if used

Recovered oil = Red Giant Non-Haz Waste = Pacific West to ET tech.

Is a grease trap installed? Yes No

Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|---|---|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
 Pretreatment Coordinator
 Division of Water Quality
 P. O. Box 144870
 Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
 Fax: (801) 536-4301
 E-Mail: jennifer@utah.gov



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date November 14, 2019 Inspection Time 0900

Name of Business Utah Railway Company Person Contacted Justin Pratt

Street Address 1221 S Colorado Ave Provo, UT 84606 City Provo

Email Address justin.pratt@gwrr.com Phone Number 385-535-6572

Description of Business: **Railroad fueling yard.**

Principal product or service: **Locomotive, vehicle and equipment maintenance, fueling service and sanding.**

Raw Materials used: **Diesel fuel and locomotive lube oil.**

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle.
NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|--|---|
| <input checked="" type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input checked="" type="checkbox"/> Sanitary sewer | <input checked="" type="checkbox"/> Waste haulers |
| <input type="checkbox"/> Other (describe below) | |

NA

Name of waste hauler(s), if used

Emerald Services

Is a grease trap installed? Yes No

Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|---|---|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Provo Water Advanced Treatment and Resource Recovery

Inspector Name Printed

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
Pretreatment Coordinator
Division of Water Quality
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Phone: (801) 536-4383
Fax: (801) 536-4301
E-Mail: jenrobinson@utah.gov



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

Complete and submit a preliminary inspection of each business that is discharging process wastewater to the wastewater treatment plant

B. PRELIMINARY INSPECTION FORM

Inspection Date September 24, 2019 Inspection Time 1400

Name of Business Utah Valley Regional Medical Center Person Contacted David Emery
 Street Address 1034 N 500 W Provo, UT 84601 City Provo
 Email Address david.emery@imail.org Phone Number 801-357-4273

Description of Business: **Hospital**

Principal product or service: Provide healthcare services for the community including all necessary ancillary operations needed to support the services.

Raw Materials used: Boiler chemicals, chilled water chemicals, diesel fuel in UST, lab accumulation, kitchen services, central hazardous waste storage.

Production process is: Batch Continuous Both

If yes, briefly describe seasonal production cycle:
NA

This facility generates the following types of wastes (check all that apply):

1. Domestic wastes (Restrooms, employee showers, etc.)
2. Cooling water, non-contact
3. Boiler/Tower blowdown
4. Cooling water, contact
5. Process
6. Equipment/Facility washdown
7. Air Pollution Control Unit
8. Storm water runoff to sewer
9. Other describe

Wastes are discharged to (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Ground water | <input type="checkbox"/> Surface water |
| <input checked="" type="checkbox"/> Sanitary sewer | <input checked="" type="checkbox"/> Waste haulers |
| <input type="checkbox"/> Other (describe below) | |

NA

Name of waste hauler(s), if used

Renegade Clean harbor

Is a grease trap installed? Yes No
 Is it operational? Yes No



UPDES Municipal (POTW) Permit Application

Part VII. Pretreatment Information *continued*

B. PRELIMINARY INSPECTION FORM *continued*

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following or manufacture any of the following?

- | | |
|---|---|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Nonferrous Metals Manufacturing |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Paint & Ink Manufacturing |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Pesticides Formulating or Packaging |
| <input type="checkbox"/> Carpet Cleaner | <input type="checkbox"/> Petroleum Refining |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging |
| <input type="checkbox"/> Dairy | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Plastics Manufacturing |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Food Processor | <input type="checkbox"/> Rubber Manufacturing |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Septage Hauler |
| <input checked="" type="checkbox"/> Hospital | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Soaps & Detergents Manufacturing |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Steam Electric Generation |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Tanning Animal Skins |
| <input type="checkbox"/> Laundries | <input type="checkbox"/> Textile Mills |
| <input type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |

Are any process changes or expansions planned during the next three years? Yes No

If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

Skyler Tulley

Inspector Name Printed

Provo Water Advanced Treatment and Resource Recovery

Wastewater Treatment Facility

Any questions regarding the form or assistance with inspecting business please contact

Jennifer Robinson
Pretreatment Coordinator
Division of Water Quality
P. O. Box 144870
Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-Mail: jenrobinson@utah.gov



ANTIDEGRADATION REVIEW FORM

UTAH DIVISION OF WATER QUALITY

Instructions

The objective of antidegradation rules and policies is to protect existing high quality waters and set forth a process for determining where and how much degradation is allowable for socially and/or economically important reasons. In accordance with Utah Administrative Code (UAC R317-2-3), an antidegradation review (ADR) is a permit requirement for any project that will increase the level of pollutants in waters of the state. The rule outlines requirements for Level I and Level II ADRs, as well as public comment procedures. This review form is intended to assist the applicant and Division of Water Quality (DWQ) staff in complying with the rule but is not a substitute for the complete rule in R317-2-3.5. Additional details can be found in the *Utah Antidegradation Implementation Guidance* and relevant sections of the guidance are cited in this review form.

ADRs should be among the first steps of an application for a UPDES permit because the review helps establish treatment expectations. The level of effort and amount of information required for the ADR depends on the nature of the project and the characteristics of the receiving water. To avoid unnecessary delays in permit issuance, the Division of Water Quality (DWQ) recommends that the process be initiated at least one year prior to the date a final approved permit is required.

DWQ will determine if the project will impair beneficial uses (Level I ADR) using information provided by the applicant and whether a Level II ADR is required. The applicant is responsible for conducting the Level II ADR. For the permit to be approved, the Level II ADR must document that all feasible measures have been undertaken to minimize pollution for socially, environmentally or economically beneficial projects resulting in an increase in pollution to waters of the state.

For permits requiring a Level II ADR, this antidegradation form must be completed and approved by DWQ before any UPDES permit can be issued. Typically, the ADR form is completed in an iterative manner in consultation with DWQ. The applicant should first complete the statement of social, environmental and economic importance (SEEI) in Part C and determine the parameters of concern (POC) in Part D. Once the POCs are agreed upon by DWQ, the alternatives analysis and selection of preferred alternative in Part E can be conducted based on minimizing degradation resulting from discharge of the POCs. Once the applicant and DWQ agree upon the preferred alternative, the review is considered complete, and the form must be signed, dated, and submitted to DWQ.

For additional clarification on the antidegradation review process and procedures, please contact Nicholas von Stackelberg (801-536-4374) or Dave Wham (801-536-4337).

Utah Division of Water Quality Antidegradation Review Form

Part A: Applicant Information

Facility Name: Provo Water Advanced Treatment and Resource Recovery (WATRR) Center

Facility Owner: Provo City

Facility Location: 1685 S. East Bay Boulevard

Form Prepared By: Water Works Engineers, LLC

Outfall Number: 001

Receiving Water: Mill Race

What Are the Designated Uses of the Receiving Water (R317-2-6)?

Domestic Water Supply: None
Recreation: 2B - Secondary Contact
Aquatic Life: 3B - Warm Water Aquatic Life
Agricultural Water Supply: 4
Great Salt Lake: None

Category of Receiving Water (R317-2-3.2, -3.3, and -3.4): Category 3

UPDES Permit Number (if applicable): UT0021717

Effluent Flow Reviewed: The Buildout project for the Provo WATRR Center is designed for a 37.9 mgd peak day flow, 25.3 mgd maximum monthly flow, and a 21.1 mgd annual average day flow. The Phase 1 2020 Construction project is designed for a 28.7 mgd peak day flow, 19.1 mgd maximum month flow, and 15.9 mgd annual average day flow. This level II ADR is for the buildout capacity of the Provo WATRR Center. Typically, this should be the maximum daily discharge at the design capacity of the facility. Exceptions should be noted.

What is the application for? (check all that apply)

- A UPDES permit for a new facility, project, or outfall.
- A UPDES permit renewal with an expansion or modification of an existing wastewater treatment works.
- A UPDES permit renewal requiring limits for a pollutant not covered by the previous permit and/or an increase to existing permit limits.

- A UPDES permit renewal with no changes in facility operations.

Part B. Is a Level II ADR required?

This section of the form is intended to help applicants determine if a Level II ADR is required for specific permitted activities. In addition, the Executive Secretary may require a Level II ADR for an activity with the potential for major impact on the quality of waters of the state (R317-2-3.5a.1).

B1. The UPDES permit is new or is being renewed and the proposed effluent concentration and loading limits are higher than the concentration and loading limits in the previous permit and any previous antidegradation review(s).

- Yes** (Proceed to Part B2 of the Form)
- No** No Level II ADR is required and there is no need to proceed further with review questions.

B2. Will any pollutants use assimilative capacity of the receiving water, i.e. do the pollutant concentrations in the effluent exceed those in the receiving waters at critical conditions? For most pollutants, effluent concentrations that are higher than the ambient concentrations require an antidegradation review. For a few pollutants, such as dissolved oxygen, an antidegradation review is required if the effluent concentrations are less than the ambient concentrations in the receiving water. (Refer to Section 3.3 of Implementation Guidance)

- Yes** (Proceed to Part B3 of the Form)
- No** No Level II ADR is required and there is no need to proceed further with review questions.

B3. Are water quality impacts of the proposed project temporary and limited (Section 3.3.3 of Implementation Guidance)? Proposed projects that will have temporary and limited effects on water quality can be exempted from a Level II ADR.

- Yes** Identify the reasons used to justify this determination in Part B3.1 and proceed to Part G. No Level II ADR is required.
- No** A Level II ADR is required (Proceed to Part C)

B3.1 Complete this question only if the applicant is requesting a Level II review exclusion for temporary and limited projects (see R317-2-3.5(b)(3) and R317-2-3.5(b)(4)). For projects requesting a temporary and limited exclusion please indicate the factor(s) used to justify this determination (check all that apply and provide details as appropriate) (Section 3.3.3 of Implementation Guidance):

- Water quality impacts will be temporary and related exclusively to sediment or turbidity and fish spawning will not be impaired.

Factors to be considered in determining whether water quality impacts will be temporary and limited:

- a) The length of time during which water quality will be lowered:
- b) The percent change in ambient concentrations of pollutants:
- c) Pollutants affected:
- d) Likelihood for long-term water quality benefits:
- e) Potential for any residual long-term influences on existing uses:
- f) Impairment of fish spawning, survival and development of aquatic fauna excluding fish removal efforts:

Additional justification, as needed:

Level II ADR

Part C, D, E, and F of the form constitute the Level II ADR Review. The applicant must provide as much detail as necessary for DWQ to perform the antidegradation review. Questions are provided for the convenience of applicants; however, for more complex permits it may be more effective to provide the required information in a separate report. Applicants that prefer a separate report should record the report name here and proceed to Part G of the form.

Optional Report Name: Provo WATRR Center - Level II ADR

Part C. Is the degradation from the project socially and economically necessary to accommodate important social or economic development in the area in which the waters are located? *The applicant must provide as much detail as necessary for DWQ to concur that the project is socially and economically necessary when answering the questions in this section. More information is available in Section 6.2 of the Implementation Guidance.*

C1. Describe the social and economic benefits that would be realized through the proposed project, including the number and nature of jobs created and anticipated tax revenues.

The Provo City Water Reclamation Facility (PCWRF) currently serves Provo City with an expected population of 122,971 by the year 2020, and is owned and operated by the Provo City Corporation. The population for Provo City estimated by Mountainland Association of Governments (MAG) is expected to grow by 1.58% between 2017 and 2020; 1.47% between 2020 and 2030; 0.89% between 2030 and 2040; and 0.25% between 2040 and 2050 with a predicted ultimate population of 197,000. The employment rate in Provo grew by 0.577% from 2016 (60,500 employees) to 2017 (60,800 employees). The median annual household income is \$44,312. The percentage of the population that live below the poverty line is 25.4%. Although the construction period of the project will create 40 - 50 new construction positions, there are 1 - 2 anticipated additional permanent jobs that will be generated by the Provo Water Advanced Treatment and Resource Recovery (WATRR) Center Phase 1 2020 Construction project. There are potential tax revenues if future phosphorus recovery, biogas utilization, or water reuse projects are realized and generate revenue; however, these projects are not included in the Phase 1 2020 Construction Project. The facility provides social benefits to the community by providing tours for educational purposes. The facility will not impact any commercial or recreational uses as the facility will be constructed at the existing PCWRF site. The facility is necessary for Provo City to remain compliant with the Clean Water Act and prevents the community from paying fines for not complying with federal and state regulations. The proposed upgrades to the facility are necessary to meet increased populations and more stringent effluent limits for nutrients to maintain compliance with new and anticipated federal and state regulations.

C2. Describe any environmental benefits to be realized through implementation of the proposed project.

The facility protects human and environmental health by removing harmful pollutants from wastewater before discharging treated wastewater to the Mill Race. The flow discharged to the Mill Race increases the Mill Race flow that benefits existing biota and provides additional habitat. Similar to the increase in Mill Race flow, discharge from the plant also benefits Provo Bay by contributing higher flows. Environmental benefits that will be realized through the implementation of the proposed project include high quality effluent with reduced phosphorus and other pollutant loadings to the receiving surface water, Provo Bay. There is potential to replenish and preserve groundwater through aquifer storage and recovery of the high quality effluent or other indirect potable reuse applications. The biosolids will be enriched with bioavailable phosphorus that will benefit plant growth for current land application practices.

C3. Describe any social and economic losses that may result from the project, including impacts to recreation or commercial development.

There are no social or economic losses associated with land use for recreation or commercial development as the project is being constructed at the existing site.

C4. Summarize any supporting information from the affected communities on preserving assimilative capacity to support future growth and development.

The proposed upgrades allow the facility to meet the higher water quality standards and are necessary to prepare for future expansion of the facility to support future growth and development of Provo City. The proposed facility does not impact the assimilative capacity of the community as it is being constructed on an existing site with no expansion of site boundaries, significant increase in traffic, utilization of workforce, or other community impacts.

C5. Please describe any structures or equipment associated with the project that will be placed within or adjacent to the receiving water.

There are no structures or equipment associated with the project that will be placed within or adjacent to the receiving water, the Mill Race.

Part D. Identify and rank (from increasing to decreasing potential threat to designated uses) the parameters of concern. *Parameters of concern are parameters in the effluent at concentrations greater than ambient concentrations in the receiving water. The applicant is responsible for identifying parameter concentrations in the effluent and DWQ will provide parameter concentrations for the receiving water. More information is available in Section 3.3.3 of the Implementation Guidance.*

Parameters of Concern:

Rank	Pollutant	Ambient		Effluent	
		Concentration / Units	Basis	Concentration / Units	Basis
1	Ammonia (NH ₃)	0.030 - 0.052 mg/L Ammonium	April 2019 Waste Loading Analysis (WLA)	Summer < 3.0 mg/L, Winter < 5.0 mg/L	Recorded MBR Performance and Biowin Model
2	Total Phosphorus	0.075 - 0.215 mg/L	WLA	Current < 1.0 mg/L, Future < 0.5 mg/L	Recorded MBR Performance and Biowin Model
3	Total Nitrogen	2.325 - 3.446 mg/L	WLA	Current = 12 mg/L, Future < 10 mg/L	Recorded MBR Performance and Biowin Model
4	Biochemical Oxygen Demand	1.9 - 2.7 mg/L	WLA	Current < 25 mg/L, Future < 10 mg/L	Recorded MBR Performance and Biowin Model
5	Total Suspended Solids	2.9 - 10.2 mg/L Inorganic Suspended Solids	WLA	< 25 mg/L	Recorded MBR Performance and Biowin Model
6	Dissolved Oxygen	9.9 - 12.1 mg/L	WLA	7.7 mg/L	2011 - 2018 Average Effluent DO from PCWRF monthly operating reports
7	pH	8.2 - 8.6 S.U.	WLA	6.5 - 9.0 S.U.	Recorded MBR

Part E. Alternative Analysis Requirements of a Level II

Antidegradation Review. *Level II ADRs require the applicant to determine whether there are feasible less-degrading alternatives to the proposed project. For new and expanded discharges, the Alternatives Analysis must be prepared under the supervision of and stamped by a Professional Engineer registered with the State of Utah. DWQ may grant an exception from this requirement under certain circumstances, such as the alternatives considered potentially feasible do not include engineered treatment alternatives. More information regarding the requirements for the Alternatives Analysis is available in Section 5 of the Implementation Guidance.*

E1. The UPDES permit is being renewed without any changes to flow or concentrations. Alternative treatment and discharge options including changes to operations and maintenance were considered and compared to the current processes. No economically feasible treatment or discharge alternatives were identified that were not previously considered for any previous antidegradation review(s).

Yes (Proceed to Part F)

No or Does Not Apply (Proceed to E2)

E2. Attach as an appendix to this form a report that describes the following factors for all alternative treatment options 1) a technical description of the treatment process, including construction costs and continued operation and maintenance expenses, 2) the mass and concentration of discharge constituents, and 3) a description of the reliability of the system, including the frequency where recurring operation and maintenance may lead to temporary increases in discharged pollutants. Most of this information is typically available from a Facility Plan, if available.

Report Name: DRAFT Provo Water Advanced Treatment and Resource Recovery Center Phase 1 2020 Construction Capital Facilities Plan

E3. Describe the proposed method and cost of the baseline treatment alternative. The baseline treatment alternative is the minimum treatment required to meet water quality based effluent limits (WQBEL) as determined by the preliminary or final wasteload analysis (WLA) and any secondary or categorical effluent limits.

E4. Were any of the following alternatives feasible and affordable?

Alternative	Feasible	Reason Not Feasible/Affordable
Pollutant Trading	No	There are no local treatment works of similar or greater capacity currently reducing nutrient limits to necessary levels.
Water Recycling/Reuse	No	Selected alternative is necessary to produce recycle/reuse water quality.
Land Application	No	Selected alternative is necessary to produce land application water quality.
Connection to Other Facilities	No	A regionalization study was conducted and found to be not feasible/affordable. This study is included as Appendix N in the CFP.
Upgrade to Existing Facility	No	Existing facility is not capable of meeting future and anticipated regulatory requirements.
Total Containment	No	The land footprint and storage capacity needed to totally contain the wastewater is not feasible or affordable.
Improved O&M of Existing Systems	No	Existing facility is not capable of meeting future and anticipated regulatory requirements.
Seasonal or Controlled Discharge	No	The footprint and storage capacity needed to seasonally or control discharge is not feasible or affordable.
New Construction	Yes	
No Discharge	No	This option is not feasible or affordable until a future advanced water treatment facility is constructed that will depend on the new construction alternative selected.

E5. From the applicant's perspective, what is the preferred treatment option?

New Construction

E6. Is the preferred option also the least polluting feasible alternative?

Yes

No

If no, what were less degrading feasible alternative(s)?

If no, provide a summary of the justification for not selecting the least polluting feasible alternative and if appropriate, provide a more detailed justification as an attachment.



Part F. Optional Information

F1. Does the applicant want to conduct optional public review(s) in addition to the mandatory public review? Level II ADRs are public noticed for a thirty day comment period. More information is available in Section 3.7.1 of the Implementation Guidance.

No

Yes

F2. Does the project include an optional mitigation plan to compensate for the proposed water quality degradation?

No

Yes

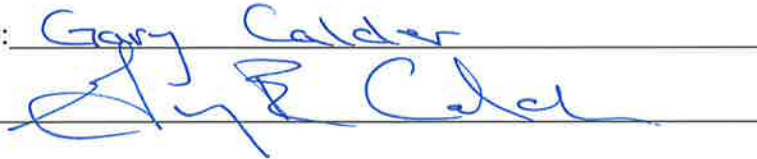
Report Name:

Part G. Certification of Antidegradation Review

G1. Applicant Certification

The form should be signed by the same responsible person who signed the accompanying permit application or certification.

Based on my inquiry of the person(s) who manage the system or those persons directly responsible for gathering the information, the information in this form and associated documents is, to the best of my knowledge and belief, true, accurate, and complete.

Print Name: Gary Calder
Signature: 
Date: 7-23-2020

G2. DWQ Approval

To the best of my knowledge, the ADR was conducted in accordance with the rules and regulations outlined in UAC R-317-2-3.

Print Name: _____
Signature: _____
Date: _____