STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Minor Municipal Permit No. **UT0025241**

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

STANSBURY PARK IMPROVEMENT DISTRICT

is hereby authorized to discharge from

STANSBURY PARK IMPROVEMENT DISTRICT LAGOONS

to receiving waters named Un-Named Ditch to Meadow Wetland, then Playa Area adjacent to the Great Salt Lake,

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

This permit shall become effective on April 01, 2024

This permit expires at midnight on April 30, 2028.

Signed this twenty-ninth day of March, 2024.

John K. Mackey, P.E.
Director

DWQ-2023-119692

Table of Contents

I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

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

Outfall Numbers	Location of Discharge Outfalls
001	Located at latitude 40°39'30" and longitude 112°18'00". The discharge is through a gate to a flume to an 8-inch diameter gravity flow pipe, which leads to an unnamed ditch. This ditch flows under I-80, and hence to a playa south of the railroad, separated from the Great Salt Lake by the railroad, or through the gate to the rapid infiltration basin.
002	Located near latitude 40°39'30" and longitude 112°18'00". The discharge is 1300 feet south of Outfall 001 to the same ditch. This ditch flows under I-80, and hence to a playa south of the railroad, separated from the Great Salt Lake by the railroad.

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 Outfalls 001 and 002 defined in *Part VIII* of this permit.

2.
   a. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001 and 002. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Outfall 001 and 002 Effluent Limitations [1]				
	Maximum Monthly Avg	Maximum Weekly Avg	Annual Average	Daily Minimum	Daily Maximum
Total Flow [2]	1.5	-	-	-	-
BOD_5, mg/L	45	65	-	-	-
BOD_5 Min. % Removal	85	-	-	-	-
TSS, mg/L	45	65	-	-	-
TSS Min. % Removal	65	-	-	-	-
TRC, mg/L	0.43	-	-	-	0.73
E. coli, No./100mL	126	158	-	-	-
pH, Standard Units	-	-	-	6.5	9

Parameter	Outfall 001 and 002 Effluent Limitations [1]				
	Maximum Monthly Avg	Maximum Weekly Avg	Annual Average	Daily Minimum	Daily Maximum
Total Phosphorus, lbs/year	-	-	8,966	-	-
Total Ammonia (as N), mg/L[13]					
Summer (Jul-Sep)	1.0	-	-	-	4.7
Fall (Oct-Dec)	2.7	-	-	-	8.2
Winter (Jan-Mar)	3.4	-	-	-	9.8
Spring (Apr-Jun)	2.7	-	-	-	8.2
1. See Definitions, Part VIII, for definition of terms.					
2. The total combined flow from all outfalls may not exceed the flow limit of 1.5 MGD.					
13. Total ammonia limits will go into effect in accordance with the Compliance Schedule found in Part I.C.4 of the permit. There will be no limits at the time of permit issuance.					

Outfall 001 and 002 Self-Monitoring and Reporting Requirements [1], [3]			
Parameter	Frequency	Sample Type	Units
Total Flow [2], [4], [5]	Continuous	Recorder	MGD
BOD_5, Influent [6]	Weekly	Composite	mg/L
Effluent	Weekly	Composite	mg/L
TSS, Influent [6]	Weekly	Composite	mg/L
Effluent	Weekly	Composite	mg/L
E. coli	Weekly	Grab	No./100mL
pH	Weekly	Grab	SU
TRC	Weekly	Grab	mg/L
Total Ammonia (as N)	Weekly	Grab	mg/L
DO	Weekly	Grab	mg/L
Orthophosphate (as P), [7] Effluent	Monthly	Composite	mg/L
Total Phosphorus (as P), [7]			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Phosphorus, (Reporting)	Yearly	Reporting	lbs/year
Total Kjeldahl Nitrogen TKN (as N), [7]			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO3 [7]	Monthly	Composite	mg/L
Nitrite, NO2 [7]	Monthly	Composite	mg/L
Total Cyanide, Effluent [10]	2 X Yearly	Grab/ Composite	mg/L
Total Mercury, Effluent [8], [10]	2 X Yearly	Grab	mg/L
Total Selenium, Effluent, [10]	2 X Yearly	Grab/ Composite	mg/L
Metals, Influent, [6], [8], [9]	Yearly [11]	Grab/ Composite	mg/L
Effluent [8]	Yearly [9]	Grab/ Composite	mg/L
Organic Toxics [6], [12]	2nd Year of the Permit Cycle	Grab/ Composite	mg/L
TDS	Monthly	Grab	mg/L
1. See Definitions, Part VIII, for definition of terms.			
2. The total combined flow from all outfalls may not exceed the flow limit of 1.5 MGD.			

Outfall 001 and 002 Self-Monitoring and Reporting Requirements [1], [3]			
Parameter	Frequency	Sample Type	Units
3. These are the Self-Monitoring and Reporting Requirements for both Outfall 001 and 002. If there is no discharge to the ditch from an Outfall during a monitoring period then no monitoring is required for that Outfall.			
4. 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.			
5. If the rate of discharge is controlled, the rate and duration of discharge shall be reported.			
6. 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.			
7. These reflect changes required with the adoption of UAC R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.			
8. Stansbury will be required to have the effluent analyzed for mercury using a method that is sensitive enough to demonstrate a presence or absence of mercury in the effluent, such as EPA Method 1631.			
9. Testing for metals listed in the table below and organic toxics must be performed during the first discharge of the renewed permits life cycle. The testing is conducted to support future RP analysis.			
10. See Part II of the permit for additional requirements regarding sampling for metals and organic toxics.			
11. This is the monitoring frequency for the metals listed in the table below (Metals to be monitored for RP) with the exception cyanide, mercury, and selenium which must be monitored as indicated above.			
12. A list of the organics to be tested can be found in 40CFR122 appendix D table II.			

Metals to be Monitored for RP
Total Arsenic
Total Cadmium
Total Chromium
Total Copper
Total Cyanide
Total Lead
Total Mercury
Total Molybdenum
Total Nickel
Total Selenium
Total Silver
Total Zinc

3. Ammonia Compliance Schedule

Ammonia Compliance Schedule	
Date	Milestone
May 1, 2024	Submit a Sampling and Analysis Plan (Plan) that includes the specific purpose and goals (Study) of monitoring and a description of the sampling to be conducted (including methods and frequency). If no Plan is submitted, the ammonia limits will go into effect September 1, 2025 and this Compliance Schedule ends.
June 1, 2025	Submit a Report detailing the findings of the Study outlined in the Plan. This report should include all data collected, analysis of the results, and the proposed administrative path forward.

Ammonia Compliance Schedule	
Date	Milestone
June 1, 2025	If Stansbury Park wants to modify their permit, they must request DWQ to modify UPDES Permit No. UT0025241. This modification request can be for a compliance schedule extension, an alternative compliance point for ammonia, or an alternative outfall location as long as the Study results and analysis support the request. If the request is for a compliance schedule extension, the request should include a detailed approach, including a list of facility upgrades, an associated timeline, and a detailed description of how Stansbury Park plans to comply with the final ammonia limits listed in the permit. If no request for permit modification is received by DWQ, ammonia limits will go into effect September 1, 2025 and this Compliance Schedule ends.
September 1, 2025	If the permit has yet to be modified as described above, the ammonia limits will go into effect.

a. A violation of the Compliance Schedule is a violation of UPDES Permit No. UT002541.

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

The permittee is a minor municipal facility that will be discharging an infrequent amount of effluent, in which toxicity is neither an existing concern nor likely to be present. Also, the receiving irrigation ditch is regularly dry; therefore there is not any available data to conclude that the irrigation ditch is impaired. Based on these considerations and the absence of receiving stream water quality monitoring data, there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

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 by NetDMR, entered into NetDMR no later than the 28th day of the month following the completed reporting period. The first report is due on May 28, 2024. 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. PRETREATMENT REQUIREMENTS

A. Definitions. For this section the following definitions shall apply:

1. *Indirect Discharge* means the introduction of pollutants into a publicly-owned treatment works (POTW) from any non-domestic source regulated under section 307 (b), (c) or (d) of the CWA.

2. *Interference* means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

   a. Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

   b. Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

3. *Local Limit* is defined as a limit designed to prevent Pass Through or Interference. And is developed in accordance with *40 CFR 403.5(c).*

4. *Pass Through means* a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

5. *Publicly Owned Treatment Works* or *POTW* means a treatment works as defined by section 212 of the CWA, which is owned by a State or municipality (as defined by section 502(4) of the CWA). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the CWA, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

6. *Significant Industrial User (SIU)* is defined as an Industrial User discharging to a POTW that satisfies any of the following:

   a. Has a process wastewater flow of 25,000 gallons or more per average work day;

   b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;

   c. Is subject to Categorical Pretreatment Standards, or

d. Has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

7. *User or Industrial User (IU)* means a source of Indirect Discharge

B. Pretreatment Monitoring and Reporting Requirements.

1. The design capacity of the municipal wastewater treatment facility is less than 5 MGD; therefore the permittee will not be required to develop an Approved POTW Pretreatment Program. However, in order to determine if development of an Approved POTW Pretreatment Program is warranted, the permittee shall conduct an **industrial waste survey**, as described in *Part II.C.1*.

2. Monitoring will be required of the permittee for the pretreatment requirements at this time. If changes occur monitoring may be required for parameters not currently listed in the permit or current monitoring requirements may be required to be increased to determine the impact of an Industrial User or to investigate sources of pollutant loading. This could include but is not limited to sampling of the influent and effluent of the wastewater treatment plant and within the collection system.

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

<table>
<tr><th colspan="5">Pretreatment Monitoring Table</th></tr>
<tr><th>Parameter</th><th>MDL</th><th>Sample Type</th><th>Frequency</th><th>Units</th></tr>
<tr><td>Total Arsenic</td><td>0.190</td><td rowspan="10">Composite</td><td rowspan="11">2 X Yearly</td><td rowspan="12">mg/L</td></tr>
<tr><td>Total Cadmium</td><td>0.0008</td></tr>
<tr><td>Total Chromium</td><td>0.011</td></tr>
<tr><td>Total Copper</td><td>0.0305</td></tr>
<tr><td>Total Lead</td><td>0.0186</td></tr>
<tr><td>Total Molybdenum</td><td>NA</td></tr>
<tr><td>Total Nickel</td><td>0.169</td></tr>
<tr><td>Total Selenium</td><td>0.0046</td></tr>
<tr><td>Total Silver</td><td>0.0411</td></tr>
<tr><td>Total Zinc</td><td>0.388</td></tr>
<tr><td>Total Cyanide</td><td>0.0052</td><td rowspan="3">Grab or Composite</td></tr>
<tr><td>Total Mercury</td><td>0.000012</td></tr>
<tr><td>Organic Toxic Pollutants</td><td>NA</td><td>2nd and 4th Year of the Permit Cycle</td></tr>
</table>

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

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. If expected to be present surfactants and *40 CFR 122* Appendix D Table V must be sampled yearly. The pesticides fraction of Appendix D, Table II is suspended unless pesticides are expected to be present.

4. The results of the analyses of metals, cyanide and Organic Toxic Pollutants 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 Organic Toxic Pollutants data to the Pretreatment Coordinator for the Division of Water Quality via email.

5. For Local Limit parameters it is recommended that the most sensitive method be used for analysis. This will determine if the parameter is present and provide removal efficiencies based on actual data rather than literature values. If a parameter load is greater than the allowable head works load, for any pollutant listed in Part II.B.3. or Part I, or a pollutant of concern listed in the Local Limit development document or determined by the Director, the permittee must report this information to the Pretreatment Coordinator for the Division of Water Quality. If the loading exceeds the allowable headworks load, increase sampling must occur based on the requirements given by the Pretreatment Coordinator for the Division of Water Quality. 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.

C. Industrial Wastes.

4. The "Industrial Waste Survey" or “IWS” as required by *Part II.B.1*. consists of;

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

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

   c. Appropriate production data.

5. The IWS must be maintained and updated with IU information as necessary, to ensure that all IUs are properly permitted or controlled at all times. Updates must be submitted to the Director sixty (60) days following a change to the IWS.

6. 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).

7. The permittee must notify the Director of any new introductions by new or existing SIUs or any substantial change in pollutants from any major industrial source. Such notice must contain the information described in 1. above, and be forwarded no later than sixty (60) days following the introduction or change.

D. General and Specific Prohibitions. The permittee must ensure that no IU violates any of the general or specific standards. If an IU is found violating a general or specific standard the permittee must notify the Director within 24 hours of the event. The general prohibitions and the specific prohibitions apply to each User introducing pollutants into a POTW whether or not the User is subject to other Pretreatment Standards or any national, State or local Pretreatment Requirements.

4. General prohibition Standards. A User may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference.

5. Specific Prohibited Standards. Developed pursuant to *Section 307* of *The Water Quality Act of 1987* require that under no circumstances shall the permittee allow introduction of the following pollutants into the waste treatment system from any User (*40 CFR 403.5*):

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

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

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

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

   e. 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);

   f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through;

   g. 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; or,

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

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

   j. Any prohibited standard which the permittee has adopted in an ordinance or rule to control IU discharge to the POTW.

6. In addition to the general and specific limitations expressed above, more specific pretreatment limitations have been and will be promulgated for specific industrial categories under *Section 307* of *the Water Quality Act of 1987 as amended (WQA). (See 40 CFR, Subchapter N, Parts 400* through *500*, for specific information).

E. Significant Industrial Users Discharging to the POTW. The permittee shall provide adequate notice to the Director and the Division of Water Quality Pretreatment Coordinator of;

4. Any new introduction of pollutants into the treatment works from an indirect discharger (i.e., Industrial User) which would be subject to *Sections 301* or *306* of the *WQA* if it were directly discharging those pollutants;

5. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit; and

6. For the purposes of this section, adequate notice shall include information on:

   a. The quality and quantity of effluent to be introduced into such treatment works; and,

b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.

7. Any IU that must comply with applicable requirements under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA).

F. Change of Conditions. At such time as a specific pretreatment limitation becomes applicable to an Industrial User of the permittee, the Director may, as appropriate, do the following:

4. Amend the permittee's UPDES discharge permit to specify the additional pollutant(s) and corresponding effluent limitation(s) consistent with the applicable national pretreatment limitation;

5. Require the permittee to specify, by ordinance, contract, or other enforceable means, the type of pollutant(s) and the maximum amount which may be discharged to the permittee's facility for treatment. Such requirement shall be imposed in a manner consistent with the POTW program development requirements of the *General Pretreatment Regulations* at *40 CFR 403*;

6. Require the permittee to monitor its discharge for any pollutant, which may likely be discharged from the permittee's facility, should the Industrial User fail to properly pretreat its waste; and/or

7. Require the permittee to develop an Approved POTW Pretreatment Program.

G. Legal Action. The Director retains, at all times, the right to take legal action against the Industrial User and/or the treatment works, in those cases where a permit violation has occurred because of the failure of an Industrial User to discharge at an acceptable level. If the permittee has failed to properly delineate maximum acceptable industrial contributor levels, the Director will look primarily to the permittee as the responsible party.

H. Local Limits. If Local Limits are developed per R317-8-8.5(4)(b) to protect the POTW from Pass Through or Interference, then the POTW must submit limits to DWQ for review and public notice, as required by R317-8-8.5(4)(c). Local Limits should be developed in accordance with the latest revision of the EPA Local Limits Development Guidance and per R317-8-8.5.

III. BIOSOLIDS REQUIREMENTS

The State of Utah has adopted the *40 CFR Part 503* federal regulations for the disposal of sewage sludge (biosolids) by reference. However, since this facility is a lagoon, there is not any regular sludge production. Therefore *40 CFR Part 503* does not apply at this time. In the future, if the sludge needs to be removed from the lagoons and is disposed in some way, the Division of Water Quality must be contacted prior to the removal of the sludge to ensure that all applicable state and federal regulations are met.

IV. STORM WATER REQUIREMENTS.

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

V. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS

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

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

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

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

E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10* and *40 CFR Part* 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

H. Twenty-four Hour Notice of Noncompliance Reporting.

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

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

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

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

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

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

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

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

    a. A description of the noncompliance and its cause;

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

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

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

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

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

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

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.. Except as provided at *Part VI.G*, *Bypass of Treatment Facilities* and *Part VI.H*, *Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

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

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

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

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

G. Bypass of Treatment Facilities.

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

2. Prohibition of Bypass.

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

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

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

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

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

3. Notice.

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

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

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

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

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

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

(6) Any additional information requested by the Director.

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

c. *Unanticipated bypass*. The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part IV.H*, Twenty Four Hour Reporting. The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

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

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

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

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

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

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

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

VII. GENERAL REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of

the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

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

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

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

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

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

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

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

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

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

N. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *Sections 19-5-117* and *510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.

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

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.

2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.

3. Revisions to the current CWA § 208 areawide treatment management plans or promulgations/revisions to TMDLs (40 CFR 130.7) approved by the EPA and adopted by DWQ which calls for different effluent limitations than contained in this permit.

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

Q. Toxicity Limitation - Reopener Provision:

This permit may be reopened and modified (following proper administrative procedures) to include WET testing, a WET limitation, a compliance schedule, a compliance date, additional or modified numerical limitations, or any other conditions related to the control of toxicants if toxicity is detected during the life of this permit.

VIII. DEFINITIONS

A. Wastewater.

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

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

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

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

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

6. "Annual Loading Cap" is the highest allowable phosphorus loading discharged over a calendar year, calculated as the sum of all the monthly loading discharges measured during a calendar year divided by the number of monthly discharges measured during that year.

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

8. "Chronic toxicity" occurs when the IC_{25}< XX% effluent. The XX% effluent is the concentration of the effluent in the receiving water, at the end of the mixing zone expressed as per cent effluent.

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

10. "Composite Samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless

otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

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

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

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

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

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

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

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

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

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

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

17. "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.

18. "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.

FACT SHEET AND STATEMENT OF BASIS
STANSBURY PARK IMPROVEMENT DISTRICT
STANSBURY PARK IMPROVEMENT DISTRICT LAGOONS
RENEWAL PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0025241
MINOR MUNICIPAL

FACILITY CONTACTS

Operator Name:	Stansbury Park Improvement District
Person Name:	Brett Palmer
Position:	General Manager
Phone Number:	(435) 882-7922

Facility Name:	Stansbury Park Improvement District Lagoons
Mailing and Facility Address:	#10 Plaza Stansbury Park, Utah 84074
Telephone:	(435) 882-7922
Actual Address:	3300 North 1200 West

DESCRIPTION OF FACILITY

The Stansbury Park Improvement District's (Stansbury Park) lagoon treatment facility consists of 7 facultative cells. The cells are contained on 164 acres. After chlorination, the effluent is discharged at outfall 002, or sent to a series of storage ponds, where the effluent may be discharged at outfall 001. The treatment facility was operated as a total containment treatment facility until 1996. The facility serves the Community of Stansbury Park with a current population of about 8,500. In 2011, the facility underwent an upgrade to increase the design flow to 2.7 MGD. However, some of the system components limit the flow to 1.5 MGD. As a result, this will be the flow limit in the permit. The facility is located at latitude 40º39'30" and longitude 112º18'00".

A downstream evaluation was done by the Division of Water Quality (DWQ) in May 2010. As a result, it was determined that Stansbury Park discharges to a Class 3E ditch. The downstream receiving water north of I-80, where the ditch diffuses into a meadow wetland and ultimately a playa south of the railroad, is classified as 2B and 3D. The Great Salt Lake (GSL) is on the north side of the railroad. Based on the observations of the diking, the discharge will not reach GSL at an elevation of 4208'.

As a result of the improvements at the facility, Stansbury Park has determined that they will not require the continuous use of the system's final three lagoon cells. They have also added a chlorination disinfection system to the system with the new outfall. This Outfall (002) is located 1600 feet (0.3 miles) south of Outfall 001, into the same ditch as Outfall 001. With the addition of chlorination to the system for disinfection, total residual chlorine limit and monitoring were added to the permit in 2011.

With these two changes, Stansbury Park plans to use the storage cells as a way to further treat the effluent during periods when they cannot meet effluent limits, including high total suspended solids (TSS) levels from algal growth. They will direct the flows to the first the storage cells to allow further treatment. When the levels have decreased, they plan to discharge to Outfall 001, or to the remaining storage cells for

evaporation. An evaluation of the use of these two outfalls reveals that, as long as the combined flows of both discharges do not exceed the effluent flow limit for the permit (1.5 MGD) during any given day, the loading will remain the same. The Division of Water Quality (DWQ) determined that there is no need to complete a Level II ADR for the new outfall until the flows increase above 1.5 MGD.

According to the Utah Administrative Code (UAC) R317-1-3.2, the Director may allow, on a case-by-case basis, that the BOD5 and TSS effluent concentrations for discharging domestic wastewater lagoons shall not exceed 45 mg/L for a monthly average, nor 65 mg/L for a weekly average, provided certain criteria are met. Stansbury Park met all of the requirements, and the Director approved the new effluent limits according to the UAC R317-1-3.2, thus, the limits were incorporated into their renewal permit.

Metals and organic toxics monitoring were added to the permit during the 2006 renewal to help establish a record of the presence or absence of pollutant in relation to possible pretreatment requirements. Currently, Stansbury Park does not meet the requirements for a pretreatment program and has not shown reasonable potential for the pollutants. During the 2018 renewal, it was determined that the monitoring for metals and organic toxics could be reduced. Monitoring for metals, other than mercury, were reduced to once a year. And monitoring for organic toxics was reduced to once during the second year of the permit cycle. It was also determined that monitoring for mercury using a more sensitive method (1631) would remain at the current frequency of twice a year, or once every six months.

During the 2018 Renewal, the total residual chlorine (TRC) in the receiving water was studied to determine an appropriate decay rate for the TRC in the WLA Model. As a result of this and the change in the WLA Model, the total residual chlorine (TRC) limit increased from the previous (2013) permit. The previous WLA indicated TRC limits of 0.73 mg/l for acute and 0.43 mg/l for chronic; the new WLA indicated TRC limits of 1.1 mg/l for acute and 0.63 mg/l for chronic. However, the limit will remain the same as in the previous permit, and will be carried forward to future renewals.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Ammonia:

Monitoring for ammonia during the previous permit cycle has shown that the facility discharges ammonia above the water quality based effluent limits (WQBEL) developed in the wasteload analysis (WLA) for the renewal. As a result, ammonia limits will be included in this renewal permit. The new effluent limits and monitoring requirements are in the table below.

	Effluent Limitations		Self-Monitoring and Reporting Requirements		
	Maximum Monthly Avg (Chronic)	Daily Maximum (Acute)	Frequency	Sample Type	Units
Total Ammonia (as N), mg/L					
Summer (Jul-Sep)	1.0	4.7			
Fall (Oct-Dec)	2.7	8.2	Weekly	Grab	mg/L
Winter (Jan-Mar)	3.4	9.8			
Spring (Apr-Jun)	2.7	8.2			

This renewal permit is the first Stansbury Park permit that contains ammonia limits. Stansbury Park has requested a Compliance Schedule to allow time to evaluate ammonia presence and breakdown as it flows from the current discharge locations, through the ditch and meadow wetlands, to the playa. DWQ has

granted this request; the Compliance Schedule with Milestones can be found below. The potential outcomes are: an alternative compliance point for ammonia; an alternative outfall location; an extension of the Compliance Schedule which includes plant upgrades to come into compliance with ammonia limits; or the ammonia limits go into effect.

Ammonia Compliance Schedule	
Date	Milestone
May 1, 2024	Submit a Sampling and Analysis Plan (Plan) that includes the specific purpose and goals (Study) of monitoring and a description of the sampling to be conducted (including methods and frequency). If no Plan is submitted, the ammonia limits will go into effect September 1, 2025 and this Compliance Schedule ends.
June 1, 2025	Submit a Report detailing the findings of the Study outlined in the Plan. This report should include all data collected, analysis of the results, and the proposed administrative path forward.
June 1, 2025	If Stansbury Park wants to modify their permit, they must request DWQ to modify UPDES Permit No. UT0025241. This modification request can be for a compliance schedule extension, an alternative compliance point for ammonia, or an alternative outfall location as long as the Study results and analysis support the request. If the request is for a compliance schedule extension, the request should include a detailed approach, including a list of facility upgrades, an associated timeline, and a detailed description of how Stansbury Park plans to comply with the final ammonia limits listed in the permit. If no request for permit modification is received by DWQ, ammonia limits will go into effect September 1, 2025 and this compliance schedule ends.
September 1, 2025	If the permit has yet to be modified as described above, the final limits will go into effect.

Percent Removal Requirements:

During the review of the drafted documents it was noted that the EPA Regulations require the inclusion of a minimum % removal limit for both BOD and TSS, and that the lowest this limit may be is 65%.

In 2001, Stansbury Park applied for the lagoon alternative secondary treatment limits (Alternative Limits) as allowed per *Utah Administrative Code, R317-1-3.2 E, and G.* Stansbury Park also applied for a variance that would remove the *UAC, R317-3.2.B,* TSS 85% Removal Efficiency Requirement from the permit. The requests were approved by the Water Quality Board and Director of Water Quality in August of 2001, and the changes were added to the permit that was being renewed at that time.

The Utah rule, *(UAC, R317-3.2.B)*, allows for an exception to the rule, but does not indicate any constraints on that exception. This EPA regulations (40 CFR § 133.105(a)(3) and (b)(3)) allow for a similar exception but does constrain it to being reduced to 65%. As a result, the TSS requirement is being reintroduced to

the permit, at the minimum level of 65%. Facility monitoring data indicate that they will be able to meet this requirement immediately, so no compliance schedule will be included for this parameter.

New TSS Effluent Limitations					
	Maximum Monthly Avg (Chronic)	Maximum Weekly Avg (Acute)	Annual Average	Daily Minimum	Daily Maximum
TSS, mg/L	45	65	-	-	-
TSS Min. % Removal	65	-	-	-	-

Monitoring:

Total dissolved solids (TDS) monitoring, dissolved oxygen (DO) monitoring, and monitoring associated with UAC R317-1-3.3, Technology-based Phosphorus Effluent Limits rule adoption, is now included in the permit. See Self-Monitoring and Reporting Requirements Table for details.

Metals Monitoring

As a result of the RP Analysis Process, the monitoring frequency for cyanide and selenium will increase from Annually to twice annually.

	Monitoring Frequency		
	Previous Permit	RP Result	Renewal Permit
Cyanide	Annually	Increased Frequency	Twice Annually
Selenium	Annually	Increased Frequency	Twice Annually
Mercury	Twice Annually	No Change	Twice Annually

DISCHARGE

DESCRIPTION OF DISCHARGE

Stansbury Park has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. A summary of the last three years of data is attached.

Outfall	Description of Discharge Point
001	Located at latitude 40°39'30" and longitude 112°18'00". The discharge is through a gate to a flume to an 8-inch diameter gravity flow pipe, which leads to an unnamed ditch. This ditch flows under I-80, and hence to a playa south of the railroad, separated from the Great Salt Lake by the railroad, or through the gate to the rapid infiltration basin.

Outfall	Description of Discharge Point
002	Located near latitude 40°39'30" and longitude 112°18'00". The discharge is 1300 feet south of Outfall 001 to the same ditch. This ditch flows under I-80, and hence to a playa south of the railroad, separated from the Great Salt Lake by the railroad.

RECEIVING WATERS AND STREAM CLASSIFICATION

Stansbury Park will discharge to a Class 3E ditch. The downstream receiving water is north of I-80 where the ditch diffuses into a meadow wetland and ultimately a playa south of the railroad, and is classified as 2B and 3D. Based on observations of the diking, the discharge will not reach GSL at an elevation of 4208'.

No Level II ADR is required because water quality will not be degraded (R317-3.5.b.1). DWQ reviewed the submitted Level I ADR and concluded that water quality standards will not be violated in the receiving waters.

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 3D -- Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.

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

TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

According to the Utah's 2022 303(d) Water Quality Assessment Report dated February 8, 2022, the receiving water for the discharge; Un-named Ditch, Wetland, and Playa isolated from the Great Salt Lake by a railroad causeway, was not listed as and showed no sign of being impaired.

BASIS FOR EFFLUENT LIMITATIONS

The inclusion of and limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5), *E. coli*, pH and percent removal for BOD5 are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. Attached is a WLA for this discharge into the unnamed irrigation ditch. The limit for TRC and ammonia is from the WLA. The total phosphorus limit is the phosphorus loading cap calculated in accordance with UAC R317-3.3.B. It has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level II review is not required since the Level I review shows that water quality impacts are minimal. The permittee is expected to be able to comply with these limitations.

Reasonable Potential Analysis

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

A qualitative RP analysis was conducted using the effluent metals monitoring data to determine if there was reasonable potential for the discharge to exceed the applicable water quality standards. Based on the RP analysis, no metals were determined to have a reasonable potential to exceed the water quality standard. The RP analysis also indicated that more frequent monitoring of selenium, cyanide and mercury was warented. In addition, the RP analysis for mercury indicates using a more sensitive analytical method is required. A copy of the RP analysis is included at the end of this Fact Sheet.

The permit limitations for both Outfall 001 and 002 are:

Parameter	Outfall 001 and 002 Effluent Limitations [1]				
	Maximum Monthly Avg	Maximum Weekly Avg	Annual Average	Daily Minimum	Daily Maximum
Total Flow [2]	1.5	-	-	-	-
BOD_5, mg/L	45	65	-	-	-
BOD_5 Min. % Removal	85	-	-	-	-

Parameter	Outfall 001 and 002 Effluent Limitations [1]				
	Maximum Monthly Avg	Maximum Weekly Avg	Annual Average	Daily Minimum	Daily Maximum
TSS, mg/L	45	65	-	-	-
TSS Min. % Removal	65	-	-	-	-
TRC, mg/L	0.43	-	-	-	0.73
E. coli, No./100mL	126	158	-	-	-
pH, Standard Units	-	-	-	6.5	9
Total Phosphorus, lbs/year	-	-	8,966	-	-
Total Ammonia (as N), mg/L [13]					
Summer (Jul-Sep)	1.0	-	-	-	4.7
Fall (Oct-Dec)	2.7	-	-	-	8.2
Winter (Jan-Mar)	3.4	-	-	-	9.8
Spring (Apr-Jun)	2.7	-	-	-	8.2
1. See Definitions, Part VIII, for definition of terms.					
2. The total combined flow from all outfalls may not exceed the flow limit of 1.5 MGD.					
13. Total ammonia limits will go into effect in accordance with the Compliance Schedule found in Part I.C.4 of the permit. There will be no limits at time of permit issuance.					

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements have been modified since the previous permit, as described above. The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be attached to the DMRs.

Outfall 001 and 002 Self-Monitoring and Reporting Requirements [1], [3]			
Parameter	Frequency	Sample Type	Units
Total Flow [2], [4], [5]	Continuous	Recorder	MGD
BOD_5, Influent [6]	Weekly	Composite	mg/L
Effluent	Weekly	Composite	mg/L
TSS, Influent [6]	Weekly	Composite	mg/L
Effluent	Weekly	Composite	mg/L
E. coli	Weekly	Grab	No./100mL
pH	Weekly	Grab	SU
TRC	Weekly	Grab	mg/L
Total Ammonia (as N)	Weekly	Grab	mg/L
DO	Weekly	Grab	mg/L
Orthophosphate (as P), [7] Effluent	Monthly	Composite	mg/L
Total Phosphorus (as P), [7]			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Phosphorus, (Reporting)	Yearly	Reporting	lbs/year

Outfall 001 and 002 Self-Monitoring and Reporting Requirements [1], [3]			
Parameter	Frequency	Sample Type	Units
Total Kjeldahl Nitrogen TKN (as N), [7] Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Nitrate, NO3 [7]	Monthly	Composite	mg/L
Nitrite, NO2 [7]	Monthly	Composite	mg/L
Total Cyanide, Effluent [10]	2 X Yearly	Grab/ Composite	mg/L
Total Mercury, Effluent [8], [10]	2 X Yearly	Grab	mg/L
Total Selenium, Effluent, [10]	2 X Yearly	Grab/ Composite	mg/L
Metals, Influent, [6], [8], [9] Effluent [8]	Yearly [11] Yearly [9]	Grab/ Composite Grab/ Composite	mg/L mg/L
Organic Toxics [6], [12]	2nd Year of the Permit Cycle	Grab/ Composite	mg/L
TDS	Monthly	Grab	mg/L

1. See Definitions, Part VIII, for definition of terms.
2. The total combined flow from all outfalls may not exceed the flow limit of 1.5 MGD.
3. These are the Self-Monitoring and Reporting Requirements for both Outfall 001 and 002. If there is no discharge to the ditch from an Outfall during a monitoring period then no monitoring is required for that Outfall.
4. 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.
5. If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
6. 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.
7. These reflect changes required with the adoption of UAC R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.
8. Stansbury will be required to have the effluent analyzed for mercury using a method that is sensitive enough to demonstrate a presence or absence of mercury in the effluent, such as EPA Method 1631.
9. Testing for metals listed in the table below and organic toxics must be performed during the first discharge of the renewed permits life cycle. The testing is conducted to support future RP analysis.
10. See Part II of the permit for additional requirements regarding sampling for metals and organic toxics.
11. This is the monitoring frequency for the metals listed in the table below (Metals to be monitored for RP) with the exception cyanide, mercury, and selenium which must be monitored as indicated above.
12. A list of the organics to be tested can be found in 40CFR122 appendix D table II.

Metals to be Monitored for RP
Total Arsenic
Total Cadmium
Total Chromium
Total Copper
Total Cyanide
Total Lead
Total Mercury
Total Molybdenum
Total Nickel

Metals to be Monitored for RP
Total Selenium
Total Silver
Total Zinc

BIOSOLIDS

The State of Utah has adopted the 40 CFR 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, since this facility is a lagoon, there is not any regular sludge production. Therefore 40 CFR 503 does not apply at this time. In the future, if the sludge needs to be removed from the lagoons and is disposed in some way, the Division of Water Quality must be contacted prior to the removal of the sludge to ensure that all applicable state and federal regulations are met

STORM WATER

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

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

PRETREATMENT REQUIREMENTS

Stansbury Park Improvement District does not have an Approved POTW Pretreatment Program (Program). This is due to the flow through the plant being less than five (5) MGD and no known Significant Industrial Users. Although a Program does not need to be developed, information regarding Industrial Users discharging to the Publicly Owned Treatment Works (POTW) must be submitted as stated in Part II of the permit. This information will assist in determining the needs of the Division of Water Quality (DWQ) to assist Stansbury Park Improvement District with implementing the Pretreatment Standards and Requirements. If an Industrial User begins to discharge or an existing Industrial User changes its discharge, Stansbury Park Improvement District must resubmit the information stated in Part II within sixty days of the introduction or change.

Sampling will be required in Part II of the UPDES Permit. This is due to the design flow of the POTW being greater than 1 MGD. If the discharge changes or an Industrial User discharges to the POTW, monitoring of parameters in Part II of the UPDES Permit may change.

Any wastewater discharged to the POTW from an Industrial User is subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, Stansbury Park Improvement District and the Industrial Users discharging to the POTW shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403, and the State Pretreatment Requirements found in UAC R317-8-8.

It is required that any Local Limits be submitted to DWQ for review. If Local Limits are developed, it is required that Stansbury Park Improvement District perform an annual evaluation of the need to revise or develop technically based Local Limits for pollutants of concern, to implement the general and specific prohibitions 40 CFR, Part 403.5(a) and Part 403.5(b). This evaluation may indicate that present Local Limits are sufficiently protective, need to be revised or should be developed.

BIOMONITORING REQUIREMENTS

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

The permittee is a minor municipal facility that will be discharging an infrequent amount of effluent, in which toxicity is neither an existing concern nor likely to be present. Also, the receiving irrigation ditch is regularly dry; therefore there is not any available data to conclude that the irrigation ditch is impaired. Based on these considerations and the absence of receiving stream water quality monitoring data, there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The permittee is a minor municipal facility that will be discharging an infrequent amount of effluent, in which toxicity is neither an existing concern, nor likely to be present. Also, the receiving irrigation ditch is regularly dry; therefore there is not any available data to conclude that the irrigation ditch is impaired. Based on these considerations and the absence of receiving stream water quality monitoring data, there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

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

Drafted and Reviewed by
Daniel Griffin, Discharge Permit, Reasonable Potential Analysis
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Suzan Tahir, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: February 21, 2024
Ended: March 22, 2024

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 Public Notice Webpage.

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

No comments were received during the public notice period.

ATTACHMENT 1

Industrial Waste Survey

This Page Intentionally Left Blank

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
P.O. 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. [ ] 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):

[ ] Sanitary sewer **[ ] Storm sewer**
[ ] Surface water **[ ] Ground water**
[ ] Waste haulers **[ ] Evaporation**
[ ] 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?

- **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:

[ ] Adhesives
[ ] Aluminum Forming
[ ] Battery Manufacturing
[ ] Copper Forming
[ ] Electric & Electronic Components
[ ] Explosives Manufacturing
[ ] Foundries
[ ] Inorganic Chemicals Mfg. or Packaging
[ ] Industrial Porcelain Ceramic Manufacturing
[ ] Iron & Steel
[ ] Metal Finishing, Coating or Cleaning
[ ] Mining
[ ] Nonferrous Metals Manufacturing
[ ] Organic Chemicals Manufacturing or Packaging
[ ] Paint & Ink Manufacturing
[ ] Pesticides Formulating or Packaging
[ ] Petroleum Refining
[ ] Pharmaceuticals Manufacturing or Packaging
[ ] Plastics Manufacturing
[ ] Rubber Manufacturing
[ ] Soaps & Detergents Manufacturing
[ ] Steam Electric Generation
[ ] Tanning Animal Skins
[ ] Textile Mills

[ ] Car Wash
[ ] Carpet Cleaner
[ ] Dairy
[ ] Food Processor
[ ] Hospital
[ ] Laundries
[ ] Photo Lab
[ ] Restaurant & Food Service
[ ] Septage Hauler
[ ] Slaughter House

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
P. O. 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							

This Page Intentionally Left Blank

ATTACHMENT 2

Effluent Monitoring Data

This Page Intentionally Left Blank

Effluent Monitoring Data.

Outfall 001 Effluent Monitoring Data

	Flow	BOD5		TSS		pH		TRC	E. coli		Tot P	Ammonia
	Chronic	Chronic	Acute	Chronic	Acute	Min	Max	Max	Chronic	Acute	Acute	Max
	1.5	45	65	45	65	6.5	9	0.73	126	158		
	MGD	mg/L	mg/L	mg/L	mg/L	SU	SU	mg/L	#/100mL	#/100mL	mg/L	mg/L
May-20	0											
Jun-20	0											
Jul-20	0											
Aug-20	0											
Sep-20	0											
Oct-20	0											
Nov-20	0											
Dec-20	0											
Jan-21	0											
Feb-21	0											
Mar-21	0											
Apr-21	0											
May-21	0											
Jun-21	0											
Jul-21	0											
Aug-21	0											
Sep-21	0											
Oct-21	0											
Nov-21	0											
Dec-21	0											
Jan-22	0											
Feb-22	0											
Mar-22	0											
Apr-22	0											
May-22	0											
Jun-22	0											
Jul-22	0											
Aug-22	0											
Sep-22	0											
Oct-22	0											
Nov-22	0											
Dec-22	0											
Jan-23	0.2728	20	20	13	13	7	7	0			1.2	
Feb-23	0.2732	10.75	24	13.75	24	6	7	0	2	2	1.4	0.27
Mar-23	0.2732	23	34	46	52	7	9	0	1	2	1.6	
Apr-23	1.39	25.25	50	36.25	54	7	8	0	22	54	1.9	0.24

Outfall 002 Effluent Monitoring Data

	Flow	BOD5		TSS		pH		TRC	E. coli		Tot P	Ammonia
	Chronic	Chronic	Acute	Chronic	Acute	Min	Max	Max	Chronic	Acute	Acute	Max
	1.5	45	65	45	65	6.5	9	0.73	126	158		
	MGD	mg/L		mg/L		SU		mg/L	#/100mL		mg/L	mg/L
May-20	1	10	16	13	24	7	7	0.3	548	548		26.3
Jun-20	1	13	15	9	12	7	7	0.45	0	0		18
Jul-20	1	17	24	17	37	7	7	0.4	1	1		5.2
Aug-20	0.984	21	27	30	43	7	7	0.4	1	1		1.4
Sep-20	0											
Oct-20	0											
Nov-20	0											
Dec-20	0											
Jan-21	0.925	15	16	21	24	7	7	0.3	34	96	4.2	21.9
Feb-21	0.701	13	17	7.5	10	7	7	0.3			3	26.2
Mar-21	1	13	15	11	12	7	7	0.4			4.3	25
Apr-21	1.08	18	26	30	31	7	7	0.3	3	3	4.3	22.3
May-21	1.08	16	19	22	38	7	7	0.4			4.9	20.7
Jun-21	0.991	25	35	20.25	33	7	7	0.45			4.3	6.8
Jul-21	0.991	17.8	22	25.6	34	7	9	0.45			4.3	6.8
Aug-21	1.04	17.25	22	45	66	9	9	0.4	2.5	4	3	0.4
Sep-21	1	11.5	14	34	54	9	9	0.3			1.8	1.1
Oct-21	1.02	13	20	26.25	47	8	9	0.25	1	1	2.9	7.5
Nov-21	1.03	5	5			6	7	0.35	1	1	4.4	17.4
Dec-21	1.03	7	8			6	6	0.3			3.5	20.9
Jan-22	0											
Feb-22	0											
Mar-22	1.445	23.25	27	30.75	50	6	7	0.6	14	16	2.7	22.5
Apr-22	1.065	33	77	14	17	7	7	0.45			3.7	30.1
May-22	1.052	14	16	11	15	7	7	0.45			4.6	24.2
Jun-22	0.742	12.4	19	10.2	15	7	7	0.2			5	19.1
Jul-22	0											
Aug-22	0											
Sep-22	0											
Oct-22	0											
Nov-22	0											
Dec-22	0											
Jan-23	1.32	12.67	18	18.33	22	6	7	0.3	33	70	3.3	13.3
Feb-23	1.28	18	24	19.25	34	6	8	0.25	747	1550	3.9	16.2
Mar-23	1.26	11	18	22	25	6	7	0.4	1	4	4	19.4
Apr-23	0.99	18.75	20	31	35	7	7	0.4	9.5	30	3.7	11.7

Outfall 002 Metals Effluent Monitoring Data

Month	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value
	Ag	As	Cd	CN	Cr	Cu	Hg	Hg	Mo	Ni	Pb	Se	Zn
	Max	Max	Max	Max	Max	Max	Ave	Max	Max	Max	Max	Max	Max
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Jun-18	0	0.0066	0	0.002	0.0013	0.0028		0	0.0106	0.0114	0.0007		0.02
Nov-20	0	0.0106	0	0.002	0.0011	0.0035	3.2	0	0	0.0069	0.0007		0
May-21							2.9						
Nov-21	0.0004	0.0077	0.0001	0.003	0.0012	0.0035	42.7	2.1	0.0083	0.0025	0.0007	0.0037	0.01
May-22							2.6	2.1					
Nov-22		0.0114		0.006	0.0008	0.0032	1.1		0.0112	0.0021		0.0048	0.02
May-23		0.0114		0.006	0.0008	0.0032	4.3		0.0112	0.0021		0.0048	0.02

This Page Intentionally Left Blank

ATTACHMENT 3

Wasteload Analysis

This Page Intentionally Left Blank

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

Date: **May 16, 2023**

Prepared by: **Suzan Tahir**
Standards and Technical Services

Facility: **Stansbury Park WWTP**
UPDES No. UT 0025241

Receiving water: **Un-named Ditch→Wetland→Saline Playa → GSL**

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

001 & 002	Combined plant discharge	1.5 MGD

Receiving Water

Stansbury Park's WWTP discharges into a constructed ditch that flows for approximately 1.3 miles before reaching a wetland area which transitions into a saline playa. As per UAC R317-2-13.10, the receiving ditch is classed 2B, 3E. As per R317-2-13.13, the transitional wetlands were presumptively classified as 2B, 3D.

- *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 3D - Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.*

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

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). Because the receiving water is a seasonally dry ditch (prior to discharge), the 7Q10 is assumed to be zero and effluent limits revert to end of pipe water quality standards.

Receiving water quality data was not available. Data inputs for temperature, pH, TDS and hardness were based on effluent water quality data. Limits for total residual chlorine and ammonia were calculated by considering modeled conditions where the flow enters the 3D classified wetlands and are protective of the use at that point.

TMDL

The receiving water, Gilbert Bay (UT-L-16020310-001_00, Gilbert Bay open water south of the Union Pacific Causeway and below 4208 feet, excluding all of Farmington Bay, transitional wetlands below 4208 feet, and State Waterfowl Management Areas) support all assessed uses assessment based on Utah's 2022 303(d) Water Quality Assessment Report.
Ditches and canals are not typically assessed for the report.

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. In this case, because the 7Q10 was assumed to be zero, no mixing zone was considered.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were Biochemical Oxygen Demand and Total Ammonia. and total residual chlorine.

WET Limits

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

IC25 WET limits for Outfall 001 100% effluent.

Wasteload Allocation Methods

Effluent limits were determined for conservative constituents using a simple mass balance mixing analysis (UDWQ 2012). The mass balance analysis is summarized in the Wasteload Addendum.

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. The AMMTOX Model developed by University of Colorado and adapted by Utah DWQ and EPA Region VIII was used to determine ammonia effluent limits (Lewis et al. 2002). The analysis is summarized in the Wasteload Addendum.

Models and supporting documentation are available for review upon request.

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.

Antidegradation Level II Review

A Level II Antidegradation Review (ADR) is not required for this facility. The proposed permit is a simple renewal of an existing UPDES permit. No increase in flow or concentration of pollutants over those authorized in the the existing permit is being requested.

Documents:

WLA Document*: StansburyPark_WLADoc_3-26-23.docx*
Wasteload Analysis and Addendums: StansburyPark_WLA_3-26-23

References:

Utah Division of Water Quality. 2022. *Final 2022 Integrated Report on Water Quality*

Utah Division of Water Quality. 2021. *Utah Wasteload Analysis Procedures Version 2.0*.

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA] **1-Apr-23**
Addendum: Statement of Basis

Facilities: **Stansbury Park WWTP** **UPDES No: UT-0025241**
Discharging to: **Un-named Ditch>Wetland>Playa**
Design Flow **1.50 MGD**

I. Introduction

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 [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated interms of total ammonia), and dissolved oxygen.

Mathematical water quality modeling is employed to determine stream quality response to point source discharges Models aid in the effort of anticipating stream quality at future effluent flows at critical environmental conditions (e.g., low stream flow, high temperature, high pH, etc).

The numeric criteria in this wasteload analysis may always be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

II. Receiving Water and Stream Classification

Un-named Ditch>Wetland>Playa:	2B, 3D, 3E, 5
Antidegradation Review:	Level I review completed. Amended Level II review N

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards		
Chronic Total Residual Chlorine (TRC)	0.011	mg/l	(4 Day Average)
	0.019	mg/l	(1 Hour Average)
Chronic Dissolved Oxygen (DO)	5.00	mg/l	(30 Day Average)
	N/A	mg/l	(7Day Average)
	3.00	mg/l	(1 Day Average
Maximum Total Dissolved Solids	N/A	mg/l	Background

Utah Division of Water Quality
Salt Lake City, Utah

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard Concentration		Load*		1 Hour Average (Acute) Standard Concentration		Load*
Aluminum	87.00	ug/l**	1.090	lbs/day	750.00	ug/l	9.399
Arsenic	190.00	ug/l	2.381	lbs/day	340.00	ug/l	4.261
Cadmium	0.76	ug/l	0.009	lbs/day	8.73	ug/l	0.109
Chromium III	268.22	ug/l	3.361	lbs/day	5611.60	ug/l	70.323
ChromiumVI	11.00	ug/l	0.138	lbs/day	16.00	ug/l	0.201
Copper	30.50	ug/l	0.382	lbs/day	51.68	ug/l	0.648
Iron					1000.00	ug/l	12.532
Lead	18.58	ug/l	0.233	lbs/day	476.81	ug/l	5.975
Mercury	0.0120	ug/l	0.000	lbs/day	2.40	ug/l	0.030
Nickel	168.54	ug/l	2.112	lbs/day	1515.89	ug/l	18.997
Selenium	4.60	ug/l	0.058	lbs/day	20.00	ug/l	0.251
Silver	N/A	ug/l	N/A	lbs/day	41.07	ug/l	0.515
Zinc	387.82	ug/l	4.860	lbs/day	387.82	ug/l	4.860

* Allowed below discharge

**Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as C

Metals Standards Based upon a Hardness of 399.99 mg/l as CaCO3

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard Concentration		Load*		1 Hour Average (Acute) Standard Concentration		Load*
Aldrin					1.500	ug/l	0.019
Chlordane	0.004	ug/l	0.054	lbs/day	1.200	ug/l	0.015
DDT, DDE	0.001	ug/l	0.013	lbs/day	0.550	ug/l	0.007
Dieldrin	0.002	ug/l	0.024	lbs/day	1.250	ug/l	0.016
Endosulfan	0.056	ug/l	0.700	lbs/day	0.110	ug/l	0.001
Endrin	0.002	ug/l	0.029	lbs/day	0.090	ug/l	0.001
Guthion					0.010	ug/l	0.000
Heptachlor	0.004	ug/l	0.048	lbs/day	0.260	ug/l	0.003
Lindane	0.080	ug/l	1.001	lbs/day	1.000	ug/l	0.013
Methoxychlor					0.030	ug/l	0.000
Mirex					0.010	ug/l	0.000
Parathion					0.040	ug/l	0.001
PCB's	0.014	ug/l	0.175	lbs/day	2.000	ug/l	0.025
Pentachlorophenol	13.00	ug/l	162.604	lbs/day	20.000	ug/l	0.251
Toxephene	0.0002	ug/l	0.003	lbs/day	0.7300	ug/l	0.009

Utah Division of Water Quality
Salt Lake City, Utah

IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	**Load***	**Concentration**	**Load***
Arsenic			ug/l	
Boron			ug/l	
Cadmium			ug/l	
Chromium			ug/l	
Copper			ug/l	
Lead			ug/l	
Selenium			ug/l	
TDS, Summer			mg/l	

V. Numeric Stream Standards for Protection of Human Health (Class 1C Waters)

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
Metals	**Concentration**	**Load***	**Concentration**	**Load***
Arsenic			ug/l	
Barium			ug/l	
Cadmium			ug/l	
Chromium			ug/l	
Lead			ug/l	
Mercury			ug/l	
Selenium			ug/l	
Silver			ug/l	
Fluoride (3)			ug/l	
to			ug/l	
Nitrates as N			ug/l	
Chlorophenoxy Herbicides				
2,4-D			ug/l	
2,4,5-TP			ug/l	
Endrin			ug/l	
ocyclohexane (Lindane)			ug/l	
Methoxychlor			ug/l	
Toxaphene			ug/l	

VI. Numeric Stream Standards the Protection of Human Health from Water & Fish Consumption [Toxics]

	Maximum Conc., ug/l - Acute Standards		
	Class 1C		**Class 3A, 3B**
Toxic Organics	[2 Liters/Day for 70 Kg Person over 70 Yr.]		[6.5 g for 70 Kg Person over 70 Yr
Acenaphthene	ug/l	lbs/day	ug/l
Acrolein	ug/l	lbs/day	ug/l
Acrylonitrile	ug/l	lbs/day	ug/l
Benzene	ug/l	lbs/day	ug/l
Benzidine	ug/l	lbs/day	ug/l
Carbon tetrachloride	ug/l	lbs/day	ug/l
Chlorobenzene	ug/l	lbs/day	ug/l
1,2,4-Trichlorobenzene			
Hexachlorobenzene	ug/l	lbs/day	ug/l
1,2-Dichloroethane	ug/l	lbs/day	ug/l
1,1,1-Trichloroethane			
Hexachloroethane	ug/l	lbs/day	ug/l

1,1-Dichloroethane			
1,1,2-Trichloroethane	ug/l	lbs/day	ug/l
1,1,2,2-Tetrachloroethar	ug/l	lbs/day	ug/l
Chloroethane			ug/l
Bis(2-chloroethyl) ether	ug/l	lbs/day	ug/l
2-Chloroethyl vinyl ether	ug/l	lbs/day	ug/l
2-Chloronaphthalene	ug/l	lbs/day	ug/l
2,4,6-Trichlorophenol	ug/l	lbs/day	ug/l
p-Chloro-m-cresol			ug/l
Chloroform (HM)	ug/l	lbs/day	ug/l
2-Chlorophenol	ug/l	lbs/day	ug/l
1,2-Dichlorobenzene	ug/l	lbs/day	ug/l
1,3-Dichlorobenzene	ug/l	lbs/day	ug/l
1,4-Dichlorobenzene	ug/l	lbs/day	ug/l
3,3'-Dichlorobenzidine	ug/l	lbs/day	ug/l
1,1-Dichloroethylene	ug/l	lbs/day	ug/l
1,2-trans-Dichloroethyle	ug/l	lbs/day	ug/l
2,4-Dichlorophenol	ug/l	lbs/day	ug/l
1,2-Dichloropropane	ug/l	lbs/day	ug/l
1,3-Dichloropropylene	ug/l	lbs/day	ug/l
2,4-Dimethylphenol	ug/l	lbs/day	ug/l
2,4-Dinitrotoluene	ug/l	lbs/day	ug/l
2,6-Dinitrotoluene	ug/l	lbs/day	ug/l
1,2-Diphenylhydrazine	ug/l	lbs/day	ug/l
Ethylbenzene	ug/l	lbs/day	ug/l
Fluoranthene	ug/l	lbs/day	ug/l
4-Chlorophenyl phenyl ether			
4-Bromophenyl phenyl ether			
Bis(2-chloroisopropyl) et	ug/l	lbs/day	ug/l
Bis(2-chloroethoxy) met	ug/l	lbs/day	ug/l
Methylene chloride (HM)	ug/l	lbs/day	ug/l
Methyl chloride (HM)	ug/l	lbs/day	ug/l
Methyl bromide (HM)	ug/l	lbs/day	ug/l
Bromoform (HM)	ug/l	lbs/day	ug/l
Dichlorobromomethane(	ug/l	lbs/day	ug/l
Chlorodibromomethane	ug/l	lbs/day	ug/l
Hexachlorobutadiene(c)	ug/l	lbs/day	ug/l
Hexachlorocyclopentadi	ug/l	lbs/day	ug/l
Isophorone	ug/l	lbs/day	ug/l
Naphthalene			
Nitrobenzene	ug/l	lbs/day	ug/l
2-Nitrophenol	ug/l	lbs/day	ug/l
4-Nitrophenol	ug/l	lbs/day	ug/l
2,4-Dinitrophenol	ug/l	lbs/day	ug/l
4,6-Dinitro-o-cresol	ug/l	lbs/day	ug/l
N-Nitrosodimethylamine	ug/l	lbs/day	ug/l
N-Nitrosodiphenylamine	ug/l	lbs/day	ug/l
N-Nitrosodi-n-propylami	ug/l	lbs/day	ug/l
Pentachlorophenol	ug/l	lbs/day	ug/l
Phenol	ug/l	lbs/day	ug/l
Bis(2-ethylhexyl)phthala	ug/l	lbs/day	ug/l
Butyl benzyl phthalate	ug/l	lbs/day	ug/l
Di-n-butyl phthalate	ug/l	lbs/day	ug/l
Di-n-octyl phthlate			

Diethyl phthalate	ug/l	lbs/day	ug/l
Dimethyl phthlate	ug/l	lbs/day	ug/l
Benzo(a)anthracene (PA	ug/l	lbs/day	ug/l
Benzo(a)pyrene (PAH)	ug/l	lbs/day	ug/l
Benzo(b)fluoranthene (F	ug/l	lbs/day	ug/l
Benzo(k)fluoranthene (F	ug/l	lbs/day	ug/l
Chrysene (PAH)	ug/l	lbs/day	ug/l
Acenaphthylene (PAH)			
Anthracene (PAH)	ug/l	lbs/day	ug/l
Dibenzo(a,h)anthracene	ug/l	lbs/day	ug/l
Indeno(1,2,3-cd)pyrene	ug/l	lbs/day	ug/l
Pyrene (PAH)	ug/l	lbs/day	ug/l
Tetrachloroethylene	ug/l	lbs/day	ug/l
Toluene	ug/l	lbs/day	ug/l
Trichloroethylene	ug/l	lbs/day	ug/l
Vinyl chloride	ug/l	lbs/day	ug/l
Pesticides			
Aldrin	ug/l	lbs/day	ug/l
Dieldrin	ug/l	lbs/day	ug/l
Chlordane	ug/l	lbs/day	ug/l
4,4'-DDT	ug/l	lbs/day	ug/l
4,4'-DDE	ug/l	lbs/day	ug/l
4,4'-DDD	ug/l	lbs/day	ug/l
alpha-Endosulfan	ug/l	lbs/day	ug/l
beta-Endosulfan	ug/l	lbs/day	ug/l
Endosulfan sulfate	ug/l	lbs/day	ug/l
Endrin	ug/l	lbs/day	ug/l
Endrin aldehyde	ug/l	lbs/day	ug/l
Heptachlor	ug/l	lbs/day	ug/l
Heptachlor epoxide			
PCB's			
PCB 1242 (Arochlor 124	ug/l	lbs/day	ug/l
PCB-1254 (Arochlor 125	ug/l	lbs/day	ug/l
PCB-1221 (Arochlor 122	ug/l	lbs/day	ug/l
PCB-1232 (Arochlor 123	ug/l	lbs/day	ug/l
PCB-1248 (Arochlor 124	ug/l	lbs/day	ug/l
PCB-1260 (Arochlor 126	ug/l	lbs/day	ug/l
PCB-1016 (Arochlor 101	ug/l	lbs/day	ug/l
Pesticide			
Toxaphene	ug/l		ug/l
Dioxin			
Dioxin (2,3,7,8-TCDD)	ug/l	lbs/day	
Metals			
Antimony	ug/l	lbs/day	
Arsenic	ug/l	lbs/day	ug/l
Asbestos	ug/l	lbs/day	
Beryllium			
Cadmium			

Chromium (III)			
Chromium (VI)			
Copper			
Cyanide	ug/l	lbs/day	ug/l
Lead	ug/l	lbs/day	
Mercury			ug/l
Nickel			ug/l
Selenium	ug/l	lbs/day	
Silver	ug/l	lbs/day	
Thallium			ug/l
Zinc			

There are additional standards that apply to this receiving water, but were not considered in this modeling/waste load allocation analysis.

VII. Mathematical Modeling of Stream Quality

Model configuration was accomplished utilizing standard modeling procedures. Data points were plotted and coefficients adjusted as required to match observed data as closely as possible.

The modeling approach used in this analysis included one or a combination of the following models.

(1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).

(2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.

(3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8

(4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

Coefficients used in the model were based, in part, upon the following references:

(1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.

(2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

The required information for the model may include the following information for both the upstream conditions at low flow and the effluent conditions:

Flow, Q, (cfs or MGD)	D.O. mg/l
Temperature, Deg. C.	Total Residual Chlorine (TRC), mg/l

pH	Total NH3-N, mg/l
BOD5, mg/l	Total Dissolved Solids (TDS), mg/l
Metals, ug/l	Toxic Organics of Concern, ug/l

Other Conditions

In addition to the upstream and effluent conditions, the models require a variety of physical and biological coefficients and other technical information. In the process of actually establishing the permit limits for an effluent, values are used based upon the available data, model calibration, literature values, site visits and best professional judgement.

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.

Current Upstream Information

	Stream Critical Low Flow cfs	**Temp. Deg. C**	**pH**	**T-NH3 mg/l as N**	**BOD5 mg/l**	**DO mg/l**	**TRC mg/l**
Summer (Irrig. Season)	0.00	20.0	7.6	0.00	0.10	11.35	0.00
Fall	0.00	15.0	7.6	0.00	0.10	---	0.00
Winter	0.00	4.0	7.5	0.00	0.10	---	0.00
Spring	0.00	12.0	7.6	0.00	0.10	---	0.00

Dissolved	Al	As	Cd	CrIII	CrVI	Copper	Fe
Metals	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
All Seasons	2.385*	0.795*	0.0795*	0.795*	3.975*	0.8*	1.25*

Dissolved	Hg	Ni	Se	Ag	Zn	Boron	
Metals	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
All Seasons	0.159*	0.795*	1.59*	0.15*	0.0795*	1.59*	* ~

Projected Discharge Information

Season	Flow, MGD	Temp.
Summer	1.50000	22.7
Fall	1.50000	10.9
Winter	1.50000	1.9
Spring	1.50000	17.8

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

IX. 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 coincide with the environmental conditions expected at low stream flows.

Effluent Limitation for Flow based upon Water Quality Standards

In-stream criteria of downstream segments will be met with an effluent flow maximum value as follows:

Season	Daily Average	
Summer	1.500 MGD	2.321 cfs
Fall	1.500 MGD	2.321 cfs
Winter	1.500 MGD	2.321 cfs
Spring	1.500 MGD	2.321 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 1.5 MGD. If the discharger is allowed to have a flow greater than 1.5 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occuring the permit writers must include the discharge flow limititation as indicated above; or, include loading effluent limits in the permit.

Effluent Limitation for Whole Effluent Toxicity (WET) based upon WET Policy

Effluent Toxicity will not occur in downstream segements if the values below are met.

WET Requirements	LC50 >	100.0%	Effluent	[Acute]
	IC25 >	100.0%	Effluent	[Chronic]

Effluent Limitation for Biological Oxygen Demand (BOD) based upon Water Quality Standards or Regulations

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

Season	Concentration	
Summer	22.0 mg/l as BOD5	275.2 lbs/day
Fall	22.0 mg/l as BOD5	275.2 lbs/day
Winter	22.0 mg/l as BOD5	275.2 lbs/day
Spring	22.0 mg/l as BOD5	275.2 lbs/day

Effluent Limitation for Dissolved Oxygen (DO) based upon Water Quality Standards

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

Season	**Concentration**
Summer	5.00
Fall	5.00
Winter	5.00
Spring	5.00

Effluent Limitation for Total Ammonia based upon Water Quality Standards

In-stream criteria of downstream segments for Total Ammonia will be met with an effluent limitation (expressed as Total Ammonia as N) as follows:

Season		**Concentration**		**Load**	
Summer	4 Day Avg. - Chronic	1.0	mg/l as N	12.4	lbs/day
	1 Hour Avg. - Acute	4.7	mg/l as N	59.4	lbs/day
Fall	4 Day Avg. - Chronic	2.7	mg/l as N	33.7	lbs/day
	1 Hour Avg. - Acute	8.2	mg/l as N	103.1	lbs/day
Winter	4 Day Avg. - Chronic	3.4	mg/l as N	42.1	lbs/day
	1 Hour Avg. - Acute	9.8	mg/l as N	123.0	lbs/day
Spring	4 Day Avg. - Chronic	2.7	mg/l as N	33.7	lbs/day
	1 Hour Avg. - Acute	8.2	mg/l as N	103.1	lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 100.%.

Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

In-stream criteria of downstream segments for Total Residual Chlorine will be met with an effluent limitation as follows:

Season		Concentration		Load	
Summer	4 Day Avg. - Chronic	0.630	mg/l	7.88	lbs/day
	1 Hour Avg. - Acute	1.100	mg/l	13.76	lbs/day
Fall	4 Day Avg. - Chronic	0.630	mg/l	7.88	lbs/day
	1 Hour Avg. - Acute	1.100	mg/l	13.76	lbs/day
Winter	4 Day Avg. - Chronic	0.630	mg/l	7.88	lbs/day
	1 Hour Avg. - Acute	1.100	mg/l	13.76	lbs/day
Spring	4 Day Avg. - Chronic	0.630	mg/l	7.88	lbs/day
	1 Hour Avg. - Acute	1.100	mg/l	13.76	lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration		Load	
Summer	Maximum, Acute	N/A	mg/l	N/A	tons/day
Fall	Maximum, Acute	N/A	mg/l	N/A	tons/day
Winter	Maximum, Acute	N/A	mg/l	N/A	tons/day
Spring	4 Day Avg. - Chronic	N/A	mg/l	N/A	tons/day

Colorado Salinity Forum Limits — Determined by Permitting Section

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 399.99 mg/l):

	4 Day Average Concentration		Load		1 Hour Average Concentration		Load
Aluminum*	N/A		N/A		750.0	ug/l	9.4
Arsenic*	190.01	ug/l	1.5	lbs/day	340.0	ug/l	4.3
Cadmium	0.76	ug/l	0.0	lbs/day	8.7	ug/l	0.1
Chromium III	268.23	ug/l	2.2	lbs/day	5,611.8	ug/l	70.3
Chromium VI*	11.00	ug/l	0.1	lbs/day	16.0	ug/l	0.2
Copper	30.50	ug/l	0.2	lbs/day	51.7	ug/l	0.6
Iron*	N/A		N/A		2,320.6	ug/l	29.1
Lead	18.58	ug/l	0.2	lbs/day	476.8	ug/l	6.0
Mercury*	0.01	ug/l	0.0	lbs/day	2.4	ug/l	0.0
Nickel	168.55	ug/l	1.4	lbs/day	1,516.0	ug/l	19.0
Selenium*	4.60	ug/l	0.0	lbs/day	20.0	ug/l	0.3
Silver	N/A	ug/l	N/A	lbs/day	41.1	ug/l	0.5
Zinc	387.84	ug/l	3.1	lbs/day	387.8	ug/l	4.9
Cyanide*	5.20	ug/l	0.0	lbs/day	22.0	ug/l	0.3

*Limits for these metals are based on the dissolved standard.

Effluent Limitations for Heat/Temperature based upon Water Quality Standards

Summer	24.0 Deg. C.	75.2 Deg. F
Fall	19.0 Deg. C.	66.2 Deg. F
Winter	8.0 Deg. C.	46.4 Deg. F
Spring	16.0 Deg. C.	60.8 Deg. F

Effluent Limitations for Organics [Pesticides] Based upon Water Quality Standards

In-stream criteria of downstream segments for Organics [Pesticides] will be met with an effluent limit as follows:

	4 Day Average			1 Hour Average		
	Concentration		Load	Concentration		Load
Aldrin				1.5E+00	ug/l	2.91E-02
Chlordane	4.30E-03	ug/l	5.38E-02 lbs/day	1.2E+00	ug/l	2.33E-02
DDT, DDE	1.00E-03	ug/l	1.25E-02 lbs/day	5.5E-01	ug/l	1.07E-02
Dieldrin	1.90E-03	ug/l	2.38E-02 lbs/day	1.3E+00	ug/l	2.42E-02
Endosulfan	5.60E-02	ug/l	7.00E-01 lbs/day	1.1E-01	ug/l	2.13E-03
Endrin	2.30E-03	ug/l	2.88E-02 lbs/day	9.0E-02	ug/l	1.74E-03
Guthion	0.00E+00	ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	1.94E-04
Heptachlor	3.80E-03	ug/l	4.75E-02 lbs/day	2.6E-01	ug/l	5.04E-03
Lindane	8.00E-02	ug/l	1.00E+00 lbs/day	1.0E+00	ug/l	1.94E-02
Methoxychlor	0.00E+00	ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	5.82E-04
Mirex	0.00E+00	ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	1.94E-04
Parathion	0.00E+00	ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	7.75E-04
PCB's	1.40E-02	ug/l	1.75E-01 lbs/day	2.0E+00	ug/l	3.88E-02
Pentachlorophenol	1.30E+01	ug/l	1.63E+02 lbs/day	2.0E+01	ug/l	3.88E-01
Toxephene	2.00E-04	ug/l	2.50E-03 lbs/day	7.3E-01	ug/l	1.42E-02

Effluent Limitations for Protection of Human Health [Toxics Rule]
Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)

In-stream criteria of downstream segments for Protection of Human Health [Toxics] will be met with an effluent limit as follows:

	Maximum Concentration	
	Concentration	**Load**
Toxic Organics		
Acenaphthene	ug/l	lbs/day
Acrolein	ug/l	lbs/day
Acrylonitrile	ug/l	lbs/day
Benzene	ug/l	lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	ug/l	lbs/day
Chlorobenzene	ug/l	lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	ug/l	lbs/day
1,2-Dichloroethane	ug/l	lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	ug/l	lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	ug/l	lbs/day
1,1,2,2-Tetrachloroethane	ug/l	lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	ug/l	lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	ug/l	lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	ug/l	lbs/day
2-Chlorophenol	ug/l	lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day
1,3-Dichlorobenzene	ug/l	lbs/day
1,4-Dichlorobenzene	ug/l	lbs/day
3,3'-Dichlorobenzidine	ug/l	lbs/day
1,1-Dichloroethylene	ug/l	lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	ug/l	lbs/day
1,2-Dichloropropane	ug/l	lbs/day
1,3-Dichloropropylene	ug/l	lbs/day
2,4-Dimethylphenol	ug/l	lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	ug/l	lbs/day
Ethylbenzene	ug/l	lbs/day
Fluoranthene	ug/l	lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	ug/l	lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	ug/l	lbs/day
Methyl chloride (HM)		

Methyl bromide (HM)		
Bromoform (HM)	ug/l	lbs/day
Dichlorobromomethane(HM)	ug/l	lbs/day
Chlorodibromomethane (HM)	ug/l	lbs/day
Hexachlorocyclopentadiene	ug/l	lbs/day
Isophorone	ug/l	lbs/day
Naphthalene		
Nitrobenzene	ug/l	lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	ug/l	lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day
N-Nitrosodi-n-propylamine	ug/l	lbs/day
Pentachlorophenol	ug/l	lbs/day
Phenol	ug/l	lbs/day
Bis(2-ethylhexyl)phthalate	ug/l	lbs/day
Butyl benzyl phthalate	ug/l	lbs/day
Di-n-butyl phthalate	ug/l	lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	ug/l	lbs/day
Dimethyl phthlate	ug/l	lbs/day
Benzo(a)anthracene (PAH)	ug/l	lbs/day
Benzo(a)pyrene (PAH)	ug/l	lbs/day
Benzo(b)fluoranthene (PAH)	ug/l	lbs/day
Benzo(k)fluoranthene (PAH)	ug/l	lbs/day
Chrysene (PAH)	ug/l	lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	ug/l	lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	ug/l	lbs/day
Pyrene (PAH)	ug/l	lbs/day
Tetrachloroethylene	ug/l	lbs/day
Toluene	ug/l	lbs/day
Trichloroethylene	ug/l	lbs/day
Vinyl chloride	ug/l	lbs/day

Pesticides

Aldrin	ug/l	lbs/day
Dieldrin	ug/l	lbs/day
Chlordane	ug/l	lbs/day
4,4'-DDT	ug/l	lbs/day
4,4'-DDE	ug/l	lbs/day
4,4'-DDD	ug/l	lbs/day
alpha-Endosulfan	ug/l	lbs/day
beta-Endosulfan	ug/l	lbs/day
Endosulfan sulfate	ug/l	lbs/day
Endrin	ug/l	lbs/day
Endrin aldehyde	ug/l	lbs/day
Heptachlor	ug/l	lbs/day
Heptachlor epoxide		

PCB's

PCB 1242 (Arochlor 1242)		ug/l		lbs/day
PCB-1254 (Arochlor 1254)		ug/l		lbs/day
PCB-1221 (Arochlor 1221)		ug/l		lbs/day
PCB-1232 (Arochlor 1232)		ug/l		lbs/day
PCB-1248 (Arochlor 1248)		ug/l		lbs/day
PCB-1260 (Arochlor 1260)		ug/l		lbs/day
PCB-1016 (Arochlor 1016)		ug/l		lbs/day
Pesticide				
Toxaphene		ug/l		lbs/day
Metals				
Antimony		ug/l		lbs/day
Arsenic		ug/l		lbs/day
Asbestos		ug/l		lbs/day
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper		ug/l		lbs/day
Cyanide		ug/l		lbs/day
Lead				
Mercury		ug/l		lbs/day
Nickel		ug/l		lbs/day
Selenium				
Silver				
Thallium		ug/l		lbs/day
Zinc				
Dioxin				
Dioxin (2,3,7,8-TCDD)	#N/A	ug/l	#N/A	lbs/day

Metals Effluent Limitations for Protection of All Beneficial Uses
Based upon Water Quality Standards and Toxics Rule

	Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/l
Aluminum		750.0				750.0	N/A
Antimony				4300.2		4300.2	
Arsenic		340.0				340.0	190.0
Barium							
Beryllium							
Cadmium		8.7				8.7	0.8
Chromium (III)		5611.8				5611.8	268.2
Chromium (VI)		16.0				16.00	11.00
Copper		51.7				51.7	30.5

Cyanide		22.0	220009.5		22.0	5.2
Iron		2320.6			2320.6	
Lead		476.8			476.8	18.6
Mercury		2.40		0.15	0.15	0.012
Nickel		1516.0		4600.2	1516.0	168.5
Selenium		20.0			20.0	4.6
Silver		41.1			41.1	
Thallium				6.3	6.3	
Zinc		387.8			387.8	387.8
Boron	N/A					
Sulfate	N/A				N/A	

Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]
[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

	WLA Acute ug/l	WLA Chronic ug/l	
Aluminum	750.0	N/A	
Antimony	4300.19		
Arsenic	340.0	190.0	
Asbestos			
Barium			
Beryllium			
Cadmium	8.7	0.8	
Chromium (III)	5611.8	268	
Chromium (VI)	16.0	11.0	
Copper	51.7	30.5	
Cyanide	22.0	5.2	
Iron	2320.6		
Lead	476.8	18.6	
Mercury	0.150	0.012	
Nickel	1516.0	169	
Selenium	20.0	4.6	
Silver	41.1	N/A	
Thallium	6.3		
Zinc	387.8	387.8	
Boron			
Sulfate	N/A		N/A at this Waterbody

Other Effluent Limitations are based upon R317-1.
E. coli 126.0 organisms per 100 ml

X. Antidegradation Considerations

The Utah Antidegradation Policy allows for degradation of existing quality where it is determined that such lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are protected [R317-2-3]. It has been determined that certain chemical parameters introduced by this discharge will cause an increase of the concentration of said parameters in the receiving waters. Under no conditions will the increase in concentration be allowed to interfere with existing instream water uses.

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an

Antidegradation Level II Review is required because the receiving water for the discharge is a Class 1C Drinking Water Source.

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value.
This doesn't apply to facilities that do not discharge to the Colorado River Basin.

XII. 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 down-stream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

aCO3

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
tons/day

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

.]
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

lbs/day
lbs/day

lbs/day

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

lbs/day

lbs/day

lbs/day

lbs/day
lbs/day

lbs/day

TDS **mg/l**
400.0
400.0
400.0
400.0

Pb ug/l
0.795*

·80% MDL

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day
lbs/day

ATTACHMENT 4

Reasonable Potential Analysis

This Page Intentionally Left Blank

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 Analysis[1]. They are;

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

Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at some of the metals and ammonia were needed. Copies of the lab reports for the monitoring events were obtained and the data was confirmed/corrected as needed. A copy of the screening is included in the "Effluent Metals and RP Screening Results" table in this attachment. The screening check showed that the full model needed to be run the following metals; cyanide, mercury, selenium, and also on ammonia.

When running the RP model on the cyanide data, all the data back to July of 2018 was used, resulting in 4 data points. The model is not intended for use on such small data sets, so we will have to wait until the next renewal to check the RP for cyanide. This result indicates that the effluent monitoring requirements for cyanide be increased in the renewal, and the RP Run again during the next renewal.

(Outcome B from Reasonable Potential Guide)

The RP model was run on mercury using the most recent data back through 2018. This resulted in 10 data points. This is the minimum number of data points to be used when working with the model. The data is from sampling events were mercury was analyzed for using Method 245.1 and Method 1631. This resulted in 2 completely different Minimum Reporting Limit (MRL)'s for the data. One (254.1) at 0.0002 mg/l and the other (1631) at 0.0000005 mg/L. The discrepancy in the MRL's is to great to be confident in the results using a Modified Delta-Lognormal data distribution. Removing the non-detect data from the set and running the model using the Default data distribution setting indicates that there is RP for Chronic at the 99% Confidence Interval. Leaving in or removing the non-detect data and running the model with a Lognormal Distribution indicated no RP for mercury. To note, in all runs the result was no RP for Acute limit for mercury.

These mixed results would indicate that more sampling for mercury should be conducted using the 1631 Analysis Method during the next permit cycle, and the RP be conducted again during that renewal.

(Outcome B from Reasonable Potential Guide)

When running the RP model on the selenium data, all the data back to July of 2018 was used, resulting in 4 data points. The model is not intended for use on such small data sets, so we will have to wait until the next renewal to check the RP for selenium. This result indicates that the effluent monitoring requirements for cyanide should remain as they are or be increased in the renewal permit.

With this small data set, and the results, it is recommended that the monitoring for selenium be increased in the renewal, and the RP run again during the next renewal.

(Outcome B from Reasonable Potential Guide)

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

The ammonia data was sorted by season and screened against the seasonal WQBEL from the WLA. This resulted in between 3 and 13 datapoints for each season and a total of 36 data points. There are not enough data points to run RP for each season, but the screening did reveal that all but 2 data points exceeded the chronic WQBEL and all but 6 exceeded the chronic WQ BEL. For this reason, it was felt the full RP did not need to be run, but the limits should be included in the permit.

(Similar to Outcome A from Reasonable Potential Guide)

To summarize the results of the RP analysis.

	Monitoring Frequency	
	Previous Permit	Renewal Permit
Cyanide	Annually	Twice Annually
Selenium	Annually	Twice Annually
Mercury	Twice Annually	Twice Annually

	Ammonia Limits	
Season	Max Monthly Average	Daily Maximum
Summer	1.0 mg/l	4.7 mg/l
Fall	2.7 mg/l	8.2 mg/l
Winter	3.4 mg/l	9.8 mg/l
Spring	2.7 mg/l	8.2 mg/l

A Summary of the RP Model inputs and outputs are included in the table below.

The Metals Initial Screening Table and RP Outputs Table are included in this attachment.

RP input/output summary

RP Procedure Output	Outfall Number:		Data Units	
Parameter	Mercury Run #1, #2		Mercury Run #3, #4	
Distribution	Modified Delta-Lognormal, With ND Data		Default, Without ND Data	
Reporting Limit	0.0000005 and 0.0002		0.0000005	
Significant Figures	2			
Maximum Reported Effluent Conc.	0.0000043		0.0000043	
Coefficient of Variation (CV)	2.1		0.6	
Acute Criterion	0.00015		0.00015	
Chronic Criterion	0.000012		0.000012	
Confidence Interval	95	99	95	99
Projected Maximum Effluent Conc. (MEC)	0.00001	0.000034	0.0000086	0.000015
RP Multiplier	2.3	8.0	2.0	3.5
RP for Acute?	NO	NO	NO	NO
RP for Chronic?	NO	YES	NO	YES
Outcome	B		B	

RP Procedure Output	Outfall Number:		Data Units	
Parameter	Mercury Run #5, #6		Mercury Run #7, #8	
Distribution	Lognormal, With ND Data		Lognormal, Without ND Data	
Reporting Limit	0.0000005		0.0000005	
Significant Figures	2		2	
Maximum Reported Effluent Conc.	0.0000043		0.0000043	
Coefficient of Variation (CV)	0.45		0.45	
Acute Criterion	0.00015		0.00015	
Chronic Criterion	0.000012		0.000012	
Confidence Interval	95	99	95	99
Projected Maximum Effluent Conc. (MEC)	0.0000074	0.000011	0.0000074	0.000011
RP Multiplier	1.7	2.7	1.7	2.7
RP for Acute?	NO	NO	NO	NO
RP for Chronic?	NO	NO	NO	NO
Outcome	C		C	

Ammonia Effluent Compared to 2023 WLA WQBEL									
X indicates violation		O indicates no violation							
There was no discharge during the months not listed.									
		Winter		Spring		Summer		Fall	
WQBEL		Chronic	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute
Month	Value	3.4	9.8	2.7	8.2	1	4.7	2.7	8.2
Jan-19	16.9	X	X						
Feb-19	14	X	X						
Mar-19	14.7	X	X						
Apr-19	19.5			X	X				
May-19	20.2			X	X				
Jun-19	8.8			X	X				
Jul-19	5.5					X	X		
Aug-19	0.2					O	O		
Jan-20	11.4	X	X						
Feb-20	12.4	X	X						
Mar-20	15	X	X						
Apr-20	21.5			X	X				
May-20	26.3			X	X				
Jun-20	18			X	X				
Jul-20	5.2					X	X		
Aug-20	1.4					X	O		
Jan-21	21.9	X	X						
Feb-21	26.2	X	X						
Mar-21	25	X	X						
Apr-21	22.3			X	X				
May-21	20.7			X	X				
Jun-21	6.8			X	O				
Jul-21	6.8					X	X		
Aug-21	0.4					O	O		
Sep-21	1.1					X	O		
Oct-21	7.5							X	O
Nov-21	17.4							X	X
Dec-21	20.9							X	X
Mar-22	22.5	X	X						
Apr-22	30.1			X	X				
May-22	24.2			X	X				
Jun-22	19.1			X	X				
Jan-23	13.3	X	X						
Feb-23	16.2	X	X						
Mar-23	19.4	X	X						
Apr-23	11.7			X	X				

Metals Monitoring and RP Check

Metals Monitoring Results and RP Screening														
Parameter	CN	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn	Cr	Hg
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ng/L
	0.002	0.0005	0.0002	0.0005	0.0001	0.0005	0.0002	0.0005	0.0005		0.0005	0.01		0.5
Sample Date							Method 245.2							Method 1631
5/31/2018	0.002	0.0066	ND	0.0013	0.0028	0.0007	ND	0.0106	0.0114		ND	0.02		
11/29/2018	0.002	0.0106	ND	0.0011	0.0035	0.0007	ND	0.0246	0.0069	0.0034	ND	ND		
6/7/2019														2.6
10/22/2020														3.2
4/8/2021														2.9
7/8/2021	0.006	0.0114	ND	0.0008	0.0032	ND	ND	0.0112	0.0021	0.0048	ND	0.02		
11/3/2021														2
6/30/2022														2.6
11/18/2022	0.007	0.0136	ND	0.0007	0.0034	0.001		0.0138	0.0023	0.0022	ND	ND		1.1
5/11/2023														4.3
Max	0.007	0.0136	0.0002	0.0013	0.0035	0.001	0.0002	0.0246	0.0114	0.0048	0.0005	0.02	0	4.3
Water Quality Based Effluent Limits														
	CN	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Ag	Zn	Cr	Hg
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ng/L
Acute	0.022	0.34	0.0087	5.6118	0.0517	0.4768	0.00015	1	1.516	0.02	0.0411	0.3878	0.016	150
Chronic	0.0052	0.19	0.0008	0.268	0.0305	0.0186	0.000012	1	0.169	0.0046	0.0411	0.3878	0.011	12
ARP Chk	No	No	No	No	No	No	*Yes*	No	No	No	No	No	No	No
CRP CHK	*Yes*	No	No	No	No	No	*Yes*	No	No	*Yes*	No	No	No	No

This Page Intentionally Left Blank