

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. **UT0020893**

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

MORGAN CITY CORPORATION

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named **WEBER RIVER**,

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

This permit shall become effective on October 1, 2020.

This permit expires at midnight on September 30, 2025.

Signed this 30th day of September, 2020.



Erica Brown Gaddis, PhD
Director

DWQ-2020-020004

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WASTEWATER

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*.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	A 12-inch outfall pipe, located at latitude 41°03'07" and longitude 111°41'57" on the southwest side of the lagoon system into the Weber River.

- B. Narrative Standard. It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum, or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by a bioassay or other tests performed in accordance with standard procedures.
- C. Specific Limitations and Self-Monitoring Requirements.
1. Effective immediately, and lasting through the life of this permit, there shall be no acute or chronic toxicity in Outfall(s)001 as 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. Such discharges shall be limited and monitored by the permittee as specified below:

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Table 1					
Parameter	Effluent Limitations ^a				
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum	Yearly Maximum
Flow, MGD	--	--	--	0.450	
BOD₅, mg/L	45	65	--	--	
TSS, mg/L	45	65	--	--	
<i>E. coli</i>, No./100mL	126	158	--	--	
pH, Standard Units	--	--	6.5	9	
DO, mg/L	--	--	5.0	--	
TRC, mg/L					
Summer (Jul-Sep)	5.19	--	--	5.02	
Fall (Oct-Dec)	0.66	--	--	0.64	
Winter (Jan-Mar)	0.38	--	--	0.38	
Spring (Apr-Jun)	2.75	--	--	2.67	
Oil & Grease, mg/L	--	--	--	10.0	
Total Phosphorus, lbs/year					8583

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Table 2			
Self-Monitoring and Reporting Requirements ^{a, b}			
Parameter	Frequency	Sample Type	Units
Total Flow ^{c, d}			
Effluent	Continuous	Recorder	MGD
BOD₅			
Influent ^e	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
TSS			
Influent ^e	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
<i>E. coli</i>			
Effluent	Monthly	Grab	No./100mL
pH			
Effluent	Daily	Grab	SU
DO			
Effluent	Monthly	Grab	mg/L
TRC, mg/L ^f			
Effluent	Daily	Grab	mg/L
Oil & Grease ^{g, h}			
Effluent	When Sheen Observed	Grab	mg/L
Total Phosphorus (as P) ⁱ			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Ammonia (as N)			
Effluent	Monthly	Grab	mg/L
Temperature, mg/L			
Effluent	Weekly	Recorder	Fahrenheit
Orthophosphate (as P) ⁱ			
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen (TKN (as N)) ⁱ			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO₃ ⁱ			
Effluent	Monthly	Composite	mg/L
Nitrite, NO₂ ⁱ			
Effluent	Monthly	Composite	mg/L
Metals ^{j, k, l}			
Effluent	Quarterly	Composite	mg/L

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Table References

- a. See Definitions, *Part VIII*, for definition of terms.
- b. All parameters in this table will be reported on the monthly Discharge Monitoring Report.
- c. Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- d. If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- e. 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.
- f. Analytical results less than 0.06 mg/l will not be considered out of compliance with the permit. For purposes of calculating averages and reporting on the Discharge Monitoring Report form, the following will apply:
 - Analytical values less than 0.02 mg/L shall be considered zero; and
 - Analytical values less than 0.06 mg/L and equal to or greater than 0.02 mg/L will be recorded as measured.
- g. There shall be no visible sheen or floating solids or visible foam in other than trace amounts.
- h. Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report 9 under "NODI" in NetDMR.
- i. Monitoring only for total phosphorus (TP), orthophosphate as P (OP), total ammonia, nitrate, nitrite, and total Kjeldahl nitrogen as N (TKN) have been included to comply with Utah Secondary Treatment Standards and the Technology-based Phosphorus Effluent limit rule in *UAC R317-1-3.3*
- j. Metals samples should be analyzed using a method that meets MDL requirements. If a test method is not available the permittee must submit documentation to the Director regarding the method that will be used. The sample type (composite or grab) should be performed according to the methods requirements.
- k. Metals are being sampled in support of the work being done for the Reasonable Potential Analysis. The Metal parameters will be monitored and reported on an annual basis by the facility on Discharge Monitoring Report, but will not have a limit associated with them, if CDSO decides to sample more frequently for these parameters, the additional data will be welcome.
- l. Metals
 - Arsenic
 - Cadmium
 - Total Chromium
 - Copper
 - Cyanide
 - Lead
 - Mercury
 - Nickel
 - Selenium
 - Silver
 - Zinc

End Table References

Lagoon Best Management Practices:

- 1) The permittee shall take such parameters as are necessary to maintain and operate the facility in a manner that will minimize upsets and ensure stable operating conditions.

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- 2) The permittee shall visually inspect, at least weekly, the pond(s) to determine if there is adequate freeboard to minimize the likelihood of an accidental discharge occurring. If it is determined that a discharge is occurring and/or there is not adequate freeboard, the appropriate corrective measures shall be taken immediately.
- 3) The permittee shall take precautions and have erosion control measures in place that, in the event of a bypass of treatment, the discharge will not cause erosion into the Waters of the State.

A. 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 in NetDMR no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, “no discharge” shall be reported. Legible copies of these, and all other reports, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part VII.G)*, and submitted by NetDMR.

II. INDUSTRIAL PRETREATMENT PROGRAM

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 UPDES 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 and/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 UPDES 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

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- 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. Because the design capacity of this municipal wastewater treatment facility is less than 5 MGD, the permittee will not be required to develop a State-approved industrial pretreatment program at this time. However, in order to determine if development of an industrial pretreatment program is warranted, the permittee shall conduct an **industrial waste survey**, as described in *Part II.C.1.*, and submit it to the Division of Water Quality within **sixty (60) calendar days** of the effective date of this permit.
2. Monitoring will not 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.

C. Industrial Wastes.

1. The "Industrial Waste Survey" 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.
2. The IWS must be maintained and updated with IU information as necessary, to ensure that all IUs are properly permitted and/or controlled at all times. Updates must be submitted to the Director sixty (60) days following a change to the IWS.
3. Evaluate all significant industrial users at least once every two years to determine if they need to develop a slug prevention plan. If a slug prevention plan is required, the permittee shall notify the Director.
4. 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)*.
5. 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

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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. 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.

1. General prohibition Standards. A User may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference.
2. 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.
3. 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).

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- E. Significant Industrial Users Discharging to the POTW. The permittee shall provide adequate notice to the Director and the Division of Water Quality Industrial Pretreatment Coordinator of;
1. 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;
 2. 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
 3. 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.
 4. 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:
1. 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;
 2. 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*; and/or,
 3. 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.
 4. Require the permittee to develop an approved 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, the POTW must submit limits to DWQ for review and public notice, as required by R317-8-8.5(4)(c).

III. BIOSOLIDS REQUIREMENTS

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.

IV. STORM WATER REQUIREMENTS.

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

V. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS

- A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Samples of biosolids shall be collected at a location representative of the quality of biosolids immediately prior to the use-disposal practice.
- B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10 and 40CFR Part 503*, unless other test procedures have been specified in this permit.
- C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.
- E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10 and 40 CFR 503* or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or the Biosolids Report Form. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.
- F. Records Contents. Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements;
 2. The individual(s) who performed the sampling or measurements;
 3. The date(s) and time(s) analyses were performed;
 4. The individual(s) who performed the analyses;
 5. The analytical techniques or methods used; and,
 6. The results of such analyses.
- G. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location
- H. Twenty-four Hour Notice of Noncompliance Reporting.
1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 536-4300, or 24-hour answering service (801) 536-4123.

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2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4300 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
 - a. Any noncompliance which may endanger health or the environment;
 - b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part VI.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part VI.H, Upset Conditions.*);
 - d. Violation of a daily discharge limitation for any of the pollutants listed in the permit; or,
 - e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.
3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected;
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,
 - e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.
4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 536-4300.
5. Reports shall be submitted to the addresses in *Part I.D, Reporting of Monitoring Results.*
- I. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part I.D* are submitted. The reports shall contain the information listed in *Part V.H.3*
- J. Inspection and Entry The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

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3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,
5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

VI. COMPLIANCE RESPONSIBILITIES

- A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.
- B. Penalties for Violations of Permit Conditions. The Act provides that any person who violates a permit condition implementing provisions of the Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions or the Act is subject to a fine not exceeding \$25,000 per day of violation. Any person convicted under UCA 19-5-115(2) a second time shall be punished by a fine not exceeding \$50,000 per day. Except as provided at Part VI.G, *Bypass of Treatment Facilities* and Part VI.H, *Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
- C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment. The permittee shall also take all reasonable steps to minimize or prevent any land application in violation of this permit.
- E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- F. Removed Substances. Collected screening, grit, solids, sludge, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.
- G. Bypass of Treatment Facilities.
 - 1. Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to paragraph 2 and 3 of this section.

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2. Prohibition of Bypass.

- a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
- (1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and
 - (3) The permittee submitted notices as required under *section VI.G.3.*
- b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in *sections VI.G.2.a (1), (2) and (3).*

3. Notice.

- a. *Anticipated bypass.* Except as provided above in *section VI.G.2* and below in *section VI.G.3.b*, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:
- (1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages;
 - (2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;
 - (3) Description of specific measures to be taken to minimize environmental and public health impacts;
 - (4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;
 - (5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and,
 - (6) Any additional information requested by the Director.
- b. *Emergency Bypass.* Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in *section VI.G.3.a.(1) through (6)* to the extent practicable.

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

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2 of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.
2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under *Part V.H, Twenty-four Hour Notice of Noncompliance Reporting*; and,
 - d. The permittee complied with any remedial measures required under *Part VI.D, Duty to Mitigate*.
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

VII. GENERAL REQUIREMENTS

- A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of parameters discharged or pollutant sold or given away. This notification applies to pollutants, which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.
- B. Anticipated Noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.
- C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.
- E. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
- F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.
- G. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.
 - 1. All permit applications shall be signed by either a principal executive officer or ranking elected official.
 - 2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Director, and,
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position

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having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

3. Changes to authorization. If an authorization under *paragraph VII.G.2* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *paragraph VII.G.2* must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

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

- 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;

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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 *UCA 19-5-117* and *Section 510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.
- 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 area-wide 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.
- R. Storm Water-Reopener Provision. At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8*, to include, any applicable storm water provisions and requirements, a storm water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "waters-of-State".

VIII. DEFINITIONS

A. Wastewater.

1. The "7-day (and weekly) average", other than for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains Saturday.
2. The "30-day (and monthly) average," other than for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
3. "Act," means the *Utah Water Quality Act*.
4. "Acute toxicity" occurs when 50 percent or more mortality is observed for either test species at any effluent concentration (lethal concentration or "LC₅₀").
5. "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.
6. "Bypass," means the diversion of waste streams from any portion of a treatment facility.
7. "Chronic toxicity" occurs when the IC₂₅ < 0.3% effluent. The 0.3% effluent is the concentration of the effluent in the receiving water, at the end of the mixing zone expressed as per cent effluent.
8. "IC₂₅" is the concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.
9. "Composite Samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

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- a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
 - b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;
 - c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,
 - d. Continuous sample volume, with sample collection rate proportional to flow rate.
10. "CWA" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
 11. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
 12. "EPA," means the United States Environmental Protection Agency.
 13. "Director," means Director of the Division of Water Quality.
 14. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
 15. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
 16. "Severe Property Damage," means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 17. "Upset," means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

**FACT SHEET AND STATEMENT OF BASIS
MORGAN CITY CORPORATION
RENEWAL PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0020893
MINOR MUNICIPAL**

FACILITY CONTACTS

Person Name: Jamie Grandpre
Position: Water & Wastewater Supervisor
Phone Number: 801.821.6324

Facility Name: Morgan City Corporation
Mailing Address: PO Box 1085
90 West Young Street
Morgan, Utah 84050

Telephone: 801.821.6324

Actual Address: 90 West Young Street
Morgan, Utah 84050

DESCRIPTION OF FACILITY

The Morgan City Wastewater Treatment Facility (Morgan) is located approximately 1.5 northwest of Morgan, Utah in Morgan County. Morgan has a population of approximately 4,200 with 1,400 sewer connections. The design capacity of the facility is 0.45 million gallons per day (MGD).

The facility comprises of two influent lift stations with influent 8-inch Parshall Flume, influent flow meters, grinders, headworks screening and grit removal system, four aerated lagoon cells, switchover chlorination, dechlorination equipment, reaeration equipment, effluent 90 degree “v” notch weir and effluent flow meter. Chlorination takes place in two maze type configuration contact basins following the last stabilization cell. The first lagoon cell has six aerators, pond two has three aerators, pond three has two aerators and pond one has one aerator.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Morgan has improved the headworks building with an updated grit removal system and the chlorine contact basin and installed a de-chlorination station.

Morgan’s previous permit allowed for the alternative limits for BOD and TSS based on R317-1-3.2.G. In a letter dated August 1, 2020, Morgan has requested to keep the alternative limits. The letter also requested to have the percentage removal for BOD and TSS removed from the UPDES permit based on I&I in the system during the seasonal run off and the close proximity to the Weber River. The request shall be reevaluated during every permit cycle by Morgan and DWQ.

TBPEL Rule

Water Quality adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 2014. No TBPEL will be instituted for discharging treatment lagoons. Instead, each discharging lagoon will be evaluated to determine the current annual average total phosphorus load measured in pounds per

year based on monthly average flow rates and concentrations. Absent field data to determine these loads, and in case of intermittent discharging lagoons, the phosphorus load cap will be estimated by the Director.

A cap of 125% of the current annual total phosphorus load will be established and referred to as phosphorus loading cap. Once the lagoon's phosphorus loading cap has been reached, the owner of the facility will have five years to construct treatment processes or implement treatment alternatives to prevent the total phosphorus loading cap from being exceeded. The load cap shall become effective July 1, 2018.

The TBPEL discharging treatment works are required to implement, at a minimum, monthly monitoring of the following beginning July 1, 2015:

- R317-1-3.3, E, 1, a. Influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations;
- R317-1-3.3, E, 1, b. Effluent for total phosphorus and orthophosphate (as P), ammonia, nitrate-nitrite and total Kjeldahl nitrogen (an N);

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

The phosphorus annual loading cap is defined as:

"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.

The reported monthly loading is calculated as shown here:

$$\begin{aligned} \text{Monthyl Mass Loading, } \frac{\text{lbs}}{\text{Month}} \\ = (\text{Ave Flow}) * (\text{Ave Concetration}) * \left(8.34 \frac{\text{lbs}}{\text{gal}}\right) * \left(\frac{\text{Days Discharged}}{\text{Month}}\right) \end{aligned}$$

The annual total phosphorus loading:

$$\text{Annual Mass Loading, lbs} = \text{Sum} \left(\text{Monthyl Mass Loading, } \frac{\text{lbs}}{\text{Month}} \right)$$

DISCHARGE

DESCRIPTION OF DISCHARGE

Morgan has been reporting self-monitoring results on Discharge Monitoring Reports in NetDMR on a monthly basis. Over the last five years Morgan has had BOD, TSS, *E.coli* and TRC violations. In 2015 and 2016, the lagoons had a septic event while dredging ponds 1 and 2 causing violations in BOD, TSS, *E.coli* and TRC. In the Spring of 2015, 2016, 2017, 2018 and 2019 violations were caused from algae sloughing off. Late 2018 through 2019 violations were caused from the construction at the facility.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	A 12-inch outfall pipe, located at latitude 41°03'07" and longitude 111°41'57" on the southwest side of the lagoon system into the Weber River.

RECEIVING WATERS AND STREAM CLASSIFICATION

The designated beneficial uses of the Weber River and tributaries, from Stoddard diversion to headwaters, are 1C, 2B, 3A and 4 according to *Utah Administrative Code (UAC) R317-2-13.4.a.*

- Class 1C Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water
- 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 3A Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5), *E. coli*, pH and percent removal for BOD5 and TSS are based on current Utah Secondary Treatment Standards, *UAC R317-1-3.2*. For at least the last two permit cycle, Morgan has had the alternative limits as stated in *UAC R317-1-3.2.G* for BOD5 and TSS. Those limits will remain in effect for this permit cycle. Morgan has requested the percentage limitation removed for BOD and TSS from the requirements due to I&I. For at least this permit cycle, the percentage limitation for BOD and TSS has been removed from the UPDES limitation and self-monitoring requirements. The alternative limits and percentage limitation will be reevaluated by Morgan and DWQ during each permit cycle. The oil and grease is based on best professional judgment (BPJ). Temperature has been added as monitoring only parameter. Annual metal sampling has been added for reasonable potential analysis (RP). Ammonia does not have a limit based on the WLA but will be monitored monthly.

Attached is a Wasteload Analysis for this discharge into the Weber River. 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.

Parameters of Concern

Besides TSS, no additional potential parameters of concern were identified based on review of the impairment status of the receiving water and review of the previous permit.

Total Maximum Daily Load (TMDL)

According to the Utah's 2016 303(d) Water Quality Assessment Report, the receiving water for the discharge, Weber River between East Canyon Creek Confluence and Lost Creek Confluence (UT16020102-022_00, Weber-6) is impaired for Bioassessment and requires a TMDL.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. To complete a RP analysis, more than 10 data points per parameter are needed. Morgan was not required to sample for metal parameters in their previous permit, therefore, analysis data is not available to perform a RP analysis. For this permit cycle, Morgan will be required to complete, at a minimum, annual metal sampling. If additional sampling is performed, it shall be reported to DWQ. Less than 10 data points may affect the RP outcomes which may require additional monitoring in the future.

Table 1					
Parameter	Effluent Limitations				
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum	Yearly Maximum
Flow, MGD	--	--	--	0.450	
BOD₅, mg/L	45	65	--	--	
TSS, mg/L	45	65	--	--	
<i>E. coli</i>, No./100mL	126	158	--	--	
pH, Standard Units	--	--	6.5	9	
DO, mg/L	--	--	5.0	--	
TRC, mg/L					
Summer (Jul-Sep)	5.19	--	--	5.02	
Fall (Oct-Dec)	0.66	--	--	0.64	
Winter (Jan-Mar)	0.38	--	--	0.38	
Spring (Apr-Jun)	2.75	--	--	2.67	
Oil & Grease, mg/L	--	--	--	10.0	
Total Phosphorus, lbs/year					8583

SELF-MONITORING AND REPORTING REQUIREMENTS

The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) in NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for metals must be attached to the DMRs.

Table 2			
Self-Monitoring and Reporting Requirements^{a, b}			
Parameter	Frequency	Sample Type	Units
Total Flow^{c, d}			
Effluent	Continuous	Recorder	MGD
BOD₅			
Influent^e	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
TSS			
Influent^e	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
<i>E. coli</i>			
Effluent	Monthly	Grab	No./100mL
pH			
Effluent	Daily	Grab	SU
DO			
Effluent	Monthly	Grab	mg/L
TRC, mg/L^f			
Effluent	Daily	Grab	mg/L
Oil & Grease^{g, h}			
Effluent	When Sheen Observed	Grab	mg/L
Total Phosphorus (as P)ⁱ			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Ammonia (as N)			
Effluent	Monthly	Grab	mg/L
Temperature, mg/L			
Effluent	Weekly	Recorder	Fahrenheit
Orthophosphate (as P)ⁱ			
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen (TKN (as N))ⁱ			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO₃ⁱ			
Effluent	Monthly	Composite	mg/L
Nitrite, NO₂ⁱ			
Effluent	Monthly	Composite	mg/L
Metals^{j, k, l}			
Effluent	Quarterly	Composite	mg/L

Table References

- a. See Definitions, *Part VIII*, for definition of terms.
- b. All parameters in this table will be reported on the monthly Discharge Monitoring Report.
- c. Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- d. If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- e. 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.
- f. Analytical results less than 0.06 mg/l will not be considered out of compliance with the permit. For purposes of calculating averages and reporting on the Discharge Monitoring Report form, the following will apply:
 - Analytical values less than 0.02 mg/L shall be considered zero; and
 - Analytical values less than 0.06 mg/L and equal to or greater than 0.02 mg/L will be recorded as measured.
- g. There shall be no visible sheen or floating solids or visible foam in other than trace amounts.
- h. Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report 9 under "NODP" in NetDMR.
- i. Monitoring only for total phosphorus (TP), orthophosphate as P (OP), total ammonia, nitrate, nitrite, and total Kjeldahl nitrogen as N (TKN) have been included to comply with Utah Secondary Treatment Standards and the Technology-based Phosphorus Effluent limit rule in *UAC R317-1-3.3*
- j. Metals samples should be analyzed using a method that meets MDL requirements. If a test method is not available the permittee must submit documentation to the Director regarding the method that will be used. The sample type (composite or grab) should be performed according to the methods requirements.
- k. Metals are being sampled in support of the work being done for the Reasonable Potential Analysis. The Metal parameters will be monitored and reported on an annual basis by the facility on Discharge Monitoring Report, but will not have a limit associated with them, if Morgan City decides to sample more frequently for these parameters, the additional data will be welcome.
- l. Metals
 - Arsenic
 - Cadmium
 - Total Chromium
 - Copper
 - Cyanide
 - Lead
 - Mercury
 - Nickel
 - Selenium
 - Silver
 - Zinc

End Table References

Lagoon Best Management Practices:

- 1) The permittee shall take such parameters as are necessary to maintain and operate the facility in a manner that will minimize upsets and ensure stable operating conditions.
- 2) The permittee shall visually inspect, at least weekly, the pond(s) to determine if there is adequate freeboard to minimize the likelihood of an accidental discharge occurring. If it is determined that a discharge is occurring and/or there is not adequate freeboard, the appropriate corrective measures shall be taken immediately.
- 3) The permittee shall take precautions and have erosion control measures in place that, in the event of a bypass of treatment, the discharge will not cause erosion into the Waters of the State.

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

Separate storm water permits may be required based on the types of activities occurring on site.

Wastewater treatment facilities, including lagoon systems, are required to obtain permit coverage under the Multi Sector General Permit (MSGP) for Storm Water Discharges from Industrial Activities if the facility has an approved pretreatment program or has a design flow of 1.0 MGD or greater. This permit does not include industrial storm water permit requirements since this facility does not meet either of these criteria. A permit will be required if the conditions change and the criteria are met.

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

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

PRETREATMENT REQUIREMENTS

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD, there are no known categorical industries discharging to the treatment facility, and there is no indication of pass through or interference with the operation of the treatment facility such as upsets or violations of the POTW's UPDES permit limits.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, the permittee 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.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be

submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review. If local limits are developed it is required that the permittee 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 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 a small volume of effluent, in which toxicity is neither an existing concern, nor likely to be present. Based on these considerations and the absence of receiving stream water quality monitoring data, there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

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

Drafted by
Sarah Leavitt Ward, Discharge
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Lisa Stevens, Storm Water
Suzan Tahir, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: August 27, 2020
Ended: September 28, 2020

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 website.

ADDENDUM TO FSSOB

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

Responsiveness Summary

No comments were received during the public notice period ending September 27, 2020.

DWQ-2020-020002

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ATTACHMENT 1

Industrial Waste Survey

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Industrial Pretreatment Wastewater Survey



Do you periodically experience any of the following treatment works problems?
foam, floaties or unusual colors
plugged collection lines caused by grease, sand, flour, etc.
discharging excessive suspended solids, even in the winter
smells unusually bad
waste treatment facility doesn't seem to be treating the waste right

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

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

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

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

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

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

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

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

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

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

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

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

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

Sources for the list:

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

Split the list into two groups:

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

Step 2: Preliminary Inspection

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

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

Step 3: Informing the State

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

Jennifer Robinson

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

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

PRELIMINARY INSPECTION FORM

INSPECTION DATE ____ / ____ /

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

Description of Business _____

Principal product or service: _____

Raw Materials used: _____

Production process is: Batch Continuous Both

Is production subject to seasonal variation? yes no

If yes, briefly describe seasonal production cycle.

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

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

Wastes are discharged to (check all that apply):

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

Name of waste hauler(s), if used

Is a grease trap installed? Yes No

Is it operational? Yes No

Does the business discharge a lot of process wastewater?

- | | | |
|---|-----|----|
| • 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:

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

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

Inspector

Waste Treatment Facility

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

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

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

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

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ATTACHMENT 2

Effluent Monitoring Data

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Month	Year	Flow	BOD		TSS		E-Coll		TRC, Seasonal	DO	pH			T Phos	Nitrate	Nitrite	Ammonia	Comments
Parameters		0.45	45	65	45	65	126	157		5.0	6.5	9.0	Report	Report	Report	Report		
Jan	2015	0.247	10	10	25	25	3	3	0.13	11.0	8.09	8.17	4.1	2.4	0.0	24.1		
Feb		0.244	9	9	24	24	10	10	0.07	11.2	8.03	8.26	4.1	1.1	0.0	25.9		
Mar		0.197	17	17	29	29	3	3	0.09	11.4	8.32	8.41	4.3	1.7	0.0	26.8		
Apr		0.234	11	11	28	28	0	0	0.11	9.4	7.06	8.39	4.3	3.4	0.6	24.9		
May		0.216	14	14	46	46	0	0	0.39	6.3	7.50	7.89	3.2	10.7	0.0	0		
Jun		0.108	8	8	13	13	0	0	0.11	7.1	7.04	7.78	3.3	3.5	0.0	0.3		
Jul		0.122	0	0	14	14	0	0	0	4.7	7.41	7.51	8.8	0	0.0	4.5		
Aug		0.219	41	41	19	19	>2400	>2400	0	3.0	7.30	7.59	8.5	0	0.0	18.6		
Sep		0.262	43	43	30	30	>2400	>2400	0	0.3			7.1	0	0.0	27	No Discharge to Weber River	
Oct		0.275	46	46	33	33	>2400	>2400	0	1.6			5.0	0	0.0	29.4	No Discharge to Weber River	
Nov		0.284	49	49	74	74	>2400	>2400	0	2.9			4.6	0	0.0	30.9	No Discharge to Weber River	
Dec		0.253	53	53	134	134	>2400	>2400	0	2.6			7.3	0	0.0	59.8	No Discharge to Weber River	

Month	Year	Flow	BOD		TSS		E-Coll		TRC, Seasonal	DO	pH			T Phos	Nitrate	Nitrite	Ammonia	Comments
Parameters		0.45	45	65	45	65	126	157		5.0	6.5	9.0	Report	Report	Report	Report		
Jan	2016	0.257	45	45	43	43	>2400	>2400	0	6.3			6.3	0.2	0.0	53.5	No Discharge to Weber River	
Feb		0.205	73	73	37	37	1	1	0	5.5	7.5	7.7	6.5	0.0	0.0	43.4		
Mar		0.211	29	29	34	34	0	0	0	5.8	7.6	7.8	5.1	0.0	0.0	34.3		
Apr		0.267	34	34	54	54	50	50	0.09	6.8	7.7	8.0	6.0	0.0	0.0	41.4		
May		0.221	11	11	13	13	30	30	0.06	6.4	7.9	8.0	7.4	0.0	0.0	48.7		
Jun		0.179	15	15	19	19	34	34	0.27	6.1	8.1	8.4	8.0	0.0	0.0	38.8		
Jul		0.106	9	9	15	15	0	0	1.05	6	7.7	8.4	5.9	0.3	0.5	27.1		
Aug		0.182	0	0	5	5	60	60	0.6	5.6	7.8	7.8	7.3	0.0	0.0	35.5		
Sep		0.222	10	10	5	5	0	0	0.63	5.4	7.8	7.9	6.8	0.0	0.0	32.8		
Oct		0.235	6	6	6	6	0	0	0.42	6.5	7.8	8.0	6.3	0.2	0.0	35.8		
Nov		0.311	14	14	11	11	25	25	0.13	8.9	7.8	8.2	6.0	1.1	0.0	26.2		
Dec		0.283	24	24	35	35	20	20	0.05	12.4	8.0	8.2	6.1	4.0	0.0	21.6		

Month	Year	Flow	BOD		TSS		E-Coll		TRC, Seasonal	DO	pH			T Phos	Nitrate	Nitrite	Ammonia	Comments
Parameters		0.45	45	65	45	65	126	157		5.0	6.5	9.0	Report	Report	Report	Report		
Jan	2017	0.278	17	17	34	34	0	0	0.32	7.7	7.6	8.0	6.1	2.8	0.0	28.8		
Feb		0.265	17	17	38	38	5	5	0.3	7.2	7.6	7.8	6.3	2.3	0.4	33.2		
Mar		0.231	21	21	47	47	46	46	0.15	7.8	7.7	8.5	6.0	3.4	0.5	23.8		
Apr		0.236	34	34	30	30	26	26	0.43	7.6	7.8	8.2	5.0	1.0	0.4	24.9		
May		0.221	57	57	92	92	5	5	0.06	7.4	8.5	9.4	6.6	7.9	1.1	3.9		
Jun		0.255	36	36	33	33	1	1	0.1	5.4	7.8	8.0	4.6	0.3	0.4	1.5		
Jul		0.27	24	24	28	28	199	199	0.05	4.8	7.5	7.8	6.2	0.0	0.0	1.7		
Aug		0.269	11	11	17	17	1730	1730	2.49	6.8	7.6	7.8	5.0	0.0	0.0	8.8		
Sep		0.314	13	13	11	11	0	0	1.62	7.7	7.6	7.8	4.6	0.0	0.0	19.4		
Oct		0.339	8	8	10	10	96	96	0.31	8.1	7.7	8.4	4.0	0.3	0.8	22.4		
Nov		0.381	12	12	22	22	435	435	0.24	9.2	7.6	7.9	4.8	1.8	1.1	21.3		
Dec		0.333	19	19	40	40	0	0	0.47	11.6	7.8	8.1	5.1	4.0	0.3	19.2		

ATTACHMENT 3

Wasteload Analysis

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

Date: June 10, 2020

Prepared by: Suzan Tahir
Standards and Technical Services

Facility: Morgan City Corporation, UPDES Permit No. UT0020893
Receiving water: Weber River (1C, 2B, 3A, 4)

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

Discharge

001 Outfall (Lagoon Discharge) 0.45 MGD maximum daily discharge

Receiving Water

Per UAC R317-2-13.4.a, the designated beneficial uses of the Weber River and tributaries, from Stoddard diversion to headwaters, are 1C, 2B, 3A and 4.

- *Class 1C - Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water*
- *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 3A - Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.*
- *Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

Flow

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). Flow data was insufficient to calculate the seasonal 7Q10 values. The seasonal 20th percentile flow values were calculated using data from DWQ monitoring station #4925540 WEBER R AB MORGAN LAGOONS for the period 2000-2020. The seasonal 20th percentile and the overall flow values for the period 2000-2020 are displayed in Table 1.

Table 1. Seasonal Flow Data

Season	20 th percentile Flow Data (cfs)
Summer	250
Fall	31.2
Winter	17.9
Spring	132.4
Overall	133.4

Ambient receiving water quality was characterized using data from DWQ monitoring station #4925540 WEBER R AB MORGAN LAGOONS for the same period (2000-2020).

Discharge data was characterized using data from DWQ monitoring station #4925530 MORGAN LAGOONS for the period 2000-2020.

Total Maximum Daily Load (TMDL)

According to the Utah's 2016 303(d) Water Quality Assessment Report, the receiving water for the discharge, Weber River between East Canyon Creek Confluence and Lost Creek Confluence (UT16020102-022_00, Weber-6) is impaired for Bioassessment and requires a TMDL.

Mixing Zone

The maximum allowable mixing zone is 15 minutes of travel time for acute conditions, not to exceed 50% of stream width, and for chronic conditions is 2500 ft, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone.

Based on the results of the mixing zone modeling, plume width was 93.2% of the river at 2500 feet. 93.2 % of the seasonal critical low flow was used to calculate chronic limits. Acute limits were calculated using 50% of the seasonal critical low flow.

Parameters of Concern

Besides TSS, no additional potential parameters of concern were identified based on review of the impairment status of the receiving water and review of the previous permit.

**Utah Division of Water Quality
Wasteload Analysis
Morgan City Corporation, UPDES Permit No. UT0020893**

WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC₅₀ (lethal concentration, 50%) percent effluent for acute toxicity and the IC₂₅ (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC₅₀ is typically 100% effluent and does not need to be determined by the WLA.

IC25 WET limits for Outfall 001 should be based on 0.30 % 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 Addendums.

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.

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 existing permit is being requested.

Documents:

WLA Document: *MorganLagoons_WLA_2020.docx*

Wasteload Analysis and Addendums: *MorganLagoons_WLA_2020-final.xlsm*

References:

Utah Division of Water Quality. 2012. *Utah Wasteload Analysis Procedures Version 1.0.*

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis

29-May-20
4:00 PM

Facilities: Morgan City Lagoons
Discharging to: Weber River

UPDES No: UT-0020893

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 in terms 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

Weber River: 1C, 2B, 3A, 4
Antidegradation Review: Level I review completed. Level II review not required.

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)	6.50 mg/l (30 Day Average) 5.00 mg/l (7Day Average) 4.00 mg/l (1 Day Average)
Maximum Total Dissolved Solids	1200.0 mg/l

**Utah Division of Water Quality
Salt Lake City, Utah**

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aluminum	87.00 ug/l**	0.211 lbs/day	750.00	ug/l	1.819 lbs/day
Arsenic	190.00 ug/l	0.461 lbs/day	340.00	ug/l	0.825 lbs/day
Cadmium	0.54 ug/l	0.001 lbs/day	5.45	ug/l	0.013 lbs/day
Chromium III	183.61 ug/l	0.445 lbs/day	3841.48	ug/l	9.318 lbs/day
ChromiumVI	11.00 ug/l	0.027 lbs/day	16.00	ug/l	0.039 lbs/day
Copper	20.54 ug/l	0.050 lbs/day	33.42	ug/l	0.081 lbs/day
Iron			1000.00	ug/l	2.426 lbs/day
Lead	10.31 ug/l	0.025 lbs/day	264.56	ug/l	0.642 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.006 lbs/day
Nickel	113.94 ug/l	0.276 lbs/day	1024.84	ug/l	2.486 lbs/day
Selenium	4.60 ug/l	0.011 lbs/day	20.00	ug/l	0.049 lbs/day
Silver	N/A ug/l	N/A lbs/day	18.53	ug/l	0.045 lbs/day
Zinc	262.04 ug/l	0.636 lbs/day	262.04	ug/l	0.636 lbs/day

* Allowed below discharge

**Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as CaCO3

Metals Standards Based upon a Hardness of 251.82 mg/l as CaCO3

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aldrin			1.500	ug/l	0.004 lbs/day
Chlordane	0.004 ug/l	5.415 lbs/day	1.200	ug/l	0.003 lbs/day
DDT, DDE	0.001 ug/l	1.259 lbs/day	0.550	ug/l	0.001 lbs/day
Dieldrin	0.002 ug/l	2.393 lbs/day	1.250	ug/l	0.003 lbs/day
Endosulfan	0.056 ug/l	70.516 lbs/day	0.110	ug/l	0.000 lbs/day
Endrin	0.002 ug/l	2.896 lbs/day	0.090	ug/l	0.000 lbs/day
Guthion			0.010	ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	4.785 lbs/day	0.260	ug/l	0.001 lbs/day
Lindane	0.080 ug/l	100.737 lbs/day	1.000	ug/l	0.002 lbs/day
Methoxychlor			0.030	ug/l	0.000 lbs/day
Mirex			0.010	ug/l	0.000 lbs/day
Parathion			0.040	ug/l	0.000 lbs/day
PCB's	0.014 ug/l	17.629 lbs/day	2.000	ug/l	0.005 lbs/day
Pentachlorophenol	13.00 ug/l	16369.767 lbs/day	20.000	ug/l	0.049 lbs/day
Toxephene	0.0002 ug/l	0.252 lbs/day	0.7300	ug/l	0.002 lbs/day

**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			100.0 ug/l	lbs/day
Boron			750.0 ug/l	0.91 lbs/day
Cadmium			10.0 ug/l	0.01 lbs/day
Chromium			100.0 ug/l	lbs/day
Copper			200.0 ug/l	lbs/day
Lead			100.0 ug/l	lbs/day
Selenium			50.0 ug/l	lbs/day
TDS, Summer			1200.0 mg/l	1.46 tons/day

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

Metals	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			50.0 ug/l	62.961 lbs/day
Barium			1000.0 ug/l	1259.213 lbs/day
Cadmium			10.0 ug/l	12.592 lbs/day
Chromium			50.0 ug/l	62.961 lbs/day
Lead			50.0 ug/l	62.961 lbs/day
Mercury			2.0 ug/l	2.518 lbs/day
Selenium			10.0 ug/l	12.592 lbs/day
Silver			50.0 ug/l	62.961 lbs/day
Fluoride (3)			1.4 ug/l	1.763 lbs/day
to			2.4 ug/l	3.022 lbs/day
Nitrates as N			10.0 ug/l	12.592 lbs/day

Chlorophenoxy Herbicides

2,4-D			100.0 ug/l	125.921 lbs/day
2,4,5-TP			10.0 ug/l	12.592 lbs/day
Endrin			0.2 ug/l	0.252 lbs/day
ocyclohexane (Lindane)			4.0 ug/l	5.037 lbs/day
Methoxychlor			100.0 ug/l	125.921 lbs/day
Toxaphene			5.0 ug/l	6.296 lbs/day

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

Toxic Organics	Maximum Conc., ug/l - Acute Standards			
	Class 1C		Class 3A, 3B	
	[2 Liters/Day for 70 Kg Person over 70 Yr.]		[6.5 g for 70 Kg Person over 70 Yr.]	
Acenaphthene	1200.00 ug/l	1511.06 lbs/day	2700.0 ug/l	3399.87 lbs/day
Acrolein	320.00 ug/l	402.95 lbs/day	780.0 ug/l	982.19 lbs/day
Acrylonitrile	0.06 ug/l	0.07 lbs/day	0.7 ug/l	0.83 lbs/day
Benzene	1.20 ug/l	1.51 lbs/day	71.0 ug/l	89.40 lbs/day
Benzidine	0.00012 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachloride	0.25 ug/l	0.31 lbs/day	4.4 ug/l	5.54 lbs/day
Chlorobenzene	680.00 ug/l	856.26 lbs/day	21000.0 ug/l	26443.47 lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	0.00075 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloroethane	0.38 ug/l	0.48 lbs/day	99.0 ug/l	124.66 lbs/day
1,1,1-Trichloroethane				
Hexachloroethane	1.90 ug/l	2.39 lbs/day	8.9 ug/l	11.21 lbs/day

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1,1-Dichloroethane				
1,1,2-Trichloroethane	0.61 ug/l	0.77 lbs/day	42.0 ug/l	52.89 lbs/day
1,1,2,2-Tetrachloroetha Chloroethane	0.17 ug/l	0.21 lbs/day	11.0 ug/l	13.85 lbs/day
Bis(2-chloroethyl) ether	0.03 ug/l	0.04 lbs/day	0.0 ug/l	0.00 lbs/day
2-Chloroethyl vinyl ether	0.00 ug/l	0.00 lbs/day	1.4 ug/l	1.76 lbs/day
2-Chloronaphthalene	1700.00 ug/l	2140.66 lbs/day	0.0 ug/l	0.00 lbs/day
2,4,6-Trichlorophenol	2.10 ug/l	2.64 lbs/day	4300.0 ug/l	5414.62 lbs/day
p-Chloro-m-cresol			6.5 ug/l	8.18 lbs/day
Chloroform (HM)	5.70 ug/l	7.18 lbs/day	0.0 ug/l	0.00 lbs/day
2-Chlorophenol	120.00 ug/l	151.11 lbs/day	470.0 ug/l	591.83 lbs/day
1,2-Dichlorobenzene	2700.00 ug/l	3399.87 lbs/day	400.0 ug/l	503.69 lbs/day
1,3-Dichlorobenzene	400.00 ug/l	503.69 lbs/day	17000.0 ug/l	21406.62 lbs/day
1,4-Dichlorobenzene	400.00 ug/l	503.69 lbs/day	2600.0 ug/l	3273.95 lbs/day
3,3'-Dichlorobenzidine	0.04 ug/l	0.05 lbs/day	2600.0 ug/l	3273.95 lbs/day
1,1-Dichloroethylene	0.06 ug/l	0.07 lbs/day	0.1 ug/l	0.10 lbs/day
1,2-trans-Dichloroethyle	700.00 ug/l	881.45 lbs/day	3.2 ug/l	4.03 lbs/day
2,4-Dichlorophenol	93.00 ug/l	117.11 lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloropropane	0.52 ug/l	0.65 lbs/day	790.0 ug/l	994.78 lbs/day
1,3-Dichloropropylene	10.00 ug/l	12.59 lbs/day	39.0 ug/l	49.11 lbs/day
2,4-Dimethylphenol	540.00 ug/l	679.97 lbs/day	1700.0 ug/l	2140.66 lbs/day
2,4-Dinitrotoluene	0.11 ug/l	0.14 lbs/day	2300.0 ug/l	2896.19 lbs/day
2,6-Dinitrotoluene	0.00 ug/l	0.00 lbs/day	9.1 ug/l	11.46 lbs/day
1,2-Diphenylhydrazine	0.04 ug/l	0.05 lbs/day	0.0 ug/l	0.00 lbs/day
Ethylbenzene	3100.00 ug/l	3903.56 lbs/day	0.5 ug/l	0.68 lbs/day
Fluoranthene	300.00 ug/l	377.76 lbs/day	29000.0 ug/l	36517.17 lbs/day
4-Chlorophenyl phenyl ether			370.0 ug/l	465.91 lbs/day
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) e	1400.00 ug/l	1762.90 lbs/day	170000.0 ug/l	214066.19 lbs/day
Bis(2-chloroethoxy) met	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Methylene chloride (HM)	4.70 ug/l	5.92 lbs/day	1600.0 ug/l	2014.74 lbs/day
Methyl chloride (HM)	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Methyl bromide (HM)	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Bromoform (HM)	4.30 ug/l	5.41 lbs/day	360.0 ug/l	453.32 lbs/day
Dichlorobromomethane	0.27 ug/l	0.34 lbs/day	22.0 ug/l	27.70 lbs/day
Chlorodibromomethane	0.41 ug/l	0.52 lbs/day	34.0 ug/l	42.81 lbs/day
Hexachlorobutadiene(c)	0.44 ug/l	0.55 lbs/day	50.0 ug/l	62.96 lbs/day
Hexachlorocyclopentadi	240.00 ug/l	302.21 lbs/day	17000.0 ug/l	21406.62 lbs/day
Isophorone	8.40 ug/l	10.58 lbs/day	600.0 ug/l	755.53 lbs/day
Naphthalene				
Nitrobenzene	17.00 ug/l	21.41 lbs/day	1900.0 ug/l	2392.50 lbs/day
2-Nitrophenol	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4-Nitrophenol	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dinitrophenol	70.00 ug/l	88.14 lbs/day	14000.0 ug/l	17628.98 lbs/day
4,6-Dinitro-o-cresol	13.00 ug/l	16.37 lbs/day	765.0 ug/l	963.30 lbs/day
N-Nitrosodimethylamine	0.00069 ug/l	0.00 lbs/day	8.1 ug/l	10.20 lbs/day
N-Nitrosodiphenylamine	5.00 ug/l	6.30 lbs/day	16.0 ug/l	20.15 lbs/day
N-Nitrosodi-n-propylami	0.01 ug/l	0.01 lbs/day	1.4 ug/l	1.76 lbs/day
Pentachlorophenol	0.28 ug/l	0.35 lbs/day	8.2 ug/l	10.33 lbs/day
Phenol	2.10E+04 ug/l	2.64E+04 lbs/day	4.6E+06 ug/l	5.79E+06 lbs/day
Bis(2-ethylhexyl)phthala	1.80 ug/l	2.27 lbs/day	5.9 ug/l	7.43 lbs/day
Butyl benzyl phthalate	3000.00 ug/l	3777.64 lbs/day	5200.0 ug/l	6547.91 lbs/day
Di-n-butyl phthalate	2700.00 ug/l	3399.87 lbs/day	12000.0 ug/l	15110.55 lbs/day
Di-n-octyl phthlate				

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Diethyl phthalate	23000.00 ug/l	28961.90 lbs/day	120000.0 ug/l	151105.54 lbs/day
Dimethyl phthalate	3.13E+05 ug/l	3.94E+05 lbs/day	2.9E+06 ug/l	3.65E+06 lbs/day
Benzo(a)anthracene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.04 lbs/day
Benzo(a)pyrene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.04 lbs/day
Benzo(b)fluoranthene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.04 lbs/day
Benzo(k)fluoranthene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.04 lbs/day
Chrysene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.04 lbs/day
Acenaphthylene (PAH)				
Anthracene (PAH)	9600.00 ug/l	12088.44 lbs/day	0.0 ug/l	0.00 lbs/day
Dibenzo(a,h)anthracene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.04 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.04 lbs/day
Pyrene (PAH)	960.00 ug/l	1208.84 lbs/day	11000.0 ug/l	13851.34 lbs/day
Tetrachloroethylene	0.80 ug/l	1.01 lbs/day	8.9 ug/l	11.21 lbs/day
Toluene	6800.00 ug/l	8562.65 lbs/day	200000 ug/l	251842.57 lbs/day
Trichloroethylene	2.70 ug/l	3.40 lbs/day	81.0 ug/l	102.00 lbs/day
Vinyl chloride	2.00 ug/l	2.52 lbs/day	525.0 ug/l	661.09 lbs/day
			0.0	0.00 lbs/day
Pesticides			0.0	0.00 lbs/day
Aldrin	0.0001 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Dieldrin	0.0001 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Chlordane	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDT	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDE	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDD	0.0008 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
alpha-Endosulfan	0.9300 ug/l	1.17 lbs/day	2.0 ug/l	2.52 lbs/day
beta-Endosulfan	0.9300 ug/l	1.17 lbs/day	2.0 ug/l	2.52 lbs/day
Endosulfan sulfate	0.9300 ug/l	1.17 lbs/day	2.0 ug/l	2.52 lbs/day
Endrin	0.7600 ug/l	0.96 lbs/day	0.8 ug/l	1.02 lbs/day
Endrin aldehyde	0.7600 ug/l	0.96 lbs/day	0.8 ug/l	1.02 lbs/day
Heptachlor	0.0002 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 1248)	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Arochlor 1254)	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Arochlor 1221)	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Arochlor 1232)	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Arochlor 1248)	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Arochlor 1260)	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Arochlor 1016)	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Pesticide				
Toxaphene	0.000750 ug/l	0.00	0.0 ug/l	0.00 lbs/day
Dioxin				
Dioxin (2,3,7,8-TCDD)	1.30E-08 ug/l	0.00 lbs/day	1.40E-08	0.00
Metals				
Antimony	14.0 ug/l	17.63 lbs/day		
Arsenic	50.0 ug/l	62.96 lbs/day	4300.00 ug/l	5414.62 lbs/day
Asbestos	7.00E+06 ug/l	8.81E+06 lbs/day		
Beryllium				
Cadmium				

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Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	1.30E+03 ug/l	1636.98 lbs/day	2.2E+05 ug/l	277026.83 lbs/day
Lead	700.0 ug/l	881.45 lbs/day		
Mercury			0.15 ug/l	0.19 lbs/day
Nickel			4600.00 ug/l	5792.38 lbs/day
Selenium	0.1 ug/l	0.18 lbs/day		
Silver	610.0 ug/l	768.12 lbs/day		
Thallium			6.30 ug/l	7.93 lbs/day
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

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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	Temp.	pH	T-NH3	BOD5	DO	TRC	TDS	
	cfs	Deg. C		mg/l as N	mg/l	mg/l	mg/l	mg/l	mg/l
Summer (Irrig. Season)	250.0	15.9	8.5	0.03	1.75	7.31	0.00	300.2	
Fall	31.2	7.2	8.4	0.02	2.56	---	0.00	426.9	
Winter	17.9	4.2	8.2	0.03	2.00	---	0.00	426.9	
Spring	132.4	10.7	8.4	0.03	1.71	---	0.00	426.9	
Dissolved Metals	Al	As	Cd	CrIII	CrVI	Copper	Fe	Pb	
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
All Seasons	1.59*	0.53*	0.053*	0.53*	2.65*	0.53*	0.83*	0.53*	
Dissolved Metals	Hg	Ni	Se	Ag	Zn	Boron			
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l			
All Seasons	0.0000	0.53*	1.06*	0.1*	0.053*	10.0			* 1/2 MDL

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Projected Discharge Information

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
Summer	0.45000	17.6	862.22	1.61764
Fall	0.45000	5.8		
Winter	0.45000	3.1		
Spring	0.45000	14.6		

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	0.450 MGD	0.696 cfs
Fall	0.450 MGD	0.696 cfs
Winter	0.450 MGD	0.696 cfs
Spring	0.450 MGD	0.696 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.45 MGD. If the discharger is allowed to have a flow greater than 0.45 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occurring, the permit writers must include the discharge flow limitation 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 segments if the values below are met.

WET Requirements	LC50 >	1.9% Effluent	[Acute]
	IC25 >	0.3% Effluent	[Chronic]

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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	45.0 mg/l as BOD5	168.9 lbs/day
Fall	45.0 mg/l as BOD5	168.9 lbs/day
Winter	45.0 mg/l as BOD5	168.9 lbs/day
Spring	45.0 mg/l as BOD5	168.9 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	327.2 mg/l as N	1,227.6 lbs/day
	1 Hour Avg. - Acute	276.1 mg/l as N	1,036.0 lbs/day
Fall	4 Day Avg. - Chronic	227.9 mg/l as N	855.2 lbs/day
	1 Hour Avg. - Acute	182.7 mg/l as N	685.4 lbs/day
Winter	4 Day Avg. - Chronic	44.8 mg/l as N	168.1 lbs/day
	1 Hour Avg. - Acute	43.6 mg/l as N	163.6 lbs/day
Spring	4 Day Avg. - Chronic	55.3 mg/l as N	207.5 lbs/day
	1 Hour Avg. - Acute	52.4 mg/l as N	196.5 lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 50.%.

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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	5.187	mg/l	19.46	lbs/day
	1 Hour Avg. - Acute	5.019	mg/l	18.83	lbs/day
Fall	4 Day Avg. - Chronic	0.657	mg/l	2.47	lbs/day
	1 Hour Avg. - Acute	0.643	mg/l	2.41	lbs/day
Winter	4 Day Avg. - Chronic	0.381	mg/l	1.43	lbs/day
	1 Hour Avg. - Acute	0.377	mg/l	1.41	lbs/day
Spring	4 Day Avg. - Chronic	2.752	mg/l	0.00	lbs/day
	1 Hour Avg. - Acute	2.666	mg/l	0.00	lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration		Load	
Summer	Maximum, Acute	324326.4	mg/l	608.48	tons/day
Fall	Maximum, Acute	278849.5	mg/l	523.16	tons/day
Winter	Maximum, Acute	273483.3	mg/l	513.09	tons/day
Spring	4 Day Avg. - Chronic	325304.0	mg/l	610.31	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 251.82 mg/l):

	4 Day Average		1 Hour Average		Load
	Concentration	Load	Concentration	Load	
Aluminum	N/A	N/A	134,991.0	ug/l	327.4 lbs/day
Arsenic	63,507.33 ug/l	154.0 lbs/day	61,247.3	ug/l	148.6 lbs/day
Cadmium	153.46 ug/l	0.4 lbs/day	970.6	ug/l	2.4 lbs/day
Chromium III	61,362.64 ug/l	148.8 lbs/day	693,471.6	ug/l	1682.0 lbs/day
Chromium VI	2,361.91 ug/l	5.7 lbs/day	2,175.2	ug/l	5.3 lbs/day
Copper	6,627.59 ug/l	16.1 lbs/day	5,891.5	ug/l	14.3 lbs/day
Iron	N/A	N/A	180,334.6	ug/l	437.4 lbs/day
Lead	3,194.29 ug/l	7.7 lbs/day	47,625.2	ug/l	115.5 lbs/day
Mercury	4.03 ug/l	0.0 lbs/day	433.3	ug/l	1.1 lbs/day
Nickel	37,978.58 ug/l	92.1 lbs/day	184,901.0	ug/l	448.5 lbs/day
Selenium	1,011.89 ug/l	2.5 lbs/day	3,325.7	ug/l	8.1 lbs/day
Silver	N/A ug/l	N/A lbs/day	3,345.8	ug/l	8.1 lbs/day
Zinc	87,925.29 ug/l	213.3 lbs/day	47,298.5	ug/l	114.7 lbs/day

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Cyanide	1,745.38 ug/l	4.2 lbs/day	3,972.3	ug/l	9.6 lbs/day
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**Effluent Limitations for Heat/Temperature based upon
Water Quality Standards**

Summer	100.0 Deg. C.	212.0 Deg. F
Fall	54.0 Deg. C.	129.2 Deg. F
Winter	31.9 Deg. C.	89.4 Deg. F
Spring	100.0 Deg. C.	212.0 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	5.63E-03 lbs/day
Chlordane	4.30E-03 ug/l	1.61E-02 lbs/day	1.2E+00	ug/l	4.50E-03 lbs/day
DDT, DDE	1.00E-03 ug/l	3.75E-03 lbs/day	5.5E-01	ug/l	2.06E-03 lbs/day
Dieldrin	1.90E-03 ug/l	7.13E-03 lbs/day	1.3E+00	ug/l	4.69E-03 lbs/day
Endosulfan	5.60E-02 ug/l	2.10E-01 lbs/day	1.1E-01	ug/l	4.13E-04 lbs/day
Endrin	2.30E-03 ug/l	8.63E-03 lbs/day	9.0E-02	ug/l	3.38E-04 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	3.75E-05 lbs/day
Heptachlor	3.80E-03 ug/l	1.43E-02 lbs/day	2.6E-01	ug/l	9.76E-04 lbs/day
Lindane	8.00E-02 ug/l	3.00E-01 lbs/day	1.0E+00	ug/l	3.75E-03 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	1.13E-04 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	3.75E-05 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	1.50E-04 lbs/day
PCB's	1.40E-02 ug/l	5.25E-02 lbs/day	2.0E+00	ug/l	7.50E-03 lbs/day
Pentachlorophenol	1.30E+01 ug/l	4.88E+01 lbs/day	2.0E+01	ug/l	7.50E-02 lbs/day
Toxephene	2.00E-04 ug/l	7.50E-04 lbs/day	7.3E-01	ug/l	2.74E-03 lbs/day

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**Effluent Targets for Pollution Indicators
Based upon Water Quality Standards**

In-stream criteria of downstream segments for Pollution Indicators will be met with an effluent limit as follows:

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	12.1 lbs/day
Nitrates as N	4.0 mg/l	9.7 lbs/day
Total Phosphorus as P	0.05 mg/l	0.1 lbs/day
Total Suspended Solids	90.0 mg/l	218.3 lbs/day

Note: Pollution indicator targets are for information purposes only.

**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	4.32E+05 ug/l	1.62E+03 lbs/day
Acrolein	1.15E+05 ug/l	4.32E+02 lbs/day
Acrylonitrile	2.12E+01 ug/l	7.97E-02 lbs/day
Benzene	4.32E+02 ug/l	1.62E+00 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	9.00E+01 ug/l	3.38E-01 lbs/day
Chlorobenzene	2.45E+05 ug/l	9.19E+02 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	2.70E-01 ug/l	1.01E-03 lbs/day
1,2-Dichloroethane	1.37E+02 ug/l	5.13E-01 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	6.84E+02 ug/l	2.57E+00 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	2.20E+02 ug/l	8.24E-01 lbs/day
1,1,2,2-Tetrachloroethane	6.12E+01 ug/l	2.30E-01 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	1.12E+01 ug/l	4.19E-02 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	6.12E+05 ug/l	2.30E+03 lbs/day
2,4,6-Trichlorophenol	7.56E+02 ug/l	2.84E+00 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	2.05E+03 ug/l	7.70E+00 lbs/day
2-Chlorophenol	4.32E+04 ug/l	1.62E+02 lbs/day
1,2-Dichlorobenzene	9.72E+05 ug/l	3.65E+03 lbs/day
1,3-Dichlorobenzene	1.44E+05 ug/l	5.41E+02 lbs/day
1,4-Dichlorobenzene	1.44E+05 ug/l	5.41E+02 lbs/day
3,3'-Dichlorobenzidine	1.44E+01 ug/l	5.41E-02 lbs/day

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1,1-Dichloroethylene	2.05E+01 ug/l	7.70E-02 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	3.35E+04 ug/l	1.26E+02 lbs/day
1,2-Dichloropropane	1.87E+02 ug/l	7.03E-01 lbs/day
1,3-Dichloropropylene	3.60E+03 ug/l	1.35E+01 lbs/day
2,4-Dimethylphenol	1.94E+05 ug/l	7.30E+02 lbs/day
2,4-Dinitrotoluene	3.96E+01 ug/l	1.49E-01 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	1.44E+01 ug/l	5.41E-02 lbs/day
Ethylbenzene	1.12E+06 ug/l	4.19E+03 lbs/day
Fluoranthene	1.08E+05 ug/l	4.05E+02 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	5.04E+05 ug/l	1.89E+03 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	1.69E+03 ug/l	6.35E+00 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	1.55E+03 ug/l	5.81E+00 lbs/day
Dichlorobromomethane(HM)	9.72E+01 ug/l	3.65E-01 lbs/day
Chlorodibromomethane (HM)	1.48E+02 ug/l	5.54E-01 lbs/day
Hexachlorocyclopentadiene	8.64E+04 ug/l	3.24E+02 lbs/day
Isophorone	3.02E+03 ug/l	1.14E+01 lbs/day
Naphthalene		
Nitrobenzene	6.12E+03 ug/l	2.30E+01 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	2.52E+04 ug/l	9.46E+01 lbs/day
4,6-Dinitro-o-cresol	4.68E+03 ug/l	1.76E+01 lbs/day
N-Nitrosodimethylamine	2.48E-01 ug/l	9.32E-04 lbs/day
N-Nitrosodiphenylamine	1.80E+03 ug/l	6.76E+00 lbs/day
N-Nitrosodi-n-propylamine	1.80E+00 ug/l	6.76E-03 lbs/day
Pentachlorophenol	1.01E+02 ug/l	3.78E-01 lbs/day
Phenol	7.56E+06 ug/l	2.84E+04 lbs/day
Bis(2-ethylhexyl)phthalate	6.48E+02 ug/l	2.43E+00 lbs/day
Butyl benzyl phthalate	1.08E+06 ug/l	4.05E+03 lbs/day
Di-n-butyl phthalate	9.72E+05 ug/l	3.65E+03 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	8.28E+06 ug/l	3.11E+04 lbs/day
Dimethyl phthlate	1.13E+08 ug/l	4.23E+05 lbs/day
Benzo(a)anthracene (PAH)	1.01E+00 ug/l	3.78E-03 lbs/day
Benzo(a)pyrene (PAH)	1.01E+00 ug/l	3.78E-03 lbs/day
Benzo(b)fluoranthene (PAH)	1.01E+00 ug/l	3.78E-03 lbs/day
Benzo(k)fluoranthene (PAH)	1.01E+00 ug/l	3.78E-03 lbs/day
Chrysene (PAH)	1.01E+00 ug/l	3.78E-03 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	1.01E+00 ug/l	3.78E-03 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	1.01E+00 ug/l	3.78E-03 lbs/day
Pyrene (PAH)	3.46E+05 ug/l	1.30E+03 lbs/day
Tetrachloroethylene	2.88E+02 ug/l	1.08E+00 lbs/day
Toluene	2.45E+06 ug/l	9.19E+03 lbs/day
Trichloroethylene	9.72E+02 ug/l	3.65E+00 lbs/day
Vinyl chloride	7.20E+02 ug/l	2.70E+00 lbs/day

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Pesticides

Aldrin	4.68E-02 ug/l	1.76E-04 lbs/day
Dieldrin	5.04E-02 ug/l	1.89E-04 lbs/day
Chlordane	2.05E-01 ug/l	7.70E-04 lbs/day
4,4'-DDT	2.12E-01 ug/l	7.97E-04 lbs/day
4,4'-DDE	2.12E-01 ug/l	7.97E-04 lbs/day
4,4'-DDD	2.99E-01 ug/l	1.12E-03 lbs/day
alpha-Endosulfan	3.35E+02 ug/l	1.26E+00 lbs/day
beta-Endosulfan	3.35E+02 ug/l	1.26E+00 lbs/day
Endosulfan sulfate	3.35E+02 ug/l	1.26E+00 lbs/day
Endrin	2.74E+02 ug/l	1.03E+00 lbs/day
Endrin aldehyde	2.74E+02 ug/l	1.03E+00 lbs/day
Heptachlor	7.56E-02 ug/l	2.84E-04 lbs/day
Heptachlor epoxide		

PCB's

PCB 1242 (Arochlor 1242)	1.58E-02 ug/l	5.95E-05 lbs/day
PCB-1254 (Arochlor 1254)	1.58E-02 ug/l	5.95E-05 lbs/day
PCB-1221 (Arochlor 1221)	1.58E-02 ug/l	5.95E-05 lbs/day
PCB-1232 (Arochlor 1232)	1.58E-02 ug/l	5.95E-05 lbs/day
PCB-1248 (Arochlor 1248)	1.58E-02 ug/l	5.95E-05 lbs/day
PCB-1260 (Arochlor 1260)	1.58E-02 ug/l	5.95E-05 lbs/day
PCB-1016 (Arochlor 1016)	1.58E-02 ug/l	5.95E-05 lbs/day

Pesticide

Toxaphene	2.63E-01 ug/l	9.86E-04 lbs/day
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Metals

Antimony	5041.65 ug/l	18.92 lbs/day
Arsenic	17720.40 ug/l	66.49 lbs/day
Asbestos	2.52E+09 ug/l	9.46E+06 lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	468153.41 ug/l	1756.63 lbs/day
Cyanide	252082.60 ug/l	945.88 lbs/day
Lead	0.00	0.00
Mercury	50.41 ug/l	0.19 lbs/day
Nickel	219671.98 ug/l	824.26 lbs/day
Selenium	0.00	0.00
Silver	0.00	0.00
Thallium	612.20 ug/l	2.30 lbs/day
Zinc		

Dioxin

Dioxin (2,3,7,8-TCDD)	4.68E-06 ug/l	1.76E-08 lbs/day
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**Metals Effluent Limitations for Protection of All Beneficial Uses
Based upon Water Quality Standards and Toxics Rule**

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	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		134991.0				134991.0	N/A
Antimony			5041.7	1548507.4		5041.7	
Arsenic	36011.8	61247.3	17720.4		0.0	17720.4	63507.3
Barium					360118.0	360118.0	
Beryllium						0.0	
Cadmium	3572.6	970.6			0.0	970.6	153.5
Chromium (III)		693471.6			0.0	693471.6	61362.6
Chromium (VI)	35726.3	2175.2			0.0	2175.20	2361.91
Copper	71738.1	5891.5	468153.4			5891.5	6627.6
Cyanide		3972.3	79225961.4			3972.3	1745.4
Iron		180334.6				180334.6	
Lead	35726.3	47625.2			0.0	35726.3	3194.3
Mercury		433.34	50.4	54.02	0.0	50.41	4.026
Nickel		184901.0	219672.0	1656542.8		184901.0	37978.6
Selenium	17434.9	3325.7			0.0	3325.7	1011.9
Silver		3345.8			0.0	3345.8	
Thallium			612.2	2268.7		612.2	
Zinc		47298.5				47298.5	87925.3
Boron	270088.5					270088.5	

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	134991.0	N/A	
Antimony	5041.65		
Arsenic	17720.4	63507.3	Acute Controls
Asbestos	2.52E+09		
Barium			
Beryllium			
Cadmium	970.6	153.5	
Chromium (III)	693471.6	61363	
Chromium (VI)	2175.2	2361.9	Acute Controls
Copper	5891.5	6627.6	Acute Controls
Cyanide	3972.3	1745.4	
Iron	180334.6		
Lead	35726.3	3194.3	
Mercury	50.414	4.026	
Nickel	184901.0	37979	
Selenium	3325.7	1011.9	
Silver	3345.8	N/A	
Thallium	612.2		
Zinc	47298.5	87925.3	Acute Controls
Boron	270088.50		

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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.

The antidegradation rules and procedures allow for modification of effluent limits less than those based strictly upon mass balance equations utilizing 100% of the assimilative capacity of the receiving water. Additional factors include considerations for "Blue-ribbon" fisheries, special recreational areas, threatened and endangered species, and drinking water sources.

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 not required.

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

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XIII. Notice of UPDES Requirement

This Addendum to the Statement of Basis does not authorize any entity or party to discharge to the waters of the State of Utah. That authority is granted through a UPDES permit issued by the Utah Division of Water Quality. The numbers presented here may be changed as a function of other factors. Dischargers are strongly urged to contact the Permits Section for further information. Permit writers may utilize other information to adjust these limits and/or to determine other limits based upon best available technology and other considerations provided that the values in this wasteload analysis [TMDL] are not compromised. See special provisions in Utah Water Quality

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APPENDIX - Coefficients and Other Model Information

CBOD Coeff. (Kd)20 1/day 0.830	CBOD Coeff. FORCED (Kd)/day 0.000	CBOD Coeff. (Ka)T 1/day 0.688	REAER. Coeff. (Ka)20 (Ka)/day 3.885	REAER. Coeff. FORCED 1/day 0.000	REAER. Coeff. (Ka)T 1/day 3.525	NBOD Coeff. (Kn)20 1/day 0.400	NBOD Coeff. (Kn)T 1/day 0.292
Open Coeff. (K4)20 1/day 0.000	Open Coeff. (K4)T 1/day 0.000	NH3 LOSS (K5)20 1/day 4.000	NH3 (K5)T 1/day 3.313	NO2+NO3 LOSS (K6)20 1/day 0.000	NO2+NO3 (K6)T 1/day 0.000	TRC Decay K(CI)20 1/day 32.000	TRC K(CI)(T) 1/day 25.200
BENTHIC DEMAND (SOD)20 gm/m2/day 1.000	BENTHIC DEMAND (SOD)T gm/m2/day 0.772						
K1 CBOD {theta}	K2 Reaer. {theta}	K3 NH3 {theta}	K4 Open {theta}	K5 NH3 Loss {theta}	K6 NO2+3 {theta}	K(CI) TRC {theta}	S Benthic {theta}

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Antidegradation Review

An antidegradation review (ADR) was conducted to determine whether the proposed activity complies with the applicable antidegradation requirements for receiving waters that may be affected. The Level I ADR evaluated the criteria of R317-2-3.5(b) and determined that a Level II antidegradation Review is not required.

ATTACHMENT 4

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

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

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

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. In order to complete a RP analysis, more than 10 data points per parameter are needed. Morgan was not required to sample for metal parameters in their previous permit, therefore, analysis data is not available to perform a RP analysis. For this permit cycle, Morgan will be required to permit, at a minimum, annual metal sampling. If additional sampling is performed, it shall be reported to DWQ. Less than 10 data points may affect the RP outcomes which may require additional monitoring in the future.

¹ See Reasonable Potential Analysis Guidance for definitions of terms

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