

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

AUTHORIZATION TO DISCHARGE UNDER THE
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM
(UPDES)

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

Castle Valley Special Service District and Huntington City Lagoons

are hereby authorized to discharge from its facility located approximately 2 miles southeast of Huntington City, Emery County, Utah, with the outfall located at latitude 39°18 '46" and longitude 110°55'15", to receiving waters named,


Huntington Creek (tributary to the Colorado River)

in accordance with the discharge point, effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on February 1, 2015.

This permit and the authorization to discharge shall expire at midnight, December 31, 2020.

Signed this 21 day of January, 2015



Walter L. Baker, P.E.
Director

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I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Definitions

1. The "30-day (and monthly) average," other than for E. coli 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. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
2. The "7-day (and weekly) average", other than for E. coli 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. 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 the Saturday.
3. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
4. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
5. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
6. "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 preventive maintenance, or careless or improper operation.
7. "Bypass" means the diversion of waste streams from any portion of a treatment facility.
8. "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.
9. "Director" means Director of the Utah Division of Water Quality.
10. "EPA" means the United States Environmental Protection Agency.
11. "Act" means the *Utah Water Quality Act*.

12. "CWA" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
13. "Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

B. Description of Discharge Point(s).

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

Outfall Number

Location of Discharge Point(s)

001

Discharge is from a pipe on the southeast corner of the Lagoon system. The discharge is to Huntington Creek at latitude 39°18'46" and longitude 110°55'15".

C. 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 bioassay or other tests performed in accordance with standard procedures.

D. Specific Limitations and Self-Monitoring Requirements.

1. 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:

Parameter	Effluent Limitations a/			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
CBOD ₅ , mg/L	30	NA	NA	65
CBOD ₅ Min. % Removal	65	NA	NA	NA
TSS, mg/L	45	65	NA	NA
TSS Min. % Removal	65	NA	NA	NA
E. Coli, No./100mL	126	158	NA	NA
TRC, mg/L, d/	NA	NA	NA	0.04
Ammonia mg/L:				
Summer (July – Sept.)	3.5	NA	NA	8.6
Fall (Oct. - Dec.)	5.3	NA	NA	7.4
Winter (Jan. – March)	5.6	NA	NA	6.9
Spring (April – June)	5.4	NA	NA	8.7
TDS, mg/L	NA	NA	NA	4800
TDS, tons/day/year, e/	NA	NA	NA	1.0/366
pH, Standard Units(SU)	NA	NA	6.5	9.0
Dissolved Oxygen, mg/L	NA	NA	5.0	NA
Total Effluent Flow, MGD b/	0.4	NA	NA	0.8
Oil & Grease, mg/L, f/	NA	NA	NA	10

NA – Not Applicable

mg/L – milligrams per liter

MGD – million gallons per day

Self-Monitoring and Reporting Requirements a/			
Parameter	Frequency	Sample Type	Units
Total Flow b/	Continuous	Recorder	MGD
CBOD ₅ , Influent c/ Effluent	Twice Monthly	Grab	mg/L
	Twice Monthly	Grab	mg/L
TSS, Influent c/ Effluent	Twice Monthly	Grab	mg/L
	Twice Monthly	Grab	mg/L
E. Coli	Twice Monthly	Grab	No./100mL
NH ₃ -N	Twice Monthly	Grab	mg/L
TRC, d/	Daily, only if chlorinating	Grab	mg/L
Dissolved Oxygen	Twice Monthly	Grab	mg/L
TDS, e/	Twice Monthly	Grab	mg/L, tons/day/year
pH	Twice Monthly	Grab	SU
Selenium	Monthly	Grab	mg/L
Oil & Grease, f/	Twice Monthly	Visual, Grab	Yes/No, mg/L

TRC – total residual chlorine

NH₃-N – ammonia as nitrogen

-Percentage Removal Requirements [Total Suspended Solids (TSS), Biochemical Oxygen Demand (BOD₅) or Carbonaceous Biochemical Oxygen Demand (CBOD₅) Limitation]: In addition to the concentration limitation on TSS and BOD₅ or CBOD₅

indicated above, the arithmetic mean for the TSS and BOD₅ or CBOD₅ concentration for effluent samples collected in a period of thirty (30) consecutive days shall not exceed thirty five (35) percent of the arithmetic mean of the concentration for influent samples collected at approximately the same times during the same period (65 percent removal).

-There shall be no visible sheen or floating solids or visible foam in other than trace amounts upon any discharges.

-There shall be no discharge of untreated sanitary wastes.

a/ See Definitions, *Part I.A*, for definition of terms.

b/ If the rate of discharge is controlled, the rate and duration of discharge shall be reported. Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

c/ 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.

d/ TRC shall be analyzed only if the effluent is chlorinated, otherwise NA.

e/ In addition to the total dissolved solids (TDS) effluent concentration limitation, TDS effluent loading is limited to one-ton/day. If the one-ton/day effluent loading limitation cannot be met, then the permittee is limited to 366-tons/year total TDS effluent loading from the facility. It is the responsibility of the permittee to maintain annual TDS loading information and upon request the permittee shall submit to the Director the annual TDS loading information.

f/ Screening for the presence of oil and grease shall be a visual test. If any oil and/or grease sheens are observed visually, then a sample of the effluent must be taken and this sample shall not exceed 10 mg/L.

II. INDUSTRIAL PRETREATMENT PROGRAM

A. Definitions.

For this section the following definitions shall apply:

1. Significant industrial user (SIU) is defined as an industrial user discharging to a publicly-owned treatment works (POTW) that satisfies any of the following:
 - a. Has a process wastewater flow of 25,000 gallons or more per average work day;
 - b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;
 - c. Is subject to Categorical Pretreatment Standards, or
 - d. Has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.
2. 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).

B. Pretreatment Reporting Requirements.

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.

C. Industrial Waste Survey (IWS).

1. As required by *Part II.B.1*, the industrial waste survey 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 Executive Secretary 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 Executive Secretary.
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 Executive Secretary 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.

1. 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 source of non-domestic discharge:
 - a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140°F (60°C);
 - 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, nonbiodegradable 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.
2. In addition to the general and specific limitations expressed above, more specific pretreatment limitations have been and will be promulgated for specific industrial categories under *Section 307 of the Water Quality Act of 1987 as amended (WQA)*. (See *40 CFR, Subchapter N, Parts 400 through 500*, for specific information).

E. Signification Industrial Users Discharging to the POTW.

The permittee shall provide adequate notice to the Executive Secretary 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 SIU 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 Executive Secretary 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*;
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; and/or,
4. Require the permittee to develop an approved pretreatment program.

G. Legal Action.

The Executive Secretary 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 Executive Secretary 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 passthrough or interference, then the POTW must submit limits to DWQ for review and public notice, as required by R317-8-8.5(4)(c).

III. MONITORING, RECORDING AND 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. Sludge samples shall be collected at a location representative of the quality of sludge 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*, 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. Reporting of Monitoring Results

Monitoring results obtained during the previous month shall be summarized for each month and reported monthly through NetDMR, or on a Discharge Monitoring Report Form (EPA No. 3320-1), post-marked or received 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 required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part IV.G)*, and submitted to the Director, Division of Water Quality at the following address:

original to: Department of Environmental Quality
Division of Water Quality
195 North 1950 West
PO Box 144870
Salt Lake City, Utah 84114-4870

E. 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.

F. 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* 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. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.

G. Records Contents

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.

H. 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.

I. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance 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) 538-6146, or 24 hour answering service (801) 536-4123.
2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4123 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 III.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part III.H, Upset Conditions.*); or,
 - d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.
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; and,
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 - 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) 538-6146.

- a. Reports shall be submitted to the addresses in *Part II.D, Reporting of Monitoring Results*.

J. 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 II.D* are submitted. The reports shall contain the information listed in *Part II.I.3*.

K. Inspection and Entry.

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

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
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.

IV. 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 III.G, Bypass of Treatment Facilities* and *Part III.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.

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, sludges, 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 2. and 3. of this section.

2. Prohibition of Bypass.
 - a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment 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 G.3.
3. 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 G.2a. (1), (2) and (3).
4. Notice.
 - a. Anticipated bypass. Except as provided above in section G.2. and below in section 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 G.3.a.(1) through (6i) to the extent practicable.

- c. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass to the Director as required under Part II.I., 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 II.I, Twenty-four Hour Notice of Noncompliance Reporting*; and,
 - d. The permittee complied with any remedial measures required under *Part III.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.

V. 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. 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 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 *IV.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 *IV.G.2* must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

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

H. Penalties for Falsification of Reports.

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

I. Availability of Reports.

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

J. Oil and Hazardous Substance Liability.

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

K. Property Rights.

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

L. Severability.

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

M. Transfers

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

1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;
2. The notice includes a written agreement between the existing and new permittees 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 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*.

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. A revision to the current Water Quality Management Plan is approved and adopted which calls for different effluent limitations than contained in this permit.

P. Toxicity Limitation-Reopener Provision.

This permit may be reopened and modified (following proper administrative procedures) to include whole effluent toxicity (WET) testing, a WET limitation, 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.

Q. 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".

**FACT SHEET STATEMENT OF BASIS
CASTLE VALLEY SPECIAL SERVICE DISTRICT
HUNTINGTON WASTEWATER TREATMENT PLANT
UPDES PERMIT NUMBER: UT0021296
MINOR MUNICIPAL RENEWAL PERMIT**

FACILITY CONTACT AND INFORMATION

Jacob Sharp, District Manager
Castle Valley Special Service District
Huntington Lagoons
P.O. Box 877
Castle Dale, UT 84523
Telephone (435) 381-5333

DESCRIPTION OF FACILITY AND DISCHARGE

The Castle Valley Special Service District's (CVSSD) Huntington City wastewater treatment facility (Huntington facility) is located about two miles southeast of Huntington, Utah, in Emery County. The Huntington facility has a design capacity of 800,000 gallons per day (0.8 MGD) with the average monthly design flow of 400,000 gallons per day (0.4 MGD). The lagoon system consists of 6 lagoon cells with a total area of 34.8 acres. The first lagoon cell is mechanically aerated with three sand filters that follow the six lagoon cells in series. The discharge is from a pipe near the southeast corner of the lagoon system and is referred to as Outfall number 001. The discharge is to Huntington Creek at latitude 39°18'46" and longitude 110°55'15".

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge flows into Huntington Creek which is tributary to Cottonwood Creek, which drains to the San Rafael River and the Colorado River. Huntington Creek is classified according to *Utah Administrative Code (UAC) R317-2-13.1(b)* as follows:

- Class 2B -protected for secondary contact recreation (boating, wading and similar uses).
- Class 3C -protected for non-game fish and other aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 -protected for agricultural uses including irrigation of crops.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on carbonaceous 5-day biochemical oxygen demand (CBOD₅), seasonal ammonia limitations, dissolved oxygen, total chlorine residual and total flow are water quality limited and taken from the waste load analysis. CBOD was used in the waste load allocation because the model took into account nitrogenous oxygen demand when it calculated ammonia nitrogen limitations. Total suspended solids, E. coli and pH are based upon current Utah Secondary Treatment Standards, *Utah Administrative Code (UAC) R317-1-3*. Oil and Grease limitations are based on best professional judgment in the event that an oil or grease sheen is visually observed.

The 2010 303(d) list identified Huntington Creek as impaired for selenium. As a result a reasonable potential analysis for selenium was completed and indicated that there is no reasonable potential for selenium to contribute chronic toxicity. However, because selenium is on the 303(d) list selenium shall be monitored in the effluent.

Discharges from the Huntington facility eventually reach the Colorado River, which places it in the guidance of the Colorado River Basin Salinity Control Forum (CRBSCF). Total dissolved solids (TDS)

are limited in loading by the CRBSCF and in February 1977 they produced the “Policy For Implementation of Colorado River Salinity Standards Through the NPDES Permit Program” (Policy). This Policy is still in effect and under Part II (Municipal Discharges) it states, “...Requirements for establishing incremental increases may be waived in those cases where the incremental salt load reaching the main stem of the Colorado River is less than one ton per day or 366 tons per year.” The Huntington facility is an intermittent discharger, discharging less than 366 tons per year total TDS. The effluent will be limited to a maximum discharge of 1.0 ton per day or 366 tons per year of TDS. It is the responsibility of the permittee to maintain annual TDS loading information and upon request the permittee shall submit to the Executive Secretary the annual TDS loading information.

The TDS concentration limit of 4800 mg/L is based upon the approved Total Maximum Daily Load (TMDL) study for the San Rafael watershed (which includes Huntington Creek), in which a site specific criterion was developed for TDS and can be found in Table A-12 of the document entitled, “Price River, San Rafael River, and Muddy Creek TMDLs for Total Dissolved Solids, West Colorado Watershed Management Unit, Utah”, EPA Approval Date: August 4, 2004.

EFFLUENT LIMITATIONS & SELF MONITORING AND REPORTING REQUIREMENTS

Based on previous monitoring data, the permittee is expected to be able to continue to comply with the following effluent limitations upon future discharges:

Parameter	Effluent Limitations			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
CBOD ₅ , mg/L	30	NA	NA	65
CBOD ₅ Min. % Removal	65	NA	NA	NA
TSS, mg/L	45	65	NA	NA
TSS Min. % Removal	65	NA	NA	NA
E. Coli, No./100mL	126	158	NA	NA
TRC, mg/L, a/	NA	NA	NA	0.04
Ammonia mg/L:				
Summer (July – Sept.)	3.5	NA	NA	8.6
Fall (Oct. - Dec.)	5.3	NA	NA	7.4
Winter (Jan. – March)	5.6	NA	NA	6.9
Spring (April – June)	5.4	NA	NA	8.7
TDS, mg/L	NA	NA	NA	4800
TDS, tons/day/year, b/	NA	NA	NA	1.0/366
pH, Standard Units(SU)	NA	NA	6.5	9.0
Dissolved Oxygen, mg/L	NA	NA	5.0	NA
Total Effluent Flow, MGD	0.4	NA	NA	0.8
Oil & Grease, mg/L, c/	NA	NA	NA	10

NA – Not Applicable

mg/L – milligrams per liter

MGD – million gallons per day

-Discharge monitoring report (DMR) forms shall be submitted monthly and are due 28 days after the end of the monitoring period and shall include the following self-monitoring and reporting information:

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow	Continuous	Recorder	MGD
CBOD5, Influent Effluent	Twice Monthly	Grab	mg/L
	Twice Monthly	Grab	mg/L
TSS, Influent Effluent	Twice Monthly	Grab	mg/L
	Twice Monthly	Grab	mg/L
E. Coli	Twice Monthly	Grab	No./100mL
NH3-N	Twice Monthly	Grab	mg/L
TRC, a/	Daily, only if chlorinating	Grab	mg/L
Dissolved Oxygen	Twice Monthly	Grab	mg/L
TDS, b/	Twice Monthly	Grab	mg/L, tons/day/year
pH	Twice Monthly	Grab	SU
Selenium	Monthly	Grab	mg/L
Oil & Grease, c/	Twice Monthly	Visual, Grab	Yes/No, mg/L

a/ TRC shall be analyzed only if the effluent is chlorinated.

b/ In addition to the total dissolved solids (TDS) effluent concentration limitation, TDS effluent loading is limited to one-ton/day. If the one-ton/day effluent loading limitation cannot be met, then the permittee is limited to 366-tons/year total TDS effluent loading from the facility. It is the responsibility of the permittee to maintain annual TDS loading information and upon request the permittee shall submit to the Director the annual TDS loading information.

c/ Screening for the presence of oil and grease shall be a visual test. If any oil and/or grease sheens are observed visually, then a sample of the effluent must be taken and this sample shall not exceed 10 mg/L.

WASTE LOAD ANALYSIS AND ANTIDegradation REVIEW

Effluent limitations are also derived using a waste load analysis (WLA), of which a summary is appended to this fact sheet statement of basis. The WLA incorporates Secondary Treatment Standards, Water Quality Standards, Antidegradation Reviews (ADR), as appropriate and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were performed. An ADR Level I review was performed and concluded that an ADR Level II review was not required. The WLA indicates that the existing effluent limitations should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The potential discharge was evaluated and determined not to cause a violation of State Water Quality Standards in downstream receiving waters.

SIGNIFICANT CHANGES FROM PREVIOUS PERMIT

Permit limits for the thirty day average and daily maximum flow have been added along with seasonal limits for ammonia. In addition CBOD is limited instead of the standard BOD (includes carbonaceous and nitrogenous demand) and monitoring for selenium has been added to the permit. All other permit provisions remain unchanged.

STORM WATER REQUIREMENTS

Wastewater treatment facilities, which includes treatment lagoons, are required to comply with storm water permit requirements if they meet one or both of the following criteria,

1. The facility has an approved pretreatment program as described in *40 CFR Part 403*.
2. The facility has a design flow of 1.0 MGD or greater.

The Huntington City lagoons facility does not meet either of the criteria; therefore a storm water permit is not required at this time. However, a storm water re-opener provision is included in the permit should a storm water permit be needed in the future, following proper administrative procedures as per *UAC R317-8*.

PRETREATMENT REQUIREMENTS

CVSSD has not been designated for a pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than one (1) MGD, and there are no categorical industries discharging to the plant.

Although CVSSD does not have a State-approved pretreatment program, any wastewater discharges to the sanitary sewer by industrial users are subject to Federal, State and local pretreatment regulations. Pursuant to *Section 307* of the *Clean Water Act*, CVSSD 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 CVSSD as stated in Part II of the permit. The IWS is to assess the needs of CVSSD 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 CVSSD must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is recommended that CVSSD 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. It is required that CVSSD submit any local limits that are developed to the Division of Water Quality for review and if needed public notice.

BIOMONITORING REQUIREMENTS

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (Biomonitoring)*. Authority to require effluent biomonitoring is provided in *Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3* and *Water Quality Standards, UAC R317-2-5 and R317-2-7.2*.

The permittee is a minor municipal intermittent discharging facility with no industrial users on the system to date. Discharges will continue to be from domestic sources only, which contributes a small volume of effluent when compared to the existing stream flows, in which toxicity is neither an existing concern, nor likely to be present in the discharge. Based on these considerations, 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 future discharges.

BIOSOLIDS MANAGEMENT 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.

PERMIT DURATION

As stated in *UAC R317-8-5.1(1)*, UPDES permits shall be effective for a fixed term not to exceed five (5) years.

Drafted by Mike Herkimer, Environmental Scientist
Utah Division of Water Quality
October 8, 2014

ADDENDUM TO STATEMENT OF BASIS FACT SHEET – WASTE LOAD ALLOCATION

Waste load allocation is attached.

The draft Fact Sheet and Statement of Basis, wasteload allocation and draft permit for Huntington Lagoons were public noticed in the Emery County Progress, and under “Public Participation” on the Division of Water Quality Web Site, www.waterquality.utah.gov, from November 11, 2014 to December 11, 2014. No comments were received.


Permit Writer


Date

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

Date: December 30, 2014

Prepared by: Nicholas von Stackelberg, P.E.
Water Quality Management Section

Facility: Huntington Wastewater Treatment Facility
Castle Valley Special Service District
UPDES No. UT0021296

Receiving water: Huntington Creek (2B, 3C, 4)

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

Discharge

Outfall 001: Huntington Creek

The maximum daily design discharge is 0.8 MGD and the maximum monthly design discharge is 0.4 MGD for the facility.

Receiving Water

The receiving water for Outfall 001 is Huntington Creek, which is tributary to Cottonwood Creek, which drains to the San Rafael River and the Colorado River.

Per UAC R317-2-13.1(b), the designated beneficial uses for Huntington Creek and tributaries, from confluence with Cottonwood Creek to Highway U-10 crossing are 2B, 3C and 4.

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

Utah Division of Water Quality
Wasteload Analysis
Huntington Wastewater Treatment Plant
UPDES No. UT0021296

Typically, the critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Due to a lack of flow records for Huntington Creek, the 20th percentile of flow measurements taken immediately upstream of the outfall was calculated to estimate annual critical flow in the receiving water (Table 1).

Table 1: Annual critical low flow for Huntington Creek above lagoon outfall

Season	Flow (cfs)
Annual	1.0

Receiving water quality data were obtained from monitoring site 4930520 Huntington Creek above Huntington Lagoons Outfall. The average seasonal value was calculated for each constituent with available data in the receiving water. Effluent parameters were characterized using data from monitoring site 4930510 Huntington Lagoons Outfall.

Mixing Zone

The maximum allowable mixing zone is 15 minutes of travel time for acute conditions, not to exceed 50% of stream width, and 2,500 feet for chronic conditions, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone.

The actual length of the mixing zone was not determined; however, it was presumed to remain within the maximum allowable mixing zone dimensions. Acute limits were calculated using 50% of the seasonal critical low flow.

Parameters of Concern

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

TMDL

Huntington Creek is listed as impaired for selenium according to the 2010 303(d) list. The San Rafael River downstream of the confluence with Cottonwood Creek is listed as impaired for benthic macroinvertebrates.

Per UAC R317-2-14, Huntington Creek has a site specific criterion for TDS concentration of 4,800 mg/L that is based upon the EPA approved Total Maximum Daily Load (TMDL) *Price River, San Rafael River, and Muddy Creek TMDLs for Total Dissolved Solids, West Colorado Watershed Management Unit, Utah* (MFG Inc., 2004).

**Utah Division of Water Quality
Wasteload Analysis
Huntington Wastewater Treatment Plant
UPDES No. UT0021296**

WET Limits

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

Table 2: WET Limits for IC₂₅

Season	Percent Effluent
Annual	38%

Effluent Limits

Effluent limits for conservative pollutants were determined using a mass balance mixing analysis (UDWQ 2012). The mass balance analysis is summarized in Appendix A.

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 Appendix B.

The effluent limits for DO and BOD₅ in order to meet minimum DO criteria in the receiving water was evaluated using the Utah River Model. The analysis is summarized in Appendix B.

The limits for total residual chlorine were determined assuming a decay rate of 20 /day (at 20 °C) and a travel time of 25 minutes; 10 minutes in the outlet pipe prior to discharge to Huntington Creek (approximately 500 linear feet at 1.0 feet per second velocity) and 15 minutes in the mixing zone. The analysis for TRC is summarized in Appendix C.

Table 3: Water Quality Based Effluent Limits Summary

Effluent Constituent	Acute			Chronic		
	Standard	Limit	Averaging Period	Standard	Limit	Averaging Period
Flow (MGD)		0.8	1 day		0.4	30 days
Ammonia (mg/L)			1 hour			30 days
Summer (Jul-Sep)	3.6	8.6		1.3	3.5	
Fall (Oct-Dec)	3.6	7.4		2.0	5.3	
Winter (Jan-Mar)	3.6	6.9		2.1	5.6	
Spring (Apr-Jun)	3.6	8.7		2.0	5.4	
CBOD ₅ (mg/L)	N/A	65	Daily	N/A	30	30 days
Dissolved Oxygen (mg/L)	3.0	3.0	Minimum	5.0	5.0	30 days
Total Dissolved Solids (mg/L)	4,800	4,800	Maximum			
Total Residual Chlorine (mg/L)	0.019	0.04	1 hour	0.011	0.04	4 days

**Utah Division of Water Quality
Wasteload Analysis
Huntington Wastewater Treatment Plant
UPDES No. UT0021296**

Model 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 discharge since the pollutant concentration and load is not increasing under this permit renewal.

Documents:

WLA Document: *huntington_potw_wla_2014_preliminary.docx*
Wasteload Analysis: *huntington_potw_utstreamdo_wla_2014.xlsm*

References:

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

Lewis, B., J. Saunders, and M. Murphy. 2002. *Ammonia Toxicity Model (AMMTOX, Version2): A Tool for Determining Effluent Ammonia Limits*. University of Colorado, Center for Limnology.

MFG Inc. 2004. *Price River, San Rafael River, and Muddy Creek TMDLs for Total Dissolved Solids, West Colorado Watershed Management Unit, Utah*. Utah Division of Water Quality.

WASTELOAD ANALYSIS [WLA]

Date: 9/11/2014

Appendix A: Mass Balance Mixing Analysis for Conservative Constituents

Discharging Facility: Huntington Lagoons
 UPDES No: UT-0021296
 Permit Flow [MGD]: 0.80 Annual Max. Daily
 0.40 Annual Max. Monthly

Receiving Water: Huntington Creek
 Stream Classification: 2B, 3C, 4
 Stream Flows [cfs]: 1.0 All Seasons Critical Low Flow

Fully Mixed: NO
 Acute River Width: 50%
 Chronic River Width: 100%

Modeling Information

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

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

Effluent Limitations

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

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

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

No dilution in unnamed irrigation ditch.

Physical Parameter	Maximum Concentration
pH Minimum	6.5
pH Maximum	9.0
Turbidity Increase (NTU)	10.0

Bacteriological	Maximum Concentration
E. coli (30 Day Geometric Mean)	206 (#/100 mL)
E. coli (Maximum)	668 (#/100 mL)

Utah Division of Water Quality

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

Inorganics	Chronic Standard (4 Day Average)		Acute Standard (1 Hour Average)
	Parameter	Standard	Standard
Phenol (mg/L)			0.010
Hydrogen Sulfide (Undissociated) [mg/L]			0.002

Metals-Total Recoverable

Parameter	Chronic (4-day ave)			Acute (1-hour ave)		
	Standard ¹	Background	Limit	Standard ¹	Background	Limit
Aluminum (µg/L)	87.0	20.3	194.8	750.0	20.3	1044.8
Arsenic (µg/L)	150.0	1.7	389.7	340.0	1.7	476.7
Cadmium (µg/L)	0.6	0.40	1.0	7.7	0.40	10.7
Chromium III (µg/L)	11.0	4.5	21.5	16.0	4.5	20.6
Chromium VI (µg/L)	230.7	4.5	596.2	1773.3	4.5	2487.9
Copper (µg/L)	29.3	6.1	66.7	49.6	6.1	67.2
Cyanide (µg/L) ²	5.2	3.5	8.0	22.0	3.5	29.5
Iron (µg/L)				1000.0	23.0	1394.7
Lead (µg/L)	10.9	1.9	25.6	280.8	1.9	393.5
Mercury (µg/L) ²	0.012	0.008	0.018	2.4	0.008	3.4
Nickel (µg/L)	168.0	8.3	426.2	1512.9	8.3	2120.8
Selenium (µg/L)	4.6	3.9	5.7	18.4	3.9	24.3
Silver (µg/L)				34.9	1.0	48.6
Tributyltin (µg/L) ²	0.072	0.048	0.110	0.46	0.048	0.63
Zinc (µg/L)	382.4	20.0	968.1	379.3	20.0	524.5

1: Based upon a Hardness of 400 mg/l as CaCO₃

2: Background concentration assumed 67% of chronic standard

Organics [Pesticides]

Parameter	Chronic (4-day ave)		Acute (1-hour ave)	
	Standard	Limit	Standard	Limit
Aldrin (µg/L)			1.5	1.5
Chlordane (µg/L)	0.0043	0.0043	1.2	1.2
DDT, DDE (µg/L)	0.001	0.001	0.55	0.55
Diazinon (µg/L)	0.17	0.17	0.17	0.17
Dieldrin (µg/L)	0.0056	0.0056	0.24	0.24
Endosulfan, a & b (µg/L)	0.056	0.056	0.11	0.11
Endrin (µg/L)	0.036	0.036	0.086	0.086
Heptachlor & H. epoxide (µg/L)	0.0038	0.0038	0.26	0.26
Lindane (µg/L)	0.08	0.08	1.0	1.0
Methoxychlor (µg/L)			0.03	0.03
Mirex (µg/L)			0.001	0.001
Nonylphenol (µg/L)	6.6	6.6	28.0	28.0
Parathion (µg/L)	0.0130	0.0130	0.066	0.066
PCB's (µg/L)	0.014	0.014		
Pentachlorophenol (µg/L)	15.0	15.0	19.0	19.0
Toxephene (µg/L)	0.0002	0.0002	0.73	0.73

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Radiological

Parameter	Maximum Concentration	
	Standard	
Gross Alpha (pCi/L)	15	

Effluent Limitation for Protection of Agriculture (Class 4 Waters)

Parameter	Maximum Concentration			Site specific standard
	Standard	Background	Limit	
Total Dissolved Solids (mg/L)	4800	4800	4800	
Boron (mg/L)	0.75	0.2	2	
Arsenic, Dissolved (µg/L)	100	1.7	259	
Cadmium, Dissolved (µg/L)	10	0.4	26	
Chromium, Dissolved (µg/L)	100	4.5	254	
Copper, Dissolved (µg/L)	200	6.1	513	
Lead, Dissolved (µg/L)	100	1.9	259	
Selenium, Dissolved (µg/L)	50	3.9	124	
Gross Alpha (pCi/L)	15	0.0	39	

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WASTELOAD ANALYSIS [WLA]

Date: 9/11/2014

Appendix B: Utah Stream DO and AMMTOX Models

Discharging Facility: Huntington Lagoons
 UPDES No: UT-0021296
 Permit Flow [MGD]: 0.80 Annual Max. Daily
 0.40 Annual Max. Monthly

Receiving Water: Huntington Creek
 Stream Classification: 2B, 3C, 4
 Stream Flows [cfs]: 1.0 All Seasons Critical Low Flow

Fully Mixed: NO
 Acute River Width: 50%
 Chronic River Width: 100%

Modeling Information

The modeling approach used in this analysis included 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) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8

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.

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

Model Input

Current Upstream Information

Season	Critical Low		Temp. Deg. C	pH Ave	pH Max	NH3 mg/L as N	BOD5 mg/l	DO mg/l
	Flow cfs							
Summer	1.0		21.2	8.14	8.20	0.06	0.50	6.11
Fall	1.0		6.2	8.08	8.20	0.05	0.50	8.19
Winter	1.0		2.6	8.01	8.20	0.06	0.50	7.88
Spring	1.0		13.7	8.06	8.20	0.07	0.50	6.12
	Org N		NO3					
	mg/L as N		mg/L as N					
Summer	0.20		0.50					
Fall	0.20		0.50					
Winter	0.20		0.50					
Spring	0.20		0.50					

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Projected Discharge Information

Season	Flow (MGD)		Temp.	pH	pH	Org N	NO3
	Max Daily	Ave Monthly	Deg. C	Ave	Max	mg/L as N	mg/L as N
Summer	0.8	0.4	19.7	8.20	8.50	1.00	5.00
Fall	0.8	0.4	9.1	8.20	8.50	1.00	5.00
Winter	0.8	0.4	5.1	8.20	8.50	1.00	5.00
Spring	0.8	0.4	13.1	8.20	8.50	1.00	5.00

Effluent Limitations

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

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

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

Temperature (deg C)	Maximum
Instantaneous	27.0
Change	4.0

pH	Concentration
Minimum	6.5
Maximum	9.0

Dissolved Oxygen (mg/L)	Standard	Limit
Instantaneous Minimum	3.0	5.0
30-day Average Minimum	5.0	5.0

CBOD5 (mg/L)	Standard	Limit
Daily Maximum	N/A	65.0
30-day Average	N/A	30.0

Ammonia-Total (mg/L)

Season	Chronic (30-day ave)			Acute (1-hour ave)		
	Standard	Background	Limit	Standard	Background	Limit
Summer	1.3	0.06	3.5	3.6	0.06	8.6
Fall	2.0	0.05	5.3	3.6	0.05	7.4
Winter	2.1	0.06	5.6	3.6	0.06	6.9
Spring	2.0	0.07	5.4	3.6	0.07	8.7

Model Rate Parameters and Coefficients

CBOD Kd(20) /day 2.00	CBOD Kd(T) /day 2.06	REAER. Ka(20) /day 20.0	REAER. Ka(T) /day 20.3	NBOD Kn(20) /day 0.40	NBOD Kn(T) /day 0.42		
NH3 LOSS K5(20) /day 4.00	NH3 LOSS K5(T) /day 4.12	NO3 LOSS K6(20) /day 0.00	NO3 LOSS K6(T) /day 0.00	BENTHIC DEMAND SOD(20) gm/m2/day 1.00	BENTHIC DEMAND SOD(T) gm/m2/day 1.04		
Kd CBOD {theta} 1.047	Ka Reaer. {theta} 1.024	Kn NH3 {theta} 1.08	K4 Open {theta} 1	K5 NH3 Loss {theta} 1.047	K6 NO2+3 {theta} 1.045	KCI TRC {theta} 1.06	SOD Benthic {theta} 1.065

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**WASTELOAD ANALYSIS [WLA]
Appendix C: Total Residual Chlorine**

Discharging Facility: Huntington Lagoons
UPDES No: UT-0021296

CHRONIC

Discharge (cfs) TRC (mg/L)	Season	Receiving Water	Standard	Total Effluent t	Mixing Zone Boundary	Effluent Limit Without Decay	Temperature (°C)	Decay Rate (/day)			Travel Time (min)	Decay Coefficient	Effluent Limit
								@ 20 deg C	@ T deg C				
	Annual	1.0		0.6	1.6			20	20.0		25	0.71	0.041
	Annual	0.000	0.011			0.029	20.0	20	20.0		25	0.71	0.041

ACUTE

Discharge (cfs) TRC (mg/L)	Season	Receiving Water	Standard	Total Effluent t	Mixing Zone Boundary	Effluent Limit Without Decay	Temperature (°C)	Decay Rate (/day)			Travel Time (min)	Decay Coefficient	Effluent Limit
								@ 20 °C	@ T °C				
	Annual	0.5		1.2	1.7			20	20.0		25	0.71	0.038
	Annual	0.000	0.019			0.027	20.0	20	20.0		25	0.71	0.038