

**FACT SHEET AND STATEMENT OF BASIS
HENEFER TOWN SEWAGE TREATMENT LAGOONS
RENEWAL PERMIT: DISCHARGE
UPDES PERMIT NOUMBER: UT0020192
MINOR MUNICIPAL**

FACILITY CONTACT

Name: The Honorable Kay Richins
Position: Mayor of Henefer Town
Phone Number: 801-599-8003

Name: Arlin Ovard
Position: Treatment Lagoons Operator
Phone: 435-336-2865

Facility Name: Henefer Town
Mailing Address: PO Box 112
Henefer, Utah 84033
Telephone: 435-336-5365
Facility Address: 150 West Center St. in Henefer (Office)

DESCRIPTION OF FACILITY

Henefer Town, with a current population of approximately 850 is served by a four-cell lagoon domestic sewage treatment system comprising 15.59 acres total (facility). The facility is located approximately 0.6 miles northwest of Henefer Town along the Weber River, with latitude 41°01'24" and longitude 111°30'24" coordinates. The facility consists of an influent 6" Parshall Flume with a Stevens ISCO flow recorder to measure and record inflows, followed by four lagoon cells with variable level draw-off from cell number 4, which is followed by ultraviolet (UV) disinfection and then discharged through an 18-inch concrete pipe with diffuser to the Weber River. The effluent flow is measured by a Marsh-McBimey Model 280 flow meter located inside the UV building. The original three lagoon cells were constructed in 1974, while the fourth cell and ultraviolet disinfection unit were added in 1988. The facility's influent average design flow is 0.15 million gallons per day (MGD) for continuous discharge, while the effluent average flow is 0.35 MGD and is typically an intermittent discharge during a few months of each year.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

The Division of Water Quality (DWQ) adopted *Utah Administrative Code (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 (as 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;

$$\text{Monthly Mass Loading, } \frac{\text{lbs}}{\text{Month}} = (\text{Ave Flow}) * (\text{Ave Concentration}) * \left(8.34 \frac{\text{lbs}}{\text{gal}}\right) * \left(\frac{\text{Days Discharged}}{\text{Month}}\right)$$

The annual total phosphorus loading

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

DWQ previously calculated the annual total phosphorus loading cap for the Henefer facility at 876 pounds/year based on the data reported on monthly discharge monitoring reports. This was completed in July 2018 via a permit modification and will remain in the permit as appropriate.

No new changes are being proposed in this renewal permit since the 2018 permit modification. All permit limits and monitoring requirements remain unchanged, with the lone exception of the total residual chlorine (TRC) limit, which has been updated to reflect the current water quality standard derived from the Wasteload Analysis should the Henefer facility ever choose to use chlorine instated of UV for disinfection.

DISCHARGE

DESCRIPTION OF DISCHARGE

The facility currently discharges on an intermittent basis in order to maintain maximum efficiency of the ultraviolet disinfection system. The flow volume during discharge intervals on average is 0.35 MGD for 1-2 weeks of the discharging month, and 3-4 months per year total as needed on average. The permitted Outfall information is as follows:

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	Located at latitude 41°01'24" and longitude 111°30'24". Discharge is via an 18-inch concrete pipe located after the 4 th lagoon cell and about 200 feet north of the ultraviolet disinfection building, along the Weber River.

A review of the past 5 years of discharge data shows that when discharge occurs, there are occasional excursions with one or more of the limits for biochemical oxygen demand (BOD₅), total suspended solids (TSS), BOD₅ percent removal, and TSS percent removal. Most of these excursions are attributed to the production, discharge, and nutrient cycling of algae and duckweed present on the lagoon cells and typically do not carry over from month to month.

RECEIVING WATER AND STREAM CLASSIFICATION

As described above, discharge goes directly to the Weber River, which is classified as 1C, 2B, 3A, and 4 according to *Utah Administrative Code (UAC) R317-2-13*:

- 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, found in *UAC R317-1-3.2*. The oil and grease monitoring requirement is based upon best professional judgment (BPJ) of the permitting authority to be consistent with similar facilities statewide. Dissolved oxygen, total residual chlorine, and total flow limits are derived from the Wasteload Analysis (WLA), which is attached as an Addendum to this document. From the WLA, it has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level I review was conducted and determined that a Level II review is not required since there is no increase in flows or concentration of pollutants over those previously authorized in the permit. The permittee is expected to be able to continue to comply with these limitations.

The Henefer facility is also required to monitor total phosphorus because of the aforementioned TBPEL Rule, as well as because the Weber River segment between the confluence of Lost Creek and Echo Reservoir is on Utah's 2016 303(d) lists of impaired waters for bioassessment and total phosphorus. The listing is based on assessments of the benthic macro-invertebrate population. The source of the impairment is undetermined, with a Total Maximum Daily Load (TMDL) study addressing these impairments yet to be completed.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance document.

RP was conducted for the Henefer lagoons facility to determine if there was reasonable potential for the discharge to exceed the applicable water quality standards for metals and any other parameters of concern. Based on the WLA and an initial screening review of all available information, there is no reasonable potential for metals or other parameters of concern in the effluent discharge that would exceed the applicable water quality standards. This is primarily because there are no industrial or categorical facilities discharging to the Henefer Town sewage collection system. Only household domestic waste users are connected to the system. Therefore, RP does not currently exist for the facility based upon BPJ of the permitting authority. This will be re-evaluated as appropriate in subsequent permit renewals.

The permit effluent limitations are summarized below:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD	0.35	--	--	--	--
BOD ₅ , mg/L	45	65	--	--	--
BOD ₅ Min. % Removal	65	--	--	--	--
TSS, mg/L	45	65	--	--	--
TSS Min. % Removal	65	--	--	--	--
Dissolved Oxygen, mg/L	--	--	--	4.0	--
TRC, mg/L *e	--	--	--	--	0.019
<i>E. coli</i> , No./100mL	126	157	--	--	--
Total Phosphorous, lbs/yr (Annual load limit) *g	--	--	876	--	--
Oil & Grease, mg/L *f	--	--	--	--	10.0
pH, Standard Units	--	--	--	6.5	9

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit. The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD ₅ , Influent *d	Monthly	Grab	mg/L
Effluent	Monthly	Grab	mg/L
TSS, Influent *d	Monthly	Grab	mg/L
Effluent	Monthly	Grab	mg/L
<i>E. coli</i>	Monthly	Grab	No./100mL
pH	Monthly	Grab	SU
DO	Monthly	Grab	mg/L
TRC *e	Daily	Grab	mg/L
Oil & Grease *f	When Sheen Observed	Visual/Grab	mg/L
Orthophosphate, (as P) *g			
Effluent	Monthly	Composite	mg/L
Phosphorus, Total *g			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) *g			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO ₃ *g	Monthly	Composite	mg/L
Nitrite, NO ₂ *g	Monthly	Composite	mg/L

- *a See Permit Definitions, *Part VIII*, for definition of terms.
- *b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- *c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- *d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- *e Total residual chlorine (TRC) monitoring frequency shall be daily and will only be required if the ultra violet disinfection system is not in use. Chlorine disinfection is a backup system to the ultra violet system and therefore should not be needed unless the ultra violet system has a failure and is by passed.
- *f Oil & Grease monitoring is a visual test and only required to be sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- *g These reflect changes required with the adoption of UAC R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.

BIOSOLIDS MANAGEMENT REQUIREMENTS

As required by the 1987 amendments to the *Clean Water Act*, EPA has established toxic contaminant criteria and other requirements for sewage sludge use and disposal by works treating domestic sewage. These regulations are found in *Title 40 CFR, Part 503 (Part 503)*. This is a self-implementing regulation, so that compliance is mandatory even if a facility has not yet received a permit. Monitoring and reporting requirements in *Part 503* took effect July 19, 1993. Metal, pathogen, and vector limits and management requirements went into effect February 19, 1994. In addition, the permittee must comply with applicable state rules, including *Disposal of Domestic Wastewater Treatment Works Sludge, UAC R317-1-6* and *Land Application of Sludge, UAC R317-3-9*.

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 REQUIREMENTS

The *Utah Administrative Code (UAC) R-317-8-3.9* requires storm water permit provisions to include the development of a storm water pollution prevention plan for waste water treatment facilities if the facility meets one or both of the following criteria:

1. waste water treatment facilities with a design flow of 1.0 MGD or greater, and/or,
2. waste water treatment facilities with an approved pretreatment program as described in *40CFR Part 403*,

The Henefer facility does not meet either one of the above criteria; therefore this permit does not include storm water provisions. The permit does however include a storm water re-opener provision as this permit may be re-opened and modified at any time during its lifetime to include any applicable storm water provisions and requirements per *UAC R317-8*.

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 (biomonitoring) is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control, dated February 2018 (WET policy). Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The permittee is a minor municipal facility who's discharges are infrequent and intermittent, in which toxicity is neither an existing concern, nor likely to be present in the foreseeable future. Based on these considerations, and that there are no industrial dischargers connected to the wastewater system, there is no reasonable potential for toxicity in the permittee's discharge per DWQ WET policy. 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 duration of five (5) years.

Drafted and reviewed by
Jeff Studenka, Discharge
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Dan Griffin, Biosolids
Lisa Stevens, Storm Water
Elise Hinman, Watershed/TMDL
Dave Wham, Wasteload Analysis/ADR
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE INFORMATION (to be completed after)

Began: Month Day, Year
Ended: Month Day, Year

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

The Public Noticed of the draft permit was published in the (NEWSPAPER OF RECORD FOR AREA).

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

ATTACHMENT 1

Industrial Waste Survey

PND Draft

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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, bluing 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, non-biodegradable 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
195 North 1950 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 blow-down |
| 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

PVNDraft

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ATTACHMENT 2

Wasteload Analysis