

Department of Conservation & Natural Resources

Joe Lombardo, *Governor*James A. Settelmeyer, *Director*Jennifer L. Carr, *Administrator* 

# FACTSHEET (pursuant to NAC 445A.236)

Permittee Name: LOVE'S TRAVEL STOPS/LOVE'S FAMILY OF COMPANIES

10601 N PENNSYLVANIA AVE OKLAHOMA CITY, OK 73120

Permit Number: NS2025517

**Permit Type:** GROUNDWATER DISCHARGE

**Designation:** GROUNDWATER

New/Existing: NEW

**Location:** LOVE'S TRAVEL STOP, CLARK

9571 SOUTH US HIGHWAY 95, CAL-NEV-ARI, NV 89039 LATITUDE: 36.30149460, LONGITUDE: -114.878343 TOWNSHIP: T30S, RANGE: R64E, SECTION: 30

| Outfall / Well Num | Outfall / Well Name | Location Type    | Well Log Num | Latitude    | Longitude   | Receiving Water |
|--------------------|---------------------|------------------|--------------|-------------|-------------|-----------------|
| 001                | EFFLUENT            | External Outfall |              | 35.30149460 | -114.878343 | GROUNDWATER     |
| 002                | LEACH FIELD         | External Outfall |              | 35.30149460 | -114.878343 | GROUNDWATER     |
| INF                | INFLUENT            | Internal Outfall |              | 35.30149460 | -114.878343 | NOT APPLICABLE  |

## **Permit History/Description of Proposed Action**

This is a new permit. The Permittee, Love's Travel Stops/Love's Family of Companies (LTS/LFOC), has applied for a new groundwater discharge permit NS2025517, for the Love's Travel Stop Bio-Microbics BioBarrier™ High-Strength Membrane Bio-Reactor (HSMBR) activated sludge package treatment plant, at 9571 S. U.S. Highway 95, in Cal-Nev-Ari, being within Clark County, Nevada. The Permittee proposes to discharge treated wastewater to the groundwater of the State via a leach field.

## **Facility Overview**

The Permittee, LTS/LFOC, proposes to construct a travel stop housing a convenience store, fast food service, public restrooms, shower facilities, and fueling stations for vehicles and commercial trucks. The LTS/LFOC plans to operate the package treatment plant which will be composed of one settling/screening tank, a lift station, two anoxic tanks, two aeration/membrane tanks and an effluent discharge and recirculation pump station, along with a leach field, to allow for the treatment of the domestic sewage generated by the travel stop. The package wastewater treatment plant (WWTP) is designed to treat and denitrify an average of 0.008 million gallons per day (Mgal/d), with a daily maximum of 0.012 Mgal/d.

### WWTP System Description

Pretreatment equipment for this project includes one (1) grease interceptor from the restaurant and convenience store, one (1) settling/screening tank, and biological treatment provided by two (2) aeration/membrane tanks.

After the pretreatment facilities, wastewater will be delivered to the treatment tanks, which will provide biological treatment of wastewater. The process is an activated sludge treatment process, which treats the wastewater, with a membrane filter being installed in the mixed liquor tank serving as both a solids clarifier

and effluent filter, before discharging to a disposal system. The design of the overall system, and in particular the aeration system and permeate pumps, works as a dosing tank. The system works in a batch mode where the water levels will dictate when permeate pumps turn on and off. Each membrane tank has a level transducer as the primary level sensor that will control the pumps but also includes a float that will be on a separate circuit to indicate emergency high level. The tank's controls will switch to the other train when the high-level float is actuated. The tanks also include a reserve volume of storage in amounts greater than Divisional requirements. Based on a peak flow of 12,000 Gal/d, the storage requirement needed for 2 hours is 1,000 gallons. There is a foot of freeboard from the alarm high water level setpoint to the invert of the influent pipe which provides over 1,800 gallons of volume.

#### The Process

Raw wastewater will be delivered to the proposed WWTP via gravity sewer piping that is to be installed between the buildings and the WWTP. A manhole located upstream of the WWTP will be connected to the settling/screening tank so that wastewater can flow by gravity into the tank. The settling/screening tank will be made up of a 12,000-gallon (gal) primary tank. This tank will receive raw wastewater, allowing heavy solids to settle, and light solids to float and remain in the tank. The effluent piping is equipped with screens to remove smaller solids and keep floating grease in the settling tank. This tank will reduce total suspended solids and remove foreign materials that may otherwise clog or damage the downstream system. The solids settled in the tank will remain until the tank needs to be pumped.

After settling, the wastewater will leave the settling/screening tank and flow into a lift station. Wastewater from the lift station will then be sent, via submersible pumps, to one of the two anoxic tanks, with the system alternating between the two. Each system will have a flow meter to track influent flows from the lift station to the anoxic tank. The flow meters will be magnetic flow meters and will be used to track the incoming influent flow.

Influent flow to the anoxic tank will be mixed with the contents of the anoxic tank by two submersible mixing systems. The mixing systems will maintain a well-mixed environment between incoming wastewater (source of organic substrate), biological mass in the tank and the nitrate recirculation flow (source of nitrate) from the aeration tank. Denitrified mixed liquor from the anoxic tank will flow by gravity to an aeration tank, where the membrane filter assemblies will be installed.

In the aeration tanks, an activated sludge process reduces contaminants, Biochemical Oxygen Demand (BOD), and Total Kjeldahl Nitrogen (TKN) in the presence of dissolved oxygen (DO) and a dense population of microorganisms. The TKN will be converted to nitrate in this tank during the aeration period. A batch filtration process provided by the membrane filter assemblies and permeate pumps will separate the activated sludge and Mixed Liquor Suspended Solids (MLSS) from the treated permeate using ultrafiltration membrane technology. The head loss across the membrane filters, called Transmembrane Pressure (TMP), and flow rate produced by each permeate pump is monitored by the control panel. The membrane filter assemblies are built with coarse bubble diffusers at the base of each assembly, which release an upward stream of air bubbles to scour the flat sheet membrane cassettes and reduce the rate of biological fouling. The coarse bubble aeration for the membrane filter assemblies is provided by the installed blowers which will operate on a intermittent schedule to provide mixing and oxygen for the biological process when the water levels are not high enough to require filtration.

Solids are wasted periodically when the MLSS reaches a high level, as determined by the operator. A trash pump or vacuum truck hose is used to remove solids by emptying the anoxic and aeration tanks sufficiently to remove the necessary pounds of solids to reach the desired concentration if the tanks were full. Water should be added to cover any exposed membrane modules.

Nitrate recirculation is configured to remove total nitrogen by recycling nitrified mixed liquor to the anoxic tank to be denitrified. Rates are adjustable to ensure sufficiently low DO is sent back to the anoxic tank balanced with adequate flows for complete denitrification.

The solids settled from the influent wastewater will be stored in the settling/screening tank. Prior to the solids reaching a volume that inhibits operation, the solids are to be pumped from the tank utilizing a

pump truck. Similarly, the mixed liquor will be pumped from the process basins when MLSS reduction is necessary. The treated wastewater is to be discharged into a onsite leach pad for additional treatment and percolation into the ground. The sludge component is to be hauled offsite to a disposal facility or accepting solids handling facility.

## **Outfall Summary**

Outfall INF – This internal outfall is for measuring the domestic sewage (Influent) flowing into the WWTP.

Outfall 001 – This external outfall is for measuring the effluent.

Outfall 002 – This external outfall is for monitoring the leach field.

## Facility Upgrades since last issued permit

Not applicable, this is a new permit.

## **Solids Handling**

Solids are to be removed and hauled to either a disposal facility or solids handling facility.

## **Effluent Management and Reuse**

Treated effluent will be discharged into a leach field for percolation into groundwater of the State. There will be no reuse.

## Design Flow (and basis) and Measurement & Current Capacity

The treatment plant was designed with an average day flow rate of 0.008 Mgal/d., and a daily maximum flow rate of 0.012 Mgal/d. This is a new permit, with the WWTP to be constructed, so measurements and current capacity cannot be determined at this time.

### **Pretreatment Program**

The food service area has a standard kitchen food grease interceptor to allow for removal of grease prior to the domestic sewage entering the WWTP.

## Operations & Maintenance (O&M) Manual status

This is a new permit. The Permittee shall submit two copies (one hard copy and one electronic copy) of a new Operations and Maintenance (O&M) Manual for review and approval by the Division. The O&M Manual shall follow the Division's guidance document, WTS2 Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant, and be prepared and wet stamped by a licensed, qualified Nevada engineer (P.E.). The O&M Manual is due ninety (90) days from the date of permit issuance.

## **Effluent Characterization**

As this is a new system, there are no substantiated numbers to determine the performance of the WWTP. Based on two years of reported concentrations and flow rates, additional requirements may be put into place at that time to allow for adherence to secondary treatment standards.

### **Pollutants of Concern**

Pollutants of concern are any pollutants or parameters that are believed to be present in the discharge and could affect or alter the physical, chemical, or biological condition of the receiving water. Common pollutants of concern for the WWTP are Total Nitrogen, and Total Dissolved Solids (TDS), along with inorganic chemicals and metals (Profile 1 contaminants).

### **Receiving Water**

The receiving water is groundwater of the State. Depth to groundwater in the area is approximately 325 feet below ground surface. No adverse effects are expected with the discharge of this treated wastewater.

## **Compliance History**

Not applicable, this is a new permit.

# **Proposed Effluent Limitations**

The discharge shall be limited and monitored by the Permittee as specified below.

# WWTP Discharge Limitations Table for Sample Location 001 (Effluent-External Outfall) To Be Reported Monthly

|           | Discharge Limitations |  |               |                   |     | Monitoring Requirements  |                |  |  |
|-----------|-----------------------|--|---------------|-------------------|-----|--------------------------|----------------|--|--|
| Parameter | Base                  | Quantity   | Concentration | Monitoring<br>Loc | _   | Measurement<br>Frequency | Sample<br>Type |  |  |
| Flow rate | Daily<br>Maximum      | M&R<br>Million<br>Gallons per<br>Day<br>(Mgal/d) |               | Effluent<br>Gross | 001 | Continuous               | METER          |  |  |
| Flow rate | 30 Day<br>Average     | M&R<br>Million<br>Gallons per<br>Day<br>(Mgal/d) |               | Effluent<br>Gross | 001 | Continuous               | METER          |  |  |

# WWTP Discharge Limitations Table for Sample Location 001 (Effluent-External Outfall) To Be Reported Quarterly

|  |                                     | Discharge Lim | nitations                                  | 1                 | Monitoring Requirements |                          |                |  |
|--|-------------------------------------|---------------|--|-------------------|-------------------------|--------------------------|----------------|--|
| Parameter  | Base                                | Quantity      | Concentration                              | Monitoring<br>Loc | Sample<br>Loc           | Measurement<br>Frequency | Sample<br>Type |  |
| BOD, 5-day                                       | Daily<br>Maximum                    |               | <= 45<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Quarterly                | DISCRT         |  |
| BOD, 5-day                                       | Quarterly<br>Average                |               | <= 30<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Quarterly                | DISCRT         |  |
| Nitrogen, total                                  | Daily<br>Maximum                    |               | <= 10<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Quarterly                | DISCRT         |  |
| pH, maximum                                      | Daily<br>Maximum                    |               | <= 9.0<br>Standard<br>Units (SU)           | Effluent<br>Gross | 001                     | Quarterly                | DISCRT         |  |
| pH, minimum                                      | Daily<br>Minimum                    |               | >= 6.0<br>Standard<br>Units (SU)           | Effluent<br>Gross | 001                     | Quarterly                | DISCRT         |  |
| Solids, total<br>suspended                       | Daily<br>Maximum                    |               | <= 45<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Quarterly                | DISCRT         |  |
| Solids, total<br>suspended                       | Quarterly<br>Average                |               | <= 30<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Quarterly                | DISCRT         |  |
| BOD, 5-day,<br>percent removal <sup>[2]</sup>    | Quarterly<br>Minimum <sup>[1]</sup> |               | >= 85<br>Percent (%)                       | Effluent<br>Gross | 001                     | Quarterly                | CALCTD         |  |
| Solids, suspended percent removal <sup>[2]</sup> | Quarterly<br>Minimum <sup>[1]</sup> |               | >= 85<br>Percent (%)                       | Effluent<br>Gross | 001                     | Quarterly                | CALCTD         |  |

# Notes (WWTP Discharge Limitations Table):

<sup>1.</sup> Quarterly Minimum should be based on a Quarterly Average Minimum.

<sup>2.</sup> Sampling for BOD, 5-day and total suspended solids (TSS) should be done concurrently when influent is sampled to determine the exact percentages of removal achieved.

# WWTP Discharge Limitations Table for Sample Location 001 (Effluent-External Outfall) To Be Reported Annually

|   |                  | Discharge L | imitations                               |                   | Monitorin     | g Requirements           | · ·            |
|---|------------------|-------------|--|-------------------|---------------|--------------------------|----------------|
| Parameter                                 | Base             | Quantity    | Concentration                            | Monitoring<br>Loc | Sample<br>Loc | Measurement<br>Frequency | Sample<br>Type |
| Alkalinity,<br>bicarbonate (as<br>CaCO3)  | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Alkalinity, total (as<br>CaCO3)           | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Aluminum, total (as<br>Al) <sup>[1]</sup> | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Antimony, total (as<br>Sb) <sup>[1]</sup> | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Arsenic, total (as<br>As) <sup>[1]</sup>  | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Barium, total (as<br>Ba) <sup>[1]</sup>   | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Beryllium,<br>dissolved (as Be)           | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Cadmium, total (as<br>Cd)                 | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Calcium, total (as<br>Ca) <sup>[1]</sup>  | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Chloride (as Cl)                          | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Chromium, total (as<br>Cr) <sup>[1]</sup> | Daily<br>Maximum |             | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
|   |                  |             | M&R                                      |                   |               |                          |                |

# WWTP Discharge Limitations Table for Sample Location 001 (Effluent-External Outfall) To Be Reported Annually

|   |                  | Discharge Lim | nitations                                | ľ                 | Monitoring Requirements |                          |                |  |
|---|------------------|---------------|--|-------------------|-------------------------|--------------------------|----------------|--|
| Parameter                                   | Base             | Quantity      | Concentration                            | Monitoring<br>Loc | Sample<br>Loc           | Measurement<br>Frequency | Sample<br>Type |  |
| Copper, dissolved (as Cu)                   | Daily<br>Maximum |               | Milligrams<br>per Liter<br>(mg/L)        | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| Fluoride, total (as<br>F)                   | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| Iron, total (as Fe) <sup>[1]</sup>          | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| Lead, dissolved (as<br>Pb)                  | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| Magnesium, total<br>(as Mg) <sup>[1]</sup>  | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| Manganese, total<br>(as Mn) <sup>[1]</sup>  | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| Mercury, dissolved<br>(as Hg)               | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| Nitrite plus nitrate<br>total 1 det. (as N) | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| Nitrogen, total                             | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| pH, maximum                                 | Daily<br>Maximum |               | M&R<br>Standard<br>Units (SU)            | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| pH, minimum                                 | Daily<br>Minimum |               | M&R<br>Standard<br>Units (SU)            | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |
| Potassium, total (as K) <sup>[1]</sup>      | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001                     | Annual                   | DISCRT         |  |

# WWTP Discharge Limitations Table for Sample Location 001 (Effluent-External Outfall) To Be Reported Annually

|   |                  | Discharge Lin | nitations                                |                   | Monitorin     | g Requirements           |                |
|---|------------------|---------------|--|-------------------|---------------|--------------------------|----------------|
| Parameter                               | Base             | Quantity      | Concentration                            | Monitoring<br>Loc | Sample<br>Loc | Measurement<br>Frequency | Sample<br>Type |
| Selenium,<br>dissolved [as Se]          | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Silver, total (as Ag)                   | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Sodium, total (as<br>Na) <sup>[1]</sup> | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Solids, total<br>dissolved              | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Sulfate, total (as<br>SO4)              | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Thallium, total (as                     | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Uranium, natural,<br>total              | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Cyanide, weak acid,<br>dissociable      | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |
| Zinc, dissolved (as<br>Zn)              | Daily<br>Maximum |               | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Effluent<br>Gross | 001           | Annual                   | DISCRT         |

Notes (WWTP Discharge Limitations Table):

1. Analysis shall be for the dissolved fraction.

# WWTP Discharge Limitations Table for Sample Location 002 (Leach Field-External Outfall) To Be Reported Monthly

|  | Monitoring Requirements            |                                    |               |                                |     |         |                |
|--|------------------------------------|------------------------------------|---------------|--------------------------------|-----|---------|----------------|
| Parameter                                | Base                               | Quantity                           | Concentration | Monitoring<br>Loc              | _   |         | Sample<br>Type |
| Outfall observation,visual, y/n response | Positive<br>Results <sup>[1]</sup> | M&R<br>Yes=0;<br>No=1<br>(Y=0;N=1) |               | See<br>Footnote <sup>[1]</sup> | 002 | Monthly | VISUAL         |

# Notes (WWTP Discharge Limitations Table):

<sup>1.</sup> Report "0" for a 'Pass' result, if surfacing, damages, or leaks were not observed during the visual inspection of the leach field. Report "1" for a 'Fail' result if surfacing, damages, or leaks were observed during the visual inspection of the leach field.

# WWTP Discharge Limitations Table for Sample Location Inf (Influent-Internal Outfall) To Be Reported Monthly

|           | Discharge Limitations |   |               |                        |     | Monitoring Requirements  |                |  |  |
|-----------|-----------------------|---|---------------|------------------------|-----|--------------------------|----------------|--|--|
| Parameter | Base                  | Quantity  | Concentration | •                      | _   | Measurement<br>Frequency | Sample<br>Type |  |  |
| Flow rate | Daily<br>Maximum      | <= 0.012<br>Million<br>Gallons per<br>Day<br>(Mgal/d) |               | Raw Sewage<br>Influent | INF | Continuous               | METER          |  |  |
| Flow rate | 30 Day<br>Average     | <= 0.008<br>Million<br>Gallons per<br>Day<br>(Mgal/d) |               | Raw Sewage<br>Influent | INF | Continuous               | METER          |  |  |

# WWTP Discharge Limitations Table for Sample Location Inf (Influent-Internal Outfall) To Be Reported Quarterly<sup>[1]</sup>

|                         | Discharge Limitations |          |  |                        |               | Monitoring Requirements  |                |  |  |  |
|-------------------------|-----------------------|----------|--|------------------------|---------------|--------------------------|----------------|--|--|--|
| Parameter               | Base                  | Quantity | Concentration                            | Monitoring<br>Loc      | Sample<br>Loc | Measurement<br>Frequency | Sample<br>Type |  |  |  |
| BOD, 5-day              | Daily<br>Maximum      |          | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Raw Sewage<br>Influent | INF           | Quarterly                | DISCRT         |  |  |  |
| BOD, 5-day              | Quarterly<br>Average  |          | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Raw Sewage<br>Influent | INF           | Quarterly                | DISCRT         |  |  |  |
| Solids, total suspended | Daily<br>Maximum      |          | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Raw Sewage<br>Influent | INF           | Quarterly                | DISCRT         |  |  |  |
| Solids, total suspended | Quarterly<br>Average  |          | M&R<br>Milligrams<br>per Liter<br>(mg/L) | Raw Sewage<br>Influent | INF           | Quarterly                | DISCRT         |  |  |  |

Notes (WWTP Discharge Limitations Table):

## **Summary of Changes From Previous Permit**

Not applicable, this is a new permit.

## **Technology Based Effluent Limitations**

Technology based effluent limitations (TBELs) are required as promulgated by the U.S. EPA for Publicly Owned Treatment Works (POTWs). The following limits are based on secondary treatment standards as allowed by the Code of Federal Regulation (CFR) Title 40, Section 133, and which has been adopted by the State of Nevada.

U.S. EPA published federal secondary treatment standards at 40 CFR 133, based on an evaluation of performance data for POTWs practicing a combination of physical and biological treatment. Performance is measured by monitoring biodegradable organics and suspended solids in the effluent, and the ability to maintain pH. Federal secondary treatment standards are defined under 40 CFR 133 for maximum BOD, 5-day as a 30-day average of 30 mg/L and a 7-day average of 45 mg/L and for maximum total suspended solids (TSS) as a 30-day average of 30 mg/L and a 7-day average of 45 mg/L. In addition to describing the minimum levels of effluent quality attainable by secondary treatment, 40 CFR 133.102 states that the 30-day average percent removal of BOD, 5-day and TSS shall not be less than 85%. The Division has adopted these standards for groundwater dischargers and applied the 7-day average thresholds as daily maximum effluent limits for BOD, 5-day and TSS.

The following performance standards for POTWs with secondary treatment standards have been included in the permit:

BOD, 5-day: 30-day average limit: <= 30 mg/L; Daily maximum limit: <= 45 mg/L.

TSS: 30-day average limit: <= 30 mg/L; Daily maximum limit: <= 45 mg/L.

Sampling for BOD, 5-day and total suspended solids (TSS) should be done concurrently when effluent is sampled to determine the exact percentages of removal achieved.

pH: Daily Maximum: <= 9.0 Standard Units pH: Daily Minimum >=6.0 Standard Units

Limits Based on Secondary Treatment Standards:

BOD, 5-day Percent removal: >= 85 percent.

TSS: Percent removal: >= 85 percent.

Limits Based on Facility's Design Criteria Review:

30-day average flow rate for the incoming influent is limited to <= 0.008 Mal/g.

Daily maximum flow rate for the incoming influent is limited to <= 0.012 Mgal/d.

## **Water Quality Based Effluent Limitations**

Water quality-based effluent limitations are not applicable to this permit.

## Proposed Water Quality Based Effluent Limits (monthly/weekly/daily)

Water quality-based effluent limitations are not applicable to this permit.

### **Basis for Effluent Limitations**

There are currently no specific water quality standards that have been formally adopted by the State for groundwater. However, the Division has the discretion to implement effluent limitations outside water quality standards per Nevada Administrative Code (NAC) 445A.243, which states, "In establishing an effluent limitation to carry out the policy of this State set forth in NRS 445A.305, consideration must be given to, but is not limited by the following: ... (2) the need for standards that specify by chemical, physical, biological or other characteristics the extent to which pollution by various substances will not be tolerated."

The requirement to monitor the effluent for Profile 1 pollutants annually during the permit term is included to evaluate the quality of the effluent and determine whether the effluent has potential to impact the receiving water. Although cyanide and uranium are not expected to be present in the effluent, the proposed permit requires the Permittee sample these constituents annually during the permit term as they are included in the Profile 1 list.

The constituents listed in Profile 1 have been vetted by the Division and have been included in groundwater discharge permits for many years as a means of regulating groundwater quality. Per Nevada Revised Statute (NRS) 445A.490, "No permit may be issued which authorizes any discharge or injection of fluids through a well into any waters of the State: ...(3) which would result in the degradation of existing or potential underground sources of drinking water."

## Influent and Effluent Monitoring Requirements:

Quarterly influent and effluent monitoring for BOD, 5-day and TSS are included to assess the treatment performance of the WWTP. A quarterly sampling frequency for BOD5 and TSS is sufficient for determining compliance with the applicable effluent limitations. Percent removal requirements for BOD5 and TSS are established in the permit as monthly average minimums of 85%, based on secondary treatment standards. Some wastewater treatment processes can increase or decrease wastewater pH; therefore, quarterly monitoring for pH is included in assessing compliance with effluent limits of 6.0 S.U. as a daily minimum and 9.0 S.U. as a daily maximum.

## **Anti-backsliding**

This is a new permit so there is no concern with any backsliding, or lessening, of applicable limits.

## Antidegradation

The Division has developed an antidegradation regulation that is applied on a statewide basis, and which meets the statutory requirements of Nevada's water pollution control law found at NRS 445A.520 and NRS 445A.565 and is consistent with the federal antidegradation policy found at 40 CFR § 131.12. The objective of the Division's antidegradation regulation is to prevent degradation of Nevada's surface waters and

maintain the unique attributes and special characteristics and water quality associated with high-quality waters.

As this permit is for discharges to the groundwater, and not surface water, the new antidegradation rule is not applicable. There are currently no specific water quality standards that have been formally adopted by the State for groundwater, however, data reviewed during the renewal process does not indicate the potential for degradation of the groundwater from the treated effluent discharged within the compliance limits of the proposed permit.

## **Special Conditions**

See the Special Approvals/Conditions Table below.

SA – Special Approvals / Conditions Table

There are no Special Approval / Condition items

## **Discharges From Future Outfalls/ Planned Facility Changes**

There are no planned discharges from future outfalls or facility changes.

#### **Corrective Action Sites**

There are no active Bureau of Corrective Action (BCA) remediation sites located within a one-mile radius of the wastewater treatment plant.

## **Wellhead Protection Program**

There is a Public Water Supply (PWS) well located approximately 1100 feet south of the outfall that has a depth of approximately 750 feet with a sanitary seal at 50 feet. A second well is located 980 feet to the southeast to the outfall that has a depth of approximately 510 feet with a sanitary seal at 50 feet and a screen from 370 to 600 feet. The outfall is located in the Drinking Water Protection Area of the wells, which is defined by a 3,000-foot radius around a PWS well. The outfall is not located in a Wellhead Protection Area (WHPA), which represents an approximate 10-year capture zone of a well. The recent chemical history of the well reports that the well has been having exceedances of arsenic in 2018 through 2024 and detections of nitrate in 2021 and 2023. Based on the unconfined aquifer and chemical history, the well is at risk of contamination.

As previously noted in the "Receiving Water" Section of this FactSheet, the Permittee has determined that no adverse effects on the receiving water are expected with the discharge of the treated water from the proposed outfall. Furthermore, this proposed treatment plant will be operated and maintained under specific standards, as previously outlined in this Fact Sheet and under the Permit, and the discharge of treated water from this outfall will be monitored in accordance with the discharge limitations outlined in this Fact Sheet and under the Permit. Compliance with the operations and maintenance standards and required monitoring is anticipated to detect and mitigate any potential increase to the existing risk of contamination to the well.

# **Schedule of Compliance:**

# SOC – Schedule of Compliance Table

| Item<br># | Description  | Due Date  |
|-----------|--|-----------|
| 1         | The Permittee shall submit two copies (one hard copy and one electronic copy) of a new Operations and Maintenance (O&M) Manual for review and approval by the Division. The O&M Manual shall follow the Division's guidance document, WTS2 Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant, and be prepared and wet stamped by a licensed, qualified Nevada engineer (P.E.). | 11/1/2025 |

#### **Deliverable Schedule:**

DLV- Deliverable Schedule for Reports, Plans, and Other Submittals

| Item # | Description                            | Interval  | First Scheduled Due Date |
|--------|--|-----------|--------------------------|
| 1      | Quarterly Discharge Monitoring Reports | Quarterly | 10/28/2025               |
| 2      | Annual reports                         | Annually  | 1/28/2026                |

#### **Procedures for Public Comment:**

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to groundwater of the State of Nevada subject to the conditions contained within the permit, is being mailed to interested persons on our mailing list and will be posted on our website at <a href="https://ndep.nv.gov/posts">https://ndep.nv.gov/posts</a>. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. 8/4/2025, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator of EPA Region IX or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

### **Proposed Determination:**

The Division has made the tentative determination to issue/re-issue the proposed 5-year permit.

Prepared by: Melissa Hanson

Date: 6/25/2025

Title: Staff II Engineer