FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: CITY OF FERNLEY

595 SILVERLACE BLVD
FERNLEY, NV 89408

Permit Number: NS0080011

Permit Type: GROUNDWATER DISCHARGE

Designation: GROUNDWATER

New/Existing: EXISTING

Location: EAST WASTEWATER TREATMENT PLANT, LYON
500 NEVADA PACIFIC PKWY, FERNLEY, NV 89408
LATITUDE: 39.59511780, LONGITUDE: -119.19824130
TOWNSHIP: T20N, RANGE: R25E, SECTION: S9

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	INFLUENT SPLITTER	Intake Structure		39.608806	-119.179861	GROUNDWATER
002	MIXING WEIR	Internal Outfall		39.608750	-119.1775	GROUNDWATER
003	CASCADE AERATOR	External Outfall		39.607083	-119.179167	GROUNDWATER
004	RAPID INFILTRATION BASINS	External Outfall		39.608889	-119.174444	GROUNDWATER
005	MW #7	Monitoring Well		39.608150	-119.180167	GROUNDWATER
006	MW #8	Monitoring Well		39.6069	-119.174133	GROUNDWATER
007	MW #9	Monitoring Well		39.609167	-119.173333	GROUNDWATER
008	MW #10	Monitoring Well		39.610556	-119.173889	GROUNDWATER
009	MW #11	Monitoring Well		39.606952	-119.180486	GROUNDWATER
010	MW #12	Monitoring Well		39.610997	-119.177613	GROUNDWATER
011	MW #13	Monitoring Well		39.611048	-119.174051	GROUNDWATER
012	POND #2	Internal Outfall		39.604670	-119.165830	GROUNDWATER

Permit History/Description of Proposed Action

The Permittee, the City of Fernley (COF), has applied for the renewal of groundwater discharge permit NS0080011 for the East Wastewater Treatment Plant (EWWTP). EWWTP is a partial-mix pond treatment system that discharges secondary treated, chlorinated effluent to the Fernley Wildlife Management Area (FWMA) which can be described as a wetland discharge. The FWMA is permitted to receive reclaimed water from the EWWTP through groundwater discharge permit NS0098008. EWWTP also has Rapid Infiltration Basins (RIBs) located on-site which have not been used for at least the last two permit cycles according to the submitted DMR's.

EWWTP has had elevated nitrogen levels above the maximum contaminant level (MCL) of 10 mg/L, averaging 11.0 mg/L and 19.7 mg/L, in two of the four wells on-site since 2015. Monitoring well 7, which is located upstream of the treatment facility, does report nitrogen values above the MCL, with an average reported value of 11 mg/L. This slightly increased nitrogen value is not the source of the nitrogen located in

well 9, which has reported nitrogen limits above 30 mg/L. The NDEP issued an Administrative Order on Consent (AOC) with the COF to solve this nitrogen issue. The source of the contamination has not been determined. Pond 2 was found to be needing re-lining during the AOC and site inspections. In 2019, pond 2 was relined, and drying beds were installed to help the facility handle solids drying. Additionally, as part of the AOC, three new monitoring wells have been installed, outfalls 009 - 011. The AOC was completed in November 2022.

Fecal coliforms are another pollutant in which EWWTP has exceeded its discharge limit. EWWTP exceeded the category D reuse limits for fecal coliform four times during the last permit cycle. With the significantly lower fecal coliform limit outlined in NAC 445A.276 Reuse Category C, fecal coliform is a pollutant of concern that will continue to be monitored. Particularly due to the FWMA's hunting presence in the wetland cells downstream. NDEP is not aware of any health issues caused by the exceeded fecal coliforms discharges during the last permit cycle.

EWWTP has also exceeded discharge limits for $CBOD_5$ nine times during the last permit cycle, as well as TSS two times. The facility receives about 20% of its inflow from commercial dischargers. The facility does not currently have a pre-treatment program due to the facility discharging less than 5 million gallons per day (MGD) and, all industrial discharges must pre-treat their effluent before discharging to the lift stations that pump the wastewater to the water treatment facility. DMR analysis' from the previous permit cycle did not identify an exceedance of the priority pollutant test that was conducted annually. The pollutants that were not recorded as non-detect were Toluene recorded at 1 µg/L in 2020, and Arsenic recorded at < 1µg/L in 2020. Both of these values are lower than their respective limits and no exceedances were reported during the last permit cycle.

Facility Overview

The facility is located four miles east of downtown Fernley and discharges to FWMA which has six wetland cells located three miles ENE from the EWWTP's cascade aerator outfall. EWWTP is a partial-mix pond treatment facility. Treatment processes include headworks (automated bar-screening and grit removal), influent splitter box, three timer-controlled primary aeration ponds (1A, 3A, 4A), three timer-controlled secondary aeration ponds (1B, 3B, 4B), a disinfection chamber, six RIBs, a cascade aerator and ten waste drying beds. An additional HDPE lined pond (pond 2) is available for storage and overflow conditions.

Wastewater flow consists of a mix of approximately 80% domestic and 20% commercial waste coming from approximately 19,000 service connections. Wastewater is received from lift stations spread throughout the city and enters a headworks screening and grit removal system. Wastewater continues to the facility and enters a splitter box which distributes the water into three timer-controlled primary aeration ponds, 1A, 3A and 4A. Settling and aeration treat the wastewater which continues to three more secondary ponds 1B, 3B and 4B, where the process is repeated. The treated effluent gets chlorinated and discharged via a cascade aerator onto the ground where beneficial vegetation helps treat the discharge before reaching the wetland cells of the FWMA. Pond 2, is used as an emergency holding pond in the event of a possible upset or extraneous inflow. The facility does include seven monitoring wells (MW): MW 7 - 10 are screened in an aquifer flowing NE, and MW 11-13 are screened in an aquifer flowing NW. The cascade aerator is located approximately 1,000 ft SW of the chlorine disinfection chamber. FWMA's wetland cells are located 3.3 miles ENE from the discharge point.

EWWTP receives wastewater from residential and commercial sources. Residential wastewater is contributed from houses and apartments. Commercial wastewater is generated from retail shops, restaurants, manufacturing facilities, major retail stores, and warehouse distribution facilities. The COF operates and Industrial Pretreatment program under their Industrial Discharge permit. Commercial wastewater which does not meet City or EPA standards is required to be pretreated prior to being discharged to the wastewater intake system. DMR analysis from the EWWTP priority pollutants yearly analysis recorded non-detects or measured 0 µg/L. No significant industrial users have been identified in the permit application or previous permit and factsheets.

A 5-year DMR analysis (2016-2020) was conducted and the following average discharge concentrations were reported:

Flow Values:

1. Influent Flow Rate 30-Day Avg.: 1.23 MGD
2. Influent Flow Rate Daily Max: 1.72 MGD
3. Effluent Flow Rate 30-Day Avg.: 1.18 MGD
4. Effluent Flow Rate Daily Max: 2.20 MGD

Effluent constituents values at outfall 002:

1. Phosphorus Avg. Value: 6.42 mg/L
2. pH Min.: 7.13 SU
3. pH Max.: 8.8 SU
4. $CBOD_5$ 30-Day Max: 35.15 mg/L
5. TSS 30-Day Max: 57.24 mg/L
6. Nitrogen Ammonia Total: 14.78 mg/L
7. Nitrogen Nitrate Total: 8.15 mg/L
8. Nitrogen Total: 27.82 mg/L

Effluent constituent values at outfall 003:

1. Chlorine Total Residual 30-Day Max: 0.47 mg/L
2. Fecal Coliforms 30-Day Max: 184.98 CFU / 100 mL
3. Dissolved Oxygen 30-Day Max: 5.90 mg/L

Monitoring well constituent values:

1. Chlorides: 407.27 mg/L
2. Total Dissolved Solids: 2,365.91 mg/L
3. Total Nitrogen: 11.62 mg/L
4. Depth to Ground Water: 41.42 ft

The effluent is treated and discharged to a wetland where beneficial vegetation further removes nutrients like nitrogen and phosphorus. The full extent of nutrient removal is not monitored. FWMA's wetland cells are ephemeral and run dry during most of the year. During the winter months between October and February, three of the six wetland cells are expected flow full. Migrant bird species are expected to use the wetland cells during the winter months, but no fish species are expected to be in the wetland cells throughout the year.

The total dissolved solids (TDS) reported value is high in the groundwater due to the existing poor quality of the groundwater. EWWTP is located close to the Fernley sink, an old salt marsh. Due to effluent evaporation and limited storm runoff recharging the aquifer, groundwater salinity (TDS) levels are brackish ranging from 2,000 - 3,000 mg/L. For potable supply, State secondary standards for TDS levels limit drinking water supplies to 1,000 mg/L. Since EWWTP does not supply water to an aquifer suitable for potable water, the brackish levels of TDS discharged have been determined to not be degrading the groundwater.

Outfall Summary

EWWTP contains 12 outfalls.

- 001: Influent Splitter
- 002: Mixing Weir
- 003: Cascade Aerator
- 004: Rapid Infiltration Basins
- 005: Monitoring Well #7 (upgradient)
- 006: Monitoring Well #8 (downgradient)

- 007: Monitoring Well #9 (downgradient)
- 008: Monitoring Well #10 (downgradient)
- 009: New Monitoring Well #11 (upgradient)
- 010: New Monitoring Well #12 (downgradient)
- 011: New Monitoring Well #13 (downgradient)
- 012: Pond #2 (emergency storage)

Outfall 001 is solely monitoring influent flow and influent concentrations of carbonaceous BOD and TSS to be used for the percent removal calculation for the treatment process. Flow reaches the facility from lift stations throughout the city.

Outfall 002 is a mixing weir that mixes the effluent from ponds 1B, 3B and 4B. Outfall 002 is the monitoring point for $CBOD_5$ and TSS to monitor the ponds effectiveness in secondary treatment. TSS is further filtered out in the wetland vegetation (bulrush).

Outfall 003 is the discharge point for the facility, located about 1,000 feet S of the chlorine contact basin and 3.3 miles ENE of the FWMA wetland cells populated with naturally vegetated cattail and bulrush. Outfall 003 is the sampling location for the NAC 445A.1236 (.1236) pollutant list.

Outfall 004 is a combined outfall for the six RIBs located on-site. These RIBs have not been used in some time and were not used during the last two permit cycles. These RIB have historically been limited to 0.6 MGD in previous permits, but have been changed to monitor and report to be measured when discharging.

Outfalls 005 - 008 are the four monitoring wells dug into an aquifer that flows NE. Monitoring Well 7 and 9 are high in nitrogen levels and the source of the contamination is unknown. It was believed that the contamination was due to a leaky liner coming from pond 2, which has been relined in 2019. These monitoring wells are to continue to be monitored for quarterly trends in the groundwater.

Outfalls 009 - 011 are for the three newly installed monitoring wells. These monitoring wells have been installed to continue to monitor the ongoing groundwater issues EWWTP is dealing with. These wells will be monitored monthly and will report quarterly, for chloride, nitrogen, total dissolved solids (TDS), and depth to groundwater. These three wells were not installed downgradient of the ponds, and therefore are not ideally located to assess leakage from ponds 3 and 4. Language has been added to this permit that gives NDEP the authority to modify and require additional monitoring wells to this permit.

Outfall 012 is the newly relined emergency storage pond, Pond #2. This pond will be used for emergency storage during potential upsets or overflows. This pond will also be used when maintenance is required on the other ponds. Since flow to this pond is not continuous, the permit limits will be kept as monitor and report with a measurement frequency of daily when discharging to keep track of total flow the pond receives.

Pretreatment Program
EWWTP does not have an EPA-mandated pretreatment program currently. The COF operates a pretreatment program under the City's Industrial Permit and requires commercial dischargers to pretreat their wastewater prior to discharging into the distribution system if the commercial wastewater does not meet City or EPA standards. The Industrial Permit allows the City to monitor and sample the effluent to determine the effectiveness of pretreatment throughout the City.

Effluent Characterization
EWWTP discharges chlorinated, primary, and secondary treated effluent to a wetland that has beneficial vegetation that further removes nitrogen and phosphorus. The treatment process settles out solids, clarifies, and aerates the influent, before being chlorinated and discharged to the wetland. EWWTP will be permitted to discharge Category C secondary treated effluent under this discharge permit.

Pollutants of Concern

The permit limits selected to be monitored in this permit in the effluent are based on the following criteria.

1. Flow rate - Flow rate will continue to be monitored to track influent flow into the wastewater treatment system. Pond treatment system design is based off of a retention time, and consistent exceedance of the design flow rate of the system will drastically reduce treatment performance. Additionally, tracking flow rate into the system will be crucial at identifying a potential need for facility expansion.

2. $CBOD_5$ - $CBOD_5$ is a Technology Based Effluent Limit (TBEL) and is listed as a "conventional pollutant" under the Clean Water Act section 304. The limit for $CBOD_5$ has been set to the secondary treatment standards listed in the Code of Federal Regulations Title 40 section 133 (40 CFR) as adopted by the Division.

TSS - TSS is a TBEL and is listed as a "conventional pollutant" under the Clean Water Act section 304. The limit for TSS has been set to the secondary treatment standards listed in the 40 CFR as adopted by the Division.

pH - pH is a TBEL and is listed as a "conventional pollutant" under the Clean Water Act section 304. The limit for pH has been set to the secondary treatment standards listed in the 40 CFR as adopted by the Division.

Total Nitrogen - Total nitrogen is a pollutant of concern due to the ongoing elevated nitrogen levels found in the groundwater in the monitoring wells. The total nitrogen limit was set to 10 mg/L based off of the MCL limit for nitrogen. Nitrogen is a nutrient that causes algal blooms in addition to health effects.

Total Phosphorus - Total phosphorus is a nutrient that causes algal blooms and can cause health effects. The permit limits were kept from the previous permit as monitor and report. DMR review from the previous permit cycle shows the facility averaged a total phosphorus value of 6.7 mg/L. This value does not include the polishing provided from the wetlands discharge.

Fecal coliforms - Fecal coliforms are a pollutant of concern due to the FWMA wetlands being used by local hunters during hunting season. Licensed hunters in Nevada are permitted to harvest waterfowl and other game (e.g. deer) during the posted hunting season months of October through February at the Fernley WMA. An NDOW game warden posts this information on a sign board near the entrance to the first reservoir. Hunting season corresponds with cooler weather in Fernley, when water occurs in the first reservoir. Contact with high levels of fecal coliforms can cause illness and health issues. Additionally, NAC 445A. 276 Reuse standards requires wetland discharges to meet Category C requirements. The permit limit for fecal coliforms was set to match the NAC 445A.276 requirements.

The following constituents will be monitored in the monitoring wells located on-site:

- Chloride
- Total nitrogen
- Total dissolved solids (TDS)
- Depth to water level ft below land surface (Depth to groundwater)

The monitoring well constituents are monitored throughout all NDEP permits utilizing monitoring wells. These constituents will indicate if effluent constituents may be polluting the groundwater down gradient of the treatment process.

Receiving Water
Receiving water is groundwater of the State as the overland flow channel and wetland cells within the FWMA are all unlined.

Compliance History

COF had been issued an AOC with NDEP. COF is required to mitigate groundwater nitrogen levels downgradient of the treatment ponds. The AOC was completed on November 2, 2022.

On July 17, 2015 the COF received a compliance inspection report from the NDEP Bureau of Water Pollution Control (BWPC) for EWWTP. The inspection report identified high nitrate (total nitrogen) readings in monitoring well #9 exceeding the MCL of 10 mg/L of total nitrogen. As a result, the AOC was issued to the city by NDEP on September 10, 2015. The AOC as amended in October 2016, required the removal/ disposal of sludge and relining of pond 2. Nitrogen levels were monitored on a monthly basis for 10-months to monitor groundwater trends. Because total nitrogen readings did not decrease in the 10-month time period outlined in the AOC, additional actions and/ or an amendment to the AOC was needed. The AOC was amended in September 2020, to include the design, and construction of new monitoring wells. Installation was finished in May 2021, and NDEP is reviewing total nitrogen levels in the groundwater. Nitrogen levels in MWs 7 and 9 have consistently exceeded the MCL of 10 mg/L. MW 7 is upgradient, whereas MW 9 is the farthest downgradient well. Nitrogen levels in MWs 8 and 10 have not exceeded the MCL. MWs 8 and 10 are the wells closest to pond 2, which was relined in 2019, per the AOC. Since the relining of pond 2, the average nitrogen levels across the four wells have been decreasing from 24 mg/L to 21 mg/L.

Other exceedances at the facility have occurred 15 times in the last five years of DMR review. The facility has exceeded TSS, fecal coliforms, and $CBOD_5$ permit limits.

Proposed Effluent Limitations
The discharge shall be limited and monitored by the Permittee as specified in the following tables:

WWTP Discharge Limitations Table for Sample Location 001 (Influent Splitter) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow rate	Daily Maximum	<= 3.05 Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER
BOD, carbonaceous, 05 day, 20 C	30 Day Average[1]		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Weekly	DISCRT
Solids, total suspended	30 Day Average[1]		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Weekly	DISCRT

Notes (WWTP Discharge Limitations Table):

1. Value to be measured for the calculation of percent removal in Outfall 002.

WWTP Discharge Limitations Table for Sample Location 002 (Mixing Weir) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
BOD, carbonaceous, 05 day, 20 C	Daily Maximum		<= 60 Milligrams per Liter (mg/L)	Internal Monitoring Point	002	Weekly	DISCRT
BOD, carbonaceous, 05 day, 20 C	30 Day Average		<= 40 Milligrams per Liter (mg/L)	Internal Monitoring Point	002	Weekly	DISCRT
BOD, carb-5 day, 20 deg C, percent removal	Monthly Average Minimum		>= 65 Percent (%)	Internal Monitoring Point	002	Weekly	CALCTD[1]
pH, minimum	Minimum Value		>= 6 Standard Units (SU)	Internal Monitoring Point	002	Monthly	DISCRT
pH, maximum	Maximum Value		<= 9 Standard Units (SU)	Internal Monitoring Point	002	Monthly	DISCRT
Nitrogen, ammonia total (as N)	Value		M&R Milligrams per Liter (mg/L)	Internal Monitoring Point	002	Monthly	DISCRT
Nitrogen, total	Value		M&R Milligrams per Liter (mg/L)	Internal Monitoring Point	002	Monthly	DISCRT
Phosphorus, total (as P)	Value		M&R Milligrams per Liter (mg/L)	Internal Monitoring Point	002	Monthly	DISCRT
Solids, total suspended	Daily Maximum		<= 65 Milligrams per Liter (mg/L)	Internal Monitoring Point	002	Weekly	DISCRT
Solids, total suspended	30 Day Average		<= 45 Milligrams per Liter (mg/L)	Internal Monitoring Point	002	Weekly	DISCRT
Solids, suspended percent removal	Monthly Average Minimum		>= 65 Percent (%)	Internal Monitoring Point	002	Weekly	CALCTD[1]

Notes (WWTP Discharge Limitations Table):

1. Percent removal shall be calculated based off of the measured values from Outfall 001.

WWTP Discharge Limitations Table for Sample Location 003 (Cascade Aerator) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Coliform, fecal, colony forming units	30 Day Geometric Mean		<= 23 Colony Forming Units per 100ml T (CFU/100mL)	Receiving Water	003	Monthly	DISCRT
Coliform, fecal, colony forming units	Daily Maximum		<= 240 Colony Forming Units per 100ml T (CFU/100mL)	Receiving Water	003	Monthly	DISCRT
Flow rate	Daily Maximum	<= 3.05 Million Gallons per Day (Mgal/d)		Receiving Water	003	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Receiving Water	003	Continuous	METER
Chlorine, total residual	30 Day Maximum		M&R Milligrams per Liter (mg/L)	Receiving Water	003	Weekly	DISCRT
Chlorine, total residual	30 Day Average		M&R Milligrams per Liter (mg/L)	Receiving Water	003	Weekly	DISCRT
Nitrogen, total	30 Day Average		<= 10 Milligrams per Liter (mg/L)	Receiving Water	003	Monthly	DISCRT

WWTP Discharge Limitations Table for Sample Location 003 (Cascade Aerator) To Be Reported Annually[1]

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Arsenic, total recoverable	Daily Maximum		<= 100 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Beryllium, total recoverable (as Be)	Daily Maximum		<= 100 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Boron, total recoverable	Daily Maximum		<= 750 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Cadmium, total recoverable	Daily Maximum		<= 7.6 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Chromium, total recoverable	Daily Maximum		<= 100 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Copper, total recoverable	Daily Maximum		<= 58 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Cyanide, total (as CN)	Daily Maximum		<= 22 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Fluoride, total (as F)	Daily Maximum		<= 1000 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Iron, total recoverable	Daily Maximum		<= 1000 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Lead, total recoverable	Daily Maximum		<= 321 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Manganese, total recoverable	Daily Maximum		<= 200 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
			<= 1.4				

WWTP Discharge Limitations Table for Sample Location 003 (Cascade Aerator) To Be Reported Annually[1]

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Mercury, total recoverable	Daily Maximum		Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Molybdenum, total recoverable	Daily Maximum		<= 6160 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Nickel, total recoverable	Daily Maximum		<= 200 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Selenium, total recoverable	Daily Maximum		<= 20 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Silver total recoverable	Daily Maximum		<= 46 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Sulfide, total (as S)	Daily Maximum		<= 2 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Zinc, total recoverable	Daily Maximum		<= 435 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Acrolein	Daily Maximum		<= 3 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Aldrin	Daily Maximum		<= 3 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Chlordane (tech mix. and metabolites)	Daily Maximum		<= 2.4 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
4,4-DDT	Daily Maximum		<= 1.1 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
			<= .2				

WWTP Discharge Limitations Table for Sample Location 003 (Cascade Aerator) To Be Reported Annually[1]

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Dieldrin	Daily Maximum		Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Endrin	Daily Maximum		<= .1 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Heptachlor	Daily Maximum		<= .5 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Heptachlor epoxide	Daily Maximum		<= .5 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Pentachlorophenol	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Toxaphene	Daily Maximum		<= .7 Micrograms per Liter (ug/L)	Effluent Gross	003	Annual	DISCRT
Hydrocarbons, total petroleum	Daily Maximum		<= 1 Milligrams per Liter (mg/L)	Effluent Gross	003	Annual	DISCRT
Nitrogen, ammonia total (as N)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	003	Annual	DISCRT
Phosphorus, total (as P)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	003	Annual	DISCRT
1,1-Dichloropropene	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
1,3-Dichloropropene	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4,5-TP(silvex) acids/salts, whole water sample	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-D SALTS AND ESTERS	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-D, isobutyl ester in sediments	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT

WWTP Discharge Limitations Table for Sample Location 003 (Cascade Aerator) To Be Reported Annually[1]

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
2,4-DB	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-DDD (O,P-DDD)	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-DDE (O,P-DDE)	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-Di-tert-pentylphenol, total	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-Dichlorophenol	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-Dichlorophenoxyacetic acid	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-Dimethylphenol	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-Dinitrophenol	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-Dinitrophenol, dry weight	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-Dinitrotoluene	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
2,4-Dinitrotoluene, dry weight	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Azinphos-methyl	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Chlorpyrifos	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
DDT	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Demeton	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Di-2-ethylhexyl phthalate	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Diazinon	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Dibutyl phthalate	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Diethyl phthalate	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Dimethyl phthalate	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Dimethyl phthalate	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT

WWTP Discharge Limitations Table for Sample Location 003 (Cascade Aerator) To Be Reported Annually[1]

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Fluoranthene	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Hexachlorocyclopentadiene	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Isophorone	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Lindane	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Malathion	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Methoxychlor	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Mirex	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Monochlorobenzenes	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Nitrobenzene	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Nonylphenol	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Parathion	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Phenol	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Polychlorinated biphenyls (PCBs)	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Silvex	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Tributyltin	Daily Maximum		M&R	Effluent Gross	003	Annual	DISCRT
Flow rate	Rolling Average[2]	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	003	Annual[3]	CALCTD

Notes (WWTP Discharge Limitations Table):

1. NAC 445A.1236 pollutant list to be reported annually.
2. Rolling annual average.
3. The rolling annual average flow rate shall be calculated using the four (4) most recent reporting periods (quarters).

WWTP Discharge Limitations Table for Sample Location 012 (Pond 2) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	012	Daily When Discharging	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	012	Daily When Discharging	METER

Groundwater Monitoring Wells Table for Sample Location 005 (Monitoring Well 7) To Be Reported Quarterly

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Depth to water level ft below landsurface	Value	M&R Feet (ft)		Groundwater	005	Monthly	INSITU
Chloride (as Cl)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	005	Monthly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Groundwater	005	Monthly	DISCRT
Nitrogen, total	Value		<= 10 Milligrams per Liter (mg/L)	Groundwater	005	Monthly	DISCRT

Groundwater Monitoring Wells Table for Sample Location 006 (Monitoring Well 8) To Be Reported Quarterly

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Depth to water level ft below landsurface	Value	M&R Feet (ft)		Groundwater	006	Monthly	INSITU
Chloride (as Cl)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	006	Monthly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Groundwater	006	Monthly	DISCRT
Nitrogen, total	Value		<= 10 Milligrams per Liter (mg/L)	Groundwater	006	Monthly	DISCRT

Groundwater Monitoring Wells Table for Sample Location 007 (Monitoring Well 9) To Be Reported Quarterly

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Depth to water level ft below landsurface	Value	M&R Feet (ft)		Groundwater	007	Monthly	INSITU
Chloride (as Cl)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	007	Monthly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Groundwater	007	Monthly	DISCRT
Nitrogen, total	Value		<= 10 Milligrams per Liter (mg/L)	Groundwater	007	Monthly	DISCRT

Groundwater Monitoring Wells Table for Sample Location 008 (Monitoring Well 10) To Be Reported Quarterly

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Depth to water level ft below landsurface	Value	M&R Feet (ft)		Groundwater	008	Monthly	INSITU
Chloride (as Cl)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	008	Monthly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Groundwater	008	Monthly	DISCRT
Nitrogen, total	Value		<= 10 Milligrams per Liter (mg/L)	Groundwater	008	Monthly	DISCRT

Groundwater Monitoring Wells Table for Sample Location 009 (Monitoring Well 11) To Be Reported Quarterly

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Depth to water level ft below landsurface	Value	M&R Feet (ft)		Groundwater	009	Monthly	INSITU
Chloride (as Cl)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	009	Monthly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Groundwater	009	Monthly	DISCRT
Nitrogen, total	Value		<= 10 Milligrams per Liter (mg/L)	Groundwater	009	Monthly	DISCRT

Groundwater Monitoring Wells Table for Sample Location 010 (Monitoring Well 12) To Be Reported Quarterly

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Depth to water level ft below landsurface	Value	M&R Feet (ft)		Groundwater	010	Monthly	INSITU
Chloride (as Cl)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	010	Monthly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Groundwater	010	Monthly	DISCRT
Nitrogen, total	Value		<= 10 Milligrams per Liter (mg/L)	Groundwater	010	Monthly	DISCRT

Groundwater Monitoring Wells Table for Sample Location 011 (Monitoring Well 13) To Be Reported Quarterly

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Depth to water level ft below landsurface	Value	M&R Feet (ft)		Groundwater	011	Monthly	INSITU
Chloride (as Cl)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	011	Monthly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Groundwater	011	Monthly	DISCRT
Nitrogen, total	Value		<= 10 Milligrams per Liter (mg/L)	Groundwater	011	Monthly	DISCRT

Ponds / Rapid Infiltration Basins for Sample Location 004 (Rapid Infiltration Basins) To Be Reported Quarterly[1][2]

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow rate	30 Day Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	004	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	004	Continuous	METER

Notes (Ponds / Rapid Infiltration Basins):

1. If no discharge occurs during the reporting period, enter the no data indicator (NODI) code "C" on the Discharge Monitoring Report for no discharge for that quarter, when entering the reporting values into NetDMR.
2. Discharge monitoring is required for 12 months, or 4 quarters, following active discharge from the rapid infiltration basins. If discharge has not occurred, no monitoring is required for this outfall.

Summary of Changes From Previous Permit

The facility has undergone some improvements since the last permit cycle including completion of the relining project of pond 2 in 2019 and installing new monitoring wells in 2021. The pond 2 relining project was completed in two phases and include:

1. The construction of gravity flow filter beds & removal of some of the RIBs, construction of a polymer injection system, and filtrate/ drainage piping for sludge dewatering purposes.
2. Construction of a recirculation pump station from pond 2 to the influent splitter and force main.
3. Dewatering, removal, and disposal of sludge from pond 2.
4. A new outlet pipe from pond 2 to the recirculation pump station.
5. The relining of pond 2 with a new 60-mil HDPE liner system.

The monitoring wells project completed in 2021 included:

1. Drilling of three new monitoring wells, MW 11, 12, and 13. Monitoring well 11 was installed up-gradient at the SW corner of the facility. Monitoring wells 12 and 13 were installed down-gradient, N of ponds 3B and 4A.

The monitoring wells have been installed into a deeper aquifer that flows NW. The monitoring wells were located with assumption of NE groundwater flow. Due to the different aquifers, the new monitoring wells are not ideally placed to show leakage from the ponds. Language has been added to the permit authorizing NDEP to open and modify the permit if applicable.

Monitoring wells 7, 8, 9, and 10, will continue quarterly sampling so that NDEP can analyze quarterly trends in the groundwater, particularly for nitrogen analysis. Monitoring wells 11, 12, and 13 have been added to the permit and will keep the previously required quarterly reporting to analyze possible leakage from the ponds. Additional language was added to the Special Approvals table requiring the Permittee to perform an engineering inspection of their pond liners if the nitrogen limit does not trend downward during the next permit cycle. This inspection will be performed by a licensed engineer and shall be submitted to TCE for review.

Outfall 012 was added to the permit to monitor the flow being discharged to Pond #2. The new outfall will be used to measure the flow discharged to the pond with a daily max and 30-day average value. The permit will require sampling daily when discharging.

Per NAC 445A.276, the fecal coliform discharge limit has been changed from Category D limits to Category C limits. The NAC was changed during the last active permit, and the limits have been adjusted to fit the new requirement. The new limit for fecal coliforms are:

- 23 CFU / 100 mg/L for 30-day geometric mean instead of 200 CFU / 100 mg/L.
- 240 CFU / 100 mg/L for daily maximum instead of 400 CFU / 100 mg/L.

Flow limits have been changed from the previous limit of 3.05 MGD for both 30-day average and daily max for both influent and effluent, to monitor and report for 30-day average. The daily max limit has been kept as the design maximum flow capacity. These changes were made to closer match previously permitted POTW's.

Priority pollutants testing has been changed to the .1236 pollutant list. This change is to identify industrial pollutants in the discharge after treatment. Additionally, the sampling location has changed from outfall 002 an internal monitoring point to outfall 003 the discharge point to identify what pollutants are being discharged to the FWMA.

Whole Effluent Toxicity (WET) testing has been removed from the permit. WET testing refers to the aggregate toxic effect to aquatic organisms from all pollutants contained in a facility's wastewater (effluent). Historically, aquatic species were present in the FWMA wetland cells because the region used to flow throughout the year due to farming discharges. The region has become more urbanized in recent years, and the FWMA no longer receive agricultural runoff. For this reason, aquatic species are no longer present in the FWMA wetland cells due to the ephemeral nature of the cells throughout the year. Because no aquatic species are present, there is no longer a need to perform WET testing.

Dissolved Oxygen has been removed from the permit limits for the same reason as described for WET Testing. Historically, aquatic species were present in the FWMA wetland cells because the region used to flow throughout the year due to farming discharges. The region has become more urbanized in recent years, and the FWMA no longer receive agricultural runoff. For this reason, aquatic species are no longer present in the FWMA wetland cells due to the ephemeral nature of the cells throughout the year, and Dissolved Oxygen testing is no longer necessary.

Total nitrogen was limited to < 10 mg/L on outfall 003. This permit limit was added due to the MCL limit of 10 mg/L being within all NDEP permits. This permit limit will more accurately track nitrogen exceedances as the previous limit of monitor and report does not red flag high effluent discharges as there is no permit limit associated with monitor and report. The total nitrogen limit will be used to monitor if treatment process improvements are necessary for the EWWTP. Failure to meet the nitrogen limit will require improvements to the treatment process.

Total suspended solids (TSS) and $CBOD_5$ have been added to Outfall 001 on a weekly monitoring basis. The limit was set to monitor and report, as these will be the influent values used in the calculation of percent removal for TSS and $CBOD_5$ which was added to Outfall 002.

TSS and $CBOD_5$ percent removal, daily maximum, and 30-day average limits has been added to Outfall 002 based on 40 CFR 133.103 and 133.105 limits that have been adopted by the Division.

The limit for TSS has been changed from <= 90 mg/L on a 30 day average sampling basis, to <= 45 mg/L on a 30-day average sampling basis. The Division has adopted the secondary equivalent TSS limits based on 40 CFR 133.103 and 133.105, and has applied the 7-day average TSS as a daily maximum limit established for waste stabilization pond treatment systems.

Total residual Chlorine monitoring frequency was changed from monthly, to weekly in Outfall 003

Annual average flow (AAF) was added to Outfall 003 with a monitoring limit of monitor and report. AAF was added to the permit to allow NDEP to monitor the rolling AAF in order to ensure that design specifications for the facility are being met.

Technology Based Effluent Limitations

The following TBELs are based on secondary treatment standards as allowed by the 40 CFR and as adopted by the state of Nevada:

- $CBOD_5$: The daily maximum threshold is limited to <= 60 mg/L
- $CBOD_5$: The 30-day average threshold is limited to 40 mg/L.

Per 40 CFR 133.105 $CBOD_5$ has a 30-day maximum limit of 40 mg/L and daily maximum limit of 60 mg/L. The facility has had exceedances with $CBOD_5$ at a less stringent limit being 45 mg/L. During the last year, monthly sampling has resulted in an average $CBOD_5$ value of 26 mg/L, with one exceedance of 47 mg/L during May. Additional effluent polishing and nutrient uptake is provided in the overland flow channel between the discharge outfall and FWMA wetland cell number 1.

- TSS: The daily maximum threshold is limited to 65 mg/L
- TSS: The 30-day average threshold is limited to 45 mg/L

The limit for TSS has been set in accordance with 40 CFR 133.103 and 133.105. Per 40 CFR section 133.103, waste stabilization ponds, are unable to achieve the limits of TSS removal set forth in 40 CFR section 133. Per the exemptions listed in 40 CFR 133.103 (c) and 133.105 as adopted by the Division, EWWTP shall be permitted to <= 65 mg/L for daily maximum and <= 45 mg/L for 30-day average.

The limit for pH has been set in accordance with 40 CFR 133.102. The effluent values for pH shall be maintained within the limits of 6.0 to 9.0 unless the publicly owned treatment works demonstrates that: (1) Inorganic chemicals are not added to the waste stream as part of the treatment process; and (2) contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0.

Water Quality Based Effluent Limitations
Water quality based effluent limits (WQBEL) are not applicable for this permit.

Proposed Water Quality Based Effluent Limits (monthly/weekly/daily)
Proposed WQBEL are not applicable for this permit.

Basis for Effluent Limitations

EWWTP is a POTW that uses partial mix aerated ponds and chlorine disinfection to treat domestic, commercial, and industrial wastewater. The facility's permit limits were set to meet the secondary treatment standards set forth by 40 CFR 133 and the NAC.

Per NAC 445A.276 Reuse Category D standards for fecal coliform have changed during the last permit cycle. The facility can no longer meet Category D standards due to the wetland discharges being moved from Category D to Category C. The fecal coliforms limit has been set to 23 mg/L and 240 mg/L for a 30-day average and daily maximum respectively to meet the Category C limits. Fecal coliforms have historically been an issue for the facility, with four exceedances during the last five years of DMR data. The limits outlined in this groundwater discharge permit are:

- 23 CFU / 100 mL for 30-day geometric mean value
- 240 CFU / 100 mL for daily maximum value

Historically, EWWTP has been permitted under Category D requirements, 200 CFU / 100 mL and 400 CFU / 100 mL. A site inspection was performed on Aug 3, 2021, where the facility manager and COF Deputy Director of Public Works were informed about a more stringent limit standard due to the new category limits.

In the last year, COF reported a geometric mean of 39 CFU / 100 mL, with two exceedances above 400 CFU / 100 mL due to chlorinator feed issues. Other than the two exceedances, fecal coliform limits for Category D per NAC 445A.2766 were met. During the inspection on Aug 3, 2021, fecal coliforms were sampled and reported by WETLAB at 79.6 Most Probable Number (MPN), which would meet the daily maximum under the new Category C limit.

Monitoring wells 7, 8, 9, and 10 have quarterly sampling frequency to monitor the quarterly trends of the monitoring wells water quality. Wells 7 and 9 have increased nitrogen levels above the MCL 10 mg/L and wells 8 and 10 have nitrogen limits above the internal bureau warning limit of 7 mg/L. This aquifer has been polluted and new monitoring wells have been installed to monitor any new leaks and water impairment caused by leakage from the treatment ponds. The current wells will continue to monitor the trends in the groundwater. If the groundwater nitrogen levels do not decrease, an engineering inspection is required to be performed on the pond liners. Since the relining project was completed for pond 2, average nitrogen levels across all four wells has decreased from 24 mg/L to 21 mg/L.

Monitoring wells 11, 12, and 13 have been constructed in place of the previous wells. These wells will continue to monitor quarterly and monitor possible liner tears or leaks. These monitoring wells will monitor nitrogen, chloride, TDS, depth to groundwater, and water level relative to mean sea level. These constituents are consistent to previously permitted POTWs.

Total ammonia, total nitrate, and total nitrogen will continue to be monitored and reported on a monthly basis at outfall 002, after the pond treatment system but prior to chlorination.

- Effluent ammonia (NH_3) is a M&R parameter for wetland cells with aquatic fish species, including game fish. The salt marsh system at this location does not support aquatic species, so ammonia limits do not apply, and allow for the M&R limit.
- Total nitrogen (TN) is the summation of nitrite (NO_2), nitrate (NO_3), ammonia (NH_3), and organic nitrogen (org-N) levels. EWWTP reduced TN levels to an average of 27.8 mg/L during the last 5 years DMR review and shall continue to monitor total nitrogen levels due to the facilities nitrogen concerns that arose leading to the issuance of the AOC. Monitoring the treatment effectiveness of nitrogen removal shall continue and be an indication of treatment issues at the facility.

Total phosphorus (TP) is typically a constituent for surface water discharges but due to concerns with algal blooms downstream, TP monitoring shall be implemented at EWWTP. TP is not appreciably reduced at EWWTP, and without downstream vegetative uptake, high TP levels in wetlands can accelerate algal blooms.

Total residual chlorine (TRC) is going to be continued to be monitored at EWWTP due to the concerns regarding fecal coliforms and wetlands reuse requirements. Commercial bleach (12.5% sodium hypochlorite) is dosed around 1.25 gallons/hour, and residual chlorine levels averaged 0.47 mg/L during the last 5 years DMR review. The more stringent fecal coliforms limit will require a high dosage of bleach in order to continue to remain in compliance with the new limit. TRC monitoring will continue to be monitored to ensure the facility's machinery and chlorine dosage are not malfunctioning allowing for high levels of fecal coliforms to be discharged to a wetlands.

NAC 445A.1236 pollutants are required to be sampled and reported annually. Regulated industrial pollutants including residual pesticides, polychlorinated biphenyls (PCBs), volatile organic compounds

(VOCs) and heavy metals are to be sampled annually by the COF. Effluent priority pollutants levels compared to water quality standards (WQS) including beneficial uses such as irrigation or potable supply did not indicate elevated levels of industrial contaminants in the treated effluent. Industrial users in the COF industrial park includes paint manufacturing, recycled wood extrusion, and polyethylene liner/ pipe manufacturing businesses. In Nevada, Industrial pretreatment is delegated to USA EPA Region IX.

NAC 445A.1236 pollutants monitoring has been changed to outfall 003 from outfall 002. The .1236 pollutants have historically been monitored in outfall 002, which is prior to chlorination and not the true discharge location. EWWTP does not have a pre-treatment program as pre-treatment is required by the COF prior to discharge from the facilities discharging industrial waste. These pollutants should be tracked in the effluent to ensure the facility does not receive and discharge industrial wastewater without proper treatment.

Anti-backsliding

No permit limits have been decreased to allow for backsliding.

Antidegradation

The State's antidegradation policy has a requirement to maintain higher quality (RMHQ) standards of the receiving water body and, at a minimum, meet the most restrictive standards established per the designated beneficial use criteria. At this time there are currently no specific water quality standards that have been formally adopted by the State for groundwater. However, available data does not currently indicate any potential for degradation of groundwater from the effluent discharged within the compliance limits of the proposed permit.

Special Conditions

The permit shall be issued under the requirements of these special conditions:

SA – Special Approvals / Conditions Table

Item #	Description
1	Treated effluent discharged to the Fernley Wildlife Management Area (FWMA) shall be contained within the FWMA boundaries per the Nevada Department of Wildlife (NDOW) Cooperative Reuse Agreement and the NDOW Effluent Management Plan. Surface discharge beyond the FWMA boundaries is prohibited.
2	If, after one year of reporting sample data for the EWWTP's monitoring wells 7, 8, 9, and 10, there is an increasing trend in total nitrogen levels, as determined by the Division, the Permittee shall, within 60 days, submit to the Division for review and approval either a Groundwater Remediation Plan or a plan to discharge the treated effluent to an off site location.
3	NDEP shall maintain the authority to open and modify this permit at any time until NDEP's Technical Compliance and Enforcement (TCE) Branch closes the AOC with the COF. NDEP will notify the Permittee, of any permit requirements, changes, and additional monitoring wells needed to be added on-site and shall perform these changes via a minor modification to this permit. The Permittee shall perform the changes and installations at a timeline approved by the Division's TCE Branch. All plans and engineering submittals to the Division must be dated, signed, and stamped by a Nevada licensed professional engineer, per NAC 625.611.
4	A minor modification to the permit may be conducted to remove Monitoring Wells 8, and 10, after the permittee provides, to the Bureau of Water Pollution Control (BWPC), (1) documentation from a Nevada certified lab showing the historical groundwater quality, AND (2) total nitrogen levels remain below 7.0 mg/L for no less than 24 consecutive months.

Flow

The Permittee has requested "No Change" to the current permitted flow rate. The previous permit limited the 30-day average flow to 3.05 MGD. The flow limit was not exceeded during the last five years DMR

review.

The renewed permit will limit the maximum daily flow to the facility design capacity of 3.05 MGD.

Discharges From Future Outfalls/ Planned Facility Changes
EWWTP is planning on upgrading their aerators but no plans have been submitted for this improvement. The facility is not expected to gain any additional outfalls, or discharge locations during this permit cycle.

Corrective Action Sites
There are no Bureau of Corrective Actions (BCA) sites located within a 1-mile radius of EWWTP.

Wellhead Protection Program
The discharge location is 2930 feet away from the closest PWS well, placing it within the Drinking Water Protection Area (DWPA) defined by a 3,000-foot radius around the PWS wells. The well is located on the edge of the DWPA and to the east of the discharge location and in a confined aquifer. There are no other wells within 3000 feet of the discharge locations. There are no Well Head Protection Areas (WHPAs) in the vicinity of the permit facility. The permit is not likely to affect any PWSs because of the distances to the water sources and the confined aquifer.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two (2) copies of an updated Operation and Maintenance (O&M) Manual, one hard copy and one electronic copy, for review and approval by the Division. The O&M Manual shall be prepared by a Nevada Registered Professional Engineer or other qualified person. If no updates or revisions are required, the Permittee shall submit a letter by the due date stating that there have been no changes to the previously approved O&M Manual.[1]	10/28/2024

Notes (Schedule of Compliance Table):

1. O&M Manuals prepared by Nevada Registered Professional Engineers must be signed and stamped in accordance with NAC 625.610.

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
1	Discharge Monitoring Reports	Quarterly	10/28/2024
2	Annual Reports	Annually	1/28/2025

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 https://ndep.nv.gov/posts. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. **9/9/2024,** 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: **Mitch Cowles**
Date: **9/10/2024**
Title: **Staff II Engineer**

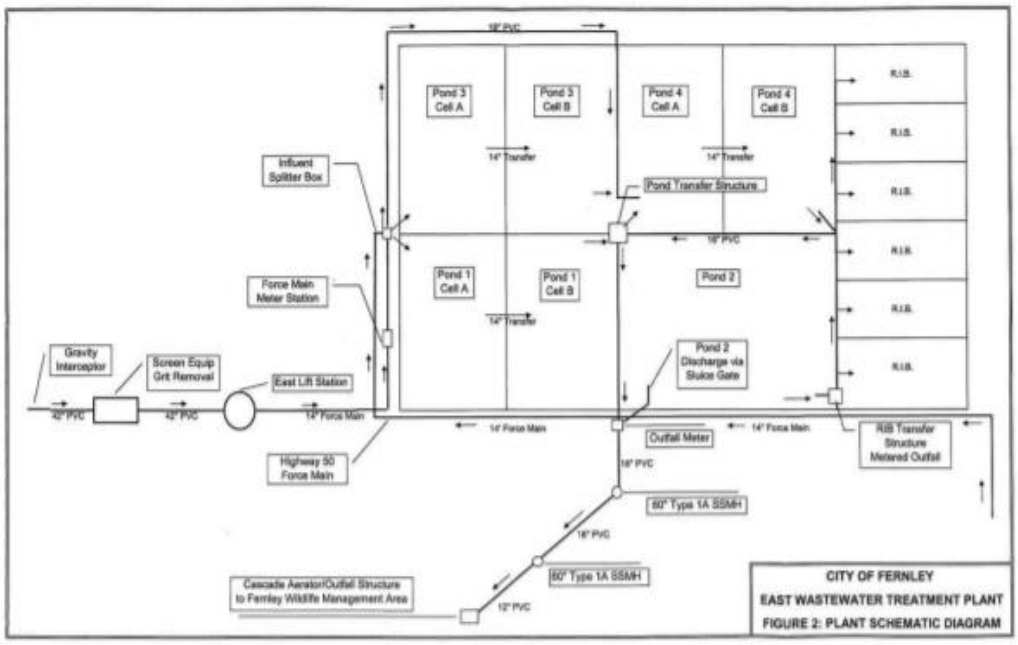


Fig. 1 – COF Flow Diagram



Fig. 2 – Existing Wells (red = G.W. flow gradient in unconfined zone)



Fig. 3 – New Wells (red = G.W. flow gradient in confined zone)