

Department of Conservation & Natural Resources

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

FACTSHEET (pursuant to NAC 445A.236)

Permittee Name: NAVAL AIR STATION FALLON

4755 PASTURE ROAD BLDG 307

FALLON, NV 89496

Permit Number: NV0110001

Permit Type: NEW & EXISTING PUBLICLY OWNED TREATMENT WORKS

Designation: MINOR NPDES

New/Existing: EXISTING

Location: NAVAL AIR STATION FALLON WASTEWATER TREATMENT FACILITY,

CHURCHILL

4755 PASTURE ROAD BLDG 7810, FALLON, NV 89496

LATITUDE: 39.3910, LONGITUDE: -118.6870 TOWNSHIP: T18N, RANGE: R29E, SECTION: S23

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
EFF	WWTP EFFLUENT	External Outfall		39.403920	-118.6972	LOWER DIAGONAL DRAIN
INF	WWTP INFLUENT	Influent Structure		39.404320	-118.696220	N/A
TP1	MONITORING WELL WWTP-1	Monitoring Well		39.4034	-118.6908	GROUNDWATER
TP2	MONITORING WELL WWTP-2	Monitoring Well		39.4026	-118.6897	GROUNDWATER
W32	MONITORING WELL MW-32	Monitoring Well		39.4027	-118.6907	GROUNDWATER

Permit History/Description of Proposed Action

The Permittee, Naval Air Station (NAS) Fallon, has applied for renewal of their National Pollutant Discharge Elimination System (NPDES) permit (Permit No. NV0110001) for discharges associated with the NAS Fallon wastewater treatment facility (hereinafter facility). The facility is owned and operated by NAS Fallon and is located at 4755 Pasture Road in Fallon, Churchill County, Nevada.

The permit was initially issued in July of 1995. The last renewal was issued on December 7, 2012, and expired on December 6, 2017; the permit has been administratively continued since.

Facility Overview

The Permittee recently constructed a new facility, which commenced operation on August 26, 2020. The facility is designed to treat domestic sewage generated at the NAS Fallon site to meet secondary treatment standards and currently serves a daily population of approximately 3,000.

This permit requires the Permittee to monitor groundwater in three monitoring wells, including WWTP-1, WWTP-2, and MW-32 to detect seepage from the clay-lined sludge lagoons and evaluate impacts to groundwater.

Outfall Summary

Outfall EFF - This outfall is for the discharge of treated effluent.

Outfall INF - This outfall is for the raw wastewater (influent) entering the facility.

Outfall TP1 - This outfall is for a monitoring well located near the Sequential Batch Reactors (SBRs).

Outfall TP2 - This outfall is for a monitoring well located near the clay lined sludge lagoons.

Outfall W32 - This outfall is for a monitoring well located near the Flightline Taxiway.

Facility Upgrades since last issued permit

The Permittee recently constructed a new wastewater treatment facility at the NAS Fallon site to replace the previous treatment facility. The new facility, which commenced operation on August 26, 2020, has 30-day average and maximum daily design flow capacities of 0.364 million gallons per day (MGD) and 0.556 MGD, respectively.

The treatment process at the facility consists of upgraded headworks, including fine screening and grit removal systems; two SBRs, incorporating a concrete-basin, donut-ring design with four zones of anoxic (denitrification), aerobic (reaction), reaeration, and sludge digestion; and disinfection using sodium hypochlorite. The new facility design also includes space for the future construction of a dechlorination tank using sodium bisulfite. Disinfected, secondary treated effluent is discharged to an unnamed ditch (E4X) that leads to the Lower Diagonal Drain (LDD).

A process flow schematic is included as Attachment B to this fact sheet.

Solids Handling

The facility includes three sludge dewatering trailers furnished with geotextile dewatering tubes. Filtrate from the geotextile dewatering tubes is returned to the facility headworks and dried biosolids are hauled off-site for disposal in a landfill.

Design Flow (and basis) and Measurement & Current Capacity

The new facility has a 30-day average design flow capacity of 0.364 MGD and a maximum daily design flow capacity of 0.556 MGD. The annual average design flow is 0.242 MGD.

Pretreatment Program

As described in the "Special Conditions" section of this Fact Sheet, the Permittee is not required to develop an approved pretreatment program as described in section B.PT, "Pretreatment of Industrial Wastewaters" of the proposed permit, since the facility has no industrial users and the permitted discharge is less than 5 MGD.

Operations & Maintenance (O&M) Manual status

The facility's O&M Manual was last reviewed and approved in 2023. The Technical, Compliance, and Enforcement Branch of the Bureau of Water Pollution Control (hereinafter the Division) requires O&M Manuals be updated every two (2) permit cycles which equates to every ten (10) years. Therefore, the Permittee does not need to submit an updated O&M Manual during this permit cycle.

Discharge Characteristics

The discharge is biologically treated domestic wastewater that is disinfected prior to discharge.

Pollutants of Concern

Pollutants of concern are any pollutant, or parameters, that are believed to be present in the discharge and could affect or alter the physical, chemical, or biological conditions of the receiving water. Common pollutants of concern for wastewater treatment plants include 5-day biochemical oxygen demand (BOD5), total suspended solids (TSS), pH, and total nitrogen. Additional pollutants of concern include chloride, total dissolved solids (TDS), arsenic, mercury, nickel, selenium, zinc, total phosphorus, and total trihalomethanes.

Total Residual Chlorine

Federal regulations at Title 40 of the Code of Federal Regulations (40 CFR) section 122.44(d)(1)(vi) provide options for a permitting authority to establish effluent limits where a state has not established water quality criterion for specific chemical pollutants present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable state's water quality standards (WQSs). The WQSs applicable to the receiving water prohibit the discharge of toxic substances in toxic amounts. The Division has previously determined that using a limit of 0.1 mg/L for total residual chlorine is protective of receiving water beneficial uses and so this limit was included in the previous permit. However, since no technical basis for the 0.1 mg/L value can be presented by the Division, EPA Region 9 will not accept this limit without further study, and, or sampling.

As a result, the proposed permit includes two options for the Permittee to choose from. The first is to sample the effluent for the dechlorinating agent. Compliance with the total residual chlorine limit can be achieved by sampling for sodium bisulfite. Presence of sodium bisulfite, at or above detection levels, is equivalent to absence of residual chlorine. The second option is for the Permittee to conduct a study on the effects of total residual chlorine on the receiving water to determine if all designated beneficial uses are protected considering the levels of chlorine potentially discharged by the facility (see Special Approvals / Conditions Table Items #5 and #6). Either option serves as support for the Permittee's compliance with permit conditions and are consistent with NAC 445A.250.3(b)(1). This approach meets EPA's requirements.

Receiving Water

The receiving water is an unnamed ditch tributary to the Lower Diagonal Drain. The Lower Diagonal Drain, located in Lahontan Valley in Churchill County, NV, is a soil-walled conveyance that drains tailwater from agricultural fields along its length south and southeast of the City of Fallon. The flow path of the Lower Diagonal Drain is connected to Stillwater Marsh east of Westside Road, within the Stillwater National Wildlife Refuge. The Stillwater National Wildlife Refuge consists of a series of shallow, interconnected wetland cells serving as habitat for migratory waterfowl.

The Permittee has treated and conveyed effluent through the Lower Diagonal Drain to the Stillwater National Wildlife Refuge since the original plant was constructed in 1995 through permit coverage from the Division. Treated effluent from the facility provides a source of water to the wetlands, assisting with restoring and protecting portions of historic wetlands habitat within the Stillwater National Wildlife Refuge.

Applicable Water Quality Standards/Beneficial Uses

The WQSs applicable to the Lower Diagonal Drain and Stillwater Marsh east of Westside Road are cited at NAC 445A.1854 and NAC 445A.1862, respectively. Additional WQSs for ammonia and toxic materials are cited at NAC 445A.118 and NAC 445A.1236, respectively. The designated beneficial uses of the Lower Diagonal Drain and Stillwater Marsh east of Westside Road are irrigation, watering of livestock, propagation of aquatic life, recreating involving contact with the water, recreating not involving contact with the water, municipal or domestic supply, industrial supply, and propagation of wildlife.

303 (d) Listing Status

Section 305(b) of the Clean Water Act (CWA) requires states to report on the overall condition of aquatic resources and section 303(d) of the CWA requires states to develop lists of all impaired waterbodies and create a priority listing of waterbodies for which plans are needed to restore water quality. Combining requirements of these two sections produces the integrated report, which provides an overall assessment of the quality of surface water resources within the state. This report – required biennially by U.S. EPA – also describes the extent to which current conditions are protecting the designated beneficial uses of Nevada's surface waters. U.S. EPA approved the Nevada 2016-2018 Water Quality Integrated Report in August 2020.

The Nevada 2016-2018 Water Quality Integrated Report lists the Diagonal Drain as impaired for arsenic (municipal and domestic supply), boron (irrigation), cadmium (aquatic life, 96-hour), dissolved oxygen

(aquatic life, S.V.), iron (aquatic life, 96-hour), mercury in sediment (aquatic life), mercury in fish tissue (fish consumption), total dissolved solids (municipal and domestic supply, S.V.), and total phosphorus (aquatic life, S.V.). The 303(d) listings have been considered in the development of the proposed permit.

TMDL

At the time of this permit renewal, there are no approved Total Maximum Daily Loads (TMDL)s with waste load allocations that apply to the facility.

Compliance History

Effluent monitoring ensures that the Lower Diagonal Drain and Stillwater National Wildlife Refuge are not impacted by the discharge of treated effluent. The mechanically treated, disinfected effluent generally met effluent limits during the previous permit term. The facility exceeded the daily maximum effluent limit for BOD_5 once during the previous permit term, with a maximum observed daily maximum result of 66 mg/L. The facility has not exceeded the BOD_5 limits since May 2018. The facility exceeded the daily maximum effluent limit for TSS once during the previous permit term, with a maximum observed daily maximum result of 49 mg/L. The facility has not exceeded the TSS limits since February 2018. The facility exceeded the daily maximum effluent limit for total nitrogen four times during the previous permit term, with a maximum observed daily maximum result of 16 mg/L.

Proposed Effluent Limitations

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

Discharge Limitations Table for Sample Location Eff (Wwtp Effluent) To Be Reported Monthly

	Dis	scharge L	mitations	Mon	Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc		Measurement Frequency	Sample Type	
Flow rate	Daily Maximum	<= 0.556 Million Gallons per Day (Mgal/d)		Effluent Gross	EFF	Continuous	METER	
Flow rate	30 Day Average	<= 0.364 Million Gallons per Day (Mgal/d)		Effluent Gross	EFF	Continuous	METER	
BOD, 5-day	Daily Maximum		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	EFF	Weekly	DISCRT	
BOD, 5-day	30 Day Average		<= 30 Milligrams per Liter (mg/L)	Effluent Gross	EFF	Weekly	DISCRT	
BOD, 5-day, percent removal ^[1]	Monthly Average Minimum		>= 85 Percent (%)	Effluent Gross	EFF	Weekly	CALCTD	
Solids, total suspended	Daily Maximum		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	EFF	Weekly	DISCRT	
Solids, total suspended	30 Day Average		<= 30 Milligrams per Liter (mg/L)	Effluent Gross	EFF	Weekly	DISCRT	
Solids, suspended percent removal ^[1]	Monthly Average Minimum		>= 85 Percent (%)	Effluent Gross	EFF	Weekly	CALCTD	
Coliform, fecal general ^[2]	Daily Maximum		<= 400 Most Probable Number per 100ml T (MPN/100mL) ^[3]	Effluent Gross	EFF	Weekly	DISCRT	
Coliform, fecal general	30 Day Geometric Mean		<= 126 Most Probable Number per 100ml T (MPN/100mL) ^[3]	Effluent Gross	EFF	Weekly	DISCRT	
pH, minimum	Daily Minimum		>= 6.5 Standard Units (SU)	Effluent Gross	EFF	Daily	DISCRT	
pH, maximum	Daily Maximum		<= 9.0 Standard Units (SU)	Effluent Gross	EFF	Daily	DISCRT	
Chlorine, total residual ^[6]	Daily Maximum		<= 0 Milligrams per Liter (mg/L)	Effluent Gross	EFF	Monthly	DISCRT	

Discharge Limitations Table for Sample Location Eff (Wwtp Effluent) To Be Reported Monthly

	Di	scharge L	imitations	Moni	itoring R	equirements	
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chlorine, total residual ^[8]	Daily Maximum		<= 0.1 Milligrams per Liter (mg/L)	Effluent Gross (Supplementary)	EFF	Monthly	DISCRT
Oxygen, dissolved (DO)	Daily Minimum		>= 5.0 Milligrams per Liter (mg/L)	Effluent Gross	EFF	Monthly	DISCRT
Nitrogen, total ^[4]	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Effluent Gross	EFF	Monthly	DISCRT
Phosphorus, total (as P)	Daily Maximum		<= 0.33 Milligrams per Liter (mg/L)	Effluent Gross	EFF	Monthly	DISCRT
Temperature, water deg. centigrade	Daily Maximum		<= 34 Degrees Centigrade (deg C)	Effluent Gross	EFF	Daily	DISCRT
Solids, total dissolved	Daily Maximum		<= 500 Milligrams per Liter (mg/L)	Effluent Gross	EFF	Monthly	DISCRT
Arsenic, total recoverable	Daily Maximum		<= 50 Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	DISCRT
Copper, total recoverable	Daily Maximum		<= 13 Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	DISCRT
Lead, total recoverable	Daily Maximum		<= 5.2 Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	DISCRT
Mercury, total recoverable	Daily Maximum		<= 0.77 Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	DISCRT
Nickel, total recoverable	Daily Maximum		<= 13 Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	DISCRT
Selenium, dissolved [as Se]	30 Day Average		<= 3.9 Micrograms per Liter (ug/L) ^[7]	Effluent Gross	EFF	Monthly	DISCRT
Zinc, total recoverable	Daily Maximum		<= 165 Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	DISCRT
Bromoform	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	DISCRT
Chloroform	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	DISCRT

Discharge Limitations Table for Sample Location Eff (Wwtp Effluent) To Be Reported Monthly

	Di	scharge L	imitations	Monitoring Requirements				
Parameter	Base	Quantity	Concentration	Monitoring Loc	-	Measurement Frequency	Sample Type	
Dibromochloromethane	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	DISCRT	
Dichlorobromomethane	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	DISCRT	
Trihalomethane, tot. ^[5]	Daily Maximum		<= 100 Micrograms per Liter (ug/L)	Effluent Gross	EFF	Monthly	CALCTD	

Notes (Discharge Limitations Table):

- 1. Calculated as the difference between the influent concentration (the calculated 30-day average) and the effluent concentration (the calculated 30-day average).
- 2. A maximum of 10% of the total fecal coliform samples may exceed 400 MPN per 100 mL during any 30-day period, without permit violation.
- 3. CFU or MPN per 100 mL.
- 4. Total nitrogen shall represent the sum of nitrate nitrogen (NO₃-N), nitrite nitrogen (NO₂-N), ammonia nitrogen (NH₃-N), ammonium nitrogen (NH₄-N), and organic nitrogen (Organic-N) species.
- 5. Total trihalomethanes shall represent the sum of the concentrations of dichlorobromomethane, dibromochloromethane, bromoform, and chloroform.
- 6. Should the Permittee choose to sample the effluent for the dechlorinating agent, compliance with the total residual chlorine (TRC) limit can be supported by sampling for sodium bisulfite (dechlorinating agent) with results at or above detection levels. If sodium bisulfite is detected, the value recorded in the DMR shall be zero for TRC. See Special Approvals / Compliance Item #5.
- 7. The 30-day average limit for selenium may be exceeded only once every 3 years per NAC 445A.1237(7).
- 8. Should the Permittee choose to conduct a study on the receiving water to determine if the TRC limit of 0.1 mg/L is protective for all designated beneficial uses, or if a more restrictive limit should be applied, compliance with the TRC limit can be supported by sampling the effluent for TRC. See Special Approvals / Compliance Item #6.

	Discha	ırge Limitat	ions	Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Antimony, total (as Sb)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Arsenic, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Barium, total (as Ba)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Beryllium, total recoverable (as Be)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Boron, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Cadmium, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Chromium, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Chromium, Hexavalent [As CR] (Chromium (VI))	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Chromium, Trivalent [As CR] (Chromium (III))	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Copper, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Cyanide, total (as CN)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
			M&R				

	Discha	ırge Limitati	ions	Me	onitoring	Requirements	
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Fluoride, total (as F)	Daily Maximum		Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Iron, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Lead, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Manganese, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Mercury, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Molybdenum, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Nickel, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Selenium, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Silver total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Sulfide, total (as S)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Thallium, total (as TI)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Zinc, total recoverable	Daily Maximum		M&R Micrograms per Liter	Effluent Gross	EFF	Annual	DISCRT

	Me	onitoring	Requirements				
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
			(ug/L) M&R				
Acrolein	Daily Maximum		Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Aldrin	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
.alphaEndosulfan	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
.betaEndosulfan	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Benzene	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Bis(2-chloroethyl) ether	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Chlordane (tech mix. and metabolites)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Vinyl Chloride (Chloroethylene (Vinyl))	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Chlorpyrifos	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
2,4-Dichlorophenoxyacetic Acid (2 4-D)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
DDT	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
			M&R				

	Discha	arge Limitat	ions	M	onitoring	Requirements	
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
4,4-DDT	Daily Maximum		Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Demeton	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Diazinon	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Dibutyl phthalate	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
1,3-Dichlorobenzene (M- Dichlorobenzene)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
1,2-Dichlorobenzene (O- Dichlorobenzene)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
1,4-Dichlorobenzene (P- Dichlorobenzene)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
1,2-Dichloroethane	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
1,1-Dichloroethylene	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
2,4-Dichlorophenol	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
1,1-Dichloropropene (Dichloropropenes)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
1,3-Dichloropropene (Dichloropropenes)	Daily Maximum		M&R Micrograms per Liter	Effluent Gross	EFF	Annual	DISCRT

	Mo	onitoring	Requirements				
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
			(ug/L)				
Dieldrin	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Di-2-ethylhexyl phthalate	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Diethyl phthalate	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Dimethyl phthalate	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
2-Methyl-4,6-Dinitrophenol (4,6-Dinitro-2-Methylphenol)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
2,4-Dinitrophenol (Dinitrophenols)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Endosulfan, total	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Endrin	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Ethylbenzene	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Fluoranthene (Fluoranthene (Polynuclear Aromatic Hydrocarbon))	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Azinphos-Methyl (Guthion)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
			M&R				

	Discha	rge Limitati	ions	Mo	onitoring	Requirements	
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Heptachlor	Daily Maximum		Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Heptachlor epoxide	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Hexachlorocyclopentadiene	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Isophorone	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Lindane	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Malathion	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Methoxychlor	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Mirex	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Monochlorobenzenes	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Nitrobenzene	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Nonylphenol	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Parathion	Daily Maximum		M&R Micrograms per Liter	Effluent Gross	EFF	Annual	DISCRT

	Monitoring Requirements						
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
			(ug/L)				
Pentachlorophenol	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Phenol	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Polychlorinated biphenyls (PCBs)	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Silvex	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
2,4,5-TP(silvex) acids/salts, whole water sample	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Carbon Tetrachloride (Tetrachloromethane (Carbon Tetrachloride))	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Toluene	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Toxaphene	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Tributyltin	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
1,1,1-Trichloroethane	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT
Trichloroethylene	Daily Maximum		M&R Micrograms per Liter (ug/L)	Effluent Gross	EFF	Annual	DISCRT

	Discharge Limitations						
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Hydrocarbons, total petroleum	Daily Maximum		Milligrams per Liter (mg/L)	Effluent Gross	EFF	Annual	DISCRT
Flow rate	Aggrv 12 Mo Rolling Ave ^[2]	<= 0.242 Million Gallons per Day (Mgal/d)		Effluent Gross	EFF	Annual	CALCTD
Nitrogen, ammonia total (as N)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	EFF	Annual	DISCRT

Notes (Discharge Limitations Table):

- 1. Toxic Pollutants sampling shall be conducted at the end of the chlorine contact chamber, prior to discharge to the LDD tributary. Results shall be reported with the 4th Quarter Discharge Monitoring Report (DMR).
- 2. The annual rolling average for flow shall be calculated using the 30-day averages of the preceding 12 months.

Discharge Limitations Table for Sample Location Inf (Wwtp Influent) To Be Reported Monthly

	Discharge Limitations Monitoring Requirements							
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type	
BOD, 5-day	Daily Maximum		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	INF	Weekly	DISCRT	
BOD, 5-day	30 Day Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent		Weekly	DISCRT	
Solids, total suspended	Daily Maximum		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	INF	Weekly	DISCRT	
Solids, total suspended	30 Day Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent		Weekly	DISCRT	
Solids, total dissolved	1 2 1		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	INF	Monthly	DISCRT	
Arsenic, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Raw Sewage Influent	INF	Monthly	DISCRT	
Selenium, total recoverable	Daily Maximum		M&R Micrograms per Liter (ug/L)	Raw Sewage Influent	INF	Monthly	DISCRT	

Groundwater Monitoring Wells Table for Sample Location Tp1 (Monitoring Well) 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	TP1	Quarterly	VISUAL		
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	TP1	Quarterly	DISCRT		
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	TP1	Quarterly	DISCRT		
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	TP1	Quarterly	DISCRT		

Groundwater Monitoring Wells Table for Sample Location Tp2 (Monitoring Well) 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	TP2	Quarterly	VISUAL	
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	TP2	Quarterly	DISCRT	
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	TP2	Quarterly	DISCRT	
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	TP2	Quarterly	DISCRT	

Groundwater Monitoring Wells Table for Sample Location W32 (Monitoring Well) To Be Reported Quarterly

Discharge Limitations Monitoring Requirem								
Parameter Base		Quantity Concentration I		Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type	
Depth to water level ft below landsurface	Value	M&R Feet (ft)		Groundwater	W32	Quarterly	VISUAL	
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	W32	Quarterly	DISCRT	
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	W32	Quarterly	DISCRT	
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	W32	Quarterly	DISCRT	

Summary of Changes From Previous Permit

Based on the findings of the reasonable potential analysis, effluent limits and monitoring requirements have been established for the following parameters:

- The proposed permit establishes a daily maximum effluent limit for total recoverable arsenic of 50 ug/L and increases the effluent monitoring frequency for total recoverable arsenic from quarterly to monthly.
- The proposed permit establishes a daily maximum effluent limit for total recoverable copper of 13 ug/L and requires the Permittee to conduct monthly effluent monitoring for total recoverable copper.
- The proposed permit establishes a daily maximum effluent limit for total recoverable lead of 5.2 ug/L and requires the Permittee to conduct monthly effluent monitoring for total recoverable lead.
- The proposed permit establishes a daily maximum effluent limit for total recoverable mercury of 0.77 ug/L and requires the Permittee to conduct monthly effluent monitoring for total recoverable mercury.
- The proposed permit establishes a daily maximum effluent limit for total recoverable nickel of 13 ug/L and requires the Permittee to conduct monthly effluent monitoring for total recoverable nickel.
- The proposed permit establishes a 30-day average limit for total dissolved selenium of 3.9 ug/L and requires the Permittee to conduct monthly effluent monitoring for total dissolved selenium.
- The proposed permit establishes a daily maximum effluent limit for total recoverable zinc of 165 ug/L and requires the Permittee to conduct monthly effluent monitoring for total recoverable zinc.
- The proposed permit establishes a daily maximum effluent limit for total trihalomethanes of 100 ug/L and requires the Permittee to conduct monthly effluent monitoring for total trihalomethanes. Total trihalomethanes shall represent the sum of the concentrations of dichlorobromomethane, dibromochloromethane, bromoform, and chloroform.
- The proposed permit establishes a daily maximum effluent limit for total phosphorus (as P) of 0.33 mg/L and requires the Permittee to conduct monthly effluent monitoring for total phosphorus (as P).
- The proposed permit establishes a daily maximum effluent limit for total dissolved solids of 500 mg/L and requires the Permittee to conduct monthly effluent monitoring for total dissolved solids.

The proposed permit revises the 30-day average effluent flow limit from 0.75 MGD to 0.364 MGD and establishes a daily maximum effluent flow limit of 0.556 MGD and an annual average flow limit of 0.242 MGD based on the design specifications of the newly constructed facility.

The proposed permit implements monthly average minimum percent removal requirements for BOD₅ and

TSS in lieu of daily minimum percent removal requirements. The proposed permit also establishes 30-day average monitoring and reporting requirements for BOD₅ and TSS at Sample Location INF to determine compliance with the monthly average minimum percent removal requirements.

The proposed permit replaces the 30-day average effluent limit for fecal coliform with a 30-day geometric mean effluent limit of 126 CFU/100 mL to incorporate the WQSs for the Diagonal Drain at NAC 445A.1854 and Stillwater Marsh east of Westside Road at NAC 445A.1862.

The daily minimum effluent limit for pH has been revised from 6.0 standard units (SU) to 6.5 SU in accordance with the applicable WQSs for pH for designated beneficial uses listed at NAC 445A.1854 and NAC 445A.1862.

The proposed permit discontinues effluent limits and monitoring requirements at Sample Locations R-1 and R-2, which were internal monitoring points applicable to the old treatment facility. Following construction of the new facility, the proposed permit establishes effluent limits and monitoring requirements for pH (daily minimum and daily maximum), arsenic, temperature, total dissolved solids, total petroleum hydrocarbons, total phosphorus (as P), dissolved oxygen, total ammonia as nitrogen, and total residual chlorine at Sample Location EFF.

The proposed permit discontinues the requirement to sample the effluent for priority pollutants once each year and establishes the requirement to sample the effluent for toxic pollutants per NAC 445A.1236.

The proposed permit establishes monthly influent monitoring requirements for arsenic, selenium, and total dissolved solids in order to characterize the wastewater for these parameters.

Schedule of Compliance (SOC) item 1 requires the Permittee to submit a chronic toxicity study plan and schedule to ensure that the effluent is non-toxic. SOC item 2 requires the Permittee to install three new monitoring wells to replace the three existing monitoring wells (TP1, TP2, and W32).

The proposed permit removes the Special Condition item requiring that the facility be operated by a Nevada Certified Class III Operator; the DMRs be signed by the facility's highest ranking certified operator, or the person directly responsible for operating the facility; and the first DMR submitted under the permit include the written designation of certified operator as the authorized representative to sign DMRs because these requirements are duplicative of sections A.4 and A.5 of the permit.

The proposed permit includes Special Condition item 1 to establish schedule requirements for acute toxicity testing to ensure that the effluent is non-toxic. The Division has determined that quarterly acute toxicity testing is sufficient for characterizing the facility's effluent. Special Condition item 5 gives the Permittee the option to sample the effluent for sodium bisulfite (dechlorinating agent) in lieu of conducting a study on the effects of residual chlorine on the receiving water. Special Condition item 6 states that, should they elect to do so, the Permittee may conduct a study on the effects of residual chlorine on the receiving water.

Technology Based Effluent Limitations

The following Technology Based Effluent Limitations (TBELs) are based on secondary treatment standards established in 40 CFR section 133 and as adopted by the State of Nevada:

- BOD₅: 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.
- pH: Daily maximum limit: <= 9.0 standard units (SU).

The following performance standards as per 40 CFR 133 have also been included in the permit:

- Percent removal for BOD5: Monthly average minimum >= 85%.
- Percent removal for TSS: Monthly average minimum >= 85%.

The permit includes the following limits based on the facility's design criteria review:

- Effluent flow rate: 30-day average limit: <= 0.364 MGD.
- Effluent flow rate: Daily maximum limit: <= 0.556 MGD.
- Effluent flow rate: Annual Average limit: <=0.242 MGD.
- Total nitrogen: Daily maximum limit: <= 10 mg/L.

Water Quality Based Effluent Limitations

Monitoring is required to assess the level of treatment provided by the facility, and to ensure that the discharge meets WQSs for the Lower Diagonal Drain at NAC 445A.1854 and Stillwater Marsh east of Westside Road at NAC 445A.1862.

The proposed permit establishes effluent limits for fecal coliform in accordance with NAC 445A.276 and WQSs for designated beneficial uses listed at NAC 445A.1854 and NAC 445A.1862.

The proposed permit includes more stringent effluent limits for pH (daily minimum) in accordance with the WQSs for designated beneficial uses listed at NAC 445A.1854 and NAC 445A.1862.

The proposed permit establishes effluent limits for phosphorus, temperature, dissolved oxygen, and total dissolved solids in accordance with WQSs for designated beneficial uses listed at NAC 445A.1854 and NAC.1862.

The proposed permit establishes effluent limits for arsenic, copper, lead, mercury, nickel, selenium, zinc, and total trihalomethanes in accordance with the WQSs for toxic materials applicable to designated waters at NAC 445A.1236.

The proposed permit retains effluent limits for total petroleum hydrocarbons in accordance with the State's action level for remediation projects.

Reasonable Potential Analysis (RPA)

Section 301(b)(1)(C) of the CWA requires effluent limitations necessary to meet WQSs, and 40 CFR 122.44(d) requires permits to include conditions that are necessary to achieve WQSs established under section 303 of the CWA, including state narrative criteria for water quality. Federal regulations at 40 CFR 122.44(d)(1)(i) state, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." The process to determine whether a WQBEL is required as described in 40 CFR 122.44(d)(1)(i) is referred to as a reasonable potential analysis or RPA. Furthermore, NAC 445A.243 requires the Division to consider the establishment of effluent limitations necessary to meet standards for water quality.

The RPA was based on data collected from April 2016 through January 2021, which includes effluent data submitted in DMRs. The dataset includes effluent data collected from both the previous and upgraded treatment facilities. The Division has utilized data from the previous facility due to the limited data available for the upgraded treatment facility. The Division has determined that data from the previous treatment facility is representative of the facility's effluent because the character of the influent has not changed, and the upgraded facility uses a similar treatment process.

For conducting the RPA, the Division used a mass-balance approach to determine the expected critical downstream receiving water concentration using steady-state modeling. The Division determined critical effluent pollutant concentrations using statistics recommended in the U.S. EPA Technical Support Document for Water Quality Based Toxics Control (EPA/505/2 90 001) (TSD) for statistically calculating the projected maximum effluent concentration (i.e., Table 3-1 of the TSD using the 99 percent probability basis and 99 percent confidence interval). For the purposes of the RPA, the critical receiving water flow was assumed to be zero (i.e., no dilution); therefore, the critical effluent pollutant concentrations were compared with the most restrictive water quality criteria in NAC 445A.118, NAC 445A.1236, NAC 445A.1854, and NAC 445A.1862 to determine if the discharge has reasonable potential to cause or contribute to an

excursion above a state water quality standard.

NAC 445A.1236 lists water quality criteria for seven metals that vary as a function of hardness. The lower the hardness, the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium (III), lead, nickel, silver, and zinc. The Bureau of Water Quality Planning recommends calculating a 10th percentile receiving water hardness value to determine water quality criteria for hardness-dependent metals that are sufficiently protective of aquatic life. The Division's Water Quality Data Warehouse contains water quality data for the Diagonal Drain at Highway 50 (Station ID C30). Based on 10 hardness samples collected in the Diagonal Drain at Highway 50 from 2004 through 2009, the 10th percentile hardness value is 146 mg/L. Therefore, the Division has used the 10th percentile hardness value of 146 mg/L to calculate the applicable water quality criteria for hardness-dependent metals listed at NAC 445A.1236. Default dissolved-to-total metal translators have been used to convert water quality criteria for applicable inorganic constituents from dissolved to total recoverable.

Based on the RPA, the discharge exhibits reasonable potential to cause or contribute to instream excursion above the applicable water quality criteria for arsenic, copper, lead, mercury, nickel, selenium, zinc, phosphorus, total dissolved solids, and total trihalomethanes. The proposed permit establishes WQBELs for these pollutants as described in the section of this Fact Sheet titled "Proposed Water Quality-Based Effluent Limitations".

Based on effluent data collected from April 2016 through January 2021, the critical effluent pollutant concentration for cyanide was 34 ug/L. However, of the five effluent samples collected between April 2016 and January 2021, only one sample, collected on November 15, 2017, yielded a detected result. The laboratory report for the November 15, 2017 effluent cyanide sample included an "S" qualifier, indicating that the spike recovery was outside the accepted recovery limits. The Division has the discretion to consider if any data are inappropriate or insufficient for use in determining reasonable potential. The November 15, 2017 effluent cyanide sample appears to be an outlier compared to the remainder of the effluent data, and the "S" qualifier indicates possible lab contamination. Therefore, the Division concludes that the November 15, 2017 effluent cyanide result is insufficient for use in the RPA and has not established effluent limitations in this permit. Monitoring for cyanide in the effluent will be required annually as part of the effluent priority pollutant monitoring and reporting requirements.

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

The following WQBELs are based on the WQSs for the Lower Diagonal Drain at NAC 445A.1854 and Stillwater Marsh east of Westside Road at NAC 445A.1862:

- Fecal coliform: 30-day geometric mean limit: <= 126 MPN/100 mL; Daily maximum limit: <= 400 MPN/100 mL.
- pH: Daily minimum limit: 6.5 SU.
- Total phosphorus (as P): Daily maximum limit: <= 0.33 mg/L.
- Temperature: Daily maximum limit: 34 degrees Celsius.
- Total dissolved solids: Daily maximum limit: <= 500 mg/L.
- Dissolved Oxygen: >= 5.0 mg/L.

The following WQBELs are based on the WQSs for toxic materials applicable to designated waters at NAC 445A.1236:

- Arsenic, total recoverable: Daily maximum limit: <= 50 mg/L.
- Copper, total recoverable: Daily maximum limit: <= 13 mg/L.
- Lead, total recoverable: Daily maximum limit: <= 5.2 mg/L.
- Mercury, total recoverable: Daily maximum limit: <= 0.77 mg/L.
- Nickel, total recoverable: Daily maximum limit: <= 13 mg/L.
- Selenium, total dissolved: 30-day average limit: <= 3.9 mg/L.
- Zinc, total recoverable: Daily maximum limit: <= 165 mg/L.
- Total trihalomethanes: Daily maximum limit: <= 100 mg/L.

Rationale for Permit Requirements Technology-Based Effluent Limitations:

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 ability to maintain pH. Federal treatment standards for maximum BOD_5 and TSS are defined at 40 CFR 133 as a 30-day average of 30 mg/L and a 7-day average of 45 mg/L. The Division applies the 7-day average thresholds as daily maximum effluent limits for BOD_5 and TSS.

In addition to describing the minimum level of effluent quality attainable by secondary treatment, 40 CFR 133.102 states that the 30-day average percent removal of BOD_5 and TSS shall not be less than 85 percent. Therefore, the proposed permit establishes monthly average minimum percent removal limits and requires the Permittee to monitor and report 30-day average BOD_5 and TSS concentrations in both the influent and effluent.

A weekly sampling frequency for BOD₅ and TSS, including percent removal, is sufficient for determining compliance with the applicable effluent limitations and is consistent with the Division's policy.

Federal secondary treatment standards at 40 CFR 133 also require that pH be maintained between 6.0 and 9.0 SU. The proposed permit establishes a more stringent daily minimum effluent limitation for pH to comply with WQSs for the Diagonal Drain at NAC 445A.1854 and Stillwater Marsh east of Westside Road at NAC 445A.1862.

The previous permit included TBELs for flow and total nitrogen based on the design specifications of the old facility. The proposed permit establishes revised effluent limits for flow rate based on the design specifications of the newly constructed facility. In order to satisfy antidegradation and anti-backsliding requirements, the proposed permit retains TBELs for total nitrogen.

The proposed permit establishes the requirement to report the annual average influent flow rate and includes a limit of 0.242 MGD. This requirement has been added to ensure the facility is not reaching its design capacity and is consistent with general Division policy for similar facilities discharging to waters of the State where there are no mass loading concerns.

Water Quality Based Effluent Limitations and Other Required Water Quality Monitoring and Narrative Permit Conditions:

State regulations require that point source discharges not cause a violation of any applicable WQSs in the receiving water, nor interfere with the attainment or maintenance of designated beneficial uses. The following WQBEL requirements, based on NAC 445A.1854 and NAC 445A.1862, are included in the proposed permit to ensure that the discharge does not cause WQS violations. In addition, the proposed permit requires monitoring and reporting of constituents that are present in the discharge and are the subject of WQSs.

The WQSs prescribed at NAC 445A.1854 and NAC 445A.1862 require that pH be maintained between 6.5 and 9.0 SU to protect the propagation of aquatic life designated beneficial use. Raw domestic wastewater inherently has variable pH. Additionally, some wastewater treatment processes can increase or decrease wastewater pH, which, if not properly controlled, could violate the applicable water quality criteria. Therefore, the proposed permit establishes effluent limitations for pH of 6.5 SU as a daily minimum and 9.0 SU as a daily maximum. The proposed permit requires the Permittee to monitor and report effluent pH daily in order to determine compliance with the effluent limitations.

NAC 445A.1854 and NAC 445A.1862 include a water quality criterion of 0.33 mg/L, as a single value, for total phosphorus (as P) to protect the propagation of aquatic life designated beneficial use. There is reasonable potential for total phosphorus in the facility's effluent to cause or contribute to an excursion

above the applicable water quality criterion. Therefore, the Division has applied the water quality criterion for total phosphorus directly as a daily maximum effluent limit.

NAC 445A.1854 and NAC 445A.1862 include a water quality criterion of 500 mg/L as a single value for total dissolved solids to protect the municipal and domestic water supply designated beneficial use. There is reasonable potential for total dissolved solids in the facility's effluent to cause or contribute to an excursion above the applicable water quality criterion. Therefore, the Division has applied the water quality criterion for total dissolved solids directly as a daily maximum effluent limit.

NAC 445A.1854 and NAC 445A.1862 include a water quality criterion of 5.0 mg/L as a single value for dissolved oxygen to protect the propagation of aquatic life designated beneficial use. Additionally, per the Nevada 2016 - 2018 Water Quality Integrated Report, the Diagonal Drain is impaired for dissolved oxygen. As the previous permit did not include the requirement to sample for dissolved oxygen, the Division has established the requirement to sample the effluent for dissolved oxygen and has applied the water quality criterion for dissolved oxygen directly as a daily minimum effluent limit.

NAC 445A.1854 and NAC 445A.1862 include a requirement to sample the effluent for total ammonia as nitrogen to protect the propagation of aquatic life designated beneficial use. As the previous permit did not include the requirement to sample for total ammonia as nitrogen, the Division has established the requirement to sample the effluent for total ammonia as nitrogen. A limit may be added during the next renewal cycle after review of data collected during this permit renewal cycle.

NAC 445A.1854 and NAC 445A.1862 include a water quality criterion for temperature of 34 degrees Celsius, as a single value, for the protection of the propagation of aquatic life designated beneficial use. The temperature limit established in the proposed permit is consistent with the water quality criteria for temperature listed at NAC 445A.1854 and NAC 445A.1862. The requirements for temperature have been retained from the previous permit; therefore, the temperature limits contained in the proposed permit are consistent with antidegradation and anti-backsliding requirements. The proposed permit also requires the Permittee to monitor and report the daily temperature of the effluent, in degrees Celsius, at Sample Location EFF.

There is reasonable potential for arsenic, mercury, and selenium in the facility's effluent to cause or contribute to an excursion above the water quality criteria listed at NAC 445A.1236. Therefore, the proposed permit establishes the following effluent limits:

- Daily maximum effluent limitations for total recoverable arsenic of 50 ug/L;
- Daily maximum effluent limitations for total recoverable mercury of 0.77 ug/L; and
- 30-day average effluent limitations for total dissolved selenium of 3.9 ug/L.

There is reasonable potential for copper, lead, nickel, and zinc in the facility's effluent to cause or contribute to an excursion above the water quality criteria listed at NAC 445A.1236, assuming a 10th percentile receiving water hardness of 146 mg/L for the Lower Diagonal Drain. Therefore, the proposed permit establishes the following effluent limits:

- Daily maximum effluent limitations for total recoverable copper of 13 ug/L;
- Daily maximum effluent limitations for total recoverable lead of 5.2 ug/L;
- Daily maximum effluent limitations for total recoverable nickel of 13 ug/L;
- Daily maximum effluent limitations for total recoverable zinc of 165 ug/L.

The proposed permit establishes monthly monitoring requirements for arsenic, copper, lead, mercury, nickel, selenium, and zinc at Sample Location EFF.

There is also reasonable potential for bromoform, chloroform, dibromochloromethane, and dichlorobromomethane within the facility's effluent to cause or contribute to an excursion above the water quality criteria for total trihalomethanes listed in NAC 445A.1236. Therefore, the proposed permit establishes a daily maximum effluent limit for total trihalomethanes of 100 ug/L. The proposed permit establishes monthly monitoring requirements for bromoform, chloroform, dibromochloromethane, and

dichlorobromomethane at Sample Location EFF, and requires the permittee to calculate total trihalomethanes.

The previous permit established daily maximum and 30-day average effluent limits for fecal coliform of 400 CFU/100 mL and 200 CFU/100 mL, respectively. The previous effluent limits were established based on Category "D" bacteriological quality for reuse as irrigation as defined at Nevada Administrative Code (NAC) 445A.276. However, water quality standards (WQSs) for the Diagonal Drain at NAC 445A.1854 and Stillwater Marsh east of Westside Road at NAC 445A.1862 include water quality criteria for Escherichia coli (E. coli) due to the contact recreation designated beneficial use. The water quality criteria for E. coli applicable to the receiving waters are 410 CFU/100 mL, applied as a single value, and 126 CFU/100 mL, applied as a 30-day geometric mean. In order to ensure the protection of the contact recreation and irrigation designated beneficial uses, the proposed permit establishes a daily maximum effluent limit for fecal coliform of 400 CFU/100 mL, applied as a single value not be exceeded in more than 10 percent of the samples collected within any 30-day period. In addition, the proposed permit establishes a 30-day geometric mean effluent limit for fecal coliform of 126 CFU/100 mL. Since E. coli is a constituent of the fecal coliform group, the proposed limits will be protective of the designated beneficial uses and ensure that the discharge does not cause or contribute to an exceedance of the water quality criteria in the receiving waters.

The proposed permit retains a daily maximum effluent limitation for total petroleum hydrocarbons of 1.0 mg/L, per the State's action level for remediation projects, as influent to the facility has the potential to be contaminated with surface sources containing total petroleum hydrocarbons. The requirements for total petroleum hydrocarbons have been retained from the previous permit; therefore, the limits contained in the proposed permit are consistent with antidegradation and anti-backsliding requirements. The proposed permit also requires the Permittee to monitor and report the concentration of total petroleum hydrocarbons at Sample Location EFF on an annual basis.

The proposed permit discontinues the requirement to sample the effluent for priority pollutants. Wastewater treatment facilities that accept industrial wastewater are required to sample for 126 priority pollutants. As this facility does not accept industrial wastewater the requirement to sample for priority pollutants has been removed.

The proposed permit establishes the requirement to annually monitor and report the remaining toxic pollutants, found at NAC 445A1236, to determine compliance with the WQSs and the designated beneficial uses applicable to the receiving waters.

Monitoring Well Limitations and Other Monitoring Requirements:

During the previous permit term, the Permittee was required to maintain and sample three monitoring wells to detect leaks and monitor groundwater in the vicinity of the storage lagoons. The proposed permit retains quarterly monitoring and reporting requirements for each well. Visual monitoring is required to measure the depth from the surface of the well to the groundwater. Groundwater sampling at each monitoring well is retained to monitor chloride, total dissolved solids, and total nitrogen. The proposed permit also retains quarterly maximum effluent limitations for total nitrogen of 10 mg/L at each well to ensure compliance with drinking water standards.

Anti-backsliding

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(I) prohibit backsliding and require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions. The effluent limitations in the proposed permit are at least as stringent as the effluent limitations in the previous permit, with the exception of percent removal requirements for BOD_5 and TSS and the removal of priority pollutants. As discussed below, the relaxation of percent removal requirements for BOD_5 and TSS, and the removal of priority pollutants, is consistent with the anti-backsliding requirements of the CWA and federal regulations.

CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA section 402(o)

(2)(B)(ii) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if the Division determines that technical mistakes or mistaken interpretations of law were made in issuing the previous permit.

The previous permit included daily minimum percent removal requirements for BOD_5 and TSS. However, the secondary treatment standards at 40 CFR 133.102, which have been applied to the discharge, require 30-day average percent removal limitations. The previous permit fact sheet indicated that the basis of the percent removal requirements was application of the secondary treatment standards, but the fact sheet did not specify the reason for applying the percent removal limitations as a daily minimum. Therefore, the Division has determined that application of the daily minimum percent removal limitations for BOD_5 and TSS in the previous permit constituted a technical mistake and relaxation of percent removal requirements for BOD_5 and TSS is consistent with the anti-backsliding requirements in CWA section 402(o)(2). Thus, proposed permit implements monthly average minimum percent removal requirements for BOD_5 and TSS in lieu of daily minimum percent removal requirements consistent with the secondary treatment standards.

Additionally, the previous permit included the requirement to sample the effluent for 126 priority pollutants each year. Wastewater treatment facilities that accept industrial wastewater are required to sample their effluent for these pollutants as part of their pretreatment program. The NAS Fallon wastewater treatment facility does not accept industrial wastewater and therefore does not have a pretreatment program. Furthermore, the state of Nevada has created its own list of toxic pollutants found at NAC 445A.1236. Therefore, the Division has determined that including the requirement to sample for priority pollutants in the previous permit constituted a technical mistake and the removal of priority pollutants is consistent with the anti-backsliding requirements in CWA section 402(o)(2). Therefore, the Division removes the requirement to sample for priority pollutants and establishes the requirement to sample the effluent for toxic pollutants as prescribed by NAC 445A.1236.

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 Nevada Revised Statute (NRS) 445A.520 and NRS 445A.565 and is consistent with the federal antidegradation policy found at Title 40 in the CFR section 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. This objective is achieved through the implementation of procedures to ensure that waters are protected from regulated activities that have the potential to degrade the water quality. The regulation uses four (4) tiers of antidegradation protection. Tier 1 protects water quality for beneficial uses of the water on a parameter-by-parameter basis. Tier 2 protects high-quality waters where data show the water quality is better than levels needed to protect beneficial uses (on a parameter-by-parameter basis). Tier 2.5 and Tier 3 protect water quality and the special characteristics of waterbodies designated with the beneficial use of "extraordinary, ecological, aesthetic or recreational value" (NAC 445A.122). The Division will conduct an antidegradation review only when a permit application is submitted for a new or expanding point source discharge to a surface water or for a new or altered zone of mixing.

As this is a renewal, and no changes to the flow or to the waste stream has been requested, a formal antidegradation review is not required. However, data reviewed during the renewal process does not indicate the potential for degradation of the receiving water body from the effluent discharged within the compliance limits of the proposed permit.

WET Testing

NAC 445A.121(4) states that all surface waters of the State "must be free from high temperature, biocides, organisms pathogenic to human beings, toxic, corrosive or other deleterious substances attributable to domestic or industrial waste or other controllable sources at levels or combinations sufficient to be toxic to human, animal, plant or aquatic life or in amounts sufficient to interfere with any beneficial use of the water." Since the facility treats domestic wastewater containing toxic pollutants, the proposed permit implements

acute and chronic WET requirements to ensure compliance with the narrative toxicity objective.

Acute WET requirements have been established to ensure there are no discharges of toxic substances in toxic amounts. The proposed permit also requires the Permittee to conduct a chronic toxicity study to confirm that the facility's effluent exhibits nontoxic conditions. If toxicity is found, the Permittee is required to identify pollutants that may require additional controls.

If chronic toxicity is identified, using appropriate statistical procedures or other evaluation methods acceptable to the Division, the Permittee may either increase the testing frequency or conduct a toxicity identification evaluation (TIE). TIEs shall be conducted in accordance with procedures set forth in Toxicity Identification Evaluations: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/691/003, U.S. EPA, 1991A; and Toxicity Reduction Evaluation Protocol for Municipal Wastewater Treatment Plants, EPA/600/288/062, U.S. EPA, 1989A, as appropriate.

Special Conditions

In addition to the TBELs and WQBELs described previously in this fact sheet, the proposed permit includes the following special conditions.

Language is included in the Special Approvals / Conditions Table and the "Whole Effluent Toxicity Testing" section of the proposed permit describing the schedule for conducting routine and accelerated acute WET tests.

As described in Special Condition item 2, below, the Permittee is not required to develop an approved pretreatment program, since the facility has no industrial users and the permitted discharge is less than 5 MGD.

SA - Special Approvals / Conditions Table

Item #	Description
	WET ACUTE TESTING SCHEDULE
	(a) Routine Schedule: The Permittee shall conduct quarterly acute toxicity testing.
1	(b) Accelerated Schedule: Whenever either B.WET.1.1 condition has occurred or a test result shows survival of the test organisms in undiluted effluent is less than 70 percent, the Permittee shall increase the frequency of acute toxicity testing to at least twice per month. When four (4) consecutive tests show greater than 70 percent survival or organisms exposed to undiluted effluent, the Permittee may resume its routine test schedule.
	(c) The Permittee shall submit an annual summary which provides a review of the survival rates of both the control and the 100 percent effluent for the fourth quarter report.
	The Permittee is not required to develop an approved pretreatment program as described in section B.PT, "Pretreatment of Industrial Wastewaters," since the facility has no industrial users, and does not anticipate any, and the permitted discharge is less than 5 MGD. As long as the facility has no industrial users, the requirements pertaining to significant and insignificant industrial users are waived. Also waived are the pretreatment sampling and analytical requirements.
3	A closure plan, following the guidance of the Division's WTS 20: Facility Abandonment Closure Plans, shall be submitted to the Division, for review and approval, once the two (2) bentonite-lined lagoons and the three (3) sludge drying beds are no longer being utilized. Additionally, the approved plan shall be implemented and completed within two (2) years of the abandonment of the lagoons and the drying beds per 40 CFR Part 503, Subpart C.
	Once all three (3) new groundwater monitoring wells are installed, as per SOC Item #2, the Permittee is to submit a permit modification application to include the new groundwater monitoring wells into the permit,

Item #	Description
4	per approval by the Division. A monthly monitoring schedule shall be initiated for the first twelve (12) months following the modification of the permit, and quarterly monitoring thereafter, at the discretion of the Division. The Permittee shall also request the removal of the three existing monitoring wells (TP1, TP2, and W32) in the permit modification.
5	Should the Permittee choose to sample the effluent for the dechlorinating agent, compliance with the total residual chlorine (TRC) limit can be achieved by an equivalent measurement, specifically by sampling for sodium bisulfite (dechlorinating agent). Presence of sodium bisulfite, at or above detection levels, is equivalent to the absence of residual chlorine. This special approval, for use of equivalent measurement, is consistent with NAC 445A.250.3(b)(1). Should the Permittee prefer one option for TRC over the other (see Special Approvals / Conditions Item #6), the Division can modify the permit to reflect the option chosen and remove the other option and its associated monitoring requirements from the permit upon the request of the Permittee.
6	Should the Permittee elect to perform a study on the effects of TRC on the receiving water (Diagonal Drain and Stillwater Marsh east of the Westside Road), the Permittee shall submit a study plan to the Division for review and approval. Approval must be obtained prior to commencement of the study. The study shall determine if all designated beneficial uses are protected considering the levels of chlorine potentially discharged by the facility via the facility's ordinary process of disinfection and dechlorination. Based on the findings of the study, a modification may be performed by the Division, at the Division's discretion, to modify the reporting requirements and / or limit for TRC in the permit. In no case shall the TRC limit in the permit be greater than 0.1 mg/L. Should the Permittee prefer one option for TRC over the other (see Special Approvals / Conditions Item #5), the Division can modify the permit to reflect the option chosen and remove the other option and its associated monitoring requirements from the permit upon the request of the Permittee.

Discharges From Future Outfalls/ Planned Facility Changes

Discharges from future outfalls are not anticipated at this time.

Corrective Action Sites

There are five Bureau of Corrective Actions remediation sites within a one-mile radius of the facility. The case officers have indicated negative impacts to the remediation sites are not expected due to the continuing discharge from the facility.

Wellhead Protection Program

There are no public drinking water supply wells within 6,000 feet of the facility and the discharge outfall.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Iten #	Description	Due Date
1	Within 180 days of permit issuance, the Permittee shall submit a chronic toxicity study plan and schedule as described in B.WET.7.2 of this permit for concurrence by the Division.	1/28/2025
2	Due to the location of the three existing monitoring wells (TP1, TP2, and W32) and the groundwater flow direction toward the southeast, these existing wells cannot adequately provide up gradient or down gradient groundwater samples for the new WWTP. The Permittee is to install a total of three (3) new groundwater monitoring wells; one (1) up gradient and two (2) down gradient. The location of these wells can be no further than 250 feet from the new WWTP. The new groundwater monitoring wells shall be designed in accordance with the Division's Water Technical Sheet (WTS) 4A: A Guidance Document for the Design and Construction of Groundwater Monitoring Wells for Use at Wastewater Treatment Facilities.	12/31/2024

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly DMRs	Quarterly	10/28/2024
2	Annual DMRs	Annually	1/28/2025
3	Biosolids Monitoring Report (BMR) ^[1]	Annually	2/19/2025
4	Annual Survival Summary	Annually	1/28/2025

Notes (Deliverable Schedule for Reports, Plans, and Other Submittals):

1. BMR must be submitted by February 19th of each year for the period covering the previous calendar year.

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. 7/26/2024, 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: Donette Barreto, P.E.

Date: 6/21/2024

Title: **Permitting Supervisor**

Attachment A: Summary of Reasonable Potential Analysis

Parameter ⁽¹⁾	Units	No. of Effluent Samples	Critical Effluent Concentration ⁽²⁾	Most Stringent Criterion	Criterion Basis	RMHQ	Does RP Exist?
Metals (Total Recoverable), Cyanid	e and Phenols	Janipies	Concentration	Criterion			
Antimony, Total Recoverable	ug/L	5	13	146	Human Health		No
Arsenic, Total Recoverable	ug/L	39	667	50	Human Health		Yes
Chromium, Total	ug/L	5	17	100	Human Health		No
Copper, Total Recoverable	ug/L	5	50	13 ⁽³⁾	Aquatic Life		No
Lead, Total Recoverable	ug/L	5	17	5.2 ⁽³⁾	Aquatic Life		No
Mercury, Total Recoverable	ug/L	5	0.84	0.77	Aquatic Life		Yes
Nickel, Total Recoverable	ug/L	5	34	13.4	Human Health		Yes
Selenium, Total Recoverable	ug/L	5	168	5.0	Aquatic Life		Yes
Zinc, Total Recoverable	ug/L	5	168	165 ⁽³⁾	Aquatic Life		Yes
Cyanide, Total (as CN)	ug/L	5	34	5.2	Aquatic Life		No ⁽⁴⁾
Volatile Organic Compounds				•	•		
Bromoform	ug/L	5	272	No Criteria	NA		Undetermined
Chloroform	ug/L	5	26	No Criteria	NA		Undetermined
Dibromochloromethane	ug/L	5	264	No Criteria	NA		Undetermined
Dichlorobromomethane	ug/L	5	113	No Criteria	NA		Undetermined
Base-Neutral Compounds							
Bis(2-Ethylhexyl)Phthalate	ug/L	5	1.8	15,000	Human Health		No
Other Pollutants							
Nitrogen, Total	mg/L	53	45	No Criteria	NA		No ⁽⁵⁾
Phosphorus, Total (as P)	mg/L	102	8.3	0.33	Aquatic Life		Yes
Total Dissolved Solids	mg/L	99	5,631	500	Human Health		Yes
Total Trihalomethanes ⁽⁶⁾	ug/L	5	638	100	Human Health		Yes

Footnotes:

- (1) The RPA Summary is inclusive of parameters that were detected in the discharge over the previous permit term.
- (2) The critical effluent concentration is the projected maximum effluent concentration based on the 99th percentile of a lognormal distribution and a 99 percent confidence interval (see the U.S. EPA Technical Support Document for Water Quality--Based Toxics Control (EPA/505/2 90 001), Chapter 3 for a description of calculation procedures).
- (3) The 10th percentile receiving water hardness value of 146 mg/L has been used to calculate the applicable water quality criteria for hardness-dependent metals listed at NAC 445A.1236.
- (4) See the Reasonable Potential Analysis and Antidegradation Review section of the Fact Sheet for a discussion of the RPA results.
- (5) The permit retains effluent limits for total nitrogen based on the design specifications of the facility.
- (6) Total trihalomethanes shall represent the sum of the concentrations of dichlorobromomethane, dibromochloromethane, bromoform, and chloroform.

Attachment B: Flow Schematic

