



**FACTSHEET**  
**(pursuant to NAC 445A.236)**

**Permittee Name:** CHURCHILL COUNTY  
155 NORTH TAYLOR STREET, #153  
FALLON, NV - 89406

**Permit Number:** NV0023582

**Location:** MOODY LANE REGIONAL WATER RECLAMATION FACILITY, CHURCHILL  
2831 MOODY LANE, FALLON, NV - 89406  
LATITUDE: 39.515050, LONGITUDE: -118.800431  
TOWNSHIP: 19N, RANGE: 28E, SECTION: 14

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Outfall City	Outfall State	Outfall Zip	Outfall County	Latitude	Longitude	Receiving Water
001	INFLUENT TO THE TREATMENT PLANT	Influent Structure		FALLON	NV	89406	CHURCHILL	39.515050	-118.800431	STILLWATER NATIONAL WILDLIFE REFUGE
002	DISCHARGE FROM THE TREATMENT PLANT AT THE DRAINAGE DITCH	External Outfall		FALLON	NV	89406	CHURCHILL	39.515050	-118.800431	STILLWATER NATIONAL WILDLIFE REFUGE

**General:**

Churchill County operates the Moody Lane Regional Water Reclamation Facility (MLRWRF), which is located northwest of Fallon in Churchill County, Nevada. The MLRWRF is a membrane bioreactor (MBR) plant that uses biological nutrient removal, and is designed to treat up to 0.600 million gallons per day (MGD) of domestic wastewater. The MLRWRF is designed to meet 30-day average effluent limits of 30 mg/L BOD5, 30 mg/L total suspended solids, and 10 mg/L total nitrogen. The MLRWRF headworks has automatic fine and coarse screening, grit removal, and a one million gallon emergency storage pond. Following the headworks, wastewater flows to a common flow equalization basin, followed by twin trains of concrete-lined MBR basins. The basins are comprised of anoxic and aerated zones, followed by basins holding the Zenon™ membrane cassettes. Treated effluent then passes into a chlorine contact chamber for disinfection before collection in an effluent holding basin lined with high-density polyethylene. Sludge is removed from the reactors via pump to a sludge dewatering system (screw press) and is disposed of in an appropriate landfill.

The Permittee has applied for the renewal of National Pollutant Discharge Elimination System permit NV0023582 to continue the discharge of treated and disinfected effluent to the Lower Carson River via the Wade Drain. Under Permit NV0023582, the Permittee will discharge to Wade Drain, which runs adjacent to the MLRWRF. Wade Drain discharges to Erb Drain, which joins the Carson River just upstream of the Saguospe Diversion Dam.

**Discharge Characteristics:**

The discharge consists of treated effluent. Average effluent characteristics for January 2010 through March 2015 are listed below.

BOD = 5 mg/L  
TSS = 5 mg/L  
TDS = 448 mg/L  
pH = 7.49  
Fecal Coliform = 2 CFU/100mL  
Dissolved Oxygen = 6.9 mg/L  
Temperature = 15.66 °C  
Total Nitrogen = 3.3 mg/L  
Ammonia = 0.3 mg/L  
Nitrate = 2.60 mg/L  
Total Phosphorous = 0.15 mg/L

The Permittee is considered to be in substantial compliance with the permit.

**Receiving Water:**

The receiving water is the Lower Carson River. The water quality standards for the Lower Carson River are listed in NAC 445A.1826.

**Summary of Changes From Previous Permit:**

The receiving water has been changed from "Stillwater National Wildlife Refuge via the Newlands Reclamation Project" to "Lower Carson River."

The requirement to monitor and report nitrate has been removed from the permit because nitrate is included in the total nitrogen value.

The requirement to sample and analyze the discharge for E. coli has been added to the permit and limited in accordance with NAC 445A.1826.

The fecal coliform limit has been updated to reflect the water quality standards for beneficial uses listed in NAC 445A.1826.

**Proposed Effluent Limitations:**

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

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

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
BOD, 5-day	30 Day Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Monthly	COMPOS
Solids, total suspended	7 Day Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Monthly	COMPOS
Solids, total suspended	30 Day Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Monthly	COMPOS
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER
BOD, 5-day	7 Day Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Monthly	COMPOS

### Discharge Limitations Table for Sample Location 002 (Effluent) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Phosphorus, total (as P)	Daily Maximum		<= 0.33 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
Phosphorus, total (as P)	30 Day Average		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
BOD, 5-day	7 Day Average		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
Temperature, water deg. centigrade	30 Day Average		M&R Degrees Centigrade (deg C)	Effluent Gross	002	Monthly	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
Nitrogen, total	30 Day Average		<= 10 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
BOD, 5-day	30 Day Average		<= 30 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
Flow rate	30 Day Average	<= 0.499 Million Gallons per Day (Mgal/d)		Effluent Gross	002	Continuous	METER
Temperature, water deg. centigrade	Daily Maximum		<= 34 Degrees Centigrade (deg C)	Effluent Gross	002	Monthly	DISCRT
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	002	Continuous	METER
E. coli	Daily Maximum		<= 410 Number per 100 Milliliters T (#/100mL)	Effluent Gross	002	Monthly	DISCRT
BOD, 5-day, percent removal	Monthly Minimum		>= 85 Percent (%)	Effluent Gross	002	Monthly	CALCTD
Solids, total suspended	7 Day Average		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
Solids, total suspended	30 Day Average		<= 30 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
Solids, suspended percent removal	Monthly Minimum		>= 85 Percent (%)	Effluent Gross	002	Monthly	CALCTD

### Discharge Limitations Table for Sample Location 002 (Effluent) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Solids, total dissolved	Daily Maximum		<= 500 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	DISCRT
Solids, total dissolved	30 Day Average		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	DISCRT
pH, minimum	Daily Minimum		>= 6.5 Standard Units (SU)	Effluent Gross	002	Monthly	DISCRT
pH, maximum	Daily Maximum		<= 9.0 Standard Units (SU)	Effluent Gross	002	Monthly	DISCRT
Coliform, fecal, colony forming units	Daily Maximum		<= 1,000 Colony Forming Units per 100ml T (CFU/100mL) <sup>[1]</sup>	Effluent Gross	002	Monthly	DISCRT
Coliform, fecal, colony forming units	30 Day Average		<= 1,000 Colony Forming Units per 100ml T (CFU/100mL) <sup>[1]</sup>	Effluent Gross	002	Monthly	DISCRT
Oxygen, dissolved (DO)	Daily Minimum		>= 5.0 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	DISCRT
Oxygen, dissolved (DO)	30 Day Average		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	DISCRT
Nitrogen, ammonia total (as N)	Daily Maximum		<= 1.00 Ratio (Ratio) <sup>[2]</sup>	Effluent Gross	002	Monthly	CALCTD
Nitrogen, ammonia total (as N)	30 Day Average		<= 1.00 Ratio (Ratio) <sup>[3]</sup>	Effluent Gross	002	Monthly	CALCTD

#### Notes (Discharge Limitations Table):

1. Fecal coliform may be reported in CFU/100mL or MPN/100mL.
2. The daily maximum concentration of total ammonia as nitrogen shall be reported as a ratio calculated in accordance with item #1 in the Special Approvals / Conditions Table on page 8 of the permit.
3. The 30-day average concentration of total ammonia as nitrogen shall be reported as a ratio calculated in accordance with item #2 in the Special Approvals / Conditions Table on page 8 of the permit.

**Discharge Limitations Table for Sample Location 002 (Effluent) To Be Reported Annually**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
E. coli	Geometric Mean <sup>[1]</sup>		<= 126 Number per 100 Milliliters T (#/100mL)	Effluent Gross	002	Annual	CALCTD

Notes (Discharge Limitations Table):

1. Annual geometric mean

**Rationale for Permit Requirements:**

Flow Rate: The flow rate is limited to the flow rate requested in the permit renewal application.

BOD5: The 30-day average limit and required minimum treatment efficiency (percent removal) are based on the secondary treatment standards in 40 Code of Federal Regulations (CFR) § 133.102.

Total Suspended Solids : The 30-day average limit and required minimum treatment efficiency (percent removal) are based on the secondary treatment standards in 40 CFR § 133.102.

Total Dissolved Solids (TDS): TDS are limited in accordance with the water quality standards for beneficial uses listed in NAC 445A.1826.

pH: pH is limited in accordance with the water quality standards for beneficial uses listed in NAC 445A.1826.

Fecal Coliform: Fecal coliform is limited in accordance with the water quality standards for beneficial uses listed in NAC 445A.1826.

Dissolved Oxygen: Dissolved oxygen is limited in accordance with the water quality standards for beneficial uses listed in NAC 445A.1826.

Temperature: Temperature is limited in accordance with the water quality standards for beneficial uses listed in NAC 445A.1826.

Total Nitrogen: The limit for total nitrogen reflects the limit for total nitrogen in groundwater discharge permit NS2007500 for the MLRWRF and is set to prevent degradation of the receiving water.

E. coli: E. coli is limited in accordance with the water quality standards for beneficial uses listed in NAC 445A.1826

Total Ammonia as Nitrogen : Total ammonia as nitrogen is limited in accordance with the water quality standards for beneficial uses listed in NAC 445A.1826 and the ambient water quality criteria for ammonia specified in NAC 445A.118.

Total Phosphorus as P : Total phosphorous is limited in accordance with the water quality standards for beneficial uses listed in NAC 445A.1826.

**Fecal Coliform:**

Daily Maximum  $\leq$  1,000 CFU/100mL

30-Day Average  $\leq$  1,000 CFU/100mL

**WET Testing:**

Whole effluent toxicity testing shall be conducted in accordance with permit section B.WET.

**Special Conditions:**

Substantial compliance with the current permit is a condition of permit renewal.

SA – Special Approvals / Conditions Table

Item #	Description
1	<p>The daily maximum concentration of total ammonia as nitrogen shall be reported as a ratio calculated from the following equation:</p> <p>Ratio = (Total Ammonia as N) / Limit</p> <p>Total Ammonia as N = concentration, in mg/L, of total ammonia as nitrogen in the sample</p> <p>Limit = <math>[0.411/(1+10^{7.204-pH})]+[58.4/(1+10^{pH-7.204})]</math></p>
2	<p>The 30-day average concentration of total ammonia as nitrogen shall be reported as a ratio calculated from the following equation:</p> <p>Ratio = (Total Ammonia as N) / Limit</p> <p>Total Ammonia as N = concentration, in mg/L, of total ammonia as nitrogen in the sample</p> <p>Limit = <math>\{[0.0577/(1+10^{7.688-pH})]+[2.487/(1+10^{pH-7.688})]\} \times \text{MIN}[2.85, 1.45 \times 10^{0.028 \times (25-T)}]</math></p> <p>where: MIN means the lesser of the two values separated by the comma and T is the temperature in °C</p>

**Flow:**

30-Day Average Flow Rate ≤ 0.499 MGD

**Corrective Action Sites:**

There are no Bureau of Corrective Actions remediation sites located within one mile of the MLRWRF.

**Wellhead Protection Program:**

The MLRWRF is not located within a Drinking Water Protection Area or a Wellhead Protection Area.

**Schedule of Compliance:**

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit a new Operations and Maintenance (O&M) Manual to the Division. The O&M Manual shall be prepared in accordance with guidance document <i>WTS-2: Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant.</i>	4/28/2016

**Deliverable Schedule:**

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

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly Discharge Monitoring Reports	Quarterly	4/28/2016
2	Annual Report	Annually	1/28/2017
3	Annual Biosolids Monitoring Report	Annually	1/28/2017
4	Annual Pretreatment Report	Annually	1/28/2017

**Procedures for Public Comment:**

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to surface waters of the State of Nevada subject to the conditions contained within the permit, is being sent to the **Reno Gazette Journal, Lahontan Valley News** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. **11/23/2015** , 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 to 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: **Alan Pineda**

Date: **10/16/2015**

Title: **Staff I Associate Engineer**