



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

**Permittee Name:** NORTHERN NEVADA CORRECTIONAL CENTER  
1721 SNYDER AVE  
CARSON CITY, NV 89701

**Permit Number:** NS0092030

**Permit Type:** GROUNDWATER DISCHARGE

**Designation:** GROUNDWATER

**New/Existing:** EXISTING

**Location:** NORTHERN NEVADA CORRECTIONAL CENTER, CARSON CITY  
1721 SNYDER AVE, CARSON CITY, NV 89702  
LATITUDE: 39.10470140, LONGITUDE: -119.744026  
TOWNSHIP: 14N, RANGE: 20E, SECTION: 4

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	REUSE SITE	Land Application Site		39.10470140	-119.744026	GROUNDWATER
P-1	PIEZOMETER 1	Monitoring Well		39.103563	-119.746605	GROUNDWATER
P-2	PIEZOMETER 2	Monitoring Well		39.097978	-119.751315	GROUNDWATER
P-3	PIEZOMETER 3	Monitoring Well		39.098865	-119.743164	GROUNDWATER
P-4	PIEZOMETER 4	Monitoring Well		39.093986	-119.740240	GROUNDWATER
W-1	MONITORING WELL 1	Monitoring Well		39.108699	-119.747912	GROUNDWATER
W-3	MONITORING WELL 3	Monitoring Well		39.096562	-119.733905	GROUNDWATER
W-4	MONITORING WELL 4	Monitoring Well		39.095158	-119.744938	GROUNDWATER

**Permit History/Description of Proposed Action**

The Permittee, State of Nevada’s Northern Nevada Correctional Center, has applied for the renewal of Permit NS0092030 for the Prison Farm/Dairy (PF/D), located at 1721 Snyder Avenue, in Carson City, Nevada. The Permittee proposes to continue to use reclaimed water for applied irrigation use on 496 acres of the facility, composed of 28 cultivated fields, that support various crop types.

This permit was first issued on May 14, 1993. The most recent permit was issued on February 1, 2014, and expired on January 31, 2019; the permit has been administratively continued since.

**Facility Overview**

The PF/D utilizes reclaimed water supplied by the Carson City Water Resource Recovery Facility (CCWRRF, NS0090008). The reclaimed water meets Category B bacteriological quality, per Nevada Administrative Code (NAC) 445A.276, but is not denitrified. The PF/D is an approximately 496-acre agricultural operation that surrounds the Northern Nevada Correctional Center in southeast Carson City. The PF/D has 28 cultivated fields, spanning the aforementioned acreage, that support several different types of crops with alfalfa, mixed pasture (tall fescue, orchard grass, garrison creeping foxtail, and alfalfa), and grains being the most common. Annual water usage for the PF/D ranges from 1,250 to 1,400 acre-feet, or

approximately 407 to 456 million gallons, with the total annual maximum flow being up to 538 million gallons.

The reclaimed water is delivered from the CCWRRF's storage reservoir, through a pump station and pipeline to the earthenlined Stewart Ponds (located offsite), where it is conveyed via four pumps, through various pipelines, and into the irrigation system for applied use within the PF/D's boundaries. The northern Stewart Pond stores the PF/D's reclaimed water and tail water return while the south Stewart Pond receives filter backwash discharged from the pumping station. Any seepage loss from the Stewart Ponds is separately monitored by CCWRRF's monitoring well program under permit NS0090008.

During winter months (November – March), when the PF/D's fields are fallow, the treated effluent is pumped to the Brunswick Canyon Effluent Storage Reservoir (NV0023591), located in the Pine Nut Mountains, about 5 miles east of the treatment plant.

The Permittee also operates a wild horse holding facility, which is permitted under concentrated animal feeding operation (CAFO) permit NV0023574.

The PF/D was required to submit a Reclaimed Water Management Plan (RWMP) during the original permit issuance, which was received and approved by the Division on July 2, 2014. The Technical, Compliance, and Enforcement (TCE) Branch of the Bureau of Water Pollution Control requires RWMPs be updated every two (2) permit cycles which equates to every ten (10) years so an updated plan will be due 90 days after permit issuance.

### **Outfall Summary**

Outfall 001: This outfall (Reuse Site) is for the discharge of reclaimed water for irrigation of the PF/D's land application site.

Outfall P1: This is a crossgradient monitoring well (Piezometer 1) for sampling the following parameter on a quarterly basis: depth to water level (feet below the land surface) water level relative to mean sea level.

Outfall P2: This is a crossgradient monitoring well (Piezometer 2) for sampling the following parameters on a quarterly basis: depth to water level (feet below the land surface) water level relative to mean sea level, Chloride, Nitrogen, and Total Dissolved Solids.

Outfall P3: This is a crossgradient monitoring well (Piezometer 3) for sampling the following parameter on a quarterly basis: depth to water level (feet below the land surface) water level relative to mean sea level.

Outfall P4: This is a downgradient monitoring well (Piezometer 4) for sampling the following parameter on a quarterly basis: depth to water level (feet below the land surface) water level relative to mean sea level.

Outfall W1: This is a upgradient monitoring well (Monitoring Well 1) for sampling the following parameters on a quarterly basis: depth to water level (feet below the land surface) water level relative to mean sea level, Chloride, Nitrogen, and Total Dissolved Solids.

Outfall W3: This is a downgradient monitoring well (Monitoring Well 3) for sampling the following parameters on a quarterly basis: depth to water level (feet below the land surface) water level relative to mean sea level, Chloride, Nitrogen, and Total Dissolved Solids.

Outfall W4: This is a downgradient monitoring well (Monitoring Well 4) for sampling the following parameters on a quarterly basis: depth to water level (feet below the land surface) water level relative to mean sea level, Chloride, Nitrogen, and Total Dissolved Solids.

Note: Confirmed by an email from Jill Sutherland, of RCI, dated 01/07/2024, there is no MW2, was taken out of commission prior to 2001.

### **Effluent Characterization**

Nevada State Network Discharge Monitoring Report (NetDMR) data, as reported from October 2019 to September 2024, was reviewed as part of this permit renewal process. The 30-day average discharge flow rate for Outfall 001 was 1.73 MGD. The 30-day average reuse discharge flow rate for Outfall 001 is limited to 9.9 MGD. There were no reported exceedances of this limit.

The CCWRP provides secondary treated reclaimed water which meets Category B bacteriological quality, per NAC 445A.276, to the PF/D; therefore, the reclaimed water needs to meet set limits for fecal coliform, along with safety precautions including, but not limited to, prohibiting public access to the area during times of irrigation.

Since CCWRRF's reclaimed water is not denitrified, nitrogen balances are required along with effluent nutrient reporting using analyses provided by CCWRRF. Due to the depth to groundwater and nutrient management required, monitoring wells are required. There are four monitoring wells and three piezometers monitoring wells within the PF/D.

The following averages were reported for the associated outfalls:

Outfall 001 – Reuse Site Parameter:

Flow, 30-day average (MGD): 1.73

Fecal Coliform (mg/L): 4.84

Nitrogen, total (mg/L): 9.08

Outfall P1 – Piezometer 1 Parameter:

Depth to water level below land surface in feet (ft): 6.98

Outfall P2 – Piezometer 2 Parameters:

Depth to water level below land surface in feet (ft): 5.31

Nitrogen, total (mg/L): 0.45

Total dissolved solids (mg/L): 322.75

Outfall P3 – Piezometer 1 Parameter:

Depth to water level below surface in feet (ft): 6.87

Outfall P4 – Piezometer 1 Parameter:

Depth to water level below surface in feet (ft): 3.0

Outfall W1 – Monitoring Well 1 Parameters:

Depth to water level below land surface in feet (ft): 13.76

Nitrogen, total (mg/L): 1.23

Total dissolved solids (mg/L): 621.25

Outfall W3 – Monitoring Well 3 Parameters:

Depth to water level below land surface in feet (ft): 4.05

Nitrogen, total (mg/L): 0.33

Total dissolved solids (mg/L): 735.58

Outfall W4 – Monitoring Well 4 Parameters:

Depth to water level below land surface in feet (ft): 5.91

Nitrogen, total (mg/L): 1.55

Total dissolved solids (mg/L): 2320.05

### **Pollutants of Concern**

Pollutants of concern are any pollutants or parameters that are believed to be present in the discharge and could affect or alter the physical, chemical, or biological condition of the receiving water.

Common pollutants of concern for reclaimed water are fecal coliform, nitrogen, and total dissolved solids (TDS).

**Receiving Water**

Receiving water is groundwater of the State. Depth to groundwater at the site is approximately 1520 feet below ground surface (bgs).

**Compliance History**

The facility was in substantial compliance during the October 2019 to September 2024 reporting period.

**Proposed Effluent Limitations**

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

**Groundwater Monitoring Wells Table for Sample Location P-1 (Cross-Gradient 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 <sup>[1]</sup>	Daily Minimum	M&R Feet (ft)		Groundwater	P-1	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Depth to Groundwater (ft).

**Groundwater Monitoring Wells Table for Sample Location P-2 (Cross-Gradient Monitoring Well)  
To Be Reported Quarterly**

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	P-2	Quarterly	DISCRT
Depth to water level ft below landsurface <sup>[1]</sup>	Daily Minimum	M&R Feet (ft)		Groundwater	P-2	Quarterly	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	P-2	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	P-2	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Depth to Groundwater (ft).

**Groundwater Monitoring Wells Table for Sample Location P-3 (Cross-Gradient 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 <sup>[1]</sup>	Daily Minimum	M&R Feet (ft)		Groundwater	P-3	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Depth to Groundwater (ft).

**Groundwater Monitoring Wells Table for Sample Location P-4 (Downgradient 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 <sup>[1]</sup>	Daily Minimum	M&R Feet (ft)		Groundwater	P-4	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Depth to Groundwater (ft).



**Groundwater Monitoring Wells Table for Sample Location W-1 (Upgradient Monitoring Well) To Be Reported Quarterly**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	W-1	Quarterly	DISCRT
Depth to water level ft below landsurface <sup>[1]</sup>	Daily Minimum <sup>[1]</sup>	M&R Feet (ft)		Groundwater	W-1	Quarterly	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	W-1	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	W-1	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Depth to Groundwater (ft).

**Groundwater Monitoring Wells Table for Sample Location W-3 (Downgradient Monitoring Well)  
To Be Reported Quarterly**

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	W-3	Quarterly	DISCRT
Depth to water level ft below landsurface <sup>[1]</sup>	Daily Minimum	M&R Feet (ft)		Groundwater	W-3	Quarterly	DISCRT
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	W-3	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	W-3	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Depth of Groundwater (ft).

**Groundwater Monitoring Wells Table for Sample Location W-4 (Downgradient Monitoring Well)  
To Be Reported Quarterly**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	W-4	Quarterly	DISCRT
Depth to water level ft below landsurface <sup>[1]</sup>	Daily Minimum	M&R Feet (ft)		Groundwater	W-4	Quarterly	DISCRT
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	W-4	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	W-4	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Depth to Groundwater (ft).

## Re-use Discharge Limitations Table for Sample Location 001 (Land Application Site) To Be Reported Monthly<sup>[1]</sup>

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Coliform, total general	30 Day Geometric Mean		<= 2.2 Colony Forming Units per 100ml T (CFU/100mL) <sup>[2]</sup>	Prior to Irrigation	001	Monthly	DISCRT
Coliform, total general	Daily Maximum		<= 23 Colony Forming Units per 100ml T (CFU/100mL) <sup>[2]</sup>	Prior to Irrigation	001	Monthly	DISCRT
Flow rate	30 Day Average	<= 9.9 Million Gallons per Day (Mgal/d)		Prior to Irrigation	001	Continuous	METER
Flow rate	Daily Maximum	<= 9.9 Million Gallons per Day (Mgal/d)		Prior to Irrigation	001	Continuous	METER
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Prior to Irrigation	001	Monthly	DISCRT
Nitrogen, total	Monthly Average		M&R Milligrams per Liter (mg/L)	Prior to Irrigation	001	Monthly	DISCRT

### Notes (Re-use Discharge Limitations Table):

1. Monitoring requirements may be satisfied by data collected by the Carson City Water Resource Recovery Facility.
2. CFU or MPN/100 mL.

**Re-use Discharge Limitations Table for Sample Location 001 (Land Application Site) To Be Reported Annually**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow, total	Annual Total	<= 523 Million Gallons (Mgal)		Prior to Irrigation	001	Annual	CALCTD
Nitrogen, total <sup>[2]</sup>	Annual Mass Loading <sup>[1]</sup>	M&R Pounds per Year (lb/yr) <sup>[3]</sup>		Beneficial Reuse	001	Annual	CALCTD
Nitrogen, total <sup>[4]</sup>	Minimum Value		M&R Percent (%)	Prior to Irrigation	001	Annual	CALCTD

**Notes (Re-use Discharge Limitations Table):**

1. The annual nitrogen loading shall include the total nitrogen from all nitrogen sources, including reuse water, commercial fertilizer, and all other sources of nitrogen.
2. The total nitrogen applied (pounds per acre per year) shall not be greater than the maximum yearly nitrogen application defined in the Reclaimed Water Management Plan (RWMP).
3. To be reported as pounds per acres per year (lbs/acre/year) refer to Page 20 of the WTS-1B: General Criteria for Preparing a Reclaimed Water Management Plan. This formula is below:  
Effluent N Applied = (MGD Applied x Effluent N Conc. (mg/L) x 8.34 x # days/mo.) ÷ # Acres.
4. Report the Theoretical Nitrogen Uptake/Annual Mass Loading of Nitrogen as a percentage. Refer to Technical Sheets WTS-1B: General Criteria for Preparing a Reclaimed Water Management Plan and WTS-1C Nutrient Management for Reuse & Biosolids Sites.

**Summary of Changes From Previous Permit**

The facility location coordinates were updated to reflect actual location being Lat 39.1047014, Long - 119.7440263.

All monitoring wells and the P2 piezometer monitoring well parameters (Outfalls P2, W1, W3, and W4) for sampling were updated to the following: depth to water level (feet below the land surface), water level relative to mean sea level, Chloride, Nitrogen, and Total Dissolved Solids (TDS).

Nitrogen, total limitations on downgradient monitoring wells (Outfalls W3 and W4) were assigned a limit of 10 mg/L.

The ReUse Discharge Limitation Table to be Reported Annually was added for Outfall 001:

- Nitrogen, total was revised, from a "Annual" to an "Annual Mass Loading" base, a "M&R Pounds per Year (lb/yr)", with a "Prior to Irrigation" monitoring location, an "Annual" measurement frequency, and a "Calctd" sample type.
- Nitrogen, total was added, with a "Minimum Value" base, a "M&R Percent (%)" concentration, with a "Prior to Irrigation" monitoring location, an "Annual" measurement frequency, and a "Calctd" sample type.

And Footnote 3, was revised to read, "To be reported as pounds per acres per year (lbs/cre/year), refer to Page 20 of WTS1B: General Criteria for Preparing a Reclaimed Water Management Plan (RWMP). This formula is below:

$$\text{Effluent N Applied (MGD Applied x Effluent N Conc (mg/l) x 8.34 x \# days/mo.) / \# Acres.}"$$

And an additional footnote was added stating:

"Report the Theoretical Nitrogen Uptake/Annual Mass Loading as a percentage. Refer to Technical Sheets WTS1B: General Criteria for Preparing a Reclaimed Water Mangement Plan and WTS1C Nutrient Mangement forReuse & Biosolids Sites."

The Flow, total parameter, with an "Annual Total" base, a 538 Millon Gallons Annually (MGA) limit, a "Prior to Irrigation" monitoring location, an "Annual Measurement" frequency, and "Meter" sample type was added to Outfall 001, to be reported annually.

### **Technology Based Effluent Limitations**

Technology based effluent limitations are not applicable to this permit.

### **Water Quality Based Effluent Limitations**

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

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

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

### **Basis for Effluent Limitations**

Fecal coliform is required to be monitored to assess the quality of reclaimed water being applied and for the protection of human health and the environment.

The nitrogen content in reclaimed water varies significantly depending on the level of treatment it receives at the wastewater facility, with higher levels of nitrogen present in less thoroughly treated water. To manage nitrogen loading, regular monitoring of the nitrogen concentration in the reclaimed water is essential to adjust irrigation practices accordingly. Excessive nitrogen from reclaimed water, and fertilization activities, can lead to groundwater contamination, algal blooms in surface waters, and potential impacts on plant health due to nutrient imbalances.

The proposed permit establishes a limit of 10 mg/L for total nitrogen for the downgradient monitoring wells.

### **Anti-backsliding**

To prevent backsliding, effluent limitations in reissued permits are required to be as stringent as those in the previous permit.

### **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 Code of Federal Regulations (CFR) § 131.12. The objective of the Division's antidegradation regulation is to prevent degradation of Nevada's surface waters and maintain the unique attributes and special characteristics and water quality associated with high-quality waters.

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

### **Special Conditions**

Because CCWRP does not denitrify, it is important to ensure that the available nitrogen in the effluent is used by the crops, and does not percolate into groundwater. Therefore, a nitrogen balance is required.

See the Special Approvals/Conditions Table as specified below:

SA – Special Approvals / Conditions Table

Item #	Description
1	The total nitrogen applied (pounds per acre per year) shall not be greater than the maximum yearly nitrogen application defined in the RWMP. If the Permittee determines that the calculated nitrogen application rate has been exceeded in any one year, the Permittee shall prepare a report which includes an evaluation of the application rates in the RWMP, an explanation of conditions which led to the exceedance, and any planned changes the Permittee deems necessary. The evaluation shall be submitted with the fourth quarter DMRs.

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

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

**Corrective Action Sites**

There are no active Bureau of Corrective Actions remediation sites located within a one-mile radius of the discharge location.

**Wellhead Protection Program**

There is a Public Water Supply (PWS) well located approximately 460-feet to the southwest and southwest of the outfall placing the wells in a Drinking Water Protection Area, which is defined by a 3,000-foot radius around a PWS well. The outfall is located in a Wellhead Protection Area (WHPA), which represents an approximate 10-year capture zone of a well. The well northwest of Outfall 001 is drilled within an unconfined aquifer at a depth of 415 feet, has a static water level of 34 feet and a seal depth of 169. The well is at minimal risk based on the well depth, direction and chemical history.

**Schedule of Compliance:**

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two (2) copies (one hard copy and one electronic copy) of a Reclaimed Water Management Plan (RWMP) to the Division for review and approval. The RWMP shall follow guidance document WTS1B: General Design Criteria for Preparing a Reclaimed Water Management Plan.	7/1/2025



**Deliverable Schedule:**

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

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly Report	Quarterly	4/28/2025
2	Annual Report	Annually	1/28/2026

**Procedures for Public Comment:**

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to groundwater of the State of Nevada subject to the conditions contained within the permit, is being mailed to interested persons on our mailing list and will be posted on our website at <https://ndep.nv.gov/posts>. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. **3/22/2025**, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

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

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

**Proposed Determination:**

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

Prepared by: **Melissa Hanson**

Date: **2/12/2025**

Title: **Staff II Engineer**