NEVADA DIVISION OF
ENVIRONMENTAL
PROTECTION

A division of the
Nevada Department of Conservation & Natural Resources

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FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: CITY OF ELKO

1751 COLLEGE AVE
ELKO, NV 89801

Permit Number: NS0099006

Permit Type: GROUNDWATER DISCHARGE

Designation: GROUNDWATER

New/Existing: EXISTING

Location: BRUCE MILLER RANCH, ELKO
2 MILES W. OF ELKO ON BULLION ROAD, ELKO, NV 89801
LATITUDE: 40.797222, LONGITUDE: -115.819722
TOWNSHIP: 34 N, RANGE: 55 E, SECTION: 20

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	FIELDS 1 & 2	Land Application Site		40.797222	-115.819722	GROUNDWATER
002	UPGRADIENT MONITORING WELL A	Monitoring Well		40.786840	-115.823955	GROUNDWATER
003	DOWNGRADIENT MONITORING WELL B	Monitoring Well		40.784522	-115.834418	GROUNDWATER
004	DOWNGRADIENT MONITORING WELL C	Monitoring Well		40.787401	-115.831276	GROUNDWATER

Permit History/Description of Proposed Action

The Permittee, the City of Elko, located two (2) miles west of Elko on Bullion Road, has applied for a permit renewal of their reclaimed water reuse permit NS0099006, for the use of treated effluent for spray irrigation of 295 acres at the Bruce Miller Ranch, with Category B reclaimed water annually. The reclaimed water is denitrified and tertiary treated to conform to reuse Category B bacteriological quality pursuant to Nevada Administrative Code (NAC) 445A.276. The reclaimed water is supplied by the City of Elko Water Reclamation Facility (CEWRF) under permit NS0020014.

This permit was first issued on September 1, 1999. The most recent permit was issued on August 1, 2018, and expired on July 31, 2023; the permit has been administratively continued since.

Facility Overview

The Bruce Miller Ranch (Ranch) irrigates 295 acres of alfalfa and hay fields with a wheel-line spray application system with Category B reclaimed water provided by the CEWRF. There is a total of six wheel-lines, designed by the U.S. Department of Agriculture, which allow for a maximum volume of 1.5 million gallons per day (MGD). The Ranch is not expected to exceed 1.3 MGD during the peak months of irrigation, based on past usage. Reuse flow to the Ranch is conveyed via a 16-inch diameter pressure main from the CEWRF or from off-site effluent storage ponds. The 10-inch lines to the Ranch are connected to the 16-

inch main and are controlled by two gate valves on the pipeline connected to the pressure gauge and flow meter.

Groundwater is monitored by three (3) groundwater monitoring wells located on the Ranch reuse site. The wells are positioned so that two (2) wells are located on the west end (downgradient) of the field, and one (1) is located on the east end (upgradient). A 100-foot buffer zone is maintained around the reuse site as a requirement of the NAC 445A.275 through NAC 445A.278.

The last Reclaimed Water Management Plan (RWMP) was last reviewed and approved on June 21, 2023. The Technical, Compliance, and Enforcement Branch of the Bureau of Water Pollution Control requires O&M Manuals to be updated every ten (10) years and being due on June 21, 2033.

Outfall Summary
Outfall 001: Fields 1 & 2 (Land Application Site): This outfall is for land application of the reclaim water from the CEWR.

Outfall 002: Upgradient Monitoring Well A, this outfall is for monitoring groundwater quality and is located upgradient of the land application site of the reclaimed water.

Outfall 003: Downgradient Monitoring Well B, this outfall is for monitoring groundwater quality and is located downgradient of the land application site of the reclaimed water.

Outfall 004: Downgradient Monitoring Well C, this outfall is for monitoring groundwater quality and is located downgradient of the land application site of the reclaimed water.

Effluent Characterization
The effluent treatment is conducted off-site at the CEWRF, delivering Category B bacteriological quality (NAC 445A.276) reclaimed water to Bruce Miller Ranch. Being Category B, the reclaimed water should meet, at a minimum, a daily maximum fecal coliform concentration of 23 Colony-Forming Units per milliliter (CFU/mL), and a 30-day geometric mean of 2.2 CFU/mL. There will be no treatment of the effluent on site. The Permittee is authorized to discharge a maximum of 3 million gallons per day.

The averages for the reported values for 2020-2026 are listed below:

Outfall 001 FIELDS 1 & 2:
Biological Oxygen Demand (BOD5) Monthly Average: 2.26 mg/L
BOD5 Monthly Maximum: 4.19 mg/L
Fecal Coliform 30-Day Geometric Mean: 1.04 cfu/mL
Fecal Coliform Daily Maximum: 4.35 cfu/mL
Flow rate 30-Day Average: 1.71 cfu/mL
Flow Rate Daily Maximum: 2.70 MGD
Flow Rate Total: 136.83 MGD
Average pH: 7.8 Standard Units (S.U.)
Total Dissolved Solids (TDS) Daily Maximum: 656.25 mg/L
Total Suspended Solids (TSS) Monthly Average: 2.44 mg/L
TSS Monthly Maximum: 4.55 mg/L
Nitrogen Cumulative Total: 221.39 pounds per year (lb/yr)

Outfall 002 Upgradient Monitoring Well A:
Chloride: 27.75 mg/L
Water level below land surface: 16.85 feet
Nitrogen: 0.75 mg/L
TDS: 306.25 mg/L
Water level AMSL: 5,039.09 feet

Outfall 003 Downgradient Monitoring Well B:

Chloride: 207.65 mg/L
Water level below land surface: 17.38 feet
Nitrogen: 2.25 mg/L
TDS: 882.40 mg/L
Water level AMSL: 5,036.80 feet

Outfall 004 Downgradient Monitoring Well C:
Chloride: 222.35 mg/L
Water level below land surface: 7.31 feet
Nitrogen: 1.72 mg/L
TDS: 917.09 mg/L
Water level AMSL: 5,028.35 feet

Pollutants of Concern
Pollutants of concern are any pollutants or parameters that are believed to be present in the discharge and could affect the physical, chemical, or biological condition of the receiving water. Common pollutants of concern for reclaimed water are fecal coliform, total dissolved solids, total nitrogen, and chloride.

Receiving Water
The water used for irrigation is discharged to groundwater of the State. The receiving water is monitored by three (3) monitoring wells. Discharge is not expected to impact the receiving water. The fields are not scheduled to receive reclaimed water coinciding with the typical seasonal flooding months (between November and March). The reuse of reclaimed water at the permitted fields is limited to April through October.

Compliance History
The Permittee is currently in compliance with the permit.

Proposed Effluent Limitations
The discharge shall be limited, sampled, and monitored by the Permitted as specified below:

Groundwater Monitoring Wells Table for Sample Location 002 (Upgradient Monitoring Well A) 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	002	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	002	Quarterly	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	002	Quarterly	CALCTD
Water level relative to mean sea level[1]	Daily Maximum	M&R Feet (ft)		Groundwater	002	Quarterly	CALCTD
Depth to water level ft below landsurface[2]	Daily Minimum	M&R Feet (ft)		Groundwater	002	Quarterly	VISUAL[3]

Notes (Groundwater Monitoring Wells Table):

1. Groundwater elevation (feet above mean sea level (AMSL)).
2. Depth to Groundwater (feet).
3. Field measurement.

Groundwater Monitoring Wells Table for Sample Location 003 (Downgradient Monitoring Well B) 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	003	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	003	Quarterly	DISCRT
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	003	Quarterly	CALCTD
Water level relative to mean sea level[1]	Daily Maximum	M&R Feet (ft)		Groundwater	003	Quarterly	CALCTD
Depth to water level ft below landsurface[2]	Daily Minimum	M&R Feet (ft)		Groundwater	003	Quarterly	VISUAL[3]

Notes (Groundwater Monitoring Wells Table):

1. Groundwater elevation (feet above mean sea level (AMSL)).
2. Depth to Groundwater (feet).
3. Field measurement.

Groundwater Monitoring Wells Table for Sample Location 004 (Downgradient Monitoring Well C) 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	004	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	004	Quarterly	DISCRT
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	004	Quarterly	CALCTD
Water level relative to mean sea level[1]	Daily Maximum	M&R Feet (ft)		Groundwater	004	Quarterly	CALCTD
Depth to water level ft below landsurface[2]	Daily Minimum	M&R Feet (ft)		Groundwater	004	Quarterly	VISUAL[3]

Notes (Groundwater Monitoring Wells Table):

1. Groundwater elevation (feet above mean sea level (AMSL)).
2. Depth to Groundwater (feet).
3. Field measurement.

Re-use Discharge Limitations Table for Sample Location 001 (Land Application Site) To Be Reported Monthly[2]

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow rate	Daily Maximum	<= 3.0 Million Gallons per Day (Mgal/d)		Prior to Reuse	001	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Prior to Reuse	001	Continuous	METER
Coliform, fecal general	Daily Maximum		<= 23 Most Probable Number per 100ml (MPN/100mL)[1]	Prior to Reuse	001	Weekly	DISCRT
Coliform, fecal general	30 Day Geometric Mean		<= 2.2 Most Probable Number per 100ml (MPN/100mL)[1]	Prior to Reuse	001	Weekly	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Prior to Reuse	001	Monthly	CALCTD

Notes (Re-use Discharge Limitations Table):

1. CFU/100 mL or MPN/100 mL
2. The Permittee may choose to report the water quality data for the reclaimed water being re-used as obtained from the City of Elko Water Reclamation Facility, to satisfy the monitoring requirements per this Re-Use Discharge Limitations Table.

NS OTHER - 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**
Nitrogen, total	Annual Total	<= 400 Pounds per Year (lb/yr)		Beneficial Reuse	001	Annual	CALCTD
Flow, total [1]	Cumulative Total[2]	<= 416.99 Million Gallons (Mgal)		Beneficial Reuse	001	Annual	TOTALZ
Nitrogen, total[4]	Annual Mass Loading	M&R Pounds per Year (lb/yr)[3]		Beneficial Reuse	001	Annual	CALCTD

Notes (NS OTHER - Discharge Limitations Table):

1. Cumulative total flow limit during the annual reporting period, may be revised as a minor modification to the permit, to be consistent with the Permittee submitted RWMP, upon approval.
2. Cumulative total Nitrogen limit shall be revised via minor modification and be consistent with the Permittee submitted RWMP, upon approval.
3. To be reported as pounds per acre per year (lbs/acre/year), refer to Page 20 of 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 percentage of nitrogen uptake. 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
Changes to the reporting for Outfall 001 are as follows:

Modification: Parameter “Nitrogen Total” the Base was changed to “Annual Total”

“pH Minimum” the Base was removed

“pH Maximum” the Base was removed

“Nitrogen Total” the Base was changed to “Daily Maximum”

“Nitrogen Total” Base “Monthly Average” was Removed

“Solids, total suspended” Base “Monthly Maximum” was Removed

"Solids, total suspended” Base “Monthly Average” was Removed

“BOD, 5-Day” Base “Monthly Maximum” was Removed

"BOD, 5-Day” Base “Monthly Average” was Removed

Footnotes: 1 and 2 removed from permit.

Added new Parameter “Nitrogen Total” with a Base “Annual Mass Loading” Quantity “M&R” Quantity Unit “Pounds per Year (lb/yr)” Monitoring Location “Beneficial Reuse” Sample Location “001” Measurement Frequency “Annual” Sample Type “CALCTD”

Footnotes: 3 and 4 added to new parameter.

ADDED - Footnote 3: To be reported as pounds per acre per year (lbs/acre/year), refer to Page 20 of WTS-1B: General Criteria for Preparing a Reclaimed Water Plan.

ADDED - Footnote 4: Report the percentage of nitrogen uptake. Refer to Technical Sheets WTS-1B: General Criteria for Preparing a Reclaimed Water Management Plan and WTS-1C Nutrient Management for Reuse & Biosolids Sites was removed.

Management Plan. This formula is below:

Effluent N Applied = (MGD Applied x Effluent N Conc. (mg/L) x 8.34 x #days/mo.) ÷ # Acres

Changes to the reporting for Outfall 002 Monitoring Well A are as follows:

Modification: Parameter “Chloride (as Cl)” the Base was changed to “Daily Maximum”

“Solid, total dissolved” the Base was changed to “Daily Maximum”

“Nitrogen Total” the Base was changed to “Daily Maximum”

“Water level relative to mean sea level” the Base was changed to “Daily Maximum”

“Depth to water level ft below landsurface” the Base was changed to “Daily Minimum”, and Sample Type changed to “Visual”

Changes to the reporting for Outfall 003 Monitoring Well B are as follows:

Modification: Parameter “Chloride (as Cl)” the Base was changed to “Daily Maximum”

“Solid, total dissolved” the Base was changed to “Daily Maximum”

“Nitrogen Total” the Base was changed to “Daily Maximum”

“Water level relative to mean sea level” the Base was changed to “Daily Maximum”

“Depth to water level ft below landsurface” the Base was changed to “Daily Minimum”, and Sample Type was changed to “Visual”

Changes to the reporting for Outfall 004 Monitoring Well C are as follows:

Modification: Parameter “Chloride (as Cl)” the Base was changed to “Daily Maximum”

“Solid, total dissolved” the Base was changed to “Daily Maximum”

“Nitrogen Total” the Base was changed to “Daily Maximum”

“Water level relative to mean sea level” the Base was changed to “Daily Maximum”

“Depth to water level ft below landsurface” the Base was changed to “Daily Minimum”, and Sample Type was changed to “Visual”

Technology Based Effluent Limitations
Technology-base effluent limitations are not applicable on 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 limitations are not applicable to this permit.

Basis for Effluent Limitations
The flow is limited to 3 MGD at the request of the Permittee and per the contract with CEWRF. The limit is set to 3 MGD in the event that they permittee need to irrigate the fields with only reclaimed water.

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

Limits on the total nitrogen discharge is to regulate and monitor the amount of nitrogen potentially entering the groundwater supply.

Monitoring Wells aid in the early detection of contaminates entering the groundwater, satisfying local and federal requirements to ensure safety standards.

TDS represents the total concentration of dissolved substances in the water. High TDS can degrade agricultural soil, impact public water systems, and indicate agricultural runoff or excessive use of water softeners.

Anti-backsliding
None of the proposed permit limits were changed to a less restrictive limit compared to those in the previous permit.

Removing the requirement to monitor and report pH, Total Suspended Solids, and BOD 5-Day under Outfall 001 is not less restrictive, as these parameters are controlled by the CEWRF and continue to be monitored and reported there.

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.

Special Conditions
For Special Conditions see table below:

SA – Special Approvals / Conditions Table

Item #	Description
1	The use of reclaimed water at the permitted place of use is limited to April through October.
2	The Permittee shall not commence the land application of the reclaimed water, post any flood event, until after the fields are sufficiently dry. Duly following the Reclaimed Water Management Plan (RWMP) to eliminate the potential for the reclaimed water reaching the Humboldt River.
3	Sampling of the Monitoring Wells A, B, and C (Outfalls 002, 003, & 004) following the requirements per the Tables for sample locations 002, 003, & 004 to be reported quarterly, shall be done one time each during the months of April, July, and October for the sampling at the beginning of each quarter.

Discharges From Future Outfalls/ Planned Facility Changes
The Permittee does not anticipate changes to the outfalls or to the facilities.

Corrective Action Sites
There are no active Bureau of Corrective Actions sites located within a one mile radius of the Bruce Miller Ranch.

Wellhead Protection Program
The outfalls are not located within a Wellhead Protection Area, which represents an approximate 10-year capture zone of a well, or within a Drinking Water Protection Area, which is defined by a 3,000-foot radius around a public water system (PWS) well.

Schedule of Compliance:

SOC – Schedule of Compliance Table

There are no Schedule of Compliance items

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
1	Monthly DMRs	Quarterly	4/28/2027
2	Quarterly DMRs	Quarterly	4/28/2027
3	Annual Report	Annually	1/28/2028

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. **12/9/2026,** 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: **Jason Reichelt**
Date: **5/18/2026**
Title: **Environmental Scientist 3**