



# STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

Colleen Cripps, Ph.D., Administrator

## FACT SHEET

(pursuant to NAC 445A.236)

**Permittee Name:** University of Nevada, Reno  
Nevada Agricultural Experiment Station  
1664 N. Virginia Street, MS 0221  
Reno, Nevada 89557

**Permit Number:** NEV92012

**Location:** Nevada Agricultural Experiment Station (NAES)  
(Main Station Field Lab)  
5901 Clean Water Way  
Reno, Washoe County, Nevada 89502  
Township 19N; Range 20E; Sections 14, 15 & 22

Outfall 001: Re-use Fields  
Latitude: 39° 30' 46" N, Longitude: 119° 44' 31" W  
(Latitude/Longitude at Front Door - Wolf Pack Meats)

Outfall 002: Truck Fill Station  
Latitude: 39° 30' 19" N, Longitude: 119° 43' 29" W

**General:** The Permittee (NAES) operates an agricultural experiment station on a property of approximately 1,100 acres. At present, approximately 800 acres are planted with forage and pasture crops such as alfalfa, pasture grasses, and triticale, and irrigated with reclaimed water from the Truckee Meadows Water Reclamation Facility (TMWRF, Permit #NEV2003506). The station is bounded by the Truckee River on the north, McCarran Blvd. on the west, and Pembroke Drive on the south. The property terminates on the east at TMWRF. The effluent from TMWRF is tertiary-treated, denitrified and disinfected. The irrigation season is from April 15<sup>th</sup> through October 15<sup>th</sup> of each year. The Permittee has re-applied for a 30-day average irrigation flow of 10 million gallons per day (MGD) and a total annual application volume of 3,145 acre-feet per year. The Permittee also uses the reclaimed water for dust control at a truck fill station located on the NAES site. TMWRF effluent meets Category "B" effluent standards specified in NAC 445A.276. Category "B" effluent reuse requires no minimum buffer zone and is treated effluent suitable for use on parks, greenbelts, and playgrounds. The irrigated fields are fenced and posted at points of public access.

**Receiving Water Characteristics:** The depth of groundwater at this site ranges from 3 to 16 feet below ground surface. The groundwater depth varies seasonally according to the ambient climate and amount of irrigation water that has been applied over the course of the growing season. Presently, the facility monitors and reports on 16 monitoring wells on a quarterly basis for total dissolved solids (TDS), chlorides, nitrate as nitrogen, total nitrogen, and depth to groundwater. During the period October 2010 to present, the average values for all monitoring wells were as follows: TDS - 827 mg/L, Total Nitrogen - 2.46 mg/L, and Chloride - 143 mg/L. The only exceedance of permit limitations during this period occurred in well MW-15a, when the total nitrogen levels exceeded the 10 mg/L limit for three quarters in a row. Following a recent Nevada Division of Environmental Protection (NDEP) inspection, the operator investigated well MW-15a and found that the well cap had been removed. Since replacing the cap, the total nitrogen levels have stayed below the permit limits.

**Effluent Flow and Characteristics:** NAES is limited to both a 30-day average and daily maximum effluent flow of 10 MGD. The permit requires the reuse water quantity to be monitored and reported quarterly. The annual application volume is limited to a maximum of 3,145 acre-feet/year. Continuous flow monitoring is provided at the TMWRF effluent pumping station.

**Bureau of Corrective Actions Sites:** According to the Bureau of Corrective Actions (BCA) Project Tracking Database, there are two BCA remediation sites located within a one-mile radius of the proposed facility; however, the BCA stated that these sites have been closed with “no further action” pending.

**Well Head and Drinking Water Supply Protection:** The facility is within 3000 feet of four public supply wells (PWS). Wells W01, W02, and W03 for PWS NV0000198 and W01 PWS NV0000896 are all ranked as moderately vulnerable to volatile organic compounds (VOCs), synthetic organic compounds (SOCs) and pathogens. The facility is just outside of the established Wellhead Protection Area. Due to the Category B effluent and zero-distance buffer zone, NDEP doesn't anticipate that reuse will affect these public supply wells.

**Groundwater Monitoring Plan:** Sixteen monitoring wells are sampled quarterly on the NAES facility. All the monitoring wells have been constructed with two inch diameter slotted-PVC casing and installed to a maximum depth of approximately 30 feet. The majority of these wells are located on both the southern and northern borders of the NAES property.

**Proposed Effluent Limitations and Special Conditions:** NDEP proposes the following permit limitations and monitoring requirements:

**Table 1 - Effluent Reuse Limitations**

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	30-Day Average	Daily Maximum	Measurement Frequency	Reporting Frequency	Sample Type
Monthly Effluent Irrigation, MGD	10.0	10.0	Continuous	Quarterly	TMWRF Effluent Station Flowmeter
Annual Application Volume, AF/year	3,145		Cumulative	Annually	TMWRF Effluent Station Flowmeter
Truck Fill Station Flow, MGD	Monitor and Report		Each Fill	Quarterly	Field Estimate
Fecal Coliform, CFU or MPN/100 mL	2.2	23	Daily	Quarterly	TMWRF Discrete
Total Nitrogen-N, pounds/acre	Calculate & report annual agriculture nitrogen application rate in 4 <sup>th</sup> quarter DMR. Total Nitrogen-N applied shall not be greater than the agronomic uptake rate for each type of crop that is planted.		Annually	Annually	Calculation (Mass Balance)

MGD: Million gallons per day  
 AF/year: Acre-feet per year  
 mg/L: Milligrams per liter

CFU: Colony forming units  
 MPN: Most probable number

**Table 2 - Groundwater Monitoring**

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
TDS, mg/L	Monitor & Report		Quarterly	Discrete
Chlorides, mg/L	Monitor & Report		Quarterly	Discrete
Nitrate as N, mg/L	Monitor & Report		Quarterly	Discrete
Total Nitrogen-N, mg/L	10.0		Quarterly	Discrete
Depth to Groundwater, feet	Monitor & Report		Quarterly	Field Measurement

### **Rationale for Permit Requirements:**

**Flow:** Flow is limited by the volume of treated effluent requested for application, and as long as the nitrogen budgets presented in the approved Effluent Management Plan (EMP) are observed and annually balanced, the flow rate or volume of water requested can be authorized. The annual application volume is required to be recorded and reported because it is a variable that is used to calculate the total mass of nitrogen applied to the experimental fields and is used to reconcile the annual nitrogen balance.

**Total Nitrogen:** The State groundwater limit (drinking water standard) for total nitrogen in groundwater is 10.0 mg/L. Groundwater monitoring is considered necessary to ensure that excessive nitrogen loading from inputs of effluent, crop fertilization, and livestock manure are not applied in excess of plant nitrogen uptake requirements.

**Fecal Coliform:** The concentration of fecal coliform in treated wastewater discharged for irrigation is restricted in accordance with NAC 445A.276 for a zero-distance buffer zone.

**TDS and Chlorides:** These parameters are monitored to ensure that the groundwater of the State is not degraded.

**Schedule of Compliance:** The permittee shall submit the following items to the Division for review and approval:

- a. **By Month Day, 2012 (30 days),** the Permittee shall submit Cross-Connection control documentation. The documentation should include the annual cross-connection control required by the permit. This documentation shall be submitted annually thereafter, due with the 4<sup>th</sup> Quarter Report. The cross connection control inspection shall be conducted by an AWWA Certified Cross Connection Control Specialist.
- b. **By Month Day, 2012 (90 days),** the Permittee shall submit two copies of an updated Effluent Management Plan (EMP), using form WTS-1B as a guide. The updated EMP must be stamped and signed by a Professional Engineer registered with the state of Nevada. If no changes have been made to the EMP since the last submittal, a letter shall be submitted stating so.
- c. **By Month Day, 2012 (90 days),** the Permittee shall submit a revised Groundwater Monitoring Plan (GMP), which will address the network of groundwater monitoring wells at the NAES site. If no changes have been

made to the GMP since the last submittal, a letter shall be submitted stating so.

**Procedures for Public Comment:** The Notice of the Division's intent to renew the NAES effluent reuse permit subject to the conditions contained within is being sent to the **Reno Gazette-Journal** 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 for a period of thirty (30) days following the date of the public notice. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all written comments are to be postmarked (via mail) or transmitted to the Division via fax or e-mail is **April 23, 2012 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator 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 determines 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 renew the proposed permit for a period of five (5) years.

Prepared by: Jason Ferrin, E.I.  
Bureau of Water Pollution Control  
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