

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

Factsheet - Pursuant to NAC 445A.236

PERMITTEE NAME: University of Nevada, Las Vegas – Sam Boyd Stadium

PERMIT NUMBER: NEV2010500

LOCATION: Sam Boyd Stadium - Star Nursery Field
7000 East Russell Road
Las Vegas, Clark County, Nevada 89122

Longitude: 115° 01' 01"W.; Latitude: 36° 05' 14"N.
Township 21 S., Range 62 E. & Section 26 MDB&M

FLOW: Annual Usage: 224 acre-feet per year.
Daily Maximum: 0.200 MGD

PUBLIC WATER SUPPLY: There are no public supply wells within one (1) mile of this site. This site is not within a well protection zone.

BUREAU OF CORRECTIVE ACTIONS: There are no Bureau of Corrective Actions remediation sites within one (1) mile of this proposed facility.

GENERAL:

The **University of Nevada, Las Vegas - Sam Boyd Stadium** is requesting authorization to irrigate its **Star Nursery Field** with **Reuse “Category C”** reclaimed water as defined by NAC 445A.2766. This facility is a park that is currently irrigated with potable water. If authorized by the Division; **Star Nursery Field** would be irrigated with reclaimed water supplied by the Clark County Water Reclamation District (**CCWRD - Permit NV0021261**) and supplemented with groundwater from several sources.

This facility and its common areas cover approximately **15 acres**; irrigation is via spray and drip. Annual reclaimed water usage for the property is estimated to be **224 acre-feet per year – 200,000 gallons per day (gpd)**. Reclaimed water must be applied within a NDEP approved effluent management plan (EMP); irrigation is seasonal. **All “Reuse Category C: Approved Uses” conditions listed in NAC 445A.2766 must be met.**

RECEIVING WATER CHARACTERISTICS:

Groundwater in the area is approximately 10'- 15' below ground surface and is of poor quality. No adverse effects are expected to occur as a result of this effluent reuse operation. Groundwater monitoring is not required. There are no public supply wells within one (1) mile of this site. This site is not within a well protection area.

DISCHARGE CHARACTERISTICS:

Reclaimed water used to irrigate the **University of Nevada, Las Vegas - Star Nursery Field** meets “**Category C**” quality standards per NAC 445A.275. “**Category C**” standards include effluent limitations of 23 CFU MPN/100ml for fecal coliform (maximum - 240 CFU MPN/100ml).

RECLAIMED WATER LIMITS:

During the period beginning on the effective date of this permit and lasting until the permit expires, **University of Nevada, Las Vegas** is authorized to apply “**Category C**” reclaimed water for irrigation of its **Star Nursery Field**. Reclaimed water application must be based on Nitrogen budgets proposed in the approved **Effluent Management Plan (EMP)**. Effluent application limits are listed in **Table 1 Effluent Limitations** below.

Table 1: Effluent Limitations - Clark County Water Reclamation District - NV0021261

PARAMETER	Discharge Limits		Monitoring Requirements	
	30-Day Average	Monthly Maximum	Measurement Frequency	Sample Type
BOD ₅ (mg/L) ¹	30	45	Monthly	Discrete
Total Suspended Solids (mg/L) ¹	30	45	Monthly	Discrete
Total Nitrogen (mg/L) ¹	Monitor & Report	Monitor & Report	Monthly	Discrete
pH (Standard Units) ¹	6.0 to 9.0	6.0 to 9.0	Monthly	Discrete
Fecal Coliform (MPN/100ml) ²	23	240	Monthly	Discrete

CFU: Coliform forming Unit **mg/L:** Milligrams per liter **MGD:** Million gallons per day **MPN:** Most Probable Number
SU: Standard pH Units **BOD:** Biochemical oxygen demand

1. Monitoring may be done by the supplier of the effluent, results must be reported by the Permittee as specified in Table – 2 below.
2. The fecal coliform count must meet minimum standards specified for “**Category C**” in NAC 445A.276.

RATIONALE FOR EFFLUENT DISCHARGE LIMITATIONS:

Irrigation practices have been certified by an engineer licensed in the State of Nevada to effectively operate at this flow rate; this flow is also consistent with the absorption field capacity. The total nitrogen applied (lbs/year) shall not be greater than the maximum yearly nitrogen application defined in the EMP. 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 EMP, an explanation of conditions which led to the exceedance, and any planned changes the Permittee deems necessary. The evaluation shall be submitted with the annual report.

MONITORING:

Application rates and nutrient loading rates must be monitored as established in **Table 2: Monitoring Protocol - Reclaimed Water Application Limits** below.

Table 2: Monitoring Protocol - Reclaimed Water Application Limits

PARAMETER	DISCHARGE LIMITS		MONITORING REQUIREMENTS	
	30-Day Average		Measurement	Sample
Irrigation Flow ¹ (MGD)	0.2		Continuous	Flow Meter
Irrigation Volume ²	224 Acre Feet / Year		Continuous	Calculated
Annual Nitrogen Loading ²	220 pounds/acre/year ⁴		Annually ⁷	Calculated
Annual Nitrogen Use ¹	3,300 pounds per year ⁴		Annually ⁷	Calculated
Clark County Water Reclamation District - NV0021261 - Current Operating Conditions				
PARAMETER	30-Day Average	Monthly Maximum	Measurement Frequency	Sample Type
BOD ₅ (mg/L)	0.2 ⁶	30 ⁵	Monthly	Discrete
Total Suspended Solids (mg/L)	0.16	30 ⁵	Monthly	Discrete
Total Nitrogen (mg/L)	17.2 ⁶	Monitor & Report	Monthly	Discrete
Category C – Reuse Standard Limits				
Fecal Coliform (MPN/100ml) ³	23	240	Monthly	Discrete
Fecal Coliform (MPN/100ml)	2.9 ⁶	-	Monthly	Discrete

CFU: Coliform forming Unit **mg/L:** Milligrams per liter **MGD:** Million gallons per day **MPN:** Most Probable Number
SU: Standard pH Units **BOD:** Biochemical oxygen demand

1. Approved application rates - EMP should be used as a guide.
2. Annual Application Volume is based upon 110% of the application volume determined in the EMP.
3. The fecal coliform count must meet minimum standards specified for “**Category C**” in NAC 445A.276.
4. Total nitrogen applied (lbs/acre) shall not be greater than the total nitrogen crop uptake (lbs/acre).
5. Permit limits - NV0021261.
6. Permit NV0021261 – average reported values.
7. Due January 28th each year of the permit cycle.

OPERATION REQUIREMENTS:

The Permittee shall operate the facility in compliance with permit provisions and requirements and in accordance with the approved **Effluent Management Plan (EMP)**.

- a. The EMP shall contain the information required to comply with this permit. It is recommended that the Permittee utilize “**WTS-1B**”: General Criteria for Preparing an Effluent Management Plan, as a guidance to prepare the **EMP**.
- b. The Permittee shall calculate the **Consumptive Use Balance** for each month based upon parameters listed in Appendix One of WTS-1B. The evaluation of the rates shall be included in the **EMP**.
- c. The annual application volume limit and monthly maximum limit shall be determined from this balance.
- d. If the actual annual application volume or monthly maximum volume exceeds the calculated

annual application limit or monthly maximum limit, the Permittee shall prepare a report which includes an evaluation of the application rates in the **EMP**, an explanation of conditions (overseeding, reseeding, extraordinary weather conditions, etc.) which lead to the exceedance, and any planned changes the Permittee deems necessary. This evaluation shall be submitted with the annual report as defined in **Section I.B.9** of the permit.

- e. **All EMP Revisions** shall be signed and stamped by a Nevada Registered Professional Engineer; a signed and stamped copy must be submitted to NDEP, Bureau of Water Pollution Control (BWPC), at the address listed below within 60 days of proposed revision for review and approval, if any changes in the effluent delivery system or management system (pumps, valves, filters, effluent lines) have occurred.
- f. **Minor revisions/updates** may be submitted by the facility's Superintendent or the Engineer Agent for **University of Nevada, Las Vegas** to the Division.
- g. The Permittee shall not apply effluent prior to having an approved **EMP** per NAC 445A.275, unless authorized otherwise by the Division.
- h. **Monitoring may be done by the supplier of the effluent; results must be reported by the Permittee.**

SCHEDULE OF COMPLIANCE:

The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance.

- a. The Permittee shall achieve and/or maintain compliance with all effluent limitations upon issuance of the permit;
- b. The Permittee shall submit to NDEP a cross-connection control documentation/certification related to the change from potable to reclaimed water irrigation within **30 Days** of its implementation.
- c. **By December 30th, 2010**, the Permittee shall submit to NDEP an updated Operations & Maintenance manual (**O & M**) for this facility.

PROPOSED DETERMINATION:

The Division has made the tentative determination to issue the proposed permit, under the provisions prescribed, for a 5-year period. Under NAC 445A.232, this permit is classified as a Discharge of Treated Effluent for Irrigation - 50,000 gallons or more but less than 250,000 gallons daily.

PROCEDURES FOR PUBLIC COMMENT:

The Notice of the Division's intent to issue a groundwater discharge permit to the applicant, subject to the conditions contained within the permit is being sent to the **Las Vegas Review 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 publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **October 30th, 2010 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.

The application and proposed permit on file and may be copied or copies may be obtained by writing or by calling **Alexi Lanza, P.E.**, Bureau of Water Pollution Control at **(775)687-9468**; fax: **(775)687-4684**; or email: alanza@ndep.nv.gov. This notice and the fact sheet can be viewed at <http://ndep.nv.gov/admin/public.htm>

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Nevada Division of Environmental Protection
Bureau of Water Pollution Control – Permits Branch