



FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: LAS VEGAS VALLEY WATER DISTRICT
1001 S. VALLEY VIEW BLVD
LAS VEGAS, NV - 89153

Permit Number: NS2003507

Location: SPRINGS PRESERVE WASTEWATER TREATMENT SYSTEM, CLARK
391 S. VALLEY VIEW BLVD, LAS VEGAS, NV - 89153
LATITUDE: 36.166583, LONGITUDE: -115.19254770
TOWNSHIP: T20S, RANGE: R61E, SECTION: S31

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	Internal Outfall		LAS VEGAS	NV	89153	CLARK	36.168781	-115.189616	GROUNDWATER
002	EFFLUENT	External Outfall		LAS VEGAS	NV	89153	CLARK	36.168005	-115.188550	GROUNDWATER

General:

The Permittee operates a wastewater treatment plant at the Las Vegas Springs Preserve. The Preserve facilities include a state museum, cultural center, riparian wetlands, demonstration gardens, and the Desert Living Center (DLC). The Permittee has submitted a discharge permit renewal application, which proposes to treat domestic wastewater on-site and use the treated effluent for flushing restroom toilets and urinals. Nevada Division of Environmental Protection, Bureau of Water Pollution Control regulations do not address effluent reuse in plumbing fixtures; this issue is left to the authority of the local building department. Therefore, under the terms of this discharge permit, the Division only authorizes the treatment of domestic wastewater.

Wastewater is generated in the restrooms located in the DLC. The facility is designed to treat up to 8,500 gallons per day. Wastewater from the DLC will be pumped via lift station for primary treatment in a 15,000-gallon double-walled fiberglass settling tank. The primary effluent from the settling tank will then be combined in a 4,000-gallon equalization tank, which functions as a dosing tank for the constructed wetland cells. The wetland consists of two vegetated treatment cells, each measuring 2,500 sq. ft. in area. The wetland treatment cells allow for flow re-circulation and have a 45-mil synthetic liner.

In addition to biochemical oxygen demand (BOD5) and total suspended solid (TSS) removal, the wetland cells denitrify the effluent to below 10 mg/L of total nitrogen as nitrogen. The wetland cells effluent is then further treated and filtered in a 1,680 sq. ft. re-circulating sand filter. The effluent is then disinfected by Calcium Hypochlorite. The tertiary treated effluent is discharged to a 2,000-gallon concrete storage tank for restroom flushing needs.

Discharge Characteristics:

The facility's tertiary treated discharge exceeded permit limits on three occasions during the previous permit term. The daily maximum and 30-day average Fecal Coliform limits were exceeded once in October 2012 and once in August 2014. The 30-day average Fecal Coliform limit was exceeded in February 2013, though the daily maximum was not exceeded on that occasion.

Receiving Water:

The Las Vegas Springs Preserve is underlain by an unconfined shallow aquifer and a confined principal aquifer. On-site data indicates that the depth to groundwater in the shallow aquifer is 17 ft. bgs and that the groundwater flows east. The shallow aquifer is presently considered non-potable due to parameters such as high Total Dissolved Solids.

Summary of Changes From Previous Permit:

Influent monitoring for BOD and TSS has been removed from the permit, though effluent monitoring for those parameters remains. Monthly average limits for effluent parameters have been removed; however, daily maximum limits remain. Due to a new permit naming convention at NDEP, Bureau of Water Pollution Control, the permit identification has been changed from NEV2003507 to NS2003507. This change does not reflect a change in the type of permit being issued.

Proposed Effluent Limitations:

The proposed effluent limitations are found in the tables below.

WWTP Discharge Limitations Table for Sample Location 001 (Internal Outfall) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	<= 0.0085 Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER

WWTP Discharge Limitations Table for Sample Location 002 (External Outfall) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
pH, maximum	Monthly Maximum		<= 9.0 Standard Units (SU)	Effluent Gross	002	Monthly	DISCRT
pH, minimum	Monthly Minimum		>= 6.0 Standard Units (SU)	Effluent Gross	002	Monthly	DISCRT
Coliform, total general	Daily Maximum		<= 23 Colony Forming Units per 100ml T (CFU/100mL)	Effluent Gross	002	Monthly	DISCRT
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	DISCRT
Solids, total suspended	Daily Maximum		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	DISCRT
BOD, carbonaceous, 05 day, 20 C	Daily Maximum		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	DISCRT

Rationale for Permit Requirements:

The Division has established monitoring requirements to protect human health and the environment.

BOD5 & TSS: Secondary treatment standards limit BOD5 and TSS to a daily maximum of 45 mg/L.

Total Nitrogen: The design specifications indicate that the treatment process is capable of year-round denitrification to below 10 mg/L of total nitrogen as nitrogen. Nitrification and denitrification are performed in both the wetlands and sand filter treatment processes.

Total Coliform: The Division's applicable total coliform daily maximum standard is specified in NAC 445A.276 and is proposed as the discharge limit in this permit.

pH: The proposed discharge limits for pH meet secondary treatment standards.

Operator Requirements: According to NAC 445A.289, a Certified Grade III Operator is required for supervision of this wastewater treatment plant since tertiary treatment and disinfection are provided.

Special Conditions:

As stated in the permit table below, the Permittee may disregard the requirements of section B.PB.7.2 of the permit. This section details the requirements for a staff gauge in treatment ponds. Because the wastewater at this facility flows beneath the ground surface in the lined wetland cells, a staff gauge cannot be used to determine liquid depth.

SA – Special Approvals / Conditions Table

Item #	Description
1	The Permittee may disregard the requirements of section B.PB.7.2. of this permit.

Flow:

The wastewater treatment facility is designed to treat up to 8,500 gallons per day.

Corrective Action Sites:

There are three corrective actions sites located within one mile of the facility wastewater treatment plant. NDEP does not expect any negative impacts to either the permitted facility or the corrective actions sites as a result of the permitted activity.

Wellhead Protection Program:

The facility is located within several drinking water protection areas. The on-site production wells are screened from 500 to 925 ft. in the principal aquifer and provide municipal supply for customers in the Las Vegas Valley. The effluent is denitrified and disinfected, and no impact to existing groundwater quality is anticipated from this facility.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two copies of an updated Operation and Maintenance (O&M) Manual for review by the Division. The O&M Manual shall be prepared by a Nevada Registered Professional Engineer or other qualified person.	8/1/2015

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly DMRs	Quarterly	7/28/2015
2	Annual Report	Annually	1/28/2016

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 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 until 5:00 P.M. **5/4/2015**, 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: **Peter Lassaline**

Date: **3/26/2015**

Title: **Environmental Scientist**