

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Sun City Summerlin Golf Courses,
9350 Sundial Drive,
Las Vegas, NV 89134

Locations:

Palm Valley:	Longitude: 115° 18' 08"W, Latitude: 36° 12' 15"N Township 20 South, Range 60 East, Section 17
Eagle Crest:	Longitude: 115° 19' 20"W, Latitude: 36° 12' 47"N Township 20 South, Range 59 East, Section 24
Highland Falls:	Longitude: 115° 20' 00"W, Latitude: 36° 12' 30"N Township 20 South, Range 59 East, Section 13

Permit Number: NEV99015

General:

The Palm Valley Golf Course, Eagle Crest Golf Course and Highland Falls Golf Course are contiguous golf facilities in the Sun City Summerlin Master Planned Community. They are all included under NEV99015 because they abut each other and are all owned and operated by the same entity. The three courses receive high quality tertiary-treated, nitrified, and disinfected effluent (recycled water) or a blend of potable water and high quality treated effluent from the Durango Hills Water Resource Center (DHWRC) for irrigation of turf and landscaped areas. The original design and operation of the courses called for the use of potable water. However, ordinances imposed after construction required that the facilities be converted to use effluent. The DHWRC recycled water will be blended with potable water supplied by the Las Vegas Valley Water District (LVVWD) to provide the courses with the volume of water required. The relative percentages of potable and recycled water will vary with the seasonal irrigation demand.

Receiving Water Characteristics:

Groundwater in the vicinity of the courses is estimated to be at 593 feet below land surface. This depth was determined from Las Vegas Valley Water District Well #096, which is located approximately 1.5 miles from the courses. There does not appear to be shallow groundwater below the site. Groundwater flow direction is reported to be generally to the east. Due to the depth to groundwater, monitoring wells at the course will not be required.

The courses were originally designed to be a part of the regional flood control plan and stormwater drainage system for the Master Planned Community. Stormwater runoff is directed to the Cheyenne Channel, which flows to the Las Vegas Wash via various detention basins. Since they were originally designed as stormwater-holding/flow-through systems and operated with potable water, the facilities were not designed to withstand the 100-year storm event. During dry weather periods, these courses are not permitted to discharge irrigation water blend from the site. However, during storm events that produce approximately 1/4 inch of precipitation or more, each course has the potential to discharge co-mingled stormwater and recycled/potable water blend from the storage ponds.

Previous NDEP analysis of the potential to degrade waters of the United States (i.e., the Las Vegas Wash) concluded that the allowance for the three courses to discharge during storm events has a minimal impact on the overall increase in pollutant loading, and that public health and the environment would be protected. NDEP policy (Drozdoiff, 1999) supports the use of treated effluent at these facilities.

Description of the Location of the Discharge:

The Palm Valley facility consists of an 18-hole Course within the Sun City Summerlin community. The clubhouse is located on Del Webb Boulevard, Las Vegas, Clark County, Nevada. This facility has lined eight irrigation reservoirs and/or decorative lakes. All the lakes will be fed by the recycled water supply. There are approximately 136 total irrigated acres.

The Eagle Crest facility consists of an 18-hole Course within the Sun City Summerlin community. The clubhouse is located off of Thomas W. Ryan Boulevard, Las Vegas, Clark County, Nevada. This facility has lined two irrigation reservoirs and/or decorative lakes. All the lakes will be fed by the recycled water supply. There are approximately 104 total irrigated acres.

The Highland Falls facility consists of an 18-hole Course within the Sun City Summerlin community. The clubhouse is located off of Sun City Boulevard, Las Vegas, Clark County, Nevada. This facility has three lined irrigation reservoirs or decorative lakes. All the lakes will be fed by the recycled water supply. There are approximately 157 total irrigated acres.

Flow:

The sum of the 30-day average flows for all three courses is 5.89 MGD, which is the maximum anticipated amount for the hot summer months. The individual Course's flows are 2.29 MGD, 1.38 MGD and 2.22 MGD, for Palm Valley, Eagle Crest, and Highland Falls, respectively.

Proposed Determination

The Division has made the tentative determination to reissue the permit for a period of five (5) years, subject to effluent and monitoring limitations.

Proposed Effluent Limitations:

As noted in the Table below, the DHWRC provides the courses with a high quality recycled water product. The coliform requirement is set at 2.2 cfu or mpn/100 ml Total Coliform, 30-day average. Therefore, in accordance with NAC 445A.277, a buffer zone and control of public access are not required. Some of the following data may be supplied by the Durango Hills Water Resource Center, but must be reported by the Permittee.

<u>PARAMETERS</u>	<u>EFFLUENT DISCHARGE LIMITATIONS</u>	<u>MONITORING REQUIREMENTS</u>
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	<u>EFFLUENT DISCHARGE LIMITATIONS</u>		<u>MONITORING REQUIREMENTS</u>	
	30 Day Average	Daily Maximum	Measurement Frequency	Sample Type
FLOW (MGD)				
Palm Valley GC	2.29 MGD	Monitor & Report	Continuous	Flow meter
Eagle Crest GC	1.38 MGD	Monitor & Report	Continuous	Flow meter
Highland Falls GC	2.22 MGD	Monitor & Report	Continuous	Flow meter
Total Coliform (CFU or MPN/100 ml) ⁽²⁾	2.2	23	Weekly	Discrete
Total Nitrogen as N ⁽¹⁾ (mg/l)	Monitor & Report		Monthly	Calculate
Total Kjeldahl Nitrogen as N (mg/l)	Monitor & Report		Monthly	Composite
Total Oxidized Nitrogen as N (Nitrate + Nitrite) (pounds)	Monitor & Report		Monthly	Composite
Ammonia as N (mg/l)	Monitor & Report		Monthly	Composite
Total Nitrogen Applied (pounds/acre/calendar year)	475 ⁽³⁾		Annually ⁽⁴⁾	Calculate

- (1) Total Nitrogen as N can be reported as the sum of Total Oxidized Nitrogen and Total Kjeldahl Nitrogen
- (2) CFU = Colony Forming Unit, MPN = Most Probable Number
- (3) Bermuda Grass Nitrogen Uptake value used in determining nutrient balance for Sun City Summerlin Golf Courses, as described in "Effluent Management Plan for Highland Falls Golf Course", prepared by Greeley and Hansen, January, 1999.
- (4) To be reported in the 4th quarter DMR.

Schedule of Compliance and Special Conditions:

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

- a. The permittee shall achieve compliance with the effluent limitations upon issuance of the permit;
- b. All compliance deliverables shall be submitted to both of the following addresses for

review and approval:

Mr. Nadir Sous
Nevada Division of Environmental Protection
Las Vegas Office
1771 East Flamingo Road
Suite 121-A
Las Vegas, NV 89119

Ms. Diana Silsby – Compliance Coordinator
Division of Environmental Protection
Bureau of Water Pollution Control
333 West Nye Lane
Carson City, Nevada 89706-0851

- c. **By March 31, 2005**, the Permittee shall provide addenda to the Effluent Management Plans for the three golf courses, adequately addressing all operational and management changes to the Plans since the submission of the original Plans for review and approval. The addenda must be wet stamped by a Professional Engineer registered in the State of Nevada.
- d. **By March 31, 2005**, the Permittee shall provide the Division with the documentation required in I.B.13.

Procedures for Public Comment:

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to the 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 for a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator. **All comments must be received by NDEP by 5:00 pm, January 24, 2005.**

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 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.

Rationale for Permit Requirements

The limitations and monitoring requirements are intended to provide for appropriate reuse of treated effluent, to minimize the possibility of adverse impact to groundwaters of the State, and to alert those persons who might have contact with treated effluent to its presence at the facility.

Prepared by: Janine Hartley
 December 2004