

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Greencopec 1, LLC
 dba Oasis Golf Club
 100 Palmer Lane
 Mesquite, Nevada 89027

Permit Number: NEV96016

Description of Discharge: Treated Effluent Reuse for Irrigation

Location: Oasis Golf Club
 Palmer Course and Canyon Course
 701 Turtleback Road
 Mesquite, Nevada 89027

Sec. 3, 4, 8, 9	Township 13 South	Range 71 East	Mt Diablo Base & Meridian	
FEATURE	LAT (d m s)	LON (d m s)	LAT (decimal °)	LON (decimal °)
Oasis Golf Club (Palmer & Canyon), 701 Turtleback Road	36° 49' 13.764" N	114° 04' 31.476" W	36.820490°	-114.075410°

General: The applicant intends to reuse tertiary treated, denitrified and disinfected reuse water provided by the City of Mesquite Wastewater Reclamation Facility (MWRf) as authorized for end use by permit NEV40011. The reuse water will be applied via spray and drip irrigation on the permittee’s club common area and two 18-hole golf courses, Palmer and Canyon, in accordance with permit conditions and the Division approved Effluent Management Plan (EMP).

The Oasis Golf Club (GC) and residential development is located in the northern city limits of the City of Mesquite. Reclaimed water being supplied by the MWRf to the Conestoga Golf Course [NEV2008510] and Marilyn Redd Park [NEV40011, Outfall 0012] is stored on site at the Oasis GC before being conveyed to the permitted end users. The Oasis GC coordinates storage and flow delivery with the supplier and end users, but the permittee is not responsible for nor is in control of reclaimed water usage away from the Oasis GC.

Flow: 3.2 MGD 30-Day Average Flow; 3.5 MGD Max Daily; 1,120 Acre Feet per year [365 MG/y].

Characteristics: The MWRf [NEV40011] will provide tertiary treated, denitrified, disinfected effluent reuse water to the two 18-hole Oasis Golf Club courses, Palmer and Canyon, for irrigation of 193 acres of fairway, tees, greens and driving range turf grasses and the club common area landscape plant materials. The MWRf effluent is first delivered to the Oasis GC where the effluent is blended with Virgin River “ditch” water in the effluent storage pond at Oasis GC. The blended storage water can be used onsite for irrigation at the Oasis Golf Club or be conveyed offsite for irrigation use via pump station and force main to an aerated effluent storage lake at Conestoga GC or conveyed offsite to the Marilyn Redd Park. All Oasis GC reuse activities are to be conducted in accordance with the Division approved EMP, and permit conditions. Sample results of effluent supplied to the permitted Oasis GC site shall be obtained from MWRf and reported by the Permittee for permit compliance before blending with any water supplied by any other source. The quality of the irrigation water used by the Permittee may be reported as calculated values based on the proportional blend of treated effluent with another water supply.

Reuse Water Quality supplied by the City of Mesquite Wastewater Reclamation Facility [NEV40011]:

CBOD₅: 30 mg/l 30-Day average; 45 mg/l Daily Maximum
 TSS: 30 mg/l 30-day average; 45 mg/l Daily Maximum
 Total Coliform (cfu, mpn¹): 2.2/100 ml 30 day average; 23/100 ml daily max.
 Total Nitrogen - N: <10 mg/L
 Nitrate - N: Monitor & Report
 pH: Between 6.0 and 9.0 SU
¹ cfu = colony forming unit mpn = most probable number

Receiving Water Characteristics: Depth to groundwater in the area varies with elevation. A municipal supply well proximal to Pulsipher Wash, lies several thousand feet southwest of the southwest margin of the Oasis Golf Club, at an elevation which is several hundred feet lower than the golf course (elevations vary with location), and is screened at about 110', the static groundwater level. There is a thick clay confining layer above the water table which may cause artesian pressures. Water quality is good, with TDS in the 300 to 500 mg/l range. No adverse effects are expected to occur as a result of this effluent reuse.

Drinking Water Protection: Wellhead Protection Areas (WHPA) have not been established for this vicinity. The permitted facility property lies within the 1,000 foot Drinking Water Protection Area (DWPA) of Public Water System (PWS) wells. Reuse water used by the facility in accordance with permit limitations is not expected to adversely impact PWS wells in the area.

Corrective Action Sites: This Bureau of Water Pollution Control (BWPC) permit facility is not within a one mile radius of any active Bureau of Corrective Actions (BCA) facility site.

Proposed Effluent Limitations: During the period beginning on the effective date of this permit, and lasting until the permit expires, the Permittee is authorized to manage and discharge reuse water supplied by the MWRP on the Oasis Golf and Country Club's two 18-hole courses, Palmer and Canyon. The permittee is authorized consumptive use of treated effluent water for spray and drip irrigation and soil conditioning at the individual sites. The Oasis GC is authorized to store and convey treated effluent received from the City of Mesquite for other end users authorized to receive treated reuse effluent in accordance with permit NEV40011 issued to MWRP.

The permittee shall monitor the discharge (Outfall 001) of stored effluent used by the Oasis Golf Club [NEV96016]. Samples taken for compliance with the monitoring requirements specified below shall be obtained from MWRP [NEV40011] and reported by the Permittee for permit compliance before blending with any water supplied by any other source. The quality of the irrigation water used by the Permittee may be reported as calculated values when the treated effluent is blended with another water supply.

Discharge shall be monitored and reported by Permittee in accordance with limitations specified in Table I.1.

TABLE I.1

PARAMETER	LIMITATIONS			MONITORING REQUIREMENTS ¹	
	Daily Maximum	30-Day Average	Monthly Maximum	Measurement Frequency	Sample Type
Outfall 001 MGD	3.5	3.2	--	Daily	Flow meter
MGM ²	--	--	M&R ²	Monthly	Flow meter
Total Nitrogen ³ as N mg/l	--	M&R	--	Weekly	Composite
Fecal Coliform ³ cfu, mpn per 100 ml	23	2.2	--	Weekly	Discrete
001: Annual Application Volume ⁴ MG	365			Quarterly ⁴	Flow meter
Facility Total Annual Nitrogen Load Applied ⁵ as Average lbs/ac/yr	393 ⁵			Each event; Report Total Annually	Calculate
MGD: Million Gallons per Day MGM: Million Gallons per Month M&R: Monitor & Report		cfu: Colony Forming Unit mpn: Most Probable Number mg/l: milligram per liter		ml: milliliter MG: Million Gallons [volume] lbs/ac/yr: pounds per acre per year	

1. See Part I.C. of permit for additional information on sampling, testing, reporting, monitoring and definitions related to requirements.
2. Report the total usage per each calendar month. Monthly maximum limited to highest usage month determined from consumptive use balance + 10% allowance for agronomic factors beyond permittee's control and in accordance with permit Part I.B.5 requirements.
3. During application periods, sample results are to be obtained weekly from NEV40011 and reported in Permittee's quarterly DMR.
4. Measure and report quarterly the total to date volume. City of Mesquite authorized annual delivery cap is 1,120 AF per year [365 MG/y].
5. Facility value per the BWPC approved EMP. Total nitrogen applied is influenced by a variety of factors (see EMP for discussion).

Rationale for Permit Requirements

Required parameters are monitored to ensure effluent reuse requirements are maintained (NAC 445A.275, 445A.276) and groundwaters of the State are protected. Bacteriological quality (Coliform) limitation is set to meet NAC

445A.276 reuse Category B requirement for human contact with effluent reclaim water.

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 which 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. The Permittee shall maintain and revise, as necessary, the Effluent Management Plan (EMP) sections for each site keeping all information required by I.B of the permit current. Within ninety (90) days of permit effective date, **MM DD, 2011**, the Permittee shall:
 - i. Submit an updated EMP for the permittee's managed reclaimed water use site(s) for review and approval by the Division. The submitted EMP shall include any change made to the treatment system since the last Division approved edition needed to comply with this permit as issued.
OR
 - ii. Submit a letter to the Division indicating that the current approved EMP has not changed since the last Division approval and that the manual and approved operations are still valid for the permittee's managed reclaimed water use site(s).
- c. The Permittee shall provide a copy of the final Division approved EMP to the City of Mesquite Public Works Department. The permittee shall inform the Bureau of Water Pollution Control compliance coordinator in writing when this item has been fulfilled. If this item has not been fulfilled by, **MM DD, 2011**, one hundred twenty days (120) following the permit's effective date, the permittee shall notify the compliance coordinator of non-delivery.

Proposed Determination

The Division has made the tentative determination to issue the proposed permit for a period of five (5) years.

Procedures for Public Comment:

The Notice of the Division's intent to issue the 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 the NDP-BWPC 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 publication of the public notice. All comments must be received by 5:00 pm local time on February 14, 2011. 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 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.

Prepared by: E. Samuel Stegeman, P.E.
December 2010