FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: DUNCAN GOLF MANAGEMENT

1400 WOLF RUN ROAD
RENO, NV 89511

Permit Number: NS0098018

Permit Type: GROUNDWATER DISCHARGE

Designation: GROUNDWATER

New/Existing: EXISTING

Location: WOLF RUN GOLF COURSE, WASHOE
1400 WOLF RUN ROAD, RENO, NV 89511
LATITUDE: 39.41515610, LONGITUDE: -119.776224
TOWNSHIP: 18 N, RANGE: 20 E, SECTION: 19

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	GOLF COURSE	External Outfall		39.409973	-119.776287	GROUNDWATER

Permit History/Description of Proposed Action

The Permittee, Duncan Golf Management, has applied for the renewal of Permit NS0098018 for the Wolf Run Golf Course (golf course, Facility), located at 1400 Wolf Run Road, in Reno, Nevada, and proposes to continue to use reclaimed water to irrigate golf course landscaping and fill associated pond areas falling within the course's boundary.

This permit was first issued on April 11, 2001. The most recent permit was issued on February 6, 2018, and expired on February 5, 2023; the permit has been administratively continued since.

Facility Overview

The Permittee, Duncan Golf Management, has applied for the renewal of permit NS0098018, for the Facility. The Facility is in the Truckee Meadows area in the southern portion of the Truckee River Basin, in Washoe County. The golf course is a private 18-hole course plus a driving range, covering approximately 81 acres of irrigated turf and includes a clubhouse, cart house, and maintenance building. The golf course vegetation types are primarily made up of a Blue Grass and Rye Grass blend with a small percentage of Bent Grass. Surface water present on the golf course includes Whites Creek, the Steamboat Ditch, and the lined reclaimed water reservoir. The reclaimed water reservoir has an areal extent of approximately ½ -acre and has a capacity of 2 million gallons. The flow quantity in the permit is based upon irrigation demands. The annual cumulative flow is limited pursuant to 424 acre-feet per year (138.16 million gallons) through contractual agreement with STMWRF. Stormwater from the Fieldcreek subdivisions, west of the property, is stored in two small detention basins on the golf course property. The water used for irrigation mainly consists of reclaimed water from the Washoe County Utility Services Division, South Truckee Meadows Water Reclamation Facility (STMWRF), Permit NS0040024, but can be supplemented with water from the

Steamboat Ditch through a diversion channel, if needed.

STMWRF provides tertiary treatment of domestic and commercial sewage generated in the South Truckee Meadows service area. The effluent treatment includes fine screening, denitrification, secondary clarification, tertiary filtration, and hypochlorite disinfection which meets Category A bacteriological quality per Nevada Administrative Code (NAC) 445A.276. With the current Category “A” restriction, no buffer zone is required per NAC 445A.2762. Irrigation with and maintenance of the reclaimed water can reasonably be expected. The golf course normally requires irrigation from mid-March to mid-October via spray and drip irrigation.

The golf course property contains a reclaimed water storage reservoir used as a distribution point for irrigation water to the golf course, and is the only surface water on the property that holds reclaimed water. The reservoir is lined with 40-mil lining and was last inspected in 2005. During low-demand irrigation months, from October to March, the reservoir is operated at half capacity to minimize threat of unauthorized discharge to the nearby Whites Creek and Steamboat Ditch. The pond is designed to have 3 feet of freeboard with a normal reservoir elevation of 4765 feet and an elevation of the berm at 4768 feet above mean sea level (ASML). An overflow channel is set into the berm southeast of the reservoir, between the reservoir and Whites Creek.

Irrigated water is mainly discharged via spray application but also includes the use of low flow drip systems. The irrigation system consists of 1,700 sprinklers capable of discharging at 23 gallons per minute. The sprinklers are run mainly after business hours, but may be done as-needed during daytime “play” hours with attention given to minimize human contact. The irrigation system is programmed to irrigate specific areas at specified times to minimize the possibility of human contact and prevent direct spray into water bodies. Sprinklers are not run during any significant wind event to prevent spray reaching nearby homes, occupied course holes, and surface water bodies. The irrigation system is inspected by maintenance personnel daily and prior to seasonal golf course opening, the superintendent inspects the pumps, piping, and appurtenances associated with the reservoir.

Wind and precipitation events are the most likely causes for weather related unauthorized releases to occur at the golf course. To prevent unauthorized releases from the reservoir during precipitation events, a weather station will set off an alarm at the weather station located onsite and high water levels will shut down delivery of the effluent from the STMWRF to the reservoir. After irrigation resumes, the mixture of reclaimed water and storm water in the reservoir will be applied to the golf course. Best management practices such as preventing irrigation during frozen ground conditions or saturated soil conditions are implemented by golf course management. Additional best management practices include using daily evapo-transpiration rates to determine application volume requirements, daily inspections of irrigation equipment, and variable rate irrigation practices to ensure optimization of water use and distribution. To prevent unauthorized releases during wind events the weather station will send an alarm when the wind speed reaches 20 miles per hour and all irrigation will be shutdown.

The site’s Reclaimed Water Management Plan (RWMP) was last reviewed and approved by the Division on June 29, 2018. The Technical, Compliance, and Enforcement (TCE) Branch of the Bureau of Water Pollution Control requires RWMPs to be updated every two (2) permit cycles which equates to every ten (10) years with an updated RWMP due on June 29, 2028.

Outfall Summary

Outfall 001 – This outfall is for the discharge of reclaimed water into the reclaimed water reservoir, piped from the South Truckee Meadows Water Reclamation Facility.

Effluent Characterization

Nevada State Network Discharge Monitoring Report (NetDMR) data, as reported from October 2019 to December 2024, was reviewed as part of this permit renewal process. Reported numbers for flow rate, total general coliform, and total nitrogen were secured from the report submitted under permit NS0098018. This data was reported by and the responsibility of STMWRF, and not the golf course. STMWRF effluent is piped to Outfall 001 and is discharged into the reservoir located at the golf course. The average daily flow rate for the golf course was 0.3 Mgal/d, with the highest monthly usage occurring in July 2024 of 0.74 Mgal/d. Daily flow rates increase during hotter and dryer months of July, August, September, and sometimes October. During the previous permit term, there were no exceedances of the 1.5 Mgal/d limit. Within the previous permit term, there were eight exceedances of the daily maximum total coliform limit of 23 Most Probable Number per 100 milliliter (MPN/100mL) and seven exceedances of the 30-day geometric mean of 2.2 MPN/100mL. The golf course is responsible for producing a nitrogen budget to track the total Nitrogen applied via reclaimed water and by fertilizer. An average of 115.7 pounds of total Nitrogen per year (lbs/yr) was discharged into the onto the golf course and there were no exceedances of the 300 lbs/yr of total Nitrogen limit.

Pollutants of Concern

Pollutants of concern are any pollutants or parameters that are believed to be present in the discharge and could affect or alter the physical, chemical, or biological condition of the receiving water. Common pollutants of concern for bacteriological reuse Category A denitrified reclaimed water are total general coliform and total nitrogen.

Receiving Water

Receiving water is groundwater of the State; no reclaimed water is authorized to be discharged to Whites Creek or Steamboat Ditch. There are no golf course owned monitoring wells on site at present, however one of the STMGID monitoring wells (STMGID #3), which is under the authority of Truckee Meadow Water Authority (TMWA) is located on the golf course property down gradient of the reclaimed water reservoir adjacent to and immediately to the west of the reclaimed water storage reservoir. The depth to groundwater at the site was reported in the Reclaimed Water Management Plan to be from 60 feet to 100 feet below ground surface (bgs). No adverse effects are expected to occur in the groundwater due to the effluent reuse.

Compliance History

A compliance review was conducted for the previous permit term from February 2018 to February 2023. Compliance was also evaluated during the administratively extended period from March 2023 to present. The Permittee was required to implement and comply with a Schedule of Compliance as listed in the table prepared in section A.3 of the previous permit. An updated Reclaimed Water Management Plan (RWMP) was required to be prepared by a qualified professional and submitted to the Division for approval by May 6, 2018; the RWMP was received by the Division on June 28, 2018.

As part of the Monitoring and Reporting program in section A.4 of the previous permit, the permittee is responsible for submitting annual, and quarterly monitoring reports. The Division received all required monitoring reports from the previous permit term and the facility was in compliance with reporting requirements.

There were no inspections conducted at the Facility during the previous permit term. The last compliance evaluations inspection was conducted on June 18, 2015. The inspection notes that the facility had exceeded their monthly total volume of applied irrigation water. The Facility acknowledged the increased use in water was due to the lack of groundwater supply and drought conditions present in the watershed during the summer of 2014.

Reclaimed water is provided by STMWRF and the Facility does not have control over the quality of water flowing into the reclaimed water reservoir. The Facility can control the volume of water applied to the golf course and the amount of nutrients applied via fertilizer and therefore the Facility is responsible for applying

up to the total nitrogen annual limit. During the previous permit term, when STMWRF conducted groundwater quality monitoring at the STMWRF ## monitoring well, the only violation of the daily maximum for the previous permit term was for the 3rd quarter of 2024 with a total nitrogen value of 65.5 mg/L, where the limit is 10 mg/L. Noted in the nitrogen balance spreadsheet provided to the division, the high total nitrogen values can be attributed to high total kjeldahl nitrogen levels, and not to nitrate or nitrite concentrations. The total cumulative nitrogen applied was 180 pounds per acre per year (lbs/acre/yr) which was well below the cumulative total nitrogen limit of 300 lbs/acre/yr.

Proposed Effluent Limitations

The discharge shall be limited and monitored by the Permittee as specified below.
Coliform in the reclaimed water received by the Permittee is limited pursuant to Category A bacteriological quality set forth in the NAC 445A.276 as listed below:

Coliform, total general: daily Maximum <= 23 MPN/100mL (or colony forming units (CFU))

Coliform, total general: 30-day geometric Mean <= 2.2 MPN/100 mL

Re-use Discharge Limitations Table for Sample Location 001 (Land Application Site) To Be Reported Monthly[2]

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow rate	Daily Maximum	<= 1.5 Million Gallons per Day (Mgal/d)		Prior to Reuse	001	Weekly	DISCRT
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Prior to Reuse	001	Weekly	DISCRT
Coliform, total general	Daily Maximum		<= 23 Most Probable Number per 100ml T (MPN/100mL)[1]	Prior to Reuse	001	Weekly	DISCRT
Coliform, total general	30 Day Geometric Mean		<= 2.2 Most Probable Number per 100ml T (MPN/100mL)[1]	Prior to Reuse	001	Weekly	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Prior to Reuse	001	Monthly	DISCRT

Notes (Re-use Discharge Limitations Table):

1. Reporting for the total general coliform can be done in either MPN/100ml or CFU (colony forming units/100ml).
2. During application periods, sample results may be obtained from STMWRF (NS0040024) and reported in Permittee's quarterly DMR.

Re-use Discharge Limitations Table for Sample Location 001 (Land Application Site) To Be Reported Annually

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow, total [1]	Annual Total	<= 138.16 Million Gallons (Mgal)[2]		Prior to Reuse	001	Annual	CALCTD
Nitrogen, total	Annual Total	M&R Pounds per Year (lb/yr)[3]		Prior to Reuse	001	Annual	CALCTD[3]
Nitrogen, total	Annual Mass Loading	M&R Pounds per Year (lb/yr)[4]		Prior to Reuse	001	Annual	CALCTD[4]

Notes (Re-use Discharge Limitations Table):

1. Annual Treated Effluent Application Volume
2. 424 Acre-Feet is the quantity of reclaimed water authorized by the supplier.
3. To be reported as pounds per acre per year (lbs/acre/year), refer to Page 20 of WTS-1B: General Criteria for Preparing a Reclaimed Water Management Plan. This formula is below:

   Effluent N Applied = (Mgal/d Applied x Effluent N Conc. (mg/L) x 8.34 x no. days per month) ÷ acres
4. Report the percentage of nitrogen uptake "U" (lbs/ac-yr). Refer to *WTS-1B: General Criteria for Preparing a Reclaimed Water Management Plan* (Page 19, Worksheet 2-B) and *WTS-1C: Nutrient Management for Reuse & Biosolids Sites*.

   Monthly U (lb/ac-mo) = U (lb/ac-yr) x ET (in/mo) ÷ ET (total in/yr)

Summary of Changes From Previous Permit

Outfall 002 and all associated monitoring and reporting at Sample Location 002 (Groundwater Monitoring Well) were removed.

The location type for Outfall 001 was changed from “Land Application Site” to “External Outfall” because the coordinates are to the end-of-pipe effluent discharging into the reclaimed water reservoir.

The Facility Latitude was changed from 39.4153 to 39.4151561, using the GCS WGS 1984 coordinate system.

The Facility Longitude was changed from -119.7722 to -119.7763419, using the GCS WGS 1984 coordinate system.

Footnotes for the *Re-use Discharge Limitations Table for Sample Location 001 (External Outfall) To Be Reported Annually* were removed, updated, and added as follows:

- Footnotes 3, 4, and 5 from the previous permit were removed
- Text from footnote 2 was updated from “424 Acre-Feet (Volume determined from Consumptive Use Balance” to “424 Acre-Feet is the quantity of reclaimed water authorized by the supplier.”
- Footnote 3 was added to say: “To be reported as pounds per acre per year (lbs/acre/year), refer to

Page 20 of WTS-1B: General Criteria for Preparing a Reclaimed Water Management Plan. This formula is below: Effluent N Applied = (Mgal/d Applied x Effluent N Conc. (mg/L) x 8.34 x no. days per month) ÷ acres"
- Footnote 4 was added to say: "Report the percentage of nitrogen update. Refer to Technical Sheets WTS¬-1B: General Criteria for Preparing a Reclaimed Water Management Plan and WTS-1C Nutrient Management for Reuse & Biosolids Sites."

Discharge Limitations and Monitoring Requirements for the *Re-use Discharge Limitations Table for Sample Location 001 (External Outfall) To Be Reported Annually* were removed, updated, and added as follows:

- The requirement to report total cumulative Total Nitrogen (lbs/year/acre) for outfall-001 has been removed
- The requirements to monitor and report (M&R) the Annual Total Nitrogen and Annual Mass Loading at Outfall-001 have been added
- Flow Rate Sample Type was updated from "METER" to "CALCTD"

Discharge Limitations and Monitoring Requirements for the *Re-use Discharge Limitations Table for Sample Location 001 (External Outfall) To Be Reported Monthly* were removed, updated, and added as follows:

- Total Nitrogen Base was changed from "Monthly Average" to "Daily Maximum"
- Total Nitrogen Measurement Frequency was updated from "Weekly" to "Monthly"
- Flow Rate Measurement Frequency was updated from "Continuous" to "Weekly"
- Flow Rate Sample Type was updated from "METER" to "DISCRT"
- Footnote 1 language was updated to "Reporting for the total general coliform can be done in either MPN/100ml or CFU (colony forming units/100mL)."

Technology Based Effluent Limitations
Technology based effluent limitations are not applicable to this permit.

Water Quality Based Effluent Limitations
Water quality based effluent limitations are not applicable to this permit.

Proposed Water Quality Based Effluent Limits (monthly/weekly/daily)
Water quality based effluent limitations are not applicable to this permit.

Basis for Effluent Limitations

Total general coliform is required to be monitored by the effluent discharger, STMWRF, to assess the quality of reclaimed water being applied and for the protection of human health and the environment.

The proposed permit establishes the requirement to report the total nitrogen applied to ensure groundwater of the State is not being degraded.

The proposed permit establishes the requirement to report the total nitrogen uptake to ensure groundwater of the State is not being degraded.

Anti-backsliding

None of the proposed permit limits were changed to a less restrictive limit compared to those in the previous permit.

Antidegradation

The Division has developed an antidegradation regulation that is applied on a statewide basis, and which meets the statutory requirements of Nevada's water pollution control law found at Nevada Revised Statute (NRS) 445A.520 and NRS 445A.565 and is consistent with the federal antidegradation policy found at Title 40 in the Code of Federal Regulations (CFR) § 131.12. The objective of the Division's antidegradation regulation is to prevent degradation of Nevada's surface waters and maintain the unique attributes and special characteristics and water quality associated with high-quality waters.

As this permit is for discharges to groundwater, and not surface water, the antidegradation rule is not applicable. There are currently no specific water quality standards that have been formally adopted by the State for groundwater, however, data reviewed during the renewal process does not indicate the potential for degradation of the groundwater from the reclaimed water discharged within the compliance limits of the proposed permit.

Special Conditions

See special approvals/conditions table below.

SA – Special Approvals / Conditions Table

Item #	Description
1	Upon Permittee's request, the annual reclaimed water application rate may be revised, via minor modification, when the updated RWMP is received and accepted by the Division.

Discharges From Future Outfalls/ Planned Facility Changes

There are no planned discharges from future outfalls or facility changes.

Corrective Action Sites

There are no active Bureau of Corrective Action (BCA) remediation sites located within a one-mile radius of the discharge location.

Wellhead Protection Program

A Public Water Supply (PWS) well is located on site of the outfall that has a depth of approximately 590 feet in a confined aquifer with a sanitary seal at 70 feet and a screen from 240 to 580 feet. There are three (3) wells located 380 to 1510 feet to the east and west of the outfall that have a depth of approximately 515 to 740 feet in a confined aquifer with a sanitary seal at 54 to 132 feet and a screen from 255 to 680 feet. The outfalls are located in the Drinking Water Protection Area of the wells, which is defined by a 3,000-foot radius and a Wellhead Protection Area (WHPA), which represents an approximate 10-year capture zone of a well. The wells are at minimal risk based on the confined aquifer and the well structures and depths.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two (2) copies (one hard copy and one electronic copy) of a Reclaimed Water Management Plan (RWMP) to the Division for review and approval. The RWMP shall follow guidance document WTS1B: General Design Criteria for Preparing a Reclaimed Water Management Plan.	7/24/2028

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
1	Annual DMRs	Annually	1/28/2026
2	Annual Report	Annually	1/28/2026
3	Monthly DMRs	Quarterly	10/28/2025

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 mailed to interested persons on our mailing list and will be posted on our website at https://ndep.nv.gov/posts. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. **7/11/2025,** 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 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 issue/re-issue the proposed 5-year permit.

Prepared by: **Tiffany Barulich**
Date: **7/31/2025**
Title: **Associate Engineer**