

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Truckee Meadows Water Reclamation Facility
 Cities of Reno and Sparks
 P.O. Box 857
 Sparks, Nevada 89432

Contact Entity: City of Sparks

Location: 8500 Clean Water Way
 Reno, Nevada 89502

Sec. 14:NW-NE, NE-NE	Township 19 North	Range 20 East	Mt Diablo Base & Meridian	
FEATURE	LAT (d m s)	LON (d m s)	LAT (decimal °)	LON (decimal °)
TMWRF Effluent Pump House	39° 31' 10.90" N	119° 42' 11.90" W	39.5196944°	-119.7033056°

Permit Number: NEV2003506

Flow: 38.0 million gallons per day as the maximum daily flow
 42,565 Acre-Feet per year (13,870.0 million gallons per year)

The maximum flow rate has been established near the upper limit of this fee category to allow for the potential growth of this program. All terms and conditions stated within this permit shall not supersede any requirements of the Nevada Division of Water Resources (DWR) and permittee’s obligation to comply with DWR requirements.

General: The Permittee holds a National Pollutant Discharge Elimination System (NPDES) Permit NV0020150 to discharge tertiary treated, domestic and industrial wastewater to the Truckee River via Steamboat Creek. Prior to the 2003 NPDES permit renewal, the Permittee was authorized to provide reclaimed water for beneficial uses under the NPDES permit. In 2004, the Truckee Meadows Water Reclamation Facility (TMWRF) distribution of reclaimed water was authorized with a Nevada Groundwater Discharge Permit NEV2003506. All TMWRF wastewater treatment activity continues to be administered by the NPDES permit NV0020150.

The facility, having a Division approved treatment capacity of 46.5 million gallons per day (MGD), is a biological nutrient removal plant that utilizes nitrification/denitrification for nitrogen removal and activated sludge for phosphorus removal. Treatment consists of bar screens, grit removal, primary sedimentation clarifiers, activated sludge to remove biochemical oxygen demand and phosphorus, secondary clarification, nitrification trickling filters, denitrification fluidized sand beds, post aeration, gravity sand/anthracite filters, chlorination, and dechlorination with sodium bisulfite.

The facility is designed to treat the wastewater to meet the Truckee River at Lockwood Bridge standards of water quality, NAC 445A.187, and NAC 445A.276 reuse category B bacteriological standards of effluent quality. Per NAC 445A.2764, reuse category B treated effluent is approved for use for such activities as: irrigation of pastures, golf courses, cemeteries, highway medians, greenbelts, parks, playgrounds, and commercial lawns when public access to the site being irrigated is controlled and human contact with the treated effluent cannot reasonably be expected. Additionally, reuse Category B treated effluent uses are approved for fire fighting operations and cooling water use in industrial processes along with uses approved for reuse categories C, D, or E (NAC 445A.2766, 2768, and 2771) that include impoundments where full body contact with the treated effluent cannot reasonably be expected and a variety of industrial and agricultural purposes, except growing crops for human consumption.

The Permittee is authorized to use reclaimed water on landscaping, provide water for internal wash-down activities, fire

fire suppression, and serve a truck fill station at the TMWRF by this permit. The Permittee is also authorized to supply reclaimed water only to sites within the greater Truckee Meadows, Spanish Springs, North Valleys, and East Truckee Canyon regional areas holding an active water pollution control permit issued by the Division of Environmental Protection (Division) for discharging TMWRF reuse reclaim water. The Permittee is required to monitor the volume of reclaimed water delivered to each permitted beneficial use site but is not responsible for the application of the reclaimed water. Other permitted reclaimed water utilization sites may be added to this permit [NEV2003506] by minor permit modification provided that TMWRF does not cumulatively deliver more than 38.0 MGD nor more than 42,565 Acre-Feet per year as limited by this permit.

Table 1 below identifies individual users holding an active water pollution control permit issued by the Division to discharge TMWRF reclaim reuse water with each permit's authorized flow limit value and monitoring requirement. Individual users are responsible for reporting flow utilized at their site(s) with the individual's Discharge Monitoring Report (DMR) to the Division. TMWRF flow monitoring records are to be made available to the Division upon request. Flow measurements are to be taken at the reuse utilization site flow meter (c); for individual permits with multiple sites, the total cumulative flow of reclaimed water used by the permit sites shall be reported.

TABLE 1: Division Issued Individual Permits Authorized to Discharge TMWRF Reclaim Reuse Water

NDEP ISSUED PERMITS authorized for TMWRF reuse	FLOW LIMIT VALUE ¹ as issued in individual permit ²			MONITORING REQUIREMENTS		
	Permit No.: Permittee – Facility or Facility Type (# permit sites)	30-Day Avg (MGD)	Daily Max (MGD)	Acre-Feet per Year (AF)	Sample Location	Measurement Frequency
NEV92012: UNR – Nevada Agricultural Experiment Stn	10.0	10.0	3,145	c	Continuous	Flow Meter
NEV95005: City of Sparks – Sports Complex, Parks, Fill Stn Sites (10)	9.5	11.0	12,320	c	Continuous	Flow Meter
NEV95007: RSCVA - Wild Creek Golf Course	M&R	M&R	500	c	Continuous	Flow Meter
NEV2000509: D'Andrea Nevada, LLC – D'Andrea Golf Course	0.80	1.50	558	c	Continuous	Flow Meter
NEV2003513: Washoe Co. School Dist. – Public School Sites (3)	1.51	M&R	151.71	c	Continuous	Flow Meter
NEV2004501: Washoe Co. Parks & Rec. – Public Park Sites (5)	0.59	0.59	258.1	c	Continuous	Flow Meter
NEV2004517: Kiley Golf, LLC –The Links at Kiley Ranch	M&R	M&R	144.2	c	Continuous	Flow Meter
NEV2004529: Martin Marietta Materials, Inc. – Spanish Springs Quarry	1.00	M&R	1,120	c	Continuous	Flow Meter
NEV2004530: City of Sparks – Truck Fill, Sports Complex, Landscape, Streetscape Sites (9)	0.990	1.224	1,024.21	c	Continuous	Flow Meter
NEV2006506: City of Sparks – Landscape Sites (9)	3.474	4.062	1,312.83	c	Continuous	Flow Meter
NEV2006512: City of Reno – Golf Course, Parks, Open Space, Truck Fill, Landscape Sites (10)	3.58	M&R	4,466.67	c	Continuous	Flow Meter
NEV2007506: City of Sparks – Landscape, Green Belt, Nursery Sites (9)	1.109	1.481	418.27	c	Continuous	Flow Meter
NEV2009502: City of Sparks –Truck Fill Stn Sites (5)	0.98	1.21	445	c	Continuous	Flow Meter
MGD: Million Gallons per Day		M & R: Monitor and Report		AF: Acre Feet [volume]		

1. Limit flow values as issued by the Division for the listed subject permit. Permittee, as the supplier, is not in control of, nor responsible for, flow usage by individual reuse permit holders. Limit values may change in individual permits with no consequence to Permittee provided that cumulative delivery limits of 38.0 MGD and 42,565 AF/yr (permit Table I.1) are not exceeded.
2. Permits with multiple sites are to be total reclaimed water supplied for each reuse permit.

Discharge of treated effluent to surface waters and the beneficial use of biosolids from this facility are authorized under separate permits issued by the Division. The pretreatment program is authorized through the US Environmental Protection Agency.

Discharge Characteristics: TMWRF discharge is tertiary treated, disinfected, and denitrified domestic and industrial wastewater that meets NAC 445A.276 reuse category B requirements for bacteriological quality. TMWRF reports effluent characteristics as follows in Table 2 below. This treated effluent water quality data is supplied by TMWRF to individual users who hold active permits to reuse and discharge the TMWRF reclaim water. Reports from TMWRF have shown consistent achievement of effluent discharge limits.

Table 2: TMWRF Effluent Limits and Performance

Parameter	Permit Limit (30-day Avg)	2008 annual average
Biochemical Oxygen Demand - 5 Day, Uninhibited, mg/L	20	2.5
Total Suspended Solids, mg/L	20	1.3
Total Dissolved Solids, mg/L	Monitor & Report	392
pH, standard unit	$6.5 \leq \text{pH} \leq 8.5$	7.5
Total Nitrogen as N**, mg/L	10**	1.6
Fecal Coliform, cfu or MPN per 100 ml	< 2.2	< 2.2

** Limited as Daily Maximum NOT as 30-day Average.

Proposed Limitations: Proposed limitations are set to verify the constituent composition of effluent discharges and control application and operational parameters to protect groundwater conditions. Limits include those set for the protection of human health of individuals who may come into contact with reclaim reuse water used for approved activities.

The reclaim water supply made available to individual permit holders for irrigation reuse from TMWRF averages less than 2.0 mg/l total nitrogen concentration and is disinfected by chlorination processes. The Fecal Coliform limitation is set at the NAC 445A.276 bacteriological water quality requirement for reuse Category B of 2.2 CFU or MPN/100 ml, 30-day average. Therefore, in accordance with NAC 445A.2764, control of public access to areas of use is required; and, to the fullest extent possible, use is to be conducted in a manner so that human contact cannot reasonably be expected to occur.

During the period beginning on the effective date of this permit and lasting until the permit expires, the Permittee is authorized to discharge treated wastewater to groundwaters of the state via percolation. Discharge authorization includes permit approved uses at the TMWRF site and supply to individual utilization sites for users who hold active water pollution control permits issued by the Division for approved uses of TMWRF reclaim reuse water. The Permittee shall monitor and report discharge as specified and limited in Table 3 below with effluent samples and/or measurements taken at (a), the TMWRF reclaimed water flow meter and (b), the TMWRF reclaimed water sampling port.

TABLE 3: NEV2003506 Discharge Limitations, Monitoring and Reporting Requirements

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS ¹		
	30-Day Average	Daily Maximum	Sample Location	Measurement Frequency	Sample Type
Concentration units are mg/L unless otherwise indicated.					
Outfall 001: Total reclaim flow (MGD)	Monitor & Report	38.0	a	Continuous	Flow meter
(MGM) ³	Monitor & Report ³	--			
Outfall 002: Facility reuse flow ² (MGD)	Monitor & Report	Monitor & Report	Truck Stn & onsite irrigation	Monthly	Estimate
(MGM) ³	Monitor & Report ³	--			

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS ¹		
	30-Day Average	Daily Maximum	Sample Location	Measurement Frequency	Sample Type
Concentration units are mg/L unless otherwise indicated.					
Annual Reclaim Volume (AF)	42,565		a	Cumulative ⁴	Flow meter
Fecal Coliform ^{3,5} (cfu or mpn/100ml)	2.2	23	b	Daily	Discrete
Biochemical Oxygen Demand ^{3,6} "5-day, Uninhibited"	20	30	b	3 Times / Week	Composite
Total Suspended Solids ^{3,6}	20	30	b	3 Times / Week	Composite
pH (SU) ^{3,6}	6.5 ≤ pH ≤ 8.5		b	Daily	Discrete
Total Nitrogen as N ^{3,6}	--	10	b	Weekly	Composite
Total Dissolved Solids ^{3,6}	Monitor & Report		b	Weekly	Composite
mg/L: Milligrams per Liter: ppm ml: milliliter	cfu: Colony Forming Unit mpn: Most Probable Number	MGD: Million Gallons per Day MGM: Million Gallons per Month	AF: Acre Feet [volume] SU: Standard Unit		

1. See Part I.C. of permit for additional information on sampling, testing, reporting, monitoring and definitions related to requirements.
2. Quantification by flow meter is not required if on-site flow uses can be estimated. Estimation method must be described in the TMWRF site Effluent Management Plan approved by the Division.
3. Report the total usage per each calendar month.
4. Report annual in 4Q Discharge Monitoring Report.
5. Bacteriological quality (Coliform) limitation is set to meet NAC 445A.276 reuse Category B requirement for human contact with effluent reclaim water. Analysis results of reuse supply samples for Coliform shall be reported by permittee to each permit holder authorized to receive TMWRF reclaim water for reuse. Permittee shall provide each reuse end user such analysis report at least once during each half month permittee is supplying water for reuse.
6. Provide analysis results to permit holders authorized to receive TMWRF reclaim water for reuse, as necessary, so that end user may complete any end user required Discharge Monitoring Report.

Schedule of Compliance: 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. Within one hundred twenty (120) days of permit effective date, **Month XX, 2009**, the Permittee shall submit current sections of the TMWRF Operations and Maintenance (O&M) manual addressing reclaim water supply and distribution for review and approval by the Division. The submitted O&M manual sections shall include any change made to the O&M manual needed to comply with this permit issued and material in accordance with permit Part I.B.3., since the last Division approved edition.
- c. Within one hundred eighty (180) days of permit effective date, **Month XX, 2009**, the Permittee shall submit the current Effluent Management Plan for the TMWRF site reclaimed water use for review and approval by the Division. The submitted EMP sections shall include any change made to the EMP needed to comply with this permit issued (e.g. Part I.B.2. operation and management of storage, distribution, and ancillary facilities) and material in accordance with permit Part I.B.3., since the last Division approved edition.
- d. The Permittee shall submit first time use cross-connection control inspection documentation as required by permit Part I.B.14 within 14 days of acceptance by local water purveyor. Effluent use is not authorized without Division approval of first time use cross-control documentation. The Permittee shall submit current cross-connection control inspection documentation as required by permit Part I.B.14 annually with the fourth quarter DMR.
- e. Prior to initiating any change to an approved O&M manual, EMP or approved system plans, in accordance with permit Part I.B.1 or Part I.B.2, a revision requesting such change must be prepared by a qualified professional and submitted to the Compliance Coordinator. The Permittee, or designated representative, shall adequately address all comments and concerns relating to the Division's review of revised materials. **The Permittee shall not implement any change to an approved O&M manual, EMP or approved system plan without Division review and approval.**

- f. Permittee shall notify the Division in writing of any proposed new delivery site and end user name within the geographic area authorized by permit Part I.A.1. within fourteen (14) days of completing a delivery agreement with a user of a proposed new reuse site. Delivery of reuse water is prohibited until said site user has an active permit issued by the Division to receive and use reuse water delivered from TMWRF.
- g. Permittee shall notify the Division in writing within fourteen (14) days of modifying any agreement to a TMWRF reuse user delivery site that will change a delivery rate or volume set for an individual permit issued by the Division to receive TMWRF reuse water. In accordance with Part I.A.5, the individual permit end user of TMWRF reuse water shall be responsible for any necessary modification to said individual permit and/or, if necessary, obtaining a temporary permit issued by the Division to address the change.
- h. **All compliance deliverables shall be submitted to the compliance coordinator identified in Part I.C.2.d of the permit.**

Rationale for Permit Requirements: The Permittee is proposing to continue to discharge treated domestic and industrial wastewater at TMWRF for landscape irrigation and other on-site uses and to provide this reclaimed water to multiple users as approved by the Division to utilize TMWRF reclaimed reuse water. This permit authorizes the reclaimed water to be beneficially used. This permit does not authorize the Permittee to reduce the level of treatment from that required by NV0020150, the NPDES permit issued by the Division to TMWRF that regulates discharge to surface waters of the state. Monitoring is required to assess the level of treatment being provided.

Flow: Based on individual permits issued by the Division authorizing the discharge of TMWRF supplied reclaim water, TMWRF is supplying in excess of 20 MGD with this 2009 permit. To allow for planned growth of this program during the 5-year term of the permit, the flow rate limitation, 38.0 MGD, has been established at slightly below the maximum discharge rate in the fee category, 20,000,000 or more but less than 40,000,000 gallons daily.

The individual permit discharge limitations are based on permitted flows from the individual permits issued. These flow rates may be adjusted in this permit and new users may be added to by minor permit modification provided that TMWRF does not cumulatively deliver more than 38.0 MGD nor more than 42,565 Acre-Feet per year as limited by this permit. All terms and conditions stated within this permit shall not supersede any requirements of the Nevada Division of Water Resources (DWR) and permittee's obligation to comply with said DWR requirements.

Biochemical Oxygen Demand – 5-Day, Uninhibited: This parameter is monitored to protect waters from excessive organic loading.

Total Suspended Solids: This parameter is monitored to ensure that the groundwater of the State is not degraded.

Fecal Coliform: The concentration of fecal coliform in treated wastewater discharged for irrigation is restricted in accordance with NAC 445A.2764 for a zero-distance buffer zone. The limit of 2.2 cfu/100 ml and 23 MPN/100m.for the 30-day average and the daily maximum, respectively, are set for the protection of human health.

pH: The pH limitation is based on the NV0020150 30-day average pH limitation.

Total Nitrogen (TN): The 10 mg/L TN as nitrogen limitation is based on the permitted use of the reclaimed water. Groundwater monitoring is required at reuse sites when an elevated level of TN is present in the reclaimed water; groundwater monitoring is not required when the reclaimed water TN concentration is less than 10 mg/L. Implementing this requirement serves to control the amount of nitrogen entering the soil profile and groundwater.

Total Dissolved Solids (TDS): TDS is monitored and reported, but not limited, to track the amount of salts applied to the reuse utilization sites.

Determination: The Division has made the determination to issue the proposed permit for a five-year (5) period.

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 **Reno Gazette Journal** for publication. The notice is being mailed to interested persons on the NDEP-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 September 14, 2009. 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.
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