



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

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NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Beatty Water & Sanitation District
P.O. Box 99
Beatty, NV 89003

Permit Number: NEV70010

Location: Beatty Wastewater Treatment Plant
 $\frac{3}{4}$ mile south of Beatty, Nye County, Nevada
Latitude: 36° 53' 42"N, Longitude: 116° 45' 14"W
Township 12S, Range 47E, Section 18

Rapid Infiltration Basins
 $2\frac{1}{4}$ miles south of Beatty, Nye County, Nevada
Latitude: 36° 52' 20"N, Longitude: 116° 45' 25"W
Township 12S, Range 47E, Section 19

General: Beatty Water & Sanitation District (BW&SD) has applied for renewal of groundwater discharge permit NEV70010. BW&SD proposes to continue discharging secondary treated wastewater effluent to groundwater of the State via percolation.

Beatty Wastewater Treatment Plant (BWTP) receives domestic and light commercial wastewater from a population of approximately 1,100 residents and 425 sewer connections. The wastewater influent is derived from domestic and commercial sources with no reported industrial facilities. Wastewater flows from Beatty via 1 lift station, and gravity flow, to the treatment facility which is located approximately $\frac{3}{4}$ mile south of town.

Current Treatment System: The current treatment system, which was completed in May of 2007, consists of two (2) individual, parallel, partial-mix aerated pond systems (4 ponds total). Wastewater travels through a manually cleaned bar screen prior to discharge to a new wet well and lift station. The lift station is equipped with a standby generator, and system control and data acquisition (SCADA) telemetry to monitor influent flow, wet well level, and alarm conditions. Flow from the lift station is split between the two separate pond systems. The two primary treatment ponds, #1 and #3, discharge to the two secondary treatment ponds, #2 and #4. Each pond is approximately 0.6 acre in area with a volume of 1.5 million gallons. All ponds are lined with 60-mil High Density Polyethylene (HDPE). A monitoring well has been installed immediately down gradient of the treatment ponds.

Effluent Disposal System: Two times each week, BWTP discharges approximately 0.35 million gallons of treated effluent to one of two off-site rapid infiltration basins (RIBs). The RIBs, which are rotated bi-weekly, are located approximately $1\frac{1}{2}$ miles south of the treatment plant. The basins are burnt annually, and scarified every other year to maintain effluent infiltration.

Flow and Characteristics: The BWTP has a 30-day average design treatment capacity of 0.250 million gallons per day (MGD). During the previous four (4) quarters (January through December 2011), influent flow has averaged approximately 0.09 MGD. The facility has requested a 30-day average flow limit equal to the 30-day average design treatment capacity. The Permittee must notify the Administrator no later than ninety (90) days after the 30-day average daily influent flow rate first equals or exceeds 85% of the design treatment capacity. A review of BWTP monitoring data, for the above mentioned four quarters, shows effluent CBOD₅ levels ranging from 30 to 89 mg/L, and TSS levels ranging from 60 to 130 mg/L.

Receiving Water Characteristics: Discharge is to groundwater of the State via percolation in the RIBs. Groundwater at the RIBs is reported to be in excess of 200 feet below ground surface. Based on this depth, groundwater monitoring wells are not proposed at the RIB location. Groundwater at the BWTP has been reported to be as shallow as 6 feet below ground surface; therefore, groundwater monitoring is required at the treatment plant. Groundwater flow at the BWTP is reported to be to the south.

Wellhead Protection: The BWTP and RIB sites are not within a Drinking Water Protection Area or a Wellhead Protection Area established for any well sources.

Proposed Effluent Limitations and Special Conditions: Discharge to the infiltration basins shall be limited and monitored according to the following table:

Table 1: Discharge Limitations

PARAMETER		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		30-day Average	Daily Maximum	Measurement Frequency	Sample Type
Influent	Flow (MGD)	0.250	Monitor & Report	Continuous	Flow Meter
	CBOD ₅ (mg/L)	Monitor & Report		Quarterly	Discrete
	TSS (mg/L)	Monitor & Report		Quarterly	Discrete
Effluent	CBOD ₅ (mg/L)	45		Monthly	Discrete
	TSS (mg/L)	90		Monthly	Discrete
	pH (Standard Units)	Between 6.0 & 9.0		Monthly	Discrete
	Total Nitrogen (mg/L)	Monitor & Report		Monthly	Discrete
	Nitrate (mg/L)	Monitor & Report		Monthly	Discrete

MGD: Million Gallons per Day CBOD₅: 5-day Carbonaceous Biochemical Oxygen Demand
 mg/L: Milligrams per Liter TSS: Total Suspended Solids

Rationale for Permit Requirements:

The Division’s rationale for the proposed monitoring of effluent is as follows:

- *Flow*: Flow is monitored to ensure that the permitted discharge to the treatment ponds is not exceeded.
- *CBOD₅*: The Division requires the monitoring of influent and effluent 5-day Carbonaceous Biochemical Oxygen Demand (CBOD₅ or Inhibited BOD), as an indication of treatment performance in facultative pond systems. The Division’s standard secondary-treatment limits for pond systems are 30 and 45 mg/L, for the 30-day average and daily maximum values, respectively. The previous permit required influent CBOD₅ to be monitored on a quarterly basis, this frequency has been retained. Effluent is monitored monthly; therefore, the 30-day average limit will be the same as the daily maximum limit.
- *TSS*: The Division’s standard secondary-treatment limit for Total Suspended Solids (TSS) for pond system effluent is 90 mg/L. The previous permit required influent TSS to be monitored on a quarterly basis, this frequency has been retained.
- *pH*: The Division requires pond effluent to meet a pH limitation between 6.0 and 9.0 standard units. The previous permit required pH to be monitored on a monthly basis, this frequency has been retained.
- *Total Nitrogen*: The Division requires monitoring of nitrogen due to the shallow depth of groundwater at the BWTP and to determine the amount of nitrogen discharged to the RIBs. The previous permit required Nitrogen to be monitored on a monthly basis, this frequency has been retained.
- *Nitrate*: The Division requires monitoring of nitrate due to the shallow depth of groundwater at the BWTP and to determine the amount of nitrate discharged to the RIBs. The previous permit required Nitrate to be monitored on a monthly basis, this frequency has been retained.

The monitoring well shall be monitored according to the following table:

Table 2: Monitoring Well Limitations and Requirements

PARAMETER	PERMIT LIMITATION	MONITORING FREQUENCY
Depth to Water (feet)	Monitor & Report	Quarterly
Total Nitrogen (mg/L)	Monitor & Report	Quarterly
Nitrate (mg/L)	10	Quarterly
Chlorides (mg/L)	Monitor & Report	Quarterly
Total Dissolved Solids (mg/L)	Monitor & Report	Quarterly

The Division requires quarterly groundwater sampling for depth to groundwater, total nitrogen, nitrate as nitrogen, chlorides, and total dissolved solids (TDS), to ensure that State groundwater resources are not impacted from pond seepage losses.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the 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.
- a. By **MMM DD, 2012** (60 days from permit issuance), the Permittee shall submit two (2) copies of an updated Operations and Maintenance (O&M) Manual for review and approval by the Division. The submitted O&M Manuals shall address changes in the operational procedures and equipment used at the facility due to the 2007 facility upgrades. The O&M Manuals shall be compiled in accordance with appropriate sections of WTS-2, "*Minimum Information Required for an Operations and Maintenance Manual for a Wastewater Treatment Plant*".

Proposed Determination: The Division has made the tentative determination to renew the proposed groundwater discharge permit for a period of five (5) years.

Procedures for Public Comment: The Notice of the Division's intent to renew a permit authorizing this facility to discharge secondary-treated effluent to groundwater of the State, subject to the conditions contained within the permit, is being sent to the **Pahrump Valley Times** and 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 thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all written comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand delivered items) to the Division is **April 20, 2012 by 5:00 P.M.**

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 determines 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.

Prepared by: Arthur Marr, P.E.
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