

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET
(pursuant to NAC 445A.236)

Permittee Name: Nye County
250 N. Highway 160, Suite 2
Pahrump, NV 89060

Permit Number: NEV70021

Location: Gabbs Wastewater Treatment Facility, Nye County, Nevada
1 Mile West of North Gabbs
Latitude: 38° 52' 04" N, Longitude: 117° 56' 30" W
Township 12N, Range 36E, Section 28

Drinking Water Protection Area / Wellhead Protection Area:

The Gabbs Wastewater Treatment Facility is not within any Drinking Water Protection zone, nor is the facility within a Wellhead Protection Zone.

General:

The Gabbs Wastewater Treatment Facility (WWTF) services residential and commercial/school connections in both North and South Gabbs. U.S. Census Bureau 2000 census data indicated a population of 318 residents. An estimate submitted to the Bureau in 2005 lists a population of 374 persons. The commercial/institutional connections in Gabbs include a motel, gas station, restaurant, grocery store and public school. There are no industrial dischargers serviced by this facility so the influent is domestic (sanitary) in origin. All wastewater influent is received via gravity flow. The treatment facility is located approximately 1 mile west of North Gabbs. The treatment facility was originally designed and constructed in approximately 1978, at time when several mining operations were active and when the population of Gabbs was much higher than that seen currently. Operation of the facility requires a Grade I Operator.

At the time of the 2008 permit renewal, the treatment facility utilizes one of two parallel trains, each consisting of a ½ acre primary facultative treatment pond and a ½ acre percolation basin, configured in series. As of the 2008 permit renewal, both operating ponds are unlined.

In normal operation, the operator manages the treatment pond to keep a liquid level of at least 3 ft., to minimize odors and maintain a healthy algae population (i.e., for providing dissolved oxygen). This practice generally requires that some fresh water be added during warmer months when evaporation rates exceed the inflow. Presently, the operating treatment pond has sufficient detention capacity for the town's flow, so that there is no discharge of effluent to the evaporation basin. Effluent disposal has been by evaporation and percolation (seepage) in the treatment pond.

Flow:

Previously, the permitted treatment capacity of the original facility was 0.095 MGD on both a 30-day average and daily maximum basis, based on the original design. The average quarterly flow reported for the facility from December 2002 to February 2008 was 0.0217 MGD. The new design for the lined treatment ponds, approved by the Division, specifies a 0.040 MGD, which is more reflective of the actual inflow to the facility. An ultrasonic flow meter and recorder have been installed in the headworks to measure the influent flow. The O&M Manual requires revision to reflect this flow meter improvement.

Receiving Water Characteristics:

During installation of a monitoring well in August 2007, groundwater was encountered at a depth of 20 feet below ground surface (bgs). Analytical results for the developed monitor well show high levels of Total Dissolved Solids (TDS) (1100 mg/L), and extremely high levels of fluoride (29 mg/L). The local groundwater is reported to be geothermal and not potable due to the elevated temperature and mineral (fluoride) content. The potable supply for Gabbs comes from wells in Lodi Valley, which are located approximately three and a half miles from town. Analysis of the groundwater did not indicate elevated levels of nitrogen compounds. Previously, the Division did not required groundwater monitoring at this facility due to considerations such as the small population, depth to groundwater, and lack of potable groundwater resources in the vicinity of the treatment facility. However, since groundwater was encountered relatively close to the ground surface, groundwater monitoring is proposed for the new permit.

Proposed Effluent Limitations and Special Conditions:

Until the construction of the lined pond system is complete, the following effluent limitations and special conditions apply:

Table I: Discharge Limitations

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD (Influent)	0.095		Continuous	Flow Meter
CBOD, mg/L (Influent) ¹	Monitor & Report		Quarterly	Discrete
CBOD, mg/L (Effluent) ²	Monitor & Report		Quarterly	Discrete
TSS, mg/L (Influent) ¹	Monitor & Report		Quarterly	Discrete
TSS, mg/L (Effluent) ²	Monitor & Report		Quarterly	Discrete
pH, Std. Units (Effluent) ²	Between 6.0 & 9.0		Quarterly	Discrete

1. Influent samples shall be obtained at the diversion box prior to discharge into the primary pond.
2. Effluent samples shall be obtained prior to discharge into the evaporation/percolation basin only if sufficient flow exists for discharge from the facultative pond. If sufficient flow does not exist for effluent sampling, then a condition of “no pond discharge” shall be indicated on the respective quarterly DMR report.

Upon completion of the lined pond system, and lasting until the permit expires, the following effluent limitations and special conditions apply:

Table II: Post-Construction Discharge Limitations

PARAMETER	DISCHARGE LIMITATION		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Monitoring Frequency	Sample Type
Flow, MGD	0.040	---	Continuous	Flowmeter
Effluent ¹ CBOD, mg/L	---	45	Quarterly	Discrete
Effluent ¹ TSS, mg/L	---	90	Quarterly	Discrete
pH (Standard Units)	Between 6.0 and 9.0		Quarterly	Discrete

1. If there is no flow of effluent from the secondary pond to the evaporation/percolation basin during the month, sampling is not required. The no-discharge conditions shall be noted on the appropriate DMR form as “No Discharge”, which shall be included in the quarterly monitoring report.

Groundwater will be monitored at the site according to the following:

Table III: Monitoring Well Limitations and Requirements

PARAMETER	PERMIT LIMITATION	MONITORING FREQUENCY
Nitrate as N (mg/L)	Monitor & Report	Quarterly
Total Nitrogen as N (mg/L)	10	Quarterly
Chloride (mg/l)	Monitor & Report	Quarterly
Total Dissolved Solids (mg/l)	Monitor & Report	Quarterly
Depth to Groundwater (ft)	Monitor & Report	Quarterly

Rationale for Permit Requirements:

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

- *Flow*: Flow is tracked to ensure that the design capacity of the treatment pond(s) is not exceeded.
- *CBOD₅*: The Division requires the monitoring of effluent Carbonaceous Biochemical Oxygen Demand (CBOD₅ or Inhibited BOD), as an indication of treatment performance in the facultative pond. The Division’s secondary-treatment CBOD₅ standards for ponds are 30 and 45 mg/L, respectively, for the 30-day average and daily maximum values. The Permittee shall sample the secondary pond effluent on a monthly basis, for those months when discharge to the evaporation/percolation basin occurs.
- *TSS*: The Division’s secondary-treatment standard for Total Suspended Solids (TSS) in pond system effluent is 90 mg/L. The Permittee shall sample the secondary pond effluent on a monthly basis, for those months when discharge to the evaporation/percolation basin occurs.
- *pH*: The Division requires the pond effluent to meet a pH limitation of between 6.0 and 9.0 standard units, consistent with other regulated pond systems in Nevada. pH shall be sampled in the secondary pond effluent on a monthly basis. The Permittee shall sample the secondary pond effluent on a monthly basis, for those months when discharge to the

evaporation/percolation basin occurs.

- *Groundwater Monitoring:* Due to the relatively shallow groundwater, groundwater monitoring on a quarterly basis is required in this permit renewal.
- *Total Nitrogen:* The Division requires that Permittee monitor this constituent on a quarterly basis and limit the Total Nitrogen level of groundwater below the treatment site to less than the State standard of 10 mg/l.

Schedule of Compliance:

The Permittee shall submit the following items to the Division for review and approval (**all compliance deliverables shall be addressed to the attention of the Compliance Coordinator, Bureau of Water Pollution Control**):

- **Within fourteen (14) days prior to the commencement of use of the new lined pond system,** the Permittee shall submit a notice of intent to use the pond system to the Division.
- **Within thirty (30) days of construction completion,** the Permittee shall submit certification, stamped by a Nevada registered professional engineer, that the project was constructed in accordance with the plans and specifications approved by the Division.
- **Within sixty (60) days of construction completion,** the Permittee shall submit any revision to the Operations and Maintenance (O&M) Manual, prepared in accordance with the Division's WTS-2 guidance document: *Minimum Information Required for an Operations and Maintenance Manual*, that reflect the changes made to the wastewater treatment system during construction.

Procedures for Public Comment:

The Notice of the Division's intent to issue (renew) a permit authorizing the operation of this wastewater treatment facility, subject to the conditions contained within the permit is being sent to the **Tonopah Times-Bonanza & Goldfield News** and the **Reno Gazette-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 comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **December 29, 2008 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.

Proposed Determination:

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

Prepared by: Janine Hartley
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 Bureau of Water Pollution Control