



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

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NEVADA DIVISION OF ENVIRONMENTAL PROTECTION FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Horizon Academy
1472 South U.S. Highway 373
HCR 70 Box 531
Amargosa Valley, Nevada 89020

Permit Number: NEV20011

Facility Location: Intersection of U.S. Highway 373 and Mecca Road
1472 South U.S. Highway 373
Amargosa Valley, Nye County, Nevada 89020

Latitude: 36° 29' 50" N
Longitude: 116° 25' 27" W
Township 17S, Range 49E, Section 2

General: Horizon Academy is a private boarding school located just north of the Nevada/California border in Amargosa Valley. The Permittee operates a 20,000 gallon per day (GPD) Mar-Wood package wastewater treatment plant. The treatment facility consists of a mixed anoxic compartment, three aeration compartments, clarifier, contact basin and digester. Denitrification was added into the permit during the 2006 renewal because of the proximity of the system to the drinking water well for the school. Denitrification occurs via anoxic zone mixing of raw influent in addition to on/off aeration in the three aeration compartments. The effluent meets tertiary treatment standards and is discharged to one of two (2) Rapid Infiltration Basins (RIBs).

The plant was originally installed and permitted in approximately 1982 by Mountain View Homes, Incorporated. Site inspection reports from 1986 to 1991 indicated that the treatment system was essentially abandoned and the associated buildings (apartments, shopping center, and ancillary community services facilities) were boarded up. The disposal ponds were reportedly dry, and the property was fenced and locked.

In 1992, the subject property was sold and renewed interest in the area resurrected the intended use of the wastewater treatment system. The treatment facility was opened again for use and permitted on June 3, 1994. A change of ownership occurred once more in December 2004 and the property has since been converted to the Horizon Academy.

Receiving Water Characteristics: Tertiary treated, denitrified effluent is discharged to groundwaters of the state of Nevada via percolation into two RIBs. The depth to groundwater beneath the RIBs is approximately 90 feet. General groundwater flow direction has been interpreted to be in a southerly direction. Local groundwater is used as a primary drinking water source for the Horizon Academy community, as well as, individual residences randomly dispersed to the east and north of the treatment system. Potable water is supplied by a non-transient non-community drinking water well (W-01) located approximately 400 feet southeast of the treatment system. A second supply well (W-02) was previously used for fire protection and irrigation. Due to the lack of use, supply well W-02 has been abandoned and used solely for monitoring purposes. Wells W-01, W-02 and MW-3 are used for monitoring to ensure that the groundwater stays within the State's nitrate limit.

Effluent Flow and Characteristics: The Permittee has re-applied for a 30-day average flow limit of 20,000 gallons per day (GPD), which is the existing permit limit. The specific permit limitations, standard to all treatment facility dischargers, require the Permittee to notify the Division when the 30-day average daily influent flow rate first equals or exceeds 85% of the 20,000 GPD design treatment capacity. The current operational flow reported was 6,000 GPD; the permit limit was not exceeded.

There is a 'reuse' option in the permit conditions that may be exercised by the Permittee if and when tentative plans to plant an area of trees is completed and formal notification has been submitted and approved by the Division. Once the notification is approved, the Permittee shall commence the monitoring of fecal coliform.

During the period from 2007 to present, effluent characteristics were reported as the following:

Table 1 - Effluent Characteristics

Parameter	Permit Limit	Average	Maximum Reported	Minimum Reported
30-day Avg. Flow (MGD)	0.02	0.0037	0.005	0.0016
Total Suspended Solids (mg/L)	30	12.97	60	0
BOD5 (mg/L)	30	9.05	43.2	2
pH (Standard Units)	6 to 9	7.21	8.08	6.69
Total Nitrogen (mg/L)	10	6.27	17.9	0.64

mg/L: Milligrams per liter

MGD: Million gallons per day

Nitrification/denitrification is effectively achieved during operation of the facility. NDEP requires that the effluent meet the 30-day average total nitrogen limit of 10 mg/L, to ensure that any effluent migrating to the groundwater does not degrade water quality.

Bureau of Corrective Actions Sites: There are no Bureau of Corrective Actions (BCA) remediation sites located within a one-mile radius of the proposed facility.

Well Head and Drinking Water Supply Protection: The facility is within 1000 feet of a public supply well (W-01). A Wellhead Protection Area (WPA) has not been established for this area. Well W-01 is ranked highly vulnerable to inorganic compounds (IOC) and moderately vulnerable to pathogens.

Proposed Effluent Limitations and Special Conditions: NDEP proposes the following permit limitations and monitoring requirements:

Table 2 - Plant Discharge Limitations

PARAMETER		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		30 - Day Average	Daily Maximum	Measurement Frequency	Sample Type
Influent	Flow (MGD)	0.020	Monitor & Report	Daily	Hour Meter/ Calculate
Effluent	BOD ₅ (mg/L)	30	45	Quarterly	Composite
	TSS (mg/L)	30	45	Quarterly	Composite
	Total Nitrogen as N (mg/L)	10	Monitor & Report	Quarterly	Composite
	pH (Standard Units)	6.0 to 9.0		Quarterly	Discrete
	Fecal Coliform* (CFU/100 ml or MPN/100 ml)	2.2	23	Monthly	Discrete

*Note: Monitoring for fecal coliform is only required when approved effluent reuse is conducted.

Table 2 - Groundwater Monitoring

PARAMETER	GROUNDWATER LIMITATIONS	MEASUREMENT FREQUENCY	SAMPLE TYPE
Depth to Groundwater (feet)	Monitor & Report	Quarterly	Discrete
Groundwater Elevation (ft amsl)	Monitor & Report	Quarterly	Calculate
TDS (mg/L)	Monitor & Report	Quarterly	Discrete
Chlorides (mg/L)	Monitor & Report	Quarterly	Discrete
Total Nitrogen as N (mg/L)	10	Quarterly	Discrete

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 that 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. **By Month Day, 2012**, the Permittee shall submit for Division review and approval an updated Operations & Maintenance (O&M) Manual.
- c. The Permittee shall not reuse treated effluent prior to having an approved Effluent Management Plan (EMP) per NAC 445A.275. An EMP shall be submitted to the Division using form WTS-1B as a guide. The EMP must be stamped and signed by a Professional Engineer registered with the state of Nevada.

Rationale for Permit Requirements: The monitoring proposed by this permit is consistent with current facility practices and existing permit limitations to protect groundwater quality.

Procedures for Public Comment: The Notice of the Division's intent to renew a permit authorizing the facility to discharge to the groundwaters of the State of Nevada 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 also 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 30 days following the date of the public notice. 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 **5:00 PM, January 30, 2012**.

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 modify and renew the proposed permit for a period of five (5) years.