STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION
Jim Gibbons, Governor
Allen Biaggi, Director
Leo M. Drozdoff, P.E., Administrator

FACT SHEET

(Pursuant to NAC 445A.236)

Permittee Name: Indian Hills General Improvement District
3394 James Lee Park Road
Carson City, NV 89705

Permit Number: NEV80039

Location: Indian Hills Wastewater Treatment Facility
1001 Hobo Hot Springs Road
Carson City, Douglas County, Nevada

Latitude: 39° 03' 30"N
Longitude: 119° 47' 43"W
Township 14N, Range 19E, Section 24

General:
The applicant is requesting renewal of the existing permit for the ABJ wastewater treatment plant that serves residential subdivisions in Indian Hills General Improvement District (IHGID), commercial areas including Wal-Mart, Target, Home Depot and several restaurants and shops, an RV Park and a school. In the future, the treatment plant may receive wastewater from the Clear Creek Golf Club development. The collection system consists of several lift stations. One of those lift stations which is located on Topsy Lane and serves the shopping center, is operated by Douglas County utilities, with the flows pumped to IHGID. IHGID has provided sewer treatment to the area since 1973. The peak daily design capacity of the plant is 1.5 MGD with current flows averaging 0.324 MGD.

The wastewater treatment facility consists of headworks with flow metering and a Rotomat unit and two consecutive bar screens for screenings removal. Screenings recovered are conveyed to separate plastic collection bags to control odors and discourage vectors prior to disposal. The ABJ plant consists of two parallel 0.3 MGD capacity reactor basins with a common aerated sludge digester basin. Each reactor basin has a separate pre-reactor aeration basin to acclimate the microbes for the on/off aeration periods in each reactor. Influent flows from each pre-reactor basin into the reactor basin in a plug flow fashion. Flows are split evenly between the two basins. In the reactor basins, tertiary treatment is accomplished in alternating periods of on (four) and off (three) aeration/anoxic cycles of 24 minutes each (168 minutes total). The on (aerobic) periods accomplish BOD removal and nitrification, while the off (anoxic) periods accomplish denitrification. After the on/off cycles, the effluent is settled for 60 minutes and then decanted and discharged to the one acre transfer pond and, or, in the winter to the 6 storage ponds when the

ponds when the treated effluent is not being discharged to the golf course lakes at Sunridge Golf Course. To reduce the algae growth in its effluent pumping pond, the Indian Hills GID recently purchased several LG Sonic® units. According to the manufacturer, these units emit sound waves into the pond, which disrupt algae cells and inhibit their growth without the use of chemicals.

Decommission of the facility's two sludge holding ponds commenced several years ago in response to pond seepage and subsequent groundwater impact as monitored in MW-2. Funding allowed the east pond to be HDPE-lined. The decision was made to decommission the west pond and pursue a sludge dewatering unit. The GID has already constructed a dewatering building and is investigating purchase of an Aero-Mod® belt filter press to supplement its one holding pond.

MW-1 monitors the effluent pumping pond and indicates 3.5 mg/l TN. MW-2 monitors the sludge ponds and indicates a reduction to 6.5 mg/l TN, which is a one-third decrease in TN level from several years ago when the allowable limit of 10 mg/l TN had been approached due to pond seepage effect.

The Sunridge Golf Course, located east of Highway 395 and due east of the facilities, utilizes a maximum of 0.86 MGD of treated effluent for landscape and turf grass irrigation (reuse) supplied by IHGID. This discharge is permitted separately under Permit NEV 96008. Sunridge Golf Course provides 17-AF of storage in its ponds. Monitoring is required to determine any adverse effects on the groundwater. Treated effluent storage is accommodated by: 0.5 MGD seasonal storage in the Sunridge Golf Course lakes, and 0.1 MGD in transfer Pond #1 and winter storage in the six original storage ponds. The permitted outfalls are listed as follows:

Outfall 001: onsite effluent storage ponds
Outfall 002: onsite landscape irrigation
Outfall 003: Sunridge Golf Course export line
Outfall 004: yard hydrants and Rotomat/headworks
Outfall 005: construction water truck fill stand

Corrective Actions Sites: There is no Bureau of Corrective Actions remediation site located within a one-mile radius of the permitted site.

Wellhead Protection Area: Facility is not within a 6000' capture zone. A public water supply well is 2 miles distant from the treatment plant.

Flow: The permitted 30-Day average flow is 0.600 MGD with a maximum daily flow of 1.5 MGD.

Receiving Water Characteristics: Depth to groundwater near the plant site is approximately 30 feet below ground surface and is potable. Groundwater samples are collected and analyzed

quarterly from two down-gradient monitoring wells. The IHGID Utility's water supply wells are located miles from the plant site. There are no residences within one half mile of the plant.

Proposed Effluent and Groundwater Limitations

Discharges from the Indian Hills WWTF to groundwater of the State will be limited as follows:

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30 Day Ave.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	0.600	1.5	Continuous	Flow meter
BOD_5 (Influent), mg/L	M & R	M & R	Quarterly	Composite
TSS (Influent), mg/L	M & R	M & R	Quarterly	Composite
BOD_5 (Effluent), mg/L	30	45	Quarterly	Composite
TSS (Effluent), mg/L	30	45	Quarterly	Composite
Total Kjeldahl Nitrogen as N (Effluent), mg/L	M & R		Quarterly	Discrete
Nitrate as N (Effluent), mg/L	M & R		Quarterly	Discrete
Total Nitrogen as N (Effluent), mg/L	10		Quarterly	Discrete
pH (Effluent), SU	Between 6.0 and 9.0		Quarterly	Discrete

M & R - Monitor and Report
Total Nitrogen = Total Kjeldahl Nitrogen + Nitrate + Nitrite

The two groundwater monitoring wells – MW#1 and MW#2 - will be monitored and limited per the permit as follows:

PARAMETERS	GROUNDWATER LIMITATIONS	MONITORING REQUIREMENTS	
		Measurement Frequency	Sample Type
Depth to Water, ft	Monitor and Report	Quarterly	Discrete
Groundwater Elevation, ft AMSL	Monitor and Report	Quarterly	Discrete
Total Nitrogen as N, mg/L	10	Quarterly	Discrete
Nitrate as N, mg/L	Monitor and Report	Quarterly	Discrete
Total Dissolved Solids, mg/L	Monitor and Report	Quarterly	Discrete
Chloride, mg/L	Monitor and Report	Quarterly	Discrete

The outfalls shall be monitored according to the following parameters:

OUTFALL NUMBER	FLOW (MGD)		FECAL COLIFORM (CFU OR MPN/100 mL)	
	30-Day Ave.	Daily Max.	30-Day Ave.	Daily Max.
002	Monitor & Report		200	400
003	M&R	0.860	See Permit NEV96008	
004	Monitor & Report		200	400
005	Monitor & Report		2.2	23

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. A revised Operations & Maintenance (O&M) Manual shall be submitted to NDEP by **MonthDay**, **2010**, that outlines any changes to the treatment process and/or operation of the facility. The O&M Manual shall follow the requirements for O&M Manuals found in NDEP Publication WTS-2 *Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant*; and

b. A revised Effluent Management Plan (EMP) shall be submitted to NDEP by **MonthDay, 2010**, that outlines any changes or additions to the facility's EMP. The EMP shall be prepared in accordance with NDEP's Publication WTS-1B *General Design Criteria for Preparing an Effluent Management Plan*.

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

Rationale for Permit Requirements
The flow is measured to verify the flow to the treatment plant is consistent with permit limitations, and to determine when design capacity is being approached. Influent and effluent BOD_5 and TSS, and effluent nitrogen are monitored to assess the level of treatment being provided and to verify compliance with permit limitations.

Groundwater monitoring is required to verify that groundwater of the State is not degraded.

Procedures for Public Comment:
The Notice of the Division's intent to issue a 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 **Record Courier** 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 may do so in writing for a period of 30 days following the date of the public notice. All comments regarding this permit must be received or postmarked by **5:00 PM on March 9, 2010.** 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: Steve McGoff, P.E.
Staff Engineer III
February 2, 2010