

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Nevada Department of Corrections
P.O. Box 7011
Carson City, NV 89702

Permit Number: NEV00025

Location: Southern Desert Correctional Center
Indian Springs, Nevada (Clark County)
Latitude: 36° 30' 58"N, Longitude: 115° 32' 58"W
(Latitude/Longitude at Headworks)
Section 33, Township 16S, Range 57E

General: The Nevada Department of Corrections (NDOC) submitted an application for renewal with modifications, of Nevada Groundwater Discharge Permit NEV00025, Southern Nevada Correctional Center sewage treatment disposal system in August, 2006.

The Nevada Department of Corrections operates four (two off-line until deepened and lined as per Phase II modification approval) wastewater treatment ponds at the Southern Desert Correctional Center (SDCC), which is located eight miles southeast of Indian Springs, Nevada on U.S. Hwy. 95. The treatment facility is located downgradient of SDCC and receives domestic wastewater influent via gravity flow from four Indian Springs correctional facilities including SDCC, Indian Springs Conservation Camp, Indian Springs Boot Camp, and High Desert State Prison. Upon final build-out of the prison complex, the four treatment ponds will be designed for a total inmate population of 5,000. The inmate population as of December 2006 was 4,263 (average monthly population January 2005 to December 2006: 4,222). Prior to 1999, the four ponds were operated as facultative ponds. The Permittee has requested a two-phase upgrade, which consists of installing an HDPE liner in each of the four facultative ponds. The four ponds will be converted into two independent treatment systems, each consisting of an aerated primary pond and facultative secondary pond. Each of the two secondary ponds will discharge clarified effluent to the groundwater via percolation in eleven rapid infiltration basins (RIBs). Upon final build-out, the two treatment systems will be designed for a 30-day average flow of 0.78 million gallons per day (MGD). The first phase of the upgrades to ponds 1 & 2 has been completed, and the remaining upgrades to ponds 3 & 4 are scheduled to be completed by December 31, 2007. Each of the four treatment ponds, upon being upgraded, will have approximate dimensions of 275 feet (length) × 500 feet (width) × 7.5 feet (total depth).

Phase I consisted of enlarging and lining (60-mil HDPE liner) ponds 1 and 2 on the north side. Pond 2 is equipped with eight floating aerators and is operated in the complete mix mode to accelerate aerobic digestion processes. After aeration and mixing, the mixed liquor settles in facultative pond #1, where the settled sludge is anaerobically digested. In Phase II, ponds 3 and 4 on the south side will be HDPE-lined (60-mil) and aerators will be installed in

pond 3. Pond 4 will be operated as a facultative settling pond, like pond 1. Periodically, the ponds will be drained in order to facilitate the removal of sludge. The treatment facility is fenced and posted and is located outside the SDCC perimeter security fence.

Receiving Water Characteristics: The receiving water for secondary pond effluent is groundwater via percolation in the RIBs. Groundwater is found at a depth of approximately 200 feet and flows north in a direction towards U.S. Hwy. 95. The local groundwater is of acceptable quality for drinking water supply. Four wells located one-half mile upgradient of the treatment ponds supply the four Indian Springs correctional facilities with their water supply. Based on the depth to groundwater and distance to public water supplies, the Division does not currently require groundwater monitoring at SDCC.

Flow: The current flow is permitted at the design capacity of 0.43 million gallons per day (MGD) 30-day average and 0.58 MGD daily maximum. The Permittee has submitted designs indicating 30-day average flow of 0.78 MGD upon completion of Phases II.

Effluent Limitations and Special Conditions:

Table 1: Plant Discharge Limitations

Parameter	Discharge Limitations		Monitoring Requirements	
	30 Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD (influent) ⁽¹⁾	0.43	0.58	Continuous	Flow Meter
Flow, MGD (Influent) ⁽²⁾	0.78	-----	Continuous	Flow Meter
CBOD, mg/L (influent)	Monitor & Report		Monthly	Discrete
CBOD, mg/L (effluent)	30	45	Monthly	Discrete
TSS, mg/L (influent)	Monitor & Report		Monthly	Discrete
TSS, mg/L (effluent)	90		Monthly	Discrete
Total Nitrogen as N, mg/L (effluent)	Monitor & Report		Monthly	Discrete
pH, Standard. Units (effluent)	between 6.0 and 9.0		Monthly	Discrete
Liquid Depth in Treatment Ponds (feet)	Monitor & Report		Monthly	Field Observation (Staff Gauge)
Liquid Depth in RIBs (feet)	Monitor & Report		Monthly	Field Observation (Staff Gauge)

- (1) Current limits
- (2) Limit upon completion of Phase II upgrades. Until Phase II has been completed, the flow limits of 0.43 MGD and 0.58 MGD, respectively, for the 30-day average and daily maximum periods will apply.

Notes: Influent flow is wastewater flow into the headworks but prior to discharge to the four ponds.

Effluent flow is treated effluent flow from ponds 1 & 4 prior to discharge into the RIBs. Separate effluent samples shall be collected from Ponds 1 (North) and 4 (South), prior to discharge into the rapid infiltration basins.

Schedule of Compliance: The Permittee shall submit the following items to the Division for review and approval:

- Within ninety (90) days of the permit issuance date (**Month XX, 2007**), the Permittee shall submit a revised Operations and Maintenance (O&M) Manual. The O&M manual is to include operational and sampling procedures for the modifications completed and planned in Phases I and II.
- By **May30, 2008** the Permittee shall have completed the Phase II modifications.
- Within thirty (30) days of completing the Phase II modifications (**June 29, 2008**), the Permittee shall submit to the Division in writing notification of the final completion date(s) for the Phase II upgrades.

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 ponds is not exceeded and reporting to the Division is made at 85% of the 30-day design capacity. The 30-day flow limit shall increase from 0.43 to 0.78 MGD upon completion of the Phase II upgrades.
- *CBOD:* The Division requires the monitoring of influent and effluent Carbonaceous Biochemical Oxygen Demand (CBOD or Inhibited BOD), as an indication of treatment performance in the ponds. The Division's secondary-treatment CBOD standards for ponds are 30 and 45 mg/L, respectively, for the 30-day average and daily maximum values.
- *TSS:* The Division's secondary-treatment standard for Total Suspended Solids (TSS) in pond system effluent is 90 mg/L.
- *pH:* The Division requires the pond effluent to meet a pH limitation of between 6.0 to 9.0 standard units.

Procedures for Public Comment: The Notice of the Division's intent to issue (modify and renew) a permit authorizing the facility to discharge secondary-treated pond effluent into the groundwater via percolation, subject to the conditions contained within the permit is being sent to 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 the public notice. The comment period can be extended at the discretion of the Administrator. The deadline date at the Division for receipt of all comments pertaining to this public notice period is **October 11, 2007 at 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 (modify and renew) the proposed groundwater discharge permit for a period of five (5) years. Since the permit renewal period has come due at the time that the modification request is being processed, these two actions will be issued together in the same public notice.

Prepared by: James T. Hogan
Staff Engineer II
September 2007

Saved to: SDCC_factsheet.doc