

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

Permittee Name: City of Lovelock
P.O. Box 238
Lovelock, NV 89419

Permit Number: NV0020311

Location: Lovelock Wastewater Treatment Facility (WWTF)
815 S. Meridian Road
Lovelock, Pershing County, Nevada
Township 27N, Range 31E, SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 34

Location of Discharge

Latitude: 40° 09' 57"N,
Longitude: 118° 28' 33"W

General: The Lovelock WWTF is located approximately $\frac{1}{2}$ mile south of the city limits of Lovelock, Pershing County, Nevada. The Lovelock WWTF services approximately 2,200 people residing within the city limits. The WWTF influent is domestic (sanitary), and there are no industrial connections. Most of the town's influent is received by gravity flow, except for a small number of commercial connections on the south end of the city, which are served by a lift station located below the WWTF.

In January 2001, the facility initiated the upgrade of its four-aerated/facultative treatment ponds with a 0.6 MGD Sequencing Batch Reactor (SBR) facility, which came on line in late 2003. The SBR facility is designed as a 10/10/10 plant, producing effluent with BOD₅, Total Suspended Solids, and Total Nitrogen all equal to 10 mg/l. The O&M Manual indicates that there is also partial phosphorus removal, i.e., luxury uptake. The SBR facility consists of a wet well, two reactor tanks, an aerated sludge digester and a chlorine contactor. After digestion, waste activated sludge is discharged for long-term storage to an HDPE-lined facultative holding basin. The supernatant from this basin is recycled to the reactors. At a design flow of 0.6 MGD, a complete reactor batch cycle consisting of filling, reaction, settling, decanting and idle takes six hours to complete. Operation of the SBR system has resulted in improved effluent quality due to the efficient removal of BOD₅, elimination of pond algal blooms (e.g., lower TSS) and reduction in discharged nutrients (nitrogen and phosphorus).

Receiving Water Characteristics: Treated, disinfected effluent is discharged at the south end of the facility property to the Lovelock Drain. The Lovelock Drain is an irrigation tailwater ditch that is operated by the Pershing County Water Conservation District. This ditch is one of several ditches in the Lovelock farming district, which drain irrigation supply from the Humboldt River. The Lovelock Drain eventually discharges to the Toulon Sink, which is located 12 miles southwest of Lovelock. During dry weather, Toulon Sink is a dry lakebed (i.e., desert playa). The WWTF effluent flows in this ditch past the discharge outfall for approximately $\frac{1}{4}$ mile before dissipating due to percolation and evaporation. In winter to early spring, shallow water accumulates in Toulon Sink from stormwater runoff originating in the

Trinity and West Humboldt Ranges, which flank the Toulon Sink. The Lovelock Drain and Toulon Sink are unclassified waters. There are no beneficial uses assigned to these waters. The City of Lovelock potable water supply is from wells located near Oreana, approximately 14 miles northeast of Lovelock.

Effluent Flow and Characteristics: The SBR facility is designed to produce 10/10/10 effluent at a flow of 0.6 MGD. The computer-controlled operating program (i.e., SCADA system) calculates the wastewater flow based on the number of times the reactors are filled and the level of influent added each time.

During the period from December 2003 through December 2008, the following effluent characteristics were reported.

Parameter	Permit Limit	Average	Maximum	Minimum	Number of Exceedances
Average Flow (MGD)	0.6	0.326	0.72	0.19	2
BOD ₅ (mg/l)	45	13.0	81	2	3
Total Suspended Solids (mg/l)	45	11.6	71	1	1
pH (Standard Units)	6.0 - 9.0	7.40	8.24	6.2	0
Total Nitrogen (mg/l)	10	6.66	38	1.1	9
Fecal Coliform (cfu or mpn/100 ml)	400	3.3	3300	<2	3
BOD ₅ Removal (%)	85	94.2	99	64	6
TSS Removal (%)	85	92.5	99	70	6

Proposed Effluent Limitations: The following effluent limitations and monitoring requirement are proposed for the renewed permit:

Table 1: Plant Discharge Limitations

PARAMETER		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Influent	Flow (MGD)	0.6	Monitor & Report	Continuous	Program Calculation
	BOD ₅ , (mg/L)	Monitor & Report		Monthly	Discrete
	TSS, (mg/L)	Monitor & Report		Monthly	Discrete
Effluent	BOD ₅ , (mg/L)	30	45	Monthly	Composite
	TSS, (mg/L)	30	45	Monthly	Composite
	Total Nitrogen as N, (mg/L)	10.0		Monthly	Composite
	Fecal Coliform, (cfu or mpn/100 ml)	200 ^A	400	Monthly	Discrete
	pH, (Standard Units)	6.0 ≤ pH ≤ 9.0		Monthly	Discrete
TSS Removal, (Minimum %)		85		Monthly	Calculation
BOD ₅ Removal, (Minimum %)		85		Monthly	Calculation

A. Geometric Mean

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

- *BOD₅/TSS*: The permit requires a minimum of secondary treatment. NPDES permits also require 85% removal of BOD₅ and TSS.
- *Total Nitrogen*: The SBR facility is designed for year-round removal of total nitrogen to below 10 mg/L. With denitrification, effluent percolation in the Lovelock Drain is not expected to adversely impact the quality of the shallow groundwater in the Lovelock farming district.
- *Fecal Coliform*: The current permit has established fecal coliform limits in the effluent based on NAC 445A.278 (drip or surface irrigation of landscape). The Lovelock Drain is posted below the outfall for approximately ½ mile on both sides of the ditch. The portion of the ditch where effluent is present runs through the back-end of several commercial businesses and farm fields, and general public access is reasonably restricted, i.e., zoning, fencing and signs.

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 (**all compliance deliverables shall be sent to the attention of the Compliance Coordinator, Bureau of Water Pollution Control**).

- a. The Permittee shall achieve compliance with the effluent limitations upon the issuance date of the permit.
- b. Within fourteen (14) days of completion of installation of new mechanical screen and screenings screw conveyor in the headworks, the Permittee shall notify NDEP.
- c. Within sixty (60) days of installation of the new mechanical screen and screenings screw conveyor, the Permittee shall submit as-built drawings, stamped by a professional engineer registered in the State of Nevada.
- d. Within sixty (60) days of installation of the new mechanical screen and screenings screw conveyor in the headworks, the Permittee shall prepare and submit an addendum section for this equipment in the Operations and Maintenance (O&M) Manual.

Procedures for Public Comment: The Notice of the Division's intent to issue (renew) an NPDES discharge permit to the City of Lovelock, subject to the conditions contained within the permit is being sent to the **Lovelock Review-Miner** and **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 **June 1, 2009 by 5:00 P.M.** A copy of the public notice and fact sheet can also be downloaded from the Division's website at the following address: <http://ndep.nv.gov/admin/public.htm>

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 NPDES discharge permit for a period of five (5) years.

Prepared by: Janine O. Hartley, P.E.
Bureau of Water Pollution Control
April 2009

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