

# NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

## FACT SHEET (pursuant to NAC 445A.236)

**Permittee:** 7-Eleven, Inc.  
P.O. Box 711  
Dallas, Texas 75221

**Permit:** NV0022870 – Renewal

**Location:** 7-Eleven Store 19653  
2725 North Las Vegas Boulevard  
North Las Vegas, Nevada 89030

Latitude: 36° 12' 33" N

Longitude: 115° 06' 26" W

Township 20S, Range 61E, Section 13 MDB&M

**Flow:** 0.0144 Million gallons per day (MGD) Daily Maximum and 30-day Average  
(10 gallons per minute (gpm))

**General:** The Permittee has applied for a National Pollutant Discharge Elimination System (NPDES) permit to continue to discharge treated groundwater from 7-Eleven Store 19653, a self-service fueling station/convenience store, to the Las Vegas Wash via the City of North Las Vegas Stormdrain System. An NPDES Permit for this discharge was first issued in January 1998 to the Southland Corporation and reissued to 7-Eleven, Inc. in April 2000 and June 2002.

The facility is located at 2725 North Las Vegas Boulevard, the intersection of Evans Avenue and North Las Vegas Boulevard, North Las Vegas. Shallow groundwater at the facility is contaminated with petroleum hydrocarbons due to a gasoline release from an underground storage tank and/or piping installed for the retail sale of fuel. The existing remediation system was designed to remove dissolved hydrocarbons and volatile organic hydrocarbons to meet discharge water quality standards. The system includes three groundwater extraction wells located in the southern and eastern portions of the property with pumps rated for a maximum flow of approximately 10 gpm. In July 2002, the Permittee began using a mobile dual phase extraction unit. Pumped groundwater is routed through a common manifold and an air/water separator at the remediation compound to a totalizing flowmeter and piped to the stripper. An anti-scaling chemical, Anlytix™ AN-310FG, containing copolymers and organic phosphorus compounds, or similar, is added to the pumped groundwater prior to being processed through the air stripper. The air stripper is a high profile packed tower model equipped with counter-current air flow. The stripper has a maximum rated flow of 30 gpm. From the stripper, there are two waste streams, the water stream and the air stream. The water stream is gravity fed through buried PVC piping to the stormdrain. The air stream is discharged directly to the atmosphere under Clark County Health District Permit A-00543.

Pumping, treatment, and monitoring will continue until the Division has determined that groundwater and soil have been adequately remediated. The Operations and Maintenance Manual for this facility was approved by the Division October 10, 2002.

The current total phosphorus (TP) and total ammonia Las Vegas Wash total maximum daily loads (TMDL) were established in 1989 and became fully effective in 1994 and 1995, respectively. The October 2003, Evaluation of TMDLs and Associated Water Quality Standards Attainment for the Las Vegas Wash, Las Vegas Bay, and Lake Mead includes TP, 433 lb/day, and total ammonia, 970 lb/day, TMDLs. Waste load allocations (WLA) in the Wash at Northshore Road were established to meet the Las Vegas Bay water quality standards. The WLAs are applicable for only April through September and were based on target concentrations, 0.64 mg/L – TP, 1.43 mg/L – total ammonia, and average streamflows.

**Receiving Water Characteristics:** The treated groundwater is discharged to the Las Vegas Wash via the City of North Las Vegas Stormdrain System. The Las Vegas Wash from Telephone Line Road to confluence of discharges from City of Las Vegas and Clark County wastewater treatment plants, NAC 445A.199, standards apply for this stream segment via the tributary rule. Per NAC 445A.198, the beneficial uses of this segment of the Wash are: irrigation; watering of livestock; recreation not involving contact with the water; maintenance of a freshwater marsh; propagation of wildlife; and propagation of aquatic life, excluding fish.

The Division does not monitor the Upper Las Vegas Wash water quality. The Bureau of Water Quality Planning database includes 1<sup>st</sup> quarter 2001 through 1<sup>st</sup> quarter 2005 water quality data for the Wash above Lake Las Vegas, CL3A. This monitoring point is located downgradient of the discharges from the three Las Vegas area wastewater treatment plants. At this point, the Wash met the NAC 445A.199 requirements to maintain existing higher quality (RMHQ) and the water quality standards for beneficial uses except fecal coliform.

In addition to the two constituents with TMDLs, total ammonia and TP, the 11/05 EPA Approved Final, Nevada 2004 303(d) List includes total iron and selenium as pollutants or stressors of concern. The average Wash concentrations for these four parameters over the same time period have been included in the following table:

<u>Parameter</u>	<u>RMHQ</u>	<u>Standard<sup>3</sup></u>	<u>Average</u>
Temperature (°C)	ΔT=0	---	24.7
pH (SU)	---	6.5 – 9.0	8.2
Total Inorganic			
Nitrogen (mg/L)	20	---	14 <sup>1</sup>
Nitrate (mg/L)		100	14
Nitrite (mg/L)	---	10	0.03
Total Suspended			
Solids (mg/L)	---	135	94
Total Dissolved			
Solids (mg/L)	1,900	3,000	1,612
Fecal Coliform			
(No./100 ml)	---	200/400	230
Total Ammonia (mg/L)	---	5.72/0.97	<0.1 <sup>2</sup>
Total Phosphorus (mg/L)	---	---	0.28
Total Iron (μg/L)	---	1,000	780
Selenium (μg/L)	---	20/5.0	4.7

Notes:

- |       |                               |             |                             |
|-------|-------------------------------|-------------|-----------------------------|
| 1.    | Total nitrogen.               |             |                             |
| 2.    | Dissolved ammonia.            |             |                             |
| 3.    | NAC 445A.199 or NAC 445A.144. |             |                             |
| ΔT:   | Change in temperature.        | °C:         | Degrees Celsius.            |
| SU:   | Standard units.               | mg/L:       | Milligrams per liter.       |
| μg/L: | Micrograms per liter.         | No./100 ml: | Number per 100 milliliters. |

**Quantities:** Using the maximum permitted flow, 0.0144 MGD, the TP and total ammonia concentrations in the discharge would have to be greater than 8.3 mg/L to exceed the 1.0 lbs/day load limits of the Division's de minimis policy for dischargers that have not received waste load allocations. Using the maximum reported daily flow of 0.0029 MGD, the concentrations of these constituents would have to be greater than 41.3 mg/L to violate the de minimis policy.

Since elevated TP and total ammonia concentrations in these ranges have not been identified in the shallow Las Vegas groundwater, load limits have not been included in the draft permit.

**Compliance History:** Based on the Division's Compliance Database for the period from the 2<sup>nd</sup> quarter of 2002, the start of the current permit, through the 1<sup>st</sup> quarter of 2007, the discharge has exceeded the effluent discharge limitations once. In the 1<sup>st</sup> quarter of 2005, benzene was detected at a concentration of 7.4 µg/L.

**Proposed Effluent Limitations:** Samples taken in compliance with the monitoring requirements specified below shall be taken:

- a. The sample port located at the air stripper sump discharge piping; and
- b. The totalizing flow meter on the supply line between the control valve and the air stripper.

The discharge shall be limited and monitored by the Permittee as specified below:

Parameters	Effluent Discharge Limitations		Monitoring Requirements		
	30-Day Average	Daily Maximum	Sample Location	Measurement Frequency	Sample Type
Flow (MGD)	0.0144	0.0144 <sup>1</sup>	b.	Weekly	Meter Reading
TPH EPA SW-846 Method 8015, modified to detect extractable fuel hydrocarbons (mg/L)	---	1.0	a.	Monthly	Discrete
VOC EPA Method 8260, report all parameters (µg/L)	Monitor & Report		a.	Annually <sup>2</sup>	Discrete
Benzene		5		Monthly	
Ethylbenzene		100			
Toluene	---	100			
Xylenes, total		200			
MTBE		20			
Lead, total (µg/L)	36	943	a.	Quarterly	Discrete
Total Ammonia –N (mg/L)	Monitor & Report		a.	Quarterly	Discrete
Total Phosphorus –P (mg/L)	Monitor & Report		a.	Quarterly	Discrete
Total Dissolved Solids (mg/L)	Monitor & Report		a.	Annually <sup>2</sup>	Discrete
Selenium (µg/L)	Monitor & Report		a.	Annually <sup>2</sup>	Discrete
Iron, total (µg/L)	Monitor & Report		a.	Annually <sup>2</sup>	Discrete

- Notes: <sup>1</sup> Seven-day average.  
<sup>2</sup> Sample, analyze, and report in the fourth quarter.
- MGD: Million gallons per day.  
 -N: As nitrogen.  
 µg/L: Micrograms per liter.  
 MTBE: Methyl tert-butyl ether.  
 VOC: Volatile organic compounds.

- mg/L: Milligram per liter.  
 -P: As Phosphorus.  
 TPH: Total petroleum hydrocarbons.  
 CaCO<sub>3</sub>: Calcium carbonate.

**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.

- a. The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.

- b. Within thirty (30) days of the permit effective date, the Permittee shall submit a revised Operations and Maintenance Manual to the Division for review and approval.

**Rational for Permit Requirements:** Monitoring is required to assess the quality of the discharge water and to ensure that the extracted and treated groundwater will not impact the beneficial uses of the Las Vegas Wash.

Flow: The current permit includes a daily maximum flow limitation of 0.0144 MGD. In the permit renewal application, the Permittee has requested daily maximum and 30-day average flow limits of 0.0144 MGD. In the application, the flows over the last year were reported as 2 gallons per minute (gpm), 0.0029 MGD, maximum daily value and 0.50 gpm, 0.00072 MGD, average daily value. Due to the low flows through the remediation system and the excess capacity of the stripper, the daily maximum flow limitation has been changed to a 7-day average in the draft permit to reduce the volume of data collected and level of management required.

Total Petroleum Hydrocarbons (TPH): Monthly analysis for TPH, EPA SW-846 Method 8015, modified to detect extractable fuel hydrocarbons, has been retained from the previous permit. The 1.0 mg/L TPH effluent discharge limitation, the Division's technology based remediation standard, has also been retained in the draft permit. The shallow groundwater in the vicinity of the facility has been contaminated by a petroleum hydrocarbon release. Continued monitoring is required to verify TPH removal by the air stripper.

Volatile Organic Compounds (VOC): Monthly analysis for VOCs, EPA Method 8260, has been retained from the previous permit. The benzene, ethylbenzene, toluene, total xylenes, and MTBE effluent discharge limitations, 5 µg/L, 100 µg/L, 100 µg/L, 200 µg/L, and 20 µg/L respectively, are the Division's technology based remediation standards for these VOCs that are associated with petroleum releases. Continued monitoring is required to verify VOC removal by the air stripper.

Lead, total: The NAC 445A.144 Aquatic Life Standards include equations with hardness as the only variable to determine the 1-hour, acute, and 96-hour, chronic, average dissolved lead standards.

Due to the distance between the facility discharge outfall and the receiving water, the dissolved lead aquatic life standards equations have been solved using the June 2006 through July 2007 average Las Vegas Wash, LW3.1, hardness, 684 mg/L as calcium carbonate and without the dissolved metal conversion factor. The average hardness value has been calculated from data provided by the Southern Nevada Water Authority. The draft permit includes a calculated acute total lead standard of 943 µg/L and a calculated chronic total lead standard of 36 µg/L.

Although the September 21, 2001 permit application stated that the average daily value for lead was 0.05 mg/L, lead was removed from the list of limited parameters at the previous permit renewal.

Total Ammonia as Nitrogen and Total Phosphorus as Phosphorus: Quarterly monitoring of total ammonia and TP without concentration limits has been added to the draft permit due to the Wash TMDLs for these parameters. The discharge is not expected to be a significant source of these constituents; see Quantities section for additional information.

Total Dissolved Solids (TDS): NAC 445A.199 includes a TDS RMHQ of 95% of the samples  $\leq$  1,900 mg/L and a livestock watering beneficial use single value standard of  $\leq$  3,000 mg/L. Quarterly TDS monitoring and reporting without effluent discharge limitation was removed from the current permit without explanation. Based on data older than five years, the TDS concentration in the shallow groundwater exceeds the beneficial use standard. The shallow groundwater with naturally occurring elevated TDS levels would flow to the Wash, if it was not intercepted by the dewatering system, therefore, the TDS standard is not applied to remediation discharges in this area. Quarterly monitoring and reporting of the TDS concentration without discharge effluent limitation has been added to the draft permit.

This permit is for the interception and passage of groundwater and thus is exempted under the Colorado River Basin Salinity Control Forum's policy on groundwater interception.

Total Iron and Selenium: Annual monitoring of total iron and selenium without concentration or load limits has been added to the draft permit due to the 303(d) listing of these parameters as pollutants or stressors of concern in the Wash. Monitoring of these parameters is not required by the current permit and no iron or selenium data was located in the Division files.

**Proposed Determination:** The Division has made the tentative determination to issue the proposed permit for a five (5) year period.

**Procedures for Public Comment:** The Notice of the Division's intent to issue a permit authorizing the Permittee to continue to discharge treated groundwater to the Las Vegas Wash 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 until 5:00 PM September 26, 2007, a period of 30 days following the date of the public notice. 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 of EPA Region IX 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.238.

Prepared by: Bruce Holmgren  
August 2007

P:\...NV0022870 7\2007RNWL\22870F2.Fac