

**Nevada Division of Environmental Protection
Fact Sheet**

Pursuant to NAC 445A.236

Permittee Risk Management and Safety
Clark County Department of Finance
P O Box 551711
Las Vegas NV 89155-1711

Permit No. NV0023159

Facility Regional Justice Center
200 Lewis Ave
Las Vegas NV 89101
Latitude: 36° 09' 55" N
Longitude: 115° 08' 45" W

General Subgrade portions of this facility are passively dewatered at a rate of approximately 5 gpm to prevent structural damage from the elevated water table in the area. The discharge is treated via a two tank carbon adsorption system due to a regional low level PCE plume.

Receiving Water Characteristics The county storm drain system in this area is tributary to Las Vegas Wash, and the standards set at the nearest downstream control point, "Las Vegas Wash at Telephone Line Road" (NAC 445A.199), apply. In addition, the state wide standards for toxic materials, NAC445A.144, are applicable, and Total Maximum Daily Loads (TMDLs) for Las Vegas Wash have been established for phosphorus and ammonia.

Rational for Permit Requirements Table I.A.1 below is taken from the permit.

Table I.A.1 Discharge Limitations

Parameter	Discharge Limitations	Monitoring Requirements		
		Sample Location	Measurement Frequency	Sample Type
Flow rate ¹ , gpd	monitor & report	i	continuous	meter
TPH ² , mg/l	1	ii	quarterly	discrete
EPA 8260 ³ (full range)	monitor & report	ii	quarterly	discrete
Tetrachloroethene ⁴ , µg/l	5	ii	quarterly	discrete
Benzene, µg/l	5	ii	quarterly	discrete
Toluene, µg/l	100	ii	quarterly	discrete
Ethylbenzene, µg/l	100	ii	quarterly	discrete
Xylenes (total), µg/l	200	ii	quarterly	discrete
MTBE ⁵ , µg/l	20	ii	quarterly	discrete
Total Inorganic Nitrogen, mg/l	20	ii	quarterly	discrete
Ammonia as N, mg/l	monitor & report	ii	quarterly	discrete
Total Phosphorus, mg/l	monitor & report	ii	quarterly	discrete
TDS, mg/l	monitor & report	ii	quarterly	discrete
Metals ⁶ , µg/l	monitor & report	ii	quarterly	discrete
pH, standard units	6.5 to 9.0	ii	quarterly	discrete

Notes

i = between 2nd carbon canister and storm drain

ii = between 1st and 2nd carbon canisters

1. Report average gpd for each month of discharge.

2. Total petroleum hydrocarbons, purgable plus extractable ranges (C6 - C36)

3. Report all parameters. This will include the organic parameters listed below.

4. Tetrachloroethene = perchloroethene = PCE = perc

5. Methyl tert-butyl ether

6. Analyses shall include antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, copper, fluoride, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, zinc, and hardness as calcium carbonate. Analyses shall be for total metals.

Individual parameters and limitations are discussed below. Averages and characterizations cited are based on an examination of the entire discharge data set, submitted for February 2001 through June 2006. The sampling frequency was quarterly for all parameters except metals, which were sampled annually.

FLOW, monitor & report: Flow data is necessary for determining impacts to the receiving water from the various constituents present.

There appears to be an upward trend for this parameter; the overall average is 4.1 gpm, while the average of the last four quarterly data points submitted is 6.6 gpm.

TPH, 1 mg/l: This technology based limit is included as a check on the operation of the groundwater treatment system. TPH has been detected twice: at 0.18 mg/l in June 2003, and at 2.3 mg/l in August 2001.

EPA 8260 (full range), monitor and report: Similar in purpose to the TPH analysis described above, but with much lower detection limits and numerous individual analyses. This will include the other organic parameters in the table, which are described further below.

- TETRACHLOROETHENE, 5 µg/l: This is a technology based limit. PCE was detected twice in the last half of 2005, at 7.7 and 6.3 µg/l, resulting from a system bypass necessitated by plugging of the carbon vessels. This situation has since been remedied.
- BENZENE, 5 µg/l: From the toxic standards (NAC 445A.144), for the municipal and domestic supply beneficial use. Benzene has not been detected.
- TOLUENE, 100 µg/l: This technology based limit is used instead of the toxic standard (14,300 µg/l) since it's easily achievable. Toluene has not been detected.
- ETHYLBENZENE, 100 µg/l: This is a technology based limit. This chemical has not been detected.
- TOTAL XYLENES, 200 µg/l: This is a technology based limit. Xylenes have not been detected.
- MTBE, 20 µg/l: This is a risk based limit developed under the Corrective Action program, based on taste and odor considerations. MTBE has not been detected.
- OTHER PARAMETERS, monitor & report: The other detections from these analyses are acetone at 22 µg/l in September 2004 , and acetone and 2-butanone at 14,000 µg/l and 18,000 ug/l, respectively, in November 2002. The 2002 results have been attributed to laboratory contamination.

TOTAL INORGANIC NITROGEN (TIN), 20 mg/l: This limit is the water quality standard given by NAC 445A.199, based on existing quality. TIN is determined from the sum of separate analyses for nitrate, nitrite, and ammonia. Although not attenuated by passage through carbon, site concentrations have resided well below the standard, with the overall average being 5.93 mg/l, while the average for the last four samples is 4.36 mg/l.

AMMONIA, monitor & report: This is included due to the TMDL mentioned above, and is part of the TIN analysis.

TOTAL PHOSPHORUS, monitor & report: This is included due to the TMDL mentioned above.

TDS, monitor & report: NAC 445A.199 contains a standard of 1900 mg/l for this parameter, based on existing quality. The discharge data set gives an average of 1780 mg/l. A limit has not been used because TDS is naturally occurring and difficult to treat. This parameter is routinely monitored for all discharges to Las Vegas Wash, based on salinity issues in the Colorado River basin.

METALS, monitor and report: Analytical results from analyses of annual samples for seven metals are given in the table below. Cadmium and lead were not detected. The data appear inconclusive; for this reason the sampling frequency has been increased to quarterly. Also, the analyte list has been expanded to 21 to include the other metals with standards at NAC 445A.144, and hardness; since some of the metals criteria are hardness dependent.

Analytical Results ¹ for Metals, 2001 - 2005

Parameter	Date	Concentration, mg/l	Standard, mg/l
B	Dec 2005 Dec 2004	0.4 0.59	0.75 ²
Cu	Dec 2005 Dec 2002 Feb 2002	0.072 0.055 0.11	0.0491 ^{2,3}
Fe	Feb 2002	0.43	1 ²
Se	Dec 2005	0.027	0.005 ²
Zn	Dec 2005	0.016	0.434 ^{2,3}

1. Annual samples were analyzed for boron, cadmium, copper, iron, lead, selenium, and zinc. Results not reported here are non-detect.
2. NAC 445A.144
3. [H] = 640 mg/l as CaCO₃ (BWQP)

pH, 6.5 to 9.0 standard units: This limit is the water quality standard at NAC 445A.199. Although not affected by carbon treatment, pH adjustment could easily be added if needed.

Changes from the Previous Permit

FLOW: The previous permit had 30 day average and daily maximum limits of 0.049 MGD (34 gpm). First of all, it's mathematically incorrect to equate the average and maximum of a data set. Secondly, setting a "limit" in this regard serves no environmental purpose, as the flow rate depends on water table elevation and the efficiency of the collection system. The limit has been replaced by "monitor & report".

EPA METHOD 8260: Although the previous permit attempted to apply drinking water limits by reference, the effect of this is questionable since normal compliance review procedures focus on the specific limits put in the table. With this in mind, the reference has been removed from the current permit and replaced with limits for tetrachloroethene, benzene, toluene, ethylbenzene, xylenes, and MTBE - these parameters are included in the 8260 analyses and are typical constituents of hydrocarbon plumes.

METALS: The previous permit required an annual sample with analyses for seven metals. As described above, this has been replaced by quarterly sampling with analyses for 21 metals.

TOTAL PHOSPHORUS: The previous permit had a limit of 1 lb/day, apparently based on the TMDL, which is 434 lb/day. Phosphorus was detected five times in the 22 samples analyzed, giving an average concentration of 0.0091 mg/l. Based on an average flow of 6.6 gpm (see above), the loading rate would be 0.00072 lb/day. Given that, and the fact that phosphorus is not amenable to carbon treatment, the limit has been replaced with "monitor & report".

AMMONIA: The previous permit had a limit of 1 lb/day (as nitrogen), apparently based on the TMDL, which is 970 lb/day. Ammonia was detected two times in the 22 samples analyzed, giving an average concentration of 0.00686 mg/l. Based on an average flow of 6.6 gpm (see above), the loading rate would be 0.00054 lb/day. Given that, and the fact that phosphorus is not amenable to carbon treatment, the limit has been replaced with "monitor & report".

TOTAL DISSOLVED SOLIDS: The previous permit had a limit of 2000 lb/day, based on an interpretation of an interstate agreement. At 6.6 gpm and an average concentration of 1780 mg/l (see above), the loading rate would be 141 lb/day. Given that, and the fact that TDS is not amenable to carbon treatment, the limit has been replaced with "monitor & report".

SAMPLING LOCATION: The previous permit specified that samples be collected at a point prior to reaching the storm drain. Although this is typical for discharge permits, it's weak for carbon systems in that it doesn't account for breakthrough, and as a result treatment could be compromised for up to three months, or until the next sample is taken. To correct this, the current permit requires samples to be taken from between the canisters, and that, upon breakthrough, the fresh carbon always be placed in the final, or polishing, position. Canister position would be switched by control valves.

Compliance History There have been no significant compliance issues over the term of the previous permit.

Procedures for Public Comment Notice of the Division's intent to renew discharge permit NV0023159, authorizing a dewatering discharge to the storm drain at the Clark County Regional Justice Center, 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 must submit

written comments to the Division within (30) days of the publication date. The comment period can be extended at the discretion of the Administrator. The deadline for comments is 5:00 P.M. Friday, December 29, 2006, although letters postmarked on that date will also be accepted.

A public hearing on the proposed determination can be requested by the applicant, any affected state or interstate agency, the Regional Administrator, or any interested agency, person, or group of persons. The request must be filed within the comment period and indicate the interest of the person filing the request and the reasons why a hearing is warranted. Public hearings granted by the Division are conducted in accordance with NAC 445A.238.

The final determination of the Division may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination The Division has made the tentative determination to renew the proposed discharge permit for a five year term.

Prepared by: Robert J. Saunders
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Bureau of Water Pollution Control
November 15, 2006