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ENVIRONMENT DEPARTMENT

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RYAN FLYNN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

Certified Mail - Return Receipt Requested

November 18, 2015

Mr. Kenneth Garcia, Utilities Director
1700 North Grand Avenue
Las Vegas, NM 87701

Re: City of Las Vegas Wastewater Treatment Facility; Major; Municipal Individual Permit; SIC 4952; Compliance Evaluation Inspection; NPDES Permit NM0028827; November 5, 2015

Dear Mr. Garcia:

Enclosed please find a copy of the report and check list for the referenced inspection that the New Mexico Environment Department (NMED) conducted at the above facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA in Dallas for their review. These inspections are used by USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the federal Clean Water Act.

You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and advised to modify your operational and/or administrative procedures, as appropriate. If you have comments on or concerns with the basis for the findings in the NMED inspection report, please contact us (see the address below) in writing within 30 days from the date of this letter. Further you are encouraged to notify in writing both the USEPA and NMED regarding modifications and compliance schedules at the addresses below:

Racquel Douglas
US Environmental Protection Agency, Region VI
Enforcement Branch (6EN-WM)
Fountain Place
1445 Ross Avenue
Dallas, Texas 75202-2733

Bruce Yurdin
New Mexico Environment Department
Surface Water Quality Bureau
Point Source Regulation Section
P.O. Box 5469
Santa Fe, New Mexico 87502

If you have any questions about this inspection report, please contact Sandra Gabaldon at (505) 827-1041 or at sandra.gabaldon@state.nm.us.

Sincerely,

/s/ Bruce J. Yurdin

Bruce J. Yurdin
Program Manager
Point Source Regulation Section
Surface Water Quality Bureau

cc: Rashida Bowlin, USEPA (6EN-AS) by e-mail
Carol Peters-Wagnon, USEPA (6EN-WM) by e-mail
Racquel Douglas, USEPA (6EN-WM) by e-mail
Gladys Gooden-Jackson (6EN-WC) by e-mail
Tung Tguyen, (6EN-WQ) by email
NMED District II by e-mail

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

NPDES Compliance Inspection Report

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspec. Type	Inspector	Fac Type
1 **N** 2 **5** 3	**N M 0 0 2 8 8 2 7** 11 12	**1 5 1 1 0 5** 17 18	**C** 19	**S** 20	**1**

M A J O R W W T P

Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved
67 69	70 **2**	71 **N** 72	**N** 73 74 75	80

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*	Entry Time /Date	Permit Effective Date
Las Vegas WWTP I-25 North, Exit 343, East on frontage road, Travel South to WWTP Entrance. **SAN MIGUEL COUNTY**	0932 Hours / November 5, 2015	October 1, 2011
	Exit Time/Date	Permit Expiration Date
	1350 Hours / November 5, 2015	September 30, 2106

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)	Other Facility Data
Robert Espinoza, Utility Superintendent / (505) 426-3334 / roberte@ci.las-vegas.nm.us	SIC : 4952
Name, Address of Responsible Official/Title/Phone and Fax Number Kenneth Garcia, Utilities Director / (505 426-3310 1700 North Grand Avenue Las Vegas, NM 87701	Contacted Yes [ ] No [*] Lat.: 35.5665600 Long.: -105.21171900

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	**Permit**	U	**Flow Measurement**	U	**Operations & Maintenance**	N	**CSO/SSO**
U	**Records/Reports**	U	**Self-Monitoring Program**	S	**Sludge Handling/Disposal**	N	**Pollution Prevention**
S	**Facility Site Review**	N	**Compliance Schedules**	N	**Pretreatment**	N	**Multimedia**
S	**Effluent/Receiving Waters**	U	**Laboratory**	N	**Storm Water**	N	**Other:**

Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

Please see checklist and further explanations for details of findings

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone/Fax	Date
Sandra Gabaldon /s/ Sandra Gabldon	**NMED/SWQB/(505) 827-1041/(505) 827-0160**	**11-15-2015**
Signature of Management QA Reviewer	**Agency/Office/Phone and Fax Numbers**	**Date**
Bruce Yurdin, Program Manager /s/ Bruce Yurdin	**NMED/SWQB/(505) 827-2795/(505) 827-0160**	**11-15-2015**

CITY OF LAS VEGAS WASTEWATER TREATMENT FACILITY	PERMIT NO. NM0028827

SECTION A – PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS X S ¨ M ¨ U ¨ NA (*FURTHER EXPLANATION ATTACHED NO)*

DETAILS:

1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE	X Y ¨ N ¨ NA
2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES	O Y ¨ N X NA
3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT	X Y ¨ N ¨ NA
4. ALL DISCHARGES ARE PERMITTED	X Y ¨ N ¨ NA

SECTION B – RECORDKEEPING AND REPORTING EVALUATION

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. O S ¨ M X U ¨ NA (*FURTHER EXPLANATION ATTACHED YES)*

DETAILS:

1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs.	¨ Y X N ¨ NA
2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE.	O S X M ¨ U ¨ NA
a) DATES, TIME(S) AND LOCATION(S) OF SAMPLING	X Y ¨ N ¨ NA
b) NAME OF INDIVIDUAL PERFORMING SAMPLING	X Y ¨ N ¨ NA
c) ANALYTICAL METHODS AND TECHNIQUES.	O Y X N ¨ NA
d) RESULTS OF ANALYSES AND CALIBRATIONS.	X Y ¨ N ¨ NA
e) DATES AND TIMES OF ANALYSES.	X Y ¨ N ¨ NA
f) NAME OF PERSON(S) PERFORMING ANALYSES.	X Y ¨ N ¨ NA
3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE.	X S ¨ M ¨ U ¨ NA
4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR.	X S ¨ M ¨ U ¨ NA
5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA.	O Y X N ¨ NA

SECTION C – OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. ¨ S ¨ M X U ¨ NA *(FURTHER EXPLANATION ATTACHED YES)*

DETAILS:

1. TREATMENT UNITS PROPERLY OPERATED.	¨ S X M O U ¨ NA
2. TREATMENT UNITS PROPERLY MAINTAINED.	¨ S X M O U ¨ NA
3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED .	X S ¨ M O U ¨ NA
4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.	X S ¨ M O U ¨ NA
5. ALL NEEDED TREATMENT UNITS IN SERVICE	¨ S X M O U ¨ NA
6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED.	¨ S ¨ M X U ¨ NA
7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED.	X S ¨ M ¨ U ¨ NA
8. OPERATION AND MAINTENANCE MANUAL AVAILABLE.	X Y ¨ N ¨ NA
STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED.	X Y O N ¨ NA
PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED.	X Y ¨ N ¨ NA

CITY OF LAS VEGAS WASTEWATER TREATMENT FACILITY	PERMIT NO. NM0028827

SECTION C – OPERATIONS AND MAINTENANCE (CONT'D)

9. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR?	X Y O N ¨ NA
IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED?	X Y ¨ N O NA
HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS?	X Y O N ¨ NA
10.HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT?	¨ Y X N ¨ NA
IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT?	¨ Y ¨ N X NA

SECTION D – SELF-MONITORING

PERMITTEE SELF-MONITORING MEETS PERMIT REQUIREMENTS. ¨ S ¨ M X U ¨ NA *(FURTHER EXPLANATION ATTACHED YES).*
DETAILS:

1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT.	X Y ¨ N ¨ NA
2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.	X Y ¨ N ¨ NA
3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT.	X Y ¨ N ¨ NA
4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT.	X Y ¨ N ¨ NA
5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT.	O Y X N ¨ NA
6. SAMPLE COLLECTION PROCEDURES ADEQUATE	X Y ¨ N ¨ NA
a) SAMPLES REFRIGERATED DURING COMPOSITING.	X Y ¨ N ¨ NA
b) PROPER PRESERVATION TECHNIQUES USED.	X Y ¨ N ¨ NA
c) CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136.3.	X Y ¨ N ¨ NA
7. IF MONITORING AND ANALYSES ARE PERFORMED MORE OFTEN THAN REQUIRED BY PERMIT, ARE THE RESULTS REPORTED IN PERMITTEE'S SELF-MONITORING REPORT?	O Y X N ¨ NA

SECTION E – FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS. O S ¨ M X U ¨ NA *(FURTHER EXPLANATION ATTACHED YES)*
DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. TYPE OF DEVICE: 2' Cipolletti Weir	X Y ¨ N ¨ NA
2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED.	X Y ¨ N ¨ NA
3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED.	X Y ¨ N ¨ NA
4. CALIBRATION FREQUENCY ADEQUATE. Calibration by Yukon and Associates completed in April, 2015	X Y ¨ N ¨ NA
RECORDS MAINTAINED OF CALIBRATION PROCEDURES.	X Y ¨ N ¨ NA
CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE.	O Y X N ¨ NA
5. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE.	O Y X N ¨ NA
6. HEAD MEASURED AT PROPER LOCATION.	X Y ¨ N ¨ NA
7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES.	X Y ¨ N ¨ NA

SECTION F – LABORATORY

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS. O S ¨ M X U ¨ NA *(FURTHER EXPLANATION ATTACHED YES)*
DETAILS:

1. EPA APPROVED ANALYTICAL PROCEDURES USED *(40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES)*	X Y ¨ N ¨ NA

CITY OF LAS VEGAS WASTEATER TREATMENT FACILITY	PERMIT NO. NM0028827

SECTION F - LABORATORY (CONT'D)

2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED ¨ Y ¨ N X NA

3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. X S O M ¨ U ¨ NA

4. QUALITY CONTROL PROCEDURES ADEQUATE. O S ¨ M X U ¨ NA

5. DUPLICATE SAMPLES ARE ANALYZED. At least 10 % OF THE TIME. O Y X N ¨ NA

6. SPIKED SAMPLES ARE ANALYZED. At least 10 % OF THE TIME. ¨ Y X N O NA

7. COMMERCIAL LABORATORY USED. X Y ¨ N ¨ NA

LAB NAME Hall Environmental Bio-Aquatics

LAB ADDRESS 4901 Hawkins, NE; Albuquerque, NM 87109 Carrollton TX

PARAMETERS PERFORMED Nitrogen, Aluminum, Cadmium Bio-monitoring

SECTION G - EFFLUENT/RECEIVING WATERS OBSERVATIONS. X S ¨ M O U ¨ NA *(FURTHER EXPLANATION ATTACHED YES).*

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOAT SOL.	COLOR	OTHER
001	None	None	None	None	None	Clear	

RECEIVING WATER OBSERVATIONS

SECTION H - SLUDGE DISPOSAL

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS. X S ¨ M ¨ U ¨ NA *(FURTHER EXPLANATION ATTACHED NO).*
DETAILS:

1. SLUDGE MANAGEMENT ADEQUATE TO MAINTAIN EFFLUENT QUALITY. X S ¨ M ¨ U ¨ NA

2. SLUDGE RECORDS MAINTAINED AS REQUIRED BY 40 CFR 503. X S ¨ M ¨ U ¨ NA

3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: Surface Disposal (e.g., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE)

SECTION I - SAMPLING INSPECTION PROCEDURES *(FURTHER EXPLANATION ATTACHED ___).*

1. SAMPLES OBTAINED THIS INSPECTION. ¨ Y X N ¨ NA

2. TYPE OF SAMPLE OBTAINED

GRAB _____ COMPOSITE SAMPLE ___ METHOD _____ FREQUENCY

3. SAMPLES PRESERVED. ¨ Y ¨ N X NA

4. FLOW PROPORTIONED SAMPLES OBTAINED. ¨ Y ¨ N X NA

5. SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE. ¨ Y ¨ N X NA

6. SAMPLE REPRESENTATIVE OF VOLUME AND MATURE OF DISCHARGE. ¨ Y ¨ N X NA

7. SAMPLE SPLIT WITH PERMITTEE. ¨ Y ¨ N X NA

8. CHAIN-OF-CUSTODY PROCEDURES EMPLOYED. ¨ Y ¨ N X NA

9. SAMPLES COLLECTED IN ACCORDANCE WITH PERMIT. ¨ Y ¨ N X NA

City of Las Vegas Wastewater Treatment Facility
NPDES Permit No. NM0028827
Compliance Evaluation Inspection
Inspection Date: November 5, 2015

Introduction:

A Compliance Evaluation Inspection (CEI) was conducted at the City of Las Vegas Wastewater Treatment Plant (WWTP) on November 5, 2015 by Sandra Gabaldón and Daniel Valenta, State of New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB). This facility is classified as a major discharger under the federal Clean Water Act (CWA), Section 402 National Pollutant Discharge Elimination System (NPDES) permit program, and is assigned NPDES permit number NM0028827. The facility design flow is 2.5 million gallons per day (MGD), according to the permit.

The City of Las Vegas Wastewater Treatment Plant discharges into the Pecos River Basin in Segment 20.6.4.220 *(NMAC State of New Mexico Standards for Interstate and Intrastate Surface Waters).* Designated uses of segment 20.6.4.220 are irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life and primary contact.

The inspectors arrived at the City of Las Vegas Wastewater Treatment Facility at 0910 hours and conducted an entrance interview with Mr. Lucas Marquez, Plant Manager and Mr. Robert Espinoza, Utility Superintendent. The inspectors made introductions, and Ms. Gabaldón presented her credentials and discussed the purpose of the inspection with Mr. Marquez and Mr. Espinoza. An exit conference was conducted with Messrs. Marquez, Espinoza and Kenneth Garcia, Utilities Director on November 9, 2015 via telephone.

The NMED performs a specific number of CEI's annually for the United States Environmental Protection Agency (USEPA). The purpose of this inspection is to provide the USEPA with information to evaluate the permittee's compliance with their NPDES permit. The enclosed inspection report is based on verbal information supplied by the permittee's representatives, observations made by Ms. Gabaldón and Mr. Valenta, along with a review of records maintained by the permittee, commercial laboratory, and/or NMED. Findings of the inspection are detailed in the attached EPA form 3560-3 and in the narrative further explanations section of the report.

Treatment Scheme:

Raw sewage gravity flows to the headworks, passes through a manual bar screen and a grit removal system. It then travels to the east and west aeration basins for further treatment. The 22 feet deep aeration (AB) basins have an aerobic zone, an intermediate zone and an anoxic zone. The facility has three blowers to provide air to the system. The blowers are not variable speed blowers, so it is difficult to maintain the dissolved oxygen at a steady state. The operator stated that during the evening hours the

dissolved oxygen can climb up to as much as 4.0 mg/L and while staff is at the facility it is maintained at 1.5 to 2.5 mg/L by manually adjusting the aeration. The added air causes searing of the floc in the aeration basin and makes it difficult to settle the solids. Solids are wasted from these basins to a thickener before being sent to the aerobic digester. The solids are wasted every two hours. Then decant flows by gravity to the two secondary clarifiers. Following the clarifiers is an inline micro filtration system located before the Ultraviolet disinfection system. Effluent flow measurement is done with a 2' Cipolletti weir and secondary totalizer to the Gallinas River. For much of the year, a large portion of the effluent is diverted to reuse for parks, cemeteries and other municipal areas. The reuse water is covered under the New Mexico Environment Department, Ground Water Quality Bureau Discharge Permit number DP-1118.

Sludge:

Waste Activated Sludge (WAS) is pulled from the basins and sent to the aerobic digesters. Wasting of solids is approximately 67,000 gallons per day, set on two hour cycles. There was at least a 5 foot sludge blanket in the secondary clarifiers. Final disposal is at the surface disposal site owned by the city. The solids taken to the surface disposal site are approximately 2% of the total volume.

Further Explanations:

Note: The sections are arranged according to the format of the enclosed EPA inspection checklist (Form 3560-3), rather than being ranked in order of importance.

Section B – Recordkeeping and Reporting – Overall Rating of "Unsatisfactory"

The permit requires in Part I, C.2., C.3, C.4

> *Monitoring results must be reported either using the electronic or paper Discharge Monitoring Report (DMR) approved formats to EPA. If using paper DMR forms, the report shall be also sent to NMED and shall be submitted monthly.*
>
> *If any 30 day average, monthly average, 7 day average, weekly average, or daily maximum value exceeds the effluent limitations specified in Part I.A, the permittee shall report the excursion in accordance with the requirements of Part IIII.D*
>
> *Any 30 day average, monthly average, y day average, weekly average, or daily maximum value reported in the required discharge monitoring report which is in excess of the effluent limitation specified in Part I.A shall constitute evidence of violation of such effluent limitation and of this permit.*

The permit requires in Part II.B 24-Hour Oral Reporting: Daily Maximum Limitation Violations:

> *Under the provisions of Part III.D.7.b.(3) of this permit, violations of daily maximum limitations for the following pollutants shall be reported orally to EPA Region 6, Compliance and Assurance Division, Water Enforcement Branch (6EN-W), Dallas, Texas, and NMED within 24 hours from the time the permittee becomes aware of the violation followed by a written report in five days.*

The permit requires in Part III, C.4 Record Contents:

> *Records of monitoring information shall include:*
>
> *a. The date, exact place, and time of sampling or measurements;*
> *b. The individual who performed the sampling or measurements;*
> *c. The date(s) and time(s) analyses were performed;*
> *d. The individual(s) who performed the analyses;*
> *e. The **analytical techniques or methods** used; and*
> *f. The results of each analyses.*

Findings for Recordkeeping and Reporting:

The permittee submitted their monthly DMR as required to NMED. The DMR shows results for the Nitrogen, Ammonia total (as N) as zero (0) for 30 day average loading, daily maximum loading, 30 day average concentration, and daily maximum concentration. The bench sheet provided by Hall Environmental shows results that are above the Non-Detect (ND) level and should be reported as required.

The permittee did not report orally that they had an exceedance of Aluminum, nor did they submit their five day written report. During the month of September 2015, the permittee had daily maximum concentration exceedances of 310 ug/L (9/15), 300 ug/L (9/16), and 300 ug/L (9/17). The permittee exceeded their daily maximum loading on three occasions: 2.35 lbs/d (9/15) and 3.60 lb/d (9/16) and 3.33 lbs/d (9/17). They also exceeded their monthly loading and their monthly concentration limits for September.

The permittee has provided bench sheets for the month of September 2015. Among the bench sheets are: Biochemical Oxygen Demand (BOD), influent and effluent, Total Suspended Solids influent and effluent, E. coli, pH, and aluminum, cadmium and ammonia nitrogen (last three parameters are done by Hall Environmental, contract laboratory).

The E. coli bench sheet provided, has the method being used as *Standard Methods, 20th ed.*, Page 9-60 through 9-61. However, upon questioning of the permittee, it was stated that the method being used is the m-Coli Blue 24, EPA method 1603. The permittee should correct this on the bench sheet.

The permittee is also required to submitted a DMR for their priority pollutant scan each year. The permittee received their results of analyses but have not yet submitted their DMR. The permittee should submit this as soon as possible.

Section C – Operations and Maintenance, Overall Rating of "Unsatisfactory"

Permit requires in Part III, Section B.3 Proper Operation and Maintenance:

> *a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit.*

b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

Findings for Operation and Maintenance:

The facility has two primary clarifiers that have been off-line in their new treatment scheme since 2008. It would behoove the City to reconsider the primary clarifiers in their treatment train. The purpose of the primary clarifiers is to allow settling to occur prior to entering the aeration and secondary clarifiers. Staff at the facility has stated that it would help in operation of the plant if the primary clarifiers were put back into the treatment train.

The facility has a considerable amount of sludge in their secondary clarifiers. The clarifiers should have approximately 1/3 the depth of the clarifier. It is apparent that the sludge has been in the clarifiers for some time because of the ashen appearance of the surface.

The secondary clarifiers also show short circuiting. It may be beneficial if the weirs are leveled.

The ultraviolet disinfection system has two banks with a total of ten modules. During the inspection, seven out of ten modules were functioning. The permittee's representative stated that they have not had time to replace the modules in the system. This should be done to ensure that adequate disinfection is being achieved.

The permittee currently has one certified lab technician. This operator is also responsible for helping with the operations of the facility. Inadequate staffing of a facility this size leads to issues both with overworked personnel and negligence in maintenance and operation. It is imperative that the City of Las Vegas consider staff increases to accommodate an adequate staff to maintain all requirements of their permit.

The staff at this facility is also responsible for all collection and lift station maintenance. This increases staff absence at the plant. This should also be considered in maintaining the plant and all records, testing, etc. of the permit.

Section D – Self Monitoring – Overall Rating of "Marginal"

The permit requires the permittee to provide a 6 hour composite sample for Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS). It appears that the permittee may be calculating their flow proportioning incorrectly. Flow proportioning should be done as follows:

Actual Flow / maximum flow (sample volume)

For instance, if the permittee has a six hour composite sample and the flow readings are: 1.06, 1.10, 2.3, 1.5, 1.6, 2.0 MGD; and the sample bottles are 500 ml, then the permittee should mix the proportions below:

1.06 / 2.3 (500 ml) = 230 ml
2.30 / 2.3 (500 ml) = 500 ml
1.50 / 2.3 (500 ml) = 326 ml
1.60 / 2.3 (500 ml) = 347 ml
2.00 / 2.3 (500 ml) = 434 ml

The sample volumes will be mixed together to provide a composite of the samples taken over a 6 hour period.

Findings for Self-Monitoring:

It appears the permittee may be flow-proportioning their 6-hour composite samples incorrectly. The permittee should follow the example above when doing flow proportioning.

Section E – Flow Measurement – Overall Rating of "Unsatisfactory"

The permit requires in Part III.B.6:

> *Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes.*

Findings for Flow Measurement:

The permittee had their secondary totalizer calibrated in April 2015. However, the permittee does not do calibration checks to ensure that the maximum deviation is less than 10% from the true discharge. During the inspection, the inspectors did a quick calibration check of the staff gage / cipolletti weir and the secondary totalizer. The staff gage was reading 0.6 and the totalizer was reading 1.86 MGD. According the *ISCO Open Channel Flow Measurement Handbook*, The 0.6 (head) should equate to 2.023 MGD. This is done by the calculation:

2 ft. Cipolletti Weir

$$MGD = 4.352\ H^{1.5}$$

$$2.023 = 4.352\ (.6)^{1.5}$$

The staff gage is also rusted and worn and should be replaced so that the numbers are easier to decipher.

The flow entering the weir is turbid and this also attributes to an error in flow readings.

Section F – Laboratory – Overall Rating of "Unsatisfactory"

Permit requirements in Part III, Section C.5. Monitoring Procedures:

> *a. Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other tests procedures have been specified in this permit or approved by the Regional Administrator.*
>
> *b. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.*
>
> *c. An adequate analytical quality control program, including the analysis of sufficient standards, spikes and duplicate samples to insure the accuracy of all requirements and analytical results shall be maintained by the permittee or designated commercial laboratory.*

Findings for Laboratory:

The permittee stated that they are doing EPA method 1603 for their E.coli analyses. The EPA method 1603 requires that the permittee, at a minimum, perform the quality controls (QC) listed in part 9, of the procedure EPA Method 1603. These quality controls include: Initial demonstration of laboratory capability through performance of the initial precision and recovery (IPR) analyses, ongoing demonstration of laboratory capability through performance of the ongoing precision and recovery (OPR) analysis, matrix spike (MS) analysis, and routine analysis of positive and negative controls, filter sterility checks, method blanks, and media sterility checks. For the IPR, OPR and MS analyses, it is necessary to spike samples with either laboratory prepared spiking suspensions or Bioballs.

The permittee does not do all QC requirements as stated above.

The permittee stated that they do duplicate samples 100% of the time. However, on review of the bench sheets, the permittee is doing various samples on different days. The requirements for duplicate samples are taking two samples at the same time at the same location. The permittee also indicated that they do not do duplicate samples of the pH.

The pH is required to be taken on a "daily" basis. Review of the pH bench sheets indicate that the permittee is only sampling pH during the week and no samples or analyses are being performed during the weekend. Again, the permittee is required to do "daily" samples and analyses.

The permittee is required to sample and analyze Total Aluminum, Cadmium and Ammonia (Nitrogen) three times a week. The bench sheets provided from the permittee indicates that the permittee did not perform analyses of these parameters the first week of September (September 1 – September 6).

The permittee stated that they are using chlorine as a process control for filamentous bacteria, but has not sampled for chlorine. The permittee is required to sample for Total Residual Chlorine (TRC) when used.

The permit states “TRC shall be measured during periods when chlorine is used as either backup bacteria control, when disinfection of plant treatment equipment is required or when used for filamentous control.

Section G – Effluent/Receiving Waters Observations – Overall Rating of “Marginal”

The permit requires in Part I.A:

			MEASUREMENT	
POLLUTANT	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
pH	6.6	9	Daily	Grab

POLLUTANT	STORET CODE	30-DAY AVG	DAILY MAX	7-DAY AVG	30-DAY VG	DAILY MAX	7-DAY AVG	MEASUREMENT FREQUENCY
Flow	50050	Report MGD	Report MGD	Report MGD	***	***	***	Continuous
Biochemical Oxygen Demand, 5-day	80082	626	N/A	939	30	N/A	45	One/Week
Biochemical Oxygen Demand, 5-day,	50076	≥ 85% (*5)	N/A	N/A	N/A	N/A	N/A	One/Week
Total Suspended Solids	00530	626	N/A	939	30	N/A	45	One/Week
Total Suspended Solids, % removal, minimum	81011	≥ 85% (*5)	N/A	N/A	N/A	N/A	N/A	One/Week
E. Coli Bacteria (*2)	51040	N/A	N/A	N/A	126 (*2) cfu/100 ml	410 (*2) cfu/100 ml	N/A	One/Week
Aluminum, Total	01105	1.38	2.076	N/A	66.37 ug/l	99.55 ug/l	N/A	Three/Week
Cadmium, Total				N/A	0.491 ug/l	0.736 ug/l	N/A	Three/Week
Total Residual Chlorine	50060	N/A	N/A	N/A	N/A	11 ug/l (*3)	N/A	Daily
Total Ammonia	00610	83	125	N/A	4	6	N/A	Three/Week

Findings for Effluent/Receiving Waters Observations:

The permittee reported “0” for their September 2015 Discharge Monitoring Report (DMR) for Nitrogen (ammonia, total) for their loading and concentration values. However, Hall Environmental had results for September 15, 16, 17, and September 29th. These results were 5.7 mg/L, 5.8 mg/L, 5.8 mg/L and 0.78 mg/L respectively. The permittee should have values reported rather than “0”.

The permittee exceeded their total aluminum daily maximum values on September 15 (310 ug/L), September 16 (300 ug/L), September 17 (300 ug/L), September 22 (140 ug/L), September 23 (130 ug/L), September 24 (130 ug/L), September 29 (110 ug/L). The 30-day limitation is 66.37 ug/L, and the permittee had a 30-day average of 153 ug/L. The permittee only reported 4 exceedances on their DMR. The permittee should re-evaluate their bench sheets and correct the DMR and submit to EPA and NMED as required.

The permittee is doing their TSS and BOD three times weekly. The permit only requires that these parameters be done once per week. The permittee may save time and money by reducing the number of samples/analyses that are done when not necessary.

If the permittee is sampling at a frequency greater than required by the permit, all results must be reported on the DMR.

NMED/SWQB
Official Photograph Log
Photo # 1

Photographer: Daniel Valenta	Date: November 5, 2015	Time: 0943 Hours
City/County: Las Vegas / San Miguel		State: New Mexico
Location: City of Las Vegas Wastewater Treatment Facility		
Subject: Headworks		

NMED/SWQB
Official Photograph Log
Photo # 2

Photographer: Daniel Valenta	Date: November 5, 2015	Time: 0954 Hours
City/County: Las Vegas / San Miguel		State: New Mexico
Location: City of Las Vegas Wastewater Treatment Facility		
Subject: One of two aeration basins (note the grease accumulation)		

NMED/SWQB
Official Photograph Log
Photo # 3

Photographer: Daniel Valenta	Date: November 5, 2015	Time: 1004 Hours
City/County: Las Vegas / San Miguel		State: New Mexico
Location: City of Las Vegas Wastewater Treatment Facility		
Subject: One of two secondary clarifiers		

NMED/SWQB
Official Photograph Log
Photo # 4

Photographer: Daniel Valenta	Date: November 5, 2015	Time: 1006 Hours
City/County: Las Vegas / San Miguel		State: New Mexico
Location: City of Las Vegas Wastewater Treatment Facility		
Subject: One of two secondary clarifiers - solids rising and inorganic particulate.		

NMED/SWQB
Official Photograph Log
Photo # 5

Photographer: Daniel Valenta	Date: November 5, 2015	Time: 1021 Hours
City/County: Las Vegas / San Miguel		State: New Mexico
Location: City of Las Vegas Wastewater Treatment Facility		
Subject: 2' Cipoletti Weir – the flow entering the weir is turbulent.		

NMED/SWQB
Official Photograph Log
Photo # 6

Photographer: Daniel Valenta	Date: November 5, 2015	Time: 1021 Hours
City/County: Las Vegas / San Miguel		State: New Mexico
Location: City of Las Vegas Wastewater Treatment Facility		
Subject: Staff gage – needs to be replaced.