



**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION III
CLEAN WATER ACT
COMPLIANCE INSPECTION REPORT**

for

Name of Facility: Hiway Mobile Home Community, LLC
Facility Address: 14489 James Monroe Highway, Leesburg, VA 20178

Report Prepared on: 12/21/2020
Date

By: , PG
Signature

Report Final as of: _____ By: _____, EPA
Date *Signature*

General Information

Type of Inspection:	Wastewater Treatment Plant CEI
Owner:	Hiway MHC, LLC
Operator:	Raynor Environmental Enterprises (REE)
Permittee:	Hiway MHC, LLC
NPDES Permit No:	VA0074942
NPDES Permit Effective Date:	April 1, 2018
NPDES Permit Expiration Date:	March 31, 2023
Receiving Water and/or MS4:	Unnamed tributary to Limestone Branch, to Potomac River
Latitude and Longitude:	39.21466° N, 77.5349° W

On-Facility Inspection Overview

On October 28, 2020, U.S. Environmental Protection Agency (EPA) Region III's contract inspector from PG Environmental, (hereinafter referred to as Inspector) inspected the Hiway Mobile Home Community, LLC (hereinafter, Discharger) Wastewater Treatment Plant (hereinafter, WWTP or Plant) in Leesburg, Virginia. The Discharger owns the WWTP and collection system and is the permit holder. REE has been hired to contract operate the Plant. The Inspector was joined by members from EPA, the Virginia Department of Environmental Quality (VDEQ), and Discharger representatives (as listed in the Introduction section of the report).

Approximate Entry Time: 10:00 AM (EDT) **Approximate Exit Time:** 11:30 AM (EDT)

Unique Project Identifier (UPI): 3E21WN014A



**U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103**

**WASTEWATER TREATMENT FACILITY
COMPLIANCE EVALUATION INSPECTION**

**Hiway Mobile Home Community, LLC
Wastewater Treatment Plant
VPDES Permit No. VA0074942
UPI: 3E21WN014A**

INSPECTION REPORT

**Inspection Date:
October 28, 2020**

**Report Date:
December 21, 2020**

EXECUTIVE SUMMARY

Hiway Mobile Home Community, LLC Wastewater Treatment Plant (VPDES Permit No. VA0074942)

On October 28, 2020, U.S. Environmental Protection Agency (EPA) Region III's contract inspector from PG Environmental, (hereinafter referred to as Inspector) inspected the Hiway Mobile Home Community, LLC (hereinafter, Discharger) Wastewater Treatment Plant (hereinafter, WWTP or Plant) in Leesburg, Virginia. The Discharger owns the WWTP and collection system and is the permit holder. REE has been hired to contract operate the Plant. The Inspector was joined by members from EPA, the Virginia Department of Environmental Quality (VDEQ) and Discharger representatives (as listed in the Introduction section of the report).

The Plant is a package style treatment plant designed to provide secondary level treatment of domestic wastewater for a local mobile home park. There are 48 units at the mobile home community, with an estimated population of between 150 and 175 residents. Treatment consists of manually cleaned influent screening, primary settling, aeration, final settling, chlorination (sodium hypochlorite tablets), dechlorination (sodium bisulfite tablets), and post-aeration prior to discharging to an unnamed tributary to Limestone Branch, a tributary to the Potomac River.

Solids from primary and final clarification settle to the bottom of the Plant and are pumped to a sludge holding tank that is fed with air and functions as an aerobic digester. Supernatant from the sludge holding tank is returned as needed back to the headworks to optimize biological processes in the Plant. Discharger representatives stated the return process is infrequent. Solids are pumped out of the holding tank as needed by a contracted hauler. The Plant has two drying beds that were no longer in use at the time of the inspection.

At the time of the inspection, Discharger representatives explained that the Plant was nearing the end of its useful life and the owner had engaged in preliminary discussions with an engineer about designing a new plant. No timeline had been established at the time of the inspection.

The Discharger's activities are regulated under Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0074942 (hereinafter, Permit), which became effective on April 1, 2018 and is set to expire on March 31, 2023.

The primary purpose of the inspection was to review the accuracy and reliability of the Discharger's self-monitoring and reporting program and to obtain information that will assist EPA in assessing the Discharger's compliance with the requirements of the Permit.

The Inspector held discussions with Discharger representatives, conducted a detailed site inspection, and reviewed pertinent documentation regarding the Discharger's compliance with the Permit. Based on the information obtained and reviewed, the Inspector made several observations related to the specific Permit requirements evaluated. These observations are summarized in Table E1.

Table E1. Summary of Permit Requirements and Inspection Observations

Permit Reference	Observations
Permit Status and Effluent Exceedances	
Permit Part I.A.1	1. The Plant experienced 20 effluent limit exceedances from Outfall 001 between April 1, 2018 and September 30, 2020.
Permit Part I.A.2	2. The Inspector observed white solids actively discharging from Outfall 001 to the receiving water.
Proper Operation and Maintenance	
Permit Part II.Q	3. The Inspector observed the baffle wall that was designed to separate the primary settling chamber and the original aerobic digester compartment to be pitted and rotted through with holes, unable to separate flow between the two chambers. 4. The Inspector observed solids floating on the surface of the final clarifier chlorine contact tank. 5. Discharger representatives stated that there is no backup or auxiliary power source for the Plant.
Permit Part I.C.3	6. At the time of the inspection, the primary settling compartment and the originally designed aerobic digestion compartment were functioning together as an aerated equalization basin; this operation is not described in the Plant's operation and maintenance (O&M) manual. 7. The Inspector observed that effluent flow was being estimated by the operator by using a 1-gallon jug and timer to determine how long it takes for the outfall to discharge 1 gallon into the jug; this process is not described in the Plant's O&M manual.
Collection System	
Although not a primary focus, the Inspector held discussions related to the Plant's collection system during the inspection.	8. Discharger representatives stated that inflow and infiltration (I&I) from the aging collection system increases flow to the Plant from about 7,000-8,000 gallons/day during dry weather to about 10,000-11,000 gallons/day during wet weather. They stated that this can have an impact on treatment effectiveness as it shortens the detention time through Plant treatment processes.

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I. INTRODUCTION

On October 28, 2020, a United States Environmental Protection Agency (EPA) contractor with PG Environmental (hereinafter, Inspector) conducted an inspection of the Hiway Mobile Home Community, LLC (hereinafter, Discharger) Wastewater Treatment Plant (hereinafter, WWTP or Plant) in Leesburg, Virginia. The Inspector was accompanied by a representative from EPA Region III as well as a representative from the Virginia Department of Environmental Quality (VDEQ). The primary purpose of the inspection was to review the accuracy and reliability of the Discharger's self-monitoring and reporting program as well as the operation and maintenance of the WWTP. The weather at the time of the inspection was cool, with no precipitation.

The Plant is package style treatment plant designed to provide secondary level treatment of domestic wastewater for a local mobile home park. The Plant is staffed by one operator for approximately one hour per day, seven days per week. There are 48 units at the mobile home community, with an estimated population of between 150 and 175 residents. Treatment consists of manually cleaned influent screening, primary settling, aeration, final settling, chlorination (sodium hypochlorite tablets), dechlorination (sodium bisulfite tablets), and post-aeration prior to discharging to an unnamed tributary to Limestone Branch, a tributary to the Potomac River.

Solids from primary and final clarification settle to the bottom of the plant and are pumped to a sludge holding tank that is fed with air and functions as an aerobic digester. Supernatant from the sludge holding tank is returned as needed back to the headworks to optimize biological processes in the Plant. Discharger representatives stated the return process is infrequent. Solids are pumped out of the holding tank as needed by a contracted hauler. The Plant has two drying beds that were no longer in use at the time of the inspection.

The Plant is covered under Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0074942, which became effective on April 1, 2018 and is set to expire on March 31, 2023 (refer to [Attachment B, Exhibit 1](#)). Refer to [Attachment B, Exhibit 2](#) for the Plant operation and maintenance (O&M) manual, which includes photographs and diagrams of the facility.

The following personnel were involved in the inspection:

Hiway Mobile Home Community, LLC Representatives:	Matthew Raynor, Owner Representative, Director, Raynor Environmental Enterprises (REE) Emanuel Billordo, Operator, REE
EPA Inspectors:	Jake Albright, PG Environmental (contractor) Shane McAleer, EPA Region 3
VDEQ Representative:	Mark Evans, Senior Water Compliance Inspector

II. INSPECTION PROCESS

The Inspector held discussions with Discharger representatives, conducted a detailed site inspection, and conducted a records review of pertinent documentation regarding the Discharger's compliance with the Permit. This report documents the Inspector's observations.

Facility Site Walk

As part of the process, the Inspector visually observed the treatment train and site conditions in the presence of EPA, VDEQ, and Discharger representatives. The treatment train consists of:

- A manually raked bar screen;
- Air lift tank to convey influent to the package plant;
- Primary clarification chamber (being used for aeration and equalization at the time of the inspection);
- Contac aerator chamber;
- Final clarification chamber;
- Chlorination chamber;
- Dechlorination and post-aeration chamber; and
- Sludge holding tank/aerobic digester.

The Inspector also viewed Outfall 001 and the receiving water.

Records Review

The Inspector conducted a records review to evaluate the Discharger's compliance with the Permit. Most of the records and reports required by the Permit were available for review onsite. The Plants O&M manual and discharge monitoring reports were provided electronically and reviewed offsite after the onsite inspection. The following were reviewed:

- Plant O&M manual (updated October 27, 2020);
- Electronic Discharge Monitoring Report (eDMR) data during the period from April 2018 through September 2020;
- pH meter, colorimeter, and dissolved oxygen (DO) meter calibration records (January 1, 2020 to date of inspection) and equipment manuals;
- Operations log (January 1, 2020 to date of inspection);
- Field data collection sheets (Compliance and Process Control; (January 1, 2020 to date of inspection);
- Spot check of 2020 contract laboratory chain-of-custodies.

III. SUMMARY OF OBSERVATIONS

The following section summarizes the Inspector's observations relative to the Discharger's Permit requirements, including the status of certain treatment units, operation and maintenance practices, and the Discharger's monitoring and reporting.

A. Permit Status and Effluent Exceedances

Part I.A.1 of the Permit defines effluent limitations and monitoring requirements for Outfall 001 discharges.

Observation 1. According to EPA's Integrated Compliance Information System (ICIS) database, the Plant experienced 20 effluent limit exceedances from Outfall 001 between April 1, 2018 and September 30, 2020 (i.e., since the Permit took effect, refer to Attachment B, Exhibit 3). VDEQ issued a series of Warning Letters to the Discharger during that time period for effluent exceedances (refer to Attachment B, Exhibit 4). During the period of review, the Discharger experienced the most exceedances for ammonia. Discharger representatives stated that they have modified the primary settling chamber to provide more air to help with nitrogen removal. The Plant's last ammonia exceedance was in March 2020.

Table 1. Outfall 001 Final Effluent Exceedances (April 20, 2018 through September 30, 2020)

Permit #	Monitoring Period End Date	Parameter Name	DMR Value	Permit Limit	Units	Limit Type
VA0074942	04/30/2018	Solids, total suspended	33	25	mg/L	Monthly Average
VA0074942	04/30/2018	Solids, total suspended	61	38	mg/L	Weekly Average
VA0074942	04/30/2018	Solids, total suspended	1.99	1.7	kg/d	Weekly Average
VA0074942	11/30/2018	Nitrogen, ammonia total [as N]*	4.87	3.1	mg/L	Monthly Average
VA0074942	11/30/2018	Nitrogen, ammonia total [as N]*	4.87	3.1	mg/L	Weekly Average
VA0074942	01/31/2019	Nitrogen, ammonia total [as N]*	12.3	3.1	mg/L	Monthly Average
VA0074942	01/31/2019	Nitrogen, ammonia total [as N]*	12.3	3.1	mg/L	Weekly Average
VA0074942	03/31/2019	Nitrogen, ammonia total [as N]*	11.2	3.1	mg/L	Monthly Average
VA0074942	03/31/2019	Nitrogen, ammonia total [as N]*	11.2	3.1	mg/L	Weekly Average
VA0074942	04/30/2019	BOD, 5-day, 20 deg. C	39	38	mg/L	Weekly Average
VA0074942	07/31/2019	BOD, 5-day, 20 deg. C	32	25	mg/L	Monthly Average
VA0074942	11/30/2019	Solids, total suspended	36.5	25	mg/L	Monthly Average
VA0074942	01/31/2020	Nitrogen, ammonia total [as N]*	24.9	3.1	mg/L	Monthly Average
VA0074942	01/31/2020	Nitrogen, ammonia total [as N]*	24.9	3.1	mg/L	Weekly Average
VA0074942	02/29/2020	Solids, total suspended	29.3	25	mg/L	Monthly Average
VA0074942	03/31/2020	Nitrogen, ammonia total [as N]*	23.3	3.1	mg/L	Monthly Average

Permit #	Monitoring Period End Date	Parameter Name	DMR Value	Permit Limit	Units	Limit Type
VA0074942	03/31/2020	Nitrogen, ammonia total [as N]*	23.3	3.1	mg/L	Weekly Average
VA0074942	06/30/2020	Solids, total suspended	26.2	25	mg/L	Monthly Average
VA0074942	06/30/2020	Solids, total suspended	68	38	mg/L	Weekly Average
VA0074942	06/30/2020	Solids, total suspended	2.02	1.7	kg/d	Weekly Average

*The Permit defines seasonal limits for Ammonia as N. The seasonal monthly and weekly average limits for November through April are both 3.1 mg/L.

Additionally, VDEQ provided a Warning Letter from October 2016, which describes biochemical oxygen demand (BOD) exceedances from August 2016 (refer to Attachment B, Exhibit 5). Specifically, it states the August 2016 DMR reported a result of 1.53 kg/day monthly average BOD load (limit was 1.1 kg/day), 2.17 kg/day weekly average BOD load (limit was 1.7 kg/day), 47 mg/L monthly average BOD concentration (limit was 25 mg/L), and 66 mg/L weekly average BOD concentration (limit was 38 mg/L).

Part I.A.2 of the Permit states, “There shall be no discharge of floating solids or visible foam in other than trace amount.”

Observation 2. The Inspector observed white solids actively discharging from Outfall 001 to the receiving water during the inspection (refer to Attachment A, Photographs 14 and 15). Discharger representatives stated that they believed it was residue from the sodium bisulfite dechlorination tablets, which were applied to the effluent, approximately 25 to 30 feet upstream of the outfall (refer to Attachment A, Photograph 12, 13, and 16).

B. Proper Operation and Maintenance

Permit Part II.Q requires the permittee to, “at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the terms of and conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate licensed operator staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.”

Calibration records, daily log sheets, the Plant operator logbook, and laboratory chain of custodies were reviewed onsite. Examples of documentation are provided in (Attachment B, Exhibit 7).

Observation 3. The Inspector observed the baffle wall that was designed to separate the primary settling chamber and the original aerobic digester compartment to be pitted and rotted through with holes, unable to separate flow between the two chambers (refer to Attachment A, Photographs 5 and 6 as well as page 40 of the Plant O&M manual in Attachment B, Exhibit 2 for the original Plant drawing). Discharger representatives stated that they had modified operations and now are using both compartments for primary influent. They stated that influent equalizes between the two compartments before flowing to the aeration chamber. As stated previously, the Discharger also

began adding air to the primary influent to aid in nitrogen removal. This process is not described in the Plant O&M manual (see Observation 6).

It was unclear at the time of the Inspection exactly when the modification was made; however, VDEQ conducted an inspection of the Plant in June 2016. The inspection report does not discuss the modified operation and appears to show the primary settling compartment functioning as designed (refer to Attachment B, Exhibit 6).

Discharger representatives stated that the Plant is nearing the end of its useful life and that the owner has begun conversations with an engineer about designing a replacement. No specific timeline was provided.

Observation 4. The Inspector observed solids floating on the surface of the final clarifier (refer to Attachment A, Photograph 9). Solids and scum were also observed downstream on the surface of the chlorine contact chamber (refer to Attachment A, Photograph 11). These solids did not appear to be getting into the standpipe and were not noticeable in the post aeration basin or at the outfall or receiving water. Note that white solids were observed at Outfall 001 (see Observation 2).

Observation 5. Discharger representatives stated that there is no backup or auxiliary power source for the Plant. They explained that in the event of a prolonged power outage, untreated or partially treated effluent would flow to the creek once the Plant reaches capacity. Discharger representatives stated they had not experienced an event where loss of power had caused the discharge of untreated or partially treated wastewater.

Discharger representatives stated that technically, the Plant has a septic system that could be used for backup treatment; however, the septic system has never been used as a backup. Operations were not set up at the time of the inspection to easily divert flow to the septic system, and the septic leach field was located under occupied mobile home units.

Permit Part I.C.3 states, “The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the treatment works that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31 and (for sewage treatment plants) Sewage Collection and Treatment Regulations, 9VAC25-790...

The O&M manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent, storm water and sludge samples;
- b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
- c. Discussion of Best Management Practices, if applicable;
- d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants characterized in Part I B 8 that will prevent these materials from reaching state waters. List type and quantity of wastes, fluids, and pollutants (e.g. chemicals) stored at this facility;
- e. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory, and record keeping;
- f. Plan for the management and/or disposal of waste solids and residues;

- g. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance; and
- h. List of facility, local and state emergency contacts; procedures for reporting and responding to any spills/overflows/ treatment works upsets.”

Observation 6. The O&M manual states, the Primary Settling Compartment “Provides a quiescent zone where settleable solids may settle out of the waste stream. Floating material, or scum, is also trapped in this compartment for removal by a scum air lift pump to the aerobic digester. The clarified wastewater flows from the primary settling compartment through a weir trough to the Contac [sic] Aerator. This chamber may be used for sludge holding as the septic tank prior to the plant provides preliminary settling. Settled influent is directed to the contact aerator.” However, at the time of the inspection, the primary settling compartment and the originally designed aerobic digestion compartment were functioning together as an aerated equalization basin (refer to Attachment A, Photographs 5 and 6). This was mainly due to the fact the baffle wall separating the two compartments had rotted through, allowing flow to pass from one chamber to the other. As noted, both compartments were being aerated at the time of the inspection, which Discharger representatives explained helps with nitrogen removal.

Observation 7. The “Sampling, Lab Procedures & Reporting” section of the manual states, “For the facility, flow is reported based on daily readings of the water supply flow meters and reporting the quantity of water used during the intervening period.” While onsite, the Inspector observed that effluent flow was being estimated by the operator by using a 1-gallon jug and timer to determine how long it takes for the outfall to discharge 1 gallon into the jug. The result (in seconds) is used to calculate gallons per day. The Plant operator demonstrated this procedure at the time of the inspection (refer to Attachment A, Photograph 17). Effluent flow was measured at 11.9 seconds per gallon at 10:55 a.m. (approximately 7,200 gallons per day).

Discharger representatives stated that the water supply flow meter is checked routinely to verify the flow to the Plant is about 60 to 70 percent of the water being pumped out of the wells, which is the case under normal dry weather conditions.

C. Collection System

Although not the focus of the inspection, the Inspector discussed some topics related to the collection system, including, but not limited to, issues regarding inflow and infiltration (I&I).

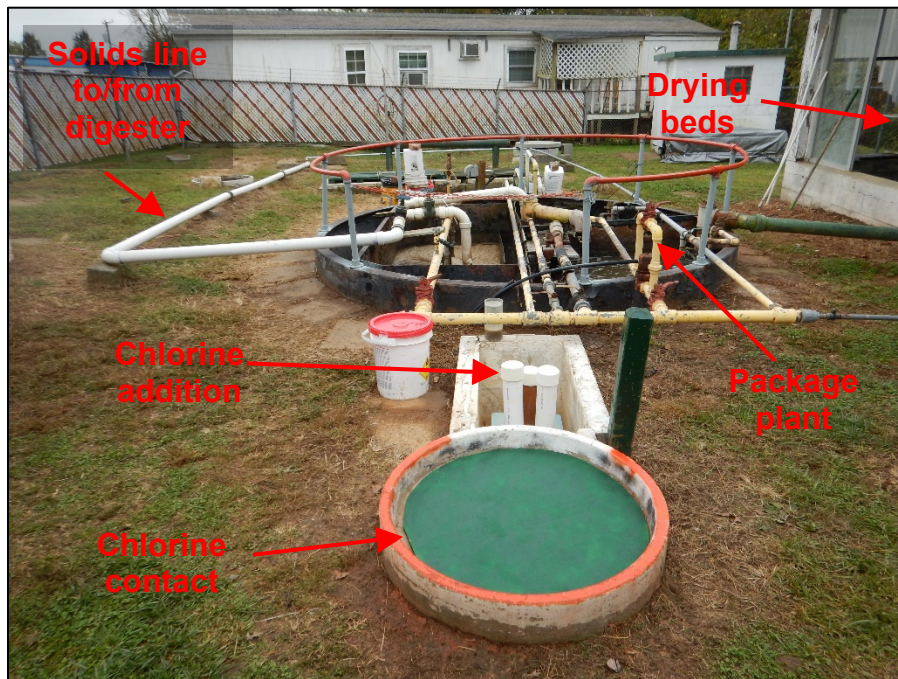
Observation 8. Discharger representatives stated that I&I from the aging collection system increases flow to the Plant from about 7,000-8,000 gallons/day during dry weather to about 10,000-11,000 gallons/day during wet weather. They stated that this can have an impact on treatment effectiveness as it shortens the detention time through Plant treatment processes.

Discharger representatives stated the collection system is mainly composed of terracotta and Orangeburg pipe. The system has no manholes, so there is no proactive collection system maintenance performed. Discharger representatives stated that pipes are replaced as failures occur, and that approximately 25 percent of the collection system had been replaced since original construction (~1950s). A comprehensive evaluation of the collection system was not conducted as part of the Plant inspection.

Attachment A
Photograph Log



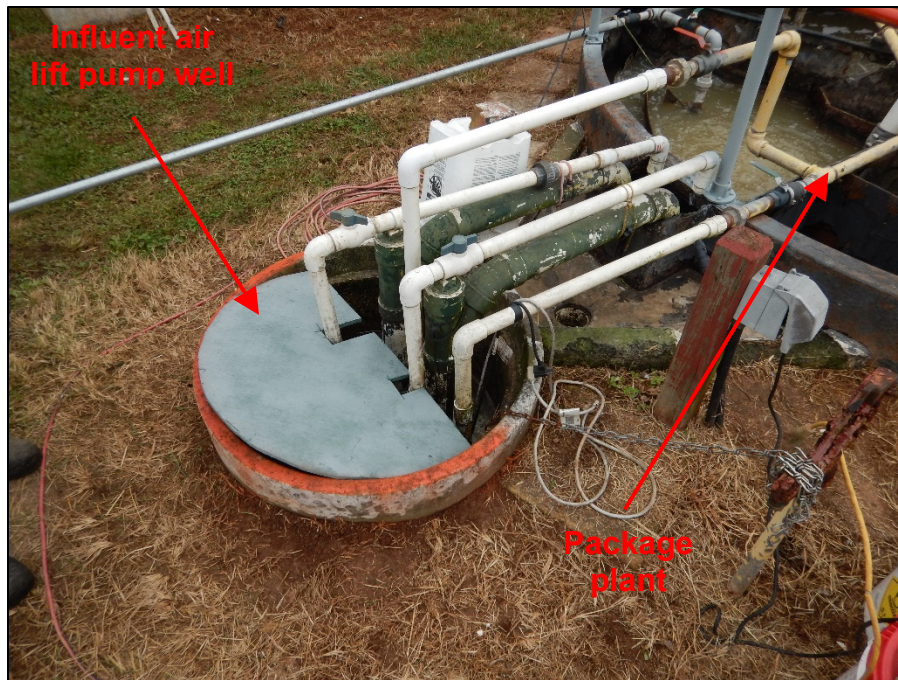
Photograph 1. View of the Hiway mobile home community entrance sign.



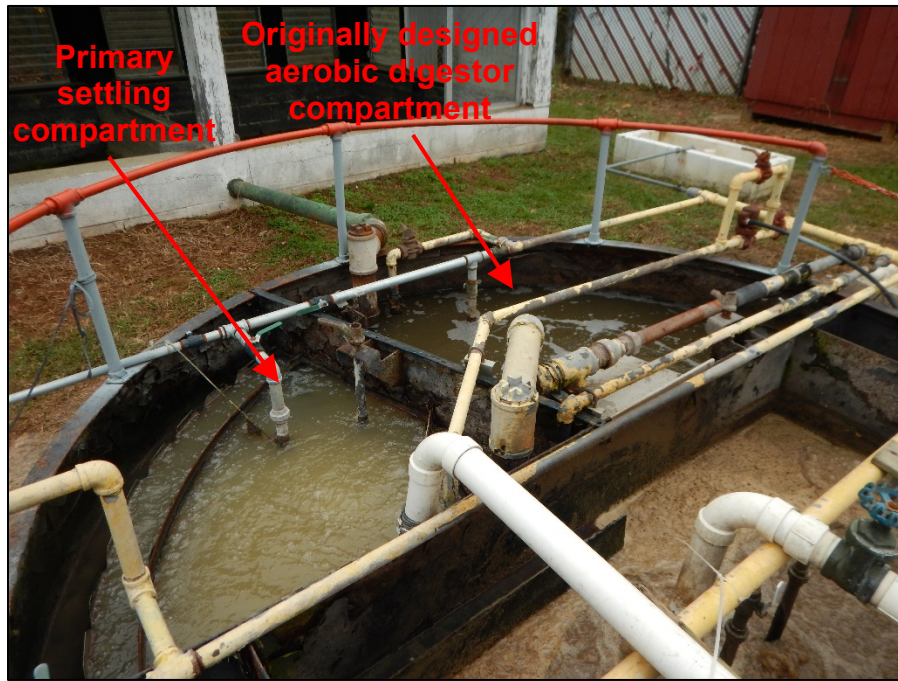
Photograph 2. View, facing south, of the wastewater treatment plant.



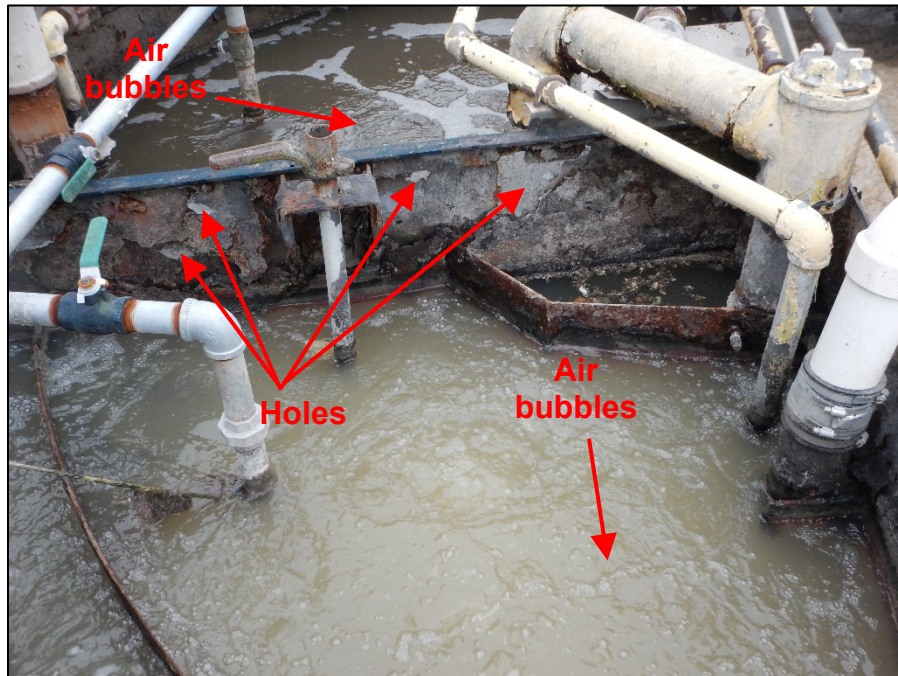
Photograph 3. View of the influent bar screen.



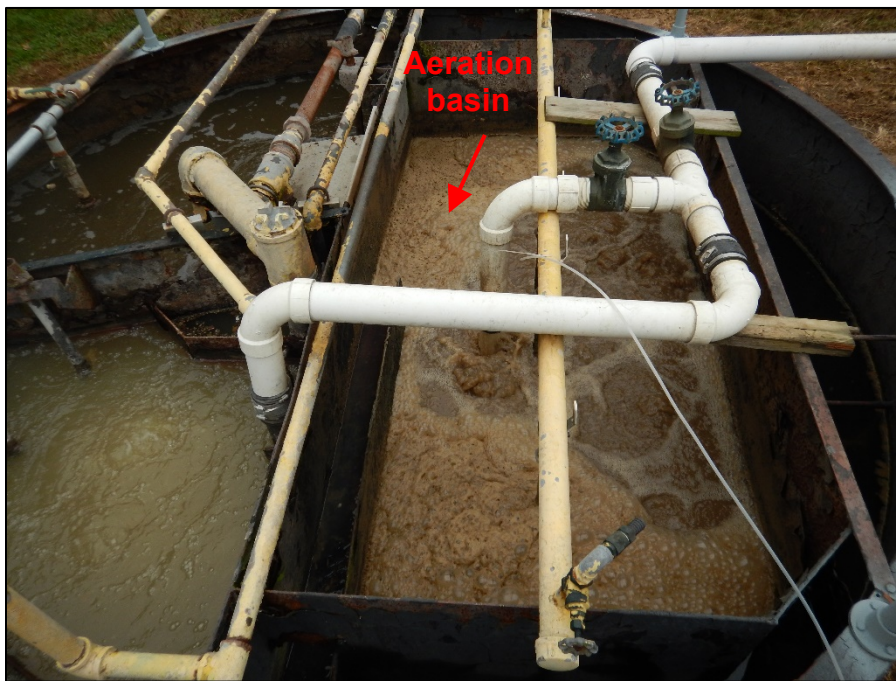
Photograph 4. View of the influent air lift pump well that collects screened influent to be pumped into the package plant.



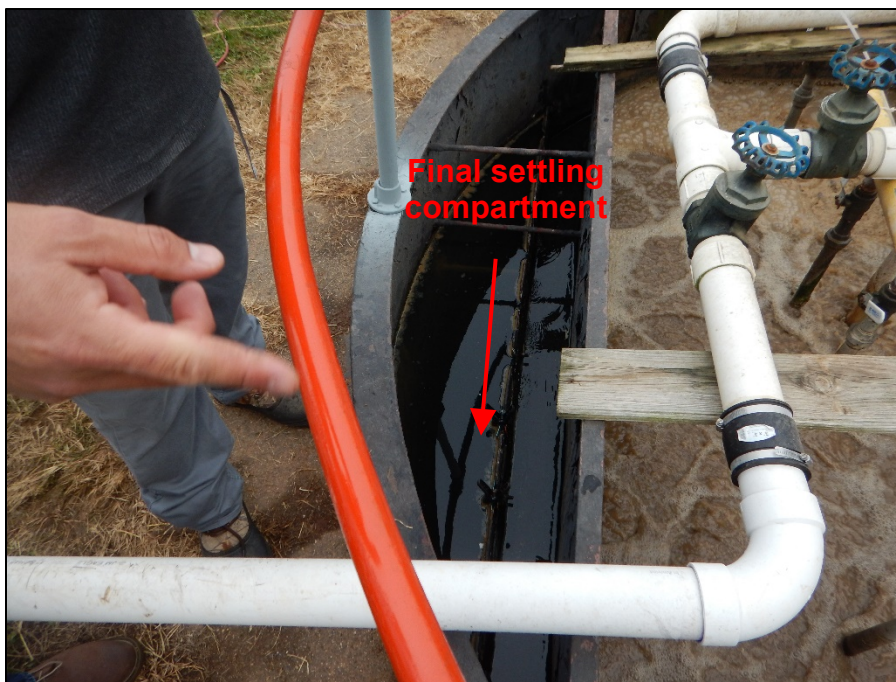
Photograph 5. View of the primary settling compartment and originally designed aerobic digester compartment. Note that the two compartments together were being used as an aerated equalization tank at the time of the inspection.



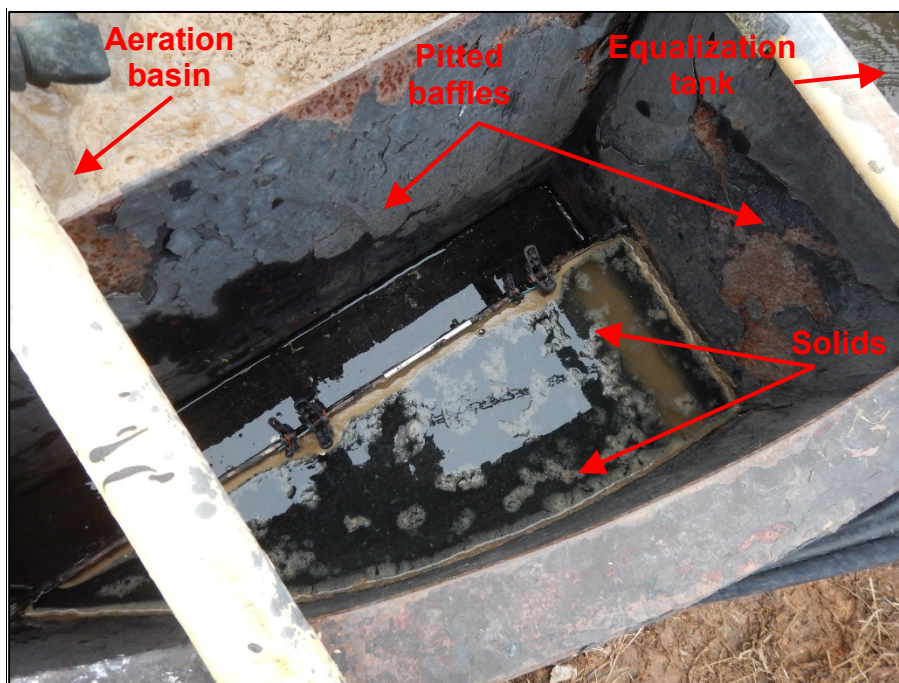
Photograph 6. View of the baffle wall between the primary settling compartment and originally designed aerobic digester compartment. Note the wall was pitted and had holes in it, allowing influent to enter both compartments.



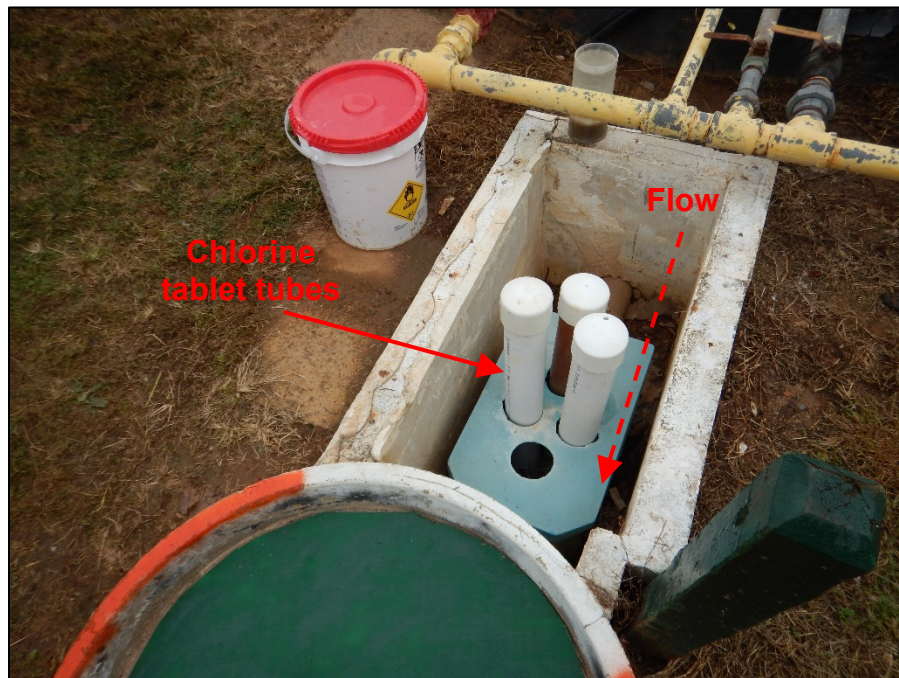
Photograph 7. View of the Plant's aeration basin.



Photograph 8. View of the eastern part of the final settling compartment.



Photograph 9. View of solids floating on the surface of the final clarifier (north end of the compartment). Also note the pitted baffle walls that separate the compartment from the aeration tank and originally designed aerobic digester compartment (now part of equalization tank).



Photograph 10. View of tubes used for delivering chlorine tablets to the effluent.



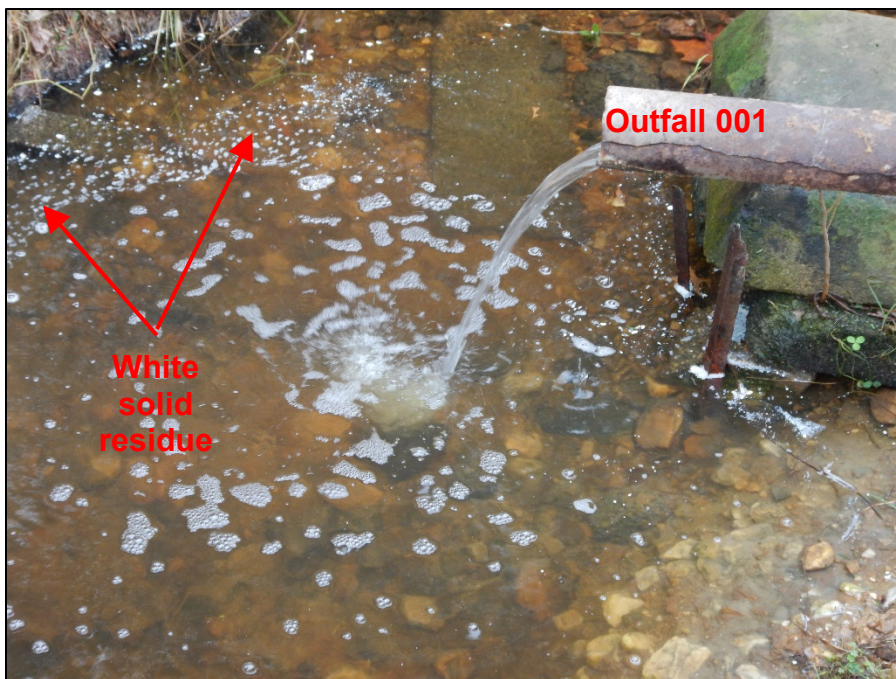
Photograph 11. View of chlorine contact chamber. Note that solids and scum was observed on the water's surface. The solids and scum did not appear to be getting into the standpipe and were not noticeable in the post aeration basin or at Outfall 001.



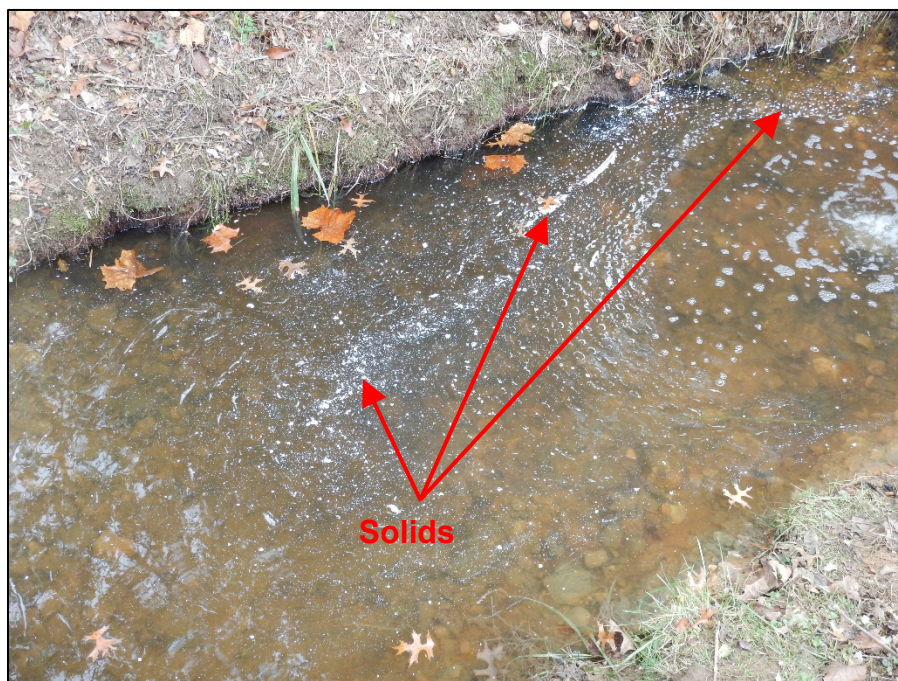
Photograph 12. View of tubes used for delivering sodium bisulfite tablets to the effluent.



Photograph 13. View inside the post aeration basin.



Photograph 14. View of Outfall 001 and white solid residue in the unnamed tributary to Limestone Creek. Discharger representatives stated the solids were from the sodium bisulfite tablets.



Photograph 15. Additional view of white solids accumulation in the receiving water downstream of Outfall 001.



Photograph 16. View, facing southwest, of the out of service drying beds. Also, note the location of the dechlorination and post aeration chamber and receiving water.



Photograph 17. View of the Plant operator demonstrating how flow is measured at Outfall 001. Flow into a 1-gallon jug is timed once per day. The result is used to calculate gallons per day. Effluent flow was measured at 11.9 seconds per gallon at 10:55 a.m. (approximately 7,200 gallons per day).

Attachment B
Exhibit Log

Exhibit 1
VPDES Permit No. VA0074942



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

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Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

March 29, 2018

Via e-mail Return Receipt Requested (tarmatt@aol.com)

Mr. Matthew Raynor
Raynor Environmental Enterprises LLC
524 Meadow Avenue Loop
Banner Elk, NC 28604

Re: Reissuance of VPDES Permit No. VA0074942
Hiway MHC LLC STP, Loudoun County

Dear Mr. Raynor:

The Department of Environmental Quality (DEQ) has approved the enclosed effluent limitations and monitoring requirements for the above-referenced permit. Copies of your permit and fact sheet are enclosed.

A Discharge Monitoring Report (DMR) form is no longer included in the reissuance package since you are already enrolled in DEQ's electronic DMR (e-DMR) program. The first electronic DMR submittal for the month April 2018 is due by May 10, 2018. Please reference the effluent limits in your permit and report monitoring results in e-DMR to the same number of significant digits as are included in the permit limits for the parameter. The regional contact for e-DMR is Rebecca Vice; she can be reached at (703) 583-3922 or by e-mail at Rebecca.Vice@deq.virginia.gov.

Please note that compliance with the permit's requirements for use and disposal of sewage sludge does not relieve you of your responsibility to comply with federal requirements set forth in 40 CFR Part 503. Until DEQ seeks and is granted authority to administer the Part 503 regulations by EPA, treatment works treating domestic sewage should continue to work directly with EPA to comply with them. For more information, you can call the EPA Region III office in Philadelphia at (215)814-5735.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

Alternately, any owner under §§ 62.1-44.16, 62.1-44.17, and 62.1-44.19 of the State Water Control Law aggrieved by any action of the State Water Control Board taken without a formal hearing, or by inaction of the Board, may demand in writing a formal hearing of such owner's grievance, provided a petition requesting such hearing is filed with the Board. Said petition must meet the requirements set forth in §1.23(b) of the Board's Procedural Rule No. 1. In cases involving actions of the Board, such petition must be filed within thirty days after notice of such action is mailed to such owner by certified mail.

A Reliability Class II is assigned to this facility and this facility has Class IV licensed operator requirements.

If you have questions about the permit, please contact Alison Thompson at (703)583-3834, or by E-mail at alison.thompson@deq.virginia.gov.

Respectfully,



 Bryant Thomas
Water Permit & Planning Manager

Enc.: Permit for VA0074942
Fact Sheet for VA0074942

cc: DEQ-Water, OWPP
EPA-Region III, 3WP12
Department of Health, Culpeper
Water Compliance, NRO



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. **VA0074942**
Effective Date: **April 1, 2018**
Expiration Date: **March 31, 2023**

**AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
AND THE VIRGINIA STATE WATER CONTROL LAW**

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, Part I – Effluent Limitations and Monitoring Requirements, and Part II – Conditions Applicable To All VPDES Permits, as set forth herein.

Owner Name: Hiway MHC LLC
Facility Name: Hiway MHC LLC STP
County: Loudoun
Facility Location: 14489 James Monroe Hwy, Leesburg, VA 20176

The owner is authorized to discharge to the following receiving stream:

Stream Name: Limestone Branch, UT
River Basin: Potomac River
River Subbasin: Potomac River
Section: 8
Class: III
Special Standards: PWS

A handwritten signature in blue ink, appearing to read "Thomas A. Faha".

Thomas A. Faha
Director, Northern Regional Office
Department of Environmental Quality

March 26, 2018
Date

A. Effluent Limitations and Monitoring Requirements**1. Outfall 001 – 0.012 MGD Facility**

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the permit's effective date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 001. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations						Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾		<u>Weekly Average</u> ⁽¹⁾		<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL		NA		NA	NL	1/D	Estimate
pH	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
BOD ₅ ⁽³⁾	25 mg/L	1.1 kg/d	38 mg/L	1.7 kg/d	NA	NA	1/M	Grab
Total Suspended Solids, TSS ⁽³⁾	25 mg/L	1.1 kg/d	38 mg/L	1.7 kg/d	NA	NA	1/M	Grab
Ammonia as N (Nov-April)	3.1 mg/L		3.1 mg/L		NA	NA	1/M	Grab
Ammonia as N (May-Oct)	2.1 mg/L		2.1 mg/L		NA	NA	1/M	Grab
<i>E. coli</i> (Geometric Mean) ⁽⁵⁾	126 n/100 mL		NA		NA	NA	1/W*	Grab
Total Kjeldahl Nitrogen, TKN	NL mg/L		NA		NA	NA	1/YR	Grab
Nitrate+Nitrite	NL mg/L		NA		NA	NA	1/YR	Grab
Total Nitrogen ⁽⁴⁾	NL mg/L		NA		NA	NA	1/YR	Calculated
Total Phosphorus	NL mg/L		NA		NA	NA	1/YR	Grab
Dissolved Oxygen	NA		NA		6.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after contact tank)	NA		NA		1.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after dechlorination)	0.008 mg/L		0.010 mg/L		NA	NA	1/D	Grab

(1)	See Part I.B.	MGD	=	Million gallons per day.	1/D	=	Once every day.
(2)	The design flow is 0.012 MGD.	NA	=	Not applicable.	1/M	=	Once every month.
(3)	At least 85% removal for BOD ₅ and TSS shall be attained for this effluent.	NL	=	No limit; monitor and report.	1/W	=	Once every week.
(4)	Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO ₂ +NO ₃ Nitrogen and shall be calculated from the results of those tests.	S.U.	=	Standard units.	1/YR	=	Once every calendar year.
(5)	Samples shall be collected between the hours of 10 A.M. and 4 P.M.						
Grab	=	An individual sample collected over a period of time not to exceed 15-minutes.					
Estimate	=	Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.					

* The permittee shall sample and submit *E. coli* results at the frequency of once every week for three (3) months. If all reported results for *E. coli* do not exceed 126 n/100mL, reported as the geometric mean, the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect four (4) samples during one month within each quarterly monitoring period as defined below. The results shall be reported as the geometric mean. The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

Should any of the quarterly monitoring results for *E. coli* exceed 126 n/100mL, reported as the geometric mean, the monitoring frequency shall revert to once per week for the remainder of the permit term.

B. Additional Monitoring Requirements, Quantification Levels and Compliance Reporting**1. Additional Total Residual Chlorine (TRC) Limitations and Monitoring Requirements**

- a. The permittee shall monitor the TRC at the outlet of the chlorine contact tank once per day by grab sample.
- b. No more than three (3) samples taken at the outlet of the chlorine contact tank shall be less than 1.0 mg/L for any one calendar month.
- c. No TRC sample collected at the outlet of the chlorine contact tank shall be less than 0.6 mg/L.
- d. If dechlorination facilities exist the samples above shall be collected prior to dechlorination.
- e. If disinfection is by a method other than chlorination, *E. coli* shall be limited and monitored by the permittee as specified below and this requirement, if applicable, shall substitute for the TRC and *E. coli* requirements delineated elsewhere in Part I of this permit.

	<u>Discharge Limitations</u>	<u>Monitoring</u>	<u>Sample Type</u>
	<u>Monthly Average</u>	<u>Frequency Requirements</u>	
<i>E. coli</i>	126 n/100ml Geometric Mean	1/Week	Grab Between 10 AM & 4 PM

2. Quantification Levels

- a. The quantification levels (QL) shall be less than or equal to the following concentrations:

<u>Characteristic</u>	<u>Quantification Level</u>
TSS	1.0 mg/L
BOD ₅	2 mg/L
TRC	0.10 mg/L
TKN	0.50 mg/L

- b. The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part II A of this permit.

3. Compliance Reporting for parameters in Part I.A.

- a. Monthly Average – Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in Part I.B.2.a of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.2.a above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

- b. Weekly Average – Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in Part I.B.2.a of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis, then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.
- c. Single Datum - Any single datum required shall be reported as "<QL" if it is less than the QL used in the analysis (QL must be less than or equal to the QL listed in Part I.B.2.a above). Otherwise the numerical value shall be reported.
- d. Significant Digits - The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

4. Nutrient Reporting Calculations for Part I. A.

- a. For Total Phosphorus, all daily concentration data below the quantification level (QL) for the analytical method used shall be treated as half the QL. All daily concentration data equal to or above the QL for the analytical method used shall be treated as it is reported.
- b. For Total Nitrogen (TN), if none of the daily concentration data for the respective species (i.e., TKN, Nitrates/Nitrites) are equal to or above the QL for the respective analytical methods used, the daily TN concentration value reported shall equal one half of the largest QL used for the respective species. If one of the data is equal to or above the QL, the daily TN concentration value shall be treated as that data point is reported. If more than one of the data is above the QL, the daily TN concentration value shall equal the sum of the data points as reported.

C. Other Requirements and Special Conditions

1. 95% Capacity Reopener

A written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to the DEQ-Northern Regional Office (DEQ-NRO) when the monthly average flow influent to the sewage treatment plant reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice shall be submitted within 30 days and the plan of action shall be received at the DEQ-NRO no later than 90 days from the third consecutive month for which the flow reached 95 percent of the design capacity. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

2. Indirect Dischargers

The permittee shall provide adequate notice to the Department of the following:

- a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of Clean Water Act and the State Water Control Law if it were directly discharging those pollutants; and
- b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

Adequate notice shall include information on (i) the quality and quantity of effluent introduced into the treatment works, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

3. Operation and Maintenance (O&M) Manual Requirement

The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the treatment works that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31 and (for sewage treatment plants) Sewage Collection and Treatment Regulations, 9VAC25-790.

The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ-NRO for review and approval.

The O&M Manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent, storm water and sludge samples;
- b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
- c. Discussion of Best Management Practices, if applicable;
- d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants that will prevent these materials from reaching state waters. List type and quantity of wastes, fluids, and pollutants (e.g. chemicals) stored at this facility;
- e. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping;
- f. Plan for the management and/or disposal of waste solids and residues;
- g. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance;
- h. List of facility, local and state emergency contacts; and
- i. Procedures for reporting and responding to any spills/overflows/ treatment works upsets.

4. Licensed Operator Requirement

The permittee shall employ or contract at least one Class IV licensed wastewater works operator for this facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals Regulations. The permittee shall notify the Department in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

5. Reliability Class

The permitted treatment works shall meet Reliability Class II.

6. CTC and CTO Requirement

In accordance with *Sewage Collection and Treatment* regulation (9VAC25-790), the permittee shall obtain a Certificate to Construct (CTC) and a Certificate to Operate (CTO) from the Department of Environmental Quality prior to constructing wastewater treatment works and operating the treatment works, respectively. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

7. Treatment Works Closure Plan

If the permittee plans an expansion or upgrade to replace the existing treatment works, or if facilities are permanently closed, the permittee shall submit to the DEQ-NRO a closure plan for the existing treatment works. The plan shall address the following information as a minimum: Verification of elimination of sources and/or alternate treatment scheme; treatment, removal and final disposition of residual wastewater and solids; removal/demolition/disposal of structures, equipment, piping and appurtenances; site grading, and erosion and sediment control; restoration of site vegetation; access control; fill materials; and proposed land use (post-closure) of the site. The plan should contain proposed dates for beginning and completion of the work. The plan must be approved by the DEQ prior to implementation. Once approved, the plan shall become an enforceable part of this permit and closure shall be implemented in accordance with the approved plan. No later than 14 calendar days following closure completion, the permittee shall submit to the DEQ-NRO written notification of the closure completion date and a certification of closure in accordance with the approved plan.

8. Financial Assurance and Disclosure to Purchasers

The permittee shall provide continuous coverage to implement the approved closure plan until released from financial assurance requirements by the State Water Control Board. If a transfer of ownership or operational control of this facility occurs, the permittee shall comply with the requirements of 9VAC25-650 until the new owner or operator has demonstrated compliance with the requirements of 9VAC25-650. Failure to maintain adequate financial assurance in accordance with 9VAC25-650 shall be a basis for termination of this VPDES permit.

During the term of this VPDES permit, the permittee shall revise the closure plan implementation cost estimate concurrently with any revision made to the closure plan which increases the closure plan cost. At a minimum, the permittee shall annually adjust the closure plan implementation cost estimate in accordance with 9VAC25-650 within 60 days prior to the anniversary date of the establishment of the approved financial assurance mechanism.

The permittee shall disclose the provisions of this permit to all purchasers of property served by this permitted facility in accordance with Section 55-519 of the Code of Virginia.

9. Water Quality Criteria Reopener

Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

10. Sludge Reopener

The Board may promptly modify or revoke and reissue this permit if any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

11. Sludge Use and Disposal

The permittee shall conduct all sewage sludge use or disposal activities in accordance with the Sludge Management Plan (SMP) approved with the issuance of this permit. Any proposed changes in the sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and submitted for DEQ-NRO approval 90 days prior to the effective date of the changes. Upon approval, the revised SMP

becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in sewage sludge use or disposal practices.

12. Total Maximum Daily Load (TMDL) Reopener

This permit shall be modified or alternatively revoked and reissued if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements.

13. Nutrient Reopener

This permit may be modified or, alternatively, revoked and reissued:

- a. If any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements;
- b. To incorporate technology-based effluent concentration limitations for nutrients in conjunction with the installation of nutrient control technology, whether by new construction, expansion or upgrade, or
- c. To incorporate alternative nutrient limitations and/or monitoring requirements, should:
 - i. the State Water Control Board adopt new nutrient standards for the water body receiving the discharge, including the Chesapeake Bay or its tributaries, or
 - ii. a future water quality regulation or statute require new or alternative nutrient control.

CONDITIONS APPLICABLE TO ALL VPDES PERMITS

A. Monitoring

1. Samples and measurements required by this permit shall be taken at the permit designated or approved location and be representative of the monitored activity.
 - a. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.
 - b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.
 - c. Samples taken shall be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.
2. Any pollutant specifically addressed by this permit that is sampled or measured at the permit designated or approved location more frequently than required by this permit shall meet the requirements in A 1 a through c above and the results of this monitoring shall be included in the calculations and reporting required by this permit.
3. Operational or process control samples or measurements shall not be taken at the designated permit sampling or measurement locations. Operational or process control samples or measurements do not need to follow procedures approved under Title 40 Code of Federal Regulations Part 136 or be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

B. Records

1. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) 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 such analyses.
2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. Reporting Monitoring Results

1. The permittee shall submit the results of the monitoring required by this permit not later than the 10th day of the month after monitoring takes place, unless another reporting schedule is specified elsewhere in this permit. Monitoring results shall be submitted to:

Department of Environmental Quality - Northern Regional Office (DEQ-NRO)
13901 Crown Court
Woodbridge, VA 22193

2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved or specified by the Department.
3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from this discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized Discharges

Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or
2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II.F.; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part II.F., shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
 - a. Any unanticipated bypass; and
 - b. Any upset which causes a discharge to surface waters.
2. A written report shall be submitted within 5 days and shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 - c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I. if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts II, I.1.or I.2., in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.I.2.

NOTE: The immediate (within 24 hours) reports required in Parts II, G., H. and I. may be made to the Department's Northern Regional Office at (703) 583-3800 (voice) or online at <http://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/MakingaReport.aspx> . For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - a. The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
 - 1) After promulgation of standards of performance under Section 306 of Clean Water Act which are applicable to such source; or
 - 2) After proposal of standards of performance in accordance with Section 306 of Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;
 - b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations nor to notification requirements specified elsewhere in this permit; or
 - c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements

1. Applications. All permit applications shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - 1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
 - 2) The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a public agency includes:
 - 1) The chief executive officer of the agency, or
 - 2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
2. Reports, etc. All reports required by permits, and other information requested by the Board shall be signed by a person described in Part II.K.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- a. The authorization is made in writing by a person described in Part II.K.1.;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - c. The written authorization is submitted to the Department.
3. Changes to authorization. If an authorization under Part II.K.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II.K.2. shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.
4. Certification. Any person signing a document under Parts II, K.1. or K.2. shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

L. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these

standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part II.U.), and "upset" (Part II.V.) nothing in this permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance

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 the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

R. Disposal of Solids or Sludges

Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

U. Bypass

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II, U.2. and U.3.
2. Notice
 - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
 - b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.I.
3. Prohibition of bypass.
 - a. Bypass is prohibited, and the Board may take enforcement action against a permittee for bypass, unless:
 - 1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - 2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - 3) The permittee submitted notices as required under Part II.U.2.
 - b. The Board may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it will meet the three conditions listed above in Part II.U.3.a.

V. Upset

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II.V.2. are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.
2. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required in Part II.I.; and
 - d. The permittee complied with any remedial measures required under Part II.S.
3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of permits

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part II.Y.2., a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the State Water Control Law and the Clean Water Act.
2. As an alternative to transfers under Part II.Y.1., this permit may be automatically transferred to a new permittee if:
 - a. The current permittee notifies the Department at least 30 days in advance of the proposed transfer of the title to the facility or property;
 - b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 - c. The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II.Y.2.b.

Z. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Exhibit 2

Plant O&M Manual

**HIWAY MHC LLC
WASTEWATER TREATMENT PLANT
VPDES VA0074924
OPERATION AND MAINTENANCE MANUAL**

OCTOBER 27, 2020

PREPARED FOR:

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**HIWAY MHC LLC
WASTEWATER TREATMENT PLANT
VPDES VA0074924
OPERATION AND MAINTENANCE MANUAL**

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INTRODUCTION

This Operation & Maintenance Manual is for the Hiway MHC, LLC Wastewater Treatment Plant (Hiway MHC STP) which is located at 14489 James Monroe Highway, Lucketts, VA in Loudoun County, Virginia. The Manual has been prepared as an update to the previously approved Operation & Maintenance Manuals, (October, 1992 prepared by Robert Demory & October 3, 2003 prepared by Culpeper Engineering). This O & M Manual provides information for the proper operation and maintenance of the plant to meet the requirements of the issued VPDES Permit, VA0074942. The manual provides information detailing the state discharge requirements, a description of the routine operation of the plant, a description of the installed equipment and the routine maintenance of the equipment, sampling and laboratory requirements and procedures, and plant safety.

The purpose of this manual is to provide basic information on the operation and maintenance procedures of the wastewater treatment facilities. The operator may use this manual to perform his duties in an efficient and competent manner. The O & M Manual should be kept current; the manual should be considered “operational” and as such, should be updated as appropriate to reflect plant operation and procedures employed at the facility.

The Operations and Maintenance requirements portion of this manual provides a minimum schedule of functions that should be performed in order to prevent major problems and assure the highest quality effluent possible for this facility.

STATE DISCHARGE REQUIREMENTS

The Virginia Department of Environmental Quality has issued the facility VPDES Permit No. VA0074942. The design flow of the treatment plant is 0.012 MGD. The facility reports the flows at the treatment plant by routine water meter readings. The current limits are:

VA0074942
Part I
Page 1 of 6

A. Effluent Limitations and Monitoring Requirements

1. Outfall 001 – 0.012 MGD Facility

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the permit's effective date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Number 001. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations						Monitoring Requirements	
	Monthly Average ⁽¹⁾		Weekly Average ⁽¹⁾		Minimum	Maximum ⁽¹⁾	Frequency	Sample Type
Flow ⁽²⁾ (MGD)	NL		NA		NA	NL	1/D	Estimate
pH	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
BOD ₅ ⁽³⁾	25 mg/L	1.1 kg/d	38 mg/L	1.7 kg/d	NA	NA	1/M	Grab
Total Suspended Solids, TSS ⁽³⁾	25 mg/L	1.1 kg/d	38 mg/L	1.7 kg/d	NA	NA	1/M	Grab
Ammonia as N (Nov-April)	3.1 mg/L		3.1 mg/L		NA	NA	1/M	Grab
Ammonia as N (May-Oct)	2.1 mg/L		2.1 mg/L		NA	NA	1/M	Grab
<i>E. coli</i> (Geometric Mean) ⁽⁵⁾	126 n/100 mL		NA		NA	NA	1/W*	Grab
Total Kjeldahl Nitrogen, TKN	NL mg/L		NA		NA	NA	1/YR	Grab
Nitrate+Nitrite	NL mg/L		NA		NA	NA	1/YR	Grab
Total Nitrogen ⁽⁴⁾	NL mg/L		NA		NA	NA	1/YR	Calculated
Total Phosphorus	NL mg/L		NA		NA	NA	1/YR	Grab
Dissolved Oxygen	NA		NA		6.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after contact tank)	NA		NA		1.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after dechlorination)	0.008 mg/L		0.010 mg/L		NA	NA	1/D	Grab
(1)	See Part I.B.		MGD	=	Million gallons per day.		1/D	= Once every day.
(2)	The design flow is 0.012 MGD.		NA	=	Not applicable.		1/M	= Once every month.
(3)	At least 85% removal for BOD ₅ and TSS shall be attained for this effluent.		NL	=	No limit; monitor and report.		1/W	= Once every week.
(4)	Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO ₂ +NO ₃ Nitrogen and shall be calculated from the results of those tests.		S.U.	=	Standard units.		1/YR	= Once every calendar year.
(5)	Samples shall be collected between the hours of 10 A.M. and 4 P.M.							
Grab	= An individual sample collected over a period of time not to exceed 15-minutes.							
Estimate	= Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.							

* The permittee shall sample and submit *E. coli* results at the frequency of once every week for three (3) months. If all reported results for *E. coli* do not exceed 126 n/100mL, reported as the geometric mean, the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect four (4) samples during one month within each quarterly monitoring period as defined below. The results shall be reported as the geometric mean. The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

Should any of the quarterly monitoring results for *E. coli* exceed 126 n/100mL, reported as the geometric mean, the monitoring frequency shall revert to once per week for the remainder of the permit term.

The reporting requirements for the facility are specified in the issued permit. A copy of the issued permit has been included as an attachment to this document; current copy of the VPDES Permit will be maintained with this Manual in the future.

The following has been excerpted from the issued VPDES Permit. This excerpt details the permits requirements associated with reports of unusual or extraordinary discharges.

Reports of Unusual or Extraordinary Discharges.

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
 - a. Any unanticipated bypass; and
 - b. Any upset which causes a discharge to surface waters.
2. A written report shall be submitted within 5 days and shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 - c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I. if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts II, I.1. or I.2., in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.1.2.

NOTE: The immediate (within 24 hours) reports required in Parts II, G., H. and I. may be made to the Department's Northern Virginia Regional Office at (703) 583-3852 (voice) or (703) 583-3841 (fax). For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

Below is a list of terms which may appear in the issued permit. Definitions of the terms have been provided as a reference for facility personnel.

DEFINITION OF TERMS

Ammonia N ($\text{NH}_3\text{-N}$): A form of nitrogen that is produced largely by deamination of organic nitrogen containing compounds and by hydrolysis of urea.

Biochemical Oxygen Demand (BOD_5): The quantity of oxygen used in the biochemical oxidation of organic matter during a five-day period at 20°C under laboratory conditions.

Total Suspended Solids (TSS): The amount of matter contained in the liquid that will be filtered out by a porous filter with a pore size of 1 micron.

pH: A term used to describe the acid/base balance in the wastewater. It is defined as the negative logarithm of the hydrogen ion concentration.

Total Residual Chlorine (TRC): The amount of total chlorine contained in the effluent after disinfection. Chlorine residual is measured in two locations. One measurement is taken at the end of the contact chamber to assure adequate disinfection of the wastewater is being achieved. Another measurement is taken after dechlorination to assure that the chlorine is being removed from the effluent stream prior to discharge.

Dissolved Oxygen (DO): Molecular oxygen dissolved in wastewater.

Grab Sample: An individual sample collected over a period of time not to exceed 15 minutes.

F Escherichia coli, usually abbreviated to *E. coli*, is one of the main species of bacteria that live in the lower intestines of mammals.. They are necessary for the

proper digestion of food and are part of the intestinal flora. Its presence in groundwater is a common indicator of fecal contamination. It belongs among the Enterobacteriaceae, and is commonly used as a model organism for bacteria in general. E. coli. bacteria testing is applicable to monitoring for pollution control.

Total Kjeldahl Nitrogen (TKN): Total Kjeldahl nitrogen or TKN is the **sum of organic nitrogen + ammonia (NH₃)nitrogen and ammonium (NH₄)nitrogen.**

NO₂ (nitrite)+ NO₃ (nitrate) as Nitrogen – Nitrate + Nitrite may be reported as a combined sum. The test procedure allows the sample to be preserved for analysis which extends the holding time.

Total Nitrogen – the sum of TKN + nitrate+nitrite

Total phosphorus is a measure of all the forms of phosphorus in the sample (orthophosphate, condensed phosphate, and organic phosphate). Analysis is accomplished by first "digesting" (heating and acidifying) the sample to convert all the other forms to orthophosphate. Then the orthophosphate is measured. Because the sample is not filtered, the procedure measures both dissolved and suspended orthophosphate.

Quantification Level (QLs): The lowest concentration used to calibrate a measurement system in accordance with procedures published for the approved monitoring method.

DESCRIPTION OF WASTEWATER TREATMENT FACILITY

The Hiway MHC STP is a “Link-Belt Contac-Pac” sewage treatment plant. The plant is an existing facility which treats domestic wastewater from the Hiway MHC. The plant was installed in June, 1965. The components of the treatment plant are detailed as follows, listed in sequence of sewage flow (Items 1 – 10) and Item 11 which provides control panel information. There is a septic tank prior to the “treatment plant”. This unit predates the treatment plant.

1. Bar Screen Chamber – Pretreatment unit operation for the removal of large solids and debris from the influent waste stream. The chamber is provided with a built in weir.

2. Air Lift Tank – Receives screened influent from the Bar Screen Chamber and provides transfer of the influent waste via air lift to the primary settling compartment.
3. Primary Settling Compartment – Provides a quiescent zone where settleable solids may settle out of the waste stream. Floating material, or scum, is also trapped in this compartment for removal by a scum air lift pump to the aerobic digester. The clarified wastewater flows from the primary settling compartment through a weir trough to the Contac Aerator. This chamber may be used for sludge holding as the septic tank prior to the plant provides preliminary settling. Settled influent is directed to the contact aerator.
4. Contac Aerator – Biological treatment unit where aerobic conditions are utilized for the biological oxidation of waste constituents. The Contac Aerator provides an aerobic environment for attached and suspended biological oxidation of the waste stream. To create the environment, the unit is provided with bio-plates and diffused air. The bio-plates provide a surface area to which the biota may attach, and the diffused air which bubbles through the plates/activated sludge provide the oxygen, necessary for stabilization.. It is essential that an adequate supply of air is provided to this tank for the proper oxidation/treatment of the waste stream.
5. Final Settling Compartment(s) – Allows detention time for the gravity settling of solids (microorganisms) from the treated waste stream. There are three compartments (settling zones) provided. The liquid overflows from the settling compartment through a weir trough to the chlorinator.
6. Chlorinator – A tablet chlorinator is provided for the addition of chlorine, which serves as the disinfection agent at this facility.
7. Chlorine Contact Tank – To achieve adequate disinfection it is necessary to allow an adequate contact time for the chlorine to be effective. The chlorine contact tank provides the retention time for disinfection to be accomplished.
8. Dechlorinator – The final effluent from the treatment plant requires the reduction of total chlorine concentration prior to discharge. Chlorine is removed by tablet (sodium sulfite tablets) dechlorination.
9. Aerobic Sludge Holding – The solids which accumulate in the treatment units of the plant contain a high percentage of organic material. These solids are putrescible and require treatment prior to final disposition. Solids collected in the treatment process are transferred to the aerobic digester for further treatment prior to dewatering. The unit for stabilization of these solids is the aerobic digester/sludge holding compartment. Air is fed to the aerobic chamber to create an environment, which allows aerobic organisms to digest the sludge streams to a material which may be easily dewatered. The sludge is transferred to the drying

beds for dewatering. The supernatant from the sludge holding (tank is periodically allowed to settle) is returned to the treatment process.

10. Sludge Drying Bed – These sand beds (2 provided) allow the sludge to be dewatered prior to final disposition. Digested sludge is placed on the beds and allowed to dry. Drying is accomplished by draining through the sludge mass and supporting sand and by evaporation from the exposed surface. An underdrain is provided for transfer of the separated liquid back to the treatment plant. Dewatered sludge is removed from the bed and double bagged for final disposition in the County Landfill. The drying beds are covered.
11. Electric Control Panel – The electric control panel located in the combined Lab/Blower room features controls for the blowers and air lifts.
 - A. Blowers – The blower controls consist of manual “ON – OFF” switches (DD) and an automatic time control (AA). This automatic control can be used to run both blowers simultaneously during peak flow periods; however, the time control is fully adjustable to suit the individual plant. The time controls are adjusted as appropriate to achieve treatment goals.
 - B. Primary Sludge Air Lifts – When an “ON” indicator (HH) of the time clock control (BB) trips the time clock switch (KK) the rotating cams (EE) are started. The primary air lifts are not activated, however, until the cam follower (UU) drops into the cam slot (TT) of the upper cams. The primary air lift is turned off when the cam follower is disengaged. This process repeats until the “OFF” indicator (JJ) of the time control trips the time switch. The cams will continue to rotate after the “OFF” indicator trips the switch until the bottom cam engages the cam follower. The overall cycle is repeated when the next “ON” indicator trips the time clock switch. The clock control regulates the number and duration of cycles and the rotating cam regulates the length of time that the air lift pumps during a cycle.
 - C. Final Sludge Air Lift (CC) and (FF) – The control is the same as for the Primary Sludge Air Lift with the addition of a pulsator (GG). The pulsator oscillates the air lift feed when the final sludge air lift is activated. The pulsation assures that only sludge will be pumped until all of it is removed.

Please refer to the attached treatment plant sketch, which provides a layout of the units and details the location of controls; and the photographs of the facility which show the plant units.

Covered Drying Beds

Contac Aerated Treatment Zone



Final Settling Zones

Influent Air Lift

Primary Settling/Repurposed

Sludge Holding



Contac Aeration Basin

Final Settling Zones (3 Provided)



Chlorine Contact w/ Post Aeration

Housing for Tablet Chlorinator

Sludge Wasting Line – Digester to Drying Beds



Housing for Tablet Dechlorinator



Covered Drying Beds

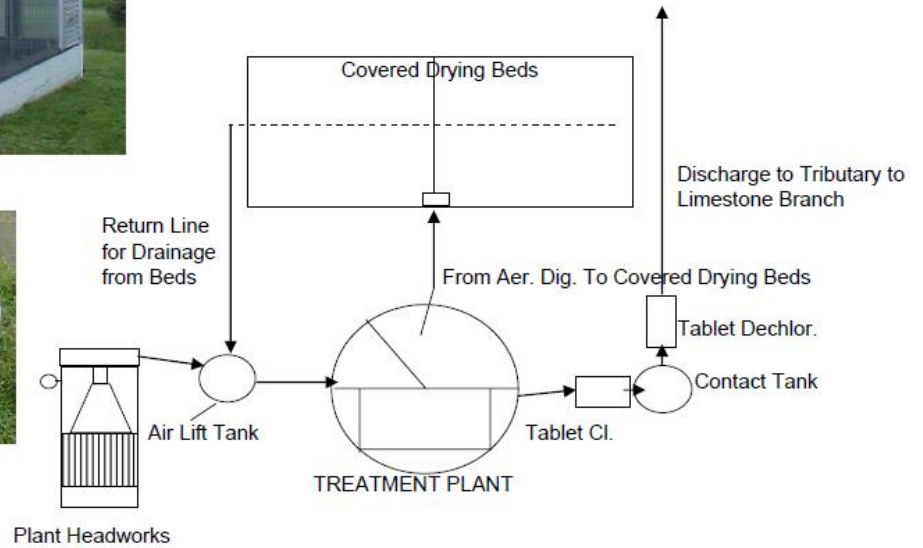


Air Lift Tank



Treatment Plant - See Line to Beds

HIWAY MHC STP



SLUDGE MANAGEMENT

Sludge is transferred to the aerobic digester from the settling tanks. Sludge is transferred from the aerobic digester to the covered drying beds (2) and the free water which drains from the beds is returned to the airlift tank which is at the head of the plant. When material on the bed is at the crack stage and is forkable it is removed from the beds and double bagged. Material is taken to the Loudoun County Landfill for final management.

Control Panel for Plant – In Lab/Control Building



PERSONNEL RESPONSIBILITIES

The Hiway MHC STP is owned by Hiway MHC, LLC. A contract operator (minimum VA WW License - Class IV) is employed by the owners to provide routine, daily operation of the facilities. Should the onsite operator require assistance, the Project Manager may be contacted. The Project Manager provides technical support to the onsite operator.

The attending operator provides daily operation and maintenance of the facility. He is in responsible charge of the facility and makes the required, routine operational decisions. He is responsible for routine monitoring including daily laboratory testing; sample collection for outsourced laboratory testing; routine record keeping; and submission of the Discharge Monitoring Report to the State. The operator is also responsible for the routine maintenance of plant equipment. These responsibilities include equipment lubrication, oil & filter changes, minor repairs to equipment or arrangement of service by a contractor. The operator assures there is sufficient inventory on-hand for the operation and maintenance of the plant including an adequate supply of chlorine and de-chlorination tablets, all of the required laboratory monitoring reagents and the required plant equipment maintenance needs (oil, grease, filters, etc.).

Daily tasks performed by the operator may include but are not necessarily limited to the following:

1. Check time clocks and equipment for proper operation;
2. Rake and hose down bar screen;
3. Check clarifier for floating materials or scum and remove as required;
4. Hose down the walls of treatment components and final weir troughs;
5. Check floats in the air lift tank and clean as necessary;
6. Check foam sprayers and clean as necessary;
7. Read the water meter and record daily flow in daily log;

8. Collect effluent sample for pH and final chlorine residual and record in daily log;
9. Collect chlorine contact tank chlorine sample and record in daily log;
10. Using DO meter, check effluent Dissolved Oxygen and record in daily log;
11. Check Chlorinator and De-chlorinator and replace tablets as necessary;
12. Check air lift operation;
13. Observe chlorine contact tank and clean if necessary;
14. Clean plant site/lab/blower room as necessary to maintain a neat and orderly condition

At least once per month the operator shall collect effluent samples for BOD₅, TSS and Ammonia as N. The samples shall be collected and preserved in accordance with 40 CFR 136. The operator shall prepare an appropriate chain of custody form and deliver the samples to the VELAP accredited contract laboratory.

As necessary the operator shall pump sludge to one of the drying beds. The operator shall be responsible for the removal of dewatered sludge from the beds. Removed material shall be double bagged and transported to the Loudoun County Landfill for final disposal. As necessary, the plant area shall be mowed and trimmed. The plant area is to be maintained in a neat and orderly fashion. As necessary, contact manager to arrange for any building or tank upkeep, including but not limited to scraping and painting.

Once per month inventory on hand supplies for the facility including oil, filters, belts, grease and required reagents for monitoring and the supply of treatment chemicals (lime, soda ash, chlorine tablets and dichlorination tablets). Arrange to have any required supplies ordered and verify delivery of requested materials.

OPERATION OF THE WASTEWATER TREATMENT FACILITY

The Link-Belt Contac Pac has been designed to keep operation and maintenance to a minimum. Normal day-to day operations include routine adjustments, routine monitoring, recording of results, and routine plant cleaning. There are certain operations, which should be performed to assure treatment efficiency including the following:

1. Blowers – two blowers are provided. The operator assures proper lubrication is provided. In accordance with the manufacturer’s guidance, oil is changed. Belt is routinely checked and replaced as necessary to assure blower operation. Blowers have limits on pressure differential, running speed and discharge temperature which should not be exceeded. These limits should be posted and checked. The operator should routinely verify operating conditions. The blowers (3HP Sutorbilt) are equipped with pressure relief valves to protect against excessive pressure conditions.
2. Motors – Each of the blowers is equipped with a 3 HP motor. The operator should verify the operational status of the blowers/motors daily. Manufacturer literature should be available for reference (electronic copy available at https://www.pdblowers.com/tech_docs_topic/instruction-manuals/)
3. Electrical Control Panel – The electrical control panel allows the automatic operation of the plant to be set (time clocks). Adjustments are determined by the ORC. If, during observation, the discharge from either air lift tends to become clear before the end of a cycle it indicates that the cycle is too long; if during the cycles, little or no sludge is being pumped, it indicates that the number of cycles should be reduced. If the air lifts are operated manually with valves (C) and (J) and a large amount of sludge is removed, it indicates that more cycles should be used or the time of the cycles should be increased.
4. Contac Aerator – On a daily basis the operator should observe conditions in the basin. The basin has submerged “contac” plates (suspended growth) with diffused aeration extended below the plates to the lower portion of the basin. Daily the Contac-Aerator should be observed to assess color, aeration and the quality of the suspended biomass.
5. Final Settling – The operator should hose down the final settling discharge

troughs as necessary to assure they are clear and free of debris. The sides should be brushed to assure there is no bridging of sludge where the hopper bottom slopes.

6. Aerobic Digester –The operator should daily check the color of the sludge in the digester. It should be brown or tan and have no disagreeable odor. If the sludge is black or gray and/or has an objectionable odor it may indicate that the air supply to the digester is not adequate and the digestion process is not proceeding properly. This can result from improper proportioning of the air supply between the Contac Aerator and the digester or be due to clogging of diffuser. Maintain adequate air supply in the unit and check/clean diffusers as necessary. Occasionally sludge is withdrawn from the aerobic digester. To accomplish this, shut off the air to the unit and allow time for settling. This time period should allow solids to concentrate at the bottom of the aerobic digester. Thickened sludge should be drawn from the digester to available drying bed. The following guidelines may be used to determine when to draw sludge to the drying beds:

7. Sand Drying Beds – Prior to removing sludge from the aerobic digester verify there is capacity on the drying beds for the material. Sludge dewatered on the drying beds by gravity drainage of the water through the supporting sand and by surface evaporation. When the sludge has sufficiently dried it will exhibit cracking and will be “forkable”. Remove the sludge from the beds using hand tools. If necessary to access portions of the bed, wooden planking may be used for wheelbarrow access. Removed material shall be double bagged in trash bags and taken to the Loudoun County Landfill.

Should the sludge drying beds not have adequate capacity for sludge to be applied (such as may occur during severe freezing conditions) a licensed septage hauler may be contracted to remove digested sludge from the aerobic digester. This method shall also be the backup management method should the Landfill notify the facility that they will no longer accept sludge from the facility. A local service, which may be contacted, is Drainsville Septic Service, Lovettsville, VA.

8. Chlorine Feed Equipment – The EES Tablet Feeder, Model 100, is utilized to disinfect the treated effluent. The feeder allows chlorine to be added to the flow stream by dissolution. This is a very simple means of adding chlorine to the waste stream as the chlorinator has no moving parts. The chlorinator is manufactured of low linear, medium density, UV stabilized polyethylene for durability and resistance to corrosion. The unit is equipped with four removable PVC feed tubes where the chlorine tablets are contained. The tubes are inserted down through the removable top cover of the feeder into the wastewater stream. The lower end of each tube is slotted to permit free flow of water through the tubes to assure good contact between the flow stream and the tablets. The unit was furnished with a selection of weir plates, with weirs ranging in size from 1 to 3 inches in width for

insertion at the outlet to control the internal water level. Weir selection is based on flow and residual chlorine desired.

9. Chlorine Contact Tank – To be an effective disinfecting agent, sufficient chlorine is introduced to the flow stream to satisfy the chlorine demand and leave a chlorine residual. The residual must have a sufficient contact time to insure the “die off” of pathogenic organisms. Disinfection efficiency is the result of chlorine concentration (C) and the time (T) of contact. The contact tank provides a location for providing the time (CT) for effective disinfection. The provided tank affords the minimum 30 minute detention time for disinfection. The operator shall routinely verify that there is an adequate supply of tablets in the filled tubes. The daily monitoring of the residual in the tank affords an opportunity to verify efficient operation. If necessary any floating debris on the surface should be removed. Should the measured residual be out of range, the operator may adjust the number of filled tubes (if low use more tubes, if high use less tubes).

The contact tank is also aerated to assure there is adequate DO in the final effluent from the plant.

10. The dechlorination unit is also a tablet feeder. The unit is an ELTECH Model 1000, D-CHLOR system. Tablets are placed in the feed tubes of the flow-through feeder. As water passes through the feeder, slots in the feed tubes allow contact of the sodium sulfite tablets with the water. The tablets dissolve at a controlled rate as water flows through the feeder. The feeder adapts to changes in flow rate. As flow rate increases the outlet weir causes the water level in the feeder to increase. The increasing level results in more tablets being contacted by the water. The tablet D-CHLOR system requires little maintenance. Refilling of the feed tubes on a routine (predictable) basis and routine cleaning of the unit are generally adequate for satisfactory operation. The operator should check the unit daily when the effluent total residual chlorine sample is collected.

MAINTENANCE

Routine operational maintenance of the facility is conducted by the contract operator on a daily basis. The operator onsite checks all of the functional components of the plant to verify operation when in attendance.. The operator will determine if any facility equipment is inoperable or not performing as should and in need of maintenance. If any facility equipment is inoperable or not performing as it should and is in need of maintenance, the operator will attempt to remedy and as necessary notify the Operations

Director if he requires assistance Should there be a need for offsite maintenance of any plant equipment the operator will make the required contact for repair and arrange for any required assistance to remove a component. The operator will deliver or arrange delivery of equipment to the “shop” for required repair. Should a service call to the plant be necessary, the operator will make the necessary arrangements for such service.

Maintenance Schedule:

Two maintenance file records are maintained for treatment plant equipment. The equipment service record gives the equipment name, serial number, manufacturer, date of purchase, required maintenance and frequency. The service record lists the equipment name, work performed, date and name of service provider. An example of these records is provided in Appendix . These records may be maintained electronically for ease of access.

An abbreviated schedule of routine maintenance performed at the Hiway MHC, STP is presented below:

Daily - Observe all mechanical components and verify operating condition

Weekly:

Empty solid waste containers, including screenings receptacle.

Quarterly:

Blowers – Grease bearings, oil pressure relief valves; check air filters and replace as necessary.

Check Belts – adjust (replace as required based on wear)

Manual Valves – Oil stem of each valve.

Semi-Annual:

Blowers – Check oil (use synthetic) Change oil per manufacturer recommendation (hours).

Annual:

Paint all exposed pipes and valves as necessary.

Seasonal:

Mow plant grounds. A neat, well kept appearance should be maintained at all times.

Remove snow which prohibits access or poses a hazard.

Every Three Years or As Required:

Paint as necessary

Paint interior & exterior of housing and all exposed wooden lids.

Maintenance & Repair Contacts

Motors/Blowers: Winchester Electric Service
443 Millwood Avenue
Winchester, VA 22601
Phone: 703 667-2040

Electrical: Roger Williams Electrical Service
100 Orchard Circle
Hamilton, VA 22068
Phone: 703 338-6239

Septic Service: Drainsville Septic Tank Service, Inc.
Lovettsville, VA
Phone:

De Zurick Valves: Freemire & Associates, Inc.
9160 Rumsey Rd., Suite B-8
Columbia, MD 21045
Phone: 410 995-0305

Plant Equipment

The following plant equipment descriptions and references are provided as a useful, handy

tool .

1. Treatment Plant – The wastewater treatment plant is a Contac-Pac aerobic, treatment facility manufactured by Link-Belt Company. The plant was purchased in June, 1965. A complete set of plans for the facility are available on-site.
2. DeZurik Manual Semi Steel Eccentric Valves – These valves were provided with the plant and are located as follows:
 - ContacAerator – Eight (8) – 1 inch valves
 - Aerobic Digester – Two (2) – 1 ¼ inch valves
 - Influent Side of Plant – Four (4) 1 ¼ inch valves
 - Effluent Side of Plant – Two (2) 2 inch and five (5) 1 ¼” valves.

Please refer to the Certified Drawings Booklet, maintained with the plant plans for additional details regarding the installed valves.

3. Magnatrol Solenoid Valves – Manufactured by Magnatrol Valve Corp., Hawthorne, NJ 07507, purchased June, 1983 to replace original valves. The following two (2) 1 ¼ inch solenoid valves operate airlifts on the influent side of the plant:

Type No. 17S15 – 25 psi – No. 537971
Type No. 17S15 – 25 psi – No. 573972

4. General Control Solenoid Valves – Manufactured by general Controls, Glendale, California came with the plant. Two (2) 1 ¼ inch solenoid valves operate the primary and final sludge airlifts located on the effluent side of the plant. They are:

K-3E w/ #300 Solenoid – K-3E172

Parts for these are no longer available. Should there be a problem, replace Magnatrol Solenoid vales, in stock.

5. Blower Assemblies – Consisting of Blower, 3 HP motor, filter silencer on suction piping, weighted pressure relief valve, V- belt drive and guard, and baseplate.

Filter silencer on roof – Automotive type filter – AC-A134C, replace as needed.

6. Plant Water Pump - Swimming Pool Pump Assembly by STA-RITE, Model CKHC-35. Came with plant in June, 1965.
7. Electric Control Panel – Supplied with plant in 1965. The panel includes the following components:

Top of Panel has 6 breakers which are

Breaker 1 – Blower #1

Breaker 2– Blower #2

Breaker 3 – Plant Water Supply Pump

Breaker 4 - Primary & Secondary Control Time Clocks

Breaker 5 - Influent Air Lift Solenoid Valves

Breaker 6 - Wall receptacle

AA – Alternate Blower Control Clock

BB – Primary Air Lift Control Clock

CC – Final Air Lift Control Clock

DD – Manual ON-OFF-AUTO Switches for Blowers

EE – Primary Air Lift Rotating Cams

FF – Final Air Lift Rotating Cams

GG – Final Air Lift Pulsating Cam

OO – Red Signal to Indicate Primary Air Lift in Operation

PP – Red Signal to Indicate Final Air Lift in Operation

Panel also includes starters for the two (2) 3HP Blower motors.

Laboratory Equipment

Equal meters may be utilized for onsite monitoring. The following have been used previously:

pH Meter – Oakton/Hach/Thermo Scientific or equal (Plant Pro/Pocket Pro) and buffers (3 buffers available – 4, 7 & 10).

Chlorine – HACH DR 100 Colorimeter for Chlorine (For orders or service call 1 –800 227-4224).

Dissolved Oxygen – YSI Model 550 DO Meter or equal

For supplies contact USA Bluebook. 800 548 1234 www.usabluebook.com

Glassware available at the plant lab includes: 12 Fischer stoppered, narrow mouth, 4 oz. bottles; 2 - 1000 ml sharp tipped Imhoff cones; 1 – 1000 ml glass graduated cylinder.

Miscellaneous Tool Inventory

The following tools are available at the plant:

1. GE A-C Hook-on Volt- Amp Meter with leads – AC Amps
0-5/20/80/350; AC Volts 0-150/300/750
2. Socket Set – 7/16 “ - 1 1/8 “
3. Pipe wrenches – 14” & 18”
4. Crescent Wrench – 12”
5. Crescent Wrench – 8”
6. Crescent Wrench – 6”
7. Pliers – 6”
8. Needlenose pliers – 6”
9. Channel lock pliers – 8”
10. Screwdriver set
11. Hacksaw
12. Hammer
13. Plant Skimmers (2 provided w/ wire baskets)
14. Froth Spray cleaning tool
15. Long handled brushes for brushing plant walls

Spare Parts Inventory

The following equipment is used for replacement of inoperable plant equipment. The inoperable equipment is repaired or replaced and returned to the shelf for use as needed. All of the spare parts inventory is stored in the lab/blower room.

1. Blower – Sutorbilt Model 3 MV, Serial No. A41141. Original with plant. New bearings & seals 8/27/86
2. Blower – Sutorbilt Model 3 MV, Serial No. A-74038, purchased 7/20/71, New bearings & seals 7/8/91.
3. Air filters (2) for blowers AC-A134C. Note that equals include Kmart KA-7, Fram CA-146 PL and Purolator AFT-52.
4. Replacement belts (2) for blowers – Size 28 R/M POLY V Belt 655L6
5. Blower Motor – GE Model 5KC215AGZ01B – original equipment. New bearings and seals 9/25/84.
6. Blower Motor – Magnetek M Century Electric, Part No. 6-364555-01, Type CPF, purchased October 1991. Unused to date.
7. Solenoid Valves – 2 – 1 1/4 “ TY 17S15, 25 psi – new, unused to date.

8. General Controls solenoid valves replacement parts – solenoid coil, C300BW12060A18, #300 Size Class BW, 120 V-60 CY, 110 V – 50 CY and 3 piston replacements
9. DeZurik Eccentric Valve replacement parts: for 2” – 2 new handles & 1 gate; for 1 ¼” – 1 handle and 2 gates.
10. Plant Water Pump – 1 STA-RITE pool pump.
11. Time Clock – GE time clock for main electric panel.
12. Oxygen Probe service kit – purchased from YSI, Inc.

Process Chemicals

The following chemicals are maintained on-site for routine plant operation:

1. Chlorine Tablets – Sanurill 115. These tablets are used in the chlorinator for effluent disinfection. The tablets are supplied in 45 pound plastic buckets. A minimum of ½ pail should be maintained at the plant site at all times.
2. Dechlorination Tablets – D-CHLOR. These tablets are used in the dechlorination tablet feeder for removal of residual chlorine prior to discharge. These are supplied in 45 pound plastic buckets. A minimum of ½ pail should be maintained at the plant site at all times.
3. Lime is maintained for plant use as necessary
4. Soda Ash is maintained for pH adjustment as necessary

Tablets should be stored in their original containers in a ventilated building (stored in shed at plant site). Replace the pail lids after opening. Lime & Soda ash are also stored in an interior space.

PLANT SAFETY

General

Plant safety is the act of performing routine and emergency operating and maintenance procedures in a safe working manner. Many of the safety rules for operating and maintaining a wastewater treatment plant in a safe manner are common sense, while other procedures have more technical backgrounds. Most accidents occur due to a careless act. To institute plant safety, it is necessary to have each employee thinking safety. When employees are continuously aware that their employer demands safe working procedures,

the employees are much more likely to think safety and to carry out their daily tasks in a safe manner.

The safety hazards which may be associated with the operation of the Hiway STP, are primarily associated with physical injuries and infections or exposure to infectious diseases. Operators must be safety conscious as they enter the plant site; if they are, most injuries and accidents can be avoided.

General Safety Rules

1. All written or verbal safety rules shall be observed and particular job associated hazards recognized.
2. A job shall not be initiated until proper instructions have been received and are understood.
3. Any hazardous conditions, unsafe equipment, or unsafe practice shall be reported to the regional manager.
4. Any and all accidents/injuries shall be reported to the regional manager.
5. Any and all water in the plant/used at the plant is non-potable other than the lab sink and should only be used for plant operation.
6. Walk do not run on the plant grounds.
7. Safety devices/safety guards shall be installed on all equipment with moving parts (ie: blowers).
8. Hand tools and any special equipment shall be kept clean and in good repair.
9. Use the correct tool for a job in the proper manner.
10. Avoid wearing loose clothing which may “catch” on equipment.
11. Practice good housekeeping.
12. Observe personal hygiene rules to avoid infection. Routinely wash hands with soap and water at the lab sink.
13. Practical jokes and “horseplay” are forbidden.
14. Reporting to work under the influence of drugs or alcohol are forbidden.
15. Never sacrifice safety for speed in performing duties.
16. No job is considered finished until the safety of the next person to use the facility or equipment has been maximized.
17. No smoking allowed at plant site.

Unit Process Safety Evaluation

The most common physical injuries applicable to the operation of this facility are cuts, bruises, strains and sprains. Injuries may be caused by moving machinery, improper

lifting techniques, or slippery surfaces. Falls from or into the tanks can be disabling or fatal. Most of these may be avoided by the proper use of ladders, hand tools, and safety equipment and by using common sense. Safety precautions include the following:

1. Bar screen – when manually cleaning screen, be sure to have a clean, firm footing and wear protective gloves when using rake. Return rake to storage location. Never place rake down on the ground with prongs up.
2. Plant tanks – Assure that footing is on a clean, firm surface when hosing units or performing maintenance. Do not climb on plant railing or rely on plant railing for support when operating/maintaining plant equipment. Use protective gloves when working around tanks or operating valves in tanks.
3. Chlorination and dechlorination equipment – Protective gloves shall be worn whenever handling tablets. As with all lifting, lift with your legs not your back when moving tablet pails. Always remove the lid to the chlorine pail outdoors. Fumes may accumulate in the pail and open the lid away from face to minimize exposure to fumes.
4. Drying beds – Gloves are to be worn when removing or drawing sludge. When forking sludge, do not lift more than can easily be lifted at a time. Lift with legs not with back. Double bag removed material and do not leave bags onsite. Take bags directly to the landfill for final disposal. Do not overload bags, they will rip.
5. Electric Panel/Control Panel – Only a qualified electrician may service, repair or troubleshoot the electrical system. The electric panel box has 240 Volts – it is hazardous and should not be tampered with by anyone not fully qualified. Call for service.

Infections and Infectious Diseases

Personal hygiene is the best protection against the risk of infections and infectious diseases. Immunizations (tetnus, hepatitis, etc. as recommended by physician) should be kept up to date for all employees working at the plant. Protective gloves should be worn when in contact with wastewater or sludge. Thoroughly wash hands with soap and potable water after working at the plant or after using any of the plant equipment or tools.

Housekeeping

Good housekeeping can prevent many accidents. The following practices shall be employed at the plant:

1. Tools and equipment shall be stored in their proper place when not in use. Tool outlines are provided on tool board as a reminder.
2. Clean up all spills of oil, grease, wastewater or sludge.
3. Place all trash in covered trash receptacle and routinely set out the can for weekly pickup.
4. Keep work area clear of snow and ice as needed. Provide safe access to plant.

A clean work area will reduce the risk of injury and infections.

Emergency Assistance/Accident Reporting

For emergency help, dial 911.

Should an accident occur, notify the regional manager as soon as possible (919 270-4831); a report shall be prepared and forwarded to the Regional Manager detailing the injury and accident. A report form is included in the appendices to this manual.

SAMPLING, LAB PROCEDURES & REPORTING

Monitoring

All of the routine monitoring (other than flow monitoring) required by the issued VPDES Permit for the Hiway MHC STP involves the collection of grab samples. A “Grab Sample” is an individual sample collected over a period of time not to exceed 15 minutes. The sample thus represents the composition of the wastewater at that time and place. For the facility, flow is reported based on daily readings of the water supply flow meters and reporting the quantity of water used during the intervening period.

The facility is required to collect grab samples for the following parameters at the indicated frequency:

Daily – pH, Dissolved Oxygen, Total Residual Chlorine (after chlorine contact tank – discharge of contact tank prior to dechlorination), and Total Residual Chlorine (following dechlorination).

Monthly – BOD5, TSS, Ammonia as N, Fecal Coliform.

The required monitoring points for the given parameters are detailed below and are shown on the included diagram of the treatment plant.

Parameter	Monitoring Location
pH	Discharge Point
Dissolved Oxygen	Discharge Point
BOD5	Discharge Point
TSS	Discharge Point
Ammonia as N	Discharge Point
Fecal Coliform	Discharge Point
TRC (Contact)	Chlorine Contact Tank (discharge end)
TRC	Discharge Point

In addition to the required routine monitoring, the licensed operator in charge performs in-plant monitoring of operational parameters, such as settling test, to routinely assess plant performance. These tests are discretionary and performed as needed to evaluate plant performance.

The performance tests performed at the facility are the daily tests (pH, DO, chlorine). The operator collects and monitors these parameters utilizing the plant laboratory. All other testing is performed by a contract laboratory. Sample containers are provided by the contract laboratory for the specified tests. The operator collects the samples in the

provided containers, places the samples in an iced cooler and delivers them directly to the lab. All samples collected and delivered to the laboratory are accompanied by a chain of custody form. A copy of the form is retained in the plant records. All monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136.

Copies of monitoring equipment manuals are available to staff for reference regarding equipment use, maintenance and service. The manuals contain detailed information regarding use; these manuals should be used to perform all required equipment calibration prior to use for monitoring. All laboratory practices shall be performed in accordance with Title 40 CFR Part 136.

It is necessary that the facility ensure proper quality assurance/quality control (QA/QC) protocols are followed during sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required Quantification Levels (QL's) have been attained. The issued permit includes the following specific QL's:

2. Quantification Levels

- a. The quantification levels (QL) shall be less than or equal to the following concentrations:

<u>Characteristic</u>	<u>Quantification Level</u>
TSS	1.0 mg/L
BOD ₅	2 mg/L
TRC	0.10 mg/L
TKN	0.50 mg/L

The permittee may use any approved method that has a QL equal to or lower than a QL listed above. The QL is the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method.

Samples and measurements taken as required by the issued VPDES Permit shall be representative of the monitored activity. As noted above, monitoring shall be conducted according to the procedures under Title 40 CFR Part 136 (or alternative procedures approved by the USEPA, unless procedures are specified in the permit. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that assure accuracy of measurements.

Records

Records of monitoring information shall include:

- The date, exact place, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) and time(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical techniques or methods used; and
- The results of such analyses.

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

Reporting Monitoring Results.

The permittee shall submit the results of the monitoring required by the permit not later than the 10th day of the month after monitoring takes place. Monitoring results shall be submitted via eDMR system to:

Department of Environmental Quality - Northern Virginia Regional Office
(DEQ-NVRO)
13901 Crown Court
Woodbridge, VA 22193.

Monitoring results shall be reported on a Discharge Monitoring Report (DMR) (uploaded on eDMR system)

If the permittee monitors any pollutant specifically addressed by this permit more frequently than required by this permit using test procedures approved under Title 40 of the Code of Federal Regulations Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

In accordance with the issued VPDES Permit, the following guidance shall be used for Compliance Reporting:.

- a. Monthly Average -- Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in Part I.A. or Part I.B. of the permit shall be determined as follows: All concentration data below the QL listed above shall be treated as zero. All concentration data equal to or above the QL listed above shall be treated as it is reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, for the month. This arithmetic average shall be reported on the DMR as calculated. If all data are less than the QL then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the calculated concentration is "<QL" then report "<QL" for the

quantity; otherwise use the calculated concentration to determine the quantity value to be reported.

- b. Maximum Weekly Average -- Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in Part I.A. or Part I.B. of the permit above shall be determined as follows: All concentration data below the QL listed above shall be treated as zero. All concentration data equal to or above the QL shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the calculated concentration is "<QL" then report "<QL" for the quantity; otherwise use the calculated concentration to determine the quantity value to be reported.
- c. Any single datum required shall be reported as "<QL" if it is less than the QL listed in Part I.B.2.a above. Otherwise the numerical value shall be reported.

Daily Logs

In addition to the submission of the facility DMR to the DEQ, the operator shall maintain a daily log of operation. The operator is required to record the day-today plant activities and events (sampling, testing, etc.). operation of equipment, maintenance, housekeeping, etc. The operator records daily results of monitoring results on a data sheet, the sheet indicates the following information:

The date, exact place, and time of sampling or measurements;
The individual(s) who performed the sampling or measurements;
The date(s) and time(s) analyses were performed;
The individual(s) who performed the analyses;
The analytical techniques or methods used; and
The results of such analyses.

The monthly data sheet is the basis for the required DMR determinations for monthly average, minimum and maximum results for the daily testing performed at the plant.

This data sheet shall be filed in the plant office with the submitted DMR.

The operator should record his daily operational activities as well as any repair work or maintenance activity performed. Accident listings and any visitors to the facility are also recorded in the daily log. The date and time of each activity are recorded in the log as well as the operator's initials. A sample log sheet has been included in the appendices.

The operator should also record any equipment maintenance performed in the separate equipment service record maintained at the plant. These records are maintained in the plant laboratory in a separate notebook for ease of reference.

SPILLS & UNUSUAL DISCHARGE PROCEDURES

The Hiway MHC STP serves a residential community. The possibility of an unusual discharge associated with noxious waste is remote. In accordance with the issued permit the following information (exerpted from the issued permit) is provided.

“Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or

Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

Reports of Unauthorized Discharges.

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II.F.; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in

violation of Part II.F., shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

- A description of the nature and location of the discharge;
- The cause of the discharge;
- The date on which the discharge occurred;
- The length of time that the discharge continued;
- The volume of the discharge;
- If the discharge is continuing, how long it is expected to continue;
- If the discharge is continuing, what the expected total volume of the discharge will be;
- and
- Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

Reports of Unusual or Extraordinary Discharges.

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

- Unusual spillage of materials resulting directly or indirectly from processing operations;
- Breakdown of processing or accessory equipment;
- Failure or taking out of service some or all of the treatment works; and
- Flooding or other acts of nature.

Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:

Any unanticipated bypass; and

Any upset which causes a discharge to surface waters.

A written report shall be submitted within 5 days and shall contain:

A description of the noncompliance and its cause;

The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and

Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I. if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

The permittee shall report all instances of noncompliance not reported under Parts II, I.1. or I.2., in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.I.2.

NOTE: The immediate (within 24 hours) reports required in Parts II, G., H. and I. may be made to the Department's Northern Virginia Regional Office at (703) 583-3852 (voice) or (703) 583-3841 (fax). For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892."

In addition to notifying the Department of Environmental Quality, the operator shall also provide notification of unusual discharges to the Virginia Department of Health, Division of Drinking Water. The contact office is in Culpeper and may be reached at 540 829-7340. This notification allows that Division to act upon any real or potential threat to a drinking water supply.

VDH VIRGINIA DEPARTMENT OF HEALTH
To protect the health and promote the well-being of all people in Virginia

A State of Emergency Has Been Declared for Virginia in Response to COVID-19

[Virginia Department of Health > Drinking Water > Contact Us](#)

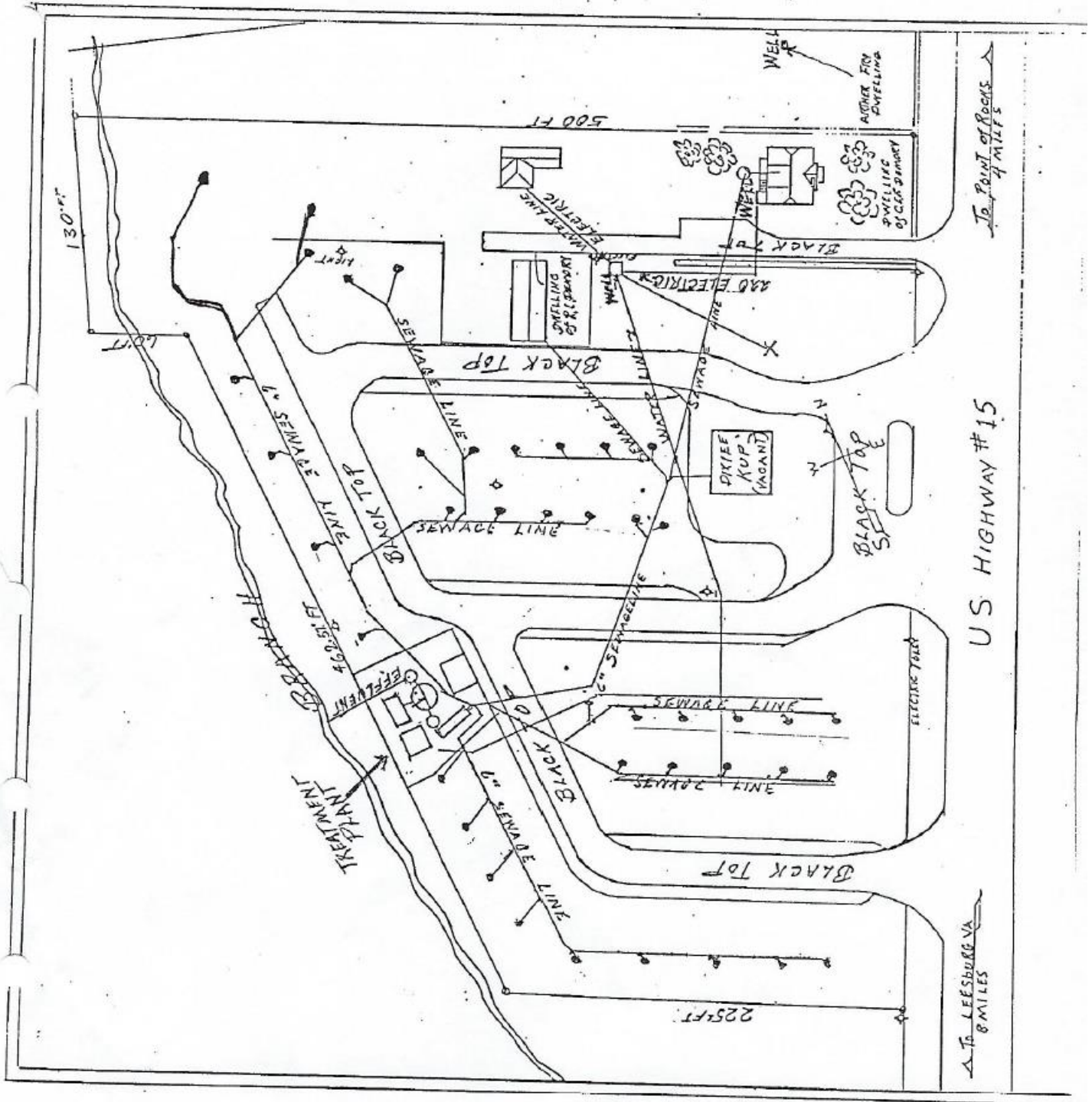
CONTACT US

The Office of Drinking Water comprises 6 field offices. Click the image below for a map of service areas and phone numbers.

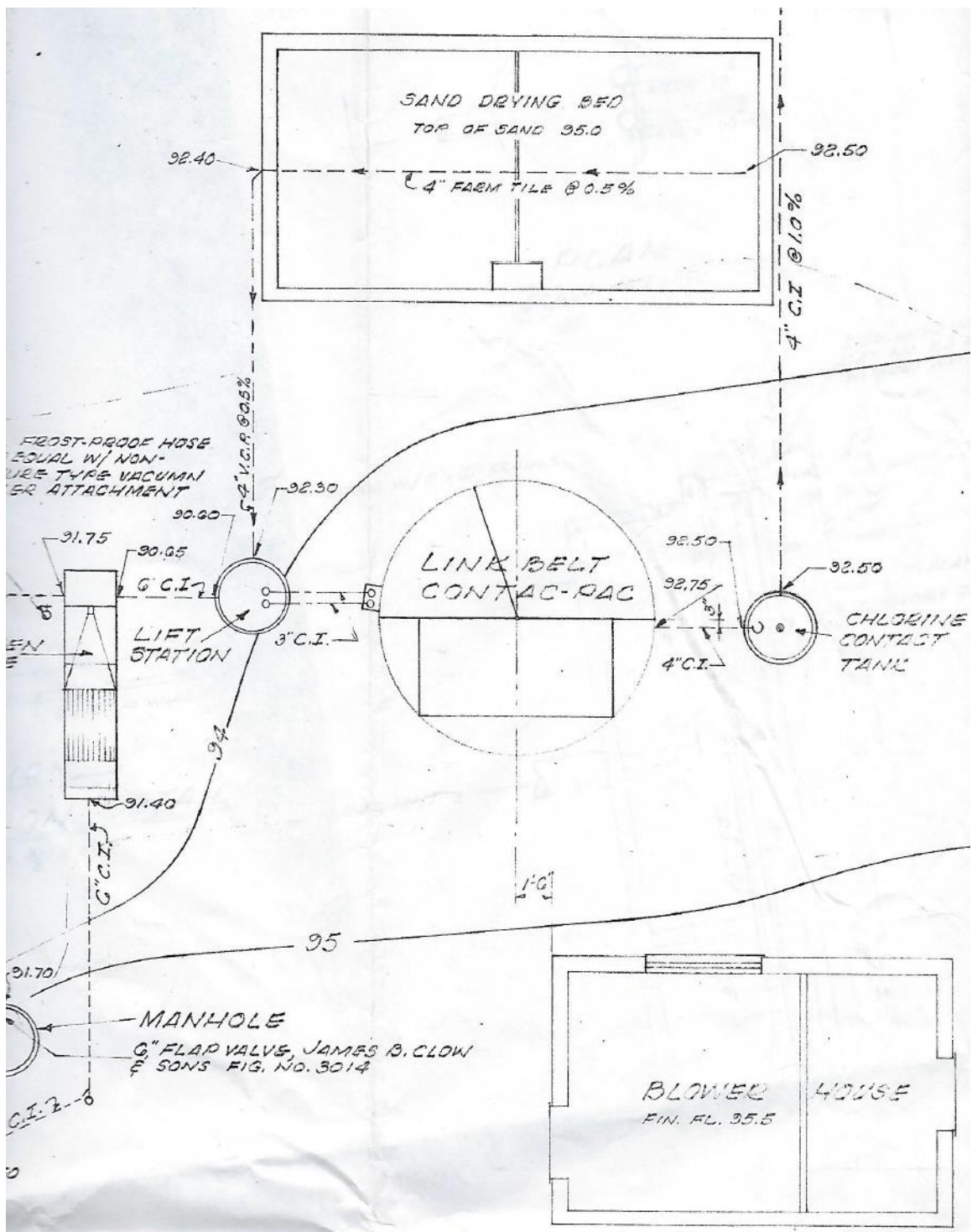


Furthermore, you can visit our new [Web Map Application](#) for more contact information. Simply click on your associated county or field office to find the necessary contact information you require. (Note that this may take a while to load depending on your connection)

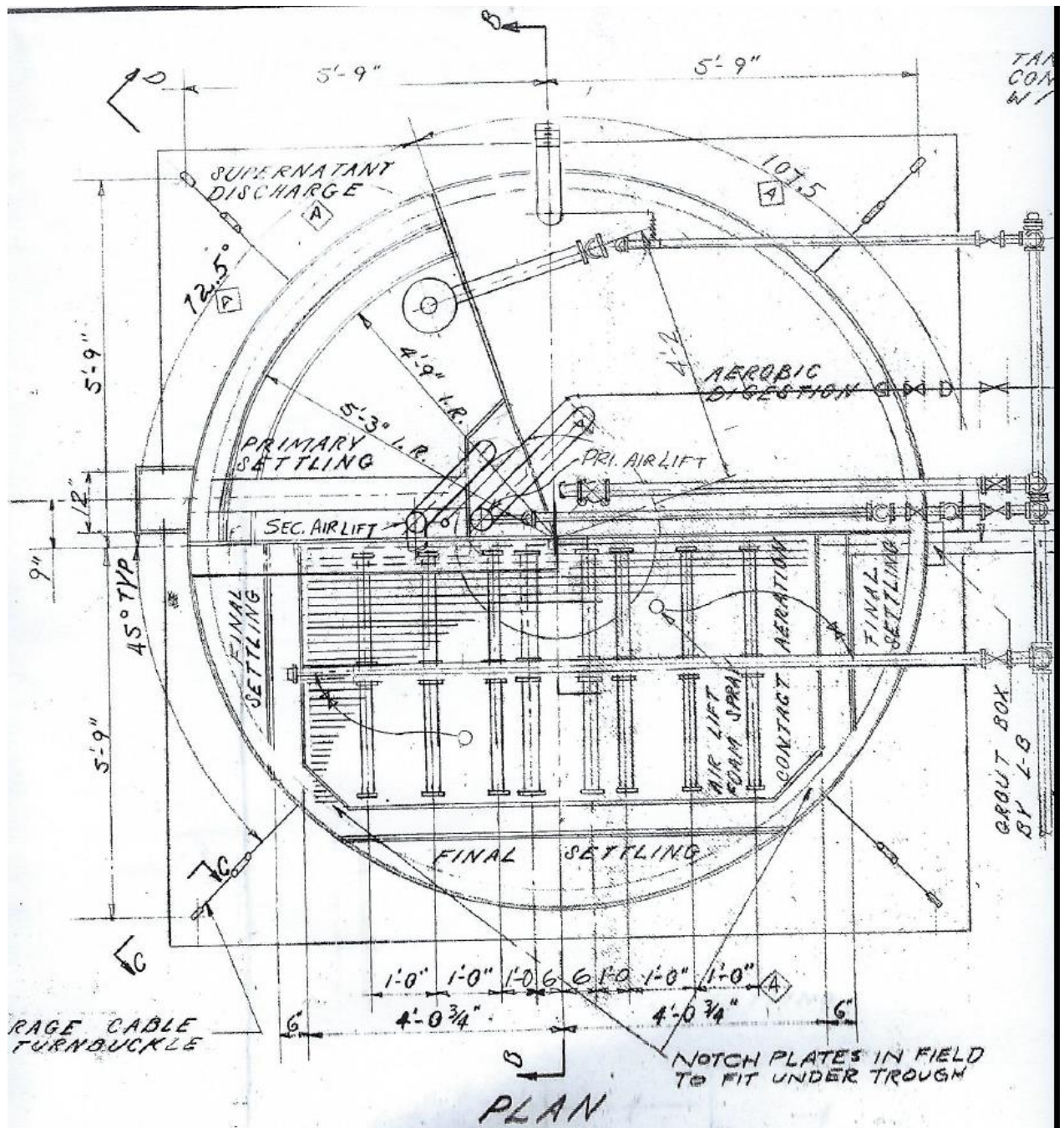
ATTACHMENT – TREATMENT PLANT DIAGRAMS



Collection



Plant Site - Right



Plant Diagram from Plans

HIWAY MHC, LLC STP ACCIDENT REPORT

Date of Report: _____

Name of Injured: _____

Date of Injury: _____ Time: _____ A.M. or P.M.

Check: First Aid Injury _____ Disabling Injury _____
 Visitor Injury _____ Contractor Injury _____

Date Last Worked: _____ Date Return to Work: _____

Person Reporting: _____

DESCRIPTION OF ACCIDENT

1. Description of accident (describe in detail – name any equipment or machine, vehicle, tool, gas, liquid involved and if equipment/machine specify part involved):

2. Accident Location: _____

3. Name of Injury: _____

4. Part of Body Injured: _____

5. Were other persons involved: _____

Name: _____

Address: _____

Phone: _____

Name: _____

Address: _____

Phone: _____

6. If property damage involved, provide brief description:

7. If Hospitalized, Name of Hospital: _____

8. Name of Physician: _____

9. If witness, provide name & phone#: _____

10. Any Additional Information: _____

SAMPLE EQUIPMENT RECORD

(SAMPLE) HIWAY MHC, L.L.C. STP WASTEWATER EQUIPMENT RECORD		COMMENTS
Equipment Identification:	_____	
Equipment Manufacturer:	_____	
Serial Number:	_____	
Additional Information:	_____	

Equipment Supplier:	_____	
Contact Name:	_____	
Contact Phone:	_____	
Purchase Date:	_____	
NOTE ANY WARRANTY INFORMATION:	_____	

NOTE ANY REQUIRED SERVICE:	_____	

COMMENTS:	_____	

SAMPLE MAINTENANCERECORD

Blower Preventive Maintenance Log

The Active Blower may be alternated monthly- as long as there is no active concern
Record Active Unit Monthly. Prior to switch verify operating status.

Frequency of Oil change is based on operating temperature & lubricant used. If synthetic oil (such as PneuLube) is used, frequency of oil change is decreased - recommend change semi-annually (or ~ 4,500 hours of operation)
Verify oil level/air filter restriction & V-Belt Pin indicator daily to assure conditions/status.
Change air filter when 15" water column pressure loss observed at gauge. Replace V Belts annually.
Observe filter prior to unit selection change.

Month	Active Unit	DATE Oil Change#1	DATE Oil Change#2	DATE Filter Change #1	DATE Filter Change #2	DATE Belt Change #1	DATE Belt Change #2
Jan							
Feb							
Mar							
Apr							
May							
Jun							
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							

Insert Date & Initial Oil/Filter & Belt changes.

SAMPLE MONITORING RECORD

MO/YR _____

HIWAY MHC WWTP
VPDES PERMIT VA0074942
Outfall 001

Date	Oper.	Final Temp C	Totalizer Reading	FLOW GPD	pH Sample Time Collected	pH Sample Time Analyzed	pH SU RESULT	Cl2 Sample Time Collected	Cl2 Sample Time ANALYZED	Cl2 mg/l RESULT	Dechlor Sample Time Collected	Dechlor Sample Time ANALYZED	Dechlor mg/l RESULT	DO mg/l Results
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
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23														
24														
25														
26														
27														
28														
29														
30														
31														

* SAMPLES COLLECTED/ TO LAB

SAMPLE DISCHARGE POINT & STREAM OBSERVATION LOG

HIWAY MHC LLC EFFLUENT AND STREAM OBSERVATION LOG

Are floating solids or is visible foam present beyond a trace (barely noticeable) amount?

Month and Year:

Day	Sample Pt.		Stream		If so, check for cause. action to be taken (if any):
	YES	NO	YES	NO	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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24					
25					
26					
27					
28					
29					
30					
31					

Exhibit 3
ICIS Database DMR Data
(April 2018 – September 2020)

NPDES ID	Mon. Period End Date	Parameter	Quantity 1	Quantity 2	Quantity Units	Concentration 1	Concentration 2	Concentration 3	Concentration Units	Effluent Vio. Exists
VA0074942	04/30/2018	Oxygen, dissolved [DO]				6.7			mg/L	N
VA0074942	04/30/2018	BOD, 5-day, 20 deg. C	.46	.46	kg/d		14	14	mg/L	N
VA0074942	04/30/2018	pH				6.7		7.7	SU	N
VA0074942	04/30/2018	Solids, total suspended	1.08	1.99	kg/d		33	61	mg/L	Y
VA0074942	04/30/2018	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N
VA0074942	04/30/2018	Flow, in conduit or thru treatment plant	.01	.0144	MGD					N
VA0074942	04/30/2018	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	04/30/2018	Chlorine, total residual				1.02			mg/L	N
VA0074942	04/30/2018	E. coli					6		#/100mL	N
VA0074942	05/31/2018	Oxygen, dissolved [DO]				6.2			mg/L	N
VA0074942	05/31/2018	BOD, 5-day, 20 deg. C	.12	.12	kg/d		3	3	mg/L	N
VA0074942	05/31/2018	pH				6.9		7.7	SU	N
VA0074942	05/31/2018	Solids, total suspended	.2	.2	kg/d		5	5	mg/L	N
VA0074942	05/31/2018	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N

VA0074942	05/31/2018	Flow, in conduit or thru treatment plant	.0104	.0144	MGD					N
VA0074942	05/31/2018	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	05/31/2018	Chlorine, total residual				1.03			mg/L	N
VA0074942	05/31/2018	E. coli					6		#/100mL	N
VA0074942	06/30/2018	Oxygen, dissolved [DO]				6.2			mg/L	N
VA0074942	06/30/2018	BOD, 5-day, 20 deg. C	NODI B	NODI B	kg/d		NODI B	NODI B	mg/L	N
VA0074942	06/30/2018	pH				6.8		7.5	SU	N
VA0074942	06/30/2018	Solids, total suspended	.52	.52	kg/d		16	16	mg/L	N
VA0074942	06/30/2018	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N
VA0074942	06/30/2018	Flow, in conduit or thru treatment plant	.0103	.0144	MGD					N
VA0074942	06/30/2018	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	06/30/2018	Chlorine, total residual				1.02			mg/L	N
VA0074942	06/30/2018	E. coli					18		#/100mL	N
VA0074942	07/31/2018	Oxygen, dissolved [DO]				6.4			mg/L	N
VA0074942	07/31/2018	BOD, 5-day, 20 deg. C	.26	.26	kg/d		8	8	mg/L	N
VA0074942	07/31/2018	pH				6.9		7.5	SU	N

VA0074942	07/31/2018	Solids, total suspended	.36	.36	kg/d		11	11	mg/L	N
VA0074942	07/31/2018	Nitrogen, ammonia total [as N]					.32	.32	mg/L	N
VA0074942	07/31/2018	Flow, in conduit or thru treatment plant	.0099	.0123	MGD					N
VA0074942	07/31/2018	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	07/31/2018	Chlorine, total residual				1.03			mg/L	N
VA0074942	07/31/2018	E. coli					2		#/100mL	N
VA0074942	08/31/2018	Oxygen, dissolved [DO]				6			mg/L	N
VA0074942	08/31/2018	BOD, 5-day, 20 deg. C	.12	.12	kg/d		4	4	mg/L	N
VA0074942	08/31/2018	pH				6.9		7.8	SU	N
VA0074942	08/31/2018	Solids, total suspended	.74	.86	kg/d		22	29	mg/L	N
VA0074942	08/31/2018	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N
VA0074942	08/31/2018	Flow, in conduit or thru treatment plant	.0102	.0173	MGD					N
VA0074942	08/31/2018	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	08/31/2018	Chlorine, total residual				1.02			mg/L	N
VA0074942	08/31/2018	E. coli					1		#/100mL	N
VA0074942	09/30/2018	Oxygen, dissolved [DO]				6.2			mg/L	N

VA0074942	09/30/2018	BOD, 5-day, 20 deg. C	.08	.08	kg/d		2	2	mg/L	N
VA0074942	09/30/2018	pH				6.8		7.6	SU	N
VA0074942	09/30/2018	Solids, total suspended	.16	.16	kg/d		4	4	mg/L	N
VA0074942	09/30/2018	Nitrogen, ammonia total [as N]					.13	.13	mg/L	N
VA0074942	09/30/2018	Flow, in conduit or thru treatment plant	.0106	.0144	MGD					N
VA0074942	09/30/2018	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	09/30/2018	Chlorine, total residual				1.16			mg/L	N
VA0074942	09/30/2018	E. coli					1		#/100mL	N
VA0074942	10/31/2018	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	10/31/2018	BOD, 5-day, 20 deg. C	.15	.15	kg/d		5	5	mg/L	N
VA0074942	10/31/2018	pH				6.9		7.6	SU	N
VA0074942	10/31/2018	Solids, total suspended	.51	.51	kg/d		17	17	mg/L	N
VA0074942	10/31/2018	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N
VA0074942	10/31/2018	Flow, in conduit or thru treatment plant	.0101	.0123	MGD					N
VA0074942	10/31/2018	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	10/31/2018	Chlorine, total residual				1.12			mg/L	N

VA0074942	10/31/2018	E. coli					16		#/100mL	N
VA0074942	11/30/2018	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	11/30/2018	BOD, 5-day, 20 deg. C	.22	.22	kg/d		6	6	mg/L	N
VA0074942	11/30/2018	pH				7		7.9	SU	N
VA0074942	11/30/2018	Solids, total suspended	.4	.4	kg/d		11	11	mg/L	N
VA0074942	11/30/2018	Nitrogen, ammonia total [as N]					4.87	4.87	mg/L	Y
VA0074942	11/30/2018	Flow, in conduit or thru treatment plant	.011	.014	MGD					N
VA0074942	11/30/2018	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	11/30/2018	Chlorine, total residual				1.09			mg/L	N
VA0074942	11/30/2018	E. coli					1		#/100mL	N
VA0074942	12/31/2018	Oxygen, dissolved [DO]				6			mg/L	N
VA0074942	12/31/2018	BOD, 5-day, 20 deg. C	.11	.11	kg/d		4	4	mg/L	N
VA0074942	12/31/2018	pH				7		7.6	SU	N
VA0074942	12/31/2018	Solids, total suspended	.64	1.01	kg/d		21	31	mg/L	N
VA0074942	12/31/2018	Nitrogen, ammonia total [as N]					1.46	1.46	mg/L	N
VA0074942	12/31/2018	Flow, in conduit or thru treatment plant	.0106	.0144	MGD					N

VA0074942	12/31/2018	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	12/31/2018	Chlorine, total residual				1.11			mg/L	N
VA0074942	12/31/2018	E. coli					1		#/100mL	N
VA0074942	01/31/2019	Oxygen, dissolved [DO]				6.3			mg/L	N
VA0074942	01/31/2019	BOD, 5-day, 20 deg. C	.12	.12	kg/d		3	3	mg/L	N
VA0074942	01/31/2019	pH				7		7.6	SU	N
VA0074942	01/31/2019	Solids, total suspended	.35	.35	kg/d		13	13	mg/L	N
VA0074942	01/31/2019	Nitrogen, ammonia total [as N]					12.3	12.3	mg/L	Y
VA0074942	01/31/2019	Flow, in conduit or thru treatment plant	.0104	.0123	MGD					N
VA0074942	01/31/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	01/31/2019	Chlorine, total residual				1.09			mg/L	N
VA0074942	01/31/2019	E. coli					1		#/100mL	N
VA0074942	02/28/2019	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	02/28/2019	BOD, 5-day, 20 deg. C	.09	.09	kg/d		3	3	mg/L	N
VA0074942	02/28/2019	pH				6.9		7.6	SU	N
VA0074942	02/28/2019	Solids, total suspended	.36	.36	kg/d		12	12	mg/L	N

VA0074942	02/28/2019	Nitrogen, ammonia total [as N]					2.17	2.17	mg/L	N
VA0074942	02/28/2019	Flow, in conduit or thru treatment plant	.0102	.0144	MGD					N
VA0074942	02/28/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	02/28/2019	Chlorine, total residual				1.29			mg/L	N
VA0074942	02/28/2019	E. coli					1		#/100mL	N
VA0074942	03/31/2019	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	03/31/2019	BOD, 5-day, 20 deg. C	.15	.15	kg/d		6	6	mg/L	N
VA0074942	03/31/2019	pH				7		7.8	SU	N
VA0074942	03/31/2019	Solids, total suspended	.28	.28	kg/d		11	11	mg/L	N
VA0074942	03/31/2019	Nitrogen, ammonia total [as N]					11.2	11.2	mg/L	Y
VA0074942	03/31/2019	Flow, in conduit or thru treatment plant	.0103	.0144	MGD					N
VA0074942	03/31/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	03/31/2019	Chlorine, total residual				1.09			mg/L	N
VA0074942	03/31/2019	E. coli					1		#/100mL	N
VA0074942	04/30/2019	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	04/30/2019	BOD, 5-day, 20 deg. C	.71	1.16	kg/d		23	39	mg/L	Y

VA0074942	04/30/2019	pH				6.9		8	SU	N
VA0074942	04/30/2019	Solids, total suspended	.55	.89	kg/d		18	30	mg/L	N
VA0074942	04/30/2019	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N
VA0074942	04/30/2019	Flow, in conduit or thru treatment plant	.0095	.0144	MGD					N
VA0074942	04/30/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	04/30/2019	Chlorine, total residual				1.49			mg/L	N
VA0074942	04/30/2019	E. coli					3		#/100mL	N
VA0074942	05/31/2019	Oxygen, dissolved [DO]				6.2			mg/L	N
VA0074942	05/31/2019	BOD, 5-day, 20 deg. C	NODI B	NODI B	kg/d		NODI B	NODI B	mg/L	N
VA0074942	05/31/2019	pH				6.9		7.6	SU	N
VA0074942	05/31/2019	Solids, total suspended	.36	.36	kg/d		12	12	mg/L	N
VA0074942	05/31/2019	Nitrogen, ammonia total [as N]					.49	.49	mg/L	N
VA0074942	05/31/2019	Flow, in conduit or thru treatment plant	.0097	.0144	MGD					N
VA0074942	05/31/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	05/31/2019	Chlorine, total residual				1.36			mg/L	N
VA0074942	05/31/2019	E. coli					1		#/100mL	N

VA0074942	06/30/2019	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	06/30/2019	BOD, 5-day, 20 deg. C	NODI B	NODI B	kg/d		NODI B	NODI B	mg/L	N
VA0074942	06/30/2019	pH				7		7.6	SU	N
VA0074942	06/30/2019	Solids, total suspended	.1	.1	kg/d		3	3	mg/L	N
VA0074942	06/30/2019	Nitrogen, ammonia total [as N]					.19	.19	mg/L	N
VA0074942	06/30/2019	Flow, in conduit or thru treatment plant	.0095	.0123	MGD					N
VA0074942	06/30/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	06/30/2019	Chlorine, total residual				1.07			mg/L	N
VA0074942	06/30/2019	E. coli					1		#/100mL	N
VA0074942	07/31/2019	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	07/31/2019	BOD, 5-day, 20 deg. C	1.05	1.05	kg/d		32	32	mg/L	Y
VA0074942	07/31/2019	pH				6.9		7.4	SU	N
VA0074942	07/31/2019	Solids, total suspended	.36	.36	kg/d		11	11	mg/L	N
VA0074942	07/31/2019	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N
VA0074942	07/31/2019	Flow, in conduit or thru treatment plant	.0102	.0123	MGD					N
VA0074942	07/31/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N

VA0074942	07/31/2019	Chlorine, total residual				1.06			mg/L	N
VA0074942	07/31/2019	E. coli					1		#/100mL	N
VA0074942	08/31/2019	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	08/31/2019	BOD, 5-day, 20 deg. C	.07	.07	kg/d		2	2	mg/L	N
VA0074942	08/31/2019	pH				6.9		7.4	SU	N
VA0074942	08/31/2019	Solids, total suspended	.13	.13	kg/d		4	4	mg/L	N
VA0074942	08/31/2019	Nitrogen, ammonia total [as N]					.11	.11	mg/L	N
VA0074942	08/31/2019	Flow, in conduit or thru treatment plant	.0102	.0123	MGD					N
VA0074942	08/31/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	08/31/2019	Chlorine, total residual				1.13			mg/L	N
VA0074942	08/31/2019	E. coli					1		#/100mL	N
VA0074942	09/30/2019	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	09/30/2019	BOD, 5-day, 20 deg. C	NODI B	NODI B	kg/d		NODI B	NODI B	mg/L	N
VA0074942	09/30/2019	pH				7		7.5	SU	N
VA0074942	09/30/2019	Solids, total suspended	.19	.19	kg/d		5	5	mg/L	N

VA0074942	09/30/2019	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N
VA0074942	09/30/2019	Flow, in conduit or thru treatment plant	.0096	.0108	MGD					N
VA0074942	09/30/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	09/30/2019	Chlorine, total residual				1.17			mg/L	N
VA0074942	09/30/2019	E. coli					3		#/100mL	N
VA0074942	10/31/2019	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	10/31/2019	BOD, 5-day, 20 deg. C	.08	.08	kg/d		2	2	mg/L	N
VA0074942	10/31/2019	pH				7		7.9	SU	N
VA0074942	10/31/2019	Solids, total suspended	NODI B	NODI B	kg/d		NODI B	NODI B	mg/L	N
VA0074942	10/31/2019	Nitrogen, ammonia total [as N]					.97	.97	mg/L	N
VA0074942	10/31/2019	Flow, in conduit or thru treatment plant	.0098	.0123	MGD					N
VA0074942	10/31/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N

VA0074942	10/31/2019	Chlorine, total residual				1.13			mg/L	N
VA0074942	10/31/2019	E. coli					10		#/100mL	N
VA0074942	11/30/2019	Oxygen, dissolved [DO]				6			mg/L	N
VA0074942	11/30/2019	BOD, 5-day, 20 deg. C	NODI B	NODI B	kg/d		NODI B	NODI B	mg/L	N
VA0074942	11/30/2019	pH				6.9		7.6	SU	N
VA0074942	11/30/2019	Solids, total suspended	.92	.92	kg/d		36.5	36.5	mg/L	Y
VA0074942	11/30/2019	Nitrogen, ammonia total [as N]					.68	.68	mg/L	N
VA0074942	11/30/2019	Flow, in conduit or thru treatment plant	.0091	.0108	MGD					N
VA0074942	11/30/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	11/30/2019	Chlorine, total residual				1.39			mg/L	N
VA0074942	11/30/2019	E. coli					10		#/100mL	N
VA0074942	12/31/2019	Nitrogen, total [as N]					34.1		mg/L	N

VA0074942	12/31/2019	Nitrogen, Kjeldahl, total [as N]					1.9		mg/L	N
VA0074942	12/31/2019	Nitrite + Nitrate total [as N]					32.2		mg/L	N
VA0074942	12/31/2019	Phosphorus, total [as P]					3.8		mg/L	N
VA0074942	12/31/2019	Oxygen, dissolved [DO]				6			mg/L	N
VA0074942	12/31/2019	BOD, 5-day, 20 deg. C	.53	.53	kg/d		16.2	16.2	mg/L	N
VA0074942	12/31/2019	pH				7		7.8	SU	N
VA0074942	12/31/2019	Solids, total suspended	.31	.31	kg/d		9.5	9.5	mg/L	N
VA0074942	12/31/2019	Nitrogen, ammonia total [as N]					.16	.16	mg/L	N
VA0074942	12/31/2019	Flow, in conduit or thru treatment plant	.0094	.0123	MGD					N
VA0074942	12/31/2019	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	12/31/2019	Chlorine, total residual				1.32			mg/L	N
VA0074942	12/31/2019	E. coli					10		#/100mL	N
VA0074942	01/31/2020	Oxygen, dissolved [DO]				6.3			mg/L	N
VA0074942	01/31/2020	BOD, 5-day, 20 deg. C	.14	.14	kg/d		5	5	mg/L	N
VA0074942	01/31/2020	pH				7.1		7.6	SU	N

VA0074942	01/31/2020	Solids, total suspended	.31	.31	kg/d		11.5	11.5	mg/L	N
VA0074942	01/31/2020	Nitrogen, ammonia total [as N]					24.9	24.9	mg/L	Y
VA0074942	01/31/2020	Flow, in conduit or thru treatment plant	.0092	.0108	MGD					N
VA0074942	01/31/2020	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	01/31/2020	Chlorine, total residual				1.39			mg/L	N
VA0074942	01/31/2020	E. coli					10		#/100mL	N
VA0074942	02/29/2020	Oxygen, dissolved [DO]				6			mg/L	N
VA0074942	02/29/2020	BOD, 5-day, 20 deg. C	.18	.18	kg/d		6.7	6.7	mg/L	N
VA0074942	02/29/2020	pH				7.1		7.6	SU	N
VA0074942	02/29/2020	Solids, total suspended	.8	.8	kg/d		29.3	29.3	mg/L	Y
VA0074942	02/29/2020	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N
VA0074942	02/29/2020	Flow, in conduit or thru treatment plant	.0087	.0108	MGD					N
VA0074942	02/29/2020	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	02/29/2020	Chlorine, total residual				1.77			mg/L	N
VA0074942	02/29/2020	E. coli					10		#/100mL	N
VA0074942	03/31/2020	Oxygen, dissolved [DO]				6			mg/L	N

VA0074942	03/31/2020	BOD, 5-day, 20 deg. C	NODI B	NODI B	kg/d		NODI B	NODI B	mg/L	N
VA0074942	03/31/2020	pH				6.9		7.7	SU	N
VA0074942	03/31/2020	Solids, total suspended	.27	.27	kg/d		8.3	8.3	mg/L	N
VA0074942	03/31/2020	Nitrogen, ammonia total [as N]					23.3	23.3	mg/L	Y
VA0074942	03/31/2020	Flow, in conduit or thru treatment plant	.0094	.0123	MGD					N
VA0074942	03/31/2020	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	03/31/2020	Chlorine, total residual				1.13			mg/L	N
VA0074942	03/31/2020	E. coli					10		#/100mL	N
VA0074942	04/30/2020	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	04/30/2020	BOD, 5-day, 20 deg. C	NODI B	NODI B	kg/d		NODI B	NODI B	mg/L	N
VA0074942	04/30/2020	pH				7		7.8	SU	N
VA0074942	04/30/2020	Solids, total suspended	.74	.74	kg/d		25	25	mg/L	N
VA0074942	04/30/2020	Nitrogen, ammonia total [as N]					.33	.33	mg/L	N
VA0074942	04/30/2020	Flow, in conduit or thru treatment plant	.0106	.0144	MGD					N
VA0074942	04/30/2020	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	04/30/2020	Chlorine, total residual				2.2			mg/L	N

VA0074942	04/30/2020	E. coli					10		#/100mL	N
VA0074942	05/31/2020	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	05/31/2020	BOD, 5-day, 20 deg. C	.15	.15	kg/d		5.1	5.1	mg/L	N
VA0074942	05/31/2020	pH				6.9		7.6	SU	N
VA0074942	05/31/2020	Solids, total suspended	.18	.18	kg/d		6	6	mg/L	N
VA0074942	05/31/2020	Nitrogen, ammonia total [as N]					.12	.12	mg/L	N
VA0074942	05/31/2020	Flow, in conduit or thru treatment plant	.0106	.0123	MGD					N
VA0074942	05/31/2020	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	05/31/2020	Chlorine, total residual				1.71			mg/L	N
VA0074942	05/31/2020	E. coli					14		#/100mL	N
VA0074942	06/30/2020	Oxygen, dissolved [DO]				6.3			mg/L	N
VA0074942	06/30/2020	BOD, 5-day, 20 deg. C	.51	.51	kg/d		17	17	mg/L	N
VA0074942	06/30/2020	pH				6.8		7.5	SU	N
VA0074942	06/30/2020	Solids, total suspended	.8	2.02	kg/d		26.2	68	mg/L	Y
VA0074942	06/30/2020	Nitrogen, ammonia total [as N]					.29	.29	mg/L	N
VA0074942	06/30/2020	Flow, in conduit or thru treatment plant	.0103	.0123	MGD					N

VA0074942	06/30/2020	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	06/30/2020	Chlorine, total residual				1.09			mg/L	N
VA0074942	06/30/2020	E. coli					10		#/100mL	N
VA0074942	07/31/2020	Oxygen, dissolved [DO]				6			mg/L	N
VA0074942	07/31/2020	BOD, 5-day, 20 deg. C	NODI B	NODI B	kg/d		NODI B	NODI B	mg/L	N
VA0074942	07/31/2020	pH				7		7.4	SU	N
VA0074942	07/31/2020	Solids, total suspended	.2	.2	kg/d		6.7	6.7	mg/L	N
VA0074942	07/31/2020	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N
VA0074942	07/31/2020	Flow, in conduit or thru treatment plant	.0096	.0123	MGD					N
VA0074942	07/31/2020	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	07/31/2020	Chlorine, total residual				1.03			mg/L	N
VA0074942	07/31/2020	E. coli					10		#/100mL	N
VA0074942	08/31/2020	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	08/31/2020	BOD, 5-day, 20 deg. C	.24	.24	kg/d		5.9	5.9	mg/L	N
VA0074942	08/31/2020	pH				6.7		7.5	SU	N
VA0074942	08/31/2020	Solids, total suspended	.78	.78	kg/d		19	19	mg/L	N

VA0074942	08/31/2020	Nitrogen, ammonia total [as N]					.13	.13	mg/L	N
VA0074942	08/31/2020	Flow, in conduit or thru treatment plant	.0102	.0123	MGD					N
VA0074942	08/31/2020	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	08/31/2020	Chlorine, total residual				1.05			mg/L	N
VA0074942	08/31/2020	E. coli					14		#/100mL	N
VA0074942	09/30/2020	Oxygen, dissolved [DO]				6.1			mg/L	N
VA0074942	09/30/2020	BOD, 5-day, 20 deg. C	NODI B	NODI B	kg/d		NODI B	NODI B	mg/L	N
VA0074942	09/30/2020	pH				6.8		7.5	SU	N
VA0074942	09/30/2020	Solids, total suspended	.29	.29	kg/d		9.8	9.8	mg/L	N
VA0074942	09/30/2020	Nitrogen, ammonia total [as N]					NODI B	NODI B	mg/L	N
VA0074942	09/30/2020	Flow, in conduit or thru treatment plant	.0102	.0123	MGD					N
VA0074942	09/30/2020	Chlorine, total residual					NODI B	NODI B	mg/L	N
VA0074942	09/30/2020	Chlorine, total residual				1.07			mg/L	N
VA0074942	09/30/2020	E. coli					10		#/100mL	N

Exhibit 4
VDEQ Warning Letters
(April 2018 – September 2020)



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas Faha
Regional Director

June 5, 2018

WARNING LETTER

Via e-mail Return Receipt Requested (tarmatt@aol.com)

Mr. Matthew Raynor
Raynor Environmental Enterprises LLC
524 Meadow Avenue Loop
Banner Elk, NC 28604

RE: WL No. W2018-06-N-1002
Highway Mobile Home Community STP
VA0074942
Loudoun County

Dear Mr. Raynor,

The Department of Environmental Quality (DEQ), Northern Regional Office (NRO), has reason to believe that Raynor Environmental Enterprises LLC may be in violation of the State Water Control Law § 62.1-44 and the Virginia Pollutant Discharge Elimination System (VPDES) Permit regulation 9 VAC 25-31-50.A. *et seq.* at the Highway Mobile Home Community LLC - Sewage Treatment Plant (STP) facility.

This letter addresses conditions at the facility named above, and also cites compliance requirements of the State Water Control Law and Regulations. Pursuant to Va. Code § 62.1-44.15 (8a), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.* The Department requests that you respond **within 20 days of the date of this letter.**

OBSERVATIONS AND LEGAL REQUIREMENTS

Facility staff are required to submit discharge monitoring reports (DMRs) and documents to DEQ NRO, including the following *relevant* data results. The following describe DEQ NRO staff factual observations and identify the applicable legal requirements.

1. *Observation:* The April 2018 DMR reported a Total Suspended Solids (TSS) monthly concentration average of 33 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: "The monthly concentration average limit for TSS is 25 mg/L."

2. *Observation:* The April 2018 DMR reported a TSS weekly concentration average maximum of 61 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: “The weekly concentration average maximum limit for TSS is 38 mg/L.”

3. *Observation:* The April 2018 DMR reported a monthly quantity average loading rate for TSS of 1.99 kg/day.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: “The weekly quantity average maximum loading rate for TSS is 1.7 kg/day.”

4. *Observation:* The November 2017 DMR reported a BOD5 monthly concentration average of 26 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: “The monthly concentration average limit for BOD5 is 25 mg/L.”

***This facility had 1.0 point in the Compliance Auditing System at the end of April 2018.**

ENFORCEMENT AUTHORITY

Va. Code § 62.1-44.23 of the State Water Control Law provides for an injunction for any violation of the State Water Control Law, any State Water Control Board rule or regulation, an order, permit condition, standard, or any certificate requirement or provision. Va. Code §§ 62.1-44.15 and 62.1-44.32 provide for a civil penalty up to \$32,500 per day of each violation of the same. In addition, Va. Code § 62.1-44.15 authorizes the State Water Control Board to issue orders to any person to comply with the State Water Control Law and regulations, including the imposition of a civil penalty for violations of up to \$100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the State Water Control Law and regulations, and to impose civil penalty of not more than \$10,000. Va. Code §§ 62.1-44.32 (b) and 62.1-44.32 (c) provide for other additional penalties.

The Court has the inherent authority to enforce its injunction, and is authorized to award the Commonwealth its attorney’s fees and costs.

FUTURE ACTIONS

After reviewing this letter, please respond in writing to DEQ **within 20 days of the date of this letter** detailing actions you have taken or will be taking to ensure compliance with state law and regulations. If corrective action will take longer than 90 days to complete, you may be asked to sign a Letter of Agreement or enter into a Consent Order with the Department to formalize the plan and schedule. *It is DEQ policy that appropriate, timely, corrective actions undertaken in response to a Warning Letter will avoid adversarial enforcement proceedings and the assessment of civil charges or penalties.*

Please advise us if you dispute any of the observations recited herein or if there is other information of which DEQ should be aware. In the event that discussions with staff do not lead to a satisfactory conclusion concerning the contents of this letter, you may elect to participate in DEQ’s Process for Early Dispute Resolution. Also, if informal discussions do not lead to a satisfactory conclusion, you may request in writing that DEQ take all necessary steps to issue a final decision or fact finding under the APA on whether or not a violation has occurred. For further information on the Process for Early Dispute Resolution, please see Agency Policy Statement No.8-2005 posted on the Department’s website under “Programs,” “Enforcement,” and “Laws, Regulations, & Guidance”

(<http://www.deq.virginia.gov/Programs/Enforcement/Laws,Regulations,Guidance.aspx>) or ask the DEQ contact below.

Please direct written materials regarding this matter to Mr. Mark Evans. Written materials may be sent either via the US Postal Service or electronically, via E-mail. DEQ recommends sending electronic responses as an Acrobat PDF or in a Word-compatible, write-protected format. If you have questions or wish to arrange a meeting, please contact Mr. Evans at (703) 583-3811 or by e-mail at Mark.Evans@deq.virginia.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Edward L. Stuart".

Edward L. Stuart
Regional Water Compliance Manager

cc: Permits File
Electronic copy: Compliance Auditor; Compliance Manager – DEQ



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas Faha
Regional Director

January 17, 2019

WARNING LETTER

Via e-mail Return Receipt Requested (tarmatt@aol.com)

Mr. Matthew Raynor
Raynor Environmental Enterprises LLC
524 Meadow Avenue Loop
Banner Elk, NC 28604

RE: WL No. W2019-01-N-1002
Highway Mobile Home Community STP
VA0074942
Loudoun County

Dear Mr. Raynor,

The Department of Environmental Quality (DEQ), Northern Regional Office (NRO), has reason to believe that Raynor Environmental Enterprises LLC may be in violation of the State Water Control Law § 62.1-44 and the Virginia Pollutant Discharge Elimination System (VPDES) Permit regulation 9 VAC 25-31-50.A. *et seq.* at the Highway Mobile Home Community LLC - Sewage Treatment Plant (STP) facility.

This letter addresses conditions at the facility named above, and also cites compliance requirements of the State Water Control Law and Regulations. Pursuant to Va. Code § 62.1-44.15 (8a), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.* The Department requests that you respond **within 20 days of the date of this letter.**

OBSERVATIONS AND LEGAL REQUIREMENTS

Facility staff are required to submit discharge monitoring reports (DMRs) and documents to DEQ NRO, including the following *relevant* data results. The following describe DEQ NRO staff factual observations and identify the applicable legal requirements.

1. *Observation:* The November 2018 DMR reported an Ammonia, as N monthly concentration average of 4.87 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: "The monthly concentration average limit for Ammonia, as N is 3.1 mg/L."

2. *Observation:* The November 2018 DMR reported an Ammonia, as N weekly concentration average maximum of 4.87 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: "The weekly concentration average maximum limit for Ammonia, as N is 3.1 mg/L."

***This facility had 1.0 point in the Compliance Auditing System at the end of November 2018.**

ENFORCEMENT AUTHORITY

Va. Code § 62.1-44.23 of the State Water Control Law provides for an injunction for any violation of the State Water Control Law, any State Water Control Board rule or regulation, an order, permit condition, standard, or any certificate requirement or provision. Va. Code §§ 62.1-44.15 and 62.1-44.32 provide for a civil penalty up to \$32,500 per day of each violation of the same. In addition, Va. Code § 62.1-44.15 authorizes the State Water Control Board to issue orders to any person to comply with the State Water Control Law and regulations, including the imposition of a civil penalty for violations of up to \$100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the State Water Control Law and regulations, and to impose civil penalty of not more than \$10,000. Va. Code §§ 62.1-44.32 (b) and 62.1-44.32 (c) provide for other additional penalties.

The Court has the inherent authority to enforce its injunction, and is authorized to award the Commonwealth its attorney's fees and costs.

FUTURE ACTIONS

After reviewing this letter, please respond in writing to DEQ **within 20 days of the date of this letter** detailing actions you have taken or will be taking to ensure compliance with state law and regulations. If corrective action will take longer than 90 days to complete, you may be asked to sign a Letter of Agreement or enter into a Consent Order with the Department to formalize the plan and schedule. *It is DEQ policy that appropriate, timely, corrective actions undertaken in response to a Warning Letter will avoid adversarial enforcement proceedings and the assessment of civil charges or penalties.*

Please advise us if you dispute any of the observations recited herein or if there is other information of which DEQ should be aware. In the event that discussions with staff do not lead to a satisfactory conclusion concerning the contents of this letter, you may elect to participate in DEQ's Process for Early Dispute Resolution. Also, if informal discussions do not lead to a satisfactory conclusion, you may request in writing that DEQ take all necessary steps to issue a final decision or fact finding under the APA on whether or not a violation has occurred. For further information on the Process for Early Dispute Resolution, please see Agency Policy Statement No.8-2005 posted on the Department's website under "Programs," "Enforcement," and "Laws, Regulations, & Guidance" (<http://www.deq.virginia.gov/Programs/Enforcement/Laws,Regulations,Guidance.aspx>) or ask the DEQ contact below.

Please direct written materials regarding this matter to Mr. Mark Evans. Written materials may be sent either via the US Postal Service or electronically, via E-mail. DEQ recommends sending electronic responses as an Acrobat PDF or in a Word-compatible, write-protected format. If you have questions or wish to arrange a meeting, please contact Mr. Evans at (703) 583-3811 or by e-mail at Mark.Evans@deq.virginia.gov.

Sincerely,



Edward L. Stuart
Regional Water Compliance Manager

cc: Permits File
 Electronic copy: Compliance Auditor; Compliance Manager – DEQ



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

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(703) 583-3800

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas Faha
Regional Director

March 22, 2019

WARNING LETTER

Via e-mail Return Receipt Requested (tarmatt@aol.com)

Mr. Matthew Raynor
Raynor Environmental Enterprises LLC
524 Meadow Avenue Loop
Banner Elk, NC 28604

RE: WL No. W2019-03-N-1005
Highway Mobile Home Community STP
VA0074942
Loudoun County

Dear Mr. Raynor,

The Department of Environmental Quality (DEQ), Northern Regional Office (NRO), has reason to believe that Raynor Environmental Enterprises LLC may be in violation of the State Water Control Law § 62.1-44 and the Virginia Pollutant Discharge Elimination System (VPDES) Permit regulation 9 VAC 25-31-50.A. *et seq.* at the Highway Mobile Home Community LLC - Sewage Treatment Plant (STP) facility.

This letter addresses conditions at the facility named above, and also cites compliance requirements of the State Water Control Law and Regulations. Pursuant to Va. Code § 62.1-44.15 (8a), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.* The Department requests that you respond **within 20 days of the date of this letter.**

OBSERVATIONS AND LEGAL REQUIREMENTS

Facility staff are required to submit discharge monitoring reports (DMRs) and documents to DEQ NRO, including the following *relevant* data results. The following describe DEQ NRO staff factual observations and identify the applicable legal requirements.

1. *Observation:* The January 2019 DMR reported an Ammonia monthly concentration average of 12.3 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: "The monthly concentration average limit for Ammonia as N is 3.1 mg/L during November through April."

2. *Observation:* The January 2019 DMR reported an Ammonia weekly concentration average maximum of 12.3 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: “The weekly concentration average maximum limit for Ammonia as N is 3.1 mg/L during November through April.”

***This facility had 2.0 points in the Compliance Auditing System at the end of January 2019.**

ENFORCEMENT AUTHORITY

Va. Code § 62.1-44.23 of the State Water Control Law provides for an injunction for any violation of the State Water Control Law, any State Water Control Board rule or regulation, an order, permit condition, standard, or any certificate requirement or provision. Va. Code §§ 62.1-44.15 and 62.1-44.32 provide for a civil penalty up to \$32,500 per day of each violation of the same. In addition, Va. Code § 62.1-44.15 authorizes the State Water Control Board to issue orders to any person to comply with the State Water Control Law and regulations, including the imposition of a civil penalty for violations of up to \$100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the State Water Control Law and regulations, and to impose a civil penalty. Va. Code §§ 62.1-44.32 (b) and 62.1-44.32 (c) provide for other additional penalties.

FUTURE ACTIONS

After reviewing this letter, please respond in writing to DEQ **within 20 days of the date of this letter** detailing actions you have taken or will be taking to ensure compliance with state law and regulations. If corrective action will take longer than 90 days to complete, you may be asked to sign a Letter of Agreement or enter into a Consent Order with the Department to formalize the plan and schedule. *It is DEQ policy that appropriate, timely, corrective actions undertaken in response to a Warning Letter will avoid adversarial enforcement proceedings and the assessment of civil charges or penalties.*

Please advise us if you dispute any of the observations recited herein or if there is other information of which DEQ should be aware. In the event that discussions with staff do not lead to a satisfactory conclusion concerning the contents of this letter, you may elect to participate in DEQ’s Process for Early Dispute Resolution. Also, if informal discussions do not lead to a satisfactory conclusion, you may request in writing that DEQ take all necessary steps to issue a final decision or fact finding under the APA on whether or not a violation has occurred. For further information on the Process for Early Dispute Resolution, please see Agency Policy Statement No.8-2005 posted on the Department’s website under “Programs,” “Enforcement,” and “Laws, Regulations, & Guidance” (<http://www.deq.virginia.gov/Programs/Enforcement/Laws,Regulations,Guidance.aspx>) or ask the DEQ contact below.

Please direct written materials regarding this matter to Mr. Mark Evans. Written materials may be sent either via the US Postal Service or electronically, via E-mail. DEQ recommends sending electronic responses as an Acrobat PDF or in a Word-compatible, write-protected format. If you have questions or wish to arrange a meeting, please contact Mr. Evans at (703) 583-3811 or by e-mail at Mark.Evans@deq.virginia.gov.

Sincerely,



Edward L. Stuart
Regional Water Compliance Manager

cc: Permits File
Electronic copy: Compliance Auditor; Compliance Manager – DEQ



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NORTHERN REGIONAL OFFICE

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Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas Faha
Regional Director

May 21, 2019

WARNING LETTER

Via e-mail Return Receipt Requested (tarmatt@aol.com)

Mr. Matthew Raynor
Raynor Environmental Enterprises LLC
524 Meadow Avenue Loop
Banner Elk, NC 28604

RE: WL No. W2019-05-N-1010
Highway MHC STP
VA0074942
Loudoun County

Dear Mr. Raynor,

The Department of Environmental Quality (DEQ), Northern Regional Office (NRO), has reason to believe that Highway Mobile Home Community (MHC) Limited Liability Corporation (LLC) may be in violation of the State Water Control Law § 62.1-44 and the Virginia Pollutant Discharge Elimination System (VPDES) Permit regulation 9 VAC 25-31-50.A. *et seq.* at the Highway MHC LLC - Sewage Treatment Plant (STP) facility.

This letter addresses conditions at the facility named above, and also cites compliance requirements of the State Water Control Law and Regulations. Pursuant to Va. Code § 62.1-44.15 (8a), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.* The Department requests that you respond **within 20 days of the date of this letter.**

OBSERVATIONS AND LEGAL REQUIREMENTS

Facility staff are required to submit discharge monitoring reports (DMRs) and documents to DEQ NRO, including the following *relevant* data results. The following describe DEQ NRO staff factual observations and identify the applicable legal requirements.

1. *Observation:* The March 2019 DMR reported an Ammonia monthly concentration average of 11.2 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: "The monthly concentration average limit for Ammonia as N is 3.1 mg/L during November through April."

2. *Observation:* The March 2019 DMR reported an Ammonia weekly concentration average maximum

of 11.2 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: “The weekly concentration average maximum limit for Ammonia as N is 3.1 mg/L during November through April.”

***This facility had 3.0 points in the Compliance Auditing System at the end of March 2019.**

ENFORCEMENT AUTHORITY

Va. Code § 62.1-44.23 of the State Water Control Law provides for an injunction for any violation of the State Water Control Law, any State Water Control Board rule or regulation, an order, permit condition, standard, or any certificate requirement or provision. Va. Code §§ 62.1-44.15 and 62.1-44.32 provide for a civil penalty up to \$32,500 per day of each violation of the same. In addition, Va. Code § 62.1-44.15 authorizes the State Water Control Board to issue orders to any person to comply with the State Water Control Law and regulations, including the imposition of a civil penalty for violations of up to \$100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the State Water Control Law and regulations, and to impose a civil penalty. Va. Code §§ 62.1-44.32 (b) and 62.1-44.32 (c) provide for other additional penalties.

FUTURE ACTIONS

After reviewing this letter, please respond in writing to DEQ **within 20 days of the date of this letter** detailing actions you have taken or will be taking to ensure compliance with state law and regulations. If corrective action will take longer than 90 days to complete, you may be asked to sign a Letter of Agreement or enter into a Consent Order with the Department to formalize the plan and schedule. *It is DEQ policy that appropriate, timely, corrective actions undertaken in response to a Warning Letter will avoid adversarial enforcement proceedings and the assessment of civil charges or penalties.*

Please advise us if you dispute any of the observations recited herein or if there is other information of which DEQ should be aware. In the event that discussions with staff do not lead to a satisfactory conclusion concerning the contents of this letter, you may elect to participate in DEQ’s Process for Early Dispute Resolution. Also, if informal discussions do not lead to a satisfactory conclusion, you may request in writing that DEQ take all necessary steps to issue a final decision or fact finding under the APA on whether or not a violation has occurred. For further information on the Process for Early Dispute Resolution, please see Agency Policy Statement No.8-2005 posted on the Department’s website under “Programs,” “Enforcement,” and “Laws, Regulations, & Guidance”

(<http://www.deq.virginia.gov/Programs/Enforcement/Laws,Regulations,Guidance.aspx>) or ask the DEQ contact below.

Please direct written materials regarding this matter to Mr. Mark Evans. Written materials may be sent either via the US Postal Service or electronically, via E-mail. DEQ recommends sending electronic responses as an Acrobat PDF or in a Word-compatible, write-protected format. If you have questions or wish to arrange a meeting, please contact Mr. Evans at (703) 583-3811 or by e-mail at Mark.Evans@deq.virginia.gov.

Sincerely,



Edward L. Stuart

Regional Water Compliance Manager

cc: Permits File

Electronic copy: Compliance Auditor; Compliance Manager – DEQ



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas Faha
Regional Director

January 22, 2020

WARNING LETTER

Via e-mail Return Receipt Requested (tarmatt@aol.com)

Mr. Matthew Raynor
Raynor Environmental Enterprises LLC
524 Meadow Avenue Loop
Banner Elk, NC 28604

RE: WL No. **W2020-01-N-1005**
Highway MHC STP
VA0074942
Loudoun County

Dear Mr. Raynor,

The Department of Environmental Quality (DEQ), Northern Regional Office (NRO), has reason to believe that Highway Mobile Home Community (MHC) Limited Liability Corporation (LLC) may be in violation of the State Water Control Law § 62.1-44 and the Virginia Pollutant Discharge Elimination System (VPDES) Permit regulation 9 VAC 25-31-50.A. *et seq.* at the Highway MHC LLC - Sewage Treatment Plant (STP) facility.

This letter addresses conditions at the facility named above, and also cites compliance requirements of the State Water Control Law and Regulations. Pursuant to Va. Code § 62.1-44.15 (8a), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.* The Department requests that you respond **within 20 days of the date of this letter.**

OBSERVATIONS AND LEGAL REQUIREMENTS

Facility staff are required to submit discharge monitoring reports (DMRs) and documents to DEQ NRO, including the following *relevant* data results. The following describe DEQ NRO staff factual observations and identify the applicable legal requirements.

1. *Observation:* The November 2019 DMR reported a Total Suspended Solids (TSS) monthly concentration average of 36.5 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: "The monthly concentration average limit for TSS is 25 mg/L."

2. *Observation:* The July 2019 DMR reported a BOD5 weekly concentration maximum of 32 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: “The weekly concentration maximum limit for BOD5 is 25 mg/L.”

***This facility had 1.2 points in the Compliance Auditing System at the end of November 2019.**

ENFORCEMENT AUTHORITY

Va. Code § 62.1-44.23 of the State Water Control Law provides for an injunction for any violation of the State Water Control Law, any State Water Control Board rule or regulation, an order, permit condition, standard, or any certificate requirement or provision. Va. Code §§ 62.1-44.15 and 62.1-44.32 provide for a civil penalty up to \$32,500 per day of each violation of the same. In addition, Va. Code § 62.1-44.15 authorizes the State Water Control Board to issue orders to any person to comply with the State Water Control Law and regulations, including the imposition of a civil penalty for violations of up to \$100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the State Water Control Law and regulations, and to impose a civil penalty. Va. Code §§ 62.1-44.32 (b) and 62.1-44.32 (c) provide for other additional penalties.

FUTURE ACTIONS

After reviewing this letter, please respond in writing to DEQ **within 20 days of the date of this letter** detailing actions you have taken or will be taking to ensure compliance with state law and regulations. If corrective action will take longer than 90 days to complete, you may be asked to sign a Letter of Agreement or enter into a Consent Order with the Department to formalize the plan and schedule. *It is DEQ policy that appropriate, timely, corrective actions undertaken in response to a Warning Letter will avoid adversarial enforcement proceedings and the assessment of civil charges or penalties.*

Please advise us if you dispute any of the observations recited herein or if there is other information of which DEQ should be aware. In the event that discussions with staff do not lead to a satisfactory conclusion concerning the contents of this letter, you may elect to participate in DEQ’s Process for Early Dispute Resolution. Also, if informal discussions do not lead to a satisfactory conclusion, you may request in writing that DEQ take all necessary steps to issue a final decision or fact finding under the APA on whether or not a violation has occurred. For further information on the Process for Early Dispute Resolution, please see Agency Policy Statement No.8-2005 posted on the Department’s website under “Programs,” “Enforcement,” and “Laws, Regulations, & Guidance”

(<http://www.deq.virginia.gov/Programs/Enforcement/Laws,Regulations,Guidance.aspx>) or ask the DEQ contact below.

Please direct written materials regarding this matter to Mr. Mark Evans. Written materials may be sent either via the US Postal Service or electronically, via E-mail. DEQ recommends sending electronic responses as an Acrobat PDF or in a Word-compatible, write-protected format. If you have questions or wish to arrange a meeting, please contact Mr. Evans at (703) 583-3811 or by e-mail at Mark.Evans@deq.virginia.gov.

Sincerely,



Edward L. Stuart
Regional Water Compliance Manager

cc via electronic copy: ECM; Compliance Auditor; Compliance Manager – DEQ



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas Faha
Regional Director

March 19, 2020

WARNING LETTER

Via e-mail Return Receipt Requested (tarmatt@aol.com)

Mr. Matthew Raynor
Raynor Environmental Enterprises LLC
524 Meadow Avenue Loop
Banner Elk, NC 28604

RE: WL No. **W2020-03-N-1004**
Highway MHC STP
VA0074942
Loudoun County

Dear Mr. Raynor,

The Department of Environmental Quality (DEQ), Northern Regional Office (NRO), has reason to believe that Highway Mobile Home Community (MHC) Limited Liability Corporation (LLC) may be in violation of the State Water Control Law § 62.1-44 and the Virginia Pollutant Discharge Elimination System (VPDES) Permit regulation 9 VAC 25-31-50.A. *et seq.* at the Highway Mobil Home Community (MHC) Limited Liability Corporation (LLC) - Sewage Treatment Plant (STP) facility.

This letter addresses conditions at the facility named above, and also recites compliance requirements of the State Water Control Law and Regulations. Pursuant to Va. Code § 62.1-44.15 (8a), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.*

OBSERVATIONS AND LEGAL REQUIREMENTS

Facility staff are required to submit discharge monitoring reports (DMRs) and documents to DEQ NRO, including the following *relevant* data results. The following describe DEQ NRO staff factual observations and identify the applicable legal requirements.

1. *Observation:* The January 2020 DMR reported an Ammonia monthly concentration average of 24.9 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: "The monthly concentration average limit for Ammonia as N is 3.1 mg/L (November to April)."

2. *Observation:* The January 2020 DMR reported an Ammonia weekly concentration maximum average of 24.9 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: “The weekly concentration maximum average limit for Ammonia as N is 3.1 mg/L (November to April).”

***This facility had 2.0 points in the Compliance Auditing System at the end of January 2020.**

ENFORCEMENT AUTHORITY

Va. Code § 62.1-44.23 of the State Water Control Law provides for an injunction for any violation of the State Water Control Law, any State Water Control Board rule or regulation, an order, permit condition, standard, or any certificate requirement or provision. Va. Code §§ 62.1-44.15 and 62.1-44.32 provide for a civil penalty up to \$32,500 per day of each violation of the same. In addition, Va. Code § 62.1-44.15 authorizes the State Water Control Board to issue orders to any person to comply with the State Water Control Law and regulations, including the imposition of a civil penalty for violations of up to \$100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the State Water Control Law and regulations, and to impose a civil penalty. Va. Code §§ 62.1-44.32 (b) and 62.1-44.32 (c) provide for other additional penalties.

FUTURE ACTIONS

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Please advise us if you dispute any of the observations recited herein or if there is other information of which DEQ should be aware. In the event that discussions with staff do not lead to a satisfactory conclusion concerning the contents of this letter, you may elect to participate in DEQ’s Process for Early Dispute Resolution. Also, if informal discussions do not lead to a satisfactory conclusion, you may request in writing that DEQ take all necessary steps to issue a final decision or fact finding under the APA on whether or not a violation has occurred. For further information on the Process for Early Dispute Resolution, please see Agency Policy Statement No.8-2005 posted on the Department’s website under “Programs,” “Enforcement,” and “Laws, Regulations, & Guidance”

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Sincerely,



Edward L. Stuart
Regional Water Compliance Manager

cc via electronic copy: ECM; Compliance Auditor; and Compliance Manager – DEQ



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Thomas Faha
Regional Director

May 13, 2020

WARNING LETTER

Via e-mail Return Receipt Requested (tarmatt@aol.com)

Mr. Matthew Raynor
Raynor Environmental Enterprises LLC
524 Meadow Avenue Loop
Banner Elk, NC 28604

RE: WL No. **W2020-05-N-1014**
Highway MHC STP
VA0074942
Loudoun County

Dear Mr. Raynor,

The Department of Environmental Quality (DEQ), Northern Regional Office (NRO), has reason to believe that Highway Mobile Home Community (MHC) Limited Liability Corporation (LLC) may be in violation of the State Water Control Law § 62.1-44 and the Virginia Pollutant Discharge Elimination System (VPDES) Permit regulation 9 VAC 25-31-50.A. *et seq.* at the Highway Mobil Home Community (MHC) Limited Liability Corporation (LLC) - Sewage Treatment Plant (STP) facility.

This letter addresses conditions at the facility named above, and also recites compliance requirements of the State Water Control Law and Regulations. Pursuant to Va. Code § 62.1-44.15 (8a), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.*

OBSERVATIONS AND LEGAL REQUIREMENTS

Facility staff are required to submit discharge monitoring reports (DMRs) and documents to DEQ NRO, including the following *relevant* data results. The following describe DEQ NRO staff factual observations and identify the applicable legal requirements.

1. *Observation:* The March 2020 DMR reported an Ammonia monthly concentration average of 23.3 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: "The monthly concentration average limit for Ammonia as N is 3.1 mg/L (November to April)."

2. *Observation:* The March 2020 DMR reported an Ammonia weekly concentration maximum average of 23.3 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: “The weekly concentration maximum average limit for Ammonia as N is 3.1 mg/L (November to April).”

3. *Observation:* The February 2020 DMR reported a Total Suspended Solids (TSS) monthly concentration average of 29.3 mg/L.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: “The monthly concentration average limit for TSS is 25 mg/L.”

***This facility had 3.2 points in the Compliance Auditing System at the end of March 2020.**

ENFORCEMENT AUTHORITY

Va. Code § 62.1-44.23 of the State Water Control Law provides for an injunction for any violation of the State Water Control Law, any State Water Control Board rule or regulation, an order, permit condition, standard, or any certificate requirement or provision. Va. Code §§ 62.1-44.15 and 62.1-44.32 provide for a civil penalty up to \$32,500 per day of each violation of the same. In addition, Va. Code § 62.1-44.15 authorizes the State Water Control Board to issue orders to any person to comply with the State Water Control Law and regulations, including the imposition of a civil penalty for violations of up to \$100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the State Water Control Law and regulations, and to impose a civil penalty. Va. Code §§ 62.1-44.32 (b) and 62.1-44.32 (c) provide for other additional penalties.

FUTURE ACTIONS

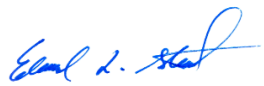
After reviewing this letter, **please respond in writing to DEQ within 30 days of the date of this letter** detailing actions you have taken or will be taking to ensure compliance with state law and regulations. If corrective action will take longer than 90 days to complete, you may be asked to formalize the plan and schedule. *It is DEQ policy that appropriate, timely, corrective actions undertaken in response to a Warning Letter will avoid adversarial enforcement proceedings and the assessment of civil charges or penalties.*

Please advise us if you dispute any of the observations recited herein or if there is other information of which DEQ should be aware. In the event that discussions with staff do not lead to a satisfactory conclusion concerning the contents of this letter, you may elect to participate in DEQ’s Process for Early Dispute Resolution. Also, if informal discussions do not lead to a satisfactory conclusion, you may request in writing that DEQ take all necessary steps to issue a final decision or fact finding under the APA on whether or not a violation has occurred. For further information on the Process for Early Dispute Resolution, please see Agency Policy Statement No.8-2005 posted on the Department’s website under “Programs,” “Enforcement,” and “Laws, Regulations, & Guidance”

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Sincerely,

A handwritten signature in blue ink, appearing to read "Edward L. Stuart". The signature is fluid and cursive, with a prominent loop at the end.

Edward L. Stuart
Regional Water Compliance Manager

cc via electronic copy: ECM; Compliance Auditor; and Compliance Manager – DEQ



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY NORTHERN REGIONAL OFFICE

Matthew J. Strickler
Secretary of Natural Resources

13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800
www.deq.virginia.gov

David K. Paylor
Director

Thomas Faha
Regional Director

August 14, 2020

WARNING LETTER

Via e-mail Return Receipt Requested (tarmatt@aol.com)

Mr. Matthew Raynor
Raynor Environmental Enterprises LLC
524 Meadow Avenue Loop
Banner Elk, NC 28604

RE: WL No. W2020-08-N-1008
Highway MHC STP
VA0074942
Loudoun County

Dear Mr. Raynor,

The Department of Environmental Quality (DEQ), Northern Regional Office (NRO), has reason to believe that Highway Mobile Home Community (MHC) Limited Liability Corporation (LLC) may be in violation of the State Water Control Law § 62.1-44 and the Virginia Pollutant Discharge Elimination System (VPDES) Permit regulation 9 VAC 25-31-50.A. *et seq.* at the Highway MHC LLC - Sewage Treatment Plant (STP) facility.

This letter addresses conditions at the facility named above, and also recites compliance requirements of the State Water Control Law and Regulations. Pursuant to Va. Code § 62.1-44.15 (8a), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.*

OBSERVATIONS AND LEGAL REQUIREMENTS

Facility staff are required to submit discharge monitoring reports (DMRs) and documents to DEQ NRO, including the following *relevant* data results. The following describe DEQ NRO staff factual observations and identify the applicable legal requirements.

1. *Observation:* The June 2020 DMR reported a monthly concentration average of 26.2 mg/L for Total Suspended Solids (TSS).

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: "The monthly concentration average limit for TSS is 25 mg/L."

2. *Observation:* The June 2020 DMR reported a weekly concentration maximum average of 68 mg/L for TSS.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and

Monitoring Requirements, states: “The weekly concentration maximum average limit for TSS is 38 mg/L.”

3. *Observation:* The June 2020 DMR reported a weekly quantity maximum average of 2.02 mg/kg.

Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements, states: “The weekly quantity maximum average limit for TSS is 1.7 mg/kg.”

***This facility had 3.2 points in the Compliance Auditing System at the end of June 2020.**

ENFORCEMENT AUTHORITY

Va. Code § 62.1-44.23 of the State Water Control Law provides for an injunction for any violation of the State Water Control Law, any State Water Control Board rule or regulation, an order, permit condition, standard, or any certificate requirement or provision. Va. Code §§ 62.1-44.15 and 62.1-44.32 provide for a civil penalty up to \$32,500 per day of each violation of the same. In addition, Va. Code § 62.1-44.15 authorizes the State Water Control Board to issue orders to any person to comply with the State Water Control Law and regulations, including the imposition of a civil penalty for violations of up to \$100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the State Water Control Law and regulations, and to impose a civil penalty. Va. Code §§ 62.1-44.32 (b) and 62.1-44.32 (c) provide for other additional penalties.

FUTURE ACTIONS

After reviewing this letter, **please respond in writing to DEQ within 30 days of the date of this letter** detailing actions you have taken or will be taking to ensure compliance with state law and regulations. If corrective action will take longer than 90 days to complete, you may be asked to formalize the plan and schedule. *It is DEQ policy that appropriate, timely, corrective actions undertaken in response to a Warning Letter will avoid adversarial enforcement proceedings and the assessment of civil charges or penalties.*

Please advise us if you dispute any of the observations recited herein or if there is other information of which DEQ should be aware. In the event that discussions with staff do not lead to a satisfactory conclusion concerning the contents of this letter, you may elect to participate in DEQ’s Process for Early Dispute Resolution. Also, if informal discussions do not lead to a satisfactory conclusion, you may request in writing that DEQ take all necessary steps to issue a final decision or fact finding under the APA on whether or not a violation has occurred. For further information on the Process for Early Dispute Resolution, please see Agency Policy Statement No.8-2005 posted on the Department’s website under “Programs,” “Enforcement,” and “Laws, Regulations, & Guidance” (<http://www.deq.virginia.gov/Programs/Enforcement/Laws,Regulations,Guidance.aspx>) or ask the DEQ contact below.

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Sincerely,



Edward L. Stuart
Regional Water Compliance Manager

cc via electronic copy: ECM; Compliance Auditor; and Compliance Manager – DEQ

Exhibit 5
VDEQ Warning Letter
October 2016
(for exceedances experienced in August 2016)



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800

www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Thomas Faha
Regional Director

October 14, 2016

WARNING LETTER

Mr. Matthew E. Raynor
Environmental Director, The Carlyle Group
10006 Hammock Bend
Chapel Hill, NC 27517

RE: WL No. W2016-10-N-1008
Highway Mobile Home Community LLC
VA0074942
Loudoun County

Dear Mr. Raynor;

The Department of Environmental Quality (DEQ), Northern Regional Office (NRO), has reason to believe that The Carlyle Group may be in violation of State Water Control Law § 62.1-44 and the Virginia Pollutant Discharge Elimination System (VPDES) Permit regulation **9 VAC 25-31-50. A**.

This letter addresses conditions at the facility named above, and also cites compliance requirements of the State Water Control Law and Regulations. Pursuant to Va. Code § 62.1-44.15 (8a), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 et seq. The Department requests that you respond **within 20 days of the date of this letter**.

OBSERVATIONS AND LEGAL REQUIREMENTS

The Carlyle Group – Highway Mobile Home Community LLC staff are required to submit discharge monitoring reports (DMRs) and documents to DEQ NRO, including the following *relevant* data results. The following describe DEQ NRO staff factual observations and identify the applicable legal requirements.

1. **Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements**, states: “The monthly quantity average loading rate for BOD5 is 1.1 kg/day.”

Observations: The August 2016 DMR reported a result of 1.53 kg/day.

2. **Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements**, states: “The weekly quantity average maximum loading rate for BOD5 is 1.7 kg/day.”

Observations: The August 2016 DMR reported a result of 2.17 kg/day.

3. **Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements**, states: “The monthly concentration average limit for BOD5 as is 25 mg/L.”

Observations: The August 2016 DMR reported a result of 47 mg/L.

4. **Legal Requirements: Permit No. VA0074942, Part I, Page 1, Section A, Effluent Limitations and Monitoring Requirements**, states: “The weekly concentration average maximum limit for BOD5 as is 38 mg/L.”

Observations: The August 2016 DMR reported a result of 66 mg/L.

***This facility had 1.5 points in the Compliance Auditing System at the end of August 2016.**

ENFORCEMENT AUTHORITY

Va. Code § 62.1-44.23 of the State Water Control Law provides for injunction for any violation of the State Water Control Law, any State Water Control Board rule or regulation, an order, permit condition, standard, or any certificate requirement or provision. Va. Code § 62.1-44.15 and 62.1-44.32 provide for a civil penalty up to \$32,500 per day of each violation of the same. In addition, Va. Code § 62.1-44.15 authorizes the State Water Control Board to issue orders to any person to comply with the State Water Control Law and regulations, including the imposition of a civil penalty for violations of up to \$100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the State Water Control Law and regulations, and to impose civil penalty of not more than \$10,000. Va. Code § 62.1-44.32 (b) and 62.1-44.32 (c) provide for other additional penalties.

The court has the inherent authority to enforce its injunction, and is authorized to award the Commonwealth its attorney's fees and costs.

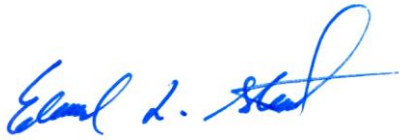
FUTURE ACTIONS

After reviewing this letter, please respond in writing to DEQ **within 20 days of the date of this letter** detailing actions you have taken or will be taking to ensure compliance with state law and regulations. If corrective action will take longer than 90 days to complete, you may be asked to sign a Letter of Agreement or enter into a Consent Order with the Department to formalize the plan and schedule. *It is DEQ policy that appropriate, timely, corrective actions undertaken in response to a Warning Letter will avoid adversarial enforcement proceedings and the assessment of civil charges or penalties.*

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Sincerely,

A handwritten signature in blue ink, appearing to read "Edward L. Stuart". The signature is fluid and cursive, with the first name "Edward" and last name "Stuart" clearly legible.

Edward L. Stuart
Regional Water Compliance Manager

cc: Permits/DMR File Electronic copy: Compliance Auditor, Compliance Manager
Mr. Matthew E. Raynor – tarmatt@aol.com

Exhibit 6
VDEQ June 2016 Inspection Report

DEQ
WASTEWATER FACILITY INSPECTION REPORT

VPDES/State Certification No.	(RE) Issuance Date	Amendment Date	Expiration Date
VA0074942	January 15, 2013		January 14, 2018
Facility Name	Address		Telephone Number
Hiway MHC LLC	14489 James Monroe Hwy, Leesburg, VA 20176		
Owner Name	Title		Telephone Number
Hiway MHC LLC	Owner		919-960-5739
Responsible Official	Title		Telephone Number
Maththew E. Raynor	Environmental Director		919-960-5739
Responsible Operator	Operator Cert. Class/number		Telephone Number
Jose Emanuel	Class IV / 1965008232		Unknown

TYPE OF FACILITY:

DOMESTIC				INDUSTRIAL			
Federal		Major		Major		Primary	
Non-federal	X	Minor	X	Minor		Secondary	

INFLUENT CHARACTERISTICS:

	Flow	0.012 mgd	
	Population Served	Unknown	

DESIGN:

EFFLUENT LIMITS: **mg/L unless otherwise noted**

Parameter	Min.	Monthly Avg.	Weekly Avg.	Max.	Parameter	Min.	Monthly Avg	Weekly Avg.	Max.
Flow	NA	NL	NA	NL	DO	6.0	NA	NA	NA
pH (S.U.)	6.0	NA	NA	9.0	TRC after chlor.	1.0	NA	NA	NA
BOD₅ (mg/L; kg/day)	NA	25; 1.1	38; 1.7	NA	TRC after dechlor.	NA	0.008	0.010	NA
TSS (mg/L; kg/day)	NA	25; 1.1	38; 1.7	NA	E. coli (Geometric Mean)	NA	126n/100mL	NA	NA
Ammonia, as N*	NA	2.1	2.1	NA					

	Receiving Stream	Limestone Branch, UT	
	Basin	Potomac River	
	Discharge Point (LONG)	77° 32' 11.1"W	
	Discharge Point (LAT)	39° 12' 50.3"N	

* May - October

Virginia Department of Environmental Quality

WASTEWATER FACILITY INSPECTION REPORT

FACILITY NAME: HiWay MMC LLC STP		INSPECTION DATE: <u>June 8, 2016</u>	
PERMIT No.: <u>VA0074942</u>		INSPECTOR <u>Lisa Janovsky</u>	
TYPE OF FACILITY: ☒ Municipal ☒ Small Minor ☐ Industrial ☐ Federal		REPORT DATE: <u>July 13, 2016</u>	TIME OF INSPECTION:
		Arrival 0937	Departure 0953
		TOTAL TIME SPENT <u>22 hours</u>	
PHOTOGRAPHS: ☒ Yes ☐ No		UNANNOUNCED INSPECTION? ☐ Yes ☒ No	
REVIEWED BY / Date: <u>7/12/16</u>			
PRESENT DURING INSPECTION: <u>Jose Emanuel, Plant Operator (The Carlyle Group), and Amy Dooley and Mark Evans (DEQ)</u>			

TECHNICAL INSPECTION

1. Has there been any new construction? • If so, were plans and specifications approved? <u>Comments:</u>	☐ Yes ☒ No
2. Is the Operations and Maintenance Manual approved and up-to-date? <u>Comments:</u> The manual was not present on site/ did not review.	☐ Yes ☒ No
3. Are the Permit and/or Operation and Maintenance Manual specified licensed operator being met? <u>Comments:</u>	☒ Yes ☐ No
4. Are the Permit and/or Operation and Maintenance Manual specified operator staffing requirements being met? <u>Comments:</u>	☒ Yes ☐ No
5. Is there an established and adequate program for training personnel? <u>Comments:</u>	☒ Yes ☐ No
6. Are preventive maintenance task schedules being met? <u>Comments:</u>	☒ Yes ☐ No
7. Does the plant experience any organic or hydraulic overloading? <u>Comments:</u>	☐ Yes ☒ No
8. Has there been any bypassing or overflows since the last inspection? <u>Comments:</u>	☐ Yes ☒ No
9. Is the standby generator (including power transfer switch) operational and exercised regularly? <u>Comments:</u> NA	☐ Yes ☒ No
10. Is the plant alarm system operational and tested regularly? <u>Comments:</u> NA	☐ Yes ☒ No

VA DEQ Wastewater Facility Inspection Report

Permit #	VA0074942
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TECHNICAL INSPECTION

11. Is sludge disposed of in accordance with the approved sludge management plan? <u>Comments:</u>	☒ Yes ☐ No
12. Is septage received? • If so, is septage loading controlled, and are appropriate records maintained? <u>Comments:</u>	☐ Yes ☒ No
13. Are all plant records (operational logs, equipment maintenance, industrial waste contributors, sampling and testing) available for review and are records adequate? <u>Comments:</u>	☒ Yes ☐ No
14. Which of the following records does the plant maintain? ☒ Operational logs ☒ Instrument maintenance & calibration ☐ Mechanical equipment maintenance ☐ Industrial Waste Contribution (Municipal facilities) <u>Comments:</u>	
15. What does the operational log contain? ☒ Visual observations ☒ Flow Measurement ☒ Laboratory results ☒ Process adjustments ☐ Control calculations ☐ Other (specify) <u>Comments:</u>	
16. What do the mechanical equipment records contain? ☒ As built plans and specs ☒ Manufacturers instructions ☐ Lubrication schedules ☐ Spare parts inventory ☒ Equipment/parts suppliers ☐ Other (specify) <u>Comments:</u>	
17. What do the industrial waste contribution records contain (Municipal only)? ☐ Waste characteristics ☐ Impact on plant ☐ Locations and discharge types ☐ Other (specify) <u>Comments:</u> NA	
18. Which of the following records are kept at the plant and available to personnel? ☐ Equipment maintenance records ☒ Operational log ☐ Industrial contributor records ☒ Instrumentation records ☐ Sampling and testing records <u>Comments:</u>	
19. List records not normally available to plant personnel and their location: <u>Comments:</u> The COC/COA's are sent into DEQ with the DMR as well as kept at the laboratory: REI Consultants	
20. Are the records maintained for the required time period (three or five years)? <u>Comments:</u>	☒ Yes ☐ No

VA DEQ Wastewater Facility Inspection Report

Permit #	VA0074942
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UNIT PROCESS EVALUATION SUMMARY SHEET

UNIT PROCESS	APPLICABLE	PROBLEMS*	COMMENTS
Flow Measurement (Influent)	X		
Screening/Comminution	X	1	Solids buildup on the screen
Primary Sedimentation	X		
Septic Tank and Sand Filter	X		Septic Tank system used only for backup
Activated Sludge Aeration	X		
Secondary Sedimentation	X		
Chlorination	X		
Dechlorination	X		
Post Aeration	X		
Plant Outfall	X		
Sludge Pumping	X		
Aerobic Digestion	X		
Drying Beds	X		

* Problem Codes

- | | |
|----------------------------------|--|
| 1. Unit Needs Attention | 4. Unapproved Modification or Temporary Repair |
| 2. Abnormal Influent/Effluent | 5. Evidence of Process Upset |
| 3. Evidence of Equipment Failure | 6. Other (explain in comments) |

VA DEQ Wastewater Facility Inspection Report

Permit #

VA0074942

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

- DEQ arrived on site at 0937 and met Mr. Jose Emanuel with The Carlyle Group. He noted that he is supervised by Mr. Matt Raynor who is the Environmental Director for The Carlyle Group.
- Mr. Emanuel provided an overview of the plant. The sewage influent travels via gravity to the wastewater treatment plant, which consists of a primary treatment unit, secondary treatment, secondary settling compartment, tablet chlorination, tablet de-chlorination, and covered sludge drying beds. (Photos 1 to 8).
- All wastewater flow rates are estimated using a bucket of known volume and a stopwatch at the headworks.
- Photos 1 through 8 respectively depict a schematic diagram of the facility from the permit fact sheet, the influent bar screen showing a buildup of solids, the air lift pump used to move sludge to the drying beds, the main treatment works, including an activated sludge and clarification compartments, one of the sludge drying beds, the tablet chlorination and dechlorination units, and the outfall.
- The outfall appeared clear and odor free at the time of the inspection.

VA DEQ Wastewater Facility Inspection Report

Permit #	VA0074942
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EFFLUENT FIELD DATA:

Flow 0.008 MGD	Dissolved Oxygen 6.36 mg/L	TRC (Contact Tank) ≥2 mg/L
pH 7.30 S.U.	Temperature 22.6 °C	TRC (Final Effluent) 0.00 mg/L
Was a Sampling Inspection conducted? ☐ Yes (see Sampling Inspection Report) ☒ No		

CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall: ☒ Shore based ☐ Submerged	Diffuser? ☐ Yes ☒ No
2. Are the outfall and supporting structures in good condition? ☒ Yes ☐ No	
3. Final Effluent (evidence of following problems):	
☐ Turbid effluent ☐ Visible foam	☐ Sludge bar ☐ Grease ☐ Unusual color ☐ Oil sheen
4. Is there a visible effluent plume in the receiving stream? ☐ Yes ☒ No	
5. Receiving stream: ☒ No observed problems ☐ Indication of problems (explain below)	
Comments: <u>Effluent appeared clear and was odor – free, no observed problems</u>	

REQUEST for CORRECTIVE ACTION:

1. None

NOTES and COMMENTS:

1. None

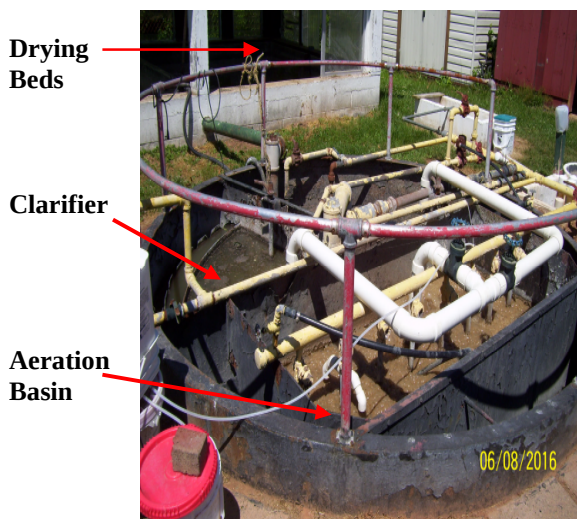
VA DEQ Wastewater Facility Inspection Report



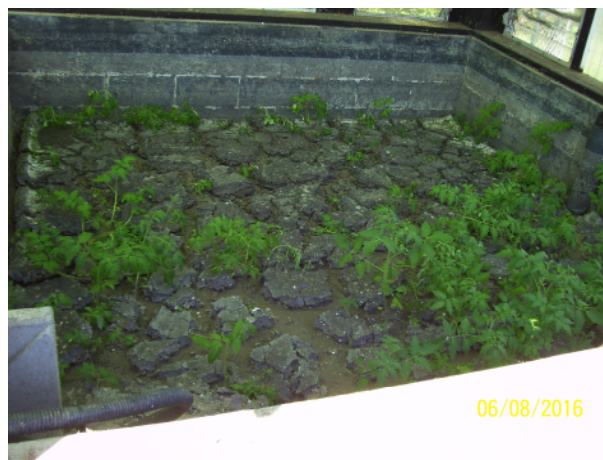
1. Influent bar screen



2. Air Lift Pump



3. Overview of plant



4. Sludge drying beds



5. Chlorine contact tank



6. De-chlorination tablets followed by post aeration and discharge

VA DEQ Wastewater Facility Inspection Report



7. Outfall 001

Photos by: Lisa Janovsky

Permit: VA0074942

Layout by: Lisa Janovsky

Date: June 8, 2016

**DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
LABORATORY INSPECTION REPORT**

11/2014

PERMIT #: VA0074942	INSPECTION DATE: June 8, 2016	PREVIOUS INSP. DATE:	PREVIOUS EVALUATION:	TIME SPENT: 24 hours w/ travel & report
NAME/ADDRESS OF FACILITY: Hiway MHC LLC STP 14489 James Monroe Hwy, Leesburg, VA 20176	FACILITY CLASS: () MAJOR () MINOR (X) MINOR (Small) () VPA	FACILITY TYPE: (X) MUNICIPAL () INDUSTRIAL () FEDERAL	UNANNOUNCED INSPECTION? () YES (X) NO	
			FFY-SCHEDULED INSPECTION? (X) YES () NO	
INSPECTOR(S): Lisa Janovsky		REVIEWER(S): 	PRESENT AT INSPECTION: Jose Emanuel (The Carlyle Group), and Amy Dooley and Mark Evans (DEQ)	
LABORATORY EVALUATION			DEFICIENCIES?	
			Yes	No
LABORATORY RECORDS				X
GENERAL SAMPLING AND ANALYSIS				X
pH PROCEDURE			X	
TOTAL RESIDUAL CHLORINE PROCEDURES			X	
DISSOLVED OXYGEN PROCEDURES				X
TEMPERATURE PROCEDURES				X
OTHER				X

VELAP CERTIFICATION (on site Environmental Laboratory)			Yes	No
Does the laboratory have VELAP certification (interim or final)?				X
– Document the laboratory's VELAP laboratory number:				
– Document the effective date of the VELAP certification:				
– Document the expiration date of the VELAP certification:				
– List the certified parameters:				
VELAP ACCREDITATION (Commercial Environmental Laboratory)			Yes	No
IS A VELAP ACCREDITED LAB USED FOR OTHER PERMIT REQUIRED ANALYSES? VELAP#, LAB NAME, ADDRESS and LIST PARAMETERS:			X	
VELAP #	LAB NAME	PARAMETERS		
25813	REI Consultants 225 Airport Industrial Park Road Beaver, WV 25813	E.coli, BOD, Ammonia, as N, TSS		
IF PERMIT REQUIRED SAMPLE ANALYSIS IS PERFORMED AT ANOTHER LOCATION, ARE SHIPPING PROCEDURES ADEQUATE?			X	

COPIES: (X) DEQ - RO; (X) Owner, () Other: **Carlyle Group**

LABORATORY RECORDS SECTION

LABORATORY RECORDS INCLUDE THE FOLLOWING:

☒	SAMPLING DATE	☒	ANALYSIS DATE	☐	CONT MONITORING CHART
☒	SAMPLING TIME	☒	ANALYSIS TIME	☒	INSTRUMENT CALIBRATION
☒	SAMPLE LOCATION	☒	TEST METHOD	☒	INSTRUMENT MAINTENANCE
				☒	CERTIFICATE OF ANALYSIS

WRITTEN INSTRUCTIONS INCLUDE THE FOLLOWING:

☒	SAMPLING SCHEDULES	☒	CALCULATIONS	☒	ANALYSIS PROCEDURES
-------------------------------------	--------------------	-------------------------------------	--------------	-------------------------------------	---------------------

	YES	NO	N/A
DO ALL ANALYSTS INITIAL THEIR WORK?	☒		
DO BENCH SHEETS (or LOG BOOK) INCLUDE ALL INFORMATION NECESSARY TO DETERMINE RESULTS?	☒		
IS THE DMR COMPLETE AND CORRECT? LIST MONTH(S) REVIEWED: June 2016, February 2015, October 2014	☒		
ARE ALL MONITORING VALUES REQUIRED BY THE PERMIT REPORTED?	☒		
DOES CHAIN OF CUSTODY DOCUMENT PROPER SAMPLE PRESERVATION WAS MET?	☒		
WHEN THE CERTIFICATE OF ANALYSIS CONTAINS FLAGGED DATA IS THE 'FLAG' REPORTED ON THE DMR?	☒		

GENERAL SAMPLING AND ANALYSIS SECTION

	YES	NO	N/A
ARE SAMPLE LOCATIONS ACCORDING TO PERMIT REQUIREMENTS?	☒		
ARE PERMIT REQUIRED SAMPLE COLLECTION PROCEDURES APPROPRIATE?	☒		
ARE EFFLUENT SAMPLES REPRESENTATIVE OF THE MONITORED ACTIVITY?	☒		
ARE PERMIT REQUIRED COMPOSITE SAMPLES FLOW PROPORTIONAL? NOTE: Equal volume composite aliquots are acceptable <u>if the instantaneous flow is within $\pm 10\%$ of the daily average flow during the monitoring period.</u> Some permits specify how the composite is to be taken (e.g., 5G/8HC).			☒
IS COLLECTION SAMPLE EQUIPMENT ADEQUATE?	☒		
IS FLOW MEASUREMENT ACCORDING TO PERMIT REQUIREMENTS?	☒		

**DEPARTMENT OF ENVIRONMENTAL QUALITY – WATER DIVISION
LABORATORY INSPECTION REPORT SUMMARY**

FACILITY NAME:	HiWay MHC WWTP	Permit #:	VA0074942	INSPECTION DATE:	June 8, 2016
LABORATORY EVALUATION			No required actions at this time		
		X	REQUIRED CORRECTIVE ACTION(s) IDENTIFIED		
SUMMARY of REQUEST FOR CORRECTIVE ACTION					
Lab Records					
Laboratory Records section deficiency and required action:					
1. None					
General Sampling and Analysis					
General Sampling and Analysis section deficiency and required action:					
1. None					
pH Analysis					
pH deficiency and required action:					
The facility did not conduct annual Laboratory Control Sample Testing. Provide by August 13, 2016, a narrative (including timeline) indicating when the facility will conduct the testing and confirmation that the procedure has been included in the Operation and Maintenance Manual.					
TRC Analysis					
TRC deficiency and required action:					
- A calibration verification standard is not currently being conducted with high and low standards. - LCS annual testing is not being conducted. - DPD buffering capability is not being conducted, and a procedure for pH augmentation has not been incorporated in Operation and Maintenance Manual. - The facility does not dilute the sample if read-out exceeds 2.19 mg/L. Provide by August 13, 2016, a narrative (including timeline) indicating when the facility will address the above items and confirmation that applicable procedures have been included in the Operation and Maintenance Manual.					
D.O. Analysis					
D.O. deficiency and required action:					
1. None					
Temperature Analysis					
Temperature deficiency and required action:					
1. None					
OTHER – Comments or Observations					

ANALYST:	Jose Emanuel	VPDES NO	VA0074942
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Meter: Hach HQ11d Parameter: Hydrogen Ion (pH)
Method: Electrometric
3/2015

METHOD OF ANALYSIS:

X	21 st Edition of Standard Methods (SM 21) – 4500-H ⁺ B-2000 (SM 21 pH)
	22 nd Edition of Standard Methods (SM 22), or Online Editions of Standard Methods – 4500-H ⁺ B-2011 (SM 22 pH)

pH is a method-defined analyte so modifications are not allowed. [40 CFR Part 136.6]

	Y	N
1) Is a certificate of operator competence or initial demonstration of capability available for <u>each analyst/operator</u> performing this analysis? NOTE: Analyze 4 samples of known pH; you may use an external source of buffers or other known standards (different lot/manufacturer than buffers used to calibrate meter). Recovery for each of the 4 samples must be +/- 0.2 SU of the known concentration of the sample or within "Acceptable Range" specified by the PT provider. [SM 1020 B.1] NOTE: The same pH buffer [values] used for calibration of the instrument can be used as LCS if from a different source or different lot.	X	
2) IF a replicate sample is analyzed is there a written procedure for which result will be reported on DMR (Sample or Replicate) and is this procedure being followed? [DEQ – based on EPA Good Laboratory Practices Standards]	NA	
3) Is a Laboratory Control Sample (LCS) tested at least annually and are results within acceptance criteria? [SM 21 B.2 or SM 22 1020 B.3.] NOTE: LCS should be a purchased Proficiency Test (PT) sample or a different buffer other than ones used for calibration of the meter [with a ±0.2 SU acceptance range or within "Acceptable Range" specified by the PT provider].. NOTE: The same pH buffer [values] used for calibration of the instrument can be used as LCS if from a different source or different lot.		X
4) Is the electrode in good condition (no chloride precipitate, scratches, deterioration, etc.)? [SM 21 pH or SM 22 pH 2.b./c. and 5.b.]	X	
5) Is electrode storage solution in accordance with manufacturer's instructions? [SM 21 pH or SM 22 pH 4.a. and Mfr.]	X	
6) Is meter calibrated on at least a daily basis using three buffers all of which are at the same temperature? [SM 21 pH or SM 22 pH 4.a.] NOTE: Start with Buffer 7 unless manufacturer's instructions state otherwise. [NOTE: If meter is not capable of 3 buffer calibration use 2 buffers bracketing the expected sample pH and then <u>measure</u> a 3 rd buffer (the measurement value recorded must be ±0.1 SU), and then <u>reread and record</u> value of buffer 7 to ensure ±0.1 SU.]	X	
7) After calibration, is a buffer analyzed as a check sample to verify that calibration is correct? Verification measurement should be within +/- 0.1 SU. [SM 21 1020 B 10.c. or SM 22 1020 B 11.c.]	X	
8) Is calibration verification measurement repeated with every 10 samples and at the end of a series of samples? Verification measurement should be within +/- 0.1 SU. [SM 21 pH or SM 22 pH 4020 B 2.b.] NOTE: Not applicable if pH meter is calibrated before taking any measurement (e.g., if operator monitors daily pH at more than one facility and calibrates before each measurement).	X	
9) Do the buffer solutions appear to be free of contamination or growths? [SM 21 pH or SM 22 pH 3.a.]	X	
10) Are buffer solutions within the listed shelf-life or have they been prepared within the last 4 weeks? [SM 21 pH or SM 22 pH 3.a.]	X	
11) Is the cap or sleeve covering the access hole on the reference electrode removed when	X	

measuring pH? [Mfr.]X

- 12) Is sample analyzed within 15 minutes of collections? [40 CFR Part 136]
- 13) Is the electrode rinsed and then blotted dry between reading solutions (Disregard if a portion of the next sample analyzed is used as the rinsing solution.)? [SM 21 pH or SM 22 pH 4.a and 4.b]
- 14) Is the sample stirred gently at a constant speed during measurement? [SM 21 pH or SM 22 pH 4.b.]
- 15) Does the meter hold a steady reading after reaching equilibrium? [4.b.]

X	
X	
X	
X	

PROBLEMS:

3. A Laboratory Control Sample is not tested annually (See Lab Summary)

ANALYST:	Jose Emanuel	VPDES NO	VA0074942
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Meter: YSI 550A

Parameter: Dissolved Oxygen
Method: Membrane Electrode
11/2014

METHOD OF ANALYSIS:

X	21 st Edition of Standard Methods (SM 21) – 4500-O G-2001 (SM 21 DO)
	22 nd of Standard Methods, or Online Editions of Standard Methods (SM 22) – 4500-O G-2011 (SM 22 DO)

Dissolved Oxygen (D.O.) is a method-defined analyte so modifications are not allowed. [40 CFR Part 136.6]

	Y	N
1) Is a certificate of operator competence or initial demonstration of capability available for <u>each analyst/operator</u> performing this analysis? NOTE: Analyze 4 samples of air-saturated water. Recovery for each of the 4 samples must be +/- 4% of the calculated oxygen saturation for the altitude/barometric pressure and temperature of the samples. {Alternatively analyze 4 samples of water of known concentration (verified by iodometric titration procedure SM 21 or SM 22 4500-O C). Instrument measurements must agree within +/-0.1 mg/L of verified concentration.} [SM 21 or SM 22 1020 B.1 and 4020 B.1]	X	
2) Are calibration results (mg/L) within $\pm$ 4% of the barometric (or altitude) corrected oxygen saturated water value? [SM 21 B.2 or SM 22 1020 B.2.]	X	
3) If samples are collected, is collection carried out with a minimum of turbulence and air bubble formation and is the sample bottle allowed to overflow several times its volume? [SM 21 DO or SM 22 B 3.]	X	
4) Are meter and electrode operable and providing consistent readings? [SM 21 DO G 2. or SM 22 DO G 2.]	X	
5) Is membrane in good condition without trapped air bubbles? NOTE: No air bubbles $\geq$ 1/8 inch (total area of all bubbles). [SM 21 DO G 3.b. or SM 22 DO G 3.b.]	X	
6) Is correct filling solution used in electrode? [Mfr.]	X	
7) Are water droplets shaken off the membrane prior to calibration? [Mfr.]	X	
8) Is meter calibrated before use or at least daily? [Mfr. & SM 21 1020 B 10.a. or SM 22 1020 B 11.a]	X	
9) Is calibration procedure performed according to manufacturer's instructions? [Mfr.]	X	
10) Is sample stirred during analysis (or is there sufficient flow across probe's membrane surface)? [SM 21 DO or SM 22 DO G 3.b. and Mfr.]	X	
11) Is the sample analysis procedure performed according to manufacturer's instructions? [Mfr.]	X	
12) Is meter stabilized before reading D.O.? [Mfr.]	X	
13) Is electrode stored according to manufacturer's instructions? [Mfr.]	X	

PROBLEMS: **None**

ANALYST:	Jose Emanuel	VPDES NO.	VA0074942
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Instrument: Hach Pocket Colorimeter II

Parameter: Total Residual Chlorine (TRC)

Method: DPD Colorimetric (HACH Colorimeters/Spectrophotometers)

11/2014

METHOD OF ANALYSIS: Hach Pocket Colorimeter II

X	HACH Manufacturer's Instructions (Method 8167) plus an edition of <i>Standard Methods</i>		
	21st Edition of <i>Standard Methods</i> 4500-Cl G-2000 (SM 21 Cl)		
	22 nd Edition of <i>Standard Methods</i> 4500-Cl G-2011 (SM 22 Cl)		
		Y	N
1)	Is a certificate of operator competence or initial demonstration of capability available for <u>each analyst/operator</u> performing this analysis? NOTE: Analyze 4 samples of known TRC. Must use a lot number or source that is different from that used to prepare calibration standards. May not use Spec [√] ™. Acceptance range is 70-130% recovery <u>and</u> 20% Relative Standard Deviation (RSD) <u>or</u> within PT specified acceptance range <u>and</u> 20% RSD. [SM 1020 B.1]	X	
2)	Is calibration curve developed with daily verification using a high and a low standard? NOTE: May use manufacturer's installed calibration and commercially available chlorine standards, or Spec [√] ™, for daily calibration verifications. [SM 21 1020]		X
3)	IF a replicate sample is analyzed is there a written procedure for which result will be reported on DMR (Sample or Replicate) and is this procedure being followed? [DEQ – based on EPA Good Laboratory Practices Standards]	NA	
4)	Is a Laboratory Control Sample (LCS) tested at least annually and are results within acceptance criteria? [SM 21 B 2. or SM 22 1020 B 3.] NOTE: LCS should be a purchased Proficiency Test (PT) sample or if a known standard different from the calibration standards is used. Use the PT acceptance criteria when given or use 70-130% recovery <u>and</u> 20% Relative Standard Deviation (RSD) as the acceptance criteria.		X
5)	Are the DPD Powder Pillows stored in a cool, dry place? [Mfr.]	X	
6)	Are the pillows within the manufacturer's expiration date? [Mfr.]	X	
7)	Are pillows appropriate for the sample size being analyzed and for <u>Total</u> Residual Chlorine	X	
8)	Has buffering capability of DPD pillows been checked annually? (Pillows should adjust sample pH to between 6 and 7) [Mfr.]		X
9)	When pH adjustment is required, is H ₂ SO ₄ or NaOH used? [Hach 11.3.1]		X
10)	Are cells clean and in good condition? [Mfr]	X	
11)	Is the Hach colorimeter program set to measure "TRC, mg/L"? [Mfr.]	X	
12)	Is the low range (0.01 mg/L resolution) used for samples containing residuals from 0.1 mg/L - 2.00 mg/L? [Mfr.]	X	
13)	Is the 10-mL cell (2.5-cm diameter) used for samples from 0-2.00 mg/L? [Mfr.]	X	
14)	Are samples analyzed within 15 minutes of collection? [40 CFR Part 136]	X	
15)	Is meter zeroed correctly using only sample for the blank analysis? [Mfr. and SM 21 1020 B.4. or SM 22 1020 B.5.]	X	

16)	Is the instrument light screen placed correctly on the meter body when the meter is zeroed and when the sample is analyzed? [Mfr.]	X	
17)	Is the DPD Total Chlorine Powder Pillow mixed into the sample? [Hach 11.1]	X	
18)	Is the analysis made at least three minutes but not more than six minutes after Powder Pillow addition? [Hach 11.2]	X	
19)	If read-out exceeds "2.19 mg/L", is the original sample diluted correctly, and then reanalyzed within 15 minutes of the original collection time? [Hach 1.2 & 2.0]		X

PROBLEMS: **See Summary for Problems**

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
SAMPLE ANALYSIS HOLDING TIME/CONTAINER/PRESERVATION CHECK SHEET

Revised 02/2015 [40 CFR, Part 136.3, Table II]

FACILITY NAME:		HiWay MHP				VPDES NO		VA0074942		DATE:		July 13, 2016		
HOLDING TIMES [Note: Collection period (for composites) and Sample Collection time (end of collection period) must be recorded on the COC.]						SAMPLE CONTAINER				PRESERVATION [Note: Preservation is to occur <u>within 15 minutes</u> of the end of the collection period.]				
PARAMETER	APPROVED	MET?		LOGGED?		ADEQ. VOLUME		APPROP. TYPE		APPROVED	MET?		CHECKED?	
		Y	N	Y	N	Y	N	Y	N		Y	N	Y	N
pH	15 MIN.	X		X		In situ				Within 15 minutes				
CHLORINE	15 MIN.	X		X						Within 15 minutes				
DISSOLVED O ₂	15 MIN	X		X		In situ				Within 15 minutes				
BOD ₅ & CBOD ₅	48 HOURS									≤6° C	X		X	
TSS	7 DAYS									≤6° C	X		X	
FECAL COLIFORM / <i>E. coli</i> / <i>Enterococci</i>	8 HRS									<10° C	X		X	
AMMONIA	28 DAYS									≤6°	X		X	
PROBLEMS:		Note: All chemical preservation should be noted by the Permittee on the Chain of Custody.												

Holding Times and Preservation References (VELAP except for Field Tests)

Exhibit 7
Examples of Plant Documentation and Recordkeeping
(Operational Data, Calibrations, and Chain of Custody)

MO/YR: OCT 2020

Hiway MHC LLC STP WWTP
VA0074942
Legal Sheet for outfall 001

DATE	OPR	Final Temp	TOTALIZER READING	FLOW GAL/DAY	pH/sample TIME COLLECTED	pH/sample TIME ANALYZED	pH su RESULTS	CL2/sample TIME COLLECTED	CL2/sample TIME ANALYZED	CL2 mg/l RESULTS	De-Chlor TIME COLLECTED	De-Chlor TIME ANALYZED	De-Chlor mg/l RESULTS	DO mg/l RESULTS
10/1/20	EV	18.7	1301-1150		1130	1135	7.1	1130	1130	1.13	1130	1135	0	6.80
10/2/20	EV	18.4	1301-950		0945	0950	7.1	0945	0955	1.61	0945	0950	0	6.51
10/3/20	EV	18.5	1301-550		1310	1315	7.3	1310	1320	2.20	1310	1315	0	6.94
10/4/20	EV	18.5	1301-550		1030	1035	7.6	1030	1040	2.20	1030	1035	0	6.80
10/5/20	EV	18.5	1301-750		1400	1405	7.4	1400	1410	2.20	1400	1405	0	6.55
10/6/20	EV	18.5	1301-1150		1030	1035	7.3	1030	1040	2.20	1030	1035	0	6.55
10/7/20	EV	18.5	1301-1050		1380	1385	7.2	1380	1390	2.20	1380	1385	0	6.50
10/8/20	EV	18.4	1301-950		1200	1205	7.2	1200	1210	2.20	1200	1205	0	6.47
10/9/20	EV	18.5	1301-950		1180	1185	7.1	1180	1190	2.20	1180	1185	0	6.43
10/10/20	EV	18.0	1301-950		1015	1020	7.1	1015	1025	2.20	1015	1020	0	7.19
10/11/20	EV	18.1	1301-1100		1180	1185	7.2	1180	1190	2.20	1180	1185	0	6.54
10/12/20	EV	17.5	1301-1115		1200	1205	7.2	1200	1210	1.30	1200	1205	0	7.00
10/13/20	EV	18.3	1301-1250		1330	1335	7.3	1330	1340	1.99	1330	1335	0	7.30
10/14/20	EV	18.0	1301-1250		1200	1205	7.4	1200	1210	2.20	1200	1205	0	6.58
10/15/20	EV	17.8	1301-1250		1000	1005	7.3	1000	1010	2.20	1000	1005	0	6.72
10/16/20	EV	17.7	1301-1100		1430	1435	7.3	1430	1440	2.20	1430	1435	0	6.50
10/17/20	EV	16.7	1301-1950		1615	1620	7.3	1615	1625	2.20	1615	1620	0	6.81
10/18/20	EV	16.4	1301-1750		1630	1635	7.2	1630	1640	2.20	1630	1635	0	6.94
10/19/20	EV	16.5	1301-1950		1200	1205	7.2	1200	1210	2.20	1200	1205	0	7.06
10/20/20	EV	17.1	1301-1150		1110	1115	7.6	1110	1120	2.20	1110	1115	0	6.40
10/21/20	EV	19.4	1301-1950		1050	1055	7.4	1050	1100	1.48	1050	1055	0	6.12
10/22/20	EV	19.7	1301-1050		1010	1015	7.3	1010	1020	1.31	1010	1015	0	6.49
10/23/20	EV	20.4	1301-1550		1180	1185	7.3	1180	1190	1.36	1180	1185	0	6.10
10/24/20	EV	20.0	1301-1550		1130	1135	7.6	1130	1140	2.20	1130	1135	0	6.24
10/25/20	EV	19.6	1301-1250		1100	1105	7.4	1100	1110	2.20	1100	1105	0	6.35
10/26/20	EV	19.5	1301-1550		1240	1245	7.3	1240	1250	1.09	1240	1245	0	6.60
10/27/20	EV	19.5	1301-1550		1040	1045	7.1	1040	1050	1.03	1040	1045	0	6.12
10/28/20	EV	19.0	1301-1150		0907	0912	7.6	0907	0917	2.17	0907	0912	0	6.20

EC1: 1

EC1: 2

10/25/20 Arrived @ 1100 oph
1100 Collected/Analyzed Final pH/TPC
1112 Took Flow
1115 Analyzed Final DO
1121 Added Cl₂ Dechlor tabs
1126 Cleaned Besseren
Note-

10/26/20 Arrived @ 1200 oph
1210 Collected/Analyzed Final pH/TPC
1225 Took Flow
1230 Collected/Analyzed 30 mw
Sett-270 pH-7.1 DO-4.17
1240 Analyzed Final DO/AT DO temp
1245 Added Cl₂ Dechlor tabs
1248 Cleaned Besseren
Note: Cleaned up in blower room
Wasted 10 mw / Amm ≈ .6 / BL @ 7.5, 4

10/27/20 Arrived @ 1030 oph
1040 Collected/Analyzed Final pH/TPC
1055 Took Flow
1100 Collected/Analyzed 30 mw
Sett-270 pH-6.9 DO-5.89
1110 Analyzed Final DO/AT DO temp

1116 Added
1120 Cleaned
Note:
Plant.

10/28/20
0907 Correc
0920 Took
0920 Am
0926 Added
0940 Clean

MONTH: October
 YEAR: 2020

Dissolved Oxygen & Ph Meter
 Calibration Log
 Black Rock MHC WWTP & Blue Ridge MHC, LLC

AERATION BASIN (Mon to Friday)

DATE	OPR	D.O. METER		pH Time Cal With 4/7/10 Buffers	pH 7 Check & Temp	Changed Buffers Yes or No	Side 1/Side 2 30 min set	Side 1/Side 2 pH s.u	Side 1/Side 2 D.O
		Cal Time	Temp / %						
10/1/20	EV	0820	19.7 / 100.0	0802	70.0/20.1	NO			
10/2/20	EV	0820	20.3 / 100.0	0751	70.0/16.7	NO			
10/3/20	VA	0815	17.5 / 100.0	0805	70.0/17.0	YES			
10/4/20	VA	0815	15.2 / 100.0	0805	70.0/14.9	NO			
10/5/20	VA	0815	20.0 / 100.0	0805	70.0/20.0	NO			
10/6/20	VA	0815	18.4 / 100.0	0805	70.0/21.0	NO			
10/7/20	VA	0815	20.1 / 100.0	0805	70.0/14.6	NO			
10/8/20	EV	0817	18.0 / 100.0	0750	70.0/12.7	YES			
10/9/20	EV	0820	16.6 / 100.0	0747	70.0/18.1	NO			
10/10/20	EV	0741	17.3 / 100.0	0720	70.0/17.0	NO			
10/11/20	VA	0850	19.1 / 100.0	0835	70.0/16.6	YES			
10/12/20	VA	0820	17.5 / 100.0	0805	70.0/17.9	NO			
10/13/20	VA	0815	18.0 / 100.0	0805	70.0/18.1	NO			
10/14/20	VA	0810	17.1 / 100.0	0805	70.0/18.0	NO			
10/15/20	VA	0810	16.2 / 100.0	0755	70.0/16.5	NO			
10/16/20	VA	0815	16.9 / 100.0	0805	70.0/16.9	NO			
10/17/20	EV	0831	15.0 / 100.0	0825	70.0/14.7	NO			
10/18/20	EV	0830	16.3 / 100.0	0810	70.0/15.9	YES			
10/19/20	VA	0810	17.0 / 100.0	0805	70.0/15.8	YES			
10/20/20	VA	0815	17.3 / 100.0	0805	70.0/16.0	NO			
10/21/20	EV	0812	17.2 / 100.0	0747	70.0/17.1	NO			
10/22/20	VA	0805	16.9 / 100.0	0755	70.0/16.9	NO			
10/23/20	VA	0805	17.4 / 100.0	0755	70.0/18.0	NO			
10/24/20	VA	0835	18.0 / 100.0	0825	70.0/16.3	NO			
10/25/20	VA	0805	15.2 / 100.0	0855	70.0/15.8	NO			
10/26/20	VA	0815	15.4 / 100.0	0805	70.0/16.7	YES			
10/27/20	VA	0815	15.9 / 100.0	0805	70.0/18.9	NO			
10/28/20	EV	0825	18.3 / 100.0	0900	70.0/17.5	NO			

pH Probe rinse between buffers and samples, blot probe.

MODEL:
S.N. #
MONTH:

HACH COLORIMETER
SERIES II
DAILY CALIBRATION

HACH Spec/Check

YR:

STANDARD RANGE			0	0.23+/-0.09	0.90+/-0.10	1.64+/-0.14	COMMENTS
DATE	OPER	TIME	BLANK MG/L	STD 1 MG/L	STD 2 MG/L	STD 3 MG/L	
1	EV	0802	0	0.25	0.87	1.61	
2	EV	0751	0	0.23	0.89	1.63	
3	W	0800	0	0.22	0.92	1.64	
4	W	0800	0	0.24	0.91	1.62	
5	W	0800	0	0.23	0.93	1.61	
6	W	0800	0	0.27	0.91	1.63	
7	EV	0800	0	0.25	0.90	1.63	
8	EV	0750	0	0.22	0.88	1.61	
9	EV	0747	0	0.25	0.91	1.66	
10	W	0720	0	0.24	0.89	1.62	
11	W	0830	0	0.25	0.92	1.65	
12	W	0500	0	0.24	0.91	1.64	
13	W	0500	0	0.24	0.92	1.65	
14	W	0800	0	0.24	0.92	1.65	
15	W	0800	0	0.24	0.91	1.64	
16	W	0750	0	0.23	0.91	1.64	
17	W	0800	0	0.24	0.90	1.66	
18	EV	0825	0	0.22	0.91	1.67	
19	EV	0810	0	0.25	0.89	1.62	
20	W	0800	0	0.24	0.91	1.65	
21	W	0800	0	0.23	0.92	1.63	
22	EV	0747	0	0.22	0.92	1.63	
23	W	0750	0	0.23	0.90	1.60	
24	W	0750	0	0.23	0.91	1.64	
25	W	0820	0	0.23	0.92	1.63	
26	W	0850	0	0.25	0.93	1.65	
27	W	0400	0	0.24	0.91	1.65	
28	W	0800	0	0.23	0.92	1.66	
29	EV	0900	0	0.22	0.89	1.59	
30							

