



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III**

**Four Penn Center – 1600 JFK Blvd
Philadelphia, Pennsylvania 19103-2029**

Report Title: Clean Water Act Compliance Inspection Report
Inspection Date(s): 06/26/2023
Regulatory Program(s): National Pollutant Discharge Elimination System (NPDES)
Type of Activity: Municipal Wastewater
Facility Name: Rustic Hills Subdivision
Permittee(s): Marshall County Sewerage District
Facility Address: Rustic Drive, Moundsville, WV 26041
Latitude: 39.86612 **Longitude:** -80.67456
Permit Number: WV0081612
NAICS Code: 221320 **SIC:** 4952
Receiving Waters: Spoon Hollow Tributary to Grave Creek
Unique Project #: 3E23WN106A

Facility Representative(s):

Point of Contact

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Signature/Date

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Unique Project#: 3E23WN106A

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I. Introduction

On June 26, 2023, two inspectors from the U.S. Environmental Protection Agency (“EPA”) Region III, accompanied by two inspectors with EPA’s National Enforcement Investigations Center (“NEIC”) (hereinafter, “EPA Inspection Team”) conducted a Clean Water Act (“CWA”) Compliance Evaluation Inspection of the Rustic Hills Subdivision Wastewater Treatment Plant (“WWTP”) (hereinafter, “the Facility”) permitted under the Marshall County Sewerage District National Pollutant Discharge Elimination System (NPDES) Permit. A representative from West Virginia Department of Environmental Protection (“WVDEP”) also attended the Inspection. The purpose of the inspection was to observe compliance with the CWA and with the Facility’s NPDES Permit No. WV0081612 (hereinafter, the “Permit”) and applicable State and Federal regulations.

A. Inspection Opening Conference

The EPA Inspection Team arrived at the Facility at approximately 1:30 PM (EDT) for the inspection. The Inspectors met with the Facility representatives. Monica Crosby displayed her credentials to the Facility representative, Mr. Joe Hickman at the outset of the inspection and explained that the purpose of the inspection was to review compliance with the Permit. The rest of the EPA inspection team displayed their credentials as well. The EPA Inspection Team explained that any information that the Facility deemed to be confidential business information (“CBI”) should be identified to the EPA Inspectors during the inspection and it would be handled as CBI according to EPA’s CBI procedures. Table 1 outlines the individuals that participated in the inspection.

Table 1. Inspection Attendee List

Name	Affiliation	Contact Information
U.S. EPA Region III		
Monica Crosby	EPA Region III - Lead Inspector	Phone: (410) 305 - 2930 Email: Crosby.monica@epa.gov
Allison Gieda	EPA Region III – Secondary Inspector	Phone: (215) 814 - 0232 Email: gieda.allison@epa.gov
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Christopher Dudek	WVDEP	Phone: (304) 238- 1220 Email: Christopher.t.dudek@wv.gov
Facility Representative		
Joe Hickman	Marshall County Sewerage District Manager	Phone: (304) 845-8140 Email: MCSDistrict@outlook.com
Kenny Whorton	Contract Operator	Phone: (304) 312-0499 Email: hpexcavating@yahoo.com

B. Weather and Precipitation Conditions

During the inspection, weather was sunny. National Oceanic and Atmospheric Administration (NOAA) National Weather Service precipitation data for the date of the inspection and 5 days prior are provided in the Table 2 below:

Table 2. Precipitation Data

Station Name	Date	Precipitation Amount(inches) ¹
MOUNDSVILLE, WV USC00466248	6/21/2023	0.04
MOUNDSVILLE, WV USC00466248	6/22/2023	0.05
MOUNDSVILLE, WV USC00466248	6/23/2023	0.25
MOUNDSVILLE, WV USC00466248	6/24/2023	0.2
MOUNDSVILLE, WV USC00466248	6/25/2023	0
MOUNDSVILLE, WV USC00466248	6/26/2023	0

¹ Source: NOAA National Climatic Data Center (<http://www.ncdc.noaa.gov/>).

² 'T' values in the Precipitation Amount category indicate a "trace" value was recorded

C. Summary of the Facility

The Facility is permitted under West Virginia NPDES Permit No. WV0081612 (hereinafter, Permit). The current permit was issued June 29, 2021, and became effective on August 01, 2021 and is set to expire June 30, 2025 (refer to Appendix A).

The Marshall County Sewerage District is the permittee and operates and maintains the Rustic Hills Subdivision WWTP described as follows:

- 1.) A wastewater collection system comprised of approximately 8,000 linear feet of eight (8) inch diameter gravity sewer line, 20 manholes, one (1) cleanout, one (1) lift station, necessary force main, and all requisite appurtenances.
- 2.) A 0.016 million gallons per day wastewater treatment plant comprised of a bar screen, a pretreatment chamber, an aerated flow equalization tank, an aeration chamber with a volume of 16,000 gallons, a clarifier with a volume of 2,700 gallons, a four-cell alternating surface sand filter with a total surface area of 900 square feet, a chlorine contact chamber with a volume of 2,900 gallons, dechlorination facilities, post aeration facilities, a sludge holding tank with a volume of 1,600 gallons, and all requisite appurtenances. The plant is to serve a population equivalent of approximately 230 persons in the Rustic Hills Subdivision and environs in the Marshall County Sewerage District, and discharge treated wastewater through Outlet No. 006 to Spoon Hollow, approximately 2 miles from its mouth, which flows to Grave Creek and to the Ohio River.

II. Facility Activity

As part of the Inspection process, the EPA Inspection Team visually observed the Facility's municipal wastewater treatment train in the presence of the Sewerage District Manager and the Facility's Contract Operator.

The municipal treatment train consists of:

- A bar screen
- An equalization tank,
- A 16,000-gallon aeration chamber,
- A 1,600-gallon sludge holding tank,
- A 2,700-gallon clarifier,
- Four-cell alternating surface sand filter,
- A 2,900-gallon chlorine contact chamber,
- Dechlorination facilities, and
- Post aeration facilities.

The observations from the inspection are described in detail below in the Observations section. Photographs were taken during the inspection by Alexandra Flevarakis and are provided in Appendix B.

As part of the Inspection Process, the Facility representative explained the operations and service area of the Facility. The Facility is rated for 0.016 MGD.

The EPA Inspection Team began their Facility walk-through at the trash rack. The Facility has one trash rack that serves as its bar screen and collects large debris and rags. The Facility Representative stated that once a quarter, the trash rack gets cleaned out and collected trash is hauled offsite to the City of Moundsville. From the trash rack, flow enters the aerated flow equalization basin. The Facility representative explained that the plant was first built in the 1970's, but the equalization tank was installed in the 1990's (Appendix B, P6260011). Flow is then gravity fed into a splitter box (Appendix B, P6260012). Flow can be controlled and directed to either treatment train by adjusting the weirs either up or down in either the splitter box or equalization basin. The Facility's Operator further explained that the equalization basin is equipped with aeration diffusers that normally run constantly.

The Facility walk-through then continued to the aeration basin and sludge holding tank (Appendix B, P6260013 and P6260014). The Facility Representative explained that sludge is hauled offsite to the City of Moundsville. The Facility Representatives stated that the Facility struggles with controlling ammonia because the nitrification in the aeration basins is limited. Furthermore, after aeration, solids are settled out in the secondary clarifier. The plant is hydraulically underloaded, causing the solids to have lower settleability. After the secondary clarifier, wastewater travels to a wet well and is pumped to one of the four sand filters (Appendix B, P6260015 – P6260018). Flow then enters the chlorine contact chamber where it is disinfected with chlorine tablets

(Appendix B, P6260019). Flow then makes its way to the dechlorination chamber before being discharged out Outfall No. 006 (Appendix B, P6260020 and P6260021). The District Manager explained that the sand filters and chlorine disinfection are being phased out beginning in August 2023 with an Up-Flo Filter Unit and UV disinfection.

III. Observations

Effluent Limitations and Monitoring Requirements

Requirement:

Part A.006 of the Permit outlines discharge limitations and monitoring requirements the Facility's permitted point of discharge, Outlet 006.

Observation #1:

The Facility Representative explained at the time of the Inspection that flow measurements for this Facility are estimated using the jug and stopwatch method and flow monitoring is conducted when the rest of the samples are collected.

Observation #2:

Since August 2021, Outfall No. 006 has experienced twenty-five (25) effluent exceedances. Parameters which exceed the effluent limitations in the permit include total residual chlorine, Biological Oxygen Demand ("BOD") 5-day, ammonia, fecal coliform, total suspended solids, and flow. The full table of exceedances is included as Appendix C. The Facility Representative explained that the treatment plant struggles with getting enough nitrification in the aeration basin and that snap-cap diffusers are to be installed in the near future.

Inflow and Infiltration

Requirement:

Part C.18 of the Permit states, "The permittee shall continue to implement its program to identify and eliminate sources of infiltration and inflow. A written progress report shall be provided on a semiannual basis, as an attachment to the Discharge Monitoring Reports, detailing what has been performed in relation to the implementation and accomplishments of the infiltration and inflow elimination program. Failure of the permittee to comply with this requirement shall result in subsequent administrative and/or legal action, as may be necessary in order to obtain the compliance sought herein."

Observation #3:

During the Inspection, the District Manager stated that the Facility struggles with I/I issues and there has been no smoke testing yet done at this Facility. One I/I report is submitted for all eight facilities. I/I reports for the time period of August 2021 to the present were reviewed. Rustic Hills Subdivison is not mentioned in these reports.

Operation and Maintenance

Requirement:

Appendix A Part II.1 of the Permit states, “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.”

Observation #4:

The EPA Inspection Team observed the Mixed Liquor Suspended Solids (MLSS) in the aeration basin to be very thin and light brown in color. Flow coming from the return activated sludge (RAS) pipe into the aeration basin was observed to be extremely light in color.

Observation #5:

The EPA Inspection Team observed the baffle in the clarifier to be uneven, causing the flow to enter the clarifier unequally which may result in short circuiting.

Outfall Marker

Requirement:

Appendix A of the Permit Part I.13 states that a permanent marker at the establishment shall be posted in accordance with Title 47, Series 11, Section 9 of the West Virginia Legislative Rules.

Observation #6:

The EPA Inspection Team observed the outlet marker with all required information (Appendix B, P6260022).

IV. Records Review

The EPA Inspector conducted a records review to evaluate the Facility’s compliance with the Permit. Most of the records and reports required by the Permit were available for review onsite and/or after the Inspection. The Facility’s electronic Discharge Monitoring Reports (eDMRs) were obtained electronically and reviewed offsite after the onsite inspection. The following records were reviewed:

- Facility Permit
- Quarterly eDMR data during the period of March 2021, through August 01, 2023
- Quarterly Sewage Sludge Management Records (March 2021, through August 01, 2023)
- Semi-annual Sewage Sludge Monitoring Records (March 2021 through August 31, 2023)

V. Closing Conference

At the conclusion of the onsite Inspection, the EPA Inspection Team conducted a closing conference with the site representatives listed in Table 1 and shared preliminary observations. The EPA Inspection Team reiterated to the site representatives that all preliminary observations discussed were not compliance determinations. Any and all preliminary observations shared were subject to further investigation by EPA upon the additional review of records and documentation. Additional observations may be contained in this inspection report that were not identified at the time of the closing conference after EPA reviewed additional materials following the inspection. The inspection concluded at approximately 3:00 PM (EDT).