



**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: Washington Lands WWTP
Permittee(s): Marshall County Sewerage District
Facility Address: Frontage Dr. and Bumpy Dr., Moundsville, WV 26041
Latitude: 39.88646 **Longitude:** -80.78741
Permit Number: WV0081612
NAICS Code: 221320 **SIC:** 4952
Receiving Waters: Ohio River
Unique Project #: 3E23WN105A

Facility Representative(s):

Point of Contact

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Signature/Date

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Unique Project#: 3E23WN105A

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List of Attachments

- Appendix A Facility Permit
- Appendix B Photograph Log
- Appendix C Effluent Exceedance Spreadsheet

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 Washington Lands 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 9:00 AM (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
U.S. EPA National Enforcement Investigations Center (NEIC)		
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Facility Representatives		
Joe Hickman	Marshall County Sewerage District Manager	Phone: (304) 845-8140 Email: MCSDDistrict@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 authorized to discharge 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 Washington Lands WWTP described as follows:

- 1.) A wastewater collection system comprised of approximately 14,000 linear feet of three (3) inch diameter vacuum sewer line, 5,200 linear feet of four (4) inch diameter vacuum sewer line, 7,300 linear feet of six (6) inch diameter vacuum sewer line, eight (8) cleanouts, one (1) lift station, 1,200 linear feet of six (6) inch diameter force main line, and all requisite appurtenances.
- 2.) A 0.050 million gallons per day extended aeration wastewater treatment plant comprised of two (2) bar screens, an aeration chamber with a volume of 70,000 gallons, a clarifier with a volume of 15,100 gallons, a chlorine contact chamber with a volume of 4,000 gallons, dechlorination facilities, and all requisite appurtenances. The plant is to serve a population equivalent of approximately 500 persons in the Washington Lands area and environs in Marshall County Sewerage District, and discharge treated wastewater through Outlet No. 001 to the Ohio River at Mile Point 107.7.

Under the meaning of Section 502(7) CWA, 33 U.S.C. § 1362(7), the Ohio River is considered a navigable water of the United States.

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 County's District Manager and the Facility's Contract Operator.

The municipal treatment train consists of:

- Two (2) bar screens,
- A 70,000-gallon aeration chamber,
- A 15,100-gallon clarifier,
- A 4,000-gallon chlorine contact chamber, and
- Dechlorination 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. Flow is generated mostly by residential homes, four (4) commercial businesses, and a mobile home park. The Facility representative estimated there were about 120 homes in their service area. Each home (or a pair of homes) has a small manhole in their yard that, when flow fills to a certain level, a valve opens, and waste is transported to the WWTP via a vacuum channel. During periods of high flow, the frequency of this vacuum channel being activated increases. There has been no recent sanitary sewer overflows in recent years according to facility staff.

The WWTP is rated for 0.050 million gallons per day (MGD). Facility representatives estimated they receive an average of 0.04–0.045 MGD. However, Facility representatives stated that the Facility has not had a flow meter since 2016.

The EPA Inspection Team began their Facility walk-through at the dual-pump collection tank and bar screens (Appendix B, P6260001, P6260002). The Facility has two (2) bar screens that are cleaned manually with a rake. The bar screens are cleaned every other day. The headworks is not equipped with any type of grit removal.

Wastewater flow enters either one of two parallel treatment trains by gravity via a flow splitter box (Appendix B, P6260003). Facility representatives explained that the first four chambers are aeration basins, and the fifth chamber is waste sludge. The Facility Operator explained that the aeration chamber typically runs for an hour on and a half hour off, but adjustments are occasionally made depending on the result of the daily dissolved oxygen monitoring. The Facility Operator also communicated that a settling test is used for process control. At the time of the inspection, the Facility was hauling off sludge once every two weeks to the City of Moundsville. The Facility

Operator stated that sludge samples were collected prior to sludge being hauled offsite.

From the aeration basins, flow enters the secondary clarifier. Each clarifier is equipped with a stilling well at the front end. The stilling well acts to limit floatables from entering the clarifier while directing solids downward promoting settling. According to Facility Representatives, the stilling well gets pumped out once every six months via a vacuum truck ([Appendix B, P626005, P626006](#)). Each clarifier has an air lift that provides return activated sludge back to the front of the aeration basins. The clarifier is also equipped with skimmers that take pin-floc or floatables back to the front end of the plant.

Once water flows over the clarifier weirs, it enters the chlorine contact chamber. Facility representatives explained that chlorine is fed via tablets ([Appendix B, P626007, and P626008](#)). Water makes contact with the chlorine tablet as it flows through the outlet pipe for disinfection. According to Facility representatives, the dechlorination chamber was installed in the Fall of 2022 ([Appendix B, P626009](#)). Following disinfection, water from each side of the plant flows to a wet well before comingling and being pumped to Outlet No. 001. The outfall is only accessible by boat; therefore, samples are collected in the wet well ([Appendix B, P6260010](#)). The south-side plant enters the wet well via one pipe, and the north-side plant enters the wet well through another pipe. Samples are collected after the comingling of these flows and immediately prior to discharge. The wet well is equipped with submersible pumps that alternate in operation.

III. Observations

Effluent Limitations and Monitoring Requirements

Requirement:

Part A.001 of the Permit outlines discharge limitations and monitoring requirements for the Facility's permitted point of discharge, Outlet 001.

In accordance with the NPDES permit, Part III. Monitoring and Reporting

1. Representative Sampling

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

7. Definitions

d) "Composite Sample" is a combination of individual samples obtained at regular intervals over a time period. Either the volume of each individual sample is proportional to discharge flow rates or the sampling interval (for constant volume samples) is proportional to the flow rates over the time period used to produce the composite. The maximum time period between individual samples shall be two hours.

Observation #1:

The Facility representatives stated that the Facility has not had a flow meter since 2016 and has been estimating their flow to be 0.050 MGD, which is the capacity of the plant. The Facility representatives estimate their average flow is probably between 0.040 and 0.045 MGD. When asked how flows are estimated and reported, the Facility Representative said they always assume a flow of 0.050 MGD because they have no other way of estimating. According to the Facility's DMRs, flow has been reported at 0.050 MGD. This is also how it is documented in the Facility's lab analysis.

Observation #2:

The Permit requires the Facility to collect samples for BOD 5-day, total suspended solids, ammonia, total phosphorus, total recoverable copper, total recoverable zinc, and total recoverable lead as an 8-hour flow proportional composite sample. As described above, the Facility has no way to measure flow and are not able to take an 8-hour flow proportional composite sample as required by the NPDES permit.

The Permit has loading limits for BOD-5-day, total suspended solids, and ammonia nitrogen. The loadings are calculated using the sampling concentration results for a particular parameter and the actual daily flow for the day of the sampling. The Facility cannot measure daily flow and is not able to calculate and report actual loadings on the monthly DMRs.

Observation #3:

Since March 2019, Outlet No. 001 has experienced 100 effluent exceedances. Parameters with violations include total residual chlorine, Biological Oxygen Demand ("BOD") 5-day, ammonia, total recoverable copper, fecal coliform, percent removal of BOD 5-day, total suspended solids, and percent removal of suspended solids. The full table of exceedances is included as [Appendix C](#).

Inflow and Infiltration ("I/I")

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 #4:

During the Inspection, the Facility representatives stated that the I/I issues at the Facility have been identified. There were about six or seven roof drains that were identified through smoke testing and camera inspections. The Facility representatives explained that the County has a sewer use ordinance that allows for the negative incentive of a tariff should the homeowners not make necessary repairs. One I/I report is submitted for all eight facilities that are covered under the Permit. I/I reports for the time period of March 2021 to the present were reviewed. Washington Lands WWTP was not mentioned in these reports as the issues have been addressed.

Sampling

Requirement:

Part C.19 of the Permit requires that all effluent samples be collected at, or near as possible to, the point of discharge.

Observation #5:

Facility representatives explained that the only way to access Outlet No. 001 is by boat. Therefore, the Facility samples its effluent in the wet well after the flows from both sides of the Facility commingle but prior to being pumped to Outlet No. 001 (refer to Appendix B, P6260010).

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 12:30 PM (EDT).