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April 27, 2026

VIA UPS

City of Monessen
Monessen Municipal Complex
1 Wendell Ramey Lane, Suite 400
Monessen, PA 15062

Attention: Planning Commission Members

Re: Mon Valley Sewage Authority (MVSA)
Washington and Westmoreland Counties, Pennsylvania
Official Sewage Facilities Plan Update/Special Study for Marion Avenue/Hill Top Area Sewer Separation Project

Dear Planning Commission Members:

We have enclosed one copy of the draft Act 537 Sewage Facilities Plan Update/Special Study for the City of Monessen for the Marion Avenue/Hill Top Area Sewer Separation Project. This Plan Update/Special Study incorporates construction of a parallel sanitary collection sewer in the City of Monessen that will facilitate separation of an existing combined sewer for treatment of the existing and future wastewater disposal needs from the City of Monessen's Marion Avenue/Hilltop Area collection system and capture and provide biological treatment of 100% of the sanitary sewage from the Grand Boulevard Area collection system.

The project consists of separating an existing combined sewer system via installation of a new parallel sanitary sewer, and conversion of the existing combined sewer to storm sewer. The estimated total project cost is $3,850,000 and is scheduled to begin construction in August 2026 and end construction in December 2027. The project will be funded by a Bond Series obtained by MVSA and repaid by the City of Monessen from the sewage line services fees collected.

Please provide written comments to our office by May 27, 2026. If you have any questions, please contact us.

Very truly yours,

Jason J. McBride, PE
Project Manager

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Enclosures

cc: MVSA

Plan of Special Study and Task Activity Report
Official Act 537 Sewage Facility Plan Update
Marion Ave / Hilltop Area Sewer Separation Project

Serving

City of Monessen, Westmoreland County

Prepared For
Mon Valley Sewage Authority

April 2026

WADE TRIM

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Plan of Study and Task Activity Report
Act 537 Sewage Facility Plan
Marion Ave / Hilltop Area Sewer Separation Project
(Revision No. 00)

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LIST OF ACRONYMS

AWWA	American Water Works Association
BHP	Bureau of Historic Protection
CSO	Combined Sewer Overflow
CSOP	Combined Sewer Overflow Policy
CSS	Combined Sewer System
CWA	Clean Water Act
DCED	Department of Community and Economic Development
PaDEP	Pennsylvania Department of Environmental Protection
EDU	Equivalent Dwelling Unit
El	Elevation
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
gpm	gallons per minute
LSA	Local Share Account
LTCP	Long Term Control Plan
LxF	Lowell-Culleoka complex
MG	Million Gallon
MGD	Million Gallons per Day
MVSA	Mon Valley Sewage Authority
NPDES	National Pollutant Discharge Elimination System
PA	Pennsylvania
PENNVEST	Pennsylvania Infrastructure Investment Authority
PHMC	Pennsylvania Historical and Museum Commission
PNDI	Pennsylvania Natural Diversity Inventory
RUS	Rural Utility Service
SSO	Sanitary Sewer Overflow
SSS	Sanitary Sewer System
SWD	Side Water depth
WWTP	Wastewater Treatment Plant

Plan Summary

Introduction

The Pennsylvania Sewage Facilities Act (Act 537) requires that every municipality within the Commonwealth develop and maintain an up-to-date sewage facilities plan. This Plan was required by the Pennsylvania Department of Environmental Protection (PaDEP) upon submission of the Water Quality Management Permit for Phase III of the Mon Valley Sewage Authority's (Authority) Long Term Control Plan (LTCP). This Plan shall modify the previous Act 537 Plan update dated 2014.

The Mon Valley Sewage Authority (Authority) sewerage system was constructed in 1968-70 to intercept and treat wastewater from the Combined Sewer Systems (CSS) owned and operated by the City of Monessen (Monessen), in Westmoreland County, and the Borough of Donora (Donora), in Washington County. In the mid-1970s, part of the Separate Sanitary Sewer System (SSS) owned and operated by the Carroll Township Authority (Carroll Authority), Washington County, was connected to the Authority system. Following implementation of Phases I and II of the LTCP, the Authority's system consists of eight (8) CSOs, 27,000 linear feet of gravity sewer, 7 sewage pumping stations, 19,000 linear feet of force main, and a 4.96 MGD wastewater treatment plant (WWTP), a 3.0 MG equalization tank and a 44 MGD satellite treatment facility. Monessen, Donora, and Carroll Authority currently maintain their own individual sewage collection systems. The construction of these collection systems, except for the Carroll Township Authority system, predates the inception of the Authority with much of the sewer systems dating to the early 1900's. Both systems were constructed as combined sewer systems (CSS).

The Monessen and Donora collection systems reportedly do not experience overflows within their respective systems. Therefore, the City of Monessen and the Borough of Donora are not required to obtain NPDES Permits (PA CSO General Permit PAG-6). Because the Authority owns and operates CSOs along the main interceptor, it is obligated to meet the requirements of the Combined Sewer Overflow Policy (CSOP) first adopted by the United States Environmental Protection Agency (EPA) in 1994.

These CSO structures are located along the Monongahela River and are designed to activate when hydraulic conditions in the CSS exceed 350% of the average dry weather flow. These conditions occur only during wet weather events when these overflows discharge dilute sewage to the Monongahela River. **Appendix A** includes overall maps of the Authority's system and the proposed LTCP facilities.

CSO policy requires that entities minimize the impact of their CSO discharges by reducing overflows to four (4) to six (6) times a year or capture of 85% of the combined sewage that enters your system during precipitation events on an annual average basis. PaDEP approved the Authority's CSO LTCP on April 30, 2008. The Plan outlined three phases to be implemented over a 12-year period with a 2007 project cost of $33.5 million. Phase I consisted of two (2) stream separations, interceptor upgrades, five (5) pump station upgrades and an equalization facility with a total estimated project cost of approximately $6 million. During Phase II of the LTCP, it was determined that the area of the Monongahela River where

CSO 007 discharges is considered an environmentally sensitive area requiring 100% primary treatment for discharges out of CSO 007 and increasing the proposed size of the Seneca Street CSO Satellite Treatment Facility from 4 MGD to 44 MGD. Additional improvements were incorporated into Phases I and II, include elimination of CSO 005. These improvements increased the percent capture achieved following completion of Phase II from the proposed value of 79.49% to an actual value of 83.54%.

Based on additional improvements incorporated into Phases I and II, implementation of Phase III of the LTCP without modification would produce a system-wide percent capture of 90.51%. This level of percent capture exceeds both the minimum percent capture required by the Clean Water Act (85%) and the percent capture to be achieved by the original approved LTCP (86.45%). During preliminary design of the Phase III facilities the Authority evaluated alternatives to provide the required 85% using various treatment and storage technologies to reduce projected costs. As a result of preliminary evaluation Phase III is proposed to include the construction of a 2 MG equalization tank for CSO 011/0110 as a proposed improvement to be implemented as part of the revised version of Phase III of the LTCP.

With the PaDEP's approval, the Authority revised Phase III of the LTCP, limiting its scope to the construction of a 2 MG equalization tank for CSO 011 in Donora and forgoing construction of solids and floatable removing screens at the remaining CSOs. Construction of this equalization tank is expected to produce a system-wide percent capture of 85.55%, exceeding the 85% percent capture required by the CSOP. A separate Act 537 Plan Update / Special Study will be submitted for the Donora equalization tank.

At the time the Authority's LTCP was prepared and approved by PaDEP, the associated stakeholders believed that the entire collection system within the City was permitted as a combined sewer system. After approval of the LTCP, the City and PaDEP identified approximately five overflows occurring within the Grand Boulevard sewershed. PaDEP determined that the Grand Boulevard area was permitted and constructed as a separate sanitary system and deemed these overflows as illegal sanitary sewer overflows (SSOs) that required elimination.

PaDEP has indicated that 100% of the sanitary sewage from the Grand Boulevard collection system must receive full biological treatment at the Authority's WWTP. The flow from the Grand Boulevard area identified for full biological treatment is required to be conveyed via the Authority's main interceptor to the Monessen Pump Station and across the river to the WWTP. Flow monitoring data collected from the entire CSO 007 drainage area (Seneca Street/Parente Boulevard) demonstrated an average dry weather flow rate of approximately 0.343 MGD and a contributing flow portion from the Grand Boulevard area of 0.179 MGD. Therefore, the LTCP anticipated 0.63 MGD (350% of 0.179 MGD) to be conveyed to the Authority WWTP from the Grand Boulevard drainage area. Subsequent flow monitoring of the Grand Boulevard area conducted in 2012 to 2013 recorded flow rates more than double the flow rate accounted for in the design of the Seneca Street Trunk Sewer constructed during Phase I of the LTCP. The observed flow rates appear to cause surcharging for portions of the Seneca Street Trunk Sewer.

The proposed Marion Ave / Hilltop Area Sewer Separation project is intended to remove at least 0.5 MG of wet-weather flow from the collection and conveyance system to alleviate surcharge concerns in the Seneca Street trunk sewer and provide sufficient conveyance capacity to meet the PaDEP requirement to capture and provide biological treatment for 100% of the sanitary sewage from the Grand Boulevard collection system. The sewer separation project is to replace a 0.5 MG equalization tank project which became financially infeasible throughout the design period. PaDEP has requested that the Authority update the sewage facilities Act 537 plan to account for the proposed facilities. This plan has been developed to satisfy that requirement. The total cost for construction of the Marion Ave / Hilltop Area Sewer Separation project is anticipated to be approximately $4,000,000. This is consistent with the Authority's previously obtained bond for this amount for the construction of the previously proposed Monessen Equalization Tank.

Included in this Plan is the previously secured bond issues for the implementation of the equalization tank project, but will now be applied to the Marion Ave / Hilltop Area Sewer Separation Project. This funding method is consistent with the recommended financing alternative for previous projects, including the LTCP. The Authority has agreed to finance the project for the City of Monessen, with the understanding that the bond will be repaid using a portion of the line service fee that the Authority collects from Monessen customers on behalf of the City. The project is not anticipated to cause an increase in the sewage fees charged by the Authority, though the City has committed $5.00 from the line service fees collected by the Authority on behalf of the City for the repayment of the bond.

This Plan provides information on how these proposed facilities are consistent with the requirements of the Pennsylvania Sewage Facilities Act 537. The proposed facilities were reviewed for consistency using the Act 537 Plan Content and Environmental Assessment Checklist, and a copy of the completed checklist is included in **Appendix B**. The institutional arrangements necessary for implementation of this Plan already exist, and the Authority currently operates similar sanitary sewers as those proposed. As with the previous Authority projects implemented under the LTCP, the Authority will be responsible for designing, permitting and financing for the Marion Ave / Hilltop Area Sewer Separation Project. Additional information on the operation and maintenance of the Authority system as well as descriptions of system improvements conducted by the Authority are provided in the 2025 Annual Report, included as **Appendix C**.

Project Schedule

Table 1-1 displays an overall schedule of the proposed project.

Table 1-1: Preliminary Project Schedule

Task	Target Completion Date
Start Act 537 Plan	February 2026
Close on Bond Issue	Completed April 2021
Submit Task Activity Report to PaDEP for approval	Completed April 2026
Submit Draft Act 537 Plan to Planning Agencies, Authority and Municipalities	April 2026
Comments Received on Act 537 Plan	May 2026
Finalize Act 537 Plan and Publish for Public Comment	May 2026
Adopt Final Act 537 Plan by Resolution (Authority and City of Monessen)	June 2026
Start Design	February 2026
Complete Design	April 2026
Receive Permits	July 2026
Open Bids	June 2026
Award	July 2026
Start Construction	July 2026
Complete Construction	December 2027

1.0 PREVIOUS WASTEWATER PLANNING

The Authority's system consists of four (4) sewage regulators and six (6) diversion manholes, 27,000 linear feet of gravity sewer, 7 sewage pumping stations, 19,000 linear feet of force main, and a 4.96 MGD wastewater treatment plant (WWTP), a 3.0 MG equalization tank and a 44 MGD satellite treatment facility. Monessen, Donora, and Carroll Township currently maintain their own individual sewage collection systems. The construction of these collection systems, except for the Carroll Township system, predates the inception of the Authority, with much of the sewer system dating to the early 1900's. Both systems were constructed as combined sewer systems. The NPDES Permit issued on October 2, 2002 approved re-rating of the WWTP from 3.66 MGD to 4.96 MGD.

The Monessen and Donora collection systems do not experience overflows within their respective systems. Therefore, the City of Monessen and the Borough of Donora are not required to obtain NPDES Permits (PA CSO General Permit PAG-6). Because the Authority owns and operates the CSOs along the main interceptor, it is obligated to meet the requirements of the CSOP first adopted by the United States EPA in 1994.

In August 1995, the PaDEP issued an NPDES Permit for the Authority sewerage system. The Authority's NPDES Permit No. PA0026158 allows for the discharge from seventeen (17) CSOs. Through implementation of Phases I and II of the LTCP nine (9) CSOs have been eliminated and eight (8) remain. These CSO structures are located along the Monongahela River and are designed to activate when hydraulic conditions in the CSS exceed 350% of the average dry weather flow. These conditions occur only during wet weather events when these overflows discharge dilute raw sewage to the Monongahela River.

1.1 UPDATES TO ACT 537 PLAN

Wade Trim provides consulting engineering services on an ongoing basis to help the Authority properly own and operate their system while remaining in compliance with their NPDES permit and EPA's National CSO Policy. CSO policy requires that entities minimize the impact of their CSO discharges by reducing overflows to four (4) to six (6) times a year or capture of 85% of the combined sewage that enters the system during precipitation events on an annual average basis. All entities are required to develop a CSO LTCP which outlines how the above goal will be achieved. The Authority has been working towards this goal starting with submittal of the CSO Plan of Action in 1996 which contained the "Proposed Approach to the Long Term Control Plan." A finalized version of the LTCP was submitted to PaDEP in September 2007, and over the last 19 years since its submittal the Authority has consistently and proactively collected the data needed to outline a capitally intensive program.

PaDEP approved the Authority's CSO LTCP on April 30, 2008. The Plan outlined three phases to be implemented over a 12-year period with a 2007 project cost of $33.5 million. The implementation of all three (3) phases will bring the Authority into compliance with EPA's National CSO Policy by eliminating

or minimizing the impacts of 17 CSOs located throughout their service area. Modifications to the Authority's CSO LTCP were approved on January 5, 2026. These modifications allowed a 6-month period for DEP's review of the submitted Post Construction Compliance Monitoring Plan (PCCMP) and decreasing PCCMP report preparation timeline.

1.1.1 Phase I

Phase I consisted of two (2) stream separations, interceptor upgrades, five (5) pump station upgrades and an equalization facility with a total estimated project cost of approximately $6 million. Engineering and construction management fees exceeded $1 million over the four (4) years required to design, permit, bid and construct the facilities outlined in Phase I of the project. Construction of projects associated with Phase I of the LTCP was completed in 2014.

1.1.2 Phase II

In 2014, the Authority submitted an Act 537 Plan Special Study which described the alternatives evaluation and ultimate recommendation for the implementation of Phases II and III of the LTCP. The 2014 Act 537 Plan Special Study was required by the PaDEP upon submission of the Water Quality Management Part II Permit application for Phase II of the LTCP.

During design of the facilities for Phase II, it was determined that the area of the Monongahela River where CSO 007 discharges is considered an environmentally sensitive area. As a result, PaDEP required 100% primary treatment for discharges out of CSO 007. This effectively increased the required percent capture at CSO 007 from the proposed value of 85% to 100%. Based on this requirement, the proposed size of the Seneca Street CSO Satellite Treatment Facility was increased from 4 MGD to 44 MGD. Additional improvements that were incorporated into Phase II, including increasing the size of the Seneca Street CSO Satellite Treatment Facility and elimination of CSO 005, have increased the percent capture achieved following completion of Phase II from the proposed value of 79.49% to an actual value of 83.54%. Construction of projects associated with Phase I of the LTCP was completed in 2019.

1.1.3 Phase III

Based on additional improvements incorporated into Phases I and II, implementation of Phase III of the LTCP without modification would produce a system-wide percent capture of 90.51%. This level of percent capture exceeds both the minimum percent capture required by the Clean Water Act (85%) and the percent capture to be achieved by the original approved LTCP (86.45%). During preliminary design of the Phase III facilities, the Authority evaluated alternatives to provide the required 85% capture using various treatment and storage technologies to reduce the original projected costs. This alternatives evaluation was used to select a cost-effective method for achieving compliance with the CWA.

With the PaDEP's approval, the Authority revised Phase III of the LTCP to include construction of a 2 MG equalization tank for CSO 011 (Alternative 2A) and forgoing construction of solids and floatable

removing screens at the remaining CSOs. Construction of this equalization tank is expected to produce a system-wide percent capture of 85.55%, exceeding the 85% percent capture required by the CWA.

The Authority had authorized Wade Trim to complete a separate Act 537 Plan Special Study of design alternatives for the Donora Equalization Tank as part of Phase III of its CSO LTCP. At the time the Authority's LTCP was prepared and approved by PaDEP, the associated stakeholders believed that the entire collection system within the City was permitted as a combined sewer system. After approval of the LTCP, the City and PaDEP identified approximately five overflows occurring within the Grand Boulevard sewer shed. PaDEP determined that the Grand Boulevard area was permitted and constructed as a separate sanitary system and deemed these overflows as illegal sanitary sewer overflows (SSOs) that required elimination.

1.1.4 Seneca Street Trunk Sewer

Previous conversations have taken place with PaDEP and the City regarding the Authority's Seneca Street Trunk Sewer capacity to handle the City's Grand Boulevard sanitary sewer flows. The Authority's Seneca Street Trunk Sewer was increased in size from what was approved in the Authority's LTCP as a sewer ranging from 15" to 24" to a sewer ranging from 24" to 42" in diameter. The Seneca Street Trunk Sewer provides the necessary capacity to convey the dry weather flow from the Grand Boulevard area down to the bottom of Parente Boulevard where the diversion structure (CSO 007) and the Seneca Street CSO Satellite Treatment Facility are located. Flow is then conveyed to the Authority's Monessen Interceptor that runs parallel to the Monongahela River and onto the WWTP.

PaDEP has indicated that 100% of the sanitary sewage from the Grand Boulevard collection system must receive full biological treatment at the Authority's WWTP. The flow from the Grand Boulevard area identified for full biological treatment is required to be conveyed via the Authority's main interceptor to the Monessen Pump Station and across the river to the WWTP.

Preparation of the Authority's LTCP started in the year 2000 with flow monitoring data collected from 2003 until present. The period of flow monitoring data used to develop the LTCP extended from September 2004 to August 2005. The dry weather flow from the entire CSO 007 (Seneca Street/Parente Boulevard) drainage area was documented as approximately 0.343 MGD with the portion from the Grand Boulevard area recorded as 0.179 MGD. Therefore, the LTCP anticipated approximately 0.63 MGD (350% of 0.179 MGD) to be conveyed to the Authority WWTP from the Grand Boulevard drainage area.

Following completion of Phase I of the City's Grand Boulevard project, a flow meter was installed in the connection manhole between the City and Authority's facilities. This meter collected data from April 2012 through September 2013. The meter was reinstalled from September 2015 through November 2015. Results of this monitoring showed that the flow rates recorded from the Grand Boulevard collection system are more than double the flow rate accounted for in the design of the Seneca Street

Trunk Sewer constructed during Phase I of the Authority's LTCP, causing surcharging in portions of the Seneca Street Trunk Sewer.

The previously proposed Monessen Equalization Tank was intended to meet the PaDEP requirement to capture and provide biological treatment for 100% of the sanitary sewage from the Grand Boulevard collection system by storing the volume resulting from this additional flow rate. PaDEP has requested that the Authority update the sewage facilities Act 537 plan to account for the proposed facilities and that plan had been developed and approved to satisfy that requirement.

Upon final design of the Monessen Equalization Tank the total Opinion of Probable Construction Cost (OPCC) estimate had nearly doubled from preliminary design estimates. The design spanned a period of unprecedented pricing volatility in the construction market, causing the construction costs for the Monessen Equalization Tank to become infeasible for the City. A previous Act 537 Sewage Facilities Plan Update-Revision for the Monessen Equalization Tank was submitted to DEP and approved on March 28, 2022. This Act 537 Plan Update is to replace that previous version for the project scope alteration from an equalization approach to sewer separation as part of the Marion Ave / Hilltop Area Sewer Separation Project.

2.0 PHYSICAL AND DEMOGRAPHIC ANALYSIS

2.1 INTRODUCTION

This report is a special study focused on the separation of an existing combined sewage residential collection system. The original basis of design and preliminary sizing for the previously proposed equalization tank in Monessen was to satisfy the PaDEP requirement to capture and provide biological treatment for 100% of the sanitary sewage from the Grand Boulevard collection system. The sewer separation project, referred to as the Marion Ave / Hilltop Area Sewer Separation Project, aims to achieve this goal by removing a comparable amount of flows from the sewer system in an area neighboring the Grand Boulevard collection system. Both the Grand Boulevard collection system, and the proposed Marion Ave / Hilltop collection system are tributary areas to the previously proposed Monessen Equalization Tank location.

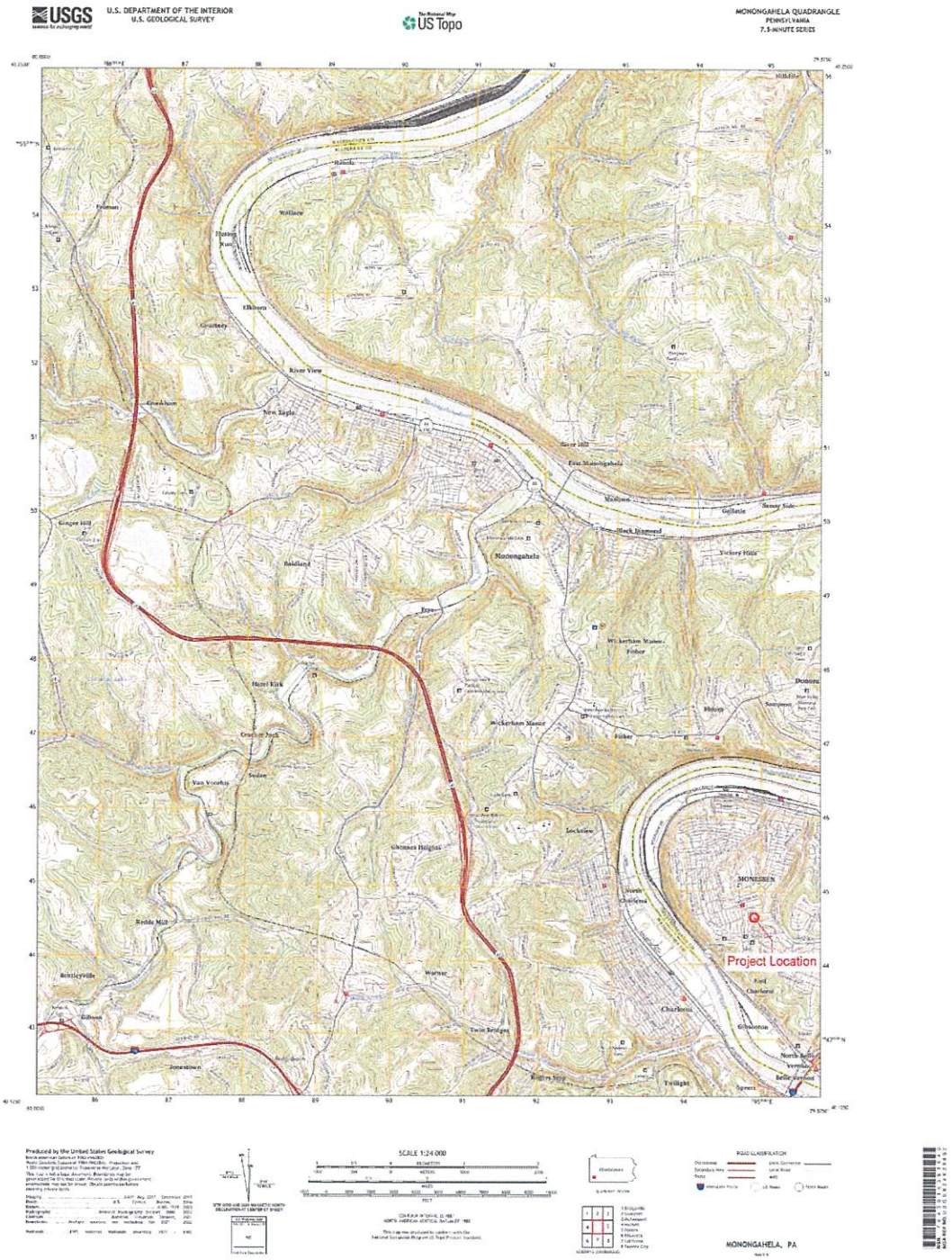
2.2 PLANNING AREA

The Authority sewerage system was constructed in 1968-70 to intercept and treat wastewater from the CSS owned and operated by the City of Monessen, in Westmoreland County, and the Borough of Donora, in Washington County. In the mid-1970s, part of the SSS owned and operated by the Carroll Township Authority, Washington County, was connected to the Authority's system.

2.3 PHYSICAL CHARACTERISTICS

The project location and planning area are in the Monongahela River basin and drain to both the Monongahela River and Unnamed Tributaries to the Monongahela River. **Exhibit 2-1** includes a USGS quad map showing the general location of the project area. The proposed area is located near the intersection of Grand Boulevard and Cemetery Street in the City of Monessen, Pennsylvania as shown on **Exhibit 2-2** in **Appendix A**. The area is generally sloped at approximately 10% on average, with existing contours ranging from approximate Elevations (Els.) 1148 to 951 ft.

Exhibit 2-1: Marion Ave / Hill Top Area Sewer Separation Project Area



2.4 SOILS

Soils in the project area are classified as: Lowell-Culleoka complex, LxF, with slopes of 25 to 80 percent and very rocky; Urban Land-Culleoka, UeB, with slopes of 0 to 8 percent; Urban Land-Culleoka, UeD, with slopes of 8 to 25 percent; and Urban Land-Guernsey, UhD, with slopes of 8 to 25 percent. Although most of the area is of hydrologic soil group C/D, these soils range from well drained, moderate infiltration, moderate rate of water transmission, to clayey, very slow infiltration, very slow rate of water transmission. The project area is hilly, but most field work will be contained to improved surfaces within the public right-of-way. A copy of the soil map is in **Appendix F.**

2.5 GEOLOGIC FEATURES

According to the Pennsylvania Department of Conservation and Natural Resources' Physiographic Provinces of Pennsylvania map, the site is in the Waynesburg Hills Section of the Appalachian Plateaus Province. The Waynesburg Hills Section is characterized as very hilly with narrow hilltops and steep-sloped, narrow valleys. The Greater Pittsburgh Region Geologic Map, compiled by W.R. Wagner, J.L. Craft, L. Heyman and J.A. Harper and dated 1975, shows the majority of the plan area located in the Monongahela Group Formation. The formation includes cyclic sequences of shale, limestone, sandstone and coal and contains Pittsburgh coal bed at the base. Water quality is affected by calcium bicarbonate content. Dissolved solids range from 272 to 610 mg/I and iron rages from 0.08 to 35 mg/I. No surface water features were observed on the site. Based on the topographic gradient near the site, shallow groundwater is anticipated to flow towards the Monongahela River to the north.

2.6 POTABLE WATER SUPPLIES

The nearest public potable water supply intake on the Monongahela River is operated by the Authority of the Borough of Charleroi and is located approximately 3.8 miles upstream of the project location.

2.7 WETLANDS

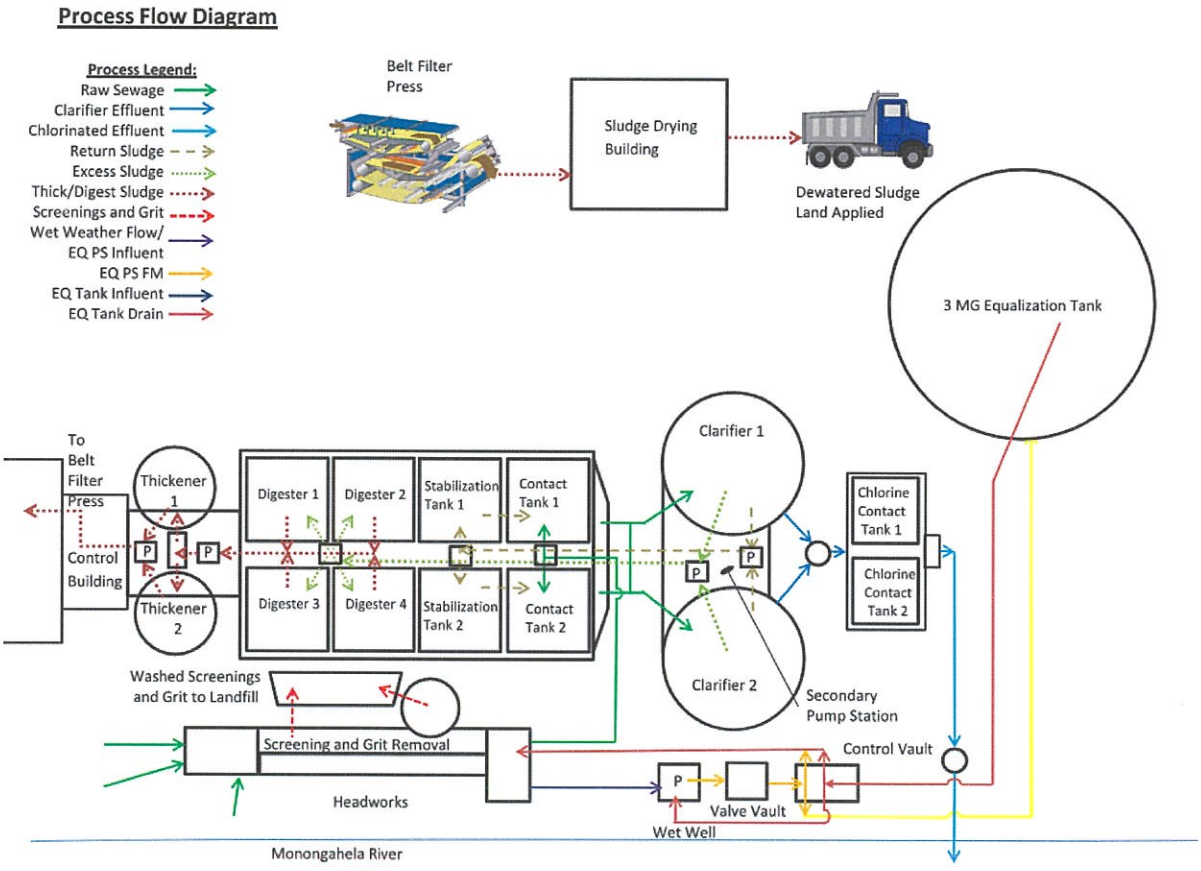
Based on the National Wetlands Inventory Maps, there are no wetlands shown in the areas of the proposed facilities for the project area. One riverine wetland is identified, which is a culverted stream in the area. An appropriate stream crossing permit will be obtained for the project. A copy of the wetland maps is also located in **Appendix G**.

3.0 EXISTING SEWAGE FACILITIES

3.1 NARRATIVE

The Authority's system consists of four (4) sewage regulators and six (6) diversion manholes, 27,000 linear feet of gravity sewer, seven (7) sewage pumping stations, 19,000 linear feet of force main, a 4.96 MGD WWTP, a 3.0 MG equalization tank, and a 44 MGD satellite treatment facility. Monessen, Donora, and Carroll Township Authority currently maintain their own individual sewage collection systems. The construction of these collection systems, except for the Carroll Township Authority system, predates the inception of the Authority with much of the sewer system dating to the early 1900's. Each of these systems was constructed as a combined sewer system. The NPDES Permit issued on October 2, 2002 approved re-rating of the WWTP from 3.66 MGD to 4.96 MGD. **Exhibit 3-1** displays the process flow diagram for the WWTP.

Exhibit 3-1: Process Flow Diagram



The Monessen and Donora collection systems do not experience overflows within their respective systems. Therefore, the City of Monessen and the Borough of Donora are not required to obtain NPDES

Permits (PA CSO General Permit PAG-6). Because the Authority owns and operates the CSOs along the main interceptor, it is obligated to meet the requirements of the National CSOP first adopted by the United States EPA in 1994.

In August 1995, the Pennsylvania Department of Environmental Protection (PaDEP) issued an NPDES Permit for the Authority sewerage system. The Authority's original NPDES Permit No. PA0026158 allows for the discharge from seventeen (17) CSOs, though through implementation of Phases I and II of the LTCP nine (9) CSOs have been eliminated and eight (8) remain. These CSO structures are located along the Monongahela River and are designed to activate when hydraulic conditions in the CSS exceed 350% of the average dry weather flow. These conditions occur only during wet weather events when these overflows discharge dilute raw sewage to the Monongahela River.

Exhibits displaying the Authorities facilities are included in **Appendix A**.

3.2 SYSTEM IMPROVEMENTS

The Authority has made many improvements to the system over the years, which are summarized in the 2025 Annual Report included in **Appendix C.** The following major capital additions have been completed or are in construction to maintain the Sewage Disposal System in good condition, repair and working order and to provide for improved operation.

3.2.1 Combined Sewer Overflow (CSO) Long Term Control Plan

The Authority submitted its CSO LTCP in 2007 outlining capital expenditures of $33.5 million (Year 2007 dollars) over 12 years. The LTCP was approved by PaDEP on April 30, 2008, and Authority implementation is in progress. Phase I Construction Contracts 1, 2, 5, 6, 7 and 8 were completed in 2012 and Phase I Construction Contracts 3A, 3B and 4 (Equalization Tank and Headworks) were completed in 2013. Phase II design was initiated in 2012 and completed in 2013. Act 537 Planning approval was received in 2014 and the Water Quality Part II Permits for the Sewer Separation Projects and CSO Satellite Facility were issued in June of 2015 and October of 2015, respectively. Construction of the sewer separation projects started in the Fall of 2015 and were completed in 2016. Construction of the Seneca Street CSO Satellite Treatment Facility commenced in the Summer of 2016 and was completed in November 2018. Phase III Construction Contracts 1, 2, and 3 began in March 2024 and is nearing completion.

In 2020, as required by PaDEP, Wade Trim (in cooperation with Authority Management and Personnel) continued to conduct the Seneca Street CSO facility startup, commissioning, and testing services. At the conclusion of the 6-month testing period, a 3-month period of data analysis and reporting will begin. At the conclusion of this project, a technical memorandum outlining the testing period, summarizing the results, and providing any recommendations moving forward as Authority staff takes on full-time operation of the facility will be drafted. This program has been delayed due to the COVID-19 pandemic, but the Authority plans to resume it this year.

3.2.2 Disinfection Upgrade

Due to the risks involved in using chlorine gas, the Authority completed final design of the 2017 WWTP Safety Improvements Project which included the replacement of chlorine gas in favor of a chlorine tablet feed system as well as installation of new safety railings around digesters and new coatings on plant walkway surfaces to reduce risk of slips. A Washington County Local Share Account (LSA) Grant Application in the amount of $210,500 was awarded in December 2016 for partial funding of the Project. The bidding phase was completed in January 2018 with a total project bid of $1,029,815. Construction began in Summer 2018 and was completed November 2019.

3.2.3 Replacement of Pump Station Comminutor With Mechanical Bar Screens

The comminutors at the pump station have reached their useful life and have become very expensive to replace upon failure. In addition, the technology has become obsolete and is not manufactured any longer. The Authority authorized their Consulting Engineer to conduct a preliminary study evaluating replacement of the comminutors with mechanical bar screens at the Donora, Donner, and Monessen Pump Stations. The opinion of probable project cost was $643,000 for the Donora Pump Station and $1.4 million for the Donner and Monessen Pump Stations. A Washington County LSA Grant Application in the amount of $285,250 was submitted in October 2017 for partial funding of the Donora Pump Station Screenings Improvements Project. The Donora Pump Station Screenings Project grant was awarded, and construction started in October 2019. It was completed in July 2020.

3.2.4 Blower Improvements Project

The existing aeration system at the WWTP needs an upgrade due to the inefficiency of the blowers to adjust airflow in response to the varying flow and oxygen demand of the plant influent flow. The 2019 WWTP Blower Improvements Project included an upgrade to the existing aeration system to allow plant staff to vary the airflow to the aeration tanks, thereby improving the overall plant process and providing substantial energy reduction and operational cost savings. A grant in the amount of $350,000 was awarded for this project. Construction began in October 2020 and was fully completed in January 2022.

3.2.5 Seneca Street CSO STF Effluent Structure Backflow Prevention Replacement Project

In 2022, the Seneca Street CSO STF needed a replacement of the backflow prevention device. The Seneca Street CSO STF Effluent Structure Backflow Prevention Replacement Project removed the existing duckbill backflow prevention device and installed a new flap gate on the existing 72" effluent sewer of the Seneca Street CSO STF. Since the backflow prevention device was located inside the effluent structure at the facility, the precast concrete panels were also removed and reinstalled to access the backflow preventer. A responsible low bid of $139,450 was accepted by the Authority for this work in June 2022, and construction began and was completed within April 2023.

3.2.6 State Road Forcemain Replacement Project

An existing 6" forcemain at the State Road Pump Station experienced a number of failures and repairs by the Authority. In 2022, the State Road Forcemain Replacement Project was undertaken to ensure that the State Road forcemain can adequately pump sewage flows. This project replaced the failing 6" cast iron forcemain with new 6" HDPE parallel forcemain. Approximately 1,200 lineal feet of 6" HDPE was installed, and the existing forcemain was abandoned in-place upon completion. With a low bid amount of $250,395.20, construction began in April 2023 and achieved final completion in March 2024.

3.2.7 Sludge Pumps Replacement Project

The existing WWTP sludge pumps were old, required much maintenance, and had come to the end of their useful life. In 2023, the Sludge Pumps Replacement Project was undertaken to replace the WWTP's three return activated sludge (RAS) pumps and two waste activated sludge (WAS) pumps in the secondary pump station to help maintain the WWTP's peak performance without causing pump failure and disrupting the secondary treatment process. A Washington County LSA Grant application was submitted for $219,050 in October 2022 and was awarded. The bidding phase was completed in August 2023 with a total low project bid of $319,000. Construction work began in August 2024, and the project had a final completion date of December 2024.

3.2.8 Donora EQ Tank Project

The final design of Phase III of the LTCP consisting primarily of a 2-million-gallon equalization facility which continued during 2021 and 2022 and was completed in 2023. The Donora EQ Tank project included the installation of a new 2.0 million-gallon precast, prestressed concrete equalization tank and a new CSO wet weather pumping and screening facility with a peak hydraulic capacity of 15 MGD. A Washington County LSA Grant application was approved in 2020 for $500,000. Another Washington County LSA Grant application requesting $300,000 was approved in 2021. Phase III is also funded by proceeds of the 2018 and 2020 Bond issues. The construction phase began February 2024 and is substantially complete as of February 2026.

3.2.9 Pump Stations Screenings Improvements Projects

The comminutors at the Donner and Monessen pump stations were replaced with mechanical bar screens in 2025. The comminutors at these pump stations had reached the end of their useful life. In 2016, the Authority authorized their Consulting Engineer to conduct a preliminary study evaluating and thus resulting in, the replacement of the comminutors with mechanical bar screens at the Donora, Donner, and Monessen pump stations. The Donora Pump Station Screenings Project was previously completed in July 2020, and construction of the Donner and Monessen Pump Stations Screenings Improvements Project was substantially completed in June 2025.

3.3 OPERATION AND MAINTENANCE

The Authority General Manager, Chief Operator and eight other plant personnel (two pump station staff members, two CSO staff members, one maintenance staff member, two lab staff members, and one

plant operator) have been certified by the State Board for Certification of Sewage Treatment Plant and Waterworks Operators for this type of plant, pump stations and interceptors and are fully competent to perform all the operation and maintenance activities to assure compliance with the Clean Streams Regulations. Only one plant operator is not certified at this time. The operating personnel routinely perform required maintenance, equipment lubrication and cleaning in a satisfactory manner.

3.4 BIOSOLIDS AND SLUDGE DISPOSAL

A portion of the biosolids collected by the final clarifiers is transferred to one of the four available aerobic digesters for stabilization. The digestion process produces a chocolate brown, liquid biosolids mixture. The biosolids mixture has an earthy smell and contains approximately 1.0 percent solids. The biosolids mixture is conveyed from the aerobic digesters to the belt filter presses for dewatering, producing a dewatered biosolid material that contains approximately 20% solids. Dewatered biosolids are hauled off for beneficial use (land application) in accordance with General Permit PAG-086113. This permit was authorized on February 4, 2019. A copy of the permit is included as **Appendix H.**

Samples are collected from the dewatered biosolids on a quarterly basis for analysis of physical, chemical, and biological parameters. Analysis of these samples indicates that all measured concentrations of regulated chemical pollutants are below the ceiling concentrations established by the PaDEP for beneficial use.

Aerobic digestion reduces the concentration of fecal coliform bacteria present within the biosolids, allowing them to meet the beneficial use criteria established for fecal coliforms. Biosolids samples are collected regularly as part of WWTP operations for analysis of fecal coliforms concentration. Based on data collected between September 2015 and August 2018, the average observed fecal coliforms geometric mean concentration was 665 CFU/g. The maximum observed fecal coliforms geometric mean concentration during this timeframe was 3,995 CFU/g. Each of these values is below the established ceiling concentration of 2,000,000 CFU/g.

4.0 FUTURE GROWTH AND DEVELOPMENT

The City of Monessen is a built-out community with no proposed future development and no recent growth. The population of the City peaked in the 1930s at approximately 20,000 people, though has been steadily decreasing in each Census since 1930. According to 2020 Census data, the population is approximately 6,900 people.

5.0 ALTERNATIVES TO PROVIDE NEW OR IMPROVED WASTEWATER DISPOSAL FACILITIES

Early conceptual evaluations reviewed equalization, conveyance, and satellite treatment as potential alternatives. Initially, conveyance and satellite treatment were eliminated from consideration due to both cost and public impacts, and several equalization alternatives were then further evaluated and one equalization alternative was selected. However, while designing the equalization tank project, construction costs of this type of facility installation had seen sharp increases due to COVID-19 market volatility and became unfeasible for the City. City of Monessen's Consulting Engineer, WEC, had previously performed analyses of portions of the City's collection system. Upon departure from the equalization alternative, WEC identified an existing combined neighborhood sewerage collection system, tributary to the proposed equalization tank facility, that can provide an equivalent solution to the Grand Boulevard area wet weather flowrates causing surcharging in portions of the Seneca Street Trunk Sewer.

5.1 CONVENTIAL COLLECTION, CONVEYANCE, TREATMENT AND DISCHARGE ALTERNATIVES

The existing combined sewers to be separated are located in a residential neighborhood area that is being referred to as the "Marion Ave / Hilltop Area", generally centered on Grand Boulevard between Marion Ave and Parente Blvd. The streets and the collection sewers generally slope downhill from North-West to South-East, to the existing trunk sewer on Parente Blvd. The topography of this general area is marked by hillsides on either side of Grand Ave and by a relatively flat area immediately West of the top of Parente Blvd. Most of the properties along the roads in this area are privately owned, except for some of the property on which an Authority of the Borough of Charleroi potable water lift station sits and some other property on which the Monessen City Hilltop VFD sits.

With a parallel installation method intended for the new install separate sewers, the existing topography and properties do not pose a large challenge. Preliminary data was gathered on existing utility locations, and where any utility crossings are planned, potholing will be performed to verify depths and planned separations of crossing.

5.2 OPERATIONS AND MAINTENANCE UPDATES

As the Authority currently operates and maintains existing infrastructure of similar nature as the proposed sewers, no updates or significant revisions to the current operation and maintenance protocols are anticipated, though the current practices with be extended to cover the constructed infrastructure.

5.3 NO-ACTION ALTERNATIVE

5.3.1 Water Quality/Public Health

The national CSO Control Strategy developed by the EPA recommends that all CSOs be identified and categorized according to their status of compliance with these requirements. It also set forth three objectives:

- Ensure that if CSOs occur, they are only because of wet weather.
- Bring all wet weather CSO discharge points into compliance with the technology based and water quality-based requirements of the CWA.
- Minimize the impacts of CSOs on water quality, aquatic biota, and human health.

Based on the ultimate goal of the LTCP, provisions of the CSO Control Policy, and the reality of wet weather water pollution in the receiving body, the following Water Quality Goal was established:

- To attain applicable Water Quality Standards in the Monongahela River at all times, provided all non-CSO and other upstream pollution sources are adequately controlled by others so as to allow this attainment.

If the recommended alternative is not implemented, the Authority will not meet the requirements of the CSOP and Water Quality Goal that was established. Both the short-term and long-term impact is that CSO discharges will not be reduced and will continue to have a negative impact on water quality, aquatic biota, and human health.

5.3.2 Growth Potential

This upstream portion of the City is already built out with minimal potential for further development.

5.3.3 Community Economic Conditions

Infrastructure, such as public sanitary sewage collection systems, are critical for growth and development. Vacant land becomes more attractive for development if an adequate sewage system is available and water quality goals are met. The short-term and long-term impacts of inaction include failed economic development resulting from a lack of growth and development.

5.3.4 Recreational Opportunities

Recreational opportunities downstream of the CSOs are negatively impacted by raw sewage entering the river. The short and long-term impact of inaction is the closure of areas for swimming, fishing, and other recreational activities.

5.3.5 Drinking Water Sources

CSO discharges of untreated sewage in the streams can affect drinking water intakes downstream of the CSO. The potential short- and long-term impacts of inaction include contamination of drinking water sources with pathogens, sediment, and/or elevated nutrient loads.

5.3.6 Other Environmental Concerns

The no-action alternative would continue to allow CSO discharges of untreated sewage into the waters of the Commonwealth. This untreated sewage has a negative impact on the stream biome, including potential degradation of aquatic plant and animal species that currently populate the waterways. The passage of untreated sewage into the water of the Commonwealth also increases the risk of human exposure to pathogens. The no-action alternative does not address any of these additional environmental concerns.

6.0 EVALUATION OF ALTERNATIVES

6.1 CONSISTENCY ANALYSIS

Wastewater management alternatives developed as part of the Act 537 planning process must be evaluated in terms of their relationship to the goals and objectives of various planning, environmental, and natural resource laws and policies of the Commonwealth of Pennsylvania. Chapter 71.21(a) (5) of PaDEP's regulations requires that the Act 537 Plan address the consistency of each wastewater management alternative with 11 of the Commonwealth's goals and policies. If a recommended alternative is determined to conflict with or is inconsistent with one of the goals and objectives, the conflict and inconsistencies must be resolved before PaDEP will approve the alternative.

The following sections discuss the eight evaluation categories and the consistency analysis. Consistency analyses were performed only for the recommended alternative, Alternative 1. Based on the following analysis, the alternatives are consistent with all eight criteria.

6.1.1 Municipal Wasteload Management Plans

The Authority submits a Chapter 94 Municipal Wasteload Management Report to PaDEP annually for its WWTP and Conveyance System. The 2024 Chapter 94 Report indicates that the plant was not hydraulically or organically overloaded and is not projected to be overloaded within the next five years. As part of the Chapter 94 report, the Authority additionally provides an annual CSO Status Report. This report provides frequency, duration, and volume of the CSOs recorded within the past year. Discharge Monitoring Reports for the WWTP and CSOs are also submitted monthly and summarized in the report.

The CSO Status report includes descriptions of the operational status of the overflows, any water quality impacts, overflows associated with dry or wet weather, summaries of the inspection and maintenance on the diversion manholes and regulator structures and identifies the presence of chronic or continuous discharges.

The recommended alternative was developed to meet the requirements of the CSOP, and the Authority will continue to provide the annual CSO Status Report as part of the Municipal Wasteload Management Report.

6.1.2 Comprehensive Plans

The proposed alternative is consistent with the Westmoreland County Comprehensive Plan, dated January 2005, in that it will reduce the frequency of CSOs and meet the requirements of the CSOP.

6.1.3 Chapter 93, 95, and 102 Antidegradation Requirements

Under Pennsylvania's Clean Streams Law, Chapters 93 and 95 classify all surface waters based upon water uses which are to be protected and establishes water quality criteria which need to be maintained in the surface waters.

CSOP identifies two general approaches for attaining Water Quality Standards, the Demonstration Approach, and the Presumption Approach. The Authority's LTCP was developed based on the "Presumption Approach" with the goal of the LTCP providing for provisions of the CSO Control Policy and the reality of wet weather water pollution in the receiving body is to attain applicable Water Quality Standards in the Monongahela River always provided all non-CSO and other upstream pollution sources are adequately controlled by others to allow this attainment.

Chapter 102 requires a soil erosion and sedimentation control plan be approved and followed for any construction activity impacting greater than one acre. The project will be completed in compliance with necessary erosion and sedimentation and post construction stormwater management control plans.

6.1.4 Prime Agricultural Land Policy

The Prime Agricultural Land Policy protects prime agricultural land from irreversible conversions to uses that result in the loss of the land as an environmental or essential food source resource. The sewer separation is proposed in a highly developed residential area and along public road rights-of-way within the City of Monessen.

6.1.5 County Stormwater Management Plans

The recommended alternative is consistent with the County Stormwater Management Plans. NPDES Permits for Stormwater discharged During Construction Activities were obtained for Phase I, II, and III projects and will be obtained as required for the proposed Marion Ave / Hilltop Area Sewer Separation Project.

6.1.6 Wetlands

Review of the U.S. Fish and Wildlife Service National Wetlands Inventory of digital map data for the Marion Ave / Hilltop Area Sewer Separation did not identify any wetlands in the project area. A copy of National Wetlands Inventory of digital map data results of the project area is included in **Appendix G**.

6.1.7 Pennsylvania Natural Diversity Inventory

Pennsylvania Natural Diversity Inventory (PNDI) maintains a database containing site information on regulated plant and animal species, outstanding geological features, and significant natural communities. A PNDI Project Environmental Review Receipt was completed for Phase II and Phase III facilities. A PNDI review was completed for the proposed project and the receipts indicate there are no known impacts of threatened and endangered species in the project area. Copies of the receipts are included in **Appendix I**.

6.1.8 Historical and Archeological Resource Protection

Pennsylvania Title 37, Section 507 requires cooperation between public officials and the Pennsylvania Historical and Museum Commission. A cultural resource notice request was submitted to the Bureau of Historic Preservation (BHP) through the PA-SHARE portal for a list of known historical sites and potential

impacts on known archeological and historic sites on the site of the sewer separation project. On March 27, 2026, PHMC responded that the project should have no effect on historic buildings, structures and/or archeological resources. A copy of the Pennsylvania Historical and Museum Commission's response is in **Appendix J.**

6.2 RESOLUTION OF INCONSISTENCIES

No inconsistencies have been identified at the planning stage of the project between the proposed alternatives and the policies of the Commonwealth of Pennsylvania.

6.3 WATER QUALITY STANDARDS, EFFLUENT LIMITATION AND OTHER TECHNICAL, LEGISLATIVE OR LEGAL REQUIREMENTS

The proposed Marion Ave / Hilltop Area Sewer Separation Project is intended to address the PaDEP's concern of capture and biological treatment of the sanitary sewage from the Grand Boulevard collection system resulting from a 2-year, 24-hour design storm. Although the project is not located within the Grand Boulevard collection system, it is a neighboring sewer shed, both of which are tributary to the previously proposed EQ Tank location. The proposed sewer separation project will remove more flows from the downstream portion of the collection and conveyance system than the proposed equalization tank volume would have achieved during wet weather events.

6.4 COST ESTIMATES FOR THE ALTERNATIVES

Table 6-1 summarizes the construction and project cost estimates for the previously selected above ground tank option, and the newly selected alternative of sewer separation. The project cost estimates include the construction cost estimates plus additional markups for legal, financing, land and easement acquisition, permitting, construction management, commissioning, and engineering.

Table 6-1 Alternatives Opinion of Probable Cost

Option	Description	Construction Cost	Project Cost
1	Sewer Separation via Parallel Sanitary Sewer Installation	$3,035,000	$3,835,000
2	Above Ground Precast Concrete Tank with Domed Roof	$7,545,000	$8,675,000

Due to increases in construction costs following the COVID-19 epidemic, equalization alternatives had nearly doubled in estimated cost. Option 1, sewer separation, was suggested by the City in agreement with the Authority, as the recommended alternative to advance for final design. Following two independent engineering reviews by the City and Authority engineers, of the availability of funds to support the sewer separation scope of work, and preliminary coordination of intents with PaDEP, full design of the sewer separation project began in conjunction with this Special Study Update.

6.5 FUNDING METHODS

PaDEP guidelines for preparation of Act 537 Plans specify that an analysis be made of funding methods available to finance the proposed improvements/expansion.

6.5.1 Funding Sources Available

The Authority obtained bond issue financing and a COVID-19 H2O PA Grant for the implementation and construction of the Marion Ave / Hilltop Area Sewer Separation Project. Funding method alternatives were reviewed, and a brief description is provided for each of the available funding sources.

Grants-in-Aid

A grant is a monetary award to a project without provision for reimbursement. The grant programs which may apply to this project are provided below.

Pennsylvania Community Development Block Grant Competitive Program (CDBG-CP)

The CDBG-CP provides grants and technical assistance for eligible municipalities as identified under Pennsylvania Act 179 of 1984 as amended, for any eligible community development activities. Municipal authorities are not eligible for this highly competitive program.

Pennsylvania Infrastructure Investment Authority (PENNVEST)

PENNVEST has been capitalized by State and Federal Funds to provide an innovative approach to financing local infrastructure in Pennsylvania. The PENNVEST Board meets several times each year to consider funding applications and award funds to water and sewage infrastructure development projects. Most of the funding through PENNVEST are loans, although projects may receive PENNVEST grant awards in conjunction with a loan offer for additional project funds. Grant fund availability differs each fiscal year.

Pennsylvania First Program (PA First)

Pennsylvania First (PA First) is a comprehensive funding tool to facilitate increased investment and job creation within the commonwealth. This program is typically tied to business and/or economic expansion, requiring a private match of funds and job creation. Although economic expansion may be an indirect component of this project, it is not anticipated to affect direct economic expansion.

Commonwealth Financing Authority (CFA)

The CFA assists municipalities and municipal authorities with the construction, improvement, expansion, or rehabilitation or repair of a water supply system, sanitary sewer system, storm sewer system, or flood control projects.

Act 13 Marcellus Legacy Fund

The Legacy Fund provides funding for planning activities that enable local communities and other entities comply with Act 537 of 1966, known as the Pennsylvania Sewage Facilities Act. Planning activities have already been completed, so this does not apply.

H2O PA

The H2O PA Program provides single-year or multi-year grants to municipalities or municipal authorities to assist with the construction of drinking water, sanitary sewer and storm sewer projects. A COVID H20 PA Grant was applied for on behalf of the Authority, and they were awarded $750,000 for the project.

PA Small Water and Sewer Grants

The PA Small Water and Sewer Grants program assists with the construction, improvement, expansion, or rehabilitation or repair of a water supply system, sanitary sewer system, storm sewer system, or flood control projects. The program is not currently seeking applications and also has a maximum total project cost of $500,000 which this project exceeds.

Appalachian Regional Commission (ARC)

The ARC awards grants and contracts from funds appropriated by the US Congress annually. Funding for the construction of water and sewer infrastructure is just one of many eligible project types. Municipal authorities are not eligible for support.

Loans

Loans are repaid at an agreed upon rate of return over a stipulated time. The loan programs which may apply to private as well as public facilities are discussed below.

Commercial or Bank Loans

Bank financing is readily accessible and requires a much shorter interval from project start to construction. This loan option requires fewer administrative costs than are expected with a bond issue. The main disadvantage to a bank loan is that the term usually does not extend beyond 15 years and requires significant guaranty requirements.

Pennsylvania Infrastructure Investment Authority (PENNVEST)

Projects selected for PENNVEST funding receive below market loan funding, typically determined by prevailing economic conditions.

Clean Water State Revolving Fund (CWSRF)

The CWSRF program offers low interest loans for wastewater and certain other projects throughout Pennsylvania for the construction, improvement, extension, expansion, repair or rehabilitation of wastewater collection, treatment, or disposal facilities.

USDA Rural Utility Service (RUS)

The RUS loan and supplemental grant program was established to provide human amenities, alleviate health hazards, and promote the orderly growth of rural areas by meeting the need for new and improved water and waste disposal systems. Restrictions about population of the area, financing capability, and project administration must be met. RUS usually provides a combination grant/loan. The

population in the Authority service area exceeds 10,000, which is the maximum threshold for RUS funding.

Bond Issues

Bond issues are a common method by which municipalities and authorities obtain money to fund projects. Revenue bond issues are normally calculated to achieve a level annual payment for each year of the issue and are presently issued for a maximum term of 30 years at prevailing interest rates. A 20-year term is more common. The annual payment for debt service (interest and principal) is made from annual operating revenues. Bond Issues normally require 10 to 20 percent coverage on top of the average annual debt service cost.

The costs for legal services and printing of bonds are substantial. As a rule, bond issues may be considered for total project costs more than $500,000.

6.6 COST-EFFECTIVENESS OF FUNDING OPTIONS

During development of the Act 537 Plan Special Study for the LTCP Phases II and III approved in 2014, the Authority reviewed the cost effectiveness of the funding options and determined that for Phase II, Bond Issue was the most cost-effective option. Similarly, a Bond Issue was determined to be the most cost-effective option for the funding of the Marion Ave / Hilltop Area Sewer Separation Project. Additionally, as mentioned in Section 6.5.1 above, a COVID H20-PA Grant was also obtained for this project.

6.7 EVALUATE ADMINISTRATIVE ORGANIZATION AND LEGAL AUTHORITY FOR PLAN IMPLEMENTATION

There are no anticipated changes to the functions of the Authority and municipalities, which will remain as they are now. An intergovernmental cooperation agreement between the City of Monessen and the Authority had been developed and executed for the reimbursement of engineering and legal fees and expenses associated with equalization. This intergovernmental cooperation agreement between the City of Monessen and the Authority is currently being drafted to revise the scope of the project from equalization to the newly selected sewer separation alternative. The Authority will be responsible for design, permits and financing of the recommended alternative.

7.0 INSTITUTIONAL EVALUATION

7.1 EXISTING WASTEWATER AUTHORITIES

The Authority was formed on June 24, 1963 under the Municipality Authorities Act of 1945, its supplements and amendments by the City of Monessen, Borough of Charleroi and the Borough of Donora. The Authority was formed to construct facilities necessary to furnish and treat the sewage wastes from the municipalities. The Borough of Charleroi subsequently withdrew from participation in the Authority. The Authority's sewage system was constructed in 1968-70 to intercept and treat wastewater from the CSS owned and operated by the City of Monessen, in Westmoreland County, and the Borough of Donora, in Washington County. In the mid-1970s, part of the Separate Sanitary Sewer System (SSS) owned and operated by the Carroll Township Authority, Washington County, was connected to the Authority system. The Authority system consists of eight (8) CSOs, 27,000 linear feet of gravity sewer, seven (7) sewage pumping stations, 19,000 linear feet of force main, a 4.96 MGD WWTP, a 3.0 MGD equalization tank and a 44.0 MGD satellite treatment facility.

7.1.1 Financial and Debt Status

In accordance with the Trust Indenture and Agreements between the Authority and the City of Monessen and the Borough of Donora, the Authority prepares an annual Sewage Disposal System Report. The report reviews the operations of the system for the prior year, capital additions done in the prior year, recommendations of capital improvements for the next year, and an estimate of revenue required for the next year based on the sewer rental rates in effect and projected expenses and capital improvements. Based on the Sewage Disposal System Annual Report dated December 2025, the current rates are adequate for the projected 2026 budget. As part of the Authority's most recent yearly audit, the Authority had approximately $64 million in net bonds outstanding, for the year ending November 30, 2024.

7.1.2 Available Staff and Administrative Resources

The Authority has operated and maintained the system since the completion of construction in 1970. The Authority has maintained adequate staff, and that staff will continue to operate and maintain the system with the additional proposed facilities. The Authority will also continue to utilize their administrative resources for billing, collections, and notifications as they have done in the past.

7.1.3 Existing Authority Responsibilities

Implement Wastewater Planning Recommendations

The Authority has implemented wastewater planning recommendations in the past.

Implement System-Wide Operation and Maintenance Activities

The Authority, as stated previously, has operated and maintained the system since its completion in 1970. Over the years they have implemented many system-wide operation and maintenance activities.

Set User Fees and Take Purchasing Actions

Under the trust indentures, the Authority prepares an Annual Report that reviews the past year's expenditures, revenues and capital additions and projects the next year's budget. The budget requirements are compared to the existing user fees and evaluated for adequacy. If it is determined that the current fees are inadequate, the Authority increases the user fees as they have done in the past. The Authority has condemned property for their facilities in the past.

Take Enforcement Actions Against Ordinance Violators

The Authority has previously taken enforcement actions against ordinance violators.

Negotiate Agreements with Other Parties

The Authority has previously negotiated agreements with other parties.

Raise Capital for Construction and Operation and Maintenance of Facilities

The Authority has previously obtained grants from PENNVEST, the Redevelopment Authority of Washington County, and ARPA H2O PA, loans from PENNVEST and Bond Issus for construction, operation and maintenance of facilities.

7.2 INSTITUTIONAL ALTERNATIVES NECESSARY TO IMPLEMENT PLAN

7.2.1 Functions of Existing and Proposed Organizations

The functions of the Authority, the Borough of Donora, the City of Monessen, and Carroll Township are anticipated to remain the same.

7.3 ADMINISTRATIVE AND LEGAL ACTIVITIES NECESSARY TO IMPLEMENT PLAN

7.3.1 Development of All Required Ordinances, Regulations, Standards and Inter-Municipal Agreement

The Authority and the municipalities have existing ordinances, regulations, and standards pertaining to their sewer systems. An intergovernmental cooperation agreement was executed between the City of Monessen and the Authority for the funding of the equalization tank project and is currently being revised to reflect the sewer separation project scope change.

7.3.2 Timeline for Administrative and Legal Activities

Not Applicable. As stated previously, the Authority and the municipalities have existing ordinances, regulations, and standards pertaining to their sewer systems.

7.4 PROPOSED INSTITUTIONAL ALTERNATIVE FOR IMPLEMENTING THE CHOSEN TECHNICAL WASTEWATER DISPOSAL ALTERNATIVE

No new municipal departments or authorities are required to implement the recommended project. As stated previously, the functions of the Authority, the Borough of Donora, the City of Monessen, and Carroll Township are expected to remain the same.

8.0 IMPLEMENTATION SCHEDULE AND JUSTIFICATION

8.1 SELECTED WASTEWATER DISPOSAL ALTERNATIVE

The recommended option selected to advance to final design (Option 1) consists of separating an existing combined sewer system via installation of a new parallel sanitary sewer, and conversion of the existing combined sewer to storm sewer. The scope of work includes but is not limited to the installation of approximately 4,000 lineal feet of 8”-15” sanitary gravity sewers, approximately 115 lineal feet of 36” storm gravity sewers, approximately 32 – 48” diameter sanitary manholes, approximately 2 – 60” diameter storm manholes, disconnection of existing sanitary laterals in combined portions of existing system, 6” sanitary lateral reconnections and in-line cleanout installation, performing connections to existing manholes, approximately 3,600 lineal feet of 8” CIPP manhole-to-manhole lining of existing sanitary sewers, surface restorations including trench line and curb-to-curb pavement restoration, and other miscellaneous and incidental work items for a complete and fully operational installation.

The proposed sewer separation will be situated in the City of Monessen, generally centered on Grand Boulevard, between Marion Avenue and Parente Boulevard. The proposed peak flow removal of the sewer separation project from the sanitary sewer system will be 7 MGD or greater under an assumed 80% reduction in storm-derived inflow and infiltration. On a volume basis, this equates to at least 0.5 MG of wet-weather flow removed from the system. Flow monitoring data from 2012 and hydraulic response modeling using EPA SSOAP, RTK unit hydrograph methods, and Rational Method analyses were applied to quantify wet-weather contributions from the combined Marion area. Synthetic hydrographs for representative storm events, including 2-year, 24-hour design storms, were generated using the 3 Rivers Wet Weather Summer Design Storm Tool. Additional evaluation included EDU-based dry-weather flow projections, stormwater removal efficiencies, and existing Seneca Street Trunk Sewer capacity.

8.1.1 Existing Wastewater Disposal Needs

The Authority will continue to provide treatment of the existing wastewater disposal needs and will meet the requirements of the National CSO Policy by achieving 85% capture.

8.1.2 Future Wastewater Disposal Needs

The recommended alternative will provide treatment of future wastewater disposal needs and will meet the requirements of the National CSO Policy by achieving 85% capture.

8.1.3 Operation and Maintenance Considerations

The Authority’s personnel will continue to operate and maintain the recommended facilities under the recommended alternative. As the Authority’s staff is familiar with these types of facilities, no additional staffing or training is required for the proposed facilities. The facilities will be inspected frequently, and the maintenance routine will be integrated into the current operation and maintenance practices of the Authority’s staff.

8.1.4 Cost Effectiveness

The original recommended alternative, an above ground, domed roof EQ Tank has become cost prohibitive to the Authority and the City due to increases in construction costs of facility type projects. Preliminary investigations showed the selected sewer separation as a cost-effective alternative to equalization. Option 1 will be able to be completed within the fiscal confines of the original Bond Issue obtained by the Authority for the project.

8.1.5 Available Management and Administrative Systems

The Authority's existing management and administrative systems will remain in place for Option 1.

8.1.6 Available Financing Method

Bond Issue financing method was obtained for Option 1.

8.1.7 Environmental Soundness and Compliance with Natural Resource Planning and Preservation Programs

The ultimate goal of the LTCP is compliance with the requirements of the CWA, within the framework provided by the CSO Control Policy. Option 1 will provide treatment of future wastewater disposal needs and will meet 100% capture of the Grand Boulevard collection system volume response of the 2-year, 24-hour design storm.

8.2 SELECTED CAPITAL FINANCING PLAN

Funds will be needed to finance the recommended project. The Authority has secured a Bond Issue in the amount of $4,000,000 for the construction of the Marion Ave / Hilltop Area Sewer Separation Project. Additionally, the Authority and the City of Monessen have agreed that repayment of the loan will be achieved using the line service fees that the City charges residents in the sewer bills collected by the Authority. The current and projected user fee for sewage service charged by the Authority is $181.95 per quarter ($60.65 per month) for 0 – 8,000 gallons of water consumption per residential and non-residential establishments. Usage over 8,000 gallons is billed at a cost of $22.74 per thousand gallons. Additionally, the Authority collects $27 per EDU as the City of Monessen's line service fee. This fee was increased from $12 to $27 due to the need to finance several City of Monessen sewer system improvement projects, including the Marion Ave / Hilltop Area Sewer Separation Project. Approximately $5.50 (and up to $6.00 depending on final construction cost) per month per EDU will be retained by the Authority for the repayment of the bond secured to finance construction of the Marion Ave / Hilltop Area Sewer Separation Project.

8.3 IMPLEMENTATION

There are no known critical public health hazards in the Authority service area associated with wastewater that need to be addressed; however, a potential health hazard exists with the discharge of untreated sewage to the waters of the Commonwealth. The tentative completion schedule for the Marion Ave / Hilltop Area Sewer Separation project is shown in **Table 1-1.**

NOTE TO REVIEWER: THE FOLLOWING PARAGRAPH IS A PLACE HOLDER FOR THE INCLUSSION OF THE REFERENCED APPENDICES WHICH WILL BE ADDED ONCE THE REPORT IS FINALIZED AND THE DOCUMENTS ARE FINALIZED.

Resolutions of adoption for the City of Monessen and Mon Valley Sewage Authority are included in **Appendix K.** Included in **Appendix L** are the notifications and responses to Westmoreland County Planning Commission and the City of Monessen. Proof of publication of the Plan/Special Study are included in **Appendix M. Appendix N** contains the public comments received, as well as responses provided.

9.0 ENVIRONMENTAL REPORT

Wetland, PNDI, PHMC and PaDEP eMAP desktop environmental assessments were completed on the site, and no environment concerns have been identified. Copies of the findings are included in the appropriate Appendices as mentioned throughout this report.

APPENDIX A. PLANNING AREA LOCATION MAP

April 2026

Legend

- Combined CSO
- Storm CSO
- Existing Equalization Tank Facilities
- Existing Satellite Treatment Facilities
- Proposed Equalization Tank Facilities
- Abandoned
- Lamphole
- Overflow Structure
- Sanitary Manhole
- Storm Manhole
- Air Release
- Catch basin
- Manhole
- Diversion Manhole
- Drop Manhole
- Headwall Structure

Sewers - MVSA

- Combined Sewer
- Storm Sewer
- Sanitary Sewer
- Force Main
- Interceptor

Sewers - Others

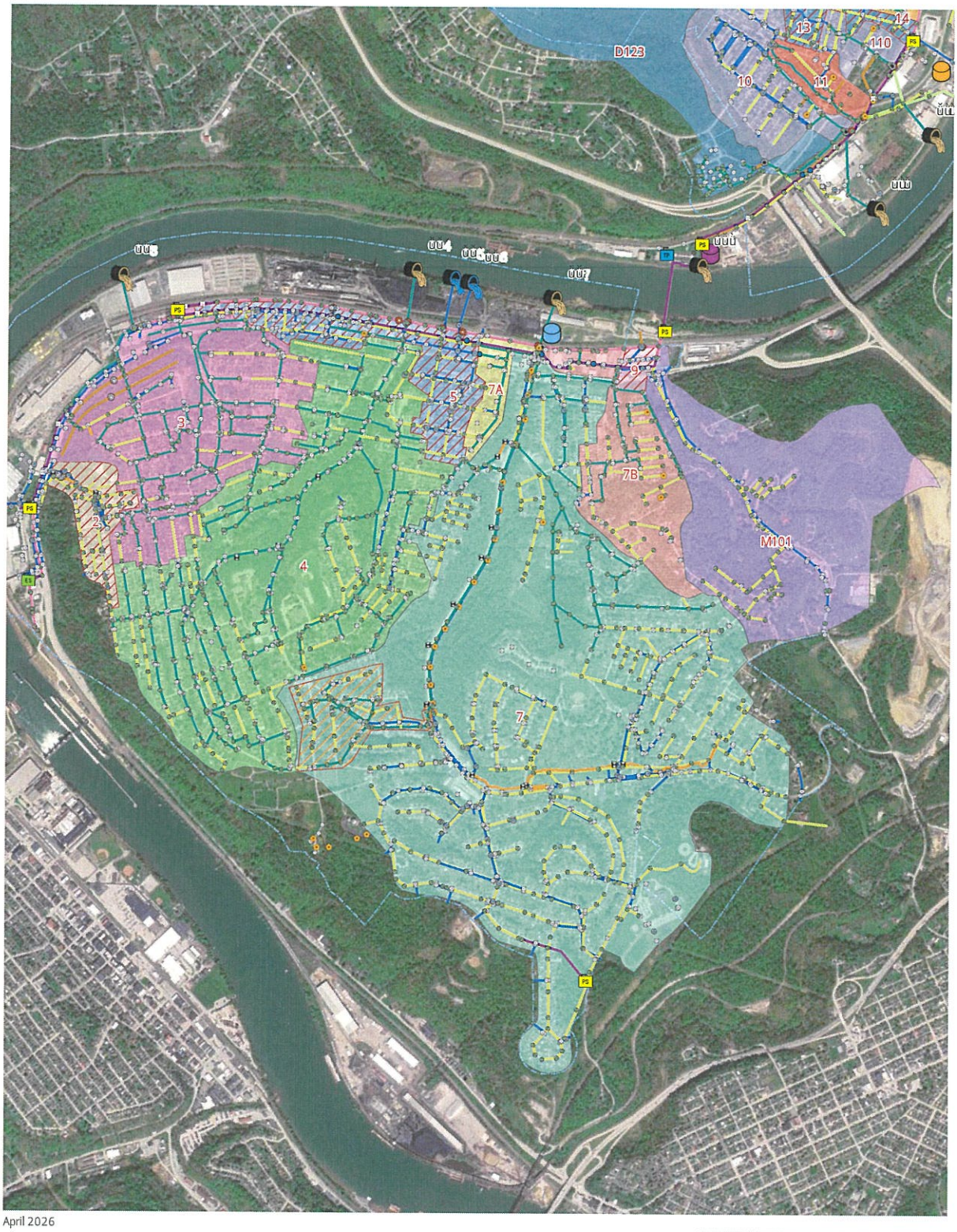
- Combined Sewer
- Storm Sewer
- Sanitary Sewer
- Overflow
- Open Ditch
- Unknown
- Recently Sewered by Donora Borough
- City-Boro Boundary

0 1,800 Feet

Exhibit A-1 Mon Valley Sewage Authority Service Area

WADE TRIM
Wade Trim, Inc.
Four Gateway Center
444 Liberty Avenue, Suite 300
Pittsburgh, PA 15222
412.454.5566 | www.wadetrim.com

Spatial Reference: MS SOUTH 2113 INTL
User: elebo Date: 4/1/2026



April 2026

Legend

- Combined CSO
- Storm CSO
- Existing Equalization Tank Facilities
- Existing Satellite Treatment Facilities
- Proposed Equalization Tank Facilities
- Abandoned
- Lamphole
- Overflow Structure
- Sanitary Manhole
- Storm Manhole
- Air Release
- Catch basin
- Manhole
- Diversion Manhole
- Drop Manhole
- Headwall Structure

Sewers - MVSA

- Combined Sewer
- Storm Sewer
- Sanitary Sewer
- Force Main
- Interceptor

Sewers - Others

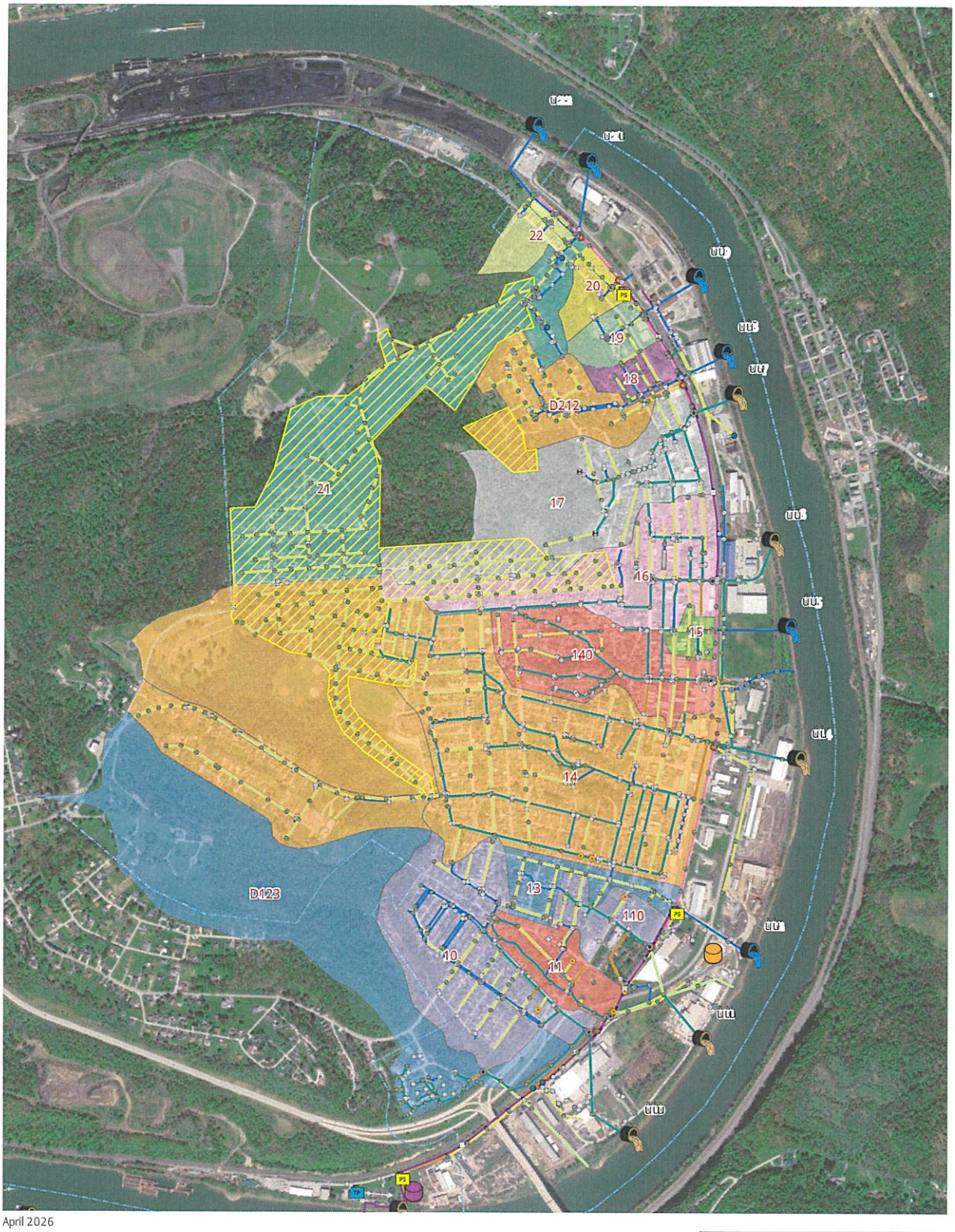
- Combined Sewer
- Storm Sewer
- Sanitary Sewer
- Overflow
- Open Ditch
- Unknown
- Area of Sewer Seperation
- Proposed Area of Sewer Seperation
- City-Boro Boundary

0 1,300 Feet

Exhibit A-2 Act 537 Plan City of Monessen

WADE TRIM
Wade Trim, Inc.
Four Gateway Center
444 Liberty Avenue, Suite 300
Pittsburgh, PA 15222
412.454.5566 | www.wadetrim.com

Spatial Reference: NESOUTH 2113 INTL
User: elebo Date: 4/1/2026



April 2026

Legend

- Combined CSO
- Storm CSO
- Existing Equalization Tank Facilities
- Existing Satellite Treatment Facilities
- Proposed Equalization Tank Facilities
- Abandoned
- Lamphole
- Overflow Structure
- Sanitary Manhole
- Storm Manhole
- Air Release
- Catch basin
- Manhole
- Diversion Manhole
- Drop Manhole
- Headwall Structure

Sewers - MVSA

- Combined Sewer
- Storm Sewer
- Sanitary Sewer
- Force Main
- Interceptor

Sewers - Others

- Combined Sewer
- Storm Sewer
- Sanitary Sewer
- Overflow
- Open Ditch
- Unknown
- Recently Sewered by Donora Borough
- City-Boro Boundary

0 1,000 Feet

Exhibit A-3 Act 537 Plan Borough of Donora

WADE TRIM
Wade Trim, Inc.
Four Gateway Center
444 Liberty Avenue, Suite 300
Pittsburgh, PA 15222
412.454.5566 | www.wadetrim.com

Spatial Reference: MESOUTH 2113 INTL
User: elebo Date: 4/17/2026

APPENDIX B. ACT 537 PLAN CONTENT AND ENVIRONMENTAL ASSESMENT CHECKLIST

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

INSTRUCTIONS FOR COMPLETING ACT 537 PLAN CONTENT AND ENVIRONMENTAL ASSESSMENT CHECKLIST

Remove and recycle these instructions prior to submission.

CHECKLIST INSTRUCTIONS

These instructions are designed to assist the applicant in completing the *Act 537 Plan Content and Environmental Assessment Checklist.*

This checklist is composed of three parts: one for "General Information," one for "Administrative Completeness," and one for "General Plan Content". A plan must be ***administratively complete*** in order to be formally reviewed by the Department of Environmental Protection (DEP). The "General Plan Content" portion of the checklist identifies each of the issues that must be addressed in your Act 537 Plan Update based on the pre-planning meeting between you and/or your consultant and DEP.

Use the right-hand column blanks in the checklist to identify the page in the plan on which each planning issue is found or to reference a previously approved update or special study (title and page number).

If you determine a planning issue is not applicable even though it was previously thought to be needed, please explain your decision within the text of the plan (or as a footnote) and indicate the page number where this documentation is found.

When information required as part of an official plan update revision has been developed separately or in a previous update revision, incorporate the information by reference to the planning document and page.

For specific details covering the Act 537 planning requirements, refer to 25 *Pa. Code* Chapters 71 and 73 of DEP's regulations.

Wastewater projects proposing funding through the following sources must prepare an "Environmental Report" as described in the Uniform Environmental Review (UER) process and include it with the plan submission designated as "Plan-Appendix A". The following funding programs use the UER process.

- The Clean Water State Revolving Loan Fund (PENNVEST, DEP, EPA)
- The RUS Water and Waste Disposal Grant and Loan Program (USDA-RD)
- The Community Development Block Grant Program (DCED, HUG)
- Other Federal Funding Efforts (EPA)

The checklist items or portions of checklist items required in the Act 537 Plan Update revision and that are also included in the UER process are indicated by shading. Most of the "Environmental Report" document may be constructed from the Act 537 Official Plan Update revision by using "copy & paste" techniques. The technical guidance document *Guidelines for the Uniform Environmental Review Process in Pennsylvania* (381-5511-111) is available electronically in DEP's eLibrary online at www.dep.pa.gov.

After Municipal Adoption by Resolution, submit 3 copies of the plan, any attachments or addenda and this checklist to DEP.

A copy of this completed checklist must be included with your Act 537 plan. DEP will use the "DEP USE ONLY" column during the completeness evaluation of the plan. This column may also be used by DEP during the pre-planning meeting with the municipality to identify planning elements that are not required to be included in the plan.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

ACT 537 PLAN CONTENT AND ENVIRONMENTAL ASSESSMENT CHECKLIST

PART 1 GENERAL INFORMATION

A. Project Information

1. Project Name Marion Ave / Hilltop Area Sewer Separation Project

2. Brief Project Description An update to the municipalities planning documents for additions and modifications to the Mon Valley Sewage Authority's sewage facilities to accommodate wet weather flows in accordance with the approved Long Term Control Plan and as agreed to by DEP. Incorporates the construction of approximately 4,000 lineal feet of sanitary sewer to facilitate separating an existing City of Monessen combined sewage collection system.

B. Client (Municipality) Information

Municipality Name	County	City	Boro	Twp
Mon Valley Sewage Authority	Westmoreland	☒	☒	☐

Municipality Contact Individual - Last Name	First Name	MI	Suffix	Title
Gaskill	Sean			

Additional Individual Last Name	First Name	MI	Suffix	Title

Municipality Mailing Address Line 1	Mailing Address Line 2
20 S. Washington Street	

Address Last Line -- City	State	ZIP+4
Donora	PA	15033

Phone + Ext.	FAX (optional)	Email (optional)
724-379-4141 Ext. 100	724-379-4690	s.gaskill@monvalleysewage.com

C. Site Information

Site (or Project) Name	
City of Monessen	(Municipal Name) Act 537 Plan

Site Location Line 1	Site Location Line 2
Intersection of Grand Boulevard and Cemetery Street	

D. Project Consultant Information

Last Name	First Name	MI	Suffix
McBride	Jason	J	

Title	Consulting Firm Name
Vice President	Wade Trim

Mailing Address Line 1	Mailing Address Line 2
444 Liberty Avenue	Four Gateway Center, Suite 300

Address Last Line – City	State	ZIP+4	Country
Pittsburgh	PA	15222	USA

Email	Phone + Ext.	FAX
jmcbride@wadetrim.com	412-454-5566	

PART 2 ADMINISTRATIVE COMPLETENESS CHECKLIST

DEP Use Only	Indicate Page #(s) in Plan	In addition to the main body of the plan, the plan must include items one through eight listed below to be accepted for formal review by DEP. Incomplete plans may be ***denied*** unless the municipality is clearly requesting an advisory review.
_____	TOC-i	1. **Table of Contents**
		2. **Plan Summary**
_____	6	A. Identify the proposed service areas and major problems evaluated in the plan. (Reference - 25 *Pa. Code* §71.21(a)(7)(i)).
_____	7	B. Identify the alternative(s) chosen to solve the problems and serve the areas of need identified in the plan. Also, include any institutional arrangements necessary to implement the chosen alternative(s). (Reference - 25 *Pa. Code* §71.21(a)(7)(ii)).
_____	7	C. Present the estimated cost of implementing the proposed alternative (including the user fees) and the proposed funding method to be used. (Reference - 25 *Pa. Code* §71.21(a)(7)(ii)).
_____	7	D. Identify the municipal commitments necessary to implement the Plan. (Reference - 25 *Pa. Code* §71.21(a)(7)(iii)).
_____	8	E. Provide a schedule of implementation for the project that identifies the ***major*** milestones with dates necessary to accomplish the project to the point of operational status. (Reference - 25 *Pa. Code* §71.21(a)(7)(iv)).
_____	Appendix K	3. **Municipal Adoption:** ***Original***, signed and sealed Resolution of Adoption by the municipality which contains, at a minimum, alternatives chosen and a commitment to implement the Plan in accordance with the implementation schedule. (Reference - 25 *Pa. Code* §71.31(f)) Section V.F. of the Planning Guide.
_____	Appendix L	4. **Planning Commission / County Health Department Comments**: Evidence that the municipality has requested, reviewed and considered comments by appropriate official planning agencies of the municipality, planning agencies of the county, planning agencies with area wide jurisdiction (where applicable), and any existing county or joint county departments of health. (Reference - 25 *Pa. Code* §71.31(b)) Section V.E.1 of the Planning Guide.
_____	Appendix M	5. **Publication:** Proof of Public Notice which documents the proposed plan adoption, plan summary, and the establishment and conduct of a 30-day comment period. (Reference - 25 *Pa. Code* §71.31(c)) Section V.E.2 of the Planning Guide.
_____	Appendix N	6. **Comments and Responses:** Copies of ***all*** written comments received and municipal response to ***each*** comment in relation to the proposed plan. (Reference - 25 *Pa. Code* §71.31(c)) Section V.E.2 of the Planning Guide.
_____	8	7. **Implementation Schedule:** A complete project implementation schedule with milestone dates specific for each existing and future area of need. Other activities in the project implementation schedule should be indicated as occurring a finite number of days from a major milestone. (Reference - 25 *Pa. Code* §71.31(d)) Section V.F. of the Planning Guide. Include dates for the future initiation of feasibility evaluations in the project's implementation schedule for areas proposing completion of sewage facilities for planning periods in excess of five years. (Reference - 25 *Pa. Code* §71.21(c)).
_____	None	8. **Consistency Documentation:** Documentation indicating that the appropriate agencies have received, reviewed and concurred with the method proposed to resolve identified inconsistencies within the proposed alternative and consistency requirements in 25 *Pa. Code* §71.21.(a)(5)(i-iii). (Reference - 25 *Pa. Code* §71.31(e)). Appendix B of the Planning Guide.

PART 3 GENERAL PLAN CONTENT CHECKLIST

DEP Use Only	Indicate Page #(s) in Plan		Item Required
_____	9	I.	**Previous Wastewater Planning**
			A. Identify, describe and briefly analyze all past wastewater planning for its impact on the current planning effort:
_____	9-12		1. Previously undertaken under the Pennsylvania Sewage Facilities Act (Act). (Reference - Act 537, 35 P.S. §750.5(d)(1)).
_____	N/A		2. Has not been carried out according to an approved implementation schedule contained in the plans. (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(A-D)). Section V.F of the Planning Guide.
_____	N/A		3. Is anticipated or planned by applicable sewer authorities or approved under a Chapter 94 Corrective Action Plan. (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(A&B)). Section V.D. of the Planning Guide.
_____	N/A		4. Through planning modules for new land development, planning "exemptions" and addenda. (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(A)).
_____	13	II.	**Physical and Demographic Analysis utilizing written description and mapping** (All items listed below require maps, and all maps should show all current lots and structures and be of appropriate scale to clearly show significant information).
_____	13		A. Identification of planning area(s), municipal boundaries, Sewer Authority/Management Agency service area boundaries. (Reference – 25 *Pa. Code* §71.21(a)(1)(i)).
_____	Appendix A		B. Identification of physical characteristics (streams, lakes, impoundments, natural conveyance, channels, drainage basins in the planning area). (Reference - 25 *Pa. Code* §71.21(a)(1)(ii)).
_____	Appendix F		C. Soils - Analysis with description by soil type and soils mapping for areas not presently served by sanitary sewer service. Show areas suitable for in-ground onlot systems, elevated sand mounds, individual residential spray irrigation systems (IRSIS), and areas unsuitable for soil dependent systems. (Reference - 25 *Pa. Code* §71.21(a)(1)(iii)). Show Prime Agricultural Soils and any locally protected agricultural soils. (Reference - 25 *Pa. Code* §71.21(a)(1)(iii)).
_____	15		D. Geologic Features - (1) Identification through analysis, (2) mapping and (3) their relation to existing or potential nitrate-nitrogen pollution and drinking water sources. Include areas where existing nitrate-nitrogen levels are in excess of 5 mg/L. (Reference - 25 *Pa. Code* §71.21(a)(1)(iii)).
_____	15		E. Topography - Depict areas with slopes that are suitable for conventional systems; slopes that are suitable for elevated sand mounds and slopes that are unsuitable for onlot systems. (Reference - 25 *Pa. Code* §71.21(a)(1)(ii)).
_____	15		F. Potable Water Supplies - Identification through mapping, description and analysis. Include public water supply service areas and available public water supply capacity and aquifer yield for groundwater supplies. (Reference - 25 *Pa. Code* §71.21(a)(1)(vi)). Section V.C. of the Planning Guide.
_____	Appendix G		G. Wetlands-Identify wetlands as defined in 25 *Pa. Code* Chapter 105 by description, analysis and mapping. Include National Wetland Inventory mapping and potential wetland areas per the United States Department of Agricultural (USDA) Natural Resources Conservation Service (NRCS) mapped hydric soils. Proposed collection, conveyance and treatment facilities and lines must be located and labeled, along with the identified wetlands, on the map. (Reference - 25 *Pa. Code* §71.21(a)(1)(v)). Appendix B, Section II.I of the Planning Guide.

_____	16	III.	**Existing Sewage Facilities in the Planning Area - Identifying the Existing Needs**
		A.	Identify, map and describe municipal and non-municipal, individual and community sewerage systems in the planning area including:
_____	Appendix A	1.	Location, size and ownership of treatment facilities, main intercepting lines, pumping stations and force mains including their size, capacity, point of discharge. Also include the name of the receiving stream, drainage basin, and the facility's effluent discharge requirements. (Reference - 25 *Pa. Code* §71.21(a)(2)(i)(A)).
_____	16	2.	A narrative and schematic diagram of the facility's basic treatment processes including the facility's National Pollutant Discharge Elimination System (NPDES) permitted capacity, and the Clean Streams Law permit number. (Reference - 25 *Pa. Code* §71.21(a)(2)(i)(A)).
_____	16	3.	A description of problems with existing facilities (collection, conveyance and/or treatment), including existing or projected overload under 25 *Pa. Code* Chapter 94 (relating to municipal wasteload management) or violations of the NPDES permit, Clean Streams Law permit, or other permit, rule or regulation of DEP. (Reference - 25 *Pa. Code* §71.21(a)(2)(i)(B)).
_____	17-19	4.	Details of scheduled or in-progress upgrading or expansion of treatment facilities and the anticipated completion date of the improvements. Discuss any remaining reserve capacity and the policy concerning the allocation of reserve capacity. Also discuss the compatibility of the rate of growth to existing and proposed wastewater treatment facilities. (Reference - 25 *Pa. Code* §71.21(a)(4)(i & ii)).
_____	19	5.	A detailed description of the municipality's operation and maintenance (O & M) requirements for small flow treatment facility systems, including the status of past and present compliance with these requirements and any other requirements relating to sewage management programs (SMPs). (Reference – 25 *Pa. Code* §71.21(a)(2)(i)(C)).
_____	20	6.	Disposal areas, if other than stream discharge, and any applicable groundwater limitations. (Reference - 25 *Pa. Code* §71.21(a)(4)(i & ii)).
_____	N/A	B.	Using DEP's publication titled *Act 537 Sewage Disposal Needs Identification* (3800-BK-DEP1949), identify, map and describe areas that utilize individual and community onlot sewage disposal and, unpermitted collection and disposal systems ("wildcat" sewers, borehole disposal, etc.) and retaining tank systems in the planning area including:
_____	N/A	1.	The types of onlot systems in use. (Reference - 25 *Pa. Code* §71.21(a)(2)(ii)(A)).
_____	N/A	2.	A sanitary survey complete with description, map and tabulation of documented and potential public health, pollution, and operational problems (including malfunctioning systems) with the systems, including violations of local ordinances, the Act, the Clean Stream Law or regulations promulgated thereunder. (Reference - 25 *Pa. Code* §71.21(a)(2)(ii)(B)).
_____	N/A	3.	A comparison of the types of onlot sewage systems installed in an area with the types of systems which are appropriate for the area according to soil, geologic conditions, topographic limitations sewage flows, and 25 *Pa. Code* Chapter 73 (relating to standards for sewage disposal facilities). (Reference - 25 *Pa. Code* §71.21(a)(2)(ii)(C)).
_____	N/A	4.	An individual water supply survey to identify possible contamination by malfunctioning onlot sewage disposal systems consistent with DEP's *Act 537 Sewage Disposal Needs Identification* publication. (Reference – 25 *Pa. Code* §71.21(a)(2)(ii)(B)).

_____ N/A 5. Detailed description of O & M requirements of the municipality for individual and small volume community onlot systems, including the status of past and present compliance with these requirements and any other requirements relating to SMPs. (Reference - 25 *Pa. Code* §71.21(a)(2)(i)(C)).

_____ 20 C. Identify wastewater sludge and septage generation, transport and disposal methods. Include this information in the sewage facilities alternative analysis including:

_____ 20 1. Location of sources of wastewater sludge or septage (Septic tanks, holding tanks, wastewater treatment facilities). (Reference – 25 *Pa. Code* §71.71).

_____ 20 2. Quantities of the types of sludges or septage generated. (Reference - 25 *Pa. Code* §71.71).

_____ 20 3. Present disposal methods, locations, capacities and transportation methods. (Reference - 25 *Pa. Code* §71.71).

_____ 21 **IV. Future Growth and Land Development**

A. Identify and briefly summarize all municipal and county planning documents adopted pursuant to the Pennsylvania Municipalities Planning Code (Act 247) including:

_____ N/A 1. All land use plans and zoning maps that identify residential, commercial, industrial, agricultural, recreational and open space areas. (Reference - 25 *Pa. Code* §71.21(a)(3)(iv)).

_____ N/A 2. Zoning or subdivision regulations that establish lot sizes predicated on sewage disposal methods. (Reference – 25 *Pa. Code* §71.21(a)(3)(iv)).

_____ N/A 3. All limitations and plans related to floodplain and stormwater management and special protection (25 *Pa. Code* Chapter 93) areas. (Reference - 25 *Pa. Code* §71.21(a)(3)(iv)) Appendix B, Section II.F of the Planning Guide.

_____ N/A B. Delineate and describe the following through map, text and analysis.

_____ N/A 1. Areas with existing development or plotted subdivisions. Include the name, location, description, total number of equivalent dwelling units (EDUs) in development, total number of EDUs currently developed and total number of EDUs remaining to be developed (include time schedule for EDUs remaining to be developed). (Reference - 25 *Pa. Code* §71.21(a)(3)(i)).

_____ N/A 2. Land use designations established under the Pennsylvania Municipalities Planning Code (35 P.S. 10101-11202), including residential, commercial and industrial areas. (Reference - 25 *Pa. Code* §71.21(a)(3)(ii)). Include a comparison of proposed land use as allowed by zoning and existing sewage facility planning. (Reference - 25 *Pa. Code* §71.21(a)(3)(iv)).

_____ N/A 3. Future growth areas with population and EDU projections for these areas using historical, current and future population figures and projections of the municipality. Discuss and evaluate discrepancies between local, county, state and federal projections as they relate to sewage facilities. (Reference - 25 *Pa. Code* §71.21(a)(1)(iv) and (a)(3)(iii)).

_____ N/A 4. Zoning, and/or subdivision regulations; local, county or regional comprehensive plans; and existing plans of any other agency relating to the development, use and protection of land and water resources with special attention to: (Reference - 25 *Pa. Code* §71.21(a)(3)(iv)).

--public ground/surface water supplies
--recreational water use areas
--groundwater recharge areas
--industrial water use
--wetlands

N/A 5. Sewage planning necessary to provide adequate wastewater treatment for 5 and 10-year future planning periods based on projected growth of existing and proposed wastewater collection and treatment facilities. (Reference - 25 *Pa. Code* §71.21(a)(3)(v)).

22 **V. Identify Alternatives to Provide New or Improved Wastewater Disposal Facilities**

A. Conventional collection, conveyance, treatment and discharge alternatives including:

22 1. The potential for regional wastewater treatment. (Reference - 25 *Pa. Code* §71.21(a)(4)).

22 2. The potential for extension of existing municipal or non-municipal sewage facilities to areas in need of new or improved sewage facilities. (Reference - 25 *Pa. Code* §71.21(a)(4)(i)).

22 3. The potential for the continued use of existing municipal or non-municipal sewage facilities through one or more of the following: (Reference - 25 *Pa. Code* §71.21(a)(4)(ii)).

22 a. Repair. (Reference - 25 *Pa. Code* §71.21(a)(4)(ii)(A)).

22 b. Upgrading. (Reference - 25 *Pa. Code* §71.21(a)(4)(ii)(B)).

22 c. Reduction of hydraulic or organic loading to existing facilities. (Reference - 25 *Pa. Code* §71.71).

22 d. Improved O & M. (Reference - 25 *Pa. Code* §71.21(a)(4)(ii)(C)).

N/A e. Other applicable actions that will resolve or abate the identified problems. (Reference - 25 *Pa. Code* §71.21(a)(4)(ii)(D)).

22 4. Repair or replacement of existing collection and conveyance system components. (Reference - 25 *Pa. Code* §71.21(a)(4)(ii)(A)).

22 5. The need for construction of new community sewage systems including sewer systems and/or treatment facilities. (Reference - 25 *Pa. Code* §71.21(a)(4)(iii)).

22 6. Use of innovative/alternative methods of collection/conveyance to serve needs areas using existing wastewater treatment facilities. (Reference - 25 *Pa. Code* §71.21(a)(4)(ii)(B)).

N/A B. The use of individual sewage disposal systems including IRSIS systems based on:

N/A 1. Soil and slope suitability. (Reference - 25 *Pa. Code* §71.21(a)(2)(ii)(C)).

N/A 2. Preliminary hydrogeologic evaluation. (Reference - 25 *Pa. Code* §71.21(a)(2)(ii)(C)).

N/A 3. The establishment of a SMP. (Reference - 25 *Pa. Code* §71.21(a)(4)(iv)). See also Part "F" below.

N/A 4. The repair, replacement or upgrading of existing malfunctioning systems in areas suitable for onlot disposal considering: (Reference - 25 *Pa. Code* §71.21(a)(4)).

N/A a. Existing technology and sizing requirements of 25 *Pa. Code* Chapter 73. (Reference - 25 *Pa. Code* §73.31-§73.72).

N/A b. Use of expanded absorption areas or alternating absorption areas. (Reference - 25 *Pa. Code* §73.16).

N/A c. Use of water conservation devices. (Reference - 25 *Pa. Code* §71.73(b)(2)(iii)).

N/A C. The use of small flow sewage treatment facilities or package treatment facilities to serve individual homes or clusters of homes with consideration of: (Reference - 25 *Pa. Code* §71.64(d)).

N/A 1. Treatment and discharge requirements. (Reference - 25 *Pa. Code* §71.64(d)).

N/A 2. Soil suitability. (Reference - 25 *Pa. Code* §71.64(c)(1)).

N/A 3. Preliminary hydrogeologic evaluation. (Reference - 25 *Pa. Code* §71.64(c)(2)).

N/A 4. Municipal, Local Agency or other controls over O & M requirements through a SMP. (Reference - 25 *Pa. Code* §71.64(d)). See Part "F" below.

N/A D. The use of community land disposal alternatives including:

N/A 1. Soil and site suitability. (Reference - 25 *Pa. Code* §71.21(a)(2)(ii)(C)).

N/A 2. Preliminary hydrogeologic evaluation. (Reference - 25 *Pa. Code* §71.21(a)(2)(ii)(C)).

N/A 3. Municipality, Local Agency or other controls over O & M requirements through a SMP. (Reference - 25 *Pa. Code* §71.21(a)(2)(ii)(C)). See Part "F" below.

N/A 4. The rehabilitation or replacement of existing malfunctioning community land disposal systems. (See Part "V", B, 4, a, b, c above). See also Part "F" below.

N/A E. The use of retaining tank alternatives on a temporary or permanent basis including: (Reference - 25 *Pa. Code* §71.21(a)(4)).

N/A 1. Commercial, residential and industrial use. (Reference - 25 *Pa. Code* §71.63(e)).

N/A 2 Designated conveyance facilities (pumper trucks). (Reference - 25 *Pa. Code* §71.63(b)(2)).

N/A 3. Designated treatment facilities or disposal site. (Reference - 25 *Pa. Code* §71.63(b)(2)).

N/A 4. Implementation of a retaining tank ordinance by the municipality. (Reference - 25 *Pa. Code* §71.63(c)(3)). See Part "F" below.

N/A 5. Financial guarantees when retaining tanks are used as an interim sewage disposal measure. (Reference - 25 *Pa. Code* §71.63(c)(2)).

22 F. SMPs to assure the future O & M of existing and proposed sewage facilities through:

N/A 1. Municipal ownership or control over the O & M of individual onlot sewage disposal systems, small flow treatment facilities, or other traditionally non-municipal treatment facilities. (Reference - 25 *Pa. Code* §71.21(a)(4)(iv)).

N/A 2. Required inspection of sewage disposal systems on a schedule established by the municipality. (Reference - 25 *Pa. Code* §71.73(b)(1)).

N/A 3. Required maintenance of sewage disposal systems including septic and aerobic treatment tanks and other system components on a schedule established by the municipality. (Reference - 25 *Pa. Code* §71.73(b)(2)).

N/A 4. Repair, replacement or upgrading of malfunctioning onlot sewage systems. (Reference - 25 *Pa. Code* §71.21(a)(4)(iv) and §71.73(b)(5)) through:

N/A a. Aggressive pro-active enforcement of ordinances that require O & M and prohibit malfunctioning systems. (Reference - 25 *Pa. Code* §71.73(b)(5)).

N/A b. Public education programs to encourage proper O & M and repair of sewage disposal systems.

N/A 5. Establishment of joint municipal SMPs. (Reference - 25 *Pa. Code*

§71.73(b)(8)).

_____ N/A 6. Requirements for bonding, escrow accounts, management agencies or associations to assure O & M for non-municipal facilities. (Reference - 25 *Pa. Code* §71.71).

_____ N/A G. Non-structural comprehensive planning alternatives that can be undertaken to assist in meeting existing and future sewage disposal needs including: (Reference - 25 *Pa. Code* §71.21(a)(4)).

1. Modification of existing comprehensive plans involving:

_____ N/A a. Land use designations. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ N/A b. Densities. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ N/A c. Municipal ordinances and regulations. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ N/A d. Improved enforcement. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ N/A e. Protection of drinking water sources. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ N/A 2. Consideration of a local comprehensive plan to assist in producing sound economic and consistent land development. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ N/A 3. Alternatives for creating or changing municipal subdivision regulations to assure long-term use of on-site sewage disposal that consider lot sizes and protection of replacement areas. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ N/A 4. Evaluation of existing local agency programs and the need for technical or administrative training. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ 23 H. A no-action alternative which includes discussion of both short-term and long-term impacts on: (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ 23 1. Water quality/public health. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ 23 2. Growth potential (residential, commercial, industrial). (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ 23 3. Community economic conditions. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ 23 4. Recreational opportunities. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ 24 5. Drinking water sources. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ 24 6. Other environmental concerns. (Reference - 25 *Pa. Code* §71.21(a)(4)).

_____ 25 VI. Evaluation of Alternatives

A. Technically feasible alternatives identified in Section V of this checklist must be evaluated for consistency with respect to the following: (Reference - 25 *Pa. Code* §71.21(a)(5)(i)).

_____ 25 1. Applicable plans developed and approved under **Sections 4 and 5 of the Clean Streams Law or Section 208 of the Clean Water Act** (33 U.S.C.A. 1288). (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(A)). Appendix B, Section II.A of the Planning Guide.

_____ 25 2. Municipal wasteload management **Corrective Action Plans or Annual Reports** developed under 25 *Pa. Code* Chapter 94. (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(B)). The municipality's recent Wasteload Management (25 *Pa. Code* Chapter 94) Reports should be examined to determine if the proposed alternative is consistent with the recommendations and findings of the report. Appendix B, Section II.B of the Planning Guide.

_____ 25 3. Plans developed under **Title II of the Clean Water Act** (33 U.S.C.A.

1281-1299) or **Titles II and VI of the Water Quality Act of 1987** (33 U.S.C.A 1251-1376). (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(C)). Appendix B, Section II.E of the Planning Guide.

_____ 25 4. **Comprehensive plans** developed under the Pennsylvania Municipalities Planning Code. (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(D)). The municipality's comprehensive plan must be examined to assure that the proposed wastewater disposal alternative is consistent with land use and all other requirements stated in the comprehensive plan. Appendix B, Section II.D of the Planning Guide.

_____ 25-26 5. **Antidegradation requirements** as contained in 25 *Pa. Code* Chapters 93, 95 and 102 (relating to water quality standards, wastewater treatment requirements and erosion control) and the Clean Water Act. (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(E). Appendix B, Section II.F of the Planning Guide.

_____ 26 6. **State Water Plans** developed under the Water Resources Planning Act (42 U.S.C.A. 1962-1962 d-18). (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(F)). Appendix B, Section II.C of the Planning Guide.

_____ 26 7. **Pennsylvania Prime Agricultural Land Policy** contained in Title 4 of the Pennsylvania Code, Chapter 7, Subchapter W. Provide narrative on local municipal policy and an overlay map on prime agricultural soils. (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(G)). Appendix B, Section II.G of the Planning Guide.

_____ 26 8. **County Stormwater Management Plans** approved by DEP under the Storm Water Management Act (32 P.S. 680.1-680.17). (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(H)). Conflicts created by the implementation of the proposed wastewater alternative and the existing recommendations for the management of stormwater in the county Stormwater Management Plan must be evaluated and mitigated. If no plan exists, no conflict exists. Appendix B, Section II.H of the Planning Guide.

_____ 26 9. **Wetland Protection.** Using wetland mapping developed under Checklist Section II.G, identify and discuss mitigative measures including the need to obtain permits for any encroachments on wetlands from the construction or operation of any proposed wastewater facilities. (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(I)) Appendix B, Section II.I of the Planning Guide.

_____ 26 10. **Protection of rare, endangered or threatened plant and animal species** as identified by the Pennsylvania Natural Diversity Inventory (PNDI). (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(J)). Provide DEP with a copy of the completed *PNDI Manual Project Submission Form.* Also provide a copy of the response letters from the 4 jurisdictional agencies regarding the findings of the PNDI search. Appendix B, Section II.J of the Planning Guide.

_____ 26-27 11. **Historical and archaeological resource protection** under P.C.S. Title 37, Section 507 relating to cooperation by public officials with the Pennsylvania Historical and Museum Commission (PHMC). (Reference - 25 *Pa. Code* §71.21(a)(5)(i)(K)). Provide DEP with a completed copy of a *Cultural Resource Notice* and a return receipt for its submission to PHMC. Provide a copy of the response letter or review stamp from the Bureau of Historic Preservation (BHP) indicating the project will have no effect on, or that there may be potential impacts on, known archaeological and historical sites and any avoidance and mitigation measures required. Appendix B, Section II.K of the Planning Guide.

27 B. Provide for the resolution of any inconsistencies in any of the points identified in Section VI.A. of this checklist by submitting a letter from the appropriate agency stating that the agency has received, reviewed and concurred with the resolution of identified inconsistencies. (Reference - 25 *Pa. Code* §71.21(a)(5)(ii)). Appendix B of the Planning Guide.

27 C. Evaluate alternatives identified in Section V of this checklist with respect to applicable water quality standards, effluent limitations or other technical, legislative or legal requirements. (Reference - 25 *Pa. Code* §71.21(a)(5)(iii)).

27 D. Provide cost estimates using present worth analysis for construction, financing, ongoing administration, O & M and user fees for alternatives identified in Section V of this checklist. Estimates shall be limited to areas identified in the plan as needing improved sewage facilities within 5 years from the date of plan submission. (Reference - 25 *Pa. Code* §71.21(a)(5)(iv)).

28 E. Provide an analysis of the funding methods available to finance the proposed alternatives evaluated in Section V of this checklist. Also provide documentation to demonstrate which alternative and financing scheme combination is the most cost-effective; and a contingency financial plan to be used if the preferred method of financing cannot be implemented. The funding analysis shall be limited to areas identified in the plan as needing improved sewage facilities within 5 years from the date of the plan submission. (Reference - 25 *Pa. Code* §71.21(a)(5)(v)).

N/A F. Analyze the need for immediate or phased implementation of each alternative proposed in Section V of this checklist including: (Reference - 25 *Pa. Code* §71.21(a)(5)(vi)).

N/A 1. A description of any activities necessary to abate critical public health hazards pending completion of sewage facilities or implementation of SMPs. (Reference - 25 *Pa. Code* §71.21(a)(5)(vi)(A)).

N/A 2. A description of the advantages, if any, in phasing construction of the facilities or implementation of a SMP justifying time schedules for each phase. (Reference - 25 *Pa. Code* §71.21(a)(5)(vi)(B)).

30 G. Evaluate administrative organizations and legal authority necessary for plan implementation. (Reference - 25 *Pa. Code* §71.21(a)(5)(vi)(D)).

31 **VII. Institutional Evaluation**

A. Provide an analysis of all existing wastewater treatment authorities, their past actions and present performance including:

31 1. Financial and debt status. (Reference - 25 *Pa. Code* §71.61(d)(2)).

31 2. Available staff and administrative resources. (Reference - 25 *Pa. Code* §71.61(d)(2))

31 3. Existing legal authority to:

31 a. Implement wastewater planning recommendations. (Reference - 25 *Pa. Code* §71.61(d)(2)).

31 b. Implement system-wide O & M activities. (Reference - 25 *Pa. Code* §71.61(d)(2)).

32 c. Set user fees and take purchasing actions. (Reference - 25 *Pa. Code* §71.61(d)(2)).

32 d. Take enforcement actions against ordinance violators. (Reference - 25 *Pa. Code* §71.61(d)(2)).

32 e. Negotiate agreements with other parties. (Reference - 25 *Pa. Code* §71.61(d)(2)).

32 f. Raise capital for construction and O & M of facilities. (Reference - 25 *Pa. Code* §71.61(d)(2)).

32 B. Provide an analysis and description of the various institutional alternatives necessary to implement the proposed technical alternatives including:

N/A 1. Need for new municipal departments or municipal authorities. (Reference - 25 *Pa. Code* §71.61(d)(2)).

32 2. Functions of existing and proposed organizations (sewer authorities, onlot maintenance agencies, etc.). (Reference - 25 *Pa. Code* §71.61(d)(2)).

N/A 3. Cost of administration, implementability, and the capability of the authority/agency to react to future needs. (Reference - 25 *Pa. Code* §71.61(d)(2)).

32 C. Describe all necessary administrative and legal activities to be completed and adopted to ensure the implementation of the recommended alternative including:

N/A 1. Incorporation of authorities or agencies. (Reference - 25 *Pa. Code* §71.61(d)(2)).

32 2. Development of all required ordinances, regulations, standards and inter-municipal agreements. (Reference - 25 *Pa. Code* §71.61(d)(2)).

N/A 3. Description of activities to provide rights-of-way, easements and land transfers. (Reference - 25 *Pa. Code* §71.61(d)(2)).

N/A 4. Adoption of other municipal sewage facilities plans. (Reference - 25 *Pa. Code* §71.61(d)(2)).

N/A 5. Any other legal documents. (Reference - 25 *Pa. Code* §71.61(d)(2)).

32 6. Dates or timeframes for items 1-5 above on the project's implementation schedule.

32 D. Identify the proposed institutional alternative for implementing the chosen technical wastewater disposal alternative. Provide justification for choosing the specific institutional alternative considering administrative issues, organizational needs and enabling legal authority. (Reference - 25 *Pa. Code* §71.61(d)(2)).

33 **VIII. Implementation Schedule and Justification for Selected Technical & Institutional Alternatives**

A. Identify the technical wastewater disposal alternative which best meets the wastewater treatment needs of each study area of the municipality. Justify the choice by providing documentation which shows that it is the best alternative based on:

33 1. Existing wastewater disposal needs. (Reference - 25 *Pa. Code* §71.21(a)(6)).

33 2. Future wastewater disposal needs. (5 and 10 year growth areas). (Reference - 25 *Pa. Code* §71.21(a)(6)).

33 3. O & M considerations. (Reference - 25 *Pa. Code* §71.21(a)(6)).

34 4. Cost-effectiveness. (Reference - 25 *Pa. Code* §71.21(a)(6)).

34 5. Available management and administrative systems. (Reference - 25 *Pa. Code* §71.21(a)(6)).

34 6. Available financing methods. (Reference - 25 *Pa. Code* §71.21(a)(6)).

34 7. Environmental soundness and compliance with natural resource planning and preservation programs. (Reference - 25 *Pa. Code* §71.21(a)(6)).

_____ 34 B. Designate and describe the capital financing plan chosen to implement the selected alternative(s). Designate and describe the chosen back-up financing plan. (Reference - 25 *Pa. Code* §71.21(a)(6))

_____ 34 C. Designate and describe the implementation schedule for the recommended alternative, including justification for any proposed phasing of construction or implementation of a SMP. (Reference – 25 *Pa. Code* §71.31(d))

_____ 36 **IX. Environmental Report (ER) generated from the UER Process**

_____ N/A A. Complete an ER as required by the UER process and as described in the DEP Technical Guidance (381-5511-111). Include this document as "Appendix A" to the Act 537 Plan Update Revision. ***Note: An ER is required only for Wastewater projects proposing funding through any of the funding sources identified in the UER.***

PENNVEST I.D. No. _____

ADDITIONAL REQUIREMENTS FOR PENNVEST PROJECTS

Municipalities that propose to implement their official sewage facilities plan updates with PENNVEST funds must meet 6 additional requirements to be eligible for such funds. See *A Guide for Preparing Act 537 Update Revisions* (362-0300-003), Appendix N for greater detail or contact the DEP regional office serving your county listed in Appendix J of the same publication.

DEP Use Only	Indicate Page #(s) in Plan	Item Required
_____	_____	1. Environmental Impact Assessment. (Planning Phase) The UER replaces the Environmental Impact Assessment that was a previous requirement for PENNVEST projects.
_____	_____	2. Cost Effectiveness (Planning Phase) The cost-effectiveness analysis should be a present-worth (or equivalent uniform annual) cost evaluation of the principle alternatives using the interest rate that is published annually by the Water Resources Council. Normally, for PENNVEST projects the applicant should select the most cost-effective alternative based upon the above analysis. Once the alternative has been selected the user fee estimates should be developed based upon interest rates and loan terms of the selected funding method.
_____		3. Second Opinion Project Review. (Design Phase)
_____		4. Minority Business Enterprise/Women's Business Enterprise (Construction Phase)
_____		5. Civil Rights. (Construction Phase)
_____		6. Initiation of Operation/Performance Certification. (Post-construction Phase)

I/A TECHNOLOGIES

PARTIAL LISTING OF INNOVATIVE AND ALTERNATIVE TECHNOLOGIES

TREATMENT TECHNOLOGIES
Aquaculture
Aquifer Recharge
Biological Aerated Filters
Constructed Wetlands
Direct Reuse (NON-POTABLE)
Horticulture
Overland Flow
Rapid Infiltration
Silviculture
Microscreens
Controlled Release Lagoons
Swirl Concentrator

ENERGY RECOVERY TECHNOLOGIES
Anaerobic Digestion with more than 90 percent Methane Recovery
Cogeneration of Electricity
Self-Sustaining Incineration

SLUDGE TREATMENT TECHNOLOGIES

Aerated Static Pile Composting
Enclosed Mechanical Composting (In vessel)
Revegetation of Disturbed Land
Aerated Windrow Composting

INDIVIDUAL & SYSTEM-WIDE COLLECTION TECHNOLOGIES
Cluster Systems
Septage Treatment
Small Diameter Gravity Sewers
Step Pressure Sewers
Vacuum Sewers
Variable Grade Sewers
Septic Tank Effluent Pump with Pressure Sewers

APPENDIX C. 2025 ANNUAL REPORT

Wade Trim, Inc.
Four Gateway Center, 444 Liberty Avenue, Suite 300 • Pittsburgh, PA 15222
412.454.5566 • www.wadetrim.com

December, 2025

Mon Valley Sewage Authority
20 South Washington Street
Donora, PA 15033

Attention: Mr. Sean Gaskill, General Manager

All:

Enclosed are eight (8) copies of the Mon Valley Sewage Authority Sewage Disposal System Annual Report dated December 2025. The report was prepared and is being submitted to you in accordance with the Trust Indentures.

We are also sending copies of the report to the City of Monessen, Borough of Donora, the Solicitor, the Auditor, the Trustee, and the Bond Counsel.

Very truly yours,

Wade Trim, Inc.

Jason J. McBride, P.E.
Senior Project Manager

Enclosure

cc: City of Monessen (w/encl.)
Borough of Donora (w/encl.)
BNY Mellon (w/encl.)
A. Bialon, Solicitor (w/encl.)
J. Mills, Bond Counsel (w/encl.)
C. Belczyk, Auditor (w/encl.)

Wade Trim, Inc.
Four Gateway Center, 444 Liberty Avenue, Suite 300 • Pittsburgh, PA 15222
412.454.5566 • www.wadetrim.com

December 2025

Mon Valley Sewage Authority
20 South Washington Street
Donora, PA 15033

Attention: Mr. Lewis Marraccini, Secretary-Treasurer

All:

In accordance with the requirements of the Trust Indenture and Agreements between the Authority and participating municipalities, we submit herewith our Annual Report on the Sewage Disposal System for the Authority's fiscal year beginning December 1, 2024, and ending November 30, 2025.

Very truly yours,

Wade Trim, Inc.

Jason J. McBride, P.E.
Senior Project Manager

Enclosure

MON VALLEY SEWAGE AUTHORITY

CITY OF MONESSEN, WESTMORELAND COUNTY
BOROUGH OF DONORA, WASHINGTON COUNTY

SEWAGE DISPOSAL SYSTEM ANNUAL REPORT

DECEMBER 2025

WADE TRIM

MON VALLEY SEWAGE AUTHORITY

CITY OF MONESSEN, WESTMORELAND COUNTY
BOROUGH OF DONORA, WASHINGTON COUNTY

SEWAGE DISPOSAL SYSTEM ANNUAL REPORT

DECEMBER 2025

FOREWORD

In accordance with the requirements of the Trust Indenture and Agreements between the Mon Valley Sewage Authority (Authority) and the City of Monessen and the Borough of Donora, this report sets forth the following concerning the Sewage Disposal System for the 2025 fiscal year beginning December 1, 2024, and ending November 30, 2025.

1. Reporting information on:
    a. the proper maintenance, repair, and operation of the Sewage Disposal System,
    b. an estimate of the amounts of money that should be expended for current expenses, and
    c. an estimate of the gross revenues to be collected for operation of the Sewage Disposal System.
2. Review of the Authority's proposed budget.
3. Reporting on necessary Capital Additions to keep the Sewage Disposal System in good condition, repair, and working order.
4. Report insurance carried by the Authority.
5. Findings as to the maintenance and operating condition of the Sewage Disposal System.

GENERAL

The Authority's Sewage Disposal System consists of interceptor, trunk, and collection sewers; sewage diversion chambers and regulators; seven sewage pump stations, a CSO high-rate treatment facility, and a secondary sewage treatment plant. The Sewage Disposal System serves the City of Monessen, the Borough of Donora, and a portion of Carroll Township. The sewage flow from Carroll Township is pumped directly to the Authority's wastewater treatment plant (WWTP).

Construction of the Sewage Disposal System began in November 1968 and was essentially complete in August 1970. The project was financed by Federal Grants and an Authority Revenue Bond Issue.

SYSTEM ADMINISTRATION AND PERMITTING

The Authority General Manager, under the direction of the Board, is responsible for the operation and administration of the Sewage Disposal System.

Two full time office employees prepare the sewage bills; collect and maintain records for collection; process delinquent accounts; prepare payrolls and purchase orders; and maintain financial and business records. The Authority General Manager and staff continue to have an excellent record for collecting delinquent accounts and maintaining efficient office operation. Routine collection of sewage bills is by mail, automatic payment, online, and at the Authority office.

The operating personnel include ten staff members of which five are certified. These employees are responsible for operating the Sewage Disposal System on an eight hour, five days a week schedule.

The Sewage Disposal System operates under the National Pollutant Discharge Elimination System (NPDES) Permit No. PA0026158, which was renewed on November 1, 2014, for a five-year period (and is currently administratively extended until such time the renewal application submitted on May 3, 2019, is reviewed and approved by the Department of Environmental Protection (DEP), with effluent limitations determined using an effluent discharge rate of 3.66 MGD. However, the flow rate of 4.96 MGD is the value used to determine if a hydraulic overload situation exists due to a rerating of the WWTP. In accordance with permit conditions, operation reports are submitted to the DEP each month. Copies of these reports are also submitted to the Consulting Engineer. Based upon a review of the operating records and information obtained by the Consulting Engineer during frequent visits to the WWTP, the WWTP is providing secondary treatment as required by the NPDES Permit.

Prior to issuance of the NPDES Permit renewal in October 2002, DEP issued an Order to the Authority on August 21, 2002. The Order required the submission of a complete and adequate Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP) on or before January 1, 2003. In addition, the Order stated that the Authority must cease all wet weather discharges from the diversion structure at the head of the WWTP. The Authority completed its submittal of the required LTCP and eliminated wet weather discharges from the WWTP diversion structure by operating the Monessen and Donora Pump Stations. The pump stations are designed with one pump at each station being held in reserve for use as a back-up in the event of a failure of one of the other operating pumps. In addition, the influent gates at each of the stations, as well as overflow weirs and regulators, were adjusted to ensure that all flows up to the maximum treatment capacity are conveyed to the WWTP.

By letter dated June 21, 2005, DEP disapproved of the Authority's January 2003 LTCP on the basis that the submittal failed to set forth a defined course of action to not cause or contribute to a violation of water quality standards. The Authority was forthright in its January 2003 submittal, stating that additional data was needed prior to selection of construction alternatives and subsequently authorized

their consulting engineer to prepare a LTCP that outlined construction projects designed to eliminate the cause of CSOs or their contribution to a violation of water quality standards.

The Authority then submitted an NPDES Permit renewal application in July 2007. Approval of the Permit was contingent upon approval of the Authority's CSO LTCP, which was submitted in September 2007. DEP approved the CSO LTCP by letter dated April 30, 2008, which required immediate implementation. DEP then renewed the NPDES Permit with an expiration date of April 30, 2014. The Authority submitted an application in October 2013 for renewal of the 2008 NPDES Permit. The most recent final permit was issued with an effective date of November 1, 2014, and an expiration date of October 31, 2019. A renewal application was submitted on May 3, 2019, in advance of the permit expiration. The existing permit has been administratively extended until such time that the renewal application is reviewed and approved by DEP.

Operation data for the period from September 1, 2024, through August 31, 2025, are summarized in the right-hand column of the following tabulation and compared with operation data from the previous year, as well as the NPDES Permit requirements.

NPDES Discharge			
Parameter	NPDES Permit Limits	09/01/2023 through 08/31/2024	09/01/2024 through 08/31/2025
Raw Sewage Flow, avg., mgd	4.96	2.95	2.74
Suspended Solids, avg., mg/l	30	5.45	6.08
CBOD, 5-day avg., mg/l	25	3.25	4.15
Fecal Coliform, avg., no./100 ml			
May through September	200	38.60	45.00
October through April	2,000	111.00	87.90
pH			
Minimum	6.0	6.43	6.50
Maximum	9.0	7.47	7.24
Total Residual Chlorine, avg., mg/l	0.5	0.28	0.30

Based upon the above data, the WWTP is producing an effluent of better quality than the permit requirements for all parameters.

SYSTEM IMPROVEMENTS

The Authority has been operating an acid neutralization facility at the Monessen Pumping Station since October 1978. The facility was constructed by DEP to treat acid mine drainage entering the City of Monessen sewers from abandoned mines within the city. In 1978, an acid discharge, which previously dispersed through the ground between Morgan Avenue and Seventeenth Street along Schoonmaker Avenue, was disrupted by the Pennsylvania Department of Transportation (PennDOT) during highway construction along Schoonmaker Avenue. Furthermore, PennDOT installed a collection system to convey the acid mine drainage to the Authority's sewer system. The Authority filed a lawsuit against PennDOT and the Contractor to recover damages. The case was settled in 1990.

In 1993, the Authority assumed responsibility for operation and maintenance of the State Road Sewage Pumping Station in the City of Monessen. In addition, concrete repairs were made throughout the WWTP to maintain the structural stability of the facilities.

Four (4) sludge pumps were installed at the WWTP in 1993 at a cost of $99,500 to replace the original sludge pumps.

Also, in 1993, the two excess sludge pumps were replaced at a cost of $25,550. The Authority personnel also rebuilt the Final Clarifier Drives and replaced the air lines and impellers in the Aerobic Digesters, Stabilization Tanks, and Contact Tanks.

The chlorinators were replaced in 1994 at a cost of $20,250.

In 1994, the Authority had the Donora Interceptor cleaned from the Donora Pumping Station to 8th Street at a cost of $50,513.

Flow metering equipment was replaced at the Donora and Monessen Pumping Stations in 1994. Also, the WWTP influent flow meter was replaced and a new meter was installed on the Control Building sump pump discharge.

The Sludge Storage facility was completed in 1995 to prevent contamination of the river and assist in dewatering sludge. The cost was $319,000.

The roofing was replaced on the Control Building, Garage, and Grit Building in late 1995.

A belt filter press and appurtenances were placed in operation in 1995. These facilities replaced the vacuum filters. Operational results showed increased sludge solids content and less manhours for dewatering. The cost of these facilities was $485,668.

In 1996, a sanitary sewer extension was completed to serve 54 houses along Second Street Extension, Manor Road, and Park Road in the Borough of Donora. The project was funded by a low interest PennVest loan, connection charges, and a sewer use surcharge.

The comminutors at Monessen, Donner Avenue, and Donora Pumping Stations were replaced with hydraulically operated units in 1996.

Also, the Chlorine Contact Tank gate actuators were replaced in 1996.

The Authority's lighting and heating/air conditioning systems were replaced in the Control Building in 1996. All the deteriorated steel doors were also replaced in 1996.

A new telemetering system was installed in 1996 to transmit flow signals from the remote pumping stations to the Control Building.

In 1997, the underground fuel oil storage tank was removed at the State Road Pumping Station; the emergency generator was refurbished; and a new fiberglass structure was installed to house the generator.

The return sludge pumps were replaced in 1997.

Eight of the nine cone check valves at the Monessen, Donora, and Donner Avenue Pumping Stations were refurbished and replaced in 1997. The ninth valve was too badly deteriorated to be refurbished and had to be replaced with a new valve.

The spare pump for the Monessen Pumping Station was received in 1997.

In 1997, Authority personnel installed a new roof on the State Road Pumping Station; replaced the pumps for the WWTP Water System; replaced the air release valves on the Monessen and Donora force mains, and replaced gate valves in the Donora, Monessen, and Donner Avenue Pumping Stations.

New gabled roofs were installed on the Monessen and Donner Avenue Pumping Stations in 1998.

In 1998, a new alarm system was installed in the pumping stations and WWTP.

The mechanisms, weirs, and baffles for Final Clarifier No. 2 and Sludge Thickener No. 2 were replaced in 1998 at a cost of $196,600.

In 1998, 3,100 LF of the Monessen Interceptor was cleaned. The cost of this project was $57,198. In 2000, the 16-inch Monessen force main crossing the Monongahela River was replaced at a lower depth to facilitate dredging operations by the US Army Corps of Engineers (USACOE) for the Locks and Dams 2, 3 and 4 Project. Modifications were also made to the WWTP outfall sewer to accommodate the proposed river elevation. This $700,000 project was paid for by the USACOE.

Mechanisms, weirs, and baffles for Final Clarifier No. 1 and Sludge Thickener No. 1 were replaced in 2000 at a cost of approximately $210,000.

As part of compliance with the EPA Nine Minimum Controls, Authority personnel installed screens in twelve (12) CSO Overflows in 2000.

The mechanical aerators in Aerobic Digester No. 4 were removed and replaced with fine bubble diffusers mounted on the tank bottom by Authority personnel. The diffusers were installed in 2000 at a cost of $12,150.

Mechanical aerators were also replaced with fine bubble diffusers by Authority personnel in Aerobic Digester Nos. 1, 2, and 3 in 2001 at a total cost of $36,450.

The existing centrifugal blowers were replaced in 2001. The cost of this project was $189,349.

The influent valves at the Monessen and Donora Pumping Stations were replaced in 2001 with knife gate valves and automatic operators. The cost of this project was $65,200.

Air conditioning wall units were installed by Authority personnel during 2001 in the main office, conference room, control room, laboratory, and lunchroom. The cost of this project was $5,350.

At the Monessen Pumping Station, the Motor Control Center and the two motors that drive the variable speed pumps were replaced during 2002 at a total cost of $105,725.

The waterline serving the Monessen Pumping Station was replaced in 2002.

Cleaning of the Donora Interceptor was completed in November 2002.

Orthophotograph base maps were developed in 2002 for the Authority service area. Authority facilities and the existing sewers in the Borough of Donora and the City of Monessen were superimposed on the maps for use in future planning efforts.

The mechanical aerators in Contact Tank No. 1 and Stabilization Tank No. 1 were removed and replaced with fine bubble diffusers mounted on the tank bottom by Authority personnel. The diffusers were installed in 2003 at a cost of $33,000.

Flow meters, computers, and printers were purchased and placed in operation during 2003 as part of the CSO LTCP. The flow meters measure both dry weather and wet weather flows within the sewer system at each CSO location and the computers are used to download and tabulate the flow data.

The Authority completed a sampling program during 2004 as part of the CSO LTCP. The intent was to measure the quality of wet weather CSO discharges and the quality of the Monongahela River during both dry and wet weather conditions.

The access road to the WWTP was paved approximately 660 feet. The activity was completed through a joint effort of the Authority, the Borough of Donora, and the Carroll Township Authority. The cost to the Authority was $3,026, after receipt of contributions from three adjacent property owners.

During 2004, the Donora Pumping Station Motor Replacement and Control Center Upgrade was completed at a cost of $40,819.

The mechanical aerators in Contact Tank No. 2 and Stabilization Tank No. 2 were removed and replaced with fine bubble diffusers mounted on the tank bottom by Authority personnel. The diffusers were installed in 2004 at a cost of $33,000.

During 2004, the Authority met with PADEP personnel to discuss available options for the Plant Headworks Diversion Project. The final selected alternative was to operate the Monessen and Donora Pump Stations as designed with one pump at each station being held in reserve for use as a back-up in the event of a failure of one of the other operating pumps. In addition, the influent gates at each of the stations, as well as overflow weirs and regulators, were adjusted to ensure that no overflows occur at the influent channel and that all flows up to the maximum treatment capacity are conveyed to the WWTP.

During 2005, the Authority purchased a spare grit pump, influent and effluent samplers, and sewer locating equipment. The total cost was approximately $24,000, which was partially offset by a state grant. In addition, the first phase of developing a Geographic Information System (GIS) database was completed in 2005. This involved locating all the manholes and catch basins in Monessen and Donora with survey grade Global Positioning System (GPS) equipment at a cost of $50,000. Lastly, the Authority internally cleaned and inspected the Monessen and Donner Interceptors.

During 2006, Task 2 of the Sewer System Assessment was initiated to prepare plans and specifications for cleaning and internal inspection of the collection sewer systems in Monessen and Donora. Also, preparation of the CSO LTCP was initiated to outline construction projects that are designed to eliminate the CSOs' cause or contribution to a violation of water quality standards.

During 2007, the Sewer System Assessment project was initiated with cleaning and internal televising of all the sanitary and combined sewers in Monessen and Donora, totaling approximately 350,000 feet with a total bid price of $479,541. The CSO LTCP was completed at a cost of $157,800 and submitted to DEP for review. Lastly, the Dissolved Oxygen and Total Suspended Solids Instrumentation project was completed.

During 2008, DEP approved the CSO LTCP, and the Authority then authorized LTCP Phase I Preliminary Engineering Design. In addition, the Authority (1) replaced the chains and flights for both grit channels, (2) repaved the parking lot and driveway, (3) replaced the North Pumping Station pumps and valves, (4) purchased a loader for sludge hauling, (5) replaced the Donner Pumping Station pump and drive shaft, (6) installed the Dissolved Oxygen and Total Suspended Solids Instrumentation, (7) installed a new vent fan at the Monessen Pumping Station, and (8) completed the sewer system cleaning and inspection in Monessen and Donora.

During 2009, the Authority initiated the LTCP Phase I Implementation by authorizing engineering services for the Final Design Scope of Work, which included survey, design and permitting of facilities identified in the Authority's CSO LTCP. In addition, the Authority (1) replaced the two sludge pumps, (2) replaced one Donora Pumping Station cone valve, (3) purchased a new Ford F150 pickup truck, (4) repaired a leak around the contact tank #2 air line, (5) ordered a new telemetry flow signal unit for the Donora Pumping Station, and (6) is purchasing a used incubator for the laboratory.

During 2010, the Authority purchased a new DO meter for the lab, constructed a garage addition, purchased a portable air compressor, replaced the roof on the South Pumping Station, and purchased a 2010 Ford F-150 pickup truck for the pump station operators.

During 2011 and 2012, the Authority (1) constructed LTCP Phase I contracts, including pump station upgrades, emergency generators, stream separation projects, interceptor upgrades and force main construction, (2) initiated Phase II design activities for 2013 construction, (3) installed VFDs on the WWTP return sludge pumps, and (4) awarded interceptor cleaning in Donora and Monessen.

During 2013, the Authority completed the remaining LTCP Phase I contracts for the Equalization Tank and Plant Headworks. The total project cost for Phase I of the LTCP was approximately $13.5 million. In addition, the Authority awarded a contract to replace sump pumps at the WWTP, the Donora Pump Station, and the North Pump Station.

In 2014, the Authority completed the Windows and Doors Replacement project at the WWTP. Additionally, the sump pump replacement project was completed.

In 2015, the Authority awarded two contracts as part of Phase II of the LTCP, SWR 1 – Donora Sewer Separation and SWR 2 – Monessen Sewer Separation for a total construction cost of approximately $5.5 million. In addition, the Authority (1) constructed an enclosure around the new Headworks, (2) purchased and installed two new belt filter press feed pumps, (3) constructed a building to house flammable liquids as requested by DEP, (4) purchased a sewer television inspection system and trailer and (5) completed the Sump Pump Replacement Project.

In 2016, the Authority completed the two contracts awarded as part of Phase II of the LTCP, SWR 1 – Donora Sewer Separation and SWR 2 – Monessen Sewer Separation. Four contracts were also awarded for the construction of the Seneca Street CSO Satellite Treatment Facility (STF), STF 1 – General Construction, STF 2 – Plumbing Construction, STF 3 – HVAC Construction, and STF 4 – Electrical Construction for a total construction cost of $15,833,197. In addition, the Authority (1) replaced the control panels at State Road Pump Station, (2) purchased a new Ford F250 to serve as pump station crew truck, (3) purchased a spare WEMCO pump for the Grit King, (4) constructed an office addition into the existing WWTP garage, and (5) awarded the Clarifier Valve Replacement Project.

In 2017, construction progressed for the LTCP Seneca Street CSO STF. The Authority also began preliminary design of Phase III of the LTCP. Two (2) of the Clarifier Valves were replaced as part of the Clarifier Valve Replacement Project. The Authority was awarded a Washington County Local Share Account (LSA) Grant for the 2017 Safety Improvements Project. A Washington County LSA Grant application was submitted in October 2017 for the Donora Pump Station Screenings Improvements Project. In addition, the Authority (1) installed enclosures for the effluent sampler, chlorine, pH and DO meters, and the overflow meters, (2) installed automated chlorine, pH, and DO recorders, (3) installed automated valves, packaged pump panels and new automated controls for the waste sludge pumping system, (3) replaced the drive unit for Final Clarifier No 1., (4) replaced the screw auger and liner of the grit classifier, and (5) purchased rolling steel door and opener in the sludge hopper room.

In 2018, the LTCP Seneca Street CSO STF was substantially completed and the preliminary design of Phase III of the LTCP continued. The 2017 Safety Improvements Project construction began in June 2018. The Authority was awarded a 2018 Washington County LSA Grant for the Donora Pump Station Screenings Improvements Project and construction was completed in July 2020.

The 2018 Interceptor Cleaning and Televising Project was completed in March 2019. The 2017 WWTP Safety Improvements Project was completed in November 2019.

In summary, the Authority submitted its CSO LTCP in 2007 outlining capital expenditures of $33.5 million (Year 2007 dollars) over 12 years. The CSO LTCP was approved by DEP on April 30, 2008, and Authority

implementation of Phase III is in progress. Phase I Construction Contracts 1, 2, 5, 6, 7 and 8 were completed in 2012 and Phase I Construction Contracts 3A, 3B and 4 (Equalization Tank and Headworks) were completed in 2013. Phase II design was initiated in 2012 and completed in 2013. Act 537 Planning approval was received in 2014 and the Water Quality Part II Permits for the Sewer Separation Projects and CSO Satellite Facility were issued in June of 2015 and October of 2015, respectively. Construction of the sewer separation projects started in the Fall of 2015 and were completed in 2016. Construction of the Seneca Street CSO STF commenced in the Summer of 2016 and was completed in November 2018.

A sampling program to evaluate facility performance was initiated in October 2019. Final design of Phase III of the LTCP required a Special Study under Act 537 that was approved by the PADEP. After official approval, the final design was completed, and bidding was held in November 2023. A Washington County LSA Grant was awarded for Phase III of the LTCP in 2020 and 2021.

During 2016, due to the risks involved in using chlorine gas, the Authority completed final design of the 2017 WWTP Safety Improvements Project which included the replacement of chlorine gas in favor of a chlorine tablet feed system. A Washington County LSA Grant in the amount of $210,500 was awarded in December 2016 for partial funding of the Project. The bidding phase was completed in January 2018 with a total project bid of $1,029,815. Construction began in Summer 2018 and was completed November 2019.

In 2019, the existing aeration system at the WWTP needed an upgrade due to the inefficiency of the blowers to adjust air flow in response to the varying flow and oxygen demand of the WWTP influent flow. The 2019 WWTP Blower Improvements Project included an upgrade to the existing aeration system to allow Authority personnel to vary the airflow to the aeration tanks, thereby improving the overall WWTP processes and providing substantial energy reduction and operational cost savings. A grant in the amount of $350,000 was awarded for this project. Construction began in October 2020 and was fully completed in January 2023.

In 2021, design of the 2021 Monessen Equalization Tank Project began. The project included construction of a 0.5 MG equalization tank, pump station, and connecting piping to meet the PADEP requirement for 100% capture of sanitary sewage from the Grand Boulevard collection system. Construction of the Monessen Equalization Tank required a Special Study under Act 537 that was approved by DEP in 2022.

In 2022, the Seneca Street CSO STF needed a replacement of the backflow prevention device. The Seneca Street CSO STF Effluent Structure Backflow Prevention Replacement project consisted of modifications to the backflow prevention device on the effluent sewer. This project removed the existing backflow prevention device and installed a new flap gate on the existing 72" effluent sewer of the Seneca Street CSO STF. Since the existing backflow prevention device was located inside the effluent structure at the facility, the precast concrete panels were also removed and reinstalled to access the

backflow preventer. The bidding phase was completed in June 2022 with a total project bid of $139,450. Construction was started and completed in April 2023.

The 2023 Clean and CCTV Project included internal cleaning and televising of approximately 17,000 LF of interceptor sewer in the City of Monessen and the Borough of Donora ranging in size from 8 to 30 inches in diameter, internal cleaning of (4) regulator chambers, and all associated work was completed in September 2023 with a total project bid of $250,395.20.

In 2022, the State Road Forcemain Replacement Project was undertaken to ensure that the State Road forcemain can adequately pump sewage flow. This project replaced the existing, failing 6" forcemain at the State Road Pump Station with a new 6" HDPE forcemain running parallel to the existing forcemain, which was abandoned in place. Approximately 1,200 LF of forcemain was installed. The bidding phase was completed in February 2023 with a total project bid of $250,395.20. Construction began in April 2023 and is completed.

In 2023, the Sludge Pumps Replacement Project was undertaken to replace the WWTP's three RAS (return activated sludge) pumps and two WAS (waste activated sludge) pumps in the WWTP secondary pump station to help maintain the WWTP's peak performance without causing pump failure and disrupting the secondary treatment process. The existing WWTP pumps were old, required much maintenance, and had come to the end of their useful life. A Washington County LSA Grant application was submitted for $219,050 in October 2022 for WWTP Pumps Replacement Project and was awarded. The bidding phase was completed in August 2023 with a total project bid of $319,000. Construction work began in August 2024, and the project had a final completion date of December 2024.

The final design of Phase III of the LTCP consisting primarily of a 2-million-gallon equalization facility which continued during 2021 and 2022 was completed in 2023. The Donora EQ Tank project included the installation of a new 2.0 million-gallon precast, prestressed concrete equalization tank and a new CSO wet weather pumping and screening facility with a peak hydraulic capacity of 15 million gallons per day. A Washington County LSA grant application was approved in 2020 for $500,000. Another Washington County LSA Grant application requesting $300,000 was approved in 2021. Phase III is also funded by proceeds of the 2018 and 2020 Bond issues. The construction phase began February 2024 and is scheduled to be completed in February 2026.

In 2024 there were several smaller system upgrades completed. These were the headworks transducer replacement, CSO flow meter and air meter installations, WWTP water screen installation, purchase of a new Ford F-150 for maintenance staff use, and purchase of a new Chevy Equinox for the General Manager's company vehicle.

The comminutors at the Donner and Monessen Pump stations were replaced with mechanical bar screens in 2025. The comminutors at these pump stations had reached the end of their useful life. In

2016, the Authority authorized their Consulting Engineer to conduct a preliminary study evaluating, and thus resulting in, the replacement of the comminutors with mechanical bar screens at the Donora, Donner, and Monessen Pump Stations. The Donora Pump Station Screenings Project was previously completed in July 2020 as previously stated. Construction of the Donner and Monessen Pump Stations screenings improvements was substantially completed in June 2025.

In 2025 the Authority and the City of Monessen decided to evaluate alternative projects to the 2021 Monessen Equalization Tank Project. Previous funding obtained for this project totaled four (4) million dollars. Revised cost estimates for the project were nearly double the available funding. The Authority and the Municipality of Monessen are currently evaluating an alternate project, the Marion Ave / Hill top Area Sewer Separation project.

SYSTEM OPERATION

A rerating study was conducted during 2001 to evaluate the capability of the WWTP to meet applicable effluent limits at flow rates above the current permitted average daily flow of 3.66 MGD. A report of the study results was submitted to DEP with the conclusion that the existing WWTP can provide proper treatment and meet the NPDES Permit limits for an average daily flow of 4.96 MGD and a peak flow of 12.5 MGD. DEP approved the increased average daily flow in its renewal of the NPDES Permit, with effluent loading limits still based on 3.66 MGD. The current NPDES permit expired on October 31, 2019. A renewal application was submitted on May 3, 2019, and is awaiting review and approval by DEP. In the meantime, the existing permit has been administratively extended.

Before discharge to the Monongahela River, the treated sewage is disinfected with chlorine. Previously, gas chlorine purchased in ton cylinders was mixed with water at the WWTP to provide disinfection. In November 2019, the WWTP Safety Improvements Project was completed thereby replacing the chlorine gas in favor of a chlorine tablet feed system.

In November 2018, the Authority applied for renewal of its existing General Permit for Beneficial Use of Biosolids by Land Application. Approval for coverage under the permit was authorized on February 6, 2025. The Authority has an executed agreement with Synagro, Inc. for land application to dispose of their biosolids. The dewatered biosolids are stored in the Authority's Biosolids Storage Building and, after a substantial amount is accumulated, hauled to an approved site for land application.

The Chief Operator and four other Authority personnel (two pump station staff members, one CSO staff member, , and one lab staff member) have been certified by the State Board for Certification of Sewage Treatment Plant and Waterworks Operators for this type of WWTP and are fully competent to perform all the operation and maintenance activities to assure compliance with the Clean Streams Regulations. One maintenance member is also an operator in training.

The operating personnel routinely perform required maintenance, equipment lubrication and cleaning in a satisfactory manner. A continuation of present operating practices is recommended for 2026.

CAPITAL ADDITIONS

To maintain the Sewage Disposal System in good condition, repair and working order and to provide for improved operation, the following Capital Additions are recommended for 2026 and the future.

Donora EQ Tank

The final design of Phase III of the LTCP consisting primarily of a 2-million-gallon equalization facility, which continued during 2021 and 2022, was completed in 2023. The Donora EQ Tank project includes the installation of a new 2.0 million-gallon precast, prestressed concrete equalization tank and a new CSO wet weather pumping and screening facility with a peak hydraulic capacity of 15 million gallons per day. A Washington County LSA grant application was approved in 2020 for $500,000. Another Washington County LSA Grant application requesting $300,000 was approved in 2021. Phase III is also funded by proceeds of the 2018 and 2020 Bond issues. The construction phase began February 2024 and is scheduled to be completed in February 2026.

Aubrey Avenue Ejector Station

The purpose of this project is to replace the Aubrey Avenue Ejector Station (Station), which is owned and operated by the Authority, as it has reached the end of its useful life. The Ejector Station was installed in 1967 and has been maintained but not updated since. The Station has been having performance issues, and the cost and frequency of maintenance necessitates that the Station equipment be replaced entirely. The Authority utilizes a gravity sewer system for its interceptor sewer, which conveys flows to the downstream treatment facility. Certain areas of the system are at lower elevations than the interceptor sewer and require pumps to move the flow into the interceptor sewer. As such, upgrading the Aubrey Avenue Ejector Station is necessary to keep the Authority's infrastructure operating properly. The project is in the final design phase and is awaiting permit review from DEP. Project bidding and construction is anticipated to occur in early 2026.

Marion Avenue / Hill Top Service Area Sewer Separation Project

The purpose of this project is to separate almost 8,000 LF of currently combined sewers within the Marion Avenue / Hilltop service area within the City of Monessen. This project is being evaluated as a potential alternative to the 2021 Monessen Equalization Tank Project in order to satisfy CSO LTCP requirements while staying within funding restrictions previously obtained. The project is funded by the Series 2021 Bond issue, which is paid by Monessen residents and property owners through collections of the Monessen Line Usage Fee billed by the Mon Valley Sewage Authority. The scope of the project is

currently in discussions with DEP. Preliminary design is now underway with final design and construction anticipated in 2026.

Senaca Street CSO STF Waterline Replacement

The Seneca Street CSO STF Waterline Replacement Project was undertaken to redesign the chemical feed waterline in the Seneca Street CSO STF. This project is the result of a mechanical failure due to freezing and thawing, leading to a pipe burst. The design brings the waterline to the floor of the Seneca Street CSO STF to prevent significant damage in the future; in the case there were to be another failure. The project includes the installation of new ductile iron and polyvinyl chloride (PVC) pipe, an actuated control valve, and two wet floor alarm pucks. The bidding phase was completed in August 2025 and is currently in the construction phase with an anticipated completion date of February 2026.

WWTP Water Service Line Replacement

The purpose of this project is to replace the existing, failing water service piping to the WWTP with new PVC pipe, between the Authority's water meter and the Authority of the Borough of Charleroi water main. The existing water service line is partially installed across a Norfolk Southern railroad, with the portion of piping under the tracks installed through a casing pipe. The casing pipe will not be removed but reused for installation of the new PVC piping under the railroad. A permit package for work within the railroad right of way is to be completed in 2026, along with final design and construction of the project.

Blowers Replacement Project

The purpose of the Blowers Replacement Project is to replace three existing centrifugal air blowers at the Authority's WWTP. The existing system utilizes two duty blowers and one on standby. Under normal operations one blower is run to satisfy the aeration requirements of the WWTP and a second is turned on as needed. When the second blower is turned on the system exceeds the airflow rate of the existing fine bubble diffuser aeration system, and the current blowers lack the ability to adjust or control this airflow to the existing tanks. Additionally, the current blowers are inefficient to operate from a power consumption standpoint, do not allow proper turndown for variable WWTP operations, and two of the three existing blowers have experienced recent catastrophic equipment failures. The replacement equipment is being purchased and installed through the Commonwealth of Pennsylvania's Cooperative Purchasing Program (COSTARS). Design and construction are anticipated to be completed in 2026.

ESTIMATE OF REVENUE REQUIREMENTS

The annual Sewage Disposal System budget includes monies for operating expenses, administrative expenses, capital expenditures, debt service, and coverage. The estimated revenue requirements are summarized in Exhibit I and are itemized on quarterly basis in Exhibit II and Exhibit III attached to this report. Estimated total revenue requirements for the 2026 fiscal year are $6,786,420.

SEWAGE DISPOSAL SYSTEM RATES AND ESTIMATED 2026 REVENUE

The increased Authority sewer rental rates, which will become effective February 1, 2026, by adoption of Resolution No. 37 of 2025, are as follows:

Residential and Non-Residential Establishments
Minimum Charge will be $181.95 per quarter ($60.65 per month) for 0 – 8,000 gallons of water consumption per residential and non-residential establishments. Usage over 8,000 gallons will be billed at a cost of $22.74 per thousand gallons.

Based on the current rate schedule, the estimated revenue from sewer rentals, investment and other income will be $6,786,420 for the twelve-month period ending November 30, 2026.

In accordance with the information furnished by the Authority relative to the requirements of the Trust Indenture concerning 2025 revenue and expenses, the Authority has indicated that the current rates and charges are adequate.

INSURANCE

As required by Section 8.05 of the Trust Indenture, the Authority Sewage Disposal System properties are insured against loss or damage by fire or other hazards. The Authority also maintains public liability, workers' compensation insurance, and Directors' liability insurance.

Policies are currently in effect in the amounts shown on the following page:

Insurance Policies	
Policy	**Amount**
Property	$46,307,913 Blanket Limit 100% Coinsurance $10,000 Deductible
General Liability	
a) Bodily Injury and Property Damage Limit	$1,000,000 each occurrence
b) General Aggregate	$2,000,000
c) Products-Comp./Opp. Agg. Limit	$2,000,000
d) Personal & Adv. Injury Limit	$1,000,000
e) Damage to Rented Premises	$1,000,000
f) Medical Expense	$5,000 Any One Person
g) Employee Benefit Limit	$1,000,000 Each Person, $2,000,000, Aggregate $1,000 Deductible, each employee
h) Umbrella Limit	$1,000,000 Aggregate $1,000,000 each occurrence
Automobile Liability	$1,000,000 Combined Single Limit
Crime Coverage	
a) Employee Dishonesty Blanket Limit	$250,000 $500 Deductible
b) Money/Securities Inside the Premises	$25,000
c) Money/Securities Outside the Premises	$25,000
d) Deductible	$500
Boiler and Machinery	$46,307,913 Limit $10,000 Deductible all locations
Public Official Insurance	$1,000,000 per "Claim" limit $1,000,000 aggregate $10,000 Deductible per "Claim"
Workers' Compensation	Statutory Limits
Employer's Liability	$1,000,000/$1,000,000/$1,000,000
Flood Insurance (Contents)	$159,500
Travel Insurance	
a) Accidental Death & Dismemberment	$50,000
b) Accidental Medical Treatment	$2,500
c) Total Limit	$200,000
Contractor's Equipment	$182,144 $1,000 Deductible
Electronic Data Processing Hardware and Software	$100,000 $10,000 Deductible

BUDGET

The aggregate projected revenue for the twelve-month period ending November 30, 2026, which will be derived from sewer rentals, investment and other income is estimated to be $6,786,420. For the same period, the total estimated revenue requirements including principal, interest, coverage, and operation and administration expenses are at $6,786,420. Therefore, the Authority has indicated that the estimated revenue based on the current rate schedule is sufficient to cover the revenue requirements.

According to the Authority, the budget is deemed adequate to continue operation and maintenance of the Sewage Disposal System in accordance with the requirements of the Trust Indenture.

Information used in the preparation of the 2026 Budget was obtained from the Authority General Manager, Authority Office Staff, and Auditor. Their assistance is gratefully acknowledged.

EXHIBIT I

MON VALLEY SEWAGE AUTHORITY

SUMMARY OF ESTIMATED SEWAGE DISPOSAL SYSTEM

REVENUE AND REVENUE REQUIREMENTS

Fiscal Year December 1, 2025 to November 30, 2026

REVENUE [1]

City of Monessen	$	3,464,611
Borough of Donora		2,338,028
Carroll Township		60,000
Late fees & Postings		120,000
Monessen EQ Tank fees		219,000
Credit Memos		-
Debit Memos		-
Investment Income		175,000
Sewer Line Maintenance Fees [2]		
City of Monessen (estimated)		34,400
Borough of Donora (estimated)		10,000
Available Revenue Funds		365,381
Line Cleaning Reserve		-
Other Income		-
Total Revenue	$	6,786,420

REVENUE REQUIREMENTS

Operating Expenses [3]	$	1,761,800
Administrative Expenses [3]		1,001,100
Capital Expenditures		-
Net Combined Debt Service [4]		4,023,520
Total Revenue Requirements	$	6,786,420

[1] Itemized on a Quarterly basis in Exhibit II and based on current rate structure.

[2] 3% Administration Fee.

[3] Itemized on a Quarterly basis in Exhibit III.

[4] Includes 2013, 2015, 2015-A, 2016, 2017-A, 2017-B, 2018, 2020, 2021 and 2021-A, 2022, 2023, 2024, Bond Issues and 10% Coverage.

EXHIBIT II

MON VALLEY SEWAGE AUTHORITY

ESTIMATED SEWAGE DISPOSAL SYSTEM REVENUE*

Fiscal Year December 1, 2025 to November 30, 2026

QUARTERLY BUDGET

	First Quarter Dec 24 - Feb 25	Second Quarter Mar 25 - May 25	Third Quarter Jun 25 - Aug 25	Fourth Quarter Sep 25 - Nov 25	Total for Year
City of Monessen	$ 866,153	$ 866,153	$ 866,153	$ 866,153	$ 3,464,611
Borough of Donora	$ 584,507	$ 584,507	$ 584,507	$ 584,507	$ 2,338,028
Carroll Township	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 60,000
Carroll Township EQ Tank	$ -	$ -	$ -	$ -	$ -
Late fees & Postings	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 120,000
Monessen EQ Tank fees	$ 54,750	$ 54,750	$ 54,750	$ 54,750	$ 219,000
Credit Memos	$ -	$ -	$ -	$ -	$ -
Debit Memos	$ -	$ -	$ -	$ -	$ -
Investment Income	$ 43,750	$ 43,750	$ 43,750	$ 43,750	$ 175,000
City Sewer Line Maintenance Fees	$ 8,600	$ 8,600	$ 8,600	$ 8,600	$ 34,400
Borough Sewer Line Maintenance Fees	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 10,000
Available Revenue Funds	$ 91,345	$ 91,345	$ 91,345	$ 91,345	$ 365,381
Line Cleaning Reserve	$ -	$ -	$ -	$ -	$ -
Other Income	$ -	$ -	$ -	$ -	$ -
TOTAL REVENUE	$ 1,696,605	$ 1,696,605	$ 1,696,605	$ 1,696,605	$ 6,786,420

* Based on Increased Rate Structure effective February 1, 2026

EXHIBIT III

MON VALLEY SEWAGE AUTHORITY
ESTIMATED SEWAGE DISPOSAL SYSTEM REVENUE REQUIREMENTS
Fiscal Year December 1, 2025 to November 30, 2026

QUARTERLY BUDGET

OPERATING EXPENSES	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total for Year
Salaries and Wages	$ 167,000	$ 167,000	$ 167,000	$ 167,000	$ 668,000
Payroll Taxes	15,000	15,000	15,000	15,000	60,000
OPEB Exp	250	250	250	250	1,000
Life & AD&D	1,500	1,500	1,500	1,500	6,000
Short Term Disability	1,550	1,550	1,550	1,550	6,200
Health Insurance	45,000	45,000	45,000	45,000	180,000
Educational Expenses	1,000	1,000	1,000	1,000	4,000
Pension	21,000	21,000	21,000	21,000	84,000
Workers Comp Insurance	4,400	4,400	4,400	4,400	17,600
Line Cleaning & Inspection	18,750	18,750	18,750	18,750	75,000
Electric Power	55,000	55,000	55,000	55,000	220,000
Heating Fuel	4,500	4,500	4,500	4,500	18,000
Water	12,500	12,500	12,500	12,500	50,000
Chemicals	25,000	25,000	25,000	25,000	100,000
Laboratory Supplies and Equipment	3,750	3,750	3,750	3,750	15,000
Tools, Small Parts and Supplies	1,000	1,000	1,000	1,000	4,000
Repairs and Maintenance	37,500	37,500	37,500	37,500	150,000
Vehicular Expenses	5,000	5,000	5,000	5,000	20,000
Uniform Service	1,500	1,500	1,500	1,500	6,000
Cleaning Supplies	-	-	-	-	-
Sludge Disposal	18,750	18,750	18,750	18,750	75,000
Contingencies & Emergencies	500	500	500	500	2,000
Sub Total	$ 440,450	$ 440,450	$ 440,450	$ 440,450	$ 1,761,800
ADMINISTRATIVE EXPENSES					
Salaries and Wages	$ 81,350	$ 81,350	$ 81,350	$ 81,350	$ 325,400
Payroll Taxes	7,000	7,000	7,000	7,000	28,000
OPEB Admin	2,500	2,500	2,500	2,500	10,000
Life & AD&D	750	750	750	750	3,000
Short Term Disability	625	625	625	625	2,500
Health Insurance	18,825	18,825	18,825	18,825	75,300
Pension	8,775	8,775	8,775	8,775	35,100
Postage	4,500	4,500	4,500	4,500	18,000
Telephone	6,250	6,250	6,250	6,250	25,000
Office Supplies	2,000	2,000	2,000	2,000	8,000
Billing Expense	22,000	22,000	22,000	22,000	88,000
Postings, Delinquents, Turnoffs	5,000	5,000	5,000	5,000	20,000
Maintenance and Repairs	2,500	2,500	2,500	2,500	10,000
Other Insurance	24,125	24,125	24,125	24,125	96,500
Payroll Service	825	825	825	825	3,300
Legal	11,250	11,250	11,250	11,250	45,000
Trustee Fee	3,750	3,750	3,750	3,750	15,000
Accounting and Auditing	15,000	15,000	15,000	15,000	60,000
Engineer	23,750	23,750	23,750	23,750	95,000
Travel and Meetings	2,500	2,500	2,500	2,500	10,000
Dues	2,500	2,500	2,500	2,500	10,000
Permits	2,500	2,500	2,500	2,500	10,000
Bond Costs	-	-	-	-	-
Credit Card Fees	1,500	1,500	1,500	1,500	6,000
Contingencies and Emergencies	500	500	500	500	2,000
Sub Total	$ 250,275	$ 250,275	$ 250,275	$ 250,275	$ 1,001,100
CAPITAL EXPENDITURES	$ -	$ -	$ -	$ -	$ -
NET COMBINED DEBT SERVICE					
2013, 2015, 2015-A, 2016, 2017-A, 2017-B, 2018, 2020, 2021 and 2021-A, 2022, 2023, 2024 Revenue Bonds (Includes 10% Coverage)	$ 1,005,880	$ 1,005,880	$ 1,005,880	$ 1,005,880	$ 4,023,520
REVENUE REQUIREMENTS					
TOTAL	$ 1,696,605	$ 1,696,605	$ 1,696,605	$ 1,696,605	$ 6,786,420

APPENDIX D. MARION AVE / HILLTOP AREA SEWER SEPARATION PRELIMINARY EVALUATION REPORT

Mon Valley Sewage Authority

MARION AVE / HILLTOP SEWER SEPARATION PRELIMINARY EVALUATION

April, 2026

WADE TRIM

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TABLE OF CONTENTS

FIGURES

TABLES

Acronyms	
MVSA	Mon Valley Sewage Authority
H&H	Hydrologic & Hydraulic
I&I or I/I	Inflow & Infiltration
CSO	Combined Sewer Overflow
SSO	Sanitary Sewer Overflow
EPA	U.S. Environmental Protection Agency
SSOAP	Sanitary Sewer Overflow Analysis and Planning
SWMM	Storm Water Management Model
PCSWMM	Personal Computer Storm Water Management Model
MGD	Million Gallons per Day
RDII	Rainfall Derived Inflow & Infiltration
EDU	Existing Dwelling Unit
WWTP	Wastewater Treatment Plant
PADEP	Pennsylvania Department of Environmental Protection
LTCP	Long Term Control Plan

EXECUTIVE SUMMARY

The Mon Valley Sewage Authority (MVSA) is evaluating an alternative to the planned Monessen Equalization Tank, originally proposed to manage the volume generated by excess peak flows from the Grand Boulevard separate sanitary system. Recent cost concerns prompted the City of Monessen to request assessment of a sewer separation project within the Marion Avenue / Hilltop area—the sole remaining combined sewershed upstream of the proposed tank location. This technical analysis determines whether separating this 42.2-acre area can achieve volume reductions equivalent to the planned 0.5-million-gallon (MG) equalization tank.

Flow monitoring data from 2012 and hydraulic response modeling using EPA SSOAP, RTK unit hydrograph methods, and Rational Method analyses were applied to quantify wet-weather contributions from the combined Marion area. Synthetic hydrographs for representative storm events—including 2-year, 24-hour design storms—were generated using the 3 Rivers Wet Weather Summer Design Storm Tool. Additional evaluation included EDU-based dry-weather flow projections, stormwater removal efficiencies, and existing Seneca Street Trunk Sewer capacity.

Results show that separating the Marion Avenue / Hilltop drainage area is expected to remove **at least 0.5 MG of wet-weather flow**, matching or exceeding the volume captured by the proposed equalization tank. Peak flow reductions of 7 MGD or greater are achievable under an assumed 80% reduction in storm-derived inflow and infiltration—consistent with regional separation and rehabilitation performance benchmarks. These reductions would alleviate surcharging concerns in the Seneca Street Trunk Sewer and provide sufficient conveyance capacity for Grand Boulevard sanitary flows to reach the wastewater treatment plant without additional equalization.
Based on flow removal potential, hydraulic feasibility, and preliminary cost comparisons, sewer separation is a viable and potentially more cost-effective alternative to the equalization tank. Should regulatory agencies agree with this approach, it is recommended that the separation project proceed. Post-construction flow monitoring for the areas tributary to both Grand Boulevard and Parente Island areas is advised to validate performance and confirm regulatory compliance.

1.0 INTRODUCTION AND PURPOSE

1.1 Background

The Mon Valley Sewage Authority (MVSA or Authority), which provides wastewater conveyance and treatment for the City of Monessen (City) and Borough of Donora as well as treatment for a portion of Carroll Township Authority has completed Phase I and Phase II of its Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP). At the time the Authority's LTCP was prepared and approved by Pennsylvania Department of Environmental Protection (PaDEP), the associated stakeholders believed that the entire collection system within the City was permitted as a combined sewer system. After approval of the LTCP, the City and PaDEP identified approximately five overflows occurring within the Grand Boulevard sewershed. PaDEP determined that the Grand Boulevard area was permitted and constructed as a separate sanitary system and deemed these overflows as illegal sanitary sewer overflows (SSOs) that required elimination.

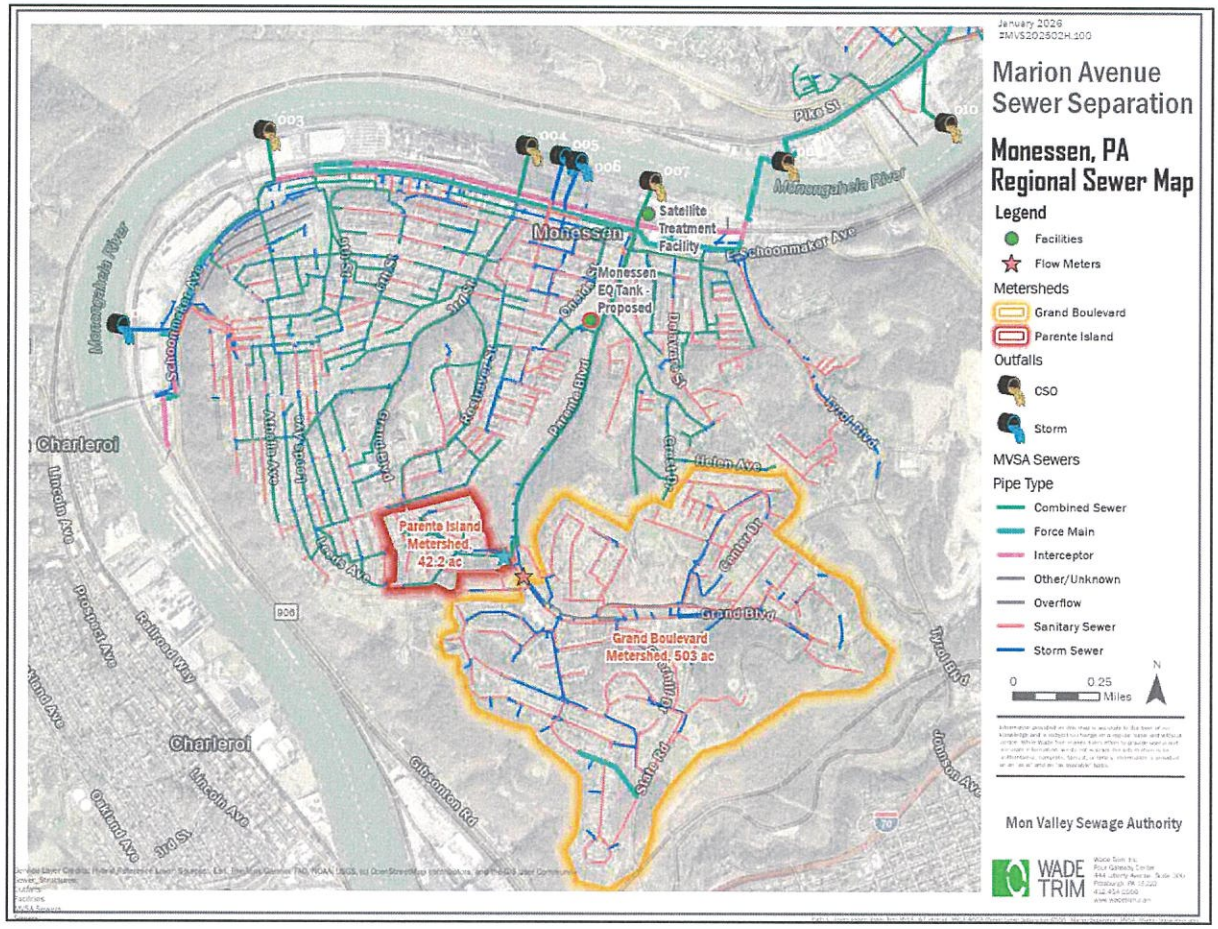
PaDEP has indicated that 100% of the sanitary sewage from the Grand Boulevard collection system must receive full biological treatment at the Authority's Wastewater Treatment Plant (WWTP). The flow from the Grand Boulevard area identified for full biological treatment is required to be conveyed via the Authority's main interceptor to the Monessen Pump Station and across the river to the WWTP. Flow monitoring data collected from the entire CSO 007 drainage area (Seneca Street/Parente Boulevard) demonstrated an average dry weather flow rate of approximately 0.343 MGD and a contributing flow portion from the Grand Boulevard area of 0.179 MGD. Therefore, the LTCP anticipated 0.63 MGD (350% of 0.179 MGD) to be conveyed to the Authority WWTP from the Grand Boulevard drainage area. Subsequent flow monitoring of the Grand Boulevard area conducted in 2012 to 2013 recorded flow rates more than double the flow rate accounted for in the design of the Seneca Street Trunk Sewer constructed during Phase I of the LTCP. The observed flow rates appear to cause surcharging in a portion of the Seneca Street Trunk Sewer.

As a solution to these issues, and as detailed in the approved Monessen Equalization Tank Act 537 Plan Special Study (December 2021), an Equalization Tank was proposed to capture the volume of flow resulting from the 2-year 24-hr design storm that was greater than 350% of the dry weather flow of the Grand Boulevard area. Sizing of the tank was described in the City of Monessen Grand Boulevard Equalization Facility Preliminary Evaluation (January 2017). The recommended equalization tank volume was 0.500 MG.

Recent review of the proposed project costs and conversations with the City and regulatory agencies have resulted in a potential alternative to equalization being evaluated.

Figure 1-1 displays the Marion Ave/ Hilltop Sewer Separation in red and additionally the previously separated Grand Boulevard sewershed in orange with the proposed Monessen Equalization Tank location as a green circular marker outlined in red near the center of the figure. Note that the proposed location of the Equalization Tank is downstream of both the Grand Boulevard and Parente Island monitored areas as flow from those areas is conveyed north through the Seneca Street trunk sewer towards the Seneca Street CSO Satellite Treatment Facility indicated by a green circular marker.

Figure 1-1 Monessen, PA Regional Sewer Map



The Grand Boulevard area was metered previously, and used in the Equalization Tank planning. The Parente Island Metershed was used in this Marion Ave sewer separation analysis.

1.1.1 City of Monessen Equalization Facility

MVSA is currently at the 90% Final Design phase of the Monessen Equalization Tank Project, which included submitting permits to regulatory agencies. During review of the Water Quality Management

Part II permit by the PaDEP the City and MVSA initiated discussions on substantial changes to the nature of the project.

While reviewing the Monessen Equalization Tank 90% design documents, the City expressed that the engineer's opinion of probable construction cost exceeded previous cost estimates and was determined to be financially infeasible as proposed. The City proposed that a sewer separation project on an area tributary to the existing combined sewer system upstream of the proposed equalization tank location could remove sufficient stormwater flow to provide adequate capacity in the existing system to allow the sanitary flows from the Grand Boulevard area to be conveyed to the WWTP and reduce the flow treated by the Seneca Street CSO Satellite Treatment Facility. MVSA tasked Wade Trim to perform an analysis on the potential results of this proposed sewer separation and if this separation could remove an equivalent volume captured by the proposed Monessen Equalization Tank of the area . The intent of this report is to detail this analysis.

1.1.2 Marion Avenue Sewer Separation Request

The City investigated areas tributary to the Seneca Street / Parente Boulevard trunk sewer and identified a sewershed of approximately 103 buildings currently served by combined sewers. This area is the only remaining combined sewershed in the system upstream of the proposed equalization tank location. The City's engineers developed conceptual plans to separate the area along with preliminary costs that appeared to be lower than the current estimated cost of the equalization tank and requested that the separation project be advanced in lieu of the equalization tank.

The area of separation proposed by the City is 42.2 acres located at the top (southern end) of Parente Boulevard at the intersection of Grand Boulevard and herein is called the Marion Ave / Hilltop Sewer Separation Area. The area is mostly residential lots with asphalt streets and no sidewalks. The area spans from Arlington St. to Mellon Ave. A few streets have sanitary lines, but the main line for this area is recorded as combined flow. The City's current code does not allow roof leaders to be connected to either the sanitary or storm sewer systems, and while several daylighted downspouts were observed during field investigations, it has not been confirmed if all roof leaders are disconnected from the existing combined sewers. For the purposes of this analysis and future sizing, it is assumed that the City's ordinance will be enforced and all downspouts will be removed from the combined sewers. Existing catch basins are conveyed directly to the combined sewers. The separation project proposes new separate sanitary sewers while utilizing the existing combined sewers to convey the stormwater. The updated Act 537 Plan Special Study includes evaluation of equalization and the separation alternatives.

2.0 EXISTING DATA

2.1 Flow Data

The City provided 6 months of flow monitoring data from May 1, 2012 to October 31, 2012. These flow meters were installed and maintained by Drnach Environmental, Drnach also conducted quality assurance and quality control for the provided data. A more detailed map of the metered area is shown in Figure 2-1.

Figure 2-1 Parente Island Metershed

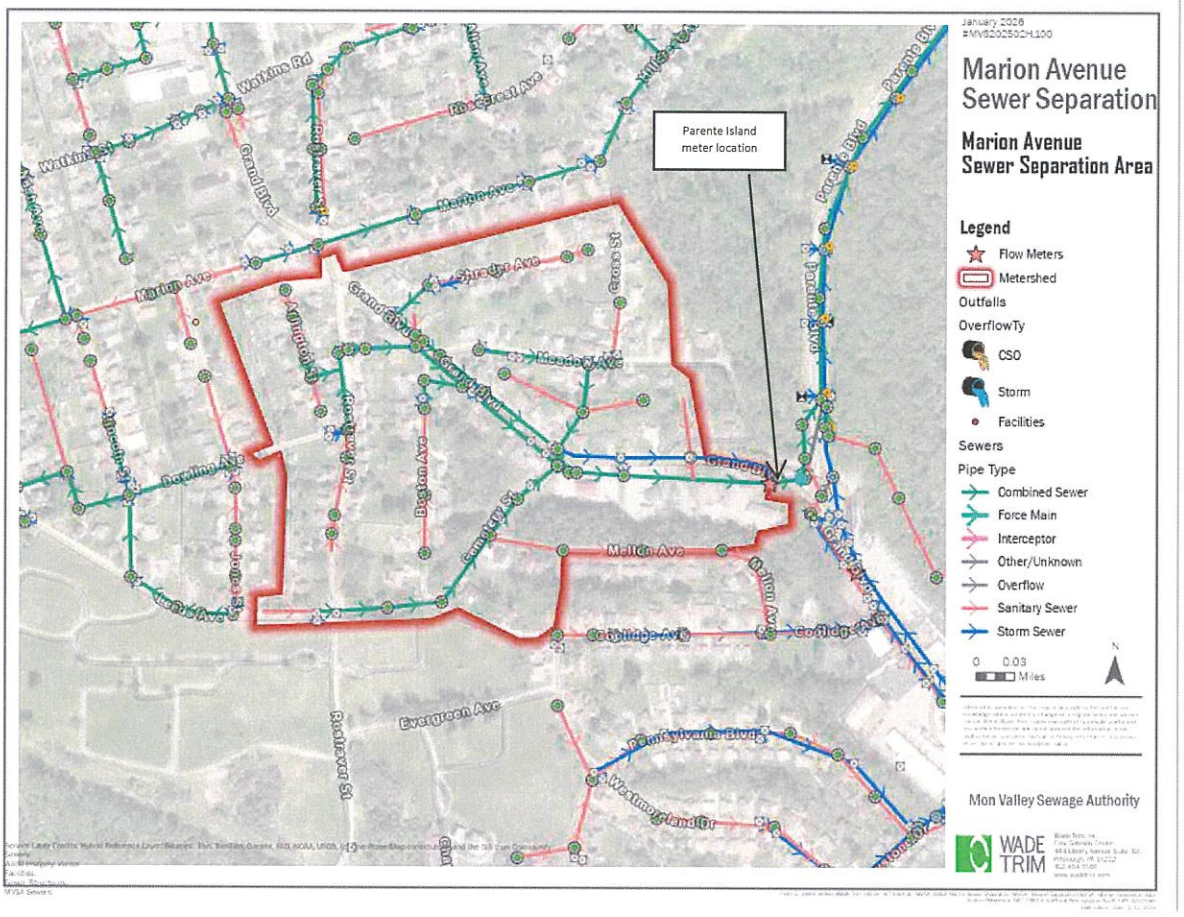


Figure 2-1 displays the Marion Ave / Hill Top Area Sewer Separation whose flow was monitored by a meter called the Parente Island Meter (indicated in Figure 2-1 as an orange star). Parente Island is the roadway median island where Grand Boulevard and Parente Boulevard (Seneca Street) intersect and where the Parente Island flow meter was located. The metered area is the entire 42.2 acres proposed for sewer separation and currently includes approximately 9600 feet of collection pipe (combined, sanitary, and storm) as summarized in Table 2-1. The meter was placed on the main 36-inch diameter combined sewer line which runs through this area. Additionally, Figure 1-1 displays the

metershed of the previously monitored Grand Boulevard area and shows the parts of the sewer system which are owned and operated by MVSA. This includes the interceptors, pump stations, and force mains which convey the City's flows to MVSA's WWTP.

Table 2-1 Parente Island Meter Statistics

Meter Name	Meter Location	Meter Program	Metered Area (acreage)	Metered Area Pipe Length (ft)	Metered Area type (Combined, Sanitary)
Parente Island	Intersection of Grand Blvd, Parente Blvd, and Frantz St	2012, phase I	42.2	9596	Combined

Table 2-2 summarizes the data obtained from the Parente Island meter and also the data obtained from Grand Boulevard meter used in the Equalization Tank sizing for context. The Grand Boulevard sewershed is a separate sanitary area with 418 acres and as displayed by the orange area in Figure 1-1.

Table 2-2 Parente Island Flow Monitoring Data Summary

Monitoring Period		Average Daily Flow (MGD)	Dry Weather Flow (MGD)	Peak Daily Flow (MGD)	Peak Instantaneous Flow (MGD)
5/1/2012-10/31/2012	Parente Island	0.044	0.0241	0.811	9.187
2015	Grand Boulevard	0.174	0.145	0.700	4.334

Data provided by SSOAP outputs: "Flow Import Information" and "Write Daily Average Flows"

2.2 SSOAP Sewershed Response Development

To evaluate, model and develop simulated responses of the Parente Island metershed, the flow monitoring data was imported into the program EPA Sanitary Sewer Overflow Analysis and Planning tool (SSOAP). SSOAP is a suite of computer software tools used to quantify rainfall derived infiltration and inflow (RDII) in sanitary sewer systems and facilitate the capacity analysis of sanitary sewer systems. The SSOAP Toolbox uses the Unit Hydrograph Method (R. T. K. method) to derive the sanitary sewer RDII response using the associated rainfall and flow monitoring data.

The RDII R. T. K. Method is similar to unit hydrograph methods that are commonly used to simulate flows in storm water runoff analyses. A unit hydrograph is defined as the flow response that results from one unit of rainfall during one unit of time. This method is based on fitting three triangular unit hydrographs to an actual RDII hydrograph derived from flow meter data.

This RTK hydrograph generation method has two basic steps. The first step is to define R, T, K parameters in response to one unit of rainfall over one unit of time. Three unit hydrographs are typically used because the shape of an RDII hydrograph is too complex to be well represented by a single unit hydrograph. The RDII hydrograph can be generated using less than three sets of R, T, K values. However, experience indicates that it often requires three unit hydrographs to adequately represent the various ways that precipitation becomes RDII. The first triangle represents the most rapidly responding inflow component and has a T of one to three hours. The second triangle includes both rainfall-derived inflow and infiltration and has a longer T value. The third triangle includes infiltration that may continue long after the storm event has ended and has the longest T value. In this first step, the R, T, K parameters for each of the three triangles are defined for each unit rainfall over one-unit time frame. The sum of the R values for each of the three unit hydrographs (i.e., R1, R2, and R3) must equal the total R value for the rainfall event.

The second step of the unit hydrograph methodology is to sum all the RDII unit hydrographs that were developed for each unit of time within a rainfall event to develop a total event RDII hydrograph. This would represent the hydrograph from a rainfall event lasting three-unit time steps. If a rainfall event has rainfall duration of two hours within a 15-minute unit time step, then the hydrograph developed by this method would be the summation of the 24 unit hydrographs that resulted from each 15-minute rainfall increment.

The SSOAP Toolbox automatically sums the unit hydrographs to derive the total RDII hydrograph for a sewer shed and selected rainfall events. The toolbox provides graphical tools and statistical comparisons of predicted and observed peak flows and flow volumes to assist the users in identifying the combination of R, T, and K values that best match the simulated hydrograph with the observed RDII hydrographs. This is accomplished by a curve fitting procedure. In this procedure, the flow monitoring data is first decomposed into the Dry Weather Flow (DWF) and RDII components. Then the DWF component is subtracted from the total hydrograph to derive the RDII component. The

best combination of the R, T, and K values for each of the three triangular unit hydrographs is determined iteratively until the derived RDII hydrograph closely approximates the observed RDII hydrograph.

2.2.1 Dry Weather Flow

Dry weather flow is processed in SSOAP. The dry weather flow is defined as the data remaining after the removal of days within the period that were directly affected by a rain event. This method determines DWF based on rainfall records corresponding with flow data date ranges. The maximum amount of preceding rainfall is configurable for the previous seven days. If the amount of rainfall exceeds the maximum, the day is omitted from the set of DWF days. Table 2-3 provides the parameters for the dry weather flow determination performed in SSOAP.

Table 2-3 Dry Weather Flow SSOAP Parameters

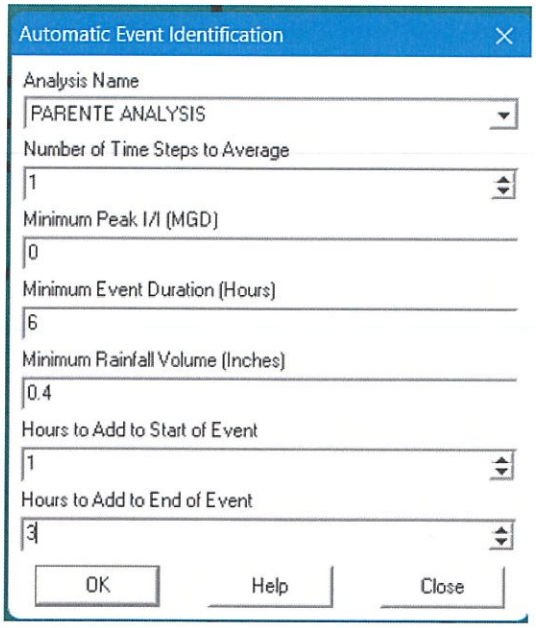
Day Max Rain	Amount (in)	Description
Current Day	0.0	Maximum amount of rainfall allowed on the "DWF" day.
Previous Day	0.1	Maximum amount of rainfall allowed one day before the "DWF" day.
Two Day Previous	0.5	Maximum amount of rainfall allowed two days before the "DWF" day.
Three Day Previous	1	Maximum amount of rainfall allowed three days before the "DWF" day.
Four Day Previous	2	Maximum amount of rainfall allowed four days before the "DWF" day.
Five Day Previous	3	Maximum amount of rainfall allowed five days before the "DWF" day.
Six Day Previous	4	Maximum amount of rainfall allowed six days before the "DWF" day.
Seven Day Previous	5	Maximum amount of rainfall allowed seven days before the "DWF" day.

The dry weather day flow patterns are averaged by SSOAP, and outliers/poor meter performance days are manually sorted out by the user. This average pattern is plotted over the entire flow time series and manually adjusted to align with the monitored data dry weather flow pattern.

2.2.1 Wet Weather Events

Wet weather events were defined as events above 0.4" of rainfall, with a minimum interevent time of 6 hours. This was automatically determined in SSOAP, with parameters as shown in Figure 2-2. The events were then manually adjusted as needed, which is typical for a SSOAP analysis.

Figure 2-2 Automatic Wet Weather Event Identification Parameters used in SSOAP



From SSOAP > RDII Analysis Tool > WWF Analysis > Automatic RDII Event Identification

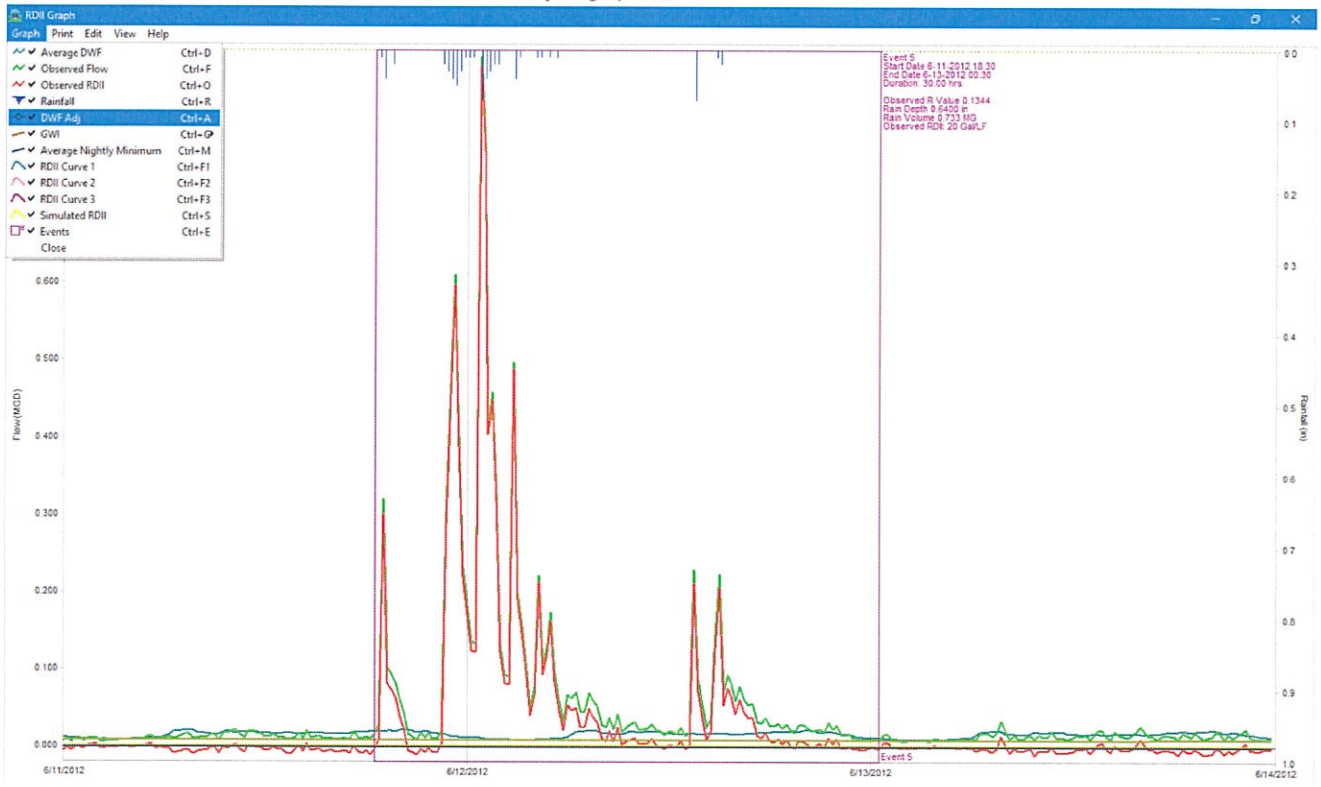
Table 2-4 below, summarizes the wet weather events as previously defined. The monitored area was 42.2 acres, which was used by SSOAP in calculating the volume statistics below. Figure 2-3 displays a typical storm deconstruction as generated in SSOAP.

Table 2-4 Wet Weather Event Summary

Event #	Event Start	Event End	Event Duration (hr)	Rain Duration (hr)	Total Event Rainfall Intensity (in/hr)	Rain Volume (in)	I&I Volume (in)	Peak Total Flow (MGD)	Peak I&I Flow (MGD)
1	5/1/2012 0:45	5/3/2012 10:00	57.25	53.25	0.015	0.82	0.094	0.927	0.926
2	5/7/2012 20:45	5/10/2012 0:30	51.75	42.5	0.048	2.03	0.29	1.561	1.544
3	5/13/2012 10:30	5/16/2012 3:00	64.5	41.5	0.021	0.87	0.18	0.552	0.54
4	6/1/2012 5:15	6/2/2012 9:15	28	16.25	0.033	0.53	0.058	0.681	0.664
5	6/11/2012 18:30	6/13/2012 0:30	30	20.25	0.032	0.64	0.086	0.892	0.881
6	6/18/2012 0:15	6/18/2012 15:00	14.75	6.25	0.075	0.47	0.034	0.474	0.453
7	7/4/2012 2:30	7/4/2012 19:45	17.25	3	0.260	0.78	0.068	3.454	3.44
8	7/14/2012 23:00	7/15/2012 4:45	5.75	3	0.173	0.52	0.023	0.668	0.654
9	7/19/2012 14:45	7/19/2012 22:00	7.25	2.5	0.256	0.64	0.041	1.04	1.019
10	7/20/2012 6:30	7/21/2012 2:15	19.75	19	0.086	1.64	0.244	9.187 (maximum)	9.166
11	7/26/2012 18:00	7/28/2012 2:45	32.75	23.75	0.039	0.92	0.129	0.939	0.924
12	8/5/2012 10:00	8/6/2012 3:00	17	15.25	0.026	0.4	0.045	0.798	0.768
13	8/9/2012 22:45	8/10/2012 12:00	13.25	4.5	0.129	0.58	0.074	1.175	1.157
14	9/1/2012 15:45	9/2/2012 16:00	24.25	22	0.060	1.31	0.242	7.474	7.452
15	9/8/2012 6:00	9/9/2012 0:45	18.75	6.25	0.149	0.93	0.115	2.131	2.103
16	9/18/2012 0:30	9/20/2012 1:30	49	28.25	0.063	1.77	0.339	3.138	3.12
17	9/26/2012 2:45	9/26/2012 11:30	8.75	6.25	0.083	0.52	0.06	0.833	0.814
18	9/27/2012 1:15	9/28/2012 20:30	43.25	23	0.040	0.92	0.239	2.816	2.798
19	10/2/2012 2:45	10/3/2012 1:45	23	11.25	0.037	0.42	0.089	1.081	1.055
20	10/18/2012 16:00	10/19/2012 1:30	9.5	3.75	0.120	0.45	0.054	1.134	1.114

Wet Weather Event Summaries exported from SSOAP

Figure 2-3 Sample Recorded Data Storm Deconstruction Hydrograph in SSOAP



Screenshot from SSOAP > RDII Graph

2.2.2 Wet Weather Events for RTK

The evaluation focused on larger response storm events in the summer with rainfalls of approximately 1-inch or more. R, T, and K values were established for individual select storm events as summarized in Table 2-5. As a note, these are not the same RTK values that would be used in a system modeling context, such as with SWMM software where the RTK represents a portion of the hydrograph response curve. The RTK values in the context of this evaluation were used to represent the entire hydrograph response curve.

Table 2-5 Selected Design Storm Summary

Event #	Event Start	Peak Total Flow (MGD)	R1	T1	K1	R2	T2	K2	R3	T3	K3
7	7/4/2012 2:30	3.454	0.1	0.25	1	0.005	0.25	2	0.015	1	3
8	7/14/2012 23:00	0.668	0.005	0.28	1	0.03	0.4	1.5	0.008	1	3
9	7/19/2012 14:45	1.04	0.03	0.28	0.7	0.01	0.7	0.6	0.03	1.3	4.5
10	7/20/2012 5:45	9.187	0.165	0.28	0.7	0.01	0.7	0.6	0.025	1	4.73
11	7/26/2012 18:00	0.939	0.075	1.07	0.7	0.025	3	0.6	0.055	4	8
14	9/1/2012 15:45	7.474	0.256	0.2	1	0.01	0.7	1	0.025	1	5
16	9/8/2012 6:00	3.138	0.13	0.2	1	0.01	1	1	0.05	3	8
18	9/18/2012 0:30	2.816	0.15	0.2	1	0.02	1	1	0.09	3	8

R, T, and K values for select summer storm events

Please refer to Table 2-4 in Section 2.2.1 for all 20 of the wet weather events and their typical statistics.

3.0 EVALUATION

The expected flow from the separate sanitary area will be analyzed using industry standard equivalent dwelling unit calculations and peaking factors. Additionally, the potential flow removed from the system by separating the storm flow out will be determined. To calculate the storm flow, several evaluations were performed using including using SSOAP tool and the existing flow monitoring data to develop unit response hydrograph. This hydrograph will be applied to typical Soil Conservation Services (SCS) rainfall distribution curves to develop a synthetic response and peak flows under a 2-year 24-hour storm. The evaluation uses a 2-year 24-hour design storm to be consistent with the Monessen Equalization Tank sizing.

According to the *Starting at the Source Technical Report (ALCOSAN 2015),* inflow and infiltration reduction of almost 90% of flows can be achieved when rehabilitation projects are completed on both the mainlines and private laterals for sanitary sewer systems. While no lateral work is anticipated as part of the Marion Area Sewer Separation project, current City of Monessen ordinances do not allow roof leaders or storm water to discharge to the municipal sewers. While no private lateral work is proposed, due to the removal of road drainage from the combined sewer system, the sewer separation of the main lines is anticipated to remove at least 80% of the direct inflow and infiltration and therefore flow reduction of 80% will be used for the purposes of this report. The estimated storm flow peaks shall also be analyzed using the Rational Method to confirm if these peaks flow were reasonable. Using the calculated expected sanitary flow remaining in the sanitary system, the capacity of the Parente Boulevard trunk sewer was reviewed by applying the monitored flows from previous flow meter locations to determine if any surcharging is anticipated.

3.1 EDU Calculations

To estimate the anticipated dry weather flow and sanitary flow for the area based on industry standard practices, the flow rate for equivalent dwelling units was determined by multiplying the EDU count by the persons per house and flow per capita. Of the 103 buildings in the project area, 99 are residential houses in this area of the City of Monessen. Additionally, there is an elder care community called Hallsworth House which reports 63 residents on their website (https://www.hallsworthhousepa.com/care-home-about-us). According to the 2020 census data, the City of Monessen has a population density of 2.19 people per EDU (Existing Dwelling Unit), which totals 280 people or 128 EDUs in the monitored area. Table 3-1 below provides the summary of the calculations.

Table 3-1 Existing Dwelling Unit (EDU) Calculations	
99	House Count
2.19	people per house
99 * 2.19 = 217	People in houses
63.0	Hallsworth House residents
63 + 217 = 280	Total Population
280 / 2.19 = **128**	**Total EDU**
100.0	Gallons Per Day/Capita
100 * 128 * 2.19 / 1000000 = **0.0280**	**MGD: Calculated Dry Weather Flow**

The above calculations estimate that 28,000 gallons a day of sewage flow are produced. Applying a peaking factor of 3.5 results in an estimate of 98,000 gallons per day. The peaking factor of 350% represents the requirement of the DEP Domestic Wastewater Facilities Manual for interceptors carrying combined wastewater flow and was considered conservative for a separated system. While this calculation provides an industry standard design flow rate anticipated in the new separate sanitary system, previous separation projects have not effectively removed all storm flow from the sanitary system. To determine the storm flow rate currently conveyed in the existing combined sewer system, the unit response hydrographs were applied to a design storm.

For context, the flow calculated from Grand Boulevard dry weather flow from as reported in the Grand Boulevard Equalization Facility Preliminary Evaluation was 0.197 MGD (approximately 900 EDUs), with a peak flow of 0.68 MGD. This was determined to be in line with the dry weather and peak anticipated flows from this area used in the LTCP of 0.179 MGD and 0.63 MGD respectively.

3.2 Response Unit Hydrographs

Using the RTK values were established in Section 2.2, these values were used with the 3RWW Summer Design Storm Tool to develop a design storm response hydrograph. This is a spreadsheet published and utilized by the local regional nonprofit Three Rivers Wet Weather (3RWW). The spreadsheet uses flow and rain data with RTK values to create a unit hydrograph, and then the various design storms for the region are applied to this to estimate how the system would react for a 1-year storm, 2-year storm, et cetera. All of the applied design storms are for a 24-hour period. The design storms are provided by NOAA (see Table 3-2) and standard for the Southwestern Pennsylvania region.

As described in Section 2.2.2, July is the second wettest month on average (average precipitation in inches) for the region, after June. For the flow data provided, July 2012 (for wet weather events above 0.4") had the highest total precipitation of 4.5 inches of rain.

3.2.1 Design Storm Selection

Design storms are theoretical events used for the estimation of collection system responses under a range of reoccurrence intervals to evaluate the collection system performance and size facilities to provide an expected level of control. The design storm precipitation patterns and volumes for recurrence intervals vary by season and location. For this evaluation a 2-Year 24-Hour summer design storm was selected to be consistent and enable comparison to the City of Monessen Grand Boulevard Equalization Facility Preliminary Evaluation (January 2017) results.

3.2.1 Synthetic Response

Table 3-2 displays the rainfall statistics for the Summer Design storms in the Pittsburgh region as per the standard SCS Type II distribution curves. Table 3-3 displays a summary of the peak flows calculated using the 3 RWW Summer Design Storm Tool for the storms selected for the evaluation. Graphic displays of the response storms for the select events are provided in Figure 3-1 though Figure 3-4.

Table 3-2 Monessen, Pennsylvania Design Storms

Year	Duration (hours)	Rainfall depth (in)	Average Rainfall Intensity (in/hr)	Peak Rainfall Intensity (in/hr)
1	24	1.98	0.082	0.84
2	**24**	**2.37**	**0.098**	**1.01**
5	24	2.89	0.120	1.24
10	24	3.32	0.138	1.42
25	24	3.93	0.163	1.45
50	24	4.42	0.184	1.89
100	24	4.94	0.205	2.11

From NOAA https://hdsc.nws.noaa.gov/pfds/pfds_map_cont.html?bkmrk=pa

a

Table 3-3 Monessen, Synthetic Summer Storm Response

Storm Return Frequency	Peak Rainfall Intensity (in/hr)	7/20 Storm Peak Flow (MGD)	9/1 Storm Peak Flow (MGD)	9/18 Storm Peak Flow (MGD)	9/27 Storm Peak Flow (MGD)
1	0.84	10.54	16.12	8.22	9.59
2	**1.01**	**12.52**	**19.154**	**9.762**	**11.394**
5	1.24	15.30	23.42	11.93	13.93
10	2.11	17.56	26.88	13.69	15.98

Figure 3-1 Event 10: Synthetic Response (7/20/2012)

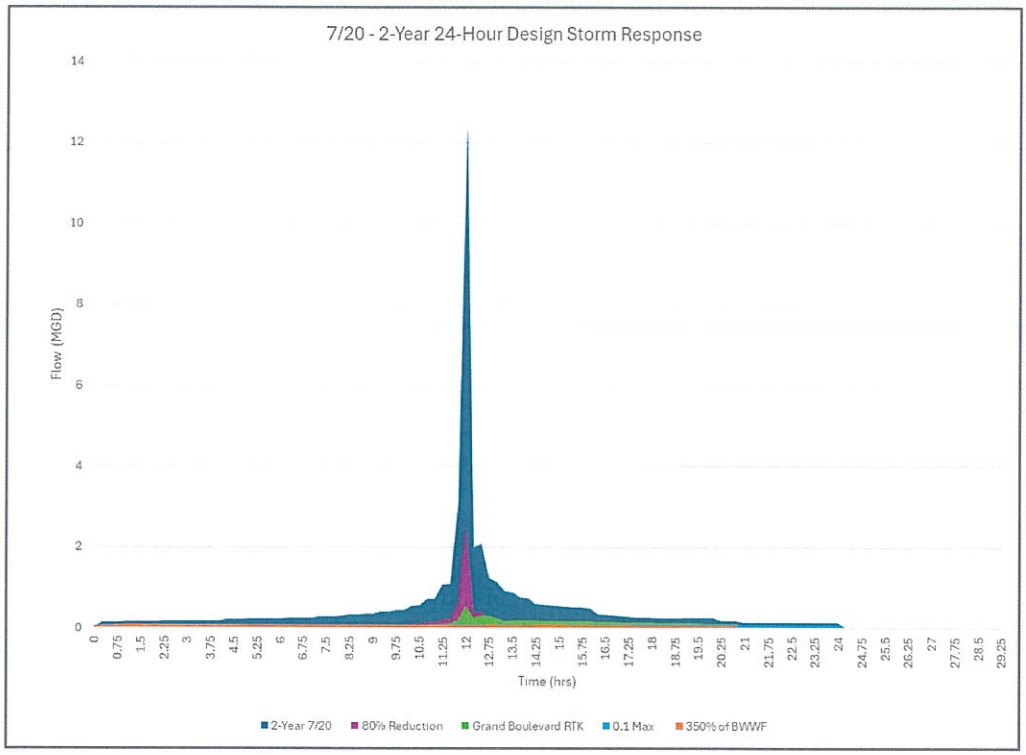


Figure 3-2: Event 14: Synthetic Response (9/1/2012)

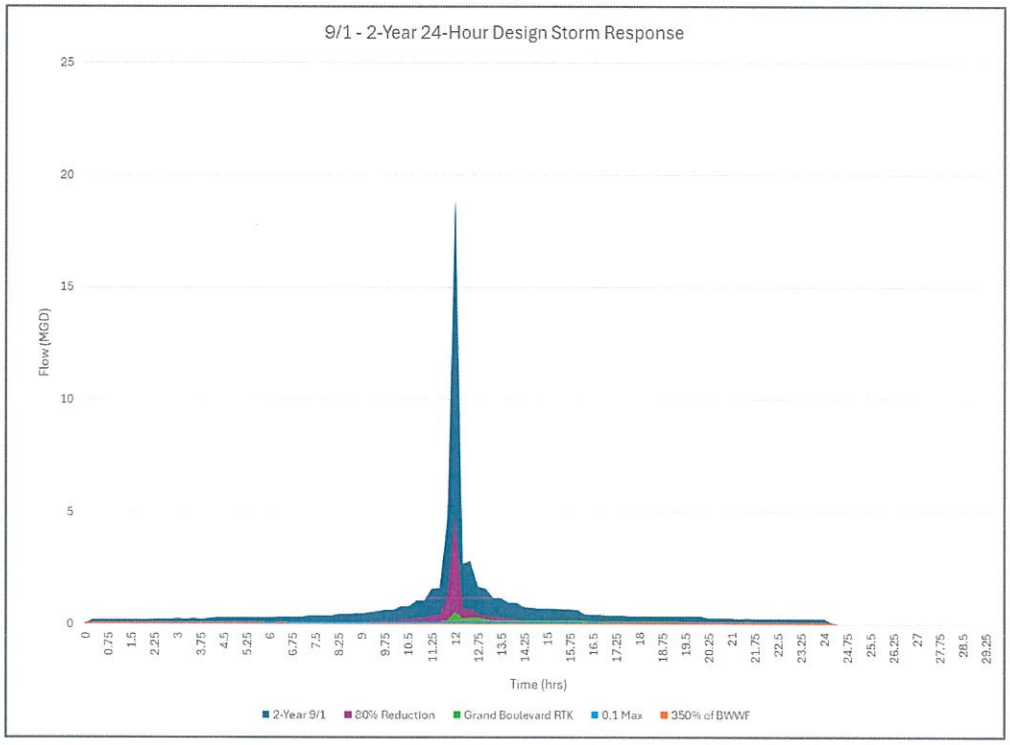


Figure 3-3: Event 16: Synthetic Response (9/18/2012)

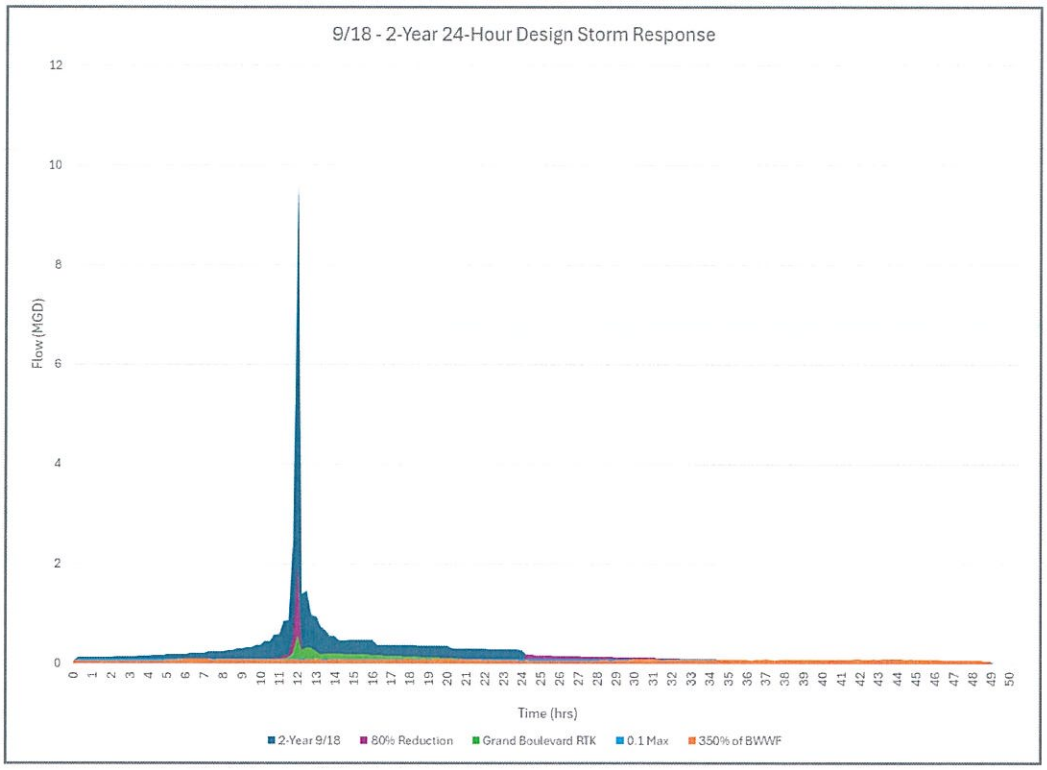
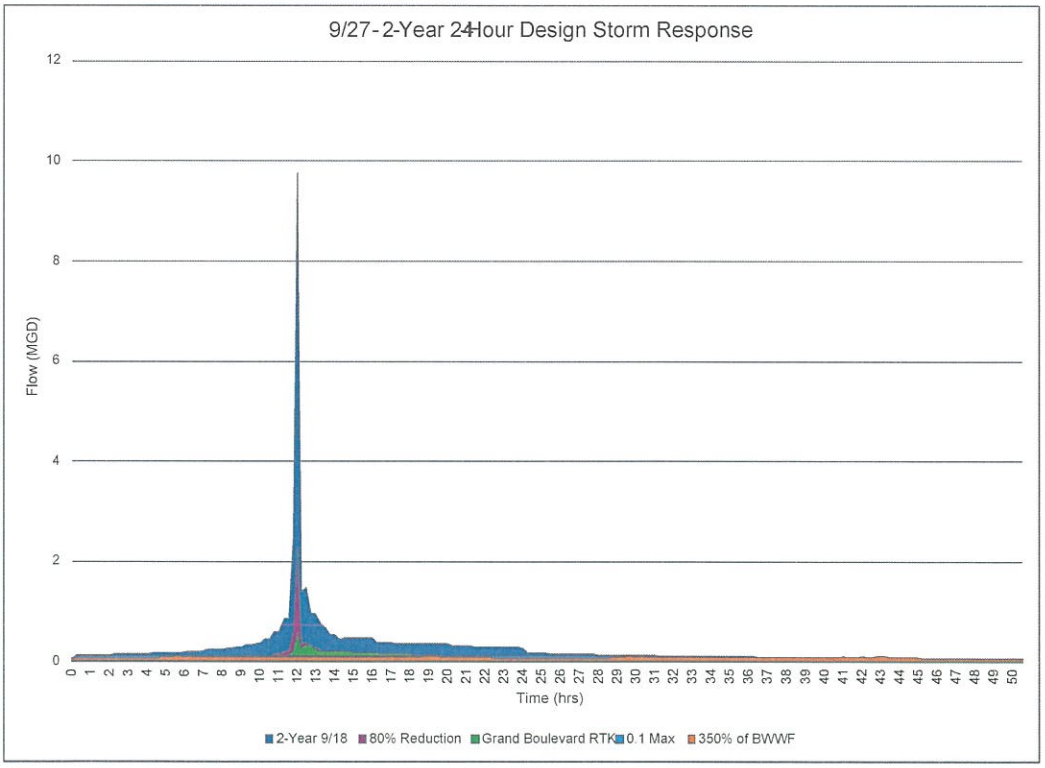


Figure 3-4: Event 18: Synthetic Response (9/27/2012)



3.3 Rational Method

The Rational Method is appropriate for estimating peak discharges for small drainage areas of up to about 200 acres (80 hectares) with no significant flood storage. The method provides the designer with a peak discharge value but does not provide a time series of flow nor flow volume.

The design storm is a selected intensity and duration of rainfall, expressed in inches per hour, which tends to occur once during a specified period of years. The Rational Method is the recommended hydrologic method for drainage areas up to 200 acres in size.

The Rational Method formula is as follows:

$$Q = C*i*A$$

Q = Peak flow (cfs) (The peak flow may be defined as the maximum expected rate of flow, created by the design storm, arriving at a particular location (inlet, ditch, etc.).

C = Runoff coefficient (dimensionless)

i = Rainfall intensity (in/hr)

A = Drainage area (acres)

Note: one acre-in/hr is equal to 1.008 cfs. Therefore, the above equation is used to give peak flow in cubic feet per second (cfs).

It is necessary to adjust the total quantity of water falling on an area (iA) because a certain percentage of water is dissipated by evaporation, transpiration, percolation, ponding and physical characteristics such as sinkholes. Therefore, the runoff coefficient "C" is introduced into the Rational Equation to account for the dissipated water. The runoff coefficient "C" represents the proportion of the total quantity of water falling on the area that remains as runoff.

Per the PennDOT Contextual Roadway Design Manual Part 2, Publication 13, Exhibit 10.2.1; the acceptable range of the runoff coefficient “C” is between 0.35 and 0.6 for a “Suburban, normal residential area.” In order to be more conservative, the higher “C” value of 0.6 is used for this analysis. [1]

The rainfall intensity was chosen from the NOAA design storm tables for a 2-year storm, but other real and design storm intensities were assessed to determine an appropriate evaluation. The Rational Method uses the peak rainfall intensity in order to produce the peak flow response. Table 3-4 calculates the Rational Method from a few design storms and higher intensity monitored storms.

[1] https://www.pa.gov/content/dam/copapwp-pagov/en/penndot/documents/public/pubsforms/publications/pub-13/december%202025%20change%20no.%209.pdf

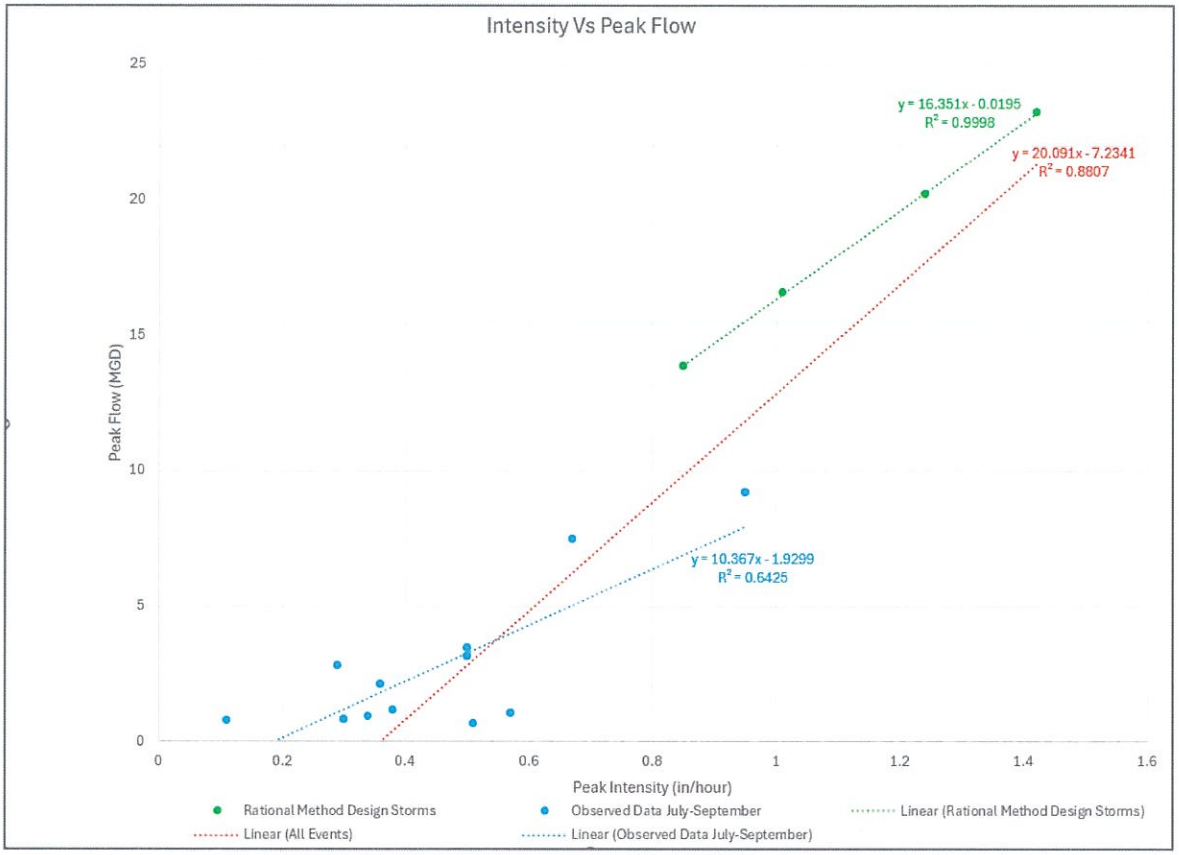
Table 3-4 Rational Method Calculations

Intensity source	Rainfall Intensity Label	Peak "i" (in/hr)	Peak Flow "Q" (MGD) *Calculated via Rational Method*
Design Storms	1yr, 24hr design storm	0.85	13.84
	2yr, 24hr design storm	**1.01**	**16.57**
	5yr, 24hr design storm	1.24	20.21
	10yr, 24hr design storm	1.42	23.21
Observed Data	Event 7: 7/4/2012 storm	0.500	8.168
	Event 8: 7/14/2012 storm	0.510	8.331
	Event 9: 7/19/2012 storm	0.570	9.311
	Event 10: 7/20/2012 storm	0.950	15.519
	Event 11: 7/26/2012 storm	0.340	5.554
	Event 14: 9/1/2012 storm	0.81	13.232
	Event 16: 9/18/2012 storm	0.62	10.128
	Event 18: 9/27/2012 storm	0.29	4.737

Rational Method calculations for a range of scenarios, with A= 42.2 acres and C= 0.6.

Figure 3-5 displays a graph of the Peak Flows as a function of the intensity for the July-September storms and the design storms using both the synthetic response from the 3RWW summer design tool and the rational method calculation. Note the peak intensity of the July 20, 2012 storm was of similar magnitude to the flow calculated from the peak intensity of the 2-year, 24-hour design storm. As displayed, the R^2 values for the observed data is 0.64 and for all events (observed and calculated) is 0.88, showing there is good correlation between peak intensity and peak flows which provides reasonable confidence in the peak monitored flows of the storm events.

Figure 3-5 Rational Method vs Observed Data Correlation



3.4 Volume Reduction

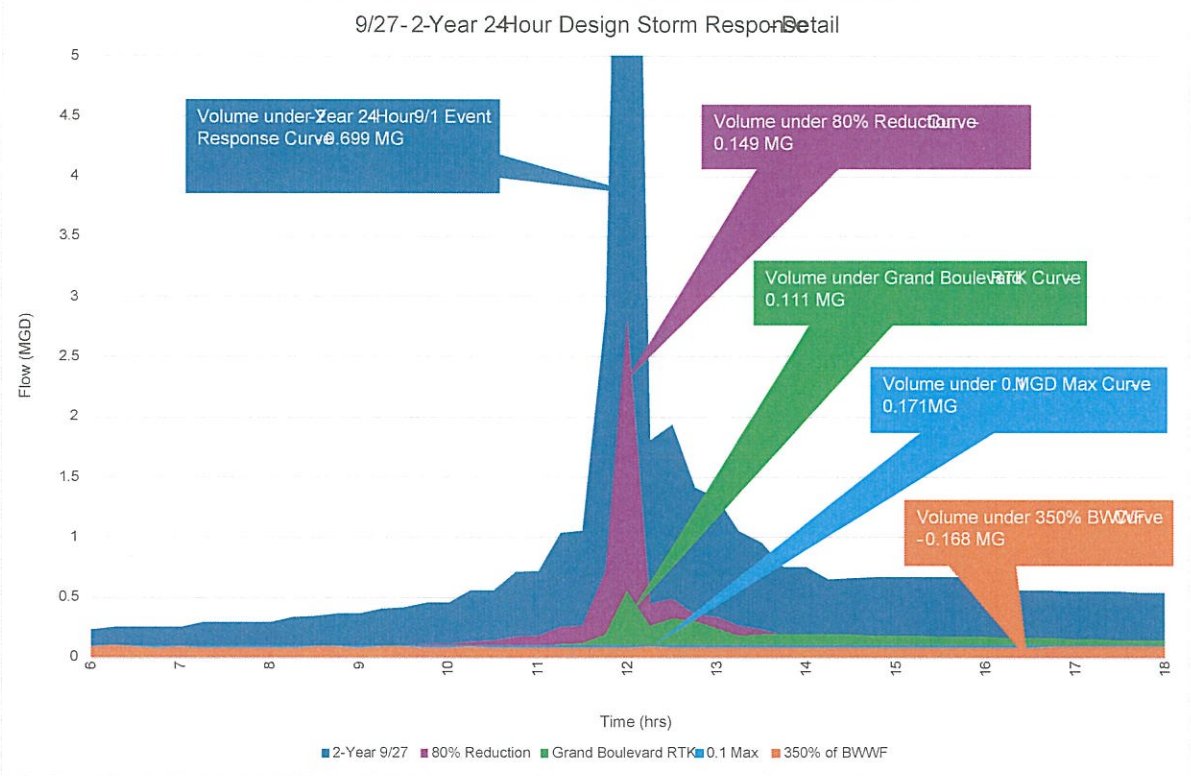
To evaluate potential volume reduction achieved by the proposed sewer separation, several calculations were performed:

1) RTK values of the Grand Boulevard were inserted in the 3RWW summer design storm tool with the base wastewater flow from the Parente Island monitored flow to develop a synthetic response from the 2-year 24-hour storm. It was assumed that similar response curves can be achieved as a result of the separation as those that have been developed based on the previously separated sanitary area of Grand Boulevard.
2) The volume of 350% of the monitored dry weather was calculated by multiplying the dry weather flow times 3.50. The volume was then subtracted from the design storm flow volume for the removed flow volume.
3) The retained volume of up to 0.1 MGD was calculated by setting a maximum of 0.1 MGD for the flows. Removed volume was determined by subtracting that volume from the design storm volume. Per Section 3.1, 0.1 MGD is the maximum flow anticipated from the area per the EDU calculation.

4) The retained volume assuming 80% removal of the storm water. A factor of 0.2 was multiplied times the design storm flows. Removed volume was determined by subtracting that retained volume from the design storm volume.

A summary of the results of the evaluation is provided in Table 3-5. A detail of the synthetic design storm response curve for Event 18 (9/27/12) overlaid with the curves for items 1) through 4) described above is provided in Figure 3-6 to help illustrate how the volumes were calculated.

Figure 3-6: Event 18: Synthetic Response (9/27/2012) Detail with Volume Callouts



3.5 Interceptor Capacity

According to the Gannett Fleming Design Engineer's Report provided in the Water Quality Management Part II Permit Application for the Seneca Street Trunk Sewer Project, the Seneca Street Trunk Sewer was designed to convey all flow from the Grand Boulevard Service Area to a satellite treatment facility at the bottom of Seneca Street. At the time the LTCP was developed and submitted, the peak flow conveyed from the Grand Boulevard Service Area was approximately 2 MGD. Subsequently, it was determined that overflows and pipe defects existed upstream of this connection. The metering conducted in 2012-2013 and in 2015 recorded flows peak flows as high as 5 MGD. The Gannett Fleming report indicated that the pipe run from Manhole S-3 to S-2 was constructed at slope less than design resulting in the manhole run from S-3 to S-2 to appear to be surcharged due to the increase in peak flow from 2 MGD to 5 MGD for the Grand Boulevard flows.

The capacity of this sewer is shown as 29.85 MGD with an anticipated flow of 31.85 MGD. A reduction of at least 2 MGD would provide sufficient capacity to eliminate apparent surcharge conditions. In each of the storms evaluated, assuming the removal of 80% of the flow, the peak flows would be reduced by at least 7 MGD.

Table 3-5 Volume Reduction Calculation Results

2-Year 24- Hour Design Storm				350% of BWWF			Grand Boulevard RTKs			0.1 MGD Max (EDU Calc)			80% Reduction		
Storm	Peak (MGD)	Total Volume (MG)	RDII Volume (MG)	Peak (MGD)	Total Volume (MG)	Removal Volume (MG)	Peak (MGD)	Total Volume (MG)	Removal Volume (MG)	Peak (MGD)	Total Volume (MG)	Removal Volume (MG)	Peak (MGD)	Total Volume (MG)	Removal Volume (MG)
10	12.52	0.537	0.506	0.091	0.065	0.472	0.542	0.111	0.426	0.100	0.102	0.435	2.504	0.109	0.428
14	19.15	0.765	0.734	0.102	0.070	0.695			0.654		0.103	0.663	3.831	0.155	0.610
16	9.76	0.563	0.485	0.095	0.156	0.407			0.446		0.174	0.389	1.952	0.183	0.379
18	11.39	0.742	0.669	0.102	0.168	0.574			0.625		0.171	0.571	2.279	0.149	0.593
				Average		**0.537**	**Average**		**0.538**	**Average**		**0.514**	**Average**		**0.502**

4.0 RECOMMENDATION AND CONCLUSIONS

As displayed in Table 3-5 for each of the calculations the average value of volume removed from the system for the storms evaluated is at least 0.5 million gallons, which is equal to or greater than the volume retained in the proposed Monessen Equalization Tank. Additionally, there appears to be sufficient capacity in the existing system to convey the volume and peak flows from the Grand Boulevard and Marion area through the Seneca Street trunk sewer. If sewer separation is determined to be more cost effective than construction of the equalization tank, and the regulatory agencies are agreeable to the proposed solution, sewer separation is recommended. Post construction flow monitoring for both the Grand Boulevard and Parente Island meters for a period of 6 months is recommended to confirm the removal assumptions.

APPENDIX E. PRELIMINARY DESIGN AND OPINION OF PROBABLE CONSTRUCTION COSTS

Mon Valley Sewage Authority
Marion / Hilltop Area Sewer Separation
Sanitary Sewer Replacement Alternative
Prepared: December 12, 2025

Description Install new sanitary sewer to replace existing combined. Reconnect separate areas and laterals.

Design Parameters

Depth	10 FT, on average	
Assumed SOE	5 FT width stacked trench box or slide rail	
Pipe	8 in, Main	6 in, Lateral

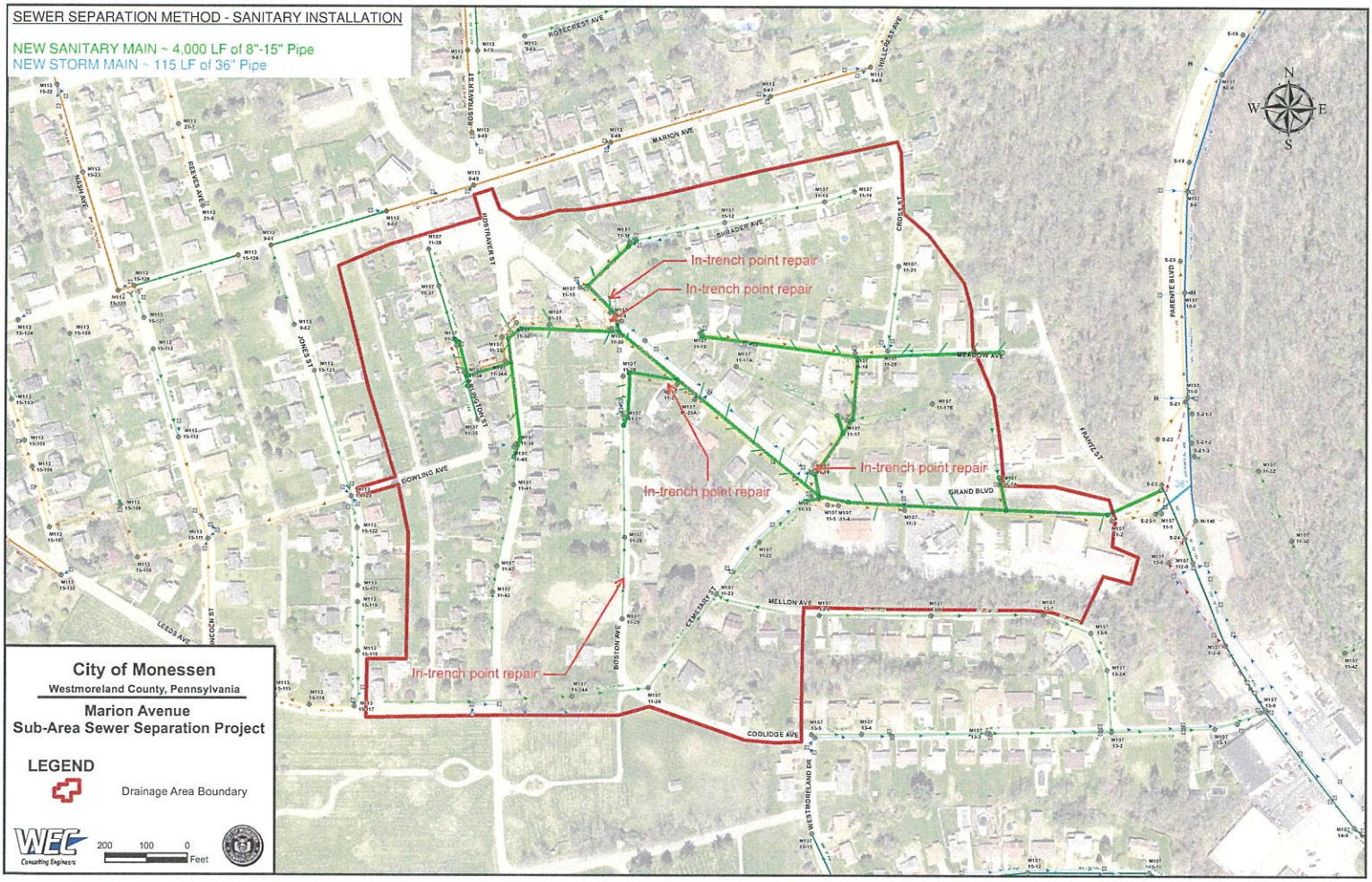
Assumptions

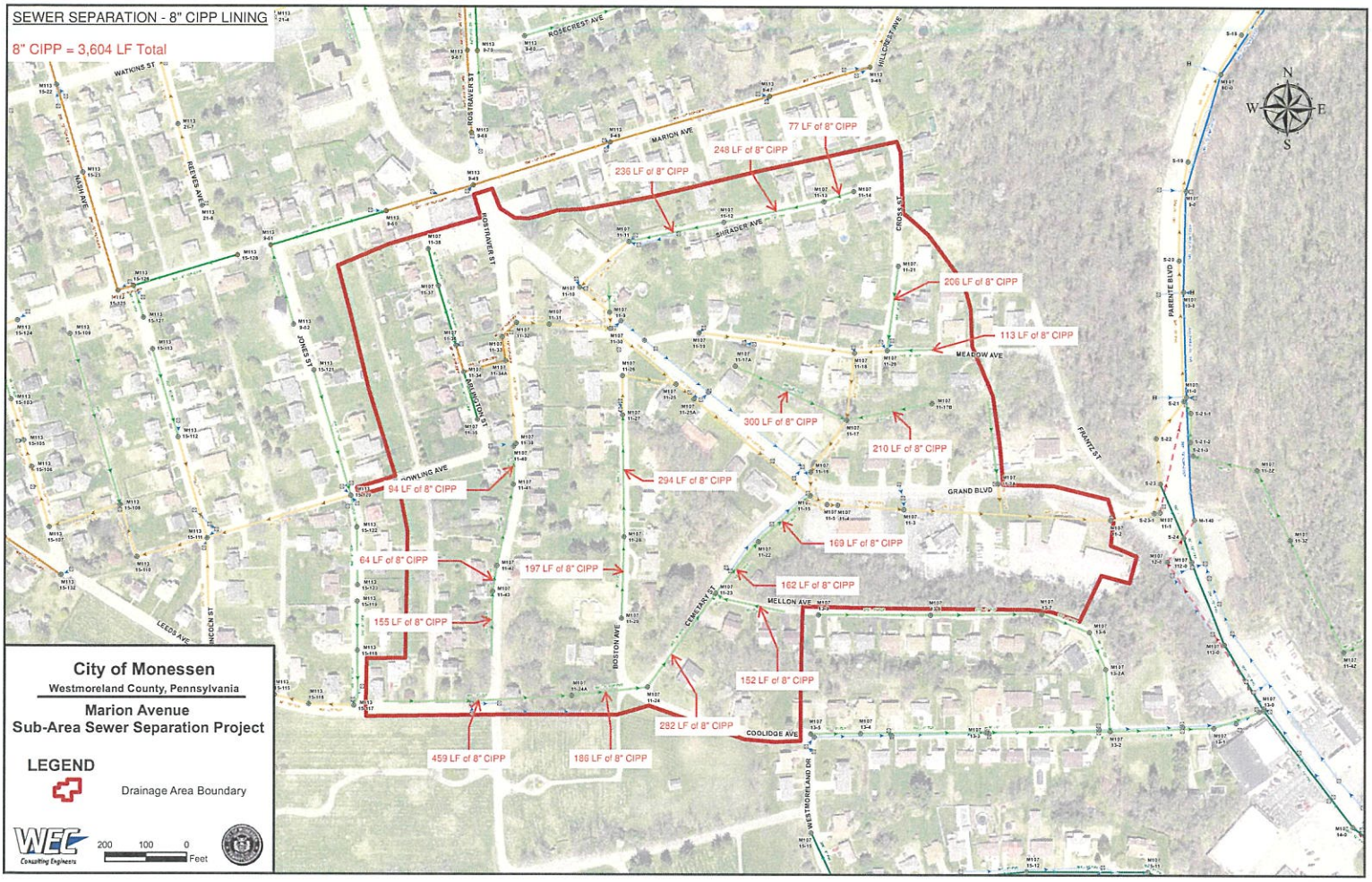
State Route	
Traffic Control	X
Pavement Restoration	X
Aggregate Backfill	X

Cost

Item	Quantity	Unit	Unit Price	Total
8" Main Sewer. SDR 35	3870	LF	$ 95.00	$ 367,650.00
12" Main Sewer. SDR 35	80	LF	$ 145.00	$ 11,600.00
15" Main Sewer, SDR 35	30	LF	$ 160.00	$ 4,800.00
6" Lateral	1736	LF	$ 80.00	$ 138,880.00
48" Precast Manhole	32	EA	$ 11,000.00	$ 352,000.00
36" Storm Sewer, SDR 35	115	LF	$ 225.00	$ 25,875.00
60" Storm Manhole	2	EA	$ 12,000.00	$ 24,000.00
8" CIPP	3604	LF	$ 40.00	$ 144,160.00
Dissinfection of existing sewer	1	LS	$ 25,000.00	$ 25,000.00
Heavy Cleaning / Root Cutting	8	HR	$ 600.00	$ 4,800.00
Excavation and disposal	7583	CY	$ 40.00	$ 303,333.33
Aggregate Backfill	6825	CY	$ 60.00	$ 409,500.00
Bituminous Pavement Replacement - Base Course	1567	SY	$ 40.00	$ 62,680.00
Bituminous Pavement Replacement - Wearing Course	6817	SY	$ 12.00	$ 81,804.00
1-1/2" Miling	5250	SY	$ 6.00	$ 31,500.00
Concrete Pavement Restoration	215	CY	$ 600.00	$ 129,200.00
Traffic Control	1	LS	$ 150,000.00	$ 150,000.00
Lawn Restoration	3312	SY	$ 10.00	$ 33,120.00
Sidewalk Restoration	145	SY	$ 210.00	$ 30,450.00
Curb Restoration	3800	LF	$ 8.00	$ 30,400.00
Manhole Connections	10	EA	$ 5,000.00	$ 50,000.00
Mobilization	1	LS	$ 70,000.00	$ 70,000.00
Bypass Pumping	360	HR	$ 125.00	$ 45,000.00
			Subtotal	**$ 2,525,760.00**

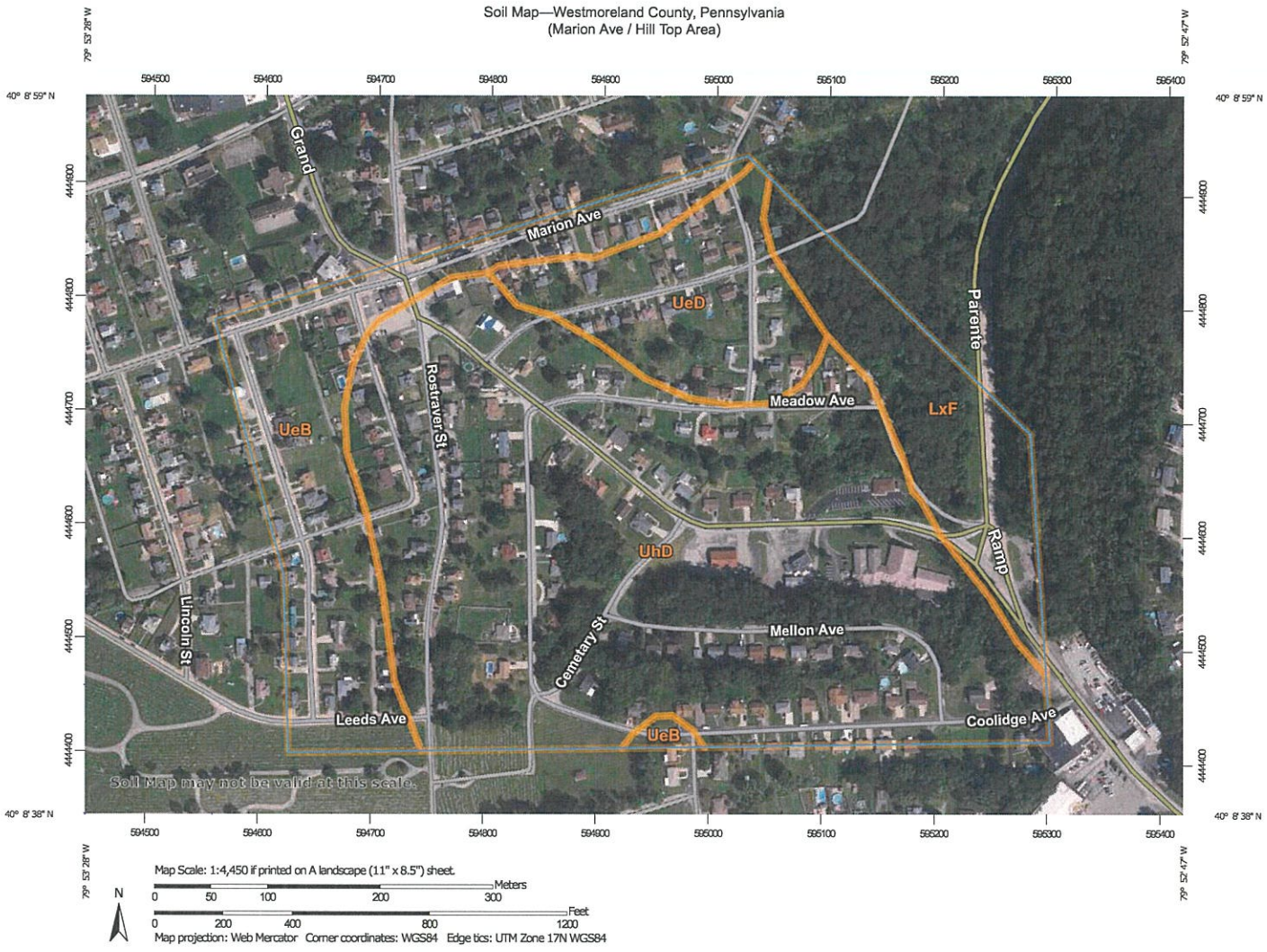
Contingency (20%)	$ 505,152.00
Construction Subtotal	**$ 3,030,912.00**
Preliminary Engineering/Field Work (5%)	$ 151,545.60
Engineering/Design(10%)	$ 303,091.20
NPDES Permitting	$ 10,000.00
Inspection (8%)	$ 242,472.96
Easements/Property Acquisitions	$ 10,000.00
Roofdrain disconnect verification	$ 85,000.00
Total	**$ 3,833,021.76**


SEWER SEPARATION METHOD - SANITARY INSTALLATION
NEW SANITARY MAIN ~ 4,000 LF of 8"-15" Pipe
NEW STORM MAIN ~ 115 LF of 36" Pipe
In-trench point repair
In-trench point repair
In-trench point repair
In-trench point repair
In-trench point repair
MARION AVE
ROSECREST AVE
HILLCREST AVE
ROSTRAVER ST
SHRADER AVE
CROSS ST
MEADOW AVE
PARENTE BLVD
FRANTZ ST
GRAND BLVD
DOWLING AVE
JONES ST
WASHINGTON ST
MELLON AVE
CEMETARY ST
BOSTON AVE
COOLIDGE AVE
WESTMORELAND DR
LEEDS AVE
LINCOLN ST
N
W
E
S
City of Monessen
Westmoreland County, Pennsylvania
Marion Avenue
Sub-Area Sewer Separation Project
LEGEND
Drainage Area Boundary
WEC
Consulting Engineers
200
100
0
Feet


SEWER SEPARATION - 8" CIPP LINING
8" CIPP = 3,604 LF Total
77 LF of 8" CIPP
248 LF of 8" CIPP
236 LF of 8" CIPP
206 LF of 8" CIPP
113 LF of 8" CIPP
300 LF of 8" CIPP
210 LF of 8" CIPP
294 LF of 8" CIPP
94 LF of 8" CIPP
169 LF of 8" CIPP
64 LF of 8" CIPP
197 LF of 8" CIPP
162 LF of 8" CIPP
155 LF of 8" CIPP
152 LF of 8" CIPP
282 LF of 8" CIPP
459 LF of 8" CIPP
186 LF of 8" CIPP
MARION AVE
ROSECREST AVE
WATKINS ST
HILLCREST AVE
ROSTRAVER ST
NUSH AVE
REEVES AVE
SHRADER AVE
CROSS ST
MEADOW AVE
PARENTE BLVD
JONES ST
HARRINGTON
FRANTZ ST
GRAND BLVD
BOWLING AVE
CEMETARY ST
MELLON AVE
LEEDS AVE
OREGON ST
BOSTON AVE
COOLIDGE AVE
WESTMORELAND DR
N
W
E
S
City of Monessen
Westmoreland County, Pennsylvania
Marion Avenue
Sub-Area Sewer Separation Project
LEGEND
Drainage Area Boundary
WEC
Consulting Engineers
200
100
0
Feet

APPENDIX F. SOILS MAP

Soil Map—Westmoreland County, Pennsylvania
(Marion Ave / Hill Top Area)



Map Scale: 1:4,450 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Westmoreland County, Pennsylvania
Survey Area Data: Version 22, Sep 5, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2021—Nov 16, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

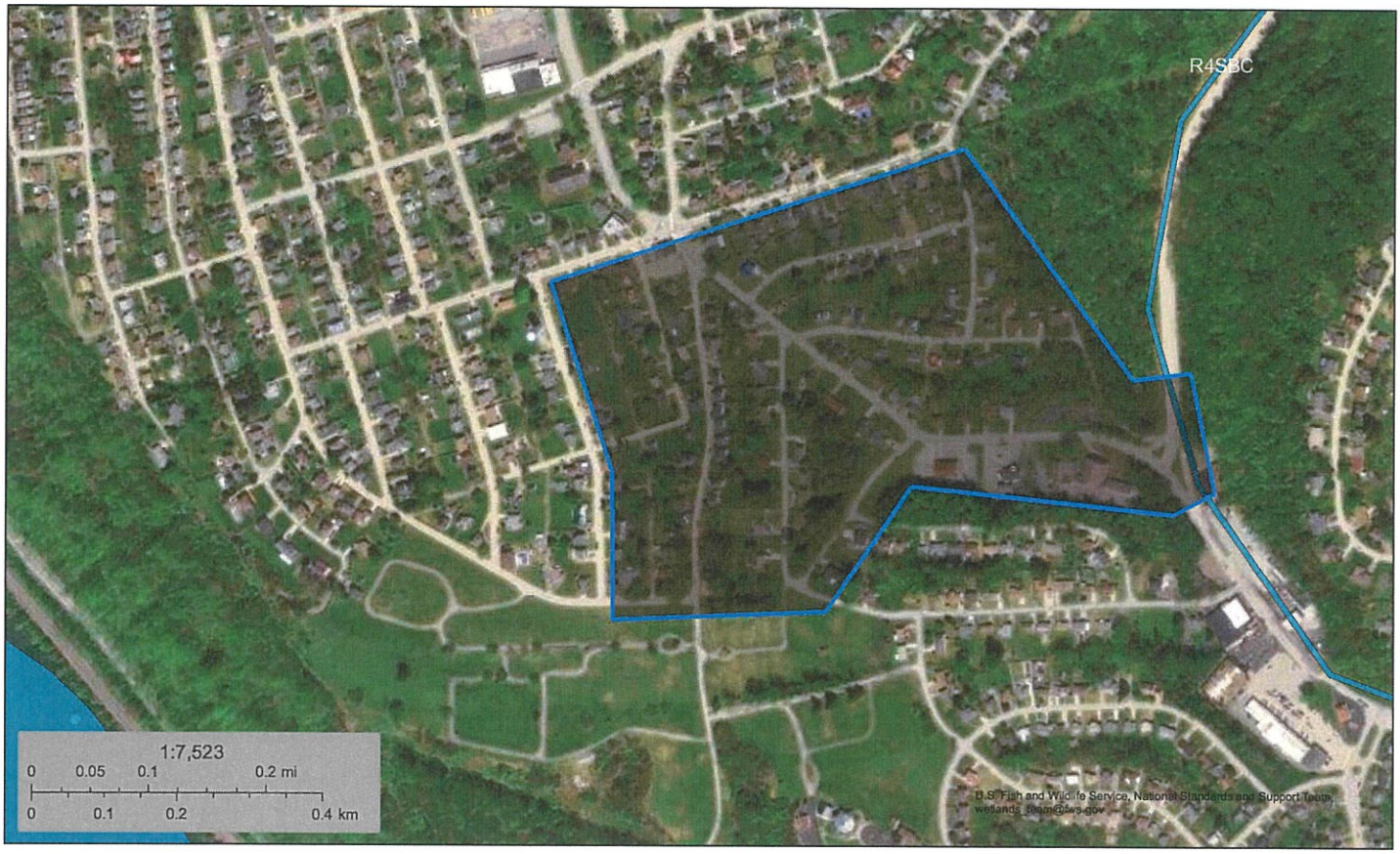
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LxF	Lowell-Culleoka complex, 25 to 80 percent slopes, very rocky	7.8	10.6%
UeB	Urban land-Culleoka complex, 0 to 8 percent slopes	13.2	17.9%
UeD	Urban land-Culleoka complex, 8 to 25 percent slopes	7.8	10.6%
UhD	Urban land-Guernsey complex, 8 to 25 percent slopes	45.0	60.9%
Totals for Area of Interest		**73.9**	**100.0%**

APPENDIX G. WETLANDS MAP

U.S. Fish and Wildlife Service

National Wetlands Inventory

Marion Ave / Hill Top Area



February 10, 2026

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

APPENDIX H. BIOSOLIDS PERMIT

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

APPROVAL FOR COVERAGE UNDER THE GENERAL PERMIT (PAG-08) FOR BENEFICIAL USE OF BIOSOLIDS BY LAND APPLICATION

PERMIT NO: PAG-086114

In accordance with the provisions of the Federal Clean Water Act (33 U.S.C.A §§1251-1387), the Clean Streams Law (35 P.S. §§691.1 - 691.1001), Sections 1905-A, 1917-A and 1920-A of the Administrative Code of 1929 (71 P.S. §§510-5, 510-17 and 510-20), the Solid Waste Management Act (35 P.S. §§6018.101 - 6018.1003), and the Municipal Waste Planning, Recycling and Waste Reduction Act (53 P.S. §§4000.101 - 4000.1904), the Department of Environmental Protection (DEP) hereby approves the Notice of Intent (NOI) submitted for coverage by:

APPLICANT NAME AND ADDRESS	FACILITY NAME AND ADDRESS
Mon Valley Sewage Authority	Mon Valley Sewage Authority
20 S Washington Street	20 S Washington Street
Donora, PA 15033	Donora, PA 15033

to beneficially use biosolids that will be land applied in the Commonwealth of Pennsylvania. Approval of coverage for the land application of biosolids generated at this facility is subject to DEP's enclosed General Permit (PAG-08) which incorporates several standards including, but not limited to, general requirements, pollutant limitations, management practices, operational standards, pathogen and vector attraction reduction requirements, and other terms and conditions for biosolids prepared at the facility and that will be land applied in the Commonwealth.

All recordkeeping, monitoring and reporting requirements specified in this General Permit and DEP's approval for coverage under this General Permit shall apply to all beneficial uses of biosolids generated at the facility.

APPROVAL FOR COVERAGE UNDER THE GENERAL PERMIT IS AUTHORIZED BEGINNING ON February 6, 2025. WHEN THE GENERAL PERMIT IS RENEWED, REISSUED OR MODIFIED, THE FACILITY OR ACTIVITY COVERED BY THE APPROVAL FOR COVERAGE MUST COMPLY WITH THE FINAL RENEWED, REISSUED OR MODIFIED GENERAL PERMIT.

Coverage Approval Date:

February 6, 2025

BY:

Christopher Kriley, P.E.
TITLE: Clean Water Program Manager
Southwest Regional Office

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

GENERAL PERMIT
FOR
BENEFICIAL USE OF BIOSOLIDS BY LAND APPLICATION

PERMIT NO: PAG-086114

In accordance with the provisions of the Federal Clean Water Act (33 U.S.C.A §§1251-1387), the Clean Streams Law (35 P.S. §§691.1 - 691.1001), Sections 1905-A, 1917-A and 1920-A of the Administrative Code of 1929 (71 P.S. §§510-5, 510-17 and 510-20), the Solid Waste Management Act (35 P.S. §§6018.101 - 6018.1003), and the Municipal Waste Planning, Recycling and Waste Reduction Act (53 P.S. §§4000.101 - 4000.1904), the Department of Environmental Protection (DEP) issues this General Permit for use by eligible persons for beneficial use of biosolids that will be land applied, who are required in Title 25 Pa. Code Chapters 91, 92a, or 271, as applicable, to obtain a permit for beneficial use of biosolids in the Commonwealth of Pennsylvania. This General Permit shall only be valid for eligible persons who have submitted an administratively complete and acceptable NOI application to DEP on the prescribed form.

The approval for coverage under this General Permit is subject to several standards including, but not limited to, general requirements, pollutant limitations, management practices, operational standards, pathogen and vector attraction reduction requirements, and other terms and conditions for biosolids prepared at the facility that will be land applied in the Commonwealth.

Persons who prepare biosolids to be land applied and are seeking approval for coverage under this General Permit must submit a complete NOI in accordance with the requirements of this General Permit, using an NOI form provided by DEP (or photocopy thereof), and receive approval from DEP for coverage under this General Permit.

Persons who prepare biosolids that meet the eligibility requirements in Section A, Biosolids Quality, of this General Permit and who submit a timely, administratively complete and acceptable NOI to DEP are authorized, upon DEP's written approval, to beneficially use biosolids by land application, as specified in this General Permit.

1. Contents of NOIs

Persons seeking approval for coverage under this General Permit must submit a completed NOI form, provided by DEP (or photocopy thereof). The NOI form shall be signed in accordance with Section K (Signatory Requirements) of this General Permit and shall include the information specified in the NOI form and in the instructions for completing the form. The NOI form and instructions (3800-PM-WSFR0337) are available on DEP's website at www.dep.state.pa.us .

2. Where to Submit

NOIs or modifications to NOIs are to be submitted to the appropriate regional office of DEP having jurisdiction over the wastewater treatment plant or processing facility that produces the biosolids. NOIs for facilities located outside the Commonwealth are to be submitted to DEP's Bureau of Point and Nonpoint Source Management in Harrisburg. The NOI form and a list of DEP names, addresses and telephone numbers are included with the instructions for completing the NOI form.

3. Uses Not Covered Under This General Permit

The following beneficial uses of biosolids are not covered by this General Permit:

a. Land application of biosolids in watersheds classified as "Exceptional Value (EV)" in Title 25 Pa. Code Chapter 93;

b. Land application of biosolids that are not, or will not be, in full compliance with the requirements, terms or conditions of this General Permit;

c. Land application of biosolids for beneficial use that was produced by a person who has failed and continues to fail to comply or has shown a lack of ability or intention to comply with a regulation, permit, schedule of compliance or order issued by DEP;

d. Land application of biosolids for beneficial use for which DEP determines an individual permit is required to ensure compliance with the Clean Water Act, the Clean Stream Law, or the Solid Waste Management Act and rules and regulations promulgated thereto;

e. Land application of biosolids for beneficial use that would adversely affect a listed endangered or threatened species or its critical habitat;

f. The beneficial use of biosolids mixed with residual waste, including food processing waste, unless the residual waste is authorized for beneficial use via a general permit or determined to be a coproduct as stated in Section A.5. of this General Permit; and

DEP may deny approval of coverage under this General Permit and require submittal of an application for an individual permit based on a review of the NOI or other information submitted or otherwise available to DEP.

4. Applicability

The authority granted by this General Permit is subject to the following additional requirements:

a. DEP may require the permittee to apply for and obtain an individual permit for the beneficial use of biosolids by land application. Any interested person may petition DEP to take action under this paragraph. DEP will require any person covered under this General Permit to apply for an individual permit only after the person has been notified in writing that such permit application is required. This notice shall include the following: (1) a brief statement of the reasons for this decision; (2) an individual permit application form; and (3) a statement setting a deadline for the person to file the application.

b. The permittee may request to be excluded from the coverage under this General Permit by applying for an Individual Generator Permit. The permittee shall submit an Individual Generator Permit application on an approved *Individual Generator Permit for the Beneficial Use of Biosolids by Land Application* form (3800-PM-WSFR0030), available on DEP's website, to DEP. The request may be granted by issuance of an Individual Generator Permit if the permit application otherwise meets the administrative, technical and legal requirements for issuance of the permit.

c. When an Individual Generator Permit is issued to a person otherwise subject to this General Permit, the coverage under this General Permit is automatically terminated on the effective date of the Individual Generator Permit. When an Individual Generator Permit is denied to the person otherwise subject to this General Permit, the person may continue land application for beneficial use of biosolids if all eligibility requirements under this General Permit are met and the person is not prohibited from this General Permit coverage. If the person does not meet the eligibility requirements of this General Permit, or is otherwise prohibited from general permit coverage, approval of coverage under this General Permit automatically terminates on the date of such denial, unless otherwise specified by DEP.

d. (i) Renewal of Existing Coverage Under This General Permit:

Application for renewal of coverage under this General Permit must be submitted to DEP **at least 180 days prior to** the expiration date of coverage indicated on the approval for coverage form (unless written permission has been granted by DEP for submission at a later date). A request for renewal of coverage is to be made using the *Pennsylvania Notice of Intent (NOI) for Coverage Under General Permit for Beneficial Uses of Biosolids by Land Application* (3800-PM-WSFR0337b) available on DEP's website.

In the event that a timely and complete application for renewal has been submitted and DEP is unable, through no fault of the permittee, to reissue the permit or approval for coverage before its current coverage expiration date, the terms and conditions of the approved coverage will automatically continue and will remain fully effective and enforceable pending the approval or denial of the request for renewal of permit coverage, provided the permittee is, and has been, operating in compliance with the terms and conditions of this General Permit.

(ii) Issuance, Reissuance or Amendment of This General Permit:

Unless extended by DEP, this General Permit will expire 5 years from the date of its issuance. DEP will publish a notice in the *Pennsylvania Bulletin* of the draft, renewed or reissued general permit or of any amendments to this General Permit, and after a comment period, notice of the final, renewed, reissued or amended general permit will be published in the *Pennsylvania Bulletin.* The permittee shall be responsible for complying with the final renewed, reissued or amended general permit.

e. This General Permit may be modified or revoked or reissued or terminated for cause by DEP prior to expiration of this General Permit if there is evidence indicating known or potential adverse impacts to public health or the environment, or if the biosolids cannot be adequately regulated under the provisions of this General Permit, in which case the permittee may be required to obtain an individual permit.

f. If there is a conflict between the approval of the application for coverage, its supporting documents and/or amendments, and the terms and conditions of this General Permit, the terms and conditions of this General Permit shall govern.

g. Failure to comply with the terms and conditions of this General Permit is grounds for any one or more of the following: enforcement action, permit coverage termination, permit coverage revocation and reissuance, or denial of a permit coverage renewal application. In particular, in appropriate cases where DEP has validated that malodors from a particular biosolids source has caused a persistent public nuisance, DEP may require the generator to develop and implement a Biosolids Quality Enhancement Plan (BQEP) or revise their existing BQEP, focusing on odor mitigation, to retain or obtain coverage under this General Permit. DEP may require as part of the BQEP that the generator adopt practices that include, but not limited to soil incorporation, storage restrictions, and more stringent VAR practices. Soil incorporation shall not be required if it violates the farm's soil conservation plan or erosion and sedimentation control plan, if application involves top-dressing on a hay field, or if it would otherwise increase the risk of the biosolids migrating off the site. DEP may also revoke facility coverage under this General Permit if the treatment category or an individual facility is unable to mitigate its documented and persistent nuisance odor situations.

h. This General Permit does not constitute approval or authorization to construct a facility or make modifications to existing facilities necessary to meet the requirements of this General Permit. The permittee shall comply with all permitting and other requirements as necessary.

i. No condition of this General Permit shall release the permittee from any responsibility or requirement under any other Federal or Pennsylvania statute or regulation. Nor shall any condition of this General Permit release the permittee from any responsibility or requirement under any local regulation or ordinance, provided that the local regulation or ordinance is not inconsistent with or more stringent than any provision of Title 25 Pa. Code Chapter 271 or any other applicable statute and regulation.

j. Coverage under this General Permit is an approval to apply biosolids to the land for beneficial use(s) only.

This General Permit (PAG-08) for Beneficial Use of Biosolids by Land Application is issued April 3, 2009, and shall expire at midnight April 2, 2014, unless extended on or before the expiration date by DEP.

General Permit
(PAG-08)
Date Issued: April 3, 2009
Extended To: Date of Reissuance

By _____
Director
Bureau of Point and Nonpoint Source Management

PERMIT REQUIREMENTS

This General Permit establishes standards including, but not limited to, general requirements, pollutant limits, management practices, operational standards, pathogen and vector attraction reduction requirements, terms and conditions for the biosolids that will be land applied. The requirements of applicable regulations and this General Permit shall apply to, and be enforceable against, persons operating under this General Permit who prepare biosolids or who land apply biosolids prepared under this General Permit. References to sections beginning with §271, §285, or §287 refer to regulations outlined in Title 25 Pa. Code Chapters 271, 285, and 287 respectively unless otherwise noted.

A. Biosolids Quality

The permittee shall comply with the following requirements, at all times, when producing biosolids and beneficially applying those biosolids to the land.

1. The biosolids cannot exceed the ceiling concentration for any pollutant as specified in §271.914(b)(1), (Table 1, Ceiling Concentrations).
2. (a) The biosolids must meet one of the Class A pathogen reduction requirements as specified in §271.932(a); **OR**

   (b) The biosolids must meet one of the Class B pathogen reduction alternatives as specified in §271.932(b) and related site restrictions in §271.932(b)(5).
3. The biosolids must meet one of the vector attraction reduction (VAR) requirements as specified in §271.933.
4. A *Biosolids Quality Enhancement Plan* (BQEP), available on DEP's website, must be developed in accordance with §271.921. DEP's BQEP publication should be used as a guide in the development of the BQEP. The BQEP must evaluate options for improving product quality. The BQEP must be maintained on the premises where the biosolids are prepared for inspection by a representative of DEP or submitted to DEP upon request. The plan shall be available no later than 1 year after receiving initial coverage under the general permit. The BQEP shall be submitted with any subsequent renewals for coverage under a general permit.

   The permittee must review the BQEP every 5 years or as requested by DEP and update it as necessary to address significant changes.
5. When mixing residual materials, such as cement kiln dust, with sewage sludge or biosolids in order to produce a biosolids product that is to be beneficially used, the residual materials must be authorized for beneficial use via a general permit or be determined to be a coproduct as defined in §287.1 (relating to definitions) and meet the requirements under §287.8 (referring to coproduct determinations) or §287.9 (relating to industry-wide coproduct determinations) prior to mixing. If the residual material is approved for beneficial use via a general permit, a copy of the general permit authorizing the beneficial use of the residual material must be submitted with the NOI. If the residual material is considered a coproduct, then either a letter from DEP indicating concurrence with the coproduct determination or a detailed description of the residual waste to be used, its benefits to the biosolids product, the required analyses and documentation necessary to verify the residual material meets the requirements of a coproduct must be submitted with the NOI application.
6. DEP approval is required for changes made to the biosolids treatment process that will impact the VAR option and/or the pathogen reduction alternative originally approved under the permittee's general permit coverage approval. The permittee must submit supporting documentation for the new process, VAR option and/or pathogen alternative to the appropriate DEP office. DEP staff may approve modifications covered under the general permit by a letter to the permittee.
7. Food processing waste shall not be mixed with biosolids unless approved by DEP prior to application. DEP may revoke approval of mixed biosolids/food processing waste if DEP determines that the mixture has produced malodors that have caused a persistent public nuisance.

B. Sampling and Analysis

A person who operates under this General Permit shall comply with the following when sampling and analyzing biosolids intended for land application.

1. Sampling

   Any samples and measurements taken to monitor biosolids quality and process controls must be representative of the monitored activity and in accordance with §271.906 and the facility's Sampling Plan submitted with the NOI. The most current version of DEP's *Biosolids Sampling Manual* should be used as a guide.

2. Analytical Test Methods

   Methods listed in §271.906, the most current version of DEP's *Biosolids Sampling Manual*, or in any later amendments published in the Federal Register are incorporated by reference and shall be used to analyze samples of biosolids. No other methods may be used without prior written approval from DEP. Requests for approval must be submitted in writing to DEP.

   When pH adjustment is used for either VAR or pathogen reduction, the pH readings must be temperature corrected to 25 degrees Celsius.

C. Frequency of Monitoring for Biosolids Quality

1. Monitoring for the pollutants, pathogen density, and vector attraction reduction requirements in §271.933(b)(1)-(8) shall, at a minimum, be at the following frequency.

Frequency of Monitoring

Amount of biosolids[1] dry tons (dry metric tons) per 365 day period	Frequency[2]
Greater than zero but less than 319 (290)	Once per year
Equal to or greater than 319 (290) but less than 1,650 (1,500)	Once per quarter (four times per year)
Equal to or greater than 1,650 (1,500) but less than 16,500 (15,000)	Once per 60 days (six times per year)
Equal to or greater than 16,500 (15,000)	Once per month (12 times per year)

[1]Either the amount of biosolids land applied or the amount of biosolids generated to be land applied for beneficial use or the amount of biosolids received by a person who prepares biosolids for land application.

[2]Frequency is based on a 365-day period.

2. The permittee must verbally notify DEP immediately but no longer than 24 hours after becoming aware of non-compliance with any biosolids quality standard relating to pathogen reduction, vector attraction reduction, or pollutant concentration. The permittee must also provide a written report to DEP within 5 days of the verbal report. The written report must include the date of the noncompliance incident, the nature of the incident, the actions taken to mitigate the problem, and the date the activity returned to compliance.

D. Notification Requirements

1. A person who operates under this General Permit shall comply with the following notification requirements:
   a. Obtain written consent of the landowner and provide information to the landowner or occupant as prescribed in §271.913(e), (f) and (m).
   b. Provide notification to adjacent landowners in accordance with §271.913(g). DEP recommends that a copy of the most current version of DEP's *Understanding Biosolids Land Application in Your Community* fact sheet, available on DEP's website, be provided with the notification letter.
   c. Provide Notification of First Land Application (30-Day Notice) to the county conservation district and DEP in accordance with §271.913(g) on forms provided by DEP.
   d. Obtain or provide information as required by §271.913(i), (k) and (l).
2. Upon receipt of the Notification of First Land Application, DEP will be responsible for the following activities:
   a. The appropriate regional DEP office will review the site and make a determination on whether the site meets the regulatory requirements for land application of biosolids. A land application site will only be deemed suitable if it meets applicable site suitability requirements.
   b. Notification of site suitability will be sent to the municipality in which the site is located and will be published in the *Pennsylvania Bulletin*.
   c. Land application activities may commence at the end of the 30-day timeframe even if DEP has not made a determination.
3. As per §271.913(g)(2), when using biosolids on active mine sites for mine reclamation purposes, the notification procedures for the reclamation activities must conform to the notification requirements set forth by the DEP's technical guidance document 563-2000-602 entitled "Beneficial Use of Sewage Sludge at Active Mine Sites."

E. Land Application Requirements

Any person who operates under this General Permit shall comply with the following land application requirements:

1. Comply with cumulative pollutant loading rate requirements as specified in §271.913(b) and related requirements in §271.913(j) and §271.919(2). The determination of past cumulative pollutant loading rates should be based on existing and readily available information for biosolids, excluding exceptional quality and residential septage, applied to the site since September 7, 1980.
2. Conduct background soil chemical analyses as specified in §271.913(h). If the background soil analyses are equal to or exceed the pollutant values listed in Appendix 1 for any pollutant, that field cannot receive additional applications of biosolids unless the biosolids meet the monthly average pollutant concentrations specified in Table 3 of §271.914(b)(3).
3. Comply with applicable sections of Title 25 Pa. Code Chapter 285 (relating to storage, collection, and transportation of municipal waste).
4. The person who land applies biosolids under this General Permit must display the permit number on the sides and rear of each land application vehicle, in numbers at least 3 inches (or 7.6 centimeters) high in a color contrasting to the background.

F. Land Application Restrictions

1. A person who operates under this General Permit shall comply with the following land application restrictions.
   a. Biosolids may not be applied to the land if the practice is likely to adversely affect a Federal or Pennsylvania threatened or endangered species, or its designated critical habitat, listed under or pursuant to the Endangered Species Act, 16 U.S.C. §1533, the Fish and Boat Code, 30 Pa. C.S.A. §2305, or the Game and Wildlife Code, 34 Pa. C.S.A. §101 *et seq.*
   b. Biosolids may not be applied to a site that is flooded, frozen, or snow-covered, except as expressly provided in a permit issued under Title 25, Chapters 91, 92a, or 105, as applicable.
   c. Biosolids may not be applied to the land at a rate that is greater than the agronomic rate, unless a greater rate is approved for land reclamation. Agronomic rates must be calculated in accordance with the most current version of DEP's *Biosolids Training Manual*. The Penn State Agronomy Guide, documented yields, or other applicable information sources may be used to determine appropriate yields and nutrient needs for the purposes of calculating application rates. The source(s) used to calculate rates must be provided with the example calculations provided with the NOI or 30-Day Notice, as appropriate.
   d. Biosolids may not be applied at a farm if the nitrogen available from the manure produced by animals at the farm satisfies the nutrient needs of the farm for realistically expected crop yields, unless a management plan is implemented that allows for uses of the manure other than land application on that farm.
   e. Biosolids must be applied to the land in accordance with the setback and slope requirements of §271.915(c) and (d).
   f. Biosolids may not be applied in an area that does not have an implemented erosion and sedimentation control plan or a farm conservation plan.
   g. The soil pH must be as specified in §271.915(e).
2. A person who operates under this General Permit must comply with the following requirements in addition to the applicable restrictions in Section F.1. when land applying biosolids on a land reclamation site.
   a. The reclamation activity must be permitted or otherwise approved by DEP.
   b. Biosolids may not be applied on slopes that exceed 35 percent, unless otherwise approved in writing by DEP.
   c. Biosolids may not be applied at a rate that is greater than the agronomic rate, unless a greater rate is approved in writing by DEP for reclamation activities.
   d. Biosolids land applied to a reclamation site shall be incorporated into the soil within 24 hours of the land application.

G. Storage Requirements

1. Any person operating under this General Permit must comply with the following requirements when storing biosolids at the land application site for greater than 7 days:
   a. Storage sites may not be located within 300 feet of an occupied dwelling, unless written waiver is provided by the current owner, or in the areas listed in §275.202 and §275.312(3) as referenced in §285.134(3).
   b. Storage may not be located on slopes greater than 3 percent unless otherwise approved by DEP.
   c. The storage of biosolids must not create conditions that are conducive to the harboring, breeding, or attraction of vectors.
   d. Storage amounts are limited to the amount of material necessary to meet the calculated agronomic application rate for the permitted site. In the case of mine reclamation, storage amounts are limited to the calculated reclamation rate as approved to cover the permitted application area.
   e. Storage area designs must be sent to the appropriate DEP office for written approval prior to installation.
   f. The location of the storage areas must be shown on the land application site map and submitted to the appropriate DEP office prior to installation.
   g. Appropriate best management practices (BMPs) must be implemented to minimize run-on and runoff.
   h. When in use, storage areas must be inspected regularly and after severe precipitation events to ensure run-on and runoff controls are in good working order. Inspections should be logged documenting the time, date, inspector, conditions of the site, and any mitigation measures taken.
   i. When necessary, structures should be utilized to collect runoff or leachate from the storage area. Any water collected from the storage area should be removed to a treatment facility, sprayed back onto the biosolids piles, or applied on-site to areas included under the 30-Day Notice or other land application permit.
   j. If the storage area requires earth disturbance, such as in the construction of berms, the applicable best management practices (BMPs) as indicated by Chapter 102 should be utilized. These BMPs can be part of or be an amendment to the existing farm conservation or erosion and sedimentation plan. If no plan exists, a plan meeting the Chapter 102 requirements may be required.
   k. Biosolids must meet one of the VAR options listed in §271.933(b)(1)-(8) prior to storing unless otherwise approved by DEP.
   l. DEP may require additional criteria based on storage length and site conditions.
2. Staging areas for biosolids must meet the requirements for land application as listed in §271.915(a), (c), (d), and (e) unless otherwise approved by DEP.

H. Training

Training obligations must be completed as required by §271.915(j).

I. Recordkeeping and Reporting

Any person operating under this General Permit must comply with the following recordkeeping and reporting requirements:

1. For persons who prepare biosolids.
   a. The person who prepares biosolids must develop the information specified in §271.918(a)(1) and §271.918(a)(2)(i) and complete Part I of the *Recordkeeping and Reporting Form* (3800-FM-WSFR0340a), available on DEP's website.
   b. A copy of the certification statement in Part I of the *Recordkeeping and Reporting Form* must be provided to the land applier.
   c. A signed copy of the *Recordkeeping and Reporting Form* and other supporting data must be submitted to DEP annually on or before March 1 for activities conducted during the previous calendar year.
   d. This information must be retained for a period of 5 years.

2. For persons who land apply biosolids.

   a. The person who land applies biosolids must develop the information specified in §271.918(a)(2)(ii) and complete Part II of the *Recordkeeping and Reporting Form* provided by DEP.

   b. The information specified in §271.918(a)(2)(ii)(A)-(G) shall be retained indefinitely. Under Chapter 271, 30 years of retention of a record is considered to be in compliance with this requirement.

   c. The information specified in 271.918(a)(2)(ii)(H)-(M) shall be retained for 5 years.

   d. A signed copy of the *Recordkeeping and Reporting Form* and other supporting data must be submitted to DEP as specified.

3. Notification of the date, time and location at which land application will occur, when requested by DEP, for the purpose of inspection or investigation to ascertain compliance with terms and conditions of this General Permit and with applicable statutes, rules and regulations.

J. Right of Entry for Inspection

A person operating under this General Permit shall allow authorized representatives of the Commonwealth, without advance notice or a search warrant, upon presentation of appropriate credentials, and without delay, to make copies of records or have access to the facility where biosolids is generated or areas for which the permit holder is responsible in which the activities covered by this General Permit will be, are being, or have been conducted to ensure compliance with the Clean Streams Law or the Solid Waste Management Act, and regulations promulgated thereunder, and this General Permit. Samples may be taken of solid, semisolid, liquid or contained gaseous material for analysis.

K. Signatory Requirements

All signatures required to comply with this General Permit must be signed as follows:

1. For a municipality, or a State, Federal, or other public agency:

   By either a principal executive officer, ranking elected official, or other authorized employee. For purposes of this General Permit, a principal executive officer of a Federal 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 (e.g., Regional Administrators of EPA).

2. In the case of corporations, by a principal executive officer of at least the level of vice president, or an authorized representative.

3. In the case of a partnership, by a general partner.

4. In the case of a sole proprietorship, by the proprietor.

5. All reports required by this General Permit and other information requested by DEP shall be signed by a person described in Section K.1. – 4. above 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 above and the authorization is submitted to DEP with the records.

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or process, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for the environmental matters for the facility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

6. Changes in Signatory Authorization.

   If an authorization 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 Section K (Signatory Requirements) must be submitted to DEP prior to or together with any records, information, or applications to be signed by an authorized representative.

L. Notification of Withdrawal by the Permittee

When coverage under this General Permit is withdrawn, the following information should be submitted to DEP.

1. A notification of withdrawal that includes:
   a. Name, mailing address, and location of the facility for which the notification is submitted.
   b. The permittee's name, address, telephone number, ownership status and status as federal, state, private, public or other entity.
   c. The general permit number for the beneficial use of biosolids by land application identified by the notice of withdrawal.
2. A completed *Recordkeeping and Reporting Form* for the current year's activities.
3. The following certification signed in accordance with Section K (Signatory Requirements) of this General Permit:

   "I certify under penalty of law that all land application of biosolids from the identified facility that is authorized by this General Permit has ceased. I understand that by submitting this notice of withdrawal I am no longer authorized to land apply biosolids under PAG-08 (insert permit coverage number) and that land application of biosolids without a permit is unlawful under the Clean Streams Law and the Solid Waste Management Act."

M. Responsibilities

1. Duty to Comply

   The permittee must comply with all terms and conditions of this General Permit and all renewals and reissuances thereof. Any permit noncompliance constitutes a violation of the Federal Clean Water Act, the Pennsylvania Clean Streams Law or the Solid Waste Management Act and constitutes grounds for enforcement action, including but not limited to, civil and criminal penalties, termination of coverage, denial of coverage renewal, or denial of an application for an individual permit.

2. Need to Halt or Reduce Activity Not a Defense

   The permittee may not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this General Permit.

3. Penalties and Liability.

   Nothing in this General Permit shall be construed to relieve the permittee of civil or criminal penalties for non-compliance pursuant to Sections 602 or 605 of the Clean Streams Law (35 P.S. §§691.602 or 691.605) and the Federal Clean Water Act.

4. Property Rights

   The approval of coverage under this General Permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

5. Severability

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

6. Duty to Reapply

   If the permittee wishes to continue an activity regulated by this General Permit after the expiration date of approval for coverage under this General Permit, the permittee shall submit a timely and administratively complete request for renewal of approval at least 180 days prior to the expiration date specified in the approval of coverage under this General Permit, unless permission is granted by DEP to submit at a later date.

7. Duty to Provide Information
   a. The permittee shall furnish to DEP any information that DEP may request to determine whether cause exists for modifying, revoking or reissuing, or terminating this permit or coverage approved under this General Permit, or to determine compliance with this General Permit.

b. The permittee shall furnish to DEP, upon request, copies of records required to be kept by this General Permit.

c. Where the permittee becomes aware that it fails to submit any relevant facts in a permit application, or has submitted incorrect information in an NOI or in any record to DEP, it shall promptly submit such facts or information to DEP. Submitting incorrect information or making any false statement, representation, or certification may result significant penalties including the possibility of fine and imprisonment.

d. The permittee must give advance notice to DEP of major changes (i.e., new industrial wastewater contributions) or expansions of the existing wastewater treatment plant or any planned physical alterations or additions to the permitted operation which could in any way affect the established quality of the biosolids covered under this General Permit. If such a change disqualifies the material as biosolids, the land application shall stop immediately.

8. Adverse Impacts

The permittee shall take all reasonable steps to minimize or prevent any adverse impact on the environment or human health resulting from noncompliance with this General Permit.

9. Transfer of Ownership or Control

a. No approval under this General Permit may be transferred unless the transfer is approved by DEP.

b. In the event of any pending change in control or ownership of facilities from which the authorized processes emanate, the permittee must submit to DEP an *Application for Transfer of Coverage Under a General Permit or Individual Permit* (3800-PM-WSFR0479) notifying DEP of such pending change at least 30 days before the proposed transfer date.

c. After receipt of the documentation described above, DEP shall notify the existing permittee and the new owner or controller of its decision concerning approval of the transfer.

10. Confidentiality of Records

Except for data determined to be confidential under §607 of the Clean Streams Law or Chapter 92a, all records prepared in accordance with the terms of this General Permit shall be available for public inspection at the offices of DEP. Monitoring data shall not be considered confidential.

N. Definitions

The following definitions apply only to this General Permit. Other definitions may be found in §271.1.

"Adjacent Landowner" - Includes all landowners whose deeds touch the deed for the parcel of land on which the biosolids will be applied.

"Agricultural Land" - Land on which a food crop, a feed crop, a fiber crop, a silvicultural crop, or a horticultural crop is grown. This includes range land and land used as pasture.

"Agronomic Rate" - The annual whole sludge application rate (dry weight basis) designed:

(1) To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, silvicultural crop, cover crop, horticultural crop, or vegetation grown on the land; and

(2) To minimize the amount of nitrogen in the biosolids that passes below the root zone of the crop or vegetation grown on the land to the groundwater.

"Biosolids" - Sewage sludge as defined by Title 25 Pa. Code §271.1 that meets, at a minimum, the pollutant quality standards listed in Title 25 Pa. Code §271.914(b)(1), one of the Class B pathogen reduction alternatives listed in §271.932(b), and one of the vector attraction reduction options listed in §§271.933 (b)(1)-(10).

"Biosolids mixed with residual waste"- Biosolids which has been mixed together with another residual waste product, including food processing waste, prior to land application or land applying biosolids and another residual waste product on the same site in the same crop year."

"Cumulative Pollutant Loading Rate" - The maximum amount of a pollutant that can be applied to an area of land.

"Food Processing Waste" – Residual materials in liquid and solid form generated in the slaughtering of poultry and livestock, or in processing and converting fish, seafood, milk, meat and eggs to food products. The term includes residual materials generated in the processing, converting, or manufacturing of fruits, vegetables, crops and other commodities into marketable food items. The term also includes vegetative residuals from food processing activities that are usually recognizable as part of a plant or vegetable, including cabbage leaves, bean snips, onion skins, apple pomace and grape pomace.

"Forest" - A tract of land thick with trees and underbrush.

"Frozen Ground" - Ground frozen to a depth of at least 2 inches for a period of 72 consecutive hours.

"Land Application" - The spraying or spreading of biosolids onto the land surface for beneficial use; the injection of biosolids below the land surface for beneficial use; or the incorporation of biosolids into the soil for beneficial use so that the biosolids can either condition the soil or fertilize crops for vegetation grown in the soil.

"Municipality" - A city, town, borough, county, township, or an authority created by any of the foregoing under state law, including an intermunicipal agency of two or more of the foregoing entities.

"Permit" - A permit issued by DEP to operate a municipal waste disposal or processing facility, or to beneficially use municipal waste. The term includes a general permit, permit modification, permit by rule, permit reissuance and permit renewal.

"Person" - Any individual, corporation, partnership, association, municipality, political subdivision, or any instrumentality of state, federal, or local government, or any agent or employee thereof; or any other legal entity.

"Person who operates under a general permit" - Includes the permittee or other agents for the permittee as applicable and the land applier.

"pH" - The logarithm of the reciprocal of the hydrogen ion concentration at 25 degrees Celsius.

"Pollutant" - An organic substance, an inorganic substance, a combination of organic substances, a pathogenic organism, or any other substance identified by DEP that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could, on the basis of information available to DEP cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.

"Pollutant Limit" - A numerical value that describes the amount of a pollutant allowed per unit amount of biosolids (e.g., milligrams per kilogram of total solids); the amount of a pollutant that can be applied to a unit area of land (e.g., pounds per acre or kilograms per hectare); or the volume of a material that can be applied to a unit area of land (e.g., gallons per acre or liters per hectare).

"Public Contact Site" - Land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

"Public Nuisance" – a nuisance which affects numerous members of the public or the public at large, as distinguished from a nuisance which only does harm to a neighbor or a few private individuals.

"Reclamation Site" - Drastically disturbed land that is reclaimed using biosolids. This includes, but is not limited to, active and abandoned coal and non-coal surface mines and construction sites.

"Representative Sample" - A sample that, based on the specific biosolids operation and to the best of the generator's knowledge, adequately characterizes the quality and/or attributes of the biosolids produced at the permitted facility.

"Sewage Sludge" - Liquid or solid sludges and other residues from a municipal sewage collection and treatment system; and liquid or solid sludges and other residues from septic and holding tank pumpings from commercial, institutional or residential establishments. The term includes materials derived from biosolids. The term does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator, grit and screenings generated during preliminary treatment of sewage sludge at a municipal sewage collection and treatment system, or grit, screenings and nonorganic objects from septic and holding tank pumpings.

"Snow Cover" - Snow cover is defined as snow, which covers approximately 95 percent of the area to be used for land application of biosolids.

"Staging" - The placement of a biosolids product at an active land application site with the intention of land applying the material within the same day or up to and including 7 days.

"Storage" - The containment of any waste on a temporary basis in such a manner as not to constitute disposal of such waste. It shall be presumed that the containment of waste in excess of 1 year constitutes disposal. This presumption can be overcome by clear and convincing evidence to the contrary.

"Treat or Treatment of Sewage Sludge" - The preparation of biosolids for land application. This includes, but is not limited to, thickening, stabilization, and dewatering of biosolids. This does not include storage of biosolids.

"Vector Attraction" - The characteristic of biosolids that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

APPENDIX 1

Acceptable Soil Concentrations for Metals Derived from the Biosolids Risk Assessment*

Pollutant	Soil Concentration (mg/kg)
Arsenic	23.5
Cadmium	19.7
Copper	769
Lead	161
Mercury	8.6
Nickel	228
Selenium	50.21
Zinc	1454

*Numbers as published in Table 18 Column 6 of EPA's Guide to Biosolids Risk Assessments for the Part 503 Rule, September 1995.

APPENDIX I. PNDI RESULTS

1. PROJECT INFORMATION

Project Name: **Marion Ave / Hilltop Area Sewer Separation Project**
Date of Review: **2/13/2026 10:07:55 AM**
Project Category: **Waste Transfer, Treatment, and Disposal, Liquid waste/Effluent, Sewer line maintainence-repair, replacement of existing line**
Project Area: **48.58 acres**
County(s): **Westmoreland**
Township/Municipality(s): **Monessen City**
ZIP Code:
Quadrangle Name(s): **MONONGAHELA**
Watersheds HUC 8: **Lower Monongahela**
Watersheds HUC 12: **Maple Creek-Monongahela River**
Decimal Degrees: **40.146701, -79.885305**
Degrees Minutes Seconds: **40° 8' 48.1250" N, 79° 53' 7.966" W**

2. SEARCH RESULTS

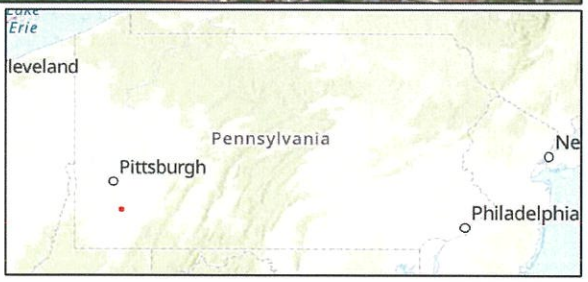
Agency	Results	Response
PA Game Commission	**Conservation Measure**	**No Further Review Required, See Agency Comments**
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

Pennsylvania Natural Diversity Inventory (PNDI) records indicate that while threatened and endangered and/or special concern species and resources are in the project vicinity and that recommended Conservation Measures should be implemented in their entirety to avoid and minimize impacts to these species, no further coordination is required with the jurisdictional agencies. If a DEP permit is required for this project, DEP has the discretion to incorporate one or more Conservation Measures into its permit. This response does not reflect potential agency concerns regarding potential impacts to other ecological resources, such as wetlands.

Marion Ave / Hilltop Area Sewer Separation Project

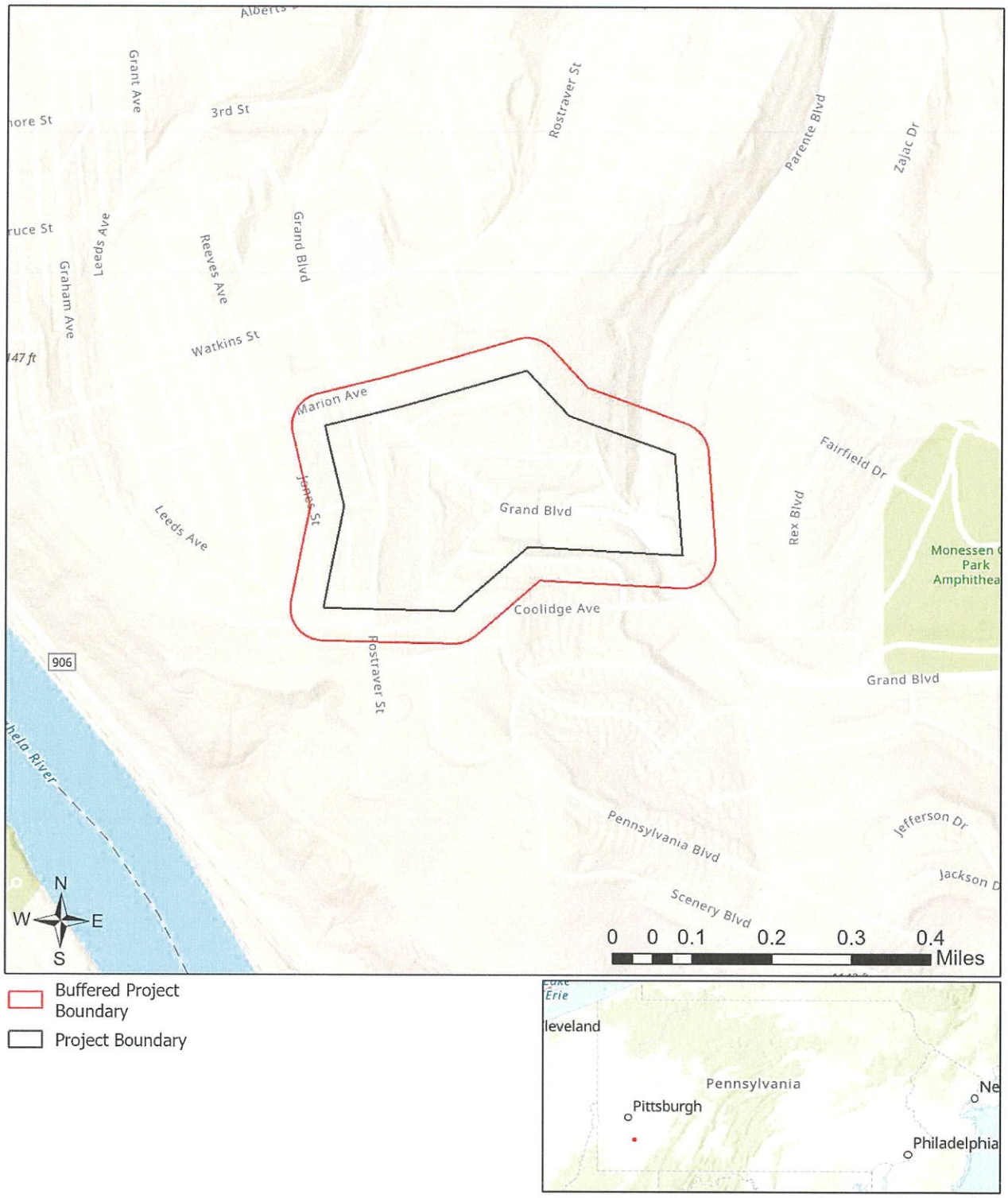
Buffered Project Boundary

Project Boundary



Sources: Esri, Vantor, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap, and the GIS user community

Marion Ave / Hilltop Area Sewer Separation Project



Sources: Esri, Vantor, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap, and the GIS user community

RESPONSE TO QUESTION(S) ASKED

Q1: Will the action include disturbance to trees such as tree cutting (or other means of knocking down, or bringing down trees, tree topping. or tree trimming), pesticide/herbicide application or prescribed fire?
Your answer is: No

Q2: Does the action area contain any caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, culverts, or tunnels that could provide habitat for hibernating bats?
Your answer is: No

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission
RESPONSE:

Conservation Measure: Potential impacts to state and federally listed species which are under the jurisdiction of both the Pennsylvania Game Commission (PGC) and the U.S. Fish and Wildlife Service may occur as a result of this project. As a result, the PGC defers comments on potential impacts to federally listed species to the U.S. Fish and Wildlife Service. No further coordination with the Pennsylvania Game Commission is required at this time.

PA Department of Conservation and Natural Resources
RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission
RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service
RESPONSE:

No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq. is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
Email: IR1_ESPenn@fws.gov
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Management
Division of Environmental Review
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Carter Johnson
Company/Business Name: Wade Trim
Address: 444 Liberty Avenue, Suite 300
City, State, Zip: Pittsburgh, PA 15222
Phone:(412) 758-4365 Fax:( )
Email: cjohnson@wadetrim.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Carter Johnson
applicant/project proponent signature

4/23/2026
date

APPENDIX J. PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION RESPONSE LETTER

Pennsylvania State Historic Preservation Office
PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

March 27, 2026

Sent Via PA-SHARE

RE: ER Project # 2026PR01292.001, Marion Ave / Hilltop Area Sewer Separation Project, Department of Environmental Protection, Monessen City, Westmoreland County

Dear Submitter,

Thank you for submitting information concerning the above referenced project. The Pennsylvania State Historic Preservation Office (PA SHPO) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

Above Ground Resources
No Above Ground Concerns - Environmental Review - No Effect - Above Ground

Based on the information received and available within our files, it is our opinion that the proposed project will have No Effect on above ground historic properties, including historic buildings, districts, structures, and/or objects, should they exist. Should the scope of the project change and/or should you be made aware of historic property concerns, you will need to reinitiate consultation with our office using PA-SHARE.

For questions concerning above ground resources, please contact John Gardosik at jgardosik@pa.gov.

Archaeological Resources
No Archaeological Concerns - Environmental Review - No Effect - Archaeological

Based on the information received and available in our files, in our opinion, the proposed project should have No Effect on archaeological resources. Should the scope of the project be amended to include additional ground-disturbing activity and/or should you be made aware of historic property concerns regarding archaeological resources, you will need to reinitiate consultation with our office using PA-SHARE.

For questions concerning archaeological resources, please contact Clare Connelly at clconnelly@pa.gov.

Sincerely,

Barbara Frederick
Environmental Review Division Manager

APPENDIX K. RESOLUTIONS

APPENDIX L. PLANNING COMMISSION AND CITY NOTIFICATION AND RESPONSE LETTERS

APPENDIX M. PROOF OF PUBLICATION

APPENDIX N. PUBLIC COMMENT AND RESPONSES