

**City of Monessen  
Municipal Separate Storm Sewer System (MS4)**

**POLLUTION REDUCTION PLAN  
UNNAMED TRIBUTARY TO SPEERS RUN AND UNNAMED  
TRIBUTARIES TO MONONGAHELA RIVER WATERSHEDS**

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## PURPOSE AND SCOPE

The Municipal Separate Storm Sewer System (MS4) is the system of conveyances (including sidewalks, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned and operated by the City of Monessen and designed or used for collecting or conveying stormwater, and that is not used for collecting or conveying sewage.

The City of Monessen is required to develop and implement a Pollutant Reduction Plan (PRP) for MS4 discharges to impaired portions of a UNT to Speers Run and several Unnamed Tributaries (UNT's) to the Monongahela River as part of the 2018 National Pollutant Discharge Elimination System (NPDES) MS4 General Permit application to the Pennsylvania Department of Environmental Protection (PA DEP). This plan has been prepared based on the best and most current guidance made available by PA DEP. Definitions of relevant regulatory terms have been provided in Appendix A of this report.

## PUBLIC PARTICIPATION

The PRP was presented at the City Council meeting on September 19, 2017. The public meeting was both advertised in the Valley Independent as well as placed on the City webpage on September 12, 2017. A copy of the public notice published in the Valley Independent is included in Appendix B.

The City of Monessen made this PRP available to the public to review and provide comment for thirty (30) days from September 19, 2017 to October 19, 2017. All timely written comments received and a record of consideration of these comments are located within Appendix B.

## PERMIT REQUIREMENTS

Every two years, the PADEP publishes a report entitled "Pennsylvania Integrated Water Quality Monitoring and Assessment Report" that summarizes the various water quality management programs, including water quality standards. If a stream was assigned the status of "impaired from siltation, organic enrichment, low dissolved oxygen, or nutrients", then a Pollution Reduction Plan (PRP) must be prepared. The PRP requirements were assigned for each MS4 based on the findings contained within the 2014 report. The Monongahela River UNT's, as well as the UNT to Speers Run are impacted by siltation from the urban runoff and storm sewers.

The City of Monessen is required by the PA DEP to reduce sediment pollution from stormwater discharges to surfaces impaired by sediment by ten (10) percent over the five (5) year permit term



(March 16, 2018 to March 15, 2023) by implementing projects or Best Management Practices (BMPs).

The City has MS4 discharges or “outfalls” to a UNT to Speers Run and two UNTs to the Monongahela River, which are listed by the 2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report (Integrated Report) as impaired for siltation (i.e. sediment) and highlighted in Table 1 below.

**Table 1: MS4 Requirements Table (Municipal) Excerpt from 2014 Integrated Water Quality Monitoring and Assessment Report.**

MS4 Name	NPDES ID	Individual Permit Required?	Reason	Impaired Downstream Waters or Available TMDL Name	Requirement(s)	Other Cause(s) of Impairment
Monessen City	PAG136283	No		UNT to Speers Run	Appendix A - Metals, pH(5) Appendix E - siltation (5)	NA
				UNT's to Monongahela River (2)	Appendix E - siltation (5)	NA
				Monongahela River	Appendix C - PCB(4)	NA

## BACKGROUND/SETTING

The City of Monessen encompasses approximately 3.1 square miles located near the southwestern border of Westmoreland County, in southwestern Pennsylvania. The City is made up of sprawling neighborhood areas on the hills above the Monongahela River, with all areas adjacent to the river being used both in the past and present as industrialized areas. The City has numerous parks throughout its boundary as well as several heavily wooded steep slopes, however the 2010 Urbanized Area (U.S. Census Bureau) covers the entire land area of the City.

As previously mentioned, there are three impaired watersheds within the City of Monessen’s municipal boundary which include 2 UNT’s to the Monongahela River and a small UNT to Speers Run. All three streams have been impaired by siltation from urban runoff. The impaired streams are identified in Figure 1.

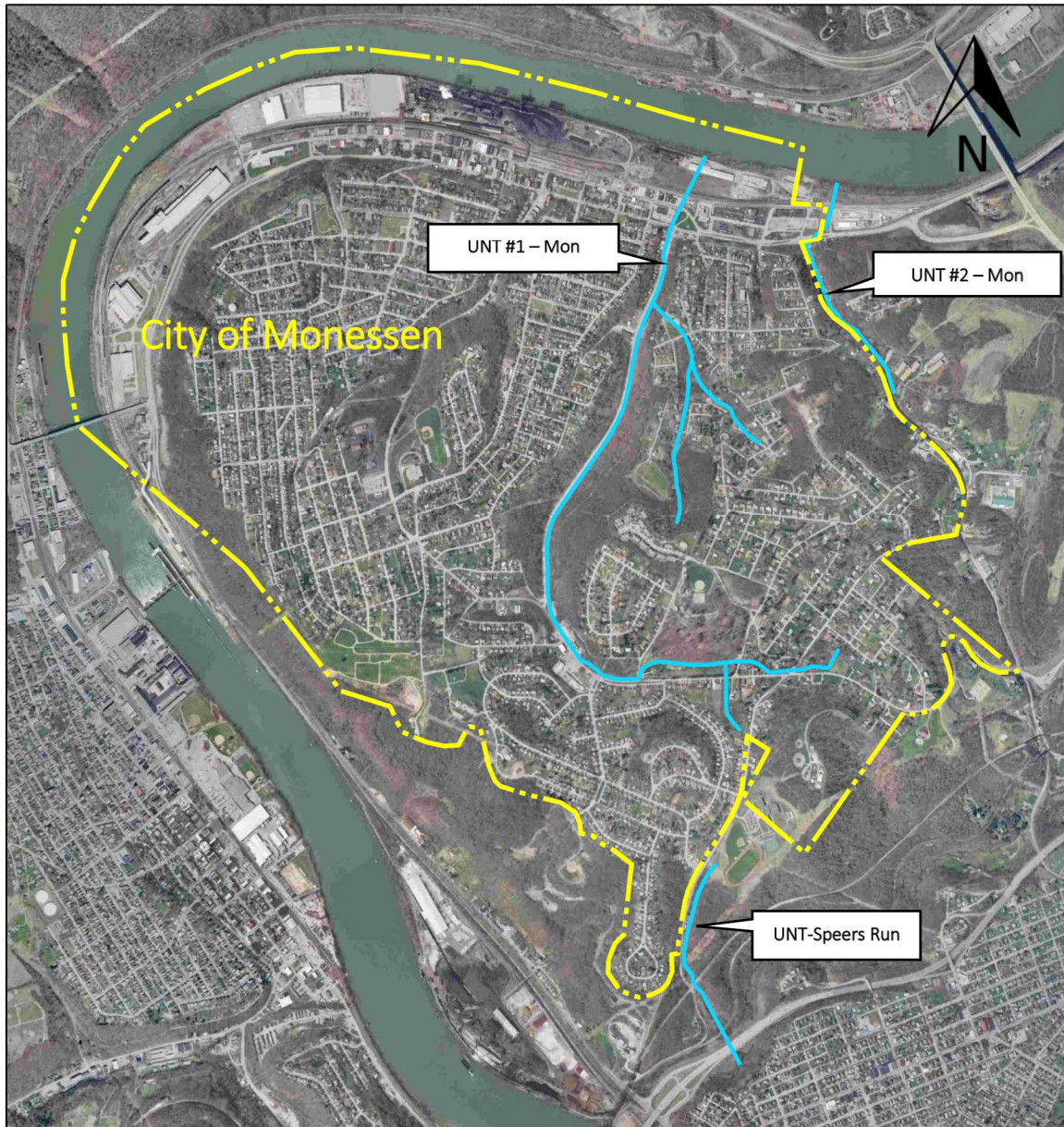


Figure 1 – Impaired streams within the City of Monessen Municipal Boundary

***UNT to Speers Run***

The small UNT to Speers Run originates downstream of the existing stormwater detention facility of the Monessen High School facility and flows adjacent to the eastern portion of the City municipal boundary in a southerly direction. The UNT to Speers Run eventually flows into the main branch of Speers Run in the Borough of Belle Vernon before outletting into the Monongahela River under the Speers Bridge carrying PA Interstate 70 over the Monongahela River. The UNT to Speers Run was listed as impaired for siltation from road runoff in 2006. Table 2 below lists the impairment information for the portion of the UNT to Speers Run within the City from the 2014 Integrated Report.

There are three (3) MS4 outfalls that discharge to the UNT to Speers Run. The UNT to Speers Run lies within the Lower Monongahela Hydrologic Unit Code (HUC) 12. Refer to Figure 2 for mapping of the portion of the stream watershed under the City of Monessen jurisdiction.

**Table 2: 2014 Integrated Report – UNT to Speers Run**

Impairment Cause	Impairment Source	Category	Assessed Use	Date Listed
Siltation	Road Runoff	5	Aquatic Life	2006

***UNT’s to Monongahela River (2)***

There are two impaired streams to the Monongahela River that are included within this stream assessment. UNT #1 originates south of the intersection of Lee Drive and Spring Drive. The stream flows towards the west where it parallels Grand Boulevard until it enters a headwall near the BP Gas Station. It continues to travel within the storm sewer system under Parente Boulevard until outletting into the Monongahela River. UNT #2 flows along Tyrol Boulevard in a northerly direction near the eastern municipal boundary. The stream flows into a headwall and under SR 906 before outletting into the Monongahela River near the Monessen Boat Launch at Monongahela Street. The UNT’s to the Monongahela River were listed as impaired for siltation from road runoff in 2006. Table 3 below lists the impairment information for the two UNT’s to the Monongahela River within the City from the 2014 Integrated Report.

There are twenty (20) MS4 outfalls that discharge to the two UNT’s to the Monongahela River. The UNT’s to the Monongahela River lies within the Lower Monongahela Hydrologic Unit Code (HUC) 12. Refer to Figures 3 and 4 for the watershed mapping for the two streams.

**Table 3: 2014 Integrated Report – UNT’s to Monongahela River**

Impairment Cause	Impairment Source	Category	Assessed Use	Date Listed
Siltation	Road Runoff	5	Aquatic Life	2006

**POLLUTANTS OF CONCERN**

The City of Monessen’s PRP addresses impaired waters whose pollutants are covered in Appendix E of the PAG-13 General Permit (Appendix H). As such, siltation is the pollutant of concern for this report. Using the MS4 Requirements Table and the Pollutants Aggregations Suggestions Table, it was determined which watersheds within the City require pollutant mitigation.



The eastern portion of the City lies within watersheds which are impaired from siltation (UNT to Speers Run and UNT's to Monongahela River), so the entire City is not considered within the PRP planning area. Only 42% of the City is within the PRP planning area.

## OUTFALL SEWERSHEDS AND PLANNING AREAS

### **Delineation Procedures**

As part of the PRP process, outfall sewersheds were required to be delineated prior to calculating the pollutant load. An outfall sewershed is an area of land in which stormwater flows into a storm sewer system and is discharged into a stream, lake, or waterway. Outfall sewersheds were determined based on topography, aerial photos, Monessen sewer mapping, and streams in WMS Watershed Modeling Program by Aquaveo. By following these layers and the storm sewer network, all outfalls were assigned a sewershed. Aside from being a requirement of the PRP, delineation of the outfall sewersheds is useful if any parsing is implemented. Parsing is the term used by PADEP to convey detailed analysis with the purpose of assigning responsibility.

### **Planning Area**

The planning area is defined as the area used to calculate existing loads and plan load reductions. PADEP offered several options for how to define the planning area for each impaired water. The options varied from using a combination of the storm sewersheds to using watershed boundaries. The City of Monessen plan utilizes the impaired stream watershed boundaries as its planning area with some additional parsing that is described in the next section.

### **Parsing**

Once the preliminary planning area was defined; additional parsing within the area was performed to eliminate spaces that either do not drain to the MS4's system or land that is already covered by an NPDES permit for the control of stormwater. Parsing determines the area of responsibility for the MS4 and therefore the pollutant loads. The City has decided to parse out portions of the watersheds that are located within Rostraver Township, Borough of Belle Vernon and PennDOT owned roadways.

## CALCULATING EXISTING SEDIMENT LOADING

PADEP provides several suggested methods that are scientifically-supported for estimating the existing sediment loads. The approved methods for calculating the loads include PADEP Simplified Method land use loading rates, MapShed, or other watershed models that reflect both overland flow



and in-stream erosion components. The PADEP Simplified Method was chosen as the most appropriate method for this PRP. The loads generated within this PRP were calculated in July/August 2017.

In accordance with the “Pollution Aggregation Suggestions for MS4 Requirements Table (Municipal)” (revised May 9, 2017) (Appendix C), the City of Monessen must achieve the ten (10) percent sediment pollutant reduction across the entire planning area (i.e. storm sewersheds), as opposed to a 10 percent reduction in the planning areas for each receiving impaired surface water. This is required because the UNT’s to the Monongahela River and the UNT to Speers Run all share a common pollutant (sediment) with the downstream HUC 10 (Monongahela River). However, the City’s PRP has strived to reduce the sediment load within each planning area to the greatest extent possible to achieve the required 10% reduction of sediment.

As previously stated, the PADEP Simplified Method was utilized to determine the existing sediment loading for the PRP planning area. The drainage area of each impaired stream was delineated and then analyzed to determine the percentages of pervious and impervious ground covers within the drainage boundary. The entire City of Monessen is considered “urbanized” and the percentages of 69% pervious and 31% impervious, as provided within the Statewide MS4 Land Cover Estimates Table (Appendix D), were used in the calculations. After calculating each cover type area in acres, the acreages were then multiplied by the prescribed loading rate to calculate the final pollutant loading rate of sediment in pounds/acre/year. The prescribed pollutant loading rates were derived from the “Developed Land Loading Rates for PA Counties” (Attachment B of the PRP Instructions) for “All Other Counties”, located within Appendix E.

The existing sediment loading quantified from the entire planning area was 626,423.11 lbs/yr. A more detailed breakdown of the existing sediment loading is provided in the table below. Refer to Appendix F for supporting calculations. No existing BMP’s were credited to reduce the existing sediment loading.

**Table 4: Existing Sediment Loading for Stormwater Outfalls to Sediment Impaired Streams**

Receiving Waters Impaired by Sediment	HUC 12	Land Use	Area (ac)	TSS[Sediment] (lbs/yr)
UNT #1 to Monongahela River	Monongahela River	Impervious, Developed	172.61	317,429.79
		Pervious, Developed	384.19	101,794.98
UNT #2 to Monongahela River	Monongahela River	Impervious, Developed	59.52	109,457.28
		Pervious, Developed	132.48	35,101.90
UNT to Speers Run	Monongahela River	Impervious, Developed	25.79	47,427.81
		Pervious, Developed	57.41	15,211.35
<b>TOTAL:</b>			<b>832.00</b>	<b>626,423.11</b>
			<b>Required 10% Reduction</b>	<b>62,642.31</b>

## PROPOSED BEST MANAGEMENT PRACTICE (BMP) SELECTION

A set of BMPs has been proposed throughout the City to achieve the required 10% sediment loading reduction of 62,642.31 lbs/yr. Pollutant reductions resulting from the proposed BMP's were quantified using the same methodology described above for the existing sediment loading with the drainage area for each BMP, then applying the reduction rates. The reductions from the proposed BMP's were calculated using the efficiency rates specified in the NPDES Stormwater Discharges from Small MS4's BMP Effectiveness Values Table (May 2016), as well as from manufacturer's specifications and testing results. All proposed BMPs will be implemented on parcels owned by the City. However, if Monessen acquires property and installs BMPs in the future or requires private developers to perform additional sediment removal beyond NPDES requirements, the Plan will be amended to account for these adjustments. Sediment load reductions achieved through the implementation of the proposed BMP's are provided in Tables 5, 6 and 7 below. Refer to Appendix G for supporting calculations. Specific BMP's are proscribed within each watershed, however, others shown below will be considered in the future if any new development occurs within the PRP Planning Area or opportunities arise where the implementation of additional BMPs will be beneficial to the PRP and the City. The proposed plan for the PRP is fluid and will be revised when necessary to help achieve the pollutant reduction goals in a financially responsible manner. Refer to Figures 5, 6 and 7 for the proposed BMP locations within each watershed in the PRP planning area.

**Tables 5: Sediment Load Reductions from Proposed BMPs within UNT #1 to Monongahela River**

Receiving Waters	BMP	Location	Number	Length (lf)	Drainage Area (ac)	BMP Effectiveness (%) or (lbs/ft/yr)	TSS Reduction (lbs/yr)
UNT#1 to Monongahela River	Stream Restoration	City Park	1	500	N/A	44.88 lbs/lf/yr	22,440
UNT#1 to Monongahela River	Water Quality Inlet Insert	Various Locations	10	N/A	10	82%	6,174
UNT#1 to Monongahela River	Stream Restoration	Grand Blvd.	1	300	N/A	44.88 lbs/lf/yr	13,464
<b>TOTAL:</b>				<b>800</b>	<b>10</b>		<b>42,078</b>
<b>TSS Reduction Goal:</b>							<b>41,923</b>

**Tables 6: Sediment Load Reductions from Proposed BMPs within UNT #2 to Monongahela River**

Receiving Waters	BMP	Location	Number	Length (lf)	Drainage Area (ac)	BMP Effectiveness (%) or (lbs/ft/yr)	TSS Reduction (lbs/yr)
UNT#2 to Monongahela River	Stream Restoration	Monessen Firemans Club	1	100	N/A	44.88 lbs/lf/yr	4,488
UNT#2 to Monongahela River	Water Quality Inlet Insert	Various Locations	3	N/A	3	82%	1,852
UNT#2 to Monongahela River	Bioretention Area	Tyrol Blvd	1	N/A	16.77	75%	9,471
<b>TOTAL:</b>				<b>100</b>	<b>19.77</b>		<b>15,811</b>
<b>TSS Reduction Goal:</b>							<b>14,456</b>

**Tables 7: Sediment Load Reductions from Proposed BMPs within UNT to Speers Run**

Receiving Waters	BMP	Location	Number	Length (lf)	Drainage Area (ac)	BMP Effectiveness (%) or (lbs/ft/yr)	TSS Reduction (lbs/yr)
UNT to Speers Run	Water Quality Inlet Insert	Various Locations	10	N/A	10	82%	6,174
UNT to Speers Run	Bioretention Area	Monessen High School	1	N/A	1	55%	828
<b>TOTAL:</b>				<b>0</b>	<b>11</b>		<b>7,002</b>
<b>TSS Reduction Goal:</b>							<b>6,264</b>

**Note:** School should perform maintenance by removing extensive tree growth within the existing stormwater pond at high school to allow a potential BMP retrofit in the future.

The proposed BMPs are described in more detail below, along with other BMPs considered for implementation within this PRP:

### Bioswales

Bioswales are conveyance channels which are overexcavated and backfilled with engineered growing media and topsoil and planted with native vegetation. They allow for stormwater to infiltrate into the subgrade while providing conveyance capacity for larger storms. Bioswales in this plan will be implemented by enhancing existing drainage channels to provide storage and infiltration capacity.

### Bioretention

Bioretention ponds are excavated pits backfilled with engineered growing media and topsoil and planted with native vegetation. Stormwater is temporarily ponded and, depending on subgrade infiltration rates, allowed to infiltrate into the subgrade or slowly released into the storm sewer system, while filtering

pollutants from the stormwater. For this project, existing ponds will be enhanced to provide bioretention benefits, and new bioretention ponds will be constructed at selected sites.

### **Permeable Pavement/Pavers**

Permeable pavement or permeable pavers are an alternative paving option that can replace conventional asphalt or concrete surfaces. They allow for stormwater to infiltrate into the subgrade while filtering pollutants from the runoff. Permeable pavement is proposed as a replacement for conventional paving at Monessen-owned parking areas and low-traffic associated drives.

### **Street Sweeping**

A street sweeping program is proposed for municipally-owned roads, and should be undertaken biweekly or approximately 25 times per year.

### **Stream Restoration**

Stream restoration involves practices which reduce nutrient and sediment loading by preventing channel and bank erosion for existing zero-order to third-order streams (Strahler scale). For this project, restorative practices are assumed to be undertaken within City-owned right-of-way, and 10% of the stream length is assumed to be available for restorative practices. This will be confirmed in the field and this plan will be amended accordingly.

### **Inlet Water Quality Filters**

Water Quality Inlets filters are inlets fitted with a proprietary product (FlexStorm Inlet Filters) that are designed to reduce large sediment, suspended solids, oil and grease, and other pollutants, especially pollutants conveyed with sediment transport. They can provide “hotspot” control and reduce sediment loads and are effective in removing “first flush” water flow. The filters will be installed at prescribed locations throughout the watersheds below known areas that have the potential to produce sediment. Through rigorous testing and experimentation, the FlexStorm Inlet filters have been documented to achieve up to an 82% TSS removal efficiency.

### **Hydrodynamic Devices**

Hydrodynamic devices separate flow through devices designed to serve in concert with inlets and storm sewers to remove sediment and pollutants. These methods include baffle plate design, vortex design, tube settler design, inclined plate settler design, or a combination of these. The flow through the device should remove litter, oil, sediment, heavy metals, dissolved solids and nutrients. These devices may be prescribed in areas where topography or other development may hinder other BMP applications. They



may be installed as a final treatment near the end of a storm sewer pipe run prior to outfalling into a waterway.

### **Forested Buffers**

Forested buffers consist of an area at least 35 feet wide along the side of a streambank, where native trees, shrubs, and other vegetation are established to stabilize the contributing drainage area, infiltrate runoff, and filter out/utilize nutrients and other pollutants. For the implementation of this PRP, existing forested buffers will be evaluated, enhanced with plantings if necessary, and protected with a conservation easement in perpetuity. In areas with proposed forested buffers, vegetative cover will be established in accordance with the PADEP Stormwater BMP Manual, and a conservation easement will be established to ensure the BMP remains in place in perpetuity.

### **BEST MANAGEMENT PRACTICE (BMP) OPERATION AND MAINTENANCE (O&M)**

The Monessen PRP proposes all BMPs to be constructed on City-owned land, and, as such, all operations and maintenance will be the responsibility of the City. If, in the future, private BMPs are required to be installed by developers and/or property owners, agreement should be executed with the land owner establishing O&M of the BMP as the responsibility of the landowner. The City will engage in regular inspections to ensure proper BMP upkeep and performance. In this event, this PRP will be amended to reflect the proper O&M requirements.

Maintenance of proposed BMPs should follow the procedures outlined in the PADEP Pennsylvania Stormwater Best Management Practices Manual and the following instructions:

### **Bioswales/Bioretention**

Bioswales and bioretention areas should be inspected annually and after major rainfall events. At the time of inspection, detritus should be removed and erosion/sediment buildup/weed growth should be corrected. Larger plants, such as trees and shrubs should be inspected twice a year and appropriate steps should be taken to ensure continued plant health. Perennial plants should be cut down at the end of the growing season (as required) and during times of drought, bioretention areas may need to be watered. Any associated inlets and their filtration (if applicable) should be inspected and cleaned along with the bioretention area.

### **Permeable Pavement/Pavers**

Permeable pavement will be inspected biannually for sediment buildup, plant growth, and damaged

pavement areas. At the time of inspection, the pavement surface should be vacuumed with a commercial cleaning unit and any associated underdrains and/or inlets should also be flushed and cleaned out. Plant growth should be removed using a weed burner or other approved method. Herbicides should not be used to kill unwanted plant growth. Any damage to the permeable paving system should be repaired at this time, and any sources of sediment should be sought out and stabilized.

### **Street Sweeping**

Street Sweeping of City-owned roads should be done biweekly at least 25 times per year.

### **Stream Restoration**

Streams which undergo restorative practices should be inspected twice a year and after major rainfall events. Any damage to the BMP should be repaired immediately. Any invasive growth should be removed immediately and native plantings restored. Use of herbicides is allowed only under the regulation of the PA Department of Agriculture.

### **Inlet Water Quality Filters**

Water Quality Inlets filters should be emptied when they are over half full of sediment and trash and cleaned a minimum of at least twice a year by City personnel. The more frequent a water quality insert is cleaned, the more effective it will be.

### **Hydrodynamic Devices**

Hydrodynamic devices should be emptied when the pollutant loads reach approximately 50% of the depth of the sump and cleaned a minimum of at least twice a year by City personnel using a vacuum truck. All sediment and other pollutants removed should be properly disposed of in a landfill. If the device is used for spill containment, it should be pumped after the event is contained.

### **Forest Buffer**

Forest Buffers should be inspected quarterly for the first four years of establishment, after which time annual inspections are appropriate. Annual inspections should also be performed for existing forest buffers protected under a conservation easement. Forest buffers should show at least a 70% survival rate; if this is not maintained consult a certified arborist for mitigation actions. Forest buffer should be watered as needed during their establishment period and during periods of extended drought. Any invasive growth should be removed immediately and native plantings restored. Use of herbicides is allowed only under the regulation of the PA Department of Agriculture. If deer damage is noted, implement appropriate protection for the forest buffer.

The City of Monessen will keep a report of all inspections, associated observations, and any required maintenance for review by PADEP.

### FUNDING MECHANISMS

The approval of and funding for each BMP is subject to the City's budgeting process. Grant opportunities, both public and private, will be explored and pursued to augment local funding.

### CONCLUSION

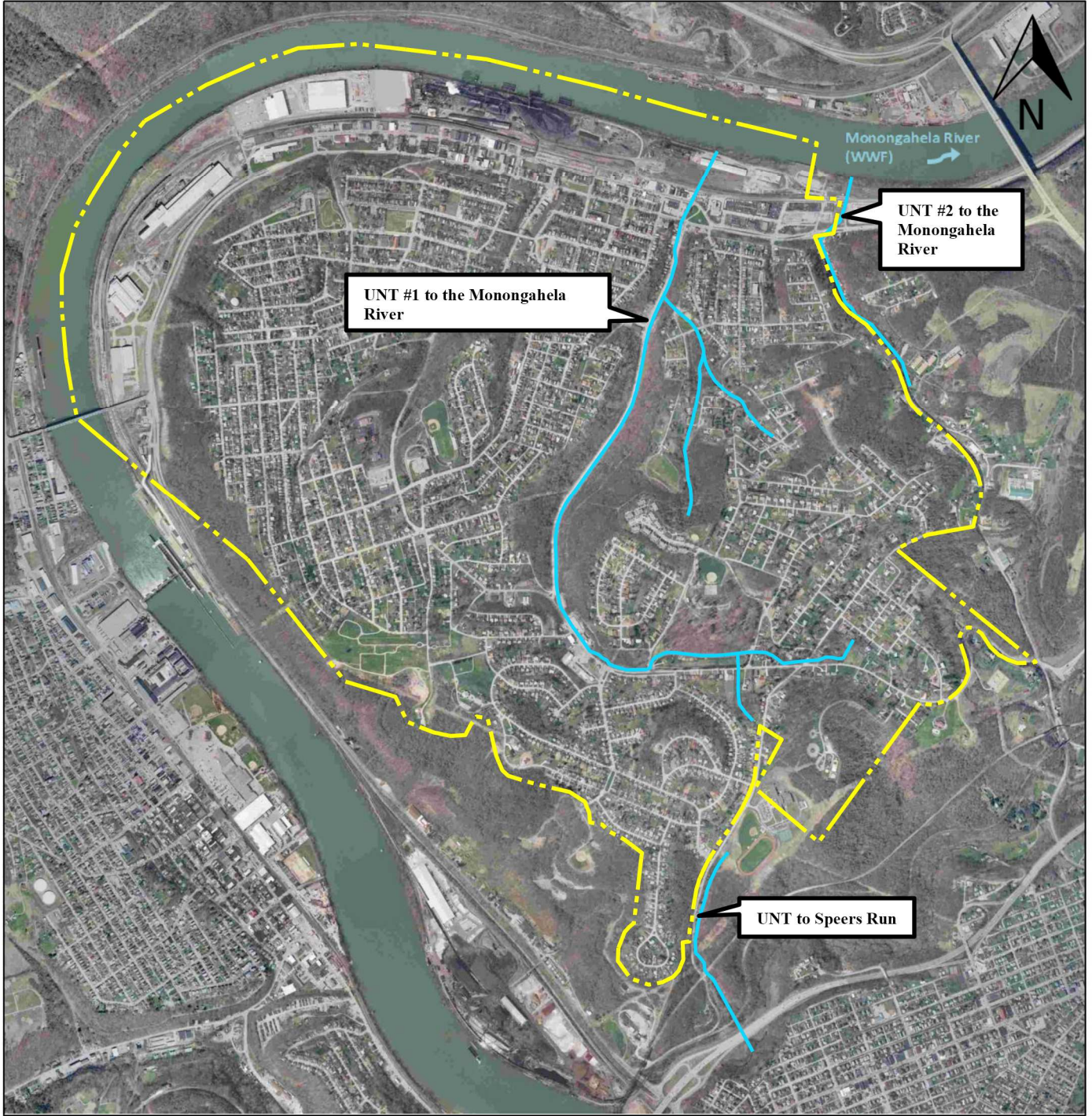
The Monessen MS4 has achieved its 10% sediment load reduction requirement for all of the impaired streams through the implementation of the proposed BMP's. The City will strive to have all of the BMP's implemented by March 15, 2023.

# FIGURES



# **FIGURE 1**

## CITY OF MONESSEN MUNICIPAL IMPAIRED STREAM MAP

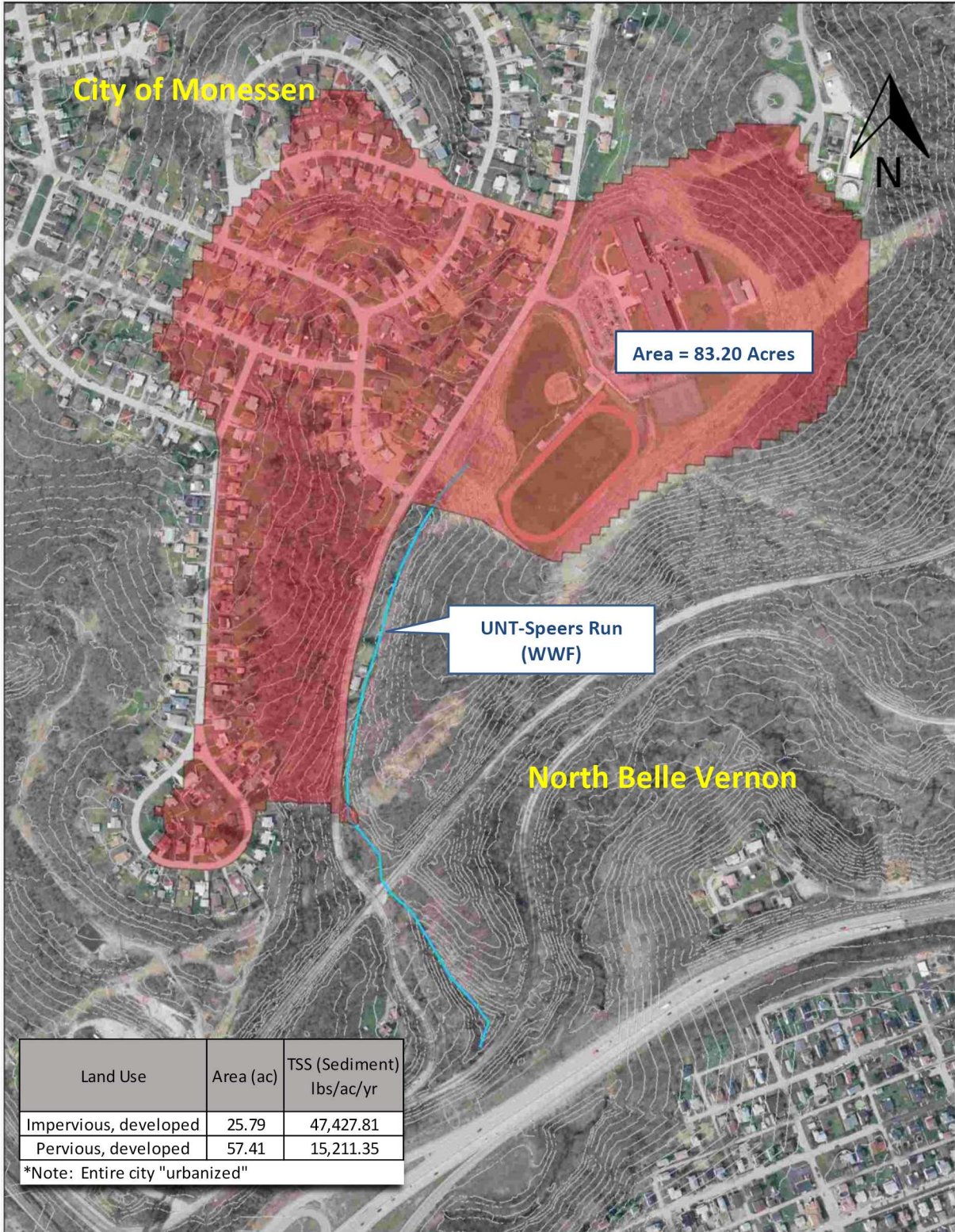


**Impaired streams within the City of Monessen Municipal Boundary**

# **FIGURE 2**

## **UNT#1 TO SPEERS RUN DRAINAGE AREA MAPPING**



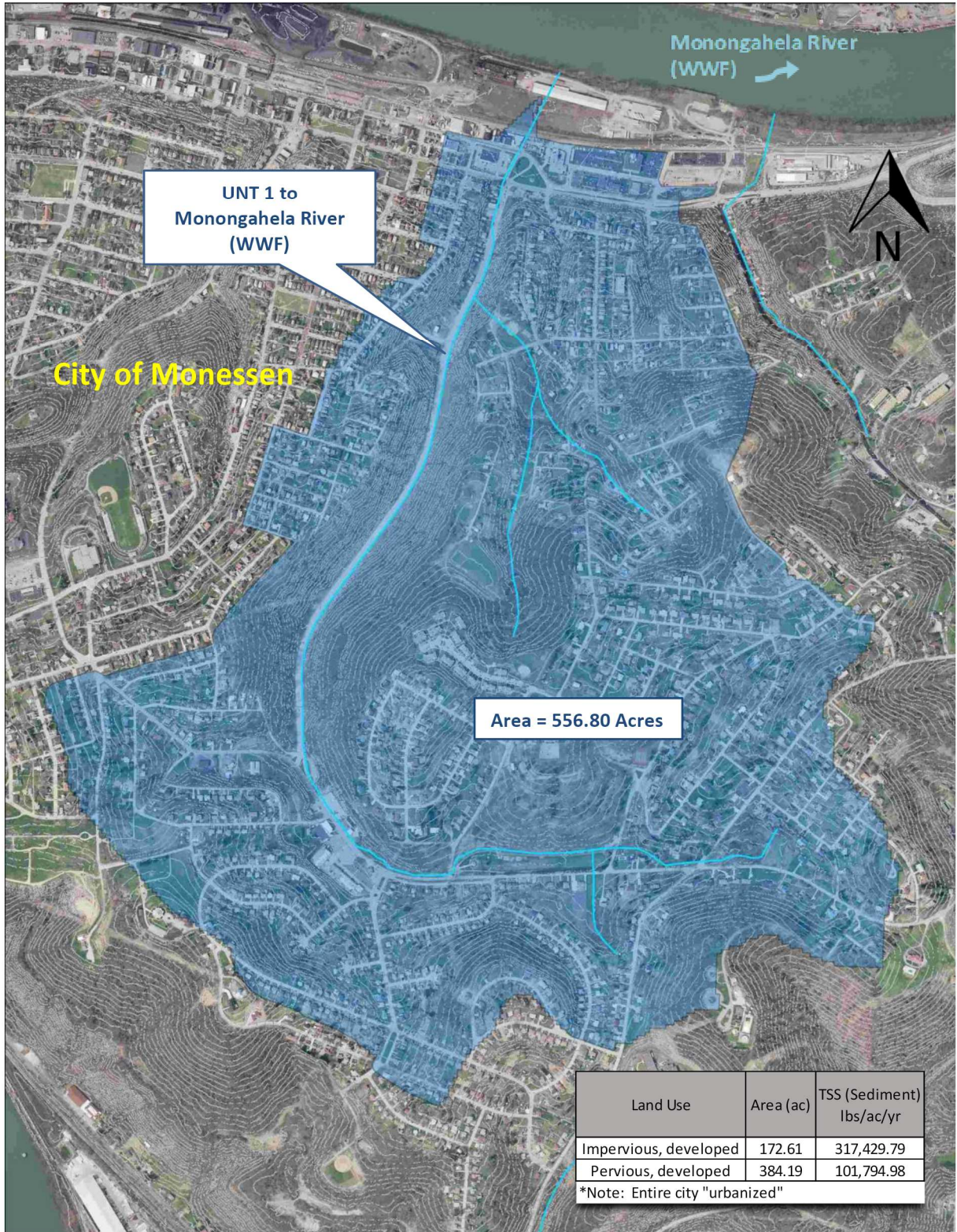


**UNT-Speers Run Drainage Area Map**

(drainage area shown represents portion within City of Monessen jurisdiction)



**FIGURE 3**  
UNT#1 TO THE MONONGAHELA RIVER DRAINAGE AREA  
MAPPING

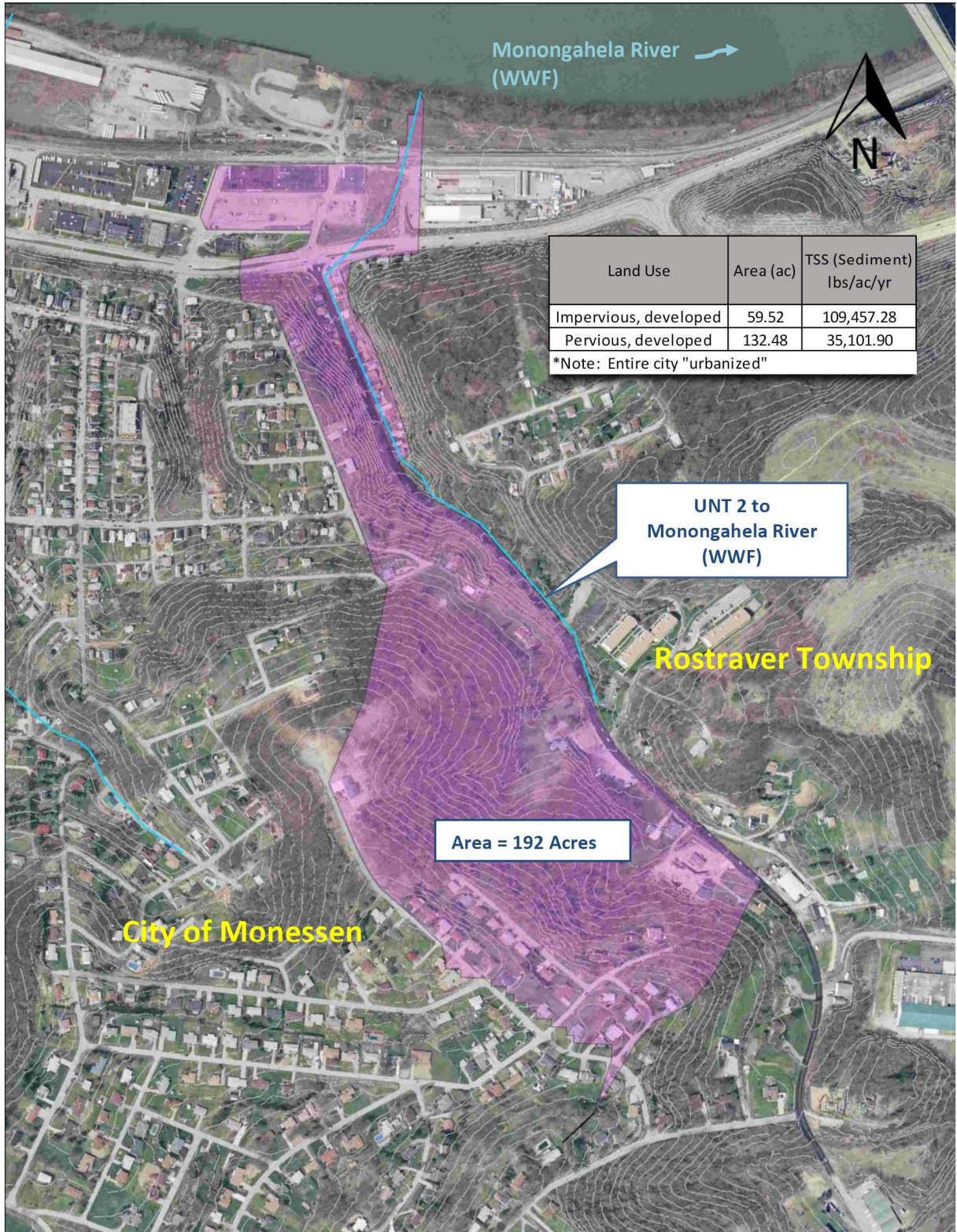


UNT 1 to Monongahela River Drainage Area Map

# **FIGURE 4**

## UNT#2 TO THE MONONGAHELA RIVER DRAINAGE AREA MAPPING



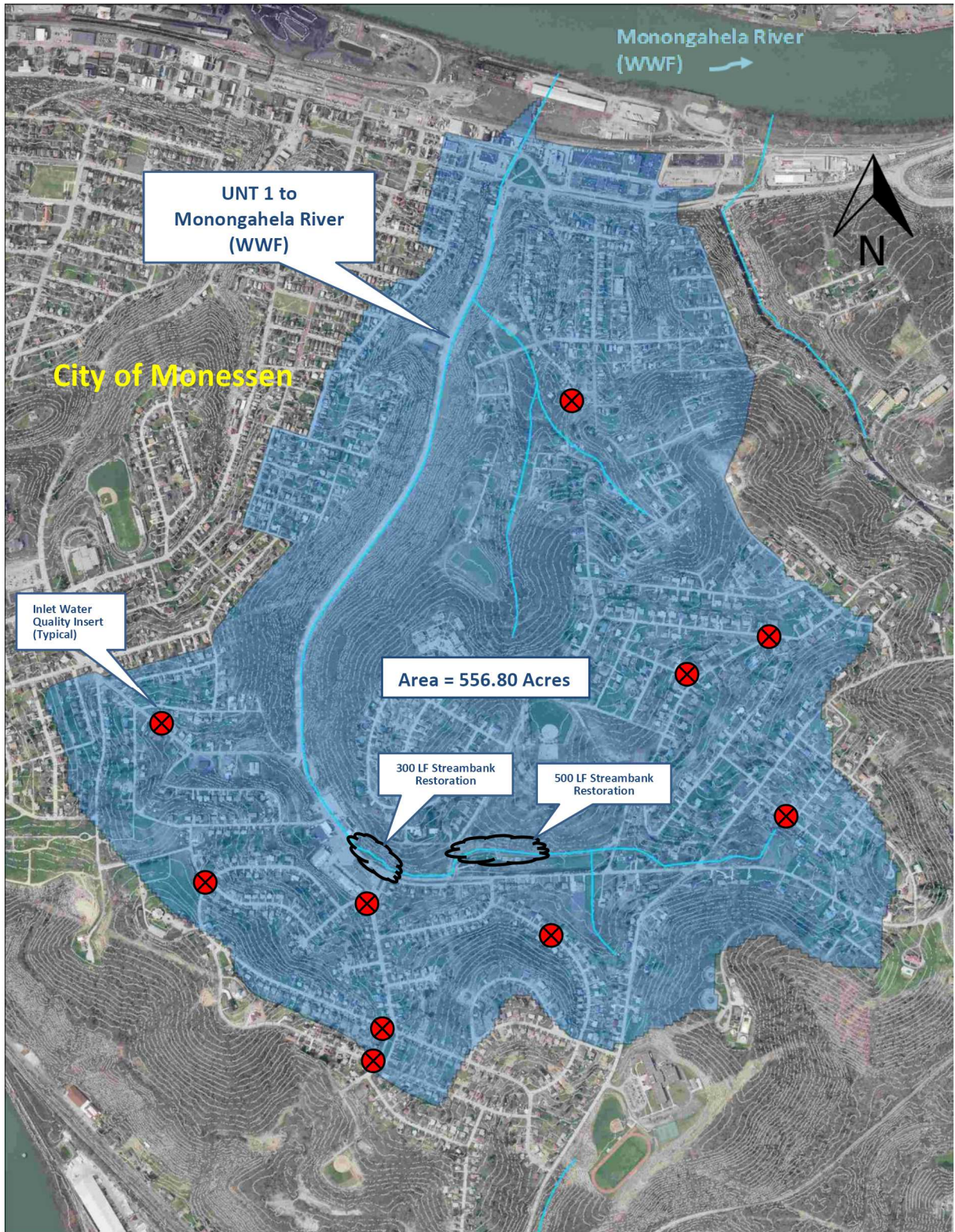


**UNT 2 to Monongahela River Drainage Area Map**

(drainage area shown represents portion within City of Monessen jurisdiction)

**FIGURE 5**  
UNT#1 TO MONONGAHELA RIVER PROPOSED BMP  
MAPPING



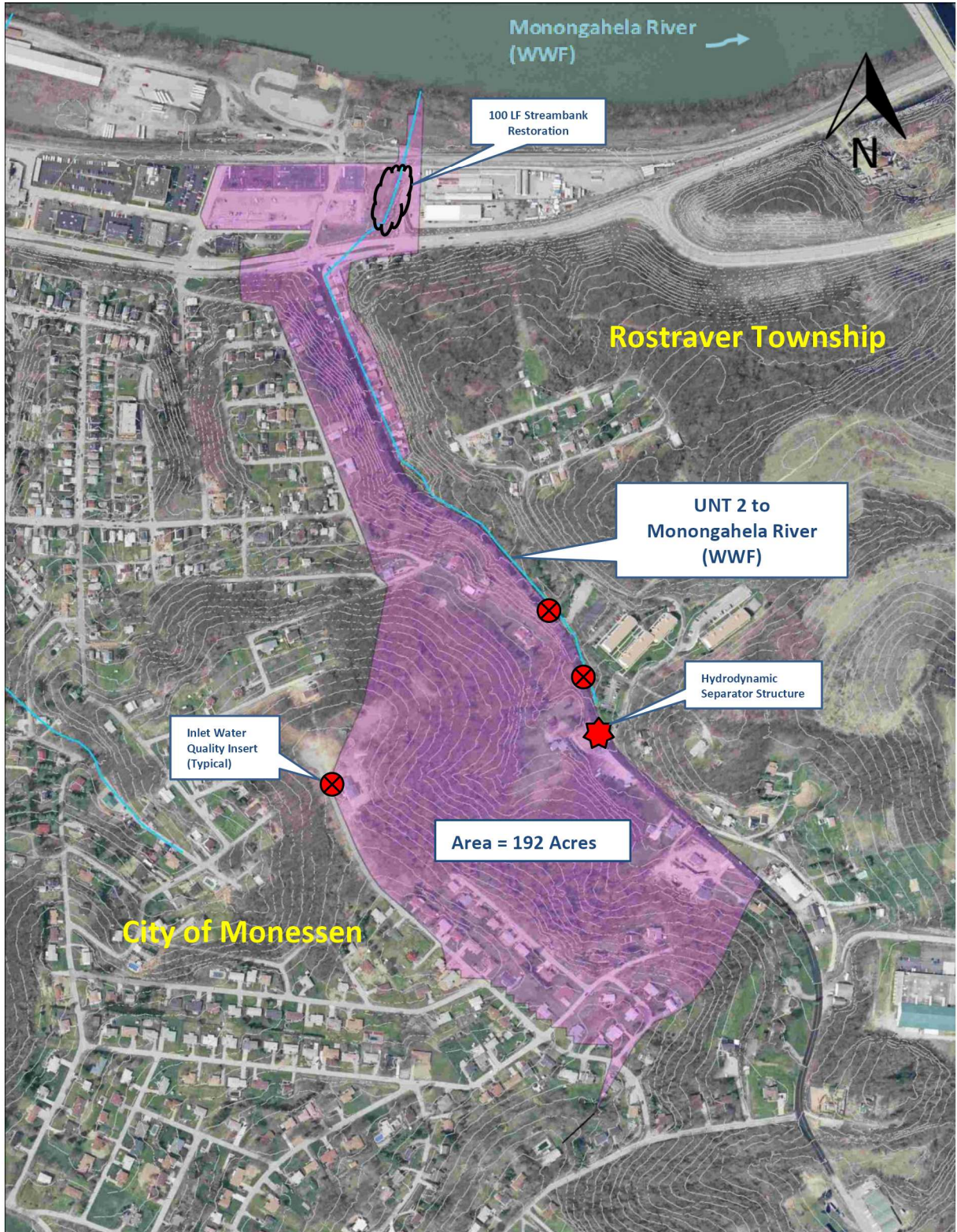


UNT 1 to Monongahela River Proposed BMP Mapping

# **FIGURE 6**

## UNT#2 TO MONONGAHELA RIVER PROPOSED BMP MAPPING



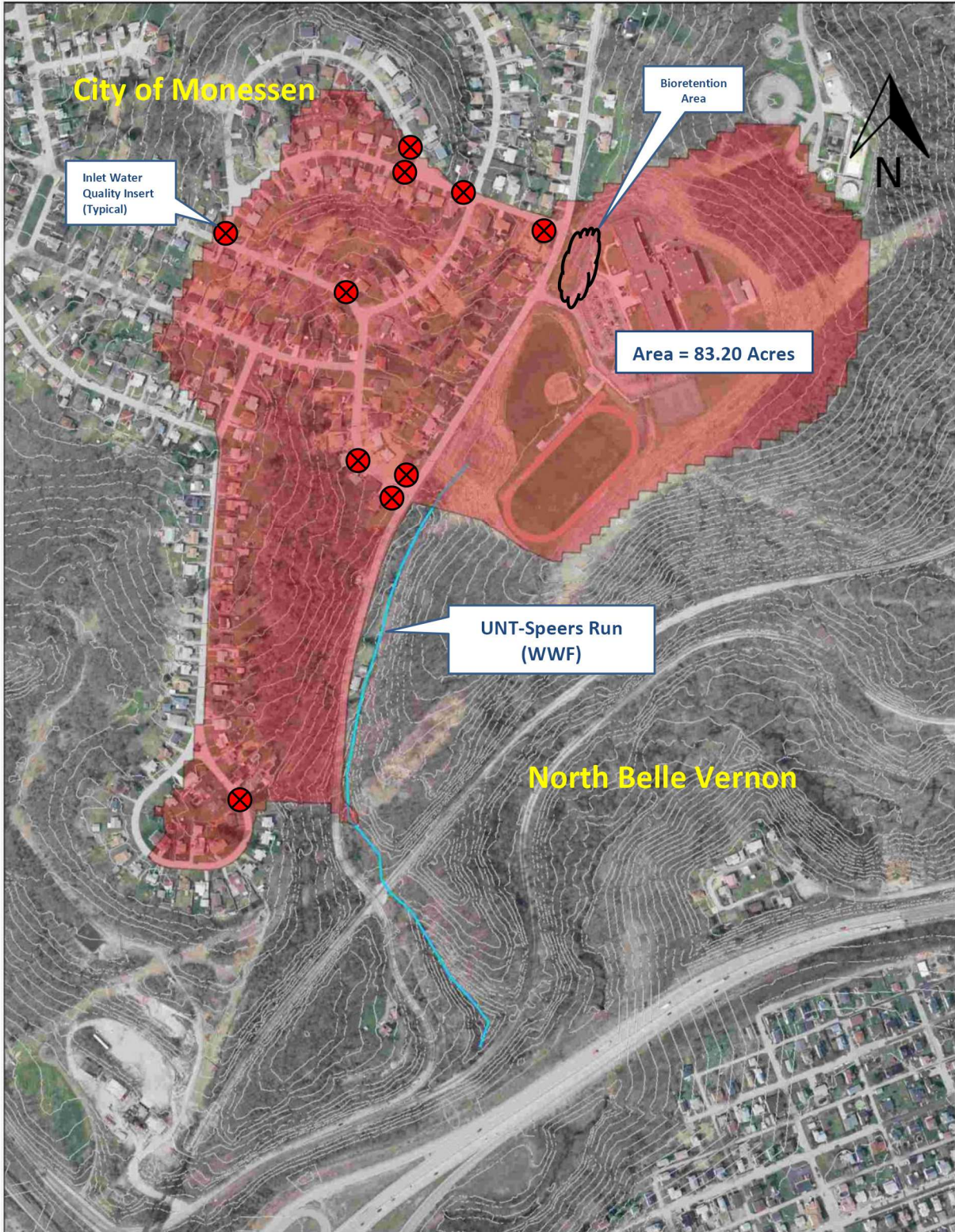


**UNT 2 to Monongahela River Proposed BMP Mapping**  
(drainage area shown represents portion within City of Monessen jurisdiction)

# FIGURE 7

## UNT TO SPEERS RUN PROPOSED BMP MAPPING





**UNT-Speers Run Proposed BMP Mapping**

(drainage area shown represents portion within City of Monessen jurisdiction)



# APPENDICES

# **APPENDIX A**

## **GLOSSARY OF TERMS**

## **GLOSSARY OF TERMS**

**Best Management Practices (BMPs):** Schedules of activities, prohibitions of practices, structural controls (e.g., infiltration trenches), design criteria, maintenance procedures, and other management practices to prevent or reduce pollution to the waters of the Commonwealth. BMPs include Erosion and Sedimentation Control Plans, Post Construction Stormwater Management Plans, MS4 TMDL Plans, Stormwater Management Act Plans, and other treatment requirements, operating procedures and practices to control runoff, spillage or leaks, sludge or waste disposal, drainage from raw material storage, and methods to reduce pollution, to recharge groundwater, to enhance stream base flow and to reduce the threat of flooding and stream bank erosion. [NPDES Stormwater Discharges from Small MS4s General Permit 5/2016 (PAG-13)]

**Impaired Waters** - surface waters that fail to attain one or more of its designated uses under 25 Pa. Code Chapter 93 and as listed in Categories 4 and 5 of Pennsylvania's Integrated Water Quality Monitoring and Assessment Report.

**Integrated Water Quality Monitoring and Assessment Report** - the report published every other year by PADEP to report on the conditions of Pennsylvania's surface waters to satisfy sections 305(b) and 303(d) of the CWA.

**Municipal Separate Storm Sewer System (MS4):** All separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to 40 CFR §§ 122.26(b)(18), or designated as regulated under 40 CFR § 122.26(a)(1)(v). [PAG-13]

**National Pollutant Discharge Elimination System (NPDES):** A permit issued under 25 Pa. Code Chapter 92a (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance) for the discharge or potential discharge of pollutants from a point source to surface waters. [PAG-13]

**Nutrients** – refers to total nitrogen and total phosphorus

**Outfall** - a point source as defined by 40 CFR § 122.2 at the point where a municipal separate storm sewer discharges to surface waters and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters. (25 Pa. Code § 92a.32(a) and 40 CFR § 122.26(b)(9))

**Outfall Sewershed** - the land area that drains to an individual MS4 outfall, observation point, or discharge point from within the jurisdiction of the MS4 permittee.

**Owner or operator:** The owner or operator of any “facility” or “activity” subject to regulation under the NPDES program. [PAG-13]

**Parsing** - a process in which land area is removed from a Planning Area in order to calculate the actual or target pollutant loads that are applicable to an MS4. Land area which can be parsed includes areas that do not drain to the MS4’s system or land that is already covered by an NPDES permit for control of stormwater.

**Planning Area** – the area used to calculate existing loads and plan load reductions for.

**Pollutant:** Any contaminant or other alteration of the physical, chemical, biological, or radiological integrity of surface water which causes or has the potential to cause pollution as defined in section 1 of The Clean Streams Law, 35 P.S. § 691.1. [PAG-13]

**Sediment** – refers to siltation and suspended solids; all of which are inorganic solids.

**Storm Sewershed:** The catchment area that drains into the storm sewer system based on the surface

topography in the area served by the storm sewer. (Source: NPDES Stormwater Discharges from Small MS4s General Permit [PAG-13])

**Structural Best Management Practices** - means stormwater storage and management practices including, but not limited to, wet ponds and extended detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; infiltration practices such as infiltration basins and infiltration trenches; and other BMPs as referenced in Chapter 6 of the Pennsylvania Stormwater BMP Manual (363-0300-002).

**Stormwater:** Runoff from precipitation, snow melt runoff and surface runoff and drainage. "Stormwater" has the same meaning as "Storm Water." (Source: NPDES Stormwater Discharges from Small MS4s General Permit [PAG-13])

**Surface Waters** - perennial and intermittent streams, rivers, lakes, reservoirs, ponds, wetlands, springs, natural seeps and estuaries, excluding water at facilities approved for wastewater treatment such as wastewater treatment impoundments, cooling water ponds and constructed wetlands used as part of a wastewater treatment process. (25 Pa. Code § 92a.2)

**Urbanized Area (UA):** Land area comprising one or more places (central place(s)) and the adjacent densely settled surrounding area (urban fringe) that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile, as defined by the United States Bureau of the Census and as determined by the latest available decennial census. The UA outlines the extent of automatically regulated areas. UA maps are available at:

<http://www.epa.gov/npdes/stormwater/urbanmaps>,

or at: <http://www.epa.gov/enviro/html/em/index.html>. [PAG-13]



# **APPENDIX B**

## **PUBLIC ADVERTISEMENT AND COMMENT RESPONSES**



Street  
A 15301  
5-4770  
@gmail.com  
vice Number  
5984 E.O.E.

PORTIONS THEREOF PROPOSALS SUBMITTED, AND TO WAIVE INFORMALITIES IN THE BIDDING PROCESS IF IN THE BEST INTEREST OF THE AUTHORITY.

Edward J. Golanka  
General Manager  
9/12,13

Bids will be publicly opened and read immediately thereafter.

Project consists of removing approximately 705 C.Y. of unclassified material along the trail, swale improvements and pipe cleaning.

A pre-bid meeting will be held on Monday, September 18th, 2017, at 10:00 A.M., located at the intersection of Commonwealth Avenue and RT 837 in West Mifflin Borough, to view the site.

Call Leslie Pierce, Regional Trail Corporation, West Newton, for Plans, Specifications and Proposal Forms. (Phone 724-872-5586).

A non-refundable deposit of \$25.00 for plans specifications and plans will be required.

Proposal must be submitted on the forms furnished by the Regional Trail Corporation and must be accompanied by a certified check or bid bond, in the amount of 10% of the Bid, made payable to the Regional Trail Corporation. All envelopes containing a Bid Proposal shall be clearly marked, "GREAT ALLEGHENY PASSAGE TRAIL IMPROVEMENTS, STEEL VALLEY TRAIL SECTION".

State Prevailing Wages apply. Prime contractors should use the Directory of Minority, Women and Section 3 Business Enterprises to solicit proposal for potential subcontractor or use the PA UCP website [www.paucp.com](http://www.paucp.com) for a list of Certified DBE's. The Good faith effort submittal will be reviewed for approval. Bidders must comply with all requirements of Pennsylvania Act 127 of 2012.

The Regional Trail Corporation reserves the right to waive any informalities or to reject any or all proposals, for any reason whatsoever. 9/7,12

Purchasing Department, 100 West Beau Street, Ste 402, Washington County Courthouse Square Building. (Late bids are not accepted.)

All bids to be submitted as **1 ORIGINAL + 1 COPY** according to the specifications and upon a uniform proposal blank. Specifications and proposal blanks may be picked up at the Washington County Purchasing Office, 100 West Beau Street, Suite 402, Washington, PA 15301, or by submitting a written request to this address. Bidders may fax their written request to the Washington County Purchasing Office at 724-250-6555.

You may obtain the above-mentioned bid proposal from the Washington County website at [www.co.washington.pa.us/purchasing](http://www.co.washington.pa.us/purchasing). Vendors receiving bids from the website are responsible for checking for contract changes at the website.

Bid Securities are not required.

**SEALED BID ENVELOPE MUST BE MARKED:**

**BID: HEAT PUMPS CONTRACT #100417-3HP**

The Washington County Commissioners reserve the right to reject any or all bid proposals.

WASHINGTON COUNTY COMMISSIONERS:

LARRY MAGGI, CHAIRMAN  
DIANA IREY VAUGHAN, VICE CHAIRMAN  
HARLAN G. SHOBER, JR.

ATTEST:

CYNTHIA B. GRIFFIN  
CHIEF CLERK  
9/12,19

REAL ESTATE

Houses For Sale

CHARLEROI-117 Schaffer Ave. (Mapleview). 3 BR, 1.5 bath, lg kit., c/a, garage. Move-in condition. \$133,900. No agents 724-797-5427

Apartments For Rent

BELLE VERNON- new construction, 2 bedrooms, laundry hookups. No pets or smoking. Security & references. Call 724-328-8654.

CHARLEROI- 308 Meadow Ave. 1/2 duplex, 2 bedroom. \$450+ security. Renter pays all utilities. No Sec. 8 or pets. 724-483-2167.

CHARLEROI- 1 bedroom, updated bath, new paint & flooring. \$425 + deposit. Cable & utilities incl. except electric. 412-680-9875.

DONORA- 1 or 2 bedrooms, kitchen, dining room, stove, refrigerator, living room, remodeled bathroom, hardwood floors. No pets. \$500 mo. incl. water & sewage. Call 724-825-0970 or 724-379-8492.

MONONGAHELA

1 bedroom, living room, dining room, kitchen, bath. \$450 plus utilities & deposit. No pets. 724-263-2685

MONONGAHELA- 1-2 bedroom, very nice. New refrig., stove. No pets. Gas, water & sewage included. \$585 mo. 724-797-7578.

Meeting Notices

LEGAL NOTICE

NOTICE IS HEREBY GIVEN that City of Monessen City Council will hold a public meeting on Tuesday, September 19, 2017 at 7:00 p.m. in the Council Chambers, within the City of Monessen Municipal Complex, at 1 Wendell Ramey Lane, Suite 400, Monessen PA, 15062, for purpose of reviewing and receiving public comment on the City of Monessen MS4 Pollution Reduction Plan.

The Pollution Reduction Plan outlines the plan the City will use to reduce pollutants discharged from the City storm sewer system (MS4) consistent with the requirements of the Pennsylvania Department of Environmental Protection PAG-13 MS4 General Permit.

The City is soliciting written comments on the Pollution Reduction Plan until October 18, 2017. Comments must be submitted in writing to the Attention of Councilman Ron Chiaravalle at 1 Wendell Ramey Lane, Suite 400, Monessen PA 15062, or by email ([rochiaravalle@cityofmonessen.com](mailto:rochiaravalle@cityofmonessen.com)).

Comments submitted via facsimile will not be accepted. All comments, including comments submitted by email, must include the originator's name, address and phone number. All comments and responses will be included within the Pollution Reduction Plan submitted to the Pennsylvania Department of Environmental Protection within the 2018 PAG-13 National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems Notice of Intent.

The document will be available for review at the City of Monessen Municipal Complex office at 1 Wendell Ramey Lane, Suite 400, Monessen, PA, during regular office hours, Monday - Friday, 8:00 a.m. to 4:00 p.m. The document is also available for review on the City website at [www.cityofmonessen.com](http://www.cityofmonessen.com).

Lou Mavrakis  
Mayor of Monessen  
9/12

Estate Notices

ESTATE NOTICE

Letters of Administration on the Estate of Lorena M. Hawk, late of Carroll Township, Monongahela, PA 15063, Washington County, deceased, having been granted by the Register of Wills of Washington County, notice is hereby given to all persons indebted to said Estate to make immediate payment, and to those having claims against the same to present them without delay to:

Dianne E. Days, Administratrix  
1433 Cross Street  
Monessen, PA 15062  
8/29;9/5,12

ESTATE NOTICE

Letters Testamentary on the Estate of Patricia Ann Raposo, a/k/a Patricia Raposo, late of Carroll Township, Washington County, deceased, having been granted by the Register of Wills of Washington County, notice is hereby given to all persons indebted to said estate to make immediate payment, and to those having claims against the same to present them without delay to:

Patrick Yohe, Executor  
61 Orchard Lane  
Monongahela, PA 15063

Kris A. Vanderman, Esquire  
142 Fallowfield Avenue  
Charleroi, PA 15022  
8/29;9/5,12

Meeting Notices

OFFICIAL TOWNSHIP OF FORWARD Notice of Public Hearings Notice of Special Meeting

Township of Forward Board of Supervisors will hold (2) Public Hearings on Friday, September 15th, 2017 at 9:30AM at the Forward Township Municipal Building, 1000 Golden Circle, Elizabeth, PA 15037.

The purpose of the hearings is to review submitted EQT Conditional Use Applications for Oliver East, Prentice, and Fetchen wells. Also review the Fetchen Pipeline Permit.

Township of Forward Board of Supervisors will hold a Special Meeting on Friday, September 15th, 2017 directly following the Public Hearings.

The meeting will be held at Forward Township Municipal Building, 1000 Golden Circle, Elizabeth, PA 15037.

The purpose of the meeting is to discuss any business that is before the board.

Township of Forward  
9/12

Recycle Your Stuff for Cash In the Classifieds



Recycle Your Stuff For Cash



In The Mon Valley Independent Classifieds

CASH IN

FREE GARAGE SALE KIT

ON YOUR YARD SALE  
1 Day \$16.00 -or- 3 Days \$23.00  
(up to 8 lines)  
-PREPAID-

\*Free Kit included with purchase of a 3 day ad.

WANTED  
4-0039

WANTED  
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Income  
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NOTICE  
A. Shaw, De-  
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Due to the Pollution Reduction Plan (PRP) public comment and response period occurring after the September 16, 2017 Notice of Intent deadline, all written public comments received, and responses to those comments will be added as an addendum and included within Appendix B of the PRP. Any changes made to the PRP as a result of a public comment will be provided to the PA-DEP upon completion.

# **APPENDIX C**

## **POLLUTION AGGREGATION SUGGESTIONS FOR MS4 REQUIREMENTMENTS (MUNICIPAL)**



## POLLUTANT AGGREGATION SUGGESTIONS FOR MS4 REQUIREMENTS TABLE INSTRUCTIONS

April 4, 2017

### Introduction

The Pollutant Aggregation Suggestions for MS4 Requirements Table (the “Aggregations Table”) has been prepared to help MS4 permittees interpret the MS4 Requirements Table.

The MS4 Requirements Table lists each stream within 5-miles of the permittee urbanized area which is impaired for sediment or nutrients (or their surrogate terms). The MS4 Requirements Table also lists unnamed tributaries to those streams if the cause of the impairment in the unnamed tributary is different than the impairment in the named stream. The result is that some of the listings in the table represent a subset of other listings. Permittees therefore must interpret the MS4 Requirements Table in order to identify the land area for which pollutant loads have to be calculated and where BMPs can be located.

In addition, DEP Pollutant Reduction Plan (PRP) Instructions and TMDL Instructions allow flexibility in the location of BMPs for the upcoming permit term; load reductions need not necessarily be accomplished in each stream and tributary listed in the MS4 Requirements Table. Instead, the instructions promote planning on a larger scale. The MS4 is required to calculate the required pollutant load reduction for its entire Planning Area, but load reductions in some impaired surface waters can be more than what is required, and less than what is required in others, so long as the total reduction is at least the required percentage of the total. It is therefore necessary to interpret the MS4 Requirements Table.

### Using the Aggregation Table

The purpose of the Aggregation Table is to offer a suggestion to developers of PRPs and TMDL Plans which applies the logic discussed above. MS4s are not required to use the suggestion, and DEP solicits feedback from MS4s on the usefulness of Aggregation Table content.

Below is an example of the MS4 Requirements Table. See the MS4 Requirements Table Instructions for an explanation of Table content.

### **Example 1**

### MS4 Requirements Table (Municipal)

Anticipated Obligations for Subsequent NPDES Permit Term

MS4 Name	NPDES ID	Individual Permit Required?	Reason	Impaired Downstream Waters or Applicable TMDL Name	Requirement(s)	Other Cause(s) of Impairment
<b>Adams County</b>						
GETTYSBURG BORO		No		Unnamed Tributaries to Rock Creek	Appendix E-Siltation (5)	Water/Flow Variability (4c)
				Stevens Run	Appendix E-Nutrients, Siltation (5)	Unknown Toxicity (5), Water/Flow Variability (4c)
				Rock Creek	Appendix E-Nutrients (5)	
				Chesapeake Bay Nutrients/Sediment	Appendix D-Nutrients, Siltation (4a)	

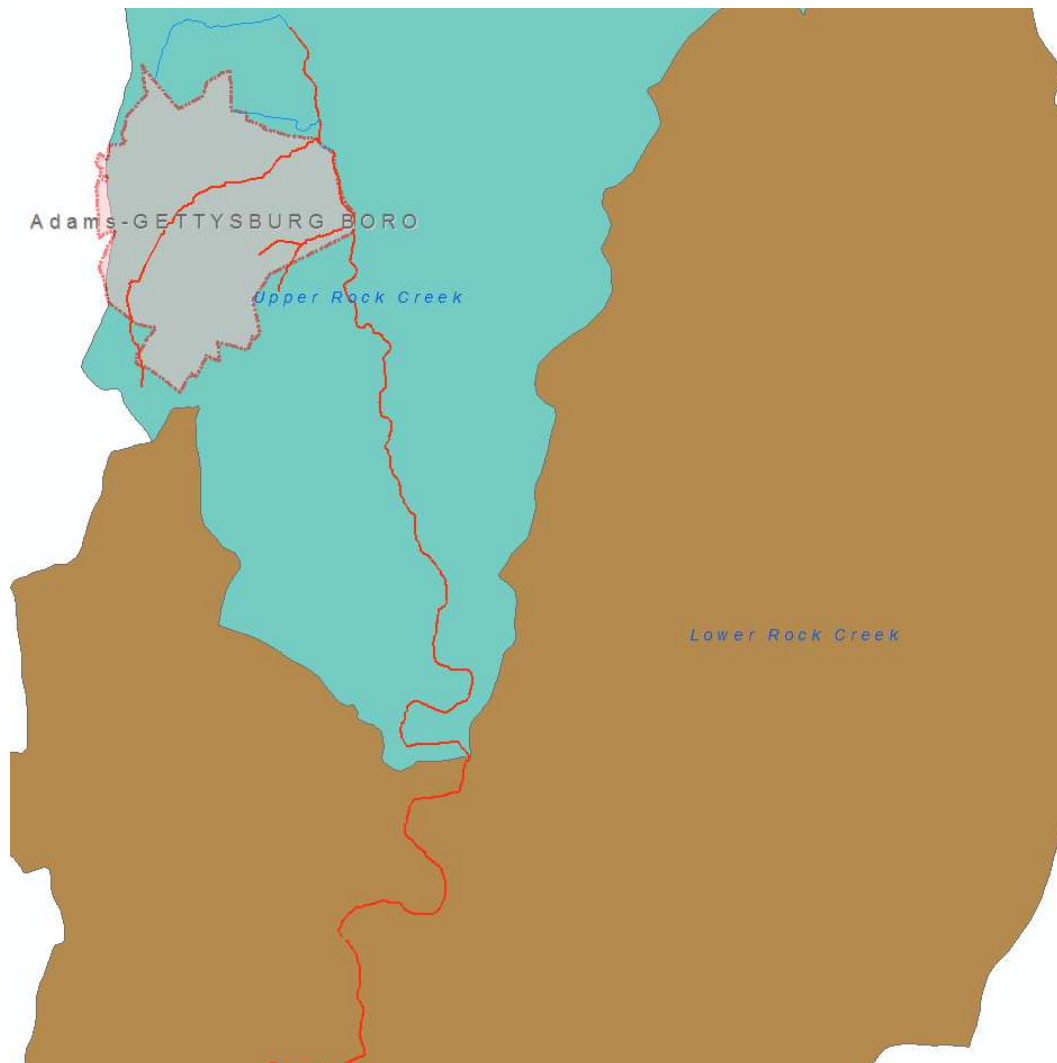
See the Aggregations Table content below and also Figure 1 below. Figure 1 is from the updated web-based GIS application on the DEP website. It shows that Gettysburg drains to a single 12-digit Hydrologic Unit Code (HUC12) watershed, Upper Rock Creek, which is reflected in the Aggregation Table in a single listing. A single PRP could be prepared.

## Pollutant Aggregation Suggestions for MS4 Requirements Table (Municipal)

Anticipated Obligations for Subsequent NPDES Permit Term

MS4 Name	Permit Number	HUC 12 Name	Impaired Downstream Waters or Applicable TMDL Name	Requirement(s)
<b>Adams County</b>				
GETTYSBURG BORO		Lower Rock Creek, Upper Rock Creek	Chesapeake Bay Nutrients/Sediment	Appendix D-Siltation/Nutrients

**Figure 1**



**Pollutant Aggregation Suggestions for MS4 Requirements Table Instructions  
Revised, April 4, 2017**

In this example Gettysburg would identify all of the outfalls which drain the Urbanized Area, optionally parse out any which are permitted by the PRP Instructions, delineate the area of regulated outfalls, and calculate the area and pollutant loads from those outfalls. BMPs would be located within the Urbanized Area, preferentially in the drainage area of locally-impaired streams. There would be no requirement to necessarily locate BMPs during the subsequent permit term in all three local impaired waters (Rock Creek, unnamed tributary to Rock Creek and Stevens Run), as long as the total required pollutant reduction is accomplished.

**Example 2**

The following example from the MS4 Requirements Table includes a Pollutant Control Measure (PCMs; Appendix As, Bs or Cs) as well as PRPs (Appendix Ds and Es):

**MS4 Requirements Table (Municipal)**

Anticipated Obligations for Subsequent NPDES Permit Term

MS4 Name	NPDES ID	Individual Permit Required?	Reason	Impaired Downstream Waters or Applicable TMDL Name	Requirement(s)	Other Cause(s) of Impairment
<b>Allegheny County</b>						
SOUTH FAYETTE TWP	PAG136282	No		Unnamed Tributaries to Thoms Run	Appendix A-Metals (4a), Appendix E-Suspended Solids (4a), Appendix E-Siltation (5)	TDS, Turbidity (5)
				Unnamed Tributaries to Coal Run	Appendix E-Organic Enrichment/Low D.O. (5)	
				Unnamed Tributaries to Chartiers Creek	Appendix E-Nutrients (5)	
				Thoms Run	Appendix E-Nutrients, Organic Enrichment/Low D.O. (5)	
				Robinson Run	Appendix A-Metals (4a), Appendix E-Suspended Solids (4a), Appendix E-Nutrients, Organic Enrichment/Low D.O., Siltation (5)	Cause Unknown, TDS (5)
				Millers Run	Appendix A-Metals (4a), Appendix E-Suspended Solids (4a), Appendix E-Nutrients (5)	Cause Unknown, TDS, Turbidity (5)
				Fishing Run		TDS, Turbidity (5)
				Dolphin Run		TDS, Turbidity (5)
				Coal Run	Appendix E-Suspended Solids (4a), Appendix E-Nutrients, Siltation (5)	Turbidity (5)
				Chartiers Creek	Appendix A-Metals (4a), Appendix C-PCB (4a), Appendix E-Suspended Solids (4a), Appendix E-Organic Enrichment/Low D.O., Siltation (5)	TDS, Turbidity (5)

See the Aggregations Table below and also Figure 2 below. Figure 2 shows that South Fayette Township drains to four small HUC-12 watersheds. Because those HUC 12 watersheds share a common pollutant with the downstream HUC-10, the Aggregations table suggests a single PRP for the entire Planning Area in South Fayette Township. The first line in the Aggregation Table is for an Appendix C issue which would be addressed in an Appendix C PCM, after permit issuance.

## Pollutant Aggregation Suggestions for MS4 Requirements Table (Municipal)

Anticipated Obligations for Subsequent NPDES Permit Term

MS4 Name	Permit Number	HUC 12 Name	Impaired Downstream Waters or Applicable TMDL Name	Requirement(s)
<b>Allegheny County</b>				
SOUTH FAYETTE TWP	PAG136282	Lower Chartiers Creek, Middle Chartiers Creek, Millers Run	Chartiers Creek	Appendix C-PCB
		Lower Chartiers Creek, Middle Chartiers Creek, Millers Run, Robinson Run	Chartiers Creek, Coal Run, Millers Run, Robinson Run, Thoms Run, Unnamed Tributaries to Chartiers Creek, Unnamed Tributaries to Coal Run, Unnamed Tributaries to Thoms Run, Chartiers Creek, Millers Run, Robinson Run, Unnamed Tributaries to Thoms Run	Appendix A-Metals, Appendix E-Nutrients, Organic Enrichment/Low D.O., Siltation, Suspended Solids

In this example South Fayette would identify all of the outfalls which drain the Urbanized Area, optionally parse out any which are permitted in the PRP Instructions, delineate the area of regulated outfalls, and calculate the area and pollutant loads from those outfalls. BMPs would be located within the Urbanized Area and preferentially in the drainage area of locally-impaired streams, as long as the total required pollutant reduction is accomplished.

**Figure 2**

