THE EADS GROUP
ENGINEERING ARCHITECTURE AND DESIGN SERVICES

Windber Borough
Somerset County, Pennsylvania

Municipal Separate Storm Sewer System (MS4)

Notice of Intent Package

MS4

Prepared For:

Windber Borough

1401 Graham Avenue
Windber, PA 15963

Prepared By:

The EADS Group, Inc.

450 Aberdeen Drive
Somerset, Pennsylvania 15501
Phone: (814) 445-6551

September 2017

WINDBER BOROUGH
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
PERMIT RENEWAL PACKAGE

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Section 1 – Notice of Intent Checklist

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

PAG-13
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS NOTICE OF INTENT (NOI) CHECKLIST

APPLICANT'S ✓ CHECKLIST

Applicant Name	Windber Borough

Check the following list to make sure you have included all the required information. Place a checkmark in the box provided for all items completed and/or provided. Failure to provide all of the requested information will delay the processing of the NOI.

ENCLOSE THIS CHECKLIST WITH YOUR COMPLETED NOI.

	REQUIREMENTS FOR ALL DISCHARGES	Check ✓ If Included	DEP Use Only
1.	One original and two copies of the completed NOI (3800-PM-BCW0100b).	☒	
2.	NOI filing fee ($500).	☒	
3.	One original and two copies of the completed Waiver Application (3800-PM-BCW0100e), if applicable.	☒	
4.	Stormwater map(s) (existing permittees) or topographic map(s) (MS4s with previous waivers and new applicants).	☒	
5.	Memorandum of Understanding (MOU) or other written agreement with parties that will implement one or more BMPs, if applicable.	☐	
6.	Chesapeake Bay Pollutant Reduction Plan (PRP), if applicable. (In addition, submit an electronic version or hard copy to DEP's Bureau of Clean Water).	☐	
7.	PRP for Impaired Waters, if applicable. (In addition, submit an electronic version or hard copy to DEP's Bureau of Clean Water).	☒	
8.	Stormwater Management Ordinance (municipal applicants seeking renewed coverage only).	☒	
9.	Stormwater Management Ordinance Checklist (3800-PM-BCW0100g), if applicable.	☒	
10.	Standard Operating Procedure(s) (non-municipal applicants seeking renewed coverage only).	☐	
11.	Complete NOI packages for each co-applicant (joint NOIs only).	☐	

Section 2 – Notice of Intent

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
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BUREAU OF CLEAN WATER

PAG-13
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS NOTICE OF INTENT (NOI)

Before completing this form, read the step-by-step instructions provided in this NOI package.

Related ID#s (If Known)				DEP USE ONLY
Client ID#	71521	**APS ID#**		Date Received
Site ID#	255070	**Auth ID#**		
Facility ID#				PAG_____ PDG?

GENERAL INFORMATION

Type of Permit: ☐ New Coverage ☒ Renewal of Coverage Permit No.: PAG136340

Is a waiver of coverage being requested and is a waiver application attached to this NOI? ☒ Yes ☐ No

Is PAG-13 General Permit coverage requested for more than one MS4 applicant? ☐ Yes ☒ No

If Yes, submit this NOI for each co-applicant and complete the information below (see instructions):

Joint Client Name: _____ Joint Client Phone: _____

Joint Client Address: _____ Joint Client Contact: _____

Joint Client City, State, Zip: _____

MS4 CLIENT/OPERATOR INFORMATION

DEP Client ID#	Client Type/Code		
71521	**MUNI**		
Organization Name or Registered Fictitious Name		Employer ID# (EIN)	Dun & Bradstreet ID#
Windber Borough		**25-6000517**	
Mailing Address Line 1	Mailing Address Line 2		
1401 Graham Avenue			
Address Last Line – City	State	ZIP+4	Country
Windber	**PA**	**15963**	**United States of America**
Client Contact Last Name	First Name	MI	Suffix
Furmanchik	**James**		
Client Contact Title	Phone	Ext	
Borough Manager	**(814) 467-9014**		
Email Address	FAX		
windbermanager@comcast.net			

MS4 SITE INFORMATION

DEP Site ID#	Site Name					
255070	**Windber Borough MS4**					
Urbanized Area (UA) Name(s)		UA Area (specify acres or mi^2)				
Johnstown, PA		**Approx. 1,280 acres**				
County Name	Municipality Name	City	Boro	Twp	State	
Somerset	**Windber**	☐	☒	☐		
County Name	Municipality Name	City	Boro	Twp	State	
		☐	☐	☐		
Site Location Address Line 1	Site Location Address Line 2					

Site Location City	State	ZIP+4
Windber	**PA**	**15963**

Detailed Written Directions to Site
From Somerset take 219 N to 56 E to Windber 12th Street Exit.

Site Contact Last Name	First Name	MI	Suffix
Furmanchik	**James**		

Site Contact Title	Site Contact Firm
Borough Manager	**N/A**

Mailing Address Line 1	Mailing Address Line 2
1401 Graham Avenue	

Address Last Line – City	State	ZIP+4
Windber	**PA**	**15963**

Phone	Ext	FAX	Email Address
(814) 467-9014			**windbermanager@comcast.net**

SIC Code(s) (List All That Apply)	NAICS Code(s)
913	**921140**

Site-to-Client Relationship
OWN

STORMWATER DISCHARGE INFORMATION

Map(s). Attach a map(s) to the NOI that identifies all stormwater discharge points (outfalls) from the MS4 to surface waters. For MS4s with existing permit coverage (that did not receive a waiver from DEP during the latest permit term), the map must include all elements required by MCM #3 in the NPDES permit. See instructions.

Surface Water Information. For each surface water body that receives stormwater discharges from the MS4, list the surface water, the furthest downstream outfall ID number, and the surface water's existing use, impairment and TMDL/WLA information in the table below. See instructions. **NOTE** – If the MS4 discharges to any surface water whose existing use is HQ or EV, the MS4 must apply for an individual permit.

Surface Water Name	Outfall No.	Ch. 93 Existing Use	Impaired?	Approved TMDL?	WLA?
Paint Creek	PC-030	CWF	Yes	Yes	Yes
Seese Run	SR-017	CWF	Yes	Yes	Yes
Unnamed Tributary to Seese Run	UNT-SR-001	CWF	No	Yes	No
Weaver Run	WR-001	CWF	Yes	Yes	No

Outfall Locations. For each outfall identified in the table above, list the latitude and longitude coordinates. Identify the Horizontal Reference Datum used to determine the coordinates.

Outfall No.	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
PC-030	40	14	19.9	-78	50	33.75
SR-017	40	13	58.7	-78	49	53.34
UNT-SR-001	40	13	45.03	-78	49	10.87
WR-001	40	13	40.2	-78	13	40.2
Horizontal Reference Datum: ☐ NAD of 1927 ☐ NAD of 1983 ☒ WGS of 1984 ☐ Unknown						

TMDL Details. For any surface water with an approved TMDL in which a WLA is applicable to the MS4, provide the WLAs below.

Surface Water Name	TMDL Name	Pollutant Name	TMDL WLA (lbs/yr)	Specific or General
Paint Creek	Kiskiminetas-Conemaugh	Manganese	54,991	General
Paint Creek	Kiskiminetas-Conemaugh	Iron	89,836	General
Paint Creek	Kiskiminetas-Conemaugh	Aluminum	44,432	General
Seese Run	Kiskiminetas-Conemaugh	Manganese	870	General
Seese Run	Kiskiminetas-Conemaugh	Aluminum	1,407	General
Seese Run	Kiskiminetas-Conemaugh	Iron	3,170	General

MS4 Requirements. Are requirement(s) specified in DEP's MS4 Requirements Table for the MS4? ☒ Yes ☐ No

If Yes, summarize the requirements below by checking all boxes that apply:

☒ Appendix A (AMD Metals and pH)

☒ Appendix B (Pathogens)

☐ Appendix C (Priority Organic Compounds)

☐ Appendix D (Chesapeake Bay Nutrients/Sediment) ☐ Pollutant Reduction Plan attached to NOI

☒ Appendix E (Impaired Waters Nutrients/Sediment) ☒ Pollutant Reduction Plan attached to NOI

Appendices D and E require the applicant to submit documentation of a public involvement and participation process. See the Pollutant Reduction Plan Instructions (3800-PM-BCW0100k).

NOTE – If the MS4 Requirements Table specifies submission of a TMDL Plan, the MS4 must apply for an individual permit.

STORMWATER MANAGEMENT PROGRAM

Minimum Control Measure (MCM)	BMP #	BMP Summary	Responsible Party	Contact Name	Contact Phone No.	MOU or Agreement?
#1 – Public Education and Outreach	1	Develop, implement and maintain a written Public Education and Outreach Program.	Windber Borough	James Furmanchik	814-467-9014	☐
	2	Develop and maintain lists of target audience groups that are present within the areas served by the permittee's regulated small MS4.	Windber Borough	James Furmanchik	814-467-9014	☐
	3	The permittee shall annually publish at least one issue of a newsletter, a pamphlet, a flyer, or a website that includes general stormwater educational information, a general description of the permittee's SWMP, and/or information about the permittee's stormwater management activities.	Windber Borough	James Furmanchik	814-467-9014	☐
	4	Distribute stormwater educational materials and/or information to the target audiences using two methods annually.	Windber Borough	James Furmanchik	814-467-9014	☐
#2 – Public Participation and Involvement	1	Develop, implement and maintain a written Public Involvement and Participation Program (PIPP).	Windber Borough	James Furmanchik	814-467-9014	☐
	2	Provide adequate public notice and opportunities for public review, input, and feedback prior to adoption of any ordinance, SOP or plan required by the General Permit.	Windber Borough	James Furmanchik	814-467-9014	☐
	3	Regularly solicit public involvement and participation from the target audience groups using available distribution and outreach methods.	Windber Borough	James Furmanchik	814-467-9014	☐
#3 – Illicit Discharge Detection and Elimination	1	Develop and implement a written program for the detection, elimination, and prevention of illicit discharges into the regulated MS4.	Windber Borough	James Furmanchik	814-467-9014	☐
	2	Develop and maintain a map of the regulated small MS4's outfalls and surface waters.	Windber Borough	James Furmanchik	814-467-9014	☐
	3	In conjunction with the map(s) created under BMP #2 (either on the same map or on a different map), new permittees shall show, and existing permittees shall update, the entire storm sewer collection system, including roads, inlets, piping, swales, catch basins, channels, basins, and any other features of the permittee's storm sewer system including municipal boundaries and/or watershed boundaries.	Windber Borough	James Furmanchik	814-467-9014	☐
	4	The permittee shall conduct outfall field screening, identify the source of any illicit discharges, and remove or correct any illicit discharges.	Windber Borough	James Furmanchik	814-467-9014	☐

Minimum Control Measure (MCM)	BMP #	BMP Summary	Responsible Party	Contact Name	Contact Phone No.	MOU or Agreement?
#3 – Illicit Discharge Detection and Elimination (continued)	5	Enact a Stormwater Management Ordinance (municipal permittees) or SOP (non-municipal permittees) to implement and enforce a stormwater management program that includes prohibition of non-stormwater discharges to the regulated small MS4.	Windber Borough	James Furmanchik	814-467-9014	☐
	6	Provide educational outreach to public employees, business owners and employees, property owners, the general public and elected officials (i.e., target audiences) about the program to detect and eliminate illicit discharges.	Windber Borough	James Furmanchik	814-467-9014	☐
#4 – Construction Site Stormwater Runoff Control	1	If an NPDES permit is required for earth disturbance activities, do not issue a building permit or approval until confirmation that a valid NPDES permit is obtained.	Windber Borough	James Furmanchik	814-467-9014	☐
	2	Notify DEP or CCD within 5 days of the receipt of an application for a permit involving an earth disturbance activity consisting of one acre or more.	Windber Borough	James Furmanchik	814-467-9014	☐
	3	Enact, implement, and enforce an ordinance to require the implementation of erosion and sediment control BMPs, as well as sanctions to ensure compliance.	Windber Borough	James Furmanchik	814-467-9014	☐
#5, Post-Construction Stormwater Management in New Development and Redevelopment	1	Enact, implement, and enforce an ordinance or other regulatory mechanism to address post-construction stormwater runoff from new development and redevelopment projects, as well as sanctions and penalties associated with non-compliance.	Windber Borough	James Furmanchik	814-467-9014	☐
	2	Develop and implement measures to encourage and expand the use of Low Impact Development (LID) in new development and redevelopment.	Windber Borough	James Furmanchik	814-467-9014	☐
	3	Ensure adequate operation and maintenance of all post-construction stormwater management BMPs installed at all development or redevelopment projects that disturb greater than or equal to one acre.	Windber Borough	James Furmanchik	814-467-9014	☐
#6 – Pollution Prevention / Good Housekeeping	1	Identify and document all operations that are owned or operated by the permittee and have the potential for generating stormwater runoff to the regulated small MS4.	Windber Borough	James Furmanchik	814-467-9014	☐
	2	Develop, implement and maintain a written O&M program for all operations that could contribute to the discharge of pollutants from the regulated small MS4.	Windber Borough	James Furmanchik	814-467-9014	☐
	3	Develop and implement an employee training program that addresses appropriate topics to further the goal of preventing or reducing the discharge of pollutants from operations to the regulated small MS4.	Windber Borough	James Furmanchik	814-467-9014	☐

STORMWATER MANAGEMENT PROGRAM

MOU or Agreement. Attach any Memorandum of Understanding (MOU) or other written agreement that describes the BMP(s) identified above as being the responsibility of another party or a shared responsibility with another party.

Stormwater Management Ordinance. For municipal applicants that are renewing permit coverage, complete the information below and attach the applicant's Stormwater Management Ordinance to the NOI. The box for "Yes" must be checked for one of the three options below. Applicants that lack the authority to enact ordinances and are renewing permit coverage must attach their stormwater management SOP(s).

1.	Has a Stormwater Management Ordinance been enacted that is consistent with either the 2013 or 2022 DEP Model Ordinances?	☐ Yes	Date:		☒ No
2.	Has a Stormwater Management Ordinance been enacted that is consistent with an Act 167 Plan approved by DEP in 2005 or later?	☒ Yes	Date:	**May 11, 2011**	☐ No
3.	Has a Stormwater Management Ordinance been enacted that meets the requirements of the Stormwater Management Ordinance Checklist (for either 2013 or 2022)? If Yes, attach Checklist (3800-PM-BCW0100g).	☐ Yes	Date:		☒ No

COMPLIANCE HISTORY

Existing Permits – Identify all existing environmental permits issued by DEP or EPA to the applicant in the past five years.

Type of Permit	Permit No.	Date Issued	Issued By
NPDES Stormwater	PAG-02-0056-15-002	7/1/2015	Somerset Conservation District
WQM Part II	5615401	6/8/2015	PA DEP

Was/Is the facility owner or operator in violation of any DEP regulation, permit, order or schedule of compliance at this or any other facility? ☐ Yes ☒ No

If "Yes," list each permit, order or schedule of compliance and provide current compliance status. Use additional sheets to provide information on all permits.

Permit Program: Permit No.:

Brief Description of Non-Compliance:

Steps Taken to Achieve Compliance	Date(s) Compliance Achieved

Current Compliance Status: ☐ In Compliance ☐ In Non-Compliance

CERTIFICATION

I certify under penalty of law and subject to the penalties of 18 Pa. C.S.A. Section 4904 (relating to unsworn falsification to authorities) that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that the MS4 and operator described herein is eligible for coverage under DEP's PAG-13 General Permit, and will operate in compliance with the General Permit. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

James Furmanchik
Name (type or print legibly)

Signature

Borough Manager
Official Title

9-12-17
Date Signed

Section 3 – Notice of Intent Filing Fee

THE EADS GROUP, INC. SOMERSET, PA 15501-1749

55338

THE EADS GROUP, INC. SOMERSET, PA 15501-1749

55338

_____Windber Borough MS4 General Permit Filing Fee

0320-17-378.01

55338

THE EADS GROUP, Inc.

450 ABERDEEN DRIVE
SOMERSET, PA 15501-1749

AMERISERV FINANCIAL
JOHNSTOWN, PA 15901

60-106/313

Five hundred and 00/100.....dollars

PAY

DATE
09/14/17

AMOUNT
500.00

TO THE ORDER OF Commonwealth of Pennsylvania

⑈055338⑈ ⑆031301066⑆ 103 237 2⑈

Section 4 – Waiver Application

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STORMWATER DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS
WAIVER APPLICATION

Type of Waiver: ☒ New Waiver ☐ Renewal of Waiver Waiver No.: PA_____

Do you have existing NPDES permit coverage? ☒ Yes Permit No.: PA**G136340** ☐ No

MS4 CLIENT/OPERATOR INFORMATION

Organization Name or Registered Fictitious Name			
Windber Borough			
Mailing Address Line 1	Mailing Address Line 2		
1401 Graham Avenue			
Address Last Line – City	State	ZIP+4	Country
Windber	**PA**	**15963**	**United States of America**

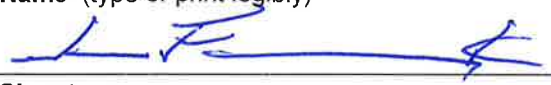
WAIVER ELIGIBILITY INFORMATION

1.	Does the MS4 serve a population of less than 1,000 within the urbanized area? Population in UA: **4,138** Source: **2010 Census**	☐ Yes	☒ No
2.	Does the MS4 serve a population under 10,000 within the municipality seeking a waiver? Population in Municipality: **4,138** Source: **2010 Census**	☒ Yes	☐ No
3.	Does the MS4 have at least one outfall that discharges stormwater to surface waters with an approved TMDL?	☒ Yes	☐ No
4.	Does the MS4 discharge to any local surface water that is impaired for BOD (organic enrichment), sediment (siltation), pathogens, oil and grease and/or nutrients?	☒ Yes	☐ No
5.	Is advanced written approval of a waiver attached to this application?	☐ Yes	☒ No

CERTIFICATION

I certify under penalty of law and subject to the penalties of 18 Pa. C.S.A. Section 4904 (relating to unsworn falsification to authorities) that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

James Furmanchik
Name (type or print legibly)


Signature

Borough Manager
Official Title

9-12-17
Date Signed

Section 5 – Stormwater Maps

Date:	Revision:	Drawn By:	Checked By:
8/8/2017	Note:	JRP	VP

Legend

- Storm Manholes
- Storm Outfalls
- Storm Inlets
- Streams
- Storm Open Drains
- Storm Mains
- MS4 Planning Areas
- MS4 Outall Sewersheds
- Municipal Boundary
- Urbanized Area
- Grid Index Sheets

BMP Type

- Existing BMP
- Proposed BMP

500 250 0 500

1 inch = 500 feet

Scale

Prepared For:
Windber Borough
1401 Graham Avenue
Windber, PA 15963
Phone: (814) 467-9014

WWW.QES.IN:
ALTOONA, PA
CLARION, PA
JOHNSTOWN, PA
PITTSBURGH, PA
SOMERSET, PA
CUMBERLAND, MD

The EADS GROUP
450 ABERDEEN DRIVE
SOMERSET, PA 15501
Phone: 814-445-6551
Fax: 814-443-2748
www.eadsgroup.com

WINDBER BOROUGH

SOMERSET COUNTY, PA

MS4 STORM SEWER SYSTEM MAP

Sheet No.

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Sheet No. 1

WINDBER BOROUGH

SOMERSET COUNTY, PA

MS4 STORM SEWER SYSTEM MAP

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1 inch = 100 feet
Scale

100 50 0 100

Legend

- Proposed BMP
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- BMP Type
- Grid Index Sheets
- Urbanized Area
- Municipal Boundary
- MS4 Outfall Sewersheds
- MS4 Planning Areas
- Storm Mains
- Storm Open Drains
- Streams
- Storm Inlets
- Storm Outfalls
- Storm Manholes

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Checked By:	VP

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WINDBER BOROUGH

SOMERSET COUNTY, PA

MS4 STORM SEWER SYSTEM MAP

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WINDBER BOROUGH

SOMERSET COUNTY, PA

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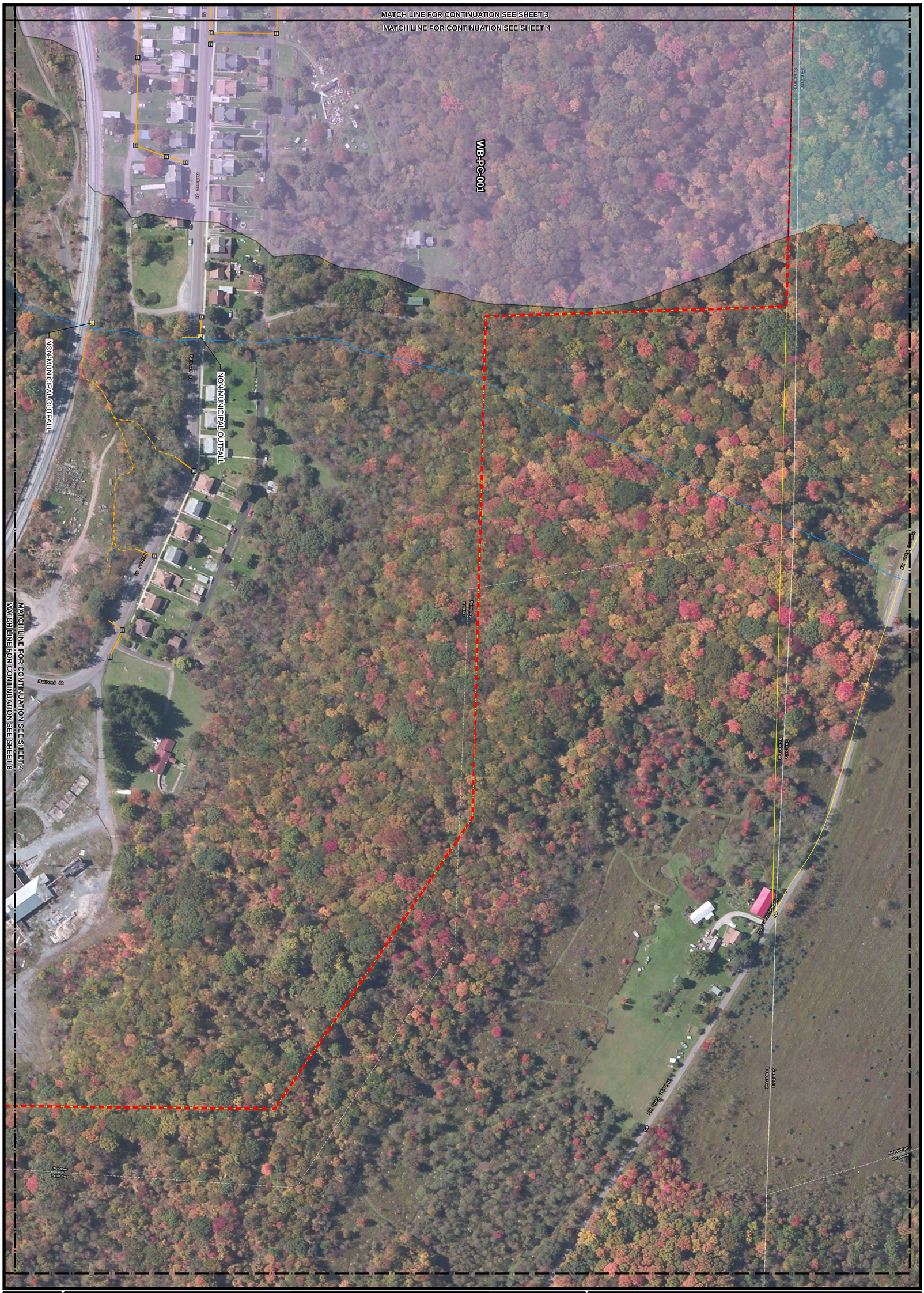

Sheet No. 4

WINDBER BOROUGH

SOMERSET COUNTY, PA

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1 inch = 100 feet
Scale
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Drawn By: JRP
Checked By: VP

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Sheet No. 5

WINDBER BOROUGH

SOMERSET COUNTY, PA

MS4 STORM SEWER SYSTEM MAP

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ENGINEERING · ARCHITECTURE · and DESIGN SERVICES

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Scale

100 50 0 100

Legend

- Proposed BMP
- Existing BMP
- BMP Type
- Grid Index Sheets
- Urbanized Area
- Municipal Boundary
- MS4 Outfall Sewersheds
- MS4 Planning Areas
- Storm Mains
- Storm Open Drains
- Streams
- Storm Inlets
- Storm Outfalls
- Storm Manholes

Date:	8/8/2017
Revision:	
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Drawn By:	JRP
Checked By:	VP

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WINDBER BOROUGH

SOMERSET COUNTY, PA

MS4 STORM SEWER SYSTEM MAP

Sheet No. 6

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450 ABERDEEN DRIVE
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Fax: 814-443-2748
www.eadsgroup.com

WITH OFFICES IN:
ALTOONA, PA
CLARION, PA
JOHNSTOWN, PA
PITTSBURGH, PA
SOMERSET, PA
CUMBERLAND, MD

Prepared For:

Windber Borough
1401 Graham Avenue
Windber, PA 15963
Phone: (814) 467-9014

1 inch = 100 feet
Scale
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Legend
- Storm Manholes
- Storm Outfalls
- Storm Inlets
- Streams
- Storm Open Drains
- Storm Mains
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Sheet No. 7

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Sheet No. 8

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MATCH LINE FOR CONTINUATION SEE SHEET 10

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WINDBER BOROUGH

SOMERSET COUNTY, PA

MS4 STORM SEWER SYSTEM MAP

Sheet No. 6

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WB-PC-005

WB-PC-007

WB-PC-008

WB-SR-010

WB-SR-006

WB-SR-005

WB-SR-004

WB-SR-003

WB-SR-002

WB-SR-007

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NON-MUNICIPAL OUTFALL

NON-MUNICIPAL OUTFALL

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- Urbanized Area
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100 50 0 100

1 inch = 100 feet

Scale

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SOMERSET COUNTY, PA

MS4 STORM SEWER SYSTEM MAP

Sheet No.

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Sheet No. 11

WINDBER BOROUGH

SOMERSET COUNTY, PA

MS4 STORM SEWER SYSTEM MAP

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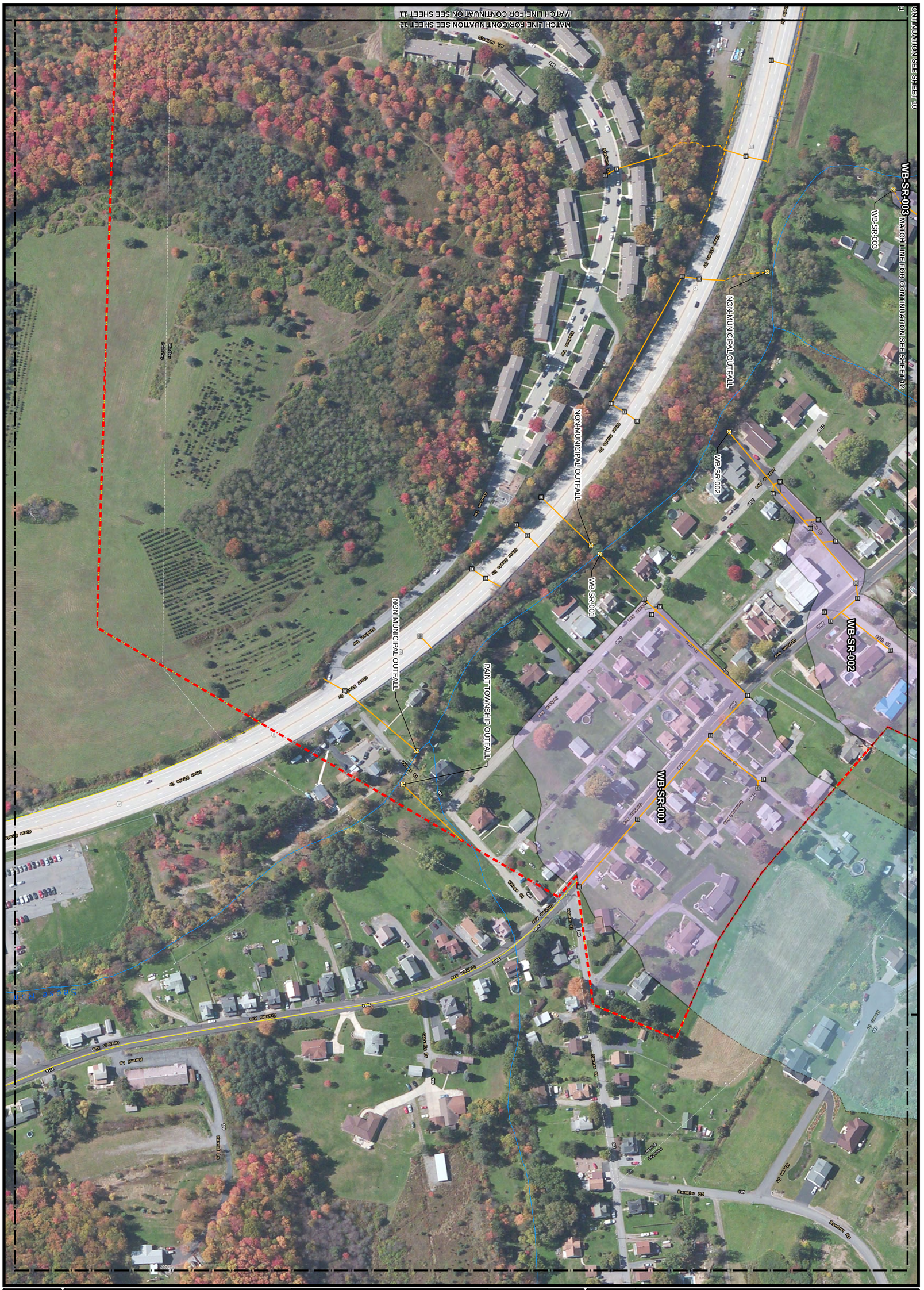

Sheet No. 12

WINDBER BOROUGH

SOMERSET COUNTY, PA

MS4 STORM SEWER SYSTEM MAP

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Section 6 – Stormwater Management Ordinance

STONYCREEK RIVER WATERSHED

STORMWATER MANAGEMENT

ORDINANCE

ORDINANCE NO. 2010-2

WINDBER BOROUGH, SOMERSET COUNTY,

PENNSYLVANIA

Adopted at a Public Meeting Held on

May 11, 2010

Article VIII - Enforcement and Penalties

Article IX - References

ARTICLE I - GENERAL PROVISIONS

Section 101. Short Title

This Ordinance shall be known and may be cited as the "Windber Borough Stonycreek River Watershed Stormwater Management Ordinance."

Section 102. Statement of Findings

The governing body of the Municipality finds that:

A. Inadequate management of accelerated runoff of stormwater resulting from development throughout a watershed increases flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to carry and control stormwater, undermines flood plain management and flood control efforts in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases non-point source pollution of water resources.

B. A comprehensive program of stormwater management, including reasonable regulation of development and activities causing accelerated runoff, is fundamental to the public health, safety and welfare and the protection of people of the Commonwealth, their resources and the environment.

C. Stormwater is an important water resource, which provides groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.

D. Federal and state regulations require certain municipalities to implement a program of stormwater controls. These municipalities are required to obtain a permit for stormwater discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES).

Section 103. Purpose

The purpose of this Ordinance is to promote health, safety, and welfare within the Municipality and its watershed by minimizing the harms and maximizing the benefits described in Section 102 of this Ordinance, through provisions designed to:

A. Meet legal water quality requirements under state law, including regulations at 25 Pa. Code Chapter 93 to protect, maintain, reclaim and restore the existing and designated uses of the waters of this Commonwealth.

B. Preserve the natural drainage systems as much as possible.

C. Manage stormwater runoff close to the source.

D. Provide procedures and performance standards for stormwater planning and management.

E. Maintain groundwater recharge, to prevent degradation of surface and groundwater quality and to otherwise protect water resources.

F. Prevent scour and erosion of stream banks and streambeds.

G. Provide proper operation and maintenance of all permanent Stormwater Management (SWM) Best Management Practices (BMPs) that are implemented within the Municipality.

H. Provide standards to meet NPDES permit requirements.

Section 104. Statutory Authority

A. Primary Authority:

The municipality is empowered to regulate these activities by the authority of the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. Section 680.1, et seq., as amended, the "Storm Water Management Act" .

B. Secondary Authority:

The Municipality also is empowered to regulate land use activities that affect runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, The Pennsylvania Municipalities Planning Code, as amended.

Section 105. Applicability

All Regulated Activities and all activities that may affect stormwater runoff, including Land Development and Earth Disturbance Activity, are subject to regulation by this Ordinance.

Section 106. Repealer

Any other ordinance provision(s) or regulation of the Municipality inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only.

Section 107. Severability

In the event that a court of competent jurisdiction declares any section or provision of this Ordinance invalid, such decision shall not affect the validity of any of the remaining provisions of this Ordinance.

Section 108. Compatibility with Other Requirements

Approvals issued and actions taken under this Ordinance do not relieve the Applicant of the responsibility to secure required permits or approvals for activities regulated by any other code, law, regulation or ordinance.

ARTICLE II - DEFINITIONS

For the purposes of this Ordinance, certain terms and words used herein shall be interpreted as follows:

A. Words used in the present tense include the future tense; the singular number includes the plural, and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.

B. The word "includes" or "including" shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.

C. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.

Agricultural Activity – Activities associated with agriculture such as agricultural cultivation, agricultural operation, and animal heavy use areas. This includes the work of producing crops including tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops, or pasturing and raising of livestock and installation of conservation measures. Construction of new buildings or impervious area is not considered an Agricultural Activity.

Applicant - A landowner, developer or other person who has filed an application to the Municipality for approval to engage in any Regulated Activity at a project site in the Municipality.

Best Management Practice (BMP) - Activities, facilities, designs, measures or procedures used to manage stormwater impacts from Regulated Activities, to meet State Water Quality Requirements, to promote groundwater recharge and to otherwise meet the purposes of this Ordinance. Stormwater BMPs are commonly grouped into one of two broad categories or measures: "structural" or "non-structural". In this Ordinance, non-structural BMPs or measures refer to operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater runoff whereas structural BMPs or measures are those that consist of a physical device or practice that is installed to capture and treat stormwater runoff. Structural BMPs include, but are not limited to, a wide variety of practices and devices, from large-scale retention ponds and constructed wetlands, to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. Structural Stormwater BMPs are permanent appurtenances to the project site.

Capture – Collecting runoff to be stored for reuse or allowed to slowly infiltrate into the ground.

Conservation District - A conservation district, as defined in section 3(c) of the Conservation District Law (3 P. S. § 851(c)), as amended, that has the authority under a delegation agreement executed with the Department to administer and enforce all or a portion of the regulations promulgated under 25 Pa. Code 102.

Design Storm - The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g. a 5-year-storm) and duration (e.g. 24 hours), used in the design and evaluation of stormwater management systems. Also see Return Period.

Detention Volume - The volume of runoff that is captured and released into the waters of this Commonwealth at a controlled rate.

DEP - The Pennsylvania Department of Environmental Protection.

Development Site (Site) - See Project Site.

Disconnected Impervious Area (DIA) - An impervious or impermeable surface which is disconnected from any stormwater drainage or conveyance system and is redirected or directed to a pervious area which allows for infiltration, filtration, and increased time of concentration as specified in Appendix B, Disconnected Impervious Area.

Disturbed Area - An unstabilized land area where an Earth Disturbance Activity is occurring or has occurred.

Earth Disturbance Activity - A construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing; grading; excavations; embankments; road maintenance; building construction; the moving, depositing, stockpiling, or storing of soil, rock or earth materials.

Erosion - The natural process by which the surface of the land is worn away by water, wind or chemical action.

Existing Condition - The dominant land cover during the five (5) year period immediately preceding a proposed Regulated Activity.

FEMA - Federal Emergency Management Agency.

Floodplain - Any land area susceptible to inundation by water from any natural source or delineated by applicable FEMA maps and studies as being a special flood hazard area. Also includes areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania DEP Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by PADEP).

Floodway - The channel of the watercourse and those portions of the adjoining floodplains that are reasonably required to carry and discharge the 100-year flood. Unless otherwise specified, the boundary of the floodway is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the 100-year floodway, it is assumed – absent evidence to the contrary – that the floodway extends from the stream to 50 feet from the top of the bank of the stream.

Forest Management/Timber Operations - Planning and activities necessary for the management of forestland. These include conducting a timber inventory, preparation of forest management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation and reforestation.

Geotextile - A fabric manufactured from synthetic fiber that is used to achieve specific objectives, including infiltration, separation between different types of media (i.e., between soil and stone), or filtration.

Hotspot - Areas where land use or activities generate highly contaminated runoff, with concentrations of pollutants that are higher than those that are typically found in stormwater (e.g., vehicle salvage yards and recycling facilities, vehicle fueling stations, fleet storage areas, vehicle equipment and cleaning facilities, and vehicle service and maintenance facilities).

Hydrologic Soil Group (HSG) - Infiltration rates of soils vary widely and are affected by subsurface permeability as well as surface intake rates. Soils are classified into four HSG's (A, B, C, and D) according to their minimum infiltration rate, which is obtained for bare soil after prolonged wetting. The NRCS defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils in the area of the development site may be identified from a soil survey report that can be obtained from local NRCS offices or conservation district offices. Soils become less pervious as the HSG varies from A to D (NRCS[3,4]).

Impervious Surface (Impervious Area) - A surface that prevents the infiltration of water into the ground. Impervious surfaces (or areas) shall include, but not be limited to, roofs, additional indoor living spaces, patios, garages, storage sheds and similar structures, and any new streets or sidewalks. Decks, parking areas, and driveway areas are not counted as impervious areas if they do not prevent infiltration.

Infiltration - Movement of surface water into the soil, where it is absorbed by plant roots, evaporated into the atmosphere, or percolated downward to recharge groundwater.

Karst - A type of topography or landscape characterized by surface depressions, sinkholes, rock pinnacles/uneven bedrock surface, underground drainage and caves. Karst is formed on carbonate rocks, such as limestone or dolomite.

Land Development (Development) - Inclusive of any or all of the following meanings: (i) the improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose involving (a) a group of two or more buildings, or (b) the division or allocation of land or space

between or among two or more existing or prospective occupants by means of, or for the purpose of streets, common areas, leaseholds, condominiums, building groups, or other features; (ii) any subdivision of land; (iii) development in accordance with Section 503(1.1) of the PA Municipalities Planning Code.

Low Impact Development - A land development and construction approach that uses various land planning, design practices, and technologies to simultaneously conserve and protect natural resource systems, and reduce infrastructure costs.

Municipality – Windber Borough, Somerset County, Pennsylvania.

NRCS - USDA Natural Resources Conservation Service (previously SCS).

Peak Discharge - The maximum rate of stormwater runoff from a specific storm event.

Pervious Surface (Pervious Area) - Any area not defined as impervious.

Project Site - The specific area of land where any Regulated Activities in the Municipality are planned, conducted or maintained.

Qualified Professional - Any person licensed by the Pennsylvania Department of State or otherwise qualified by law to perform the work required by the Ordinance.

Regulated Activities - Any Earth Disturbances Activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff.

Regulated Earth Disturbance Activity - Activity involving Earth Disturbance subject to regulation under 25 Pa. Code Chapter 92, Chapter 102, or the Clean Streams Law.

Retention Volume/Removed Runoff - The volume of runoff that is captured and not released directly into the surface waters of this Commonwealth during or after a storm event.

Return Period - The average interval, in years, within which a storm event of a given magnitude can be expected to occur one time. For example, the 25-year return period rainfall would be expected to occur on average once every 25 years; or stated in another way, the probability of a 25-year storm occurring in any one year is 0.04 (i.e. a 4% chance).

Runoff - Any part of precipitation that flows over the land.

Sediment - Soils or other materials transported by surface water as a product of erosion.

Small Project – A small project is defined as a regulated activity that creates disconnected impervious areas equal to or greater than 500 sq. ft. and less than 5,000 sq. ft.

State Water Quality Requirements - The regulatory requirements to protect, maintain, reclaim, and restore water quality under Pennsylvania Code Title 25 and the Clean Streams Law.

Stormwater - Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.

Stormwater Management Facility - Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, or otherwise affects stormwater runoff. Typical stormwater management facilities include, but are not limited to, detention and retention basins, open channels, storm sewers, pipes, and infiltration facilities.

Stormwater Management Plan - The Stonycreek River Watershed Stormwater Management Plan for managing stormwater runoff adopted by the County of Somerset as required by the Act of October 4, 1978, P.L. 864, (Act 167), as amended, and known as the "Storm Water Management Act".

Stormwater Management Best Management Practices - Is abbreviated as **BMPs** or **SWM BMPs** throughout this Ordinance.

Stormwater Management Site Plan - The plan prepared by the Developer or his representative indicating how storm water runoff will be managed at the development site in accordance with this Ordinance. **Stormwater Management Site Plan** will be designated as **SWM Site Plan** throughout this Ordinance.

Subdivision - As defined in The Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247.

USDA - United States Department of Agriculture.

Void Ratio - The ratio of the volume of void space to the volume of solid substance in any material.

Waters of this Commonwealth – Any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

Watershed - Region or area drained by a river, watercourse or other surface water of the Commonwealth.

Wetland - Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas.

ARTICLE III - STORMWATER MANAGEMENT STANDARDS

Section 301. General Requirements

A. For all Regulated Activities, unless preparation of an SWM Site Plan is specifically exempted in Section 302:

1. Preparation and implementation of an approved SWM Site Plan is required.

2. No Regulated Activities shall commence until the municipality issues written approval of an SWM Site Plan, which demonstrates compliance with the requirements of this Ordinance.

B. SWM Site Plans approved by the Municipality, in accordance with Section 406, shall be on site throughout the duration of the Regulated Activity.

C. The Municipality may, after consultation with DEP, approve measures for meeting the State Water Quality Requirements other than those in this Ordinance, provided that they meet the minimum requirements of, and do not conflict with, State law including but not limited to the Clean Streams Law.

D. For all Regulated Earth Disturbance Activities, erosion and sediment control BMPs shall be designed, implemented, operated, and maintained during the Regulated Earth Disturbance Activities (e.g., during construction) to meet the purposes and requirements of this Ordinance and to meet all requirements under the Pennsylvania Code Title 25 and the Clean Streams Law. Various BMPs and their design standards are listed in the *Erosion and Sediment Pollution Control Program Manual* (E&S Manual)[2], Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008 (2000), as amended and updated.

E. For all Regulated Activities, implementation of the Volume Controls in Section 303 is required with the exception of regulated activities that meet the exemption criteria found in Section 302.A of this Ordinance.

F. Impervious Areas:

1. The measurement of impervious areas shall include all of the impervious areas in the total proposed development even if development is to take place in stages.

2. For development taking place in stages, the entire development plan must be used in determining conformance with this Ordinance.

3. For projects that add impervious area to a parcel, the total impervious area on the parcel is subject to the requirements of this Ordinance.

G. Stormwater flows onto adjacent property shall not be created, increased, decreased, relocated, or otherwise altered without written permission of the adjacent property owner(s). Such stormwater flows shall be subject to the requirements of this Ordinance.

H. All regulated activities shall include such measures as necessary to:

1. Protect health, safety, and property;

2. Meet State Water Quality Requirements as defined in Article II;

3. Meet the water quality goals of this Ordinance by implementing measures to:

a. Minimize disturbance to floodplains, wetlands, natural slopes over 8%, and existing native vegetation.

b. Preserve and maintain trees and woodlands. Maintain or extend riparian buffers and protect existing forested buffer. Provide trees and woodlands adjacent to impervious areas whenever feasible.

c. Establish and maintain non-erosive flow conditions in natural flow pathways.

d. Minimize soil disturbance and soil compaction. Over disturbed areas, replace topsoil to a minimum depth equal to the original depth or 4 inches, whichever is greater. Use tracked equipment for grading when feasible.

e. Disconnect impervious surfaces by directing runoff to pervious areas, wherever possible.

4. To the maximum extent practicable, incorporate the techniques for Low Impact Development Practices described in "The Pennsylvania Stormwater Best Management Practices Manual" (SWM Manual)[1].

I. The design of all facilities over Karst shall include an evaluation of measures to minimize adverse effects.

J. Infiltration BMPs should be spread out, made as shallow as practicable, and located to maximize use of natural on-site infiltration features while still meeting the other requirements of this Ordinance.

K. Storage facilities should completely drain both the volume control and rate control capacities over a period of time not less than 24 and not more than 72 hours from the end of the design storm.

L. For all Regulated Activities, SWM BMPs shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this Ordinance and to meet all

requirements under Pennsylvania Code Title 25, the Clean Streams Law, and the Storm Water Management Act.

M. The design storm volumes to be used in the analysis of peak rates of discharge should be obtained from the Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland, 20910. NOAA's Atlas 14[5] can be accessed at Internet address: http://hdsc.nws.noaa.gov/hdsc/pfds/.

N. Various BMPs and their design standards are listed in the SWM Manual.[1]

O. The applicant may meet the Rate Controls criteria in Section 304 through off-site stormwater management measures as long as the proposed measures are in the same subwatershed as shown in Ordinance Appendix D. Off-site stormwater control measures may only be sought if it is shown that on-site stormwater control measures cannot be physically accomplished. This does not relieve the applicant from meeting the Volume Controls criteria in Section 303 on-site.

Section 302. Exemptions

A. Regulated Activities that create Disconnected Impervious Area smaller than 500 sq. ft. are exempt from the requirements of Section 303, Section 304 and Article IV of this Ordinance.

B. Regulated Activities that create impervious areas equal to or greater than 500 sq. ft. and less than 5,000 sq. ft. are exempt from the Peak Rate Control and the SWM Site Plan preparation requirement of this Ordinance, but should comply with the small project requirements found in Appendix C of the Ordinance.

C. Regulated Activities that create impervious areas equal to or greater than 5,000 sq. ft. and less than 10,000 sq. ft. are exempt only from the peak rate control requirement of this Ordinance.

D. Agricultural activity is exempt from the rate control and SWM Site Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

E. Forest management and timber operations are exempt from the rate control and SWM Site Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

Additional Exemption Criteria

1. Exemption Responsibilities - An exemption shall not relieve the Applicant from implementing such measures as are necessary to protect public health, safety, and property.

2. HQ and EV Streams - An exemption shall not relieve the Applicant from meeting the special requirements for watersheds draining to identified high quality (HQ) or exceptional value (EV) waters and Source Water Protection Areas (SWPA) and requirements for non-structural project design sequencing.

3. Drainage Problems - If a drainage problem is documented or known to exist downstream of or is expected from the proposed activity, then the Municipality may require the Applicant to comply with the Ordinance.

4. Even though the developer is exempt, he is not relieved from complying with other regulations.

Exemptions from any provisions of this Ordinance shall not relieve the Applicant from the requirements in Sections 301.D. through L.

Section 303. Volume Controls

The low impact development practices provided in the SWM Manual[1] shall be utilized for all Regulated Activities to the maximum extent practicable.

Water volume controls shall be implemented using the *Design Storm Method* in Subsection 1 or the *Simplified Method* in Subsection 2 below. For Regulated Activities that create 10,000 square feet or less of impervious cover that do not require hydrologic routing to design the stormwater facilities, this Ordinance establishes no preference for either methodology; therefore, the Applicant may select either methodology on the basis of economic considerations, the intrinsic limitations on applicability of the analytical procedures associated with each methodology, and other factors.

1. *The Design Storm Method* (CG-1 in the SWM Manual[1]) is applicable to any size of Regulated Activity. This method requires detailed modeling based on site conditions.

   a. Do not increase the post-development total runoff volume for all storms equal to or less than the 2-year, 24-hour duration precipitation.

   b. For modeling purposes:

      i. Existing (pre-development) non-forested pervious areas must be considered meadow or its equivalent.

      ii. Twenty (20) percent of existing impervious area, when present, shall be considered meadow in the model for existing conditions.

2. *The Simplified Method* (CG-2 in the SWM Manual[1]) provided below is independent of site conditions and should be used if the Design Storm Method is not followed. This method is not applicable to Regulated Activities greater than 10,000 square feet or for projects that require design of stormwater storage facilities. For new impervious surfaces:

   a. Stormwater facilities shall capture at least the first two inches (2") of runoff from all new impervious surfaces.

   b. At least the first one inch (1.0") of runoff from new impervious surfaces shall be permanently removed from the runoff flow (i.e., it shall not be released into the surface waters of this Commonwealth). Removal options include reuse, evaporation, transpiration, and infiltration.

   c. Wherever possible, infiltration facilities should be designed to accommodate infiltration of the entire permanently removed runoff; however, in all cases at least the first one-half inch (0.5") of the permanently removed runoff should be infiltrated.

   d. This method is exempt from the requirements of Section 304, Rate Controls.

Section 304. Rate Controls

A. Areas not covered by a Release Rate Map from an approved Act 167 Stormwater Management Plan:

   Post-development discharge rates shall not exceed the predevelopment discharge rates for the 1-, 2-, 5-, 10-, 25-, 50-, and 100-year storms. If it is shown that the peak rates of discharge indicated by the post-development analysis are less than or equal to the peak rates of discharge indicated by the pre-development analysis for 1-, 2-, 5-, 10-, 25-, 50-, and 100-year, 24-hour storms, then the requirements of this section have been met. Otherwise, the Applicant shall provide additional controls as necessary to satisfy the peak rate of discharge requirement.

B. Areas covered by a Release Rate Map from an approved Act 167 Stormwater Management Plan:

   For the 1-, 2-, 5-, 10-, 25-, 50-, and 100-year storms, the post-development peak discharge rates will follow the applicable approved management district or release rate map. The approved management district map for the Stonycreek River watershed is found in Appendix D. The stormwater management district criteria for the Stonycreek River watershed is found in Table 1. For any areas not shown on the release rate maps or management district maps, the post-development discharge rates shall not exceed the predevelopment discharge rates.

TABLE 1
Stormwater Management Districts in the Stonycreek River Watershed

District	Proposed Condition Design Storm	(reduce to)	Existing Condition Design Storm
A	2-year		1-year
	5-year		5-year
	10-year		10-year
	25-year		25-year
	50-year		50-year
	100-year		100-year
B-1	5-year		2-year
	10-year		5-year
	25-year		10-year
	50-year		25-year
	100-year		100-year
B-2	2-year		2-year
	25-year		10-year
	50-year		25-year
	100-year		100-year

ARTICLE IV - STORMWATER MANAGEMENT (SWM) SITE PLAN REQUIREMENTS

Section 401. Plan Requirements

The following items shall be included in the SWM Site Plan:

A. Appropriate sections from the Municipal Subdivision and Land Development Ordinance, and other applicable local ordinances, shall be followed in preparing the SWM Site Plans. In instances where the Municipality lacks Subdivision and Land Development regulations, the content of SWM Site Plans shall follow the County's Subdivision and Land Development Ordinance.

B. The Municipality shall not approve any SWM Site Plan that is deficient in meeting the requirements of this Ordinance. At its sole discretion and in accordance with this Article, when a SWM Site Plan is found to be deficient, the Municipality may either disapprove the submission and require a resubmission, or in the case of minor deficiencies the Municipality may accept submission of modifications.

C. Provisions for permanent access or maintenance easements for all physical SWM BMPs, such as ponds and infiltration structures, as necessary to implement the operation and maintenance plan discussed in item E.9 below.

D. The following signature block for the Municipality:

"(Municipal Official or designee), on this date (date of signature), has reviewed and hereby certifies that the SWM Site Plan meets all design standards and criteria of the Municipal Ordinance No. (Number assigned to the Ordinance)."

E. The SWM Site Plan shall provide the following information:

1. The overall stormwater management concept for the project.

2. A determination of Site Conditions in accordance with the SWM Manual[1]. A detailed site evaluation shall be completed for projects proposed in areas of carbonate geology or karst topography, and other environmentally sensitive areas such as brownfields.

3. Stormwater runoff design computations, and documentation as specified in this Ordinance, or as otherwise necessary to demonstrate that the maximum practicable measures have been taken to meet the requirements of this Ordinance, including the recommendations and general requirements in Section 301.

4. Expected project time schedule.

5. A soil erosion and sediment control plan, where applicable, as prepared for and submitted to the approval authority.

6. The effect of the project (in terms of runoff volumes, water quality, and peak flows) on surrounding properties and aquatic features and on any existing stormwater conveyance system that may be affected by the project.

7. Plan and profile drawings of all SWM BMPs including drainage structures, pipes, open channels, and swales.

8. SWM Site Plan shall show the locations of existing and proposed on-lot wastewater facilities and water supply wells.

9. The SWM Site Plan shall include an operation and maintenance (O&M) plan for all existing and proposed physical stormwater management facilities. This plan shall address long-term ownership and responsibilities for operation and maintenance as well as schedules and costs for O&M activities.

Section 402. Plan Submission

A. ____ (Typically Five (5)) copies of the SWM Site Plan shall be submitted as follows:

1. ____ (Typically Two (2)) copies to the Municipality.

2. ____ (Typically One (1)) copy to the Municipal Engineer (when applicable).

3. ____ (Typically One (1)) copy to the County Conservation District (optional).

4. ____ (Typically One (1)) copy to the County Planning Commission/Office.

B. Additional copies shall be submitted as requested by the Municipality or DEP.

Section 403. Plan Review

A. The SWM Site Plan shall be reviewed by a Qualified Professional for the Municipality for consistency with the provisions of this Ordinance. Review by the County Conservation District is optional. After review, the Qualified Professional shall provide a written recommendation for the municipality to approve or disapprove the SWM Site Plan. If it is recommended to disapprove the SWM Site Plan, the Qualified Professional shall state the reasons for the disapproval in writing. The Qualified Professional also may recommend approval of the SWM Site Plan with conditions and, if so, shall provide the acceptable conditions for approval in writing. The SWM Site Plan review and recommendations shall be completed within the time allowed by the Municipalities Planning Code for reviewing subdivision plans.

B. The Municipality shall notify the Applicant in writing within 45 calendar days whether the SWM Site Plan is approved or disapproved. If the SWM Plan involves a Subdivision and Land Development Plan, the notification period is 90 days. If a longer notification period is provided by other statute, regulation, or ordinance, the Applicant will be so notified by the Municipality. If the Municipality disapproves the SWM Plan, the Municipality shall cite the reasons for disapproval in writing.

Section 404. Modification of Plans

A modification to a submitted SWM Site Plan that involves a change in SWM BMPs or techniques, or that involves the relocation or redesign of SWM BMPs, or that is necessary because soil or other conditions are not as stated on the SWM Site Plan as determined by the Municipality, shall require a resubmission of the modified SWM Site Plan in accordance with this Article.

Section 405. Resubmission of Disapproved Storm Water Management Site Plans

A disapproved SWM Site Plan may be resubmitted, with the revisions addressing the Municipality's concerns, to the Municipality in accordance with this Article. The applicable review fee must accompany a resubmission of a disapproved SWM Site Plan.

Section 406. Authorization to Construct and Term of Validity

The Municipality's approval of an SWM Site Plan authorizes the Regulated Activities contained in the SWM Site Plan for a maximum term of validity of five years following the date of approval. The Municipality may specify a term of validity shorter than five years in the approval for any specific SWM Site Plan. Terms of validity shall commence on the date the Municipality signs the approval for an SWM Site Plan. If an approved SWM Site Plan is not completed according to Section 407 within the term of validity, then the Municipality may consider the SWM Site Plan disapproved and may revoke any and all permits. SWM Site Plans that are considered disapproved by the Municipality shall be resubmitted in accordance with Section 405 of this Ordinance.

Section 407. As-Built Plans, Completion Certificate and Final Inspection

A. The Developer shall be responsible for providing as-built plans of all SWM BMPs included in the approved SWM Site Plan. The as-built plans and an explanation of any discrepancies with the construction plans shall be submitted to the Municipality.

B. The as-built submission shall include a certification of completion signed by a Qualified Professional verifying that all permanent SWM BMPs have been constructed according to the approved plans and specifications. If any licensed Qualified Professionals contributed to the construction plans, then a licensed Qualified Professional must sign the completion certificate.

C. After receipt of the completion certification by the Municipality, the Municipality may conduct a final inspection.

ARTICLE V - OPERATION AND MAINTENANCE

Section 501. Responsibilities of Developers and Landowners

A. The Municipality shall make the final determination on the continuing maintenance responsibilities prior to final approval of the SWM Site Plan. The Municipality may require a dedication of such facilities as part of the requirements for approval of the SWM Site Plan. Such a requirement is not an indication that the Municipality will accept the facilities. The Municipality reserves the right to accept or reject the ownership and operating responsibility for any portion of the stormwater management controls.

B. Facilities, areas, or structures used as Stormwater Management BMPs shall be enumerated as permanent real estate appurtenances and recorded as deed restrictions or conservation easements that run with the land.

C. The Operation and Maintenance Plan shall be recorded as a restrictive deed covenant that runs with the land.

D. The Municipality may take enforcement actions against an owner for any failure to satisfy the provisions of this Article.

Section 502. Operation and Maintenance Agreements

The owner is responsible for Operation and Maintenance of the SWM BMPs. If the owner fails to adhere to the Operation and Maintenance Agreement, the Municipality may perform the services required and charge the owner appropriate fees. Non-payment of fees may result in a lien against the property.

Section 503. Stormwater Management Easements

A. Stormwater management easements are required for all areas used for off-site stormwater control, unless a waiver is granted by the Municipality.

B. Stormwater management easements shall be provided by the Applicant or property owner if necessary for access for inspections and maintenance or the preservation of stormwater runoff conveyance, infiltration, and detention areas and other stormwater controls and BMPs by persons other than the property owner. The purpose of the easement shall be specified in any agreement under Section 502.

ARTICLE VI - FEES AND EXPENSES

Section 601. General

The Municipality may include all costs incurred in the review fee charged to an Applicant.

The review fee may include but not be limited to costs for the following:

A. Administrative/clerical processing.

B. Review of the SWM Site Plan.

C. Attendance at meetings.

D. Inspections.

ARTICLE VII - PROHIBITIONS

Section 701. Prohibited Discharges and Connections

A. Any drain or conveyance, whether on the surface or subsurface, which allows any non-stormwater discharge including sewage, process wastewater, and wash water to enter the waters of this Commonwealth is prohibited.

B. No person shall allow, or cause to allow, discharges into surface waters of this Commonwealth which are not composed entirely of stormwater, except (1) as provided in subsection C below, and (2) discharges allowed under a state or federal permit.

C. The following discharges are authorized unless they are determined to be significant contributors to pollution to the waters of this Commonwealth:

- Discharges from fire fighting activities	- Flows from riparian habitats and wetlands
- Potable water sources including water line flushing	- Uncontaminated water from foundations or from footing drains
- Irrigation drainage	- Lawn watering
- Air conditioning condensate	- Dechlorinated swimming pool discharges
- Springs	- Uncontaminated groundwater
- Water from crawl space pumps	- Water from individual residential car washing
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used	- Routine external building wash down (which does not use detergents or other compounds)

D. In the event that the Municipality or DEP determines that any of the discharges identified in Subsection C, significantly contribute to pollution of the waters of this Commonwealth, the Municipality or DEP will notify the responsible person(s) to cease the discharge.

Section 702. Roof Drains

Roof drains and sump pumps shall discharge to infiltration or vegetative BMPs and to the maximum extent practicable satisfy the criteria for Disconnected Impervious Areas.

Section 703. Alteration of SWM BMPs

No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, or structures, without the written approval of the Municipality.

ARTICLE VIII - ENFORCEMENT AND PENALTIES

Section 801. Right-of-Entry

Upon presentation of proper credentials, the Municipality may enter at reasonable times upon any property within the Municipality to inspect the condition of the stormwater structures and facilities in regard to any aspect regulated by this Ordinance.

Section 802. Inspection

SWM BMPs should be inspected by the landowner, or the owner's designee (including the Municipality for dedicated and owned facilities) according to the following list of minimum frequencies:

1. Annually for the first 5 years.

2. Once every 3 years thereafter.

3. During or immediately after the cessation of a 10-year or greater storm.

Section 803. Enforcement

A. It shall be unlawful for a person to undertake any Regulated Activity except as provided in an approved SWM Site Plan, unless specifically exempted in Section 302.

B. It shall be unlawful to violate Section 703 of this Ordinance.

C. Inspections regarding compliance with the SWM Site Plan are a responsibility of the Municipality.

Section 804. Suspension and Revocation

A. Any approval or permit issued by the Municipality may be suspended or revoked for:

1. Non-compliance with or failure to implement any provision of the approved SWM Site Plan or Operation and Maintenance Agreement.

2. A violation of any provision of this Ordinance or any other applicable law, Ordinance, rule or regulation relating to the Regulated Activity.

3. The creation of any condition or the commission of any act during the Regulated Activity which constitutes or creates a hazard or nuisance, pollution, or which endangers the life or property of others.

B. A suspended approval may be reinstated by the Municipality when:

1. The Municipality has inspected and approved the corrections to the violations that caused the suspension.

2. The Municipality is satisfied that the violation has been corrected.

C. An approval that has been revoked by the Municipality cannot be reinstated. The Applicant may apply for a new approval under the provisions of this Ordinance.

D. If a violation causes no immediate danger to life, public health, or property, at its sole discretion, the Municipality may provide a limited time period for the owner to correct the violation. In these cases, the Municipality will provide the owner, or the owner's designee, with a written notice of the violation and the time period allowed for the owner to correct the violation. If the owner does not correct the violation within the allowed time period, the Municipality may revoke or suspend any, or all, applicable approvals and permits pertaining to any provision of this Ordinance.

Section 805. Penalties

A. Anyone violating the provisions of this Ordinance shall be guilty of a summary offense, and upon conviction shall be subject to a fine of not more than $1,000.00 for each violation, recoverable with costs. Each day that the violation continues shall be a separate offense and penalties shall be cumulative.

B. In addition, the Municipality, may institute injunctive, mandamus or any other appropriate action or proceeding at law or in equity for the enforcement of this Ordinance. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

Section 806. Appeals

A. Any person aggrieved by any action of the Municipality or its designee, relevant to the provisions of this Ordinance, may appeal to the Municipality within thirty (30) days of that action.

B. Any person aggrieved by any decision of the Municipality, relevant to the provisions of this Ordinance, may appeal to the County Court Of Common Pleas in the county where the activity has taken place within thirty (30) days of the Municipality's decision.

ARTICLE IX - REFERENCES

1. Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. *Pennsylvania Stormwater Best Management Practices Manual.* Harrisburg, PA.

2. The Pennsylvania Department of Environmental Protection (DEP). 363-2134-008 (2000), as amended and updated. *Erosion and Sediment Pollution Control Program Manual.* Harrisburg, PA.

3. United States Department of Agriculture (USDA), National Resources Conservation Service (NRCS). *National Engineering Handbook.* Part 630: Hydrology, 1969-2001.

Originally published as the *National Engineering Handbook*, Section 4: Hydrology. Available online at: http://www.wcc.nrcs.usda.gov/hydro/hydro-techref-neh-630.html.

4. United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 1986. *Technical Release 55: Urban Hydrology for Small Watersheds*, 2nd Edition. Washington, D.C.

5. US Department of Commerce (USDC), National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS), Hydrometeorological Design Studies Center. 2004-2006. *Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2*, Silver Spring, Maryland, 20910. Internet address: http://hdsc.nws.noaa.gov/hdsc/pfds/.

Windber Borough Stonycreek River Watershed Stormwater Management Ordinance.

ORDINANCE No. 2010-2

ENACTED and ORDAINED at a regular meeting of Windber Borough

on this 11th day of May, 2010.

This Ordinance shall take effect immediately.

Anthony J. Barsotti
(Name) President

ATTEST:

Fred Oliverson
Secretary

Approved this 11th day of May 2010.

Junior Red Ohler
Mayor

APPENDIX A

OPERATION AND MAINTENANCE AGREEMENT
STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES
(SWM BMPs)

THIS AGREEMENT, made and entered into this _____ day of _____, 20___, by and between _____, (hereinafter the "Landowner"), and _____, _____ County, Pennsylvania, (hereinafter "Municipality");

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of _____ County, Pennsylvania, Deed Book _____ at Page _____, (hereinafter "Property").

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the SWM BMP Operation and Maintenance Plan approved by the Municipality (hereinafter referred to as the "Plan") for the property identified herein, which is attached hereto as Appendix A and made part hereof, as approved by the Municipality, provides for management of stormwater within the confines of the Property through the use of BMPs; and

WHEREAS, the Municipality, and the Landowner, his successors and assigns, agree that the health, safety, and welfare of the residents of the Municipality and the protection and maintenance of water quality require that on-site SWM BMPs be constructed and maintained on the Property; and

WHEREAS, the Municipality requires, through the implementation of the SWM Site Plan, that SWM BMPs as required by said Plan and the Municipal Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, successors and assigns.

NOW, THEREFORE, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The Landowner shall construct the BMPs in accordance with the plans and specifications identified in the SWM Site Plan.

2. The Landowner shall operate and maintain the BMPs as shown on the Plan in good working order in accordance with the specific maintenance requirements noted on the approved SWM Site Plan.

3. The Landowner hereby grants permission to the Municipality, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper

credentials, to inspect the BMPs whenever necessary. Whenever possible, the Municipality shall notify the Landowner prior to entering the property.

4. In the event the Landowner fails to operate and maintain the BMPs per paragraph 2, the Municipality or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Municipality.

5. In the event the Municipality, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Municipality for all expenses (direct and indirect) incurred within 10 days of receipt of invoice from the Municipality.

6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMPs by the Landowner; provided, however, that this Agreement shall not be deemed to create or affect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.

7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Municipality from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or Municipality.

8. The Municipality shall inspect the BMPs at a minimum of once every three years to ensure their continued functioning.

This Agreement shall be recorded at the Office of the Recorder of Deeds of _____ County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs and any other successors in interests, in perpetuity.

ATTEST:

WITNESS the following signatures and seals:

(SEAL)

For the Municipality:

_____

For the Landowner:

_____

ATTEST:

_____ (City, Borough, Township)

County of _____, Pennsylvania

I, _____, a Notary Public in and for the County and State aforesaid, whose commission expires on the _____ day of _____, 20_____, do hereby certify that _____ whose name(s) is/are signed to the foregoing Agreement bearing date of the _____ day of _____, 20_____, has acknowledged the same before me in my said County and State.

GIVEN UNDER MY HAND THIS _____ day of _____, 20_____.

_____ _____

NOTARY PUBLIC **(SEAL)**

APPENDIX B

DISCONNECTED IMPERVIOUS AREA (DIA)

B.1. Rooftop Disconnection

When rooftop downspouts are directed to a pervious area that allows for infiltration, filtration, and increased time of concentration, the rooftop may qualify as completely or partially Disconnected Impervious Area (DIA) and a portion of the impervious rooftop area may be excluded from the calculation of total impervious area.

A rooftop is considered to be completely or partially disconnected if it meets the requirements listed below:

- The contributing area of rooftop to each disconnected discharge is 500 square feet or less, and
- The soil, in proximity of the roof water discharge area, is not designated as hydrologic soil group "D" or equivalent, and
- The overland flow path from roof water discharge area has a positive slope of 5% or less.

For designs that meet these requirements, the portion of the roof that may be considered disconnected depends on the length of the overland path as designated in Table B.1.

Table B.1: Partial Rooftop Disconnection

Length of Pervious Flow Path *	Roof Area Treated as Disconnected
(ft)	(% of contributing area)
0 – 14	0
15 – 29	20
30 – 44	40
45 – 59	60
60 – 74	80
75 or more	100

* Flow path cannot include impervious surfaces and must be at least 15 feet from any impervious surfaces.

B.2. Pavement Disconnection

When pavement runoff is directed to a pervious area that allows for infiltration, filtration, and increased time of concentration, the contributing pavement area may qualify as a DIA that may be excluded from the calculation of total impervious area. This applies generally only to small or narrow pavement structures such as driveways and narrow pathways through otherwise pervious areas (e.g., a walkway or bike path through a park).

Pavement is disconnected if the pavement, or area adjacent to the pavement, meets the requirements below:

- The contributing flow path over impervious area is not more than 75 feet, and
- The length of overland flow is greater than or equal to the contributing length, and
- The soil is not designated as hydrologic soil group "D" or equivalent, and
- The slope of the contributing impervious area is 5% or less, and
- The slope of the overland flow path is 5% or less.

If the discharge is concentrated at one or more discrete points, no more than 1,000 square feet may discharge to any one point. In addition, a gravel strip or other spreading device is required for concentrated discharges. For non-concentrated discharges along the edge of the pavement, this requirement is waived; however, there must be a provision for the establishment of vegetation along the pavement edge and temporary stabilization of the area until vegetation becomes stabilized.

REFERENCE

Philadelphia Water Department. 2006. *Stormwater Management Guidance Manual.* Section 4.2.2: ***Integrated Site Design.*** Philadelphia, PA.

APPENDIX C

Optional Stormwater Management for Small Projects

Applicability: Stormwater management procedures for projects with between five hundred (500) square feet and (4,999) square feet of proposed impervious area. All of the proposed impervious area that is created by a regulated activity must be disconnected impervious area, otherwise the Applicant cannot use this document to meet stormwater management requirements, and is therefore responsible for meeting all stormwater management requirements of the Ordinance. Disconnected impervious area and regulated activities are defined in Section C.2 of this document.

Note: This small projects document is not to be used to plan for multiple lots without obtaining prior written approval from the Municipality. Approvals and actions associated with this document do not relieve the Applicant of the responsibility to secure required permits or approvals for activities regulated by any other code, law or ordinance.

STORMWATER MANAGEMENT PROCEDURES
FOR SMALL PROJECTS

Introduction

This handbook has been developed to allow homeowners to comply with stormwater management criteria for new projects to meet the requirements of the Act 167 Stormwater Management Ordinance of the Municipality including sizing, designing, locating, and installing on-lot measures, referred to herein as "Best Management Practices" (BMPs). Pennsylvania Act 167 was authorized on October 4, 1978 (32 P.S., P.L. 864) and gave Pennsylvania municipalities the power to regulate activities that affect stormwater runoff and surface and groundwater quantity and quality.

Individual home construction projects on single-family lots which result in between 500 square feet and 4,999 square feet of proposed impervious area (including the building footprint, driveway, sidewalks, and parking areas) are not required to submit formal stormwater management (SWM) site plans to the Municipality or County; however, they must attempt to address water quality and infiltration goals as outlined in this small projects document. If the guidelines presented in this brochure are followed, the individual homeowner will not require professional services to comply with these water quality and infiltration goals.

Section C.1 describes requirements and outlines the method for designing a suitable BMP, and a description of what needs to be included on the simple sketch plan. Section C.2 presents definitions of key terms. Section C.3 presents options of BMPs that can be considered for on-lot stormwater management. An example of how to obtain the size and dimensions of a BMP is explained in Section C.4.

The stormwater management method for small projects requires:

- The first 1" of rainfall runoff from proposed impervious surfaces to be captured (see definition of captured in Section C.2).

The purpose of this small projects document is to help reduce stormwater runoff in the community, to maintain groundwater recharge, to prevent degradation of surface and groundwater quality, and to otherwise protect water resources and public safety.

What needs to be sent to the Municipality?

Even though a formal SWM site plan is not required for individual lot owners, the small projects worksheet found in Table C-4 and a simple sketch plan containing the features described in Step 4 of Section C.1 needs to be submitted to the Municipality, and if applicable, the contractor prior to construction.

C.1 Determination of Simplified Approach Volume Requirements

All proposed impervious areas must be included in the determination of the amount of new impervious areas and the size of proposed BMPs needed to control stormwater. Proposed impervious areas on an individual residential lot include: roof area, pavement, sidewalks, driveways, patios, porches, permanent pools, or parking areas. Sidewalks, driveways, or patios that are constructed with gravel or pervious pavers that will not be converted to an impervious surface in the future need not be included in this calculation. Therefore, the amount of proposed impervious area can be reduced for proposed driveways, patios, and sidewalks through the use of gravel, pervious pavement, and turf pavers. All proposed impervious areas must be constructed so that runoff is conveyed to a BMP; no runoff can be directed to storm sewers, inlets, or other impervious areas (i.e., street).

In addition, the use of low impact development is recommended to further minimize the effect of the new construction on water, land, and air. Low impact development is a method of development that incorporates design techniques that include: minimizing the amount of land disturbance, reducing impervious cover, disconnecting gutters and directing runoff to vegetated areas to infiltrate, and redirecting the flow of runoff from impervious driveways to vegetated areas instead of to the street or gutter.

The amount of impervious area that needs to be controlled may be reduced by disconnecting impervious areas as discussed below as a BMP and as found in Ordinance Appendix B.

Below are the steps that must be undertaken to meet the Ordinance requirements. The results obtained for each step must be included in the Small Projects Worksheet found in Table C-4:

STEP 1 – Determine the total area of all proposed impervious surfaces that will need to drain to one or more BMPs. Determine locations where BMPs need to be placed so that runoff from all of the proposed impervious surfaces can be captured. Select the BMPs to be used and determine the requirements of each from Section C.3. For instance, the back half of a garage may drain 200 square feet of roof to a rain barrel, and the front half of a garage may drain 200 square feet of roof and 540 square feet of driveway to an infiltration trench. Then, obtain the required storage volume and surface area needed for each of the proposed BMPs from the appropriate heading below.

For Rain Barrels/Cisterns

STEP 2 –Select the proposed impervious area value in Column 1 of Table C-1 that is closest to, but not less than, the determined value.

STEP 3 – Determine the volume that needs to be provided in cubic feet and gallons to satisfy the volume requirements using Columns 2 and 3 in Table C-1.

Table C-1: Calculating Rain Barrel/Cistern Storage Volume for 1" Rainfall[1]

Column 1	Column 2	Column 3
Proposed Impervious Area (square feet)	**Volume of Rain Barrel/Cistern[2] (cubic feet)**	**Volume of Rain Barrel/Cistern (gallons)**
I	V_{RBcf}	V_{RBgal}
Sum of all Proposed Impervious Areas	$(1*(1/12)*I)/0.75=V_{RBcf}$	$V_{RBcf} * 7.48=V_{RBgal}$
50	6	42
100	11	83
200	22	166
300	33	249
400	44	332
500	56	416
600	67	499
700	78	582
800	89	665
900	100	748
1,000	111	831
1,100	122	914
1,200	133	997
1,300	144	1,081
1,400	156	1,164
1,500	167	1,247
1,600	178	1,330
1,700	189	1,413
1,800	200	1,496
1,900	211	1,579
2,000	222	1,662
2,100	233	1,745
2,200	244	1,829
2,300	256	1,912
2,400	267	1,995
2,500	278	2,078
2,600	289	2,161
2,700	300	2,244
2,800	311	2,327
2,900	322	2,410
3,000	333	2,494
3,100	344	2,577
3,200	356	2,660
3,300	367	2,743
3,400	378	2,826
3,500	389	2,909
3,600	400	2,992
3,700	411	3,075
3,800	422	3,158
3,900	433	3,242
4,000	444	3,325
4,100	456	3,408
4,200	467	3,491
4,300	478	3,574
4,400	489	3,657
4,500	500	3,740
4,600	511	3,823
4,700	522	3,906
4,800	533	3,990
4,900	544	4,073
4,999	556	4,155

[1]The typical volume of a rain barrel is between 50-200 gallons, so more than 1 rain barrel may be needed. Larger volumes may require a cistern.
[2]Assume that the rain barrel/cistern is 25% full

For Rain Gardens/Bioretention or Dry Well #1:

STEP 2 – Select the proposed impervious area value in Column 1 of Table C-2 that is closest to, but not less than, the determined value.

STEP 3 – Using the value from Column 1 determined in Step 2, select the depth (D) of the proposed BMP, and then simply determine the surface area needed for that depth from Column 2 of Table C-2.

Note: The arrows under Column 2 in Table C-2 indicate which range of depths is appropriate for each BMP. To determine the depth based on the area, select an area that corresponds to the value in Column 1 that is closest to, but not more than the area to be used. To determine the area based on the depth, select a depth that is closest to, but not less than, the depth that is to be used.

Table C-2: Calculating Rain Garden/Bioretention and Dry Well #1 Storage Volume and Surface Area for 1" Rainfall

Column 1	Column 2							
Proposed Impervious Area (square feet)	**Surface Area of Rain Garden/Bioretention or Dry Well #1** Acceptable Depths for Each BMP are indicated by the arrows below **(square feet)**							
	Area Required for a BMP with a Depth(D) of 0.5'	*Area Required for a BMP with a Depth(D) of 1.0'*	*Area Required for a BMP with a Depth(D) of 1.5'*	*Area Required for a BMP with a Depth(D) of 2.0'*	*Area Required for a BMP with a Depth(D) of 2.5'*	*Area Required for a BMP with a Depth(D) of 3.0'*	*Area Required for a BMP with a Depth(D) of 3.5'*	*Area Required for a BMP with a Depth(D) of 4.0'*
	← **Rain Garden /Bioretention (0.5'-1.0')** →		← **Dry Well #1 (1.5'-4.0')** →					
I	*A(sf)*							
Sum of all Proposed Impervious Areas	A = Volume/D, where Volume[1] = (1/12)**I*							
100	17	8	6	4	3	3	2	2
200	33	17	11	8	7	6	5	4
300	50	25	17	13	10	8	7	6
400	67	33	22	17	13	11	10	8
500	83	42	28	21	17	14	12	10
600	100	50	33	25	20	17	14	13
700	117	58	39	29	23	19	17	15
800	133	67	44	33	27	22	19	17
900	150	75	50	38	30	25	21	19
1,000	167	83	56	42	33	28	24	21
1,100	183	92	61	46	37	31	26	23
1,200	200	100	67	50	40	33	29	25
1,300	217	108	72	54	43	36	31	27
1,400	233	117	78	58	47	39	33	29
1,500	250	125	83	63	50	42	36	31
1,600	267	133	89	67	53	44	38	33
1,700	283	142	94	71	57	47	40	35
1,800	300	150	100	75	60	50	43	38
1,900	317	158	106	79	63	53	45	40
2,000	333	167	111	83	67	56	48	42
2,100	350	175	117	88	70	58	50	44
2,200	367	183	122	92	73	61	52	46
2,300	383	192	128	96	77	64	55	48
2,400	400	200	133	100	80	67	57	50
2,500	417	208	139	104	83	69	60	52
2,600	433	217	144	108	87	72	62	54
2,700	450	225	150	113	90	75	64	56
2,800	467	233	156	117	93	78	67	58
2,900	483	242	161	121	97	81	69	60
3,000	500	250	167	125	100	83	71	63
3,100	517	258	172	129	103	86	74	65
3,200	533	267	178	133	107	89	76	67
3,300	550	275	183	138	110	92	79	69
3,400	567	283	189	142	113	94	81	71
3,500	583	292	194	146	117	97	83	73
3,600	600	300	200	150	120	100	86	75
3,700	617	308	206	154	123	103	88	77
3,800	633	317	211	158	127	106	90	79
3,900	650	325	217	163	130	108	93	81
4,000	667	333	222	167	133	111	95	83
4,100	683	342	228	171	137	114	98	85
4,200	700	350	233	175	140	117	100	88
4,300	717	358	239	179	143	119	102	90
4,400	733	367	244	183	147	122	105	92
4,500	750	375	250	188	150	125	107	94
4,600	767	383	256	192	153	128	110	96
4,700	783	392	261	196	157	131	112	98
4,800	800	400	267	200	160	133	114	100
4,900	817	408	272	204	163	136	117	102
4,999	833	417	278	208	167	139	119	104

[1]Assume that the rain garden/bioretention or the dry well #1 are 0% full

For Infiltration Trench or Dry Well #2:

STEP 2 – Select the proposed impervious area value in Column 1 of Table C-3 that is closest to, but not less than, the determined value.

STEP 3 – Using the value from Column 1 determined in Step 2, select the depth (D) of the proposed BMP, and then simply determine the surface area needed from Column 2 of Table C-3.

Note: The arrows under Column 2 in Table C-3 indicate which range of depths is appropriate for each BMP. To determine the depth based on the area, select an area that corresponds to the value in Column 1 that is closest to, but not less than, the area to be used. To determine the area based on the depth, select a depth that is closest to, but not less than, the depth that is to be used.

Table C-3: Calculating Infiltration Trench and Dry Well #2 Storage Volume and Surface Area for 1" Rainfall

Column 1	Column 2							
Total Proposed Impervious Area (square feet)	**Surface Area of Infiltration Trench or Dry Well #2** Acceptable Depths for Each BMP are indicated by the arrows below **(square feet)**							
	Area Required for a BMP with a Depth(D) of 1.5'	*Area Required for a BMP with a Depth(D) of 2.0'*	*Area Required for a BMP with a Depth(D) of 2.5'*	*Area Required for a BMP with a Depth(D) of 3.0'*	*Area Required for a BMP with a Depth(D) of 3.5'*	*Area Required for a BMP with a Depth(D) of 4.0'*	*Area Required for a BMP with a Depth(D) of 4.5'*	*Area Required for a BMP with a Depth(D) of 5.0'*
	Infiltration Trench (2.0'-5.0') / **Dry Well #2 (1.5'-4.0')**							
I	*A(sf)*							
Sum of all Proposed Impervious Areas	A = Volume/D, where Volume[1] = ((1/12)**I*)/0.4							
100	14	10	8	7	6	5	5	4
200	28	21	17	14	12	10	9	8
300	42	31	25	21	18	16	14	13
400	56	42	33	28	24	21	19	17
500	69	52	42	35	30	26	23	21
600	83	63	50	42	36	31	28	25
700	97	73	58	49	42	36	32	29
800	111	83	67	56	48	42	37	33
900	125	94	75	63	54	47	42	38
1,000	139	104	83	69	60	52	46	42
1,100	153	115	92	76	65	57	51	46
1,200	167	125	100	83	71	63	56	50
1,300	181	135	108	90	77	68	60	54
1,400	194	146	117	97	83	73	65	58
1,500	208	156	125	104	89	78	69	63
1,600	222	167	133	111	95	83	74	67
1,700	236	177	142	118	101	89	79	71
1,800	250	188	150	125	107	94	83	75
1,900	264	198	158	132	113	99	88	79
2,000	278	208	167	139	119	104	93	83
2,100	292	219	175	146	125	109	97	88
2,200	306	229	183	153	131	115	102	92
2,300	319	240	192	160	137	120	106	96
2,400	333	250	200	167	143	125	111	100
2,500	347	260	208	174	149	130	116	104
2,600	361	271	217	181	155	135	120	108
2,700	375	281	225	188	161	141	125	113
2,800	389	292	233	194	167	146	130	117
2,900	403	302	242	201	173	151	134	121
3,000	417	313	250	208	179	156	139	125
3,100	431	323	258	215	185	161	144	129
3,200	444	333	267	222	190	167	148	133
3,300	458	344	275	229	196	172	153	138
3,400	472	354	283	236	202	177	157	142
3,500	486	365	292	243	208	182	162	146
3,600	500	375	300	250	214	188	167	150
3,700	514	385	308	257	220	193	171	154
3,800	528	396	317	264	226	198	176	158
3,900	542	406	325	271	232	203	181	163
4,000	556	417	333	278	238	208	185	167
4,100	569	427	342	285	244	214	190	171
4,200	583	438	350	292	250	219	194	175
4,300	597	448	358	299	256	224	199	179
4,400	611	458	367	306	262	229	204	183
4,500	625	469	375	313	268	234	208	188
4,600	639	479	383	319	274	240	213	192
4,700	653	490	392	326	280	245	218	196
4,800	667	500	400	333	286	250	222	200
4,900	681	510	408	340	292	255	227	204
4,999	694	521	417	347	298	260	231	208

[1]Assume a void ratio of 40%.

For Disconnected Rooftop Areas:

STEP 2 – Select the proposed impervious area value in Column 1 of Table C-4 that is closest to, but not less than, the determined value. Using the value from Column 1, select the corresponding soil group in column 2 determined from Map III-4, and corresponding slope in column 3 which is the slope of the path the stormwater from the roof travels along, from Table C-4.

STEP 3 – Using the value from Column 3 determined in Step 2, use column 4 to select the length of the flow path that is closest to, but not less than the value, and then simply determine the roof area treated as disconnected from Column 5 of Table C-4. Therefore, the value from Column 5 is the percentage of the total impervious area that can be excluded.

Table C-4: Calculating Rooftop Disconnected Impervious Area Percentage

Impervious Rooftop Area (square feet)	Soil Group	Slope (%)	Length of Flow Path (ft)*	Roof Area Treated as Disconnected (% of Contributing Area)
0-500	A, B, or C or equivalent	0-5	0-14	0
			15-29	20
			30-44	40
			45-59	60
			60-74	80
			≥75	100
		≥5	≥0	0
	D	≥0	≥0	0
≥500	A, B, C, D, or equivalent Soils	≥0	≥0	0

*Flow path cannot include impervious surfaces and must be at least 15 feet from any impervious surfaces.

For Pavement Disconnection:

STEP 2 – Select the contributing flow path value, which is the length of the impervious portion of the flow path that stormwater runoff from pavement travels along, in Column 1 of Table C-5 and the corresponding length of overland flow which is the total length that the stormwater runoff travels along the flow path, and the soil group determined from Map III-4, located in columns 2 and 3 respectively, from Table C-5.

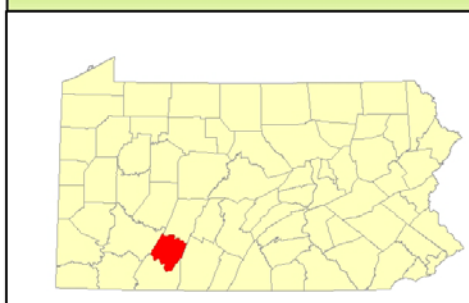
STEP 3 – Using the value from Column 3 determined in Step 2, select the slope of the contributing impervious area and slope of the overland flow path in Columns 4 and 5, respectively, and then simply determine if the pavement section is eligible for disconnection from Column 6. If the pavement is eligible for disconnection, then the area of the pavement may be excluded from the total impervious area.

Note: If the discharge is concentrated at one or more discrete points, no more than 1,000 square feet may discharge to any one point. In addition, a gravel strip or other spreading device is required for concentrated discharges. For non-concentrated discharges along the edge of the pavement, this requirement is waived; however, there must be a provision for the establishment of vegetation along the pavement edge and temporary stabilization of the area until vegetation becomes stabilized.

Table C-5: Calculating Pavement Disconnection Eligibility

Contributing Flow Path (feet)	Length of Overland Flow (feet)	Soil Group	Slope of Contributing Impervious Area (%)	Slope of Overland Flow Path (%)	Eligible for Pavement Disconnection (Yes/No)
0-75	Length of Overland Flow Equal to or Greater Than Contributing Flow Path	A, B, or C or equivalent	0-5	0-5	Yes
			5+	5+	No
		D	0+	0+	No
	Length of Overland Flow less than Contributing Flow Path	A, B, C, D, or equivalent Soils	0+	0+	No
75+	0+	A, B, C, D, or equivalent Soils	0+	0+	No

STONYCREEK RIVER - CAMBRIA AND SOMERSET COUNTIES
ACT 167 STORMWATER MANAGEMENT PLAN



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Map III-4
HYDROLOGIC SOIL GROUPS

Prepared For:
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Legend

- WATERSHED BOUNDARY
- STREAMS
- WATER BODIES
- COUNTY BOUNDARIES
- MUNICIPAL BOUNDARIES

Roads

- Interstate
- US Federal Highway
- PA State Route
- Other State Road

NOTE:
Portions of this map were generated from existing data sources as listed below. This existing data was utilized for base mapping purposes and is shown on the maps for spatial reference only. This data did not enter into any computations or affect the reliability of the hydrologic analysis. Borton-Lawson Engineering has found some inaccuracies in some of this data and has corrected the data in locations where these discrepancies were obvious, however, it was not a part of this ACT 167 Plan to correct all of the mapping data.

SOURCES:
Watershed Boundary - PADEP Modified by BLE
State Roads - PennDOT
County Boundaries - PennDOT
Municipal Boundaries - PennDOT
Streams - PaDEP
Water Bodies -Derived from USFWS NWI Wetlands data
Hydrologic Soil Groups - USDA/ NRCS Soil Survey Geographic (SSURGO) Database

Borton Lawson
ENGINEERING ARCHITECTURE

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Bethlehem, PA 18017
Tel: 484-821-0470

PREPARED BY: WSB CHECKED BY: SJD
DATE: 6/22/2006 PROJECT #: 2005-1719-00

STEP 4 - Sketch a simple site plan as shown in Figure C-1 that includes:

- Name and address of the owner of the property, and or name and address of the individual preparing the plan, along with the date of submission.

- Location of proposed structures, driveways, or other paved areas with approximate size in square feet.

- Location, orientation, and dimensions of all proposed BMPs. For all rain gardens/bioretention, infiltration trenches, and dry wells, the length, width, and depth must be included on the plan. For rain barrels or cisterns the volume must be included.

- Location of any existing or proposed on-site septic system and/or potable water wells showing rough proximity to infiltration facilities.

- Location of any existing waterbodies such as; streams, lakes, ponds, wetlands, or other waters of the Commonwealth within fifty (50) feet of the project site, and the distance to the project site and/or BMPs. It is recommended that the project or BMPs be located at least than fifty (50) feet away from a perennial or intermittent stream. If an existing buffer is legally prescribed (i.e., deed, convenant, easement, etc.), the existing buffer shall be maintained.

- Location of all existing structures including buildings, driveways, and roads within fifty (50) feet of the project site.

Fill in the small projects worksheet found in Table C-4, then submit the worksheet and the simple site sketch to the Municipality.

Figure C-1: Typical Dry Well Configuration filled with Stone Fill (Left) and Structural Prefabricated Chamber (Right)

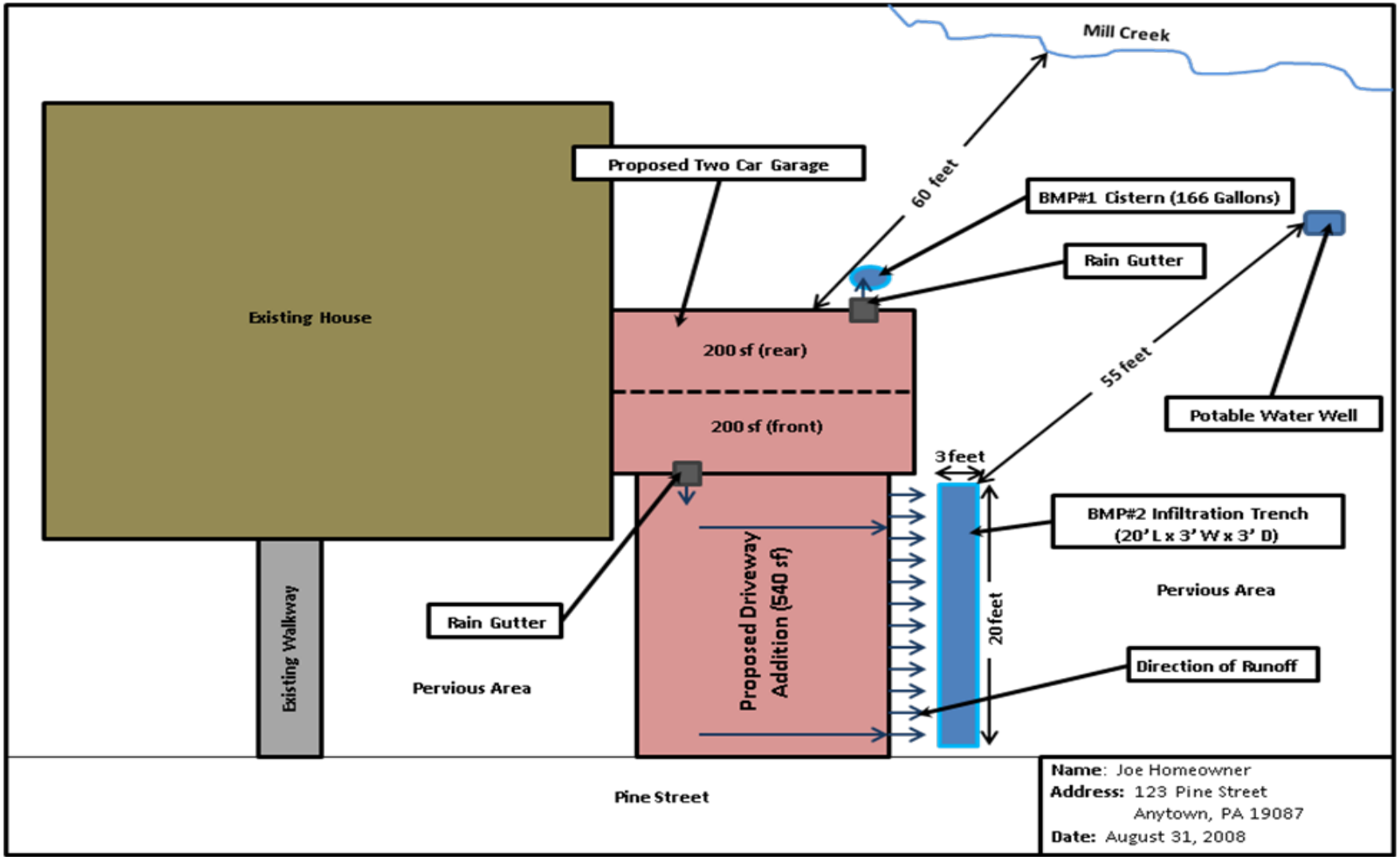


Table C-4: Small Projects Worksheet

Small Projects Worksheet			
STEP 1			
Proposed Impervious Surface for BMP #1	**Proposed Impervious Surface for BMP #2**	**Proposed Impervious Surface for BMP #3**	
STEPS 2&3			
Rain Barrel or Cistern			
Proposed Impervious Surface from Column 1 in Table C-1	**Volume from Column 2 or 3 in Table C-1**		
Rain Garden/Bioretention or Dry Well #1			
Proposed Impervious Surface from Column 1 in Table C-2	**Area of BMP from Column 2 in Table C-2**	**Depth of BMP from Column 2 in Table C-2**	**Types of Material to Be Used**
Infiltration Trench or Dry Well #2			
Proposed Impervious Surface from Column 1 in Table C-3	**Area of BMP from Column 2 in Table C-3**	**Depth of BMP from Column 2 in Table C-3**	**Types of Material to Be Used**
Note: For additional BMPs, use additional sheets			

C.2 Definitions

Best Management Practice (BMP) - Activities, facilities, designs, measures or procedures used to manage stormwater impacts from Regulated Activities, to meet State Water Quality Requirements, to promote groundwater recharge and to otherwise meet the purposes of this Ordinance. Stormwater BMPs are commonly grouped into one of two broad categories or measures: "structural" or "non-structural". In this Ordinance, non-structural BMPs or measures refer to operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater runoff whereas structural BMPs or measures are those that consist of a physical device or practice that is installed to capture and treat stormwater runoff. Structural BMPs include, but are not limited to, a wide variety of practices and devices, from large-scale retention ponds and constructed wetlands, to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. Structural Stormwater BMPs are permanent appurtenances to the project site.

Capture – Collecting runoff to be stored for reuse or allowed to slowly infiltrate into the ground.

Disconnected Impervious Area (DIA) - An impervious or impermeable surface which is disconnected from any stormwater drainage or conveyance system and is redirected or directed to a pervious area which allows for infiltration, filtration, and increased time of concentration as specified in Appendix B, Disconnected Impervious Area.

Earth Disturbance Activity - A construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing; grading; excavations; embankments; road maintenance; building construction; the moving, depositing, stockpiling, or storing of soil, rock or earth materials.

Geotextile - A fabric manufactured from synthetic fiber that is used to achieve specific objectives, including infiltration, separation between different types of media (i.e., between soil and stone), or filtration.

Hotspot - Areas where land use or activities generate highly contaminated runoff, with concentrations of pollutants that are higher than those that are typically found in stormwater (e.g., vehicle salvage yards and recycling facilities, vehicle fueling stations, fleet storage areas, vehicle equipment and cleaning facilities, and vehicle service and maintenance facilities).

Impervious Surface (Impervious Area) - A surface that prevents the infiltration of water into the ground. Impervious surfaces (or areas) shall include, but not be limited to, roofs, additional indoor living spaces, patios, garages, storage sheds and similar structures, and any new streets or sidewalks. Decks, parking areas, and driveway areas are not counted as impervious areas if they do not prevent infiltration.

Infiltration - Movement of surface water into the soil, where it is absorbed by plant roots, evaporated into the atmosphere, or percolated downward to recharge groundwater.

Low Impact Development - A land development and construction approach that uses various land planning, design practices, and technologies to simultaneously conserve and protect natural resource systems, and reduce infrastructure costs.

Pervious Surface (Pervious Area) - Any area not defined as impervious.

Regulated Activities - Any Earth Disturbances Activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff.

Runoff - Any part of precipitation that flows over the land.

Stormwater - Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.

Void Ratio - The ratio of the volume of void space to the volume of solid substance in any material.

C.3 Description of BMPs

The following is a description of several types of BMPs that could be implemented. The requirements of each BMP as described below are taken directly from the PA Stormwater BMP Manual (December 2006). Refer to Chapter 6 of the PA BMP Manual which can be found on the PA Department of Environmental Protection's website for specifications and steps for construction for the following BMPs. A list of routine maintenance for each of the BMPs described below is also included at the end of this section.

Disconnected Impervious Area (DIA)

Disconnected Impervious Area (DIA) may be used as a stormwater BMP for certain situations. When stormwater is disconnected from a rooftop by allowing the roof to drain to a pervious surface, and it meets certain conditions, then the initial impervious area may not be subtracted from the total impervious area. This applies specifically to rooftops and pavement. Reference Ordinance Appendix B for a more detailed description, and the requirements and applicability of DIA as a BMP.

Rain Barrels/Cisterns

Rain barrels are large containers that collect drainage from roof leaders and temporarily store water to be released to lawns, gardens, and other landscaped areas after the rainfall has ended. Rain barrels are typically between 50 and 200 gallons in size. The stored water can also be used as a non-potable water supply. Cisterns are larger than rain barrels having volumes of 200 gallons or more, and can be placed on the surface or underground. Figures C-2 and C-3 show examples of rain barrels and cisterns, respectively, that could be used. Rain barrels and cisterns are manufactured in a variety of shapes and sizes. All of these facilities must make provisions for the following items:

- There must be a means to release the water stored between storm events in order for the necessary storage volume to be available for the next storm.
- Stormwater must be kept from entering other potable systems, and pipes and storage units must be clearly marked "Do Not Drink."
- An overflow outlet should be placed a few inches below the top with an overflow pipe to divert flow away from structures.
- Use screens to filter debris, and covers (lids) to prevent mosquitoes.
- Make sure cisterns are watertight and do not leak.
- Rain barrels are typically assumed to be 25% full to calculate volume since they are not always emptied before each storm.*

Figure C-2: Rain Barrels

Source (pic on left): http://www.rfcity.org/Eng/Stormwater/YourProperty/YourProperty.htm
Source (pic on right): :http://www.floridata.com/tracks/transplantedgardener/Rainbarrels.cfm

*This 25% has already been taken into account in Table 3.

Figure C-3: Cisterns

Source (for both pics): Pennsylvania Stormwater BMP Manual (2006)

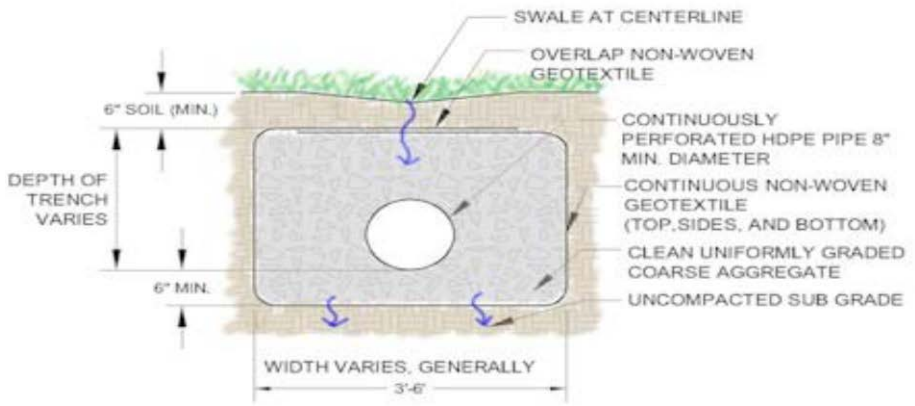
Infiltration Trench

An infiltration trench is a long, narrow, rock-filled trench with or without a perforated pipe that receives stormwater runoff and has no outlet. Runoff is stored in the void space between the stones and in the pipe and infiltrates through the bottom and into the underlying soil matrix. Infiltration trenches perform well for removal of fine sediment and associated pollutants. Figure C-4 shows a typical infiltration trench configuration. Infiltration trenches shall incorporate or make provisions for the following elements:

- Perforated pipe is to be set level.
- The width is limited to between **3 and 8 feet**, and the depth ranges from **2 to 5 feet**.
- Trench should be wrapped in nonwoven geotextile (see definition in Section C.2) on the top, sides, and bottom.
- There should be a positive overflow that allows stormwater that cannot be stored or infiltrated to be discharged into a nearby vegetated area.

- Roof downspouts may be connected to infiltration trenches, but should contain a cleanout to collect sediment and debris before entering the infiltration area.
- Infiltration testing is recommended to ensure that the soil is capable of infiltrating stormwater. A description of how an infiltration test is performed is found in Appendix C of the *Pennsylvania Stormwater Best Management Practices Manual* (Document No. 363-0300-002), December 30, 2006.
- It is recommended that there be a 2-foot clearance above the regularly occurring seasonal high water table and a minimum depth to bedrock of 2 feet.
- The infiltration trench should be at least 50 feet from individual water supply wells, 100 feet from community or municipal water supply wells, and 50 feet from any septic system component. It should not be located near hotspots (see definition in Section C.2).
- The infiltration trench should be located so that it presents no threat to sub-surface structures such as building foundations and basements.
- Protect infiltration areas from compaction.
- The ratio of the collected area to the footprint of the facility should be as small as possible with a ratio of less than 5:1 preferred.

Figure C-4: Typical Infiltration Trench



Source: Pennsylvania Stormwater BMP Manual (2006)

Rain Garden/Bioretention Area

A rain garden (bioretention area) is an excavated depression area on the surface of the land in which native vegetation is planted to filter and use stormwater runoff. Runoff ponds on top of the surface of the rain garden and then infiltrates into an enhanced soil below the surface where plants can use the water to grow. Bioretention also improves water quality, vegetation filters the water, and the root systems encourage or promote infiltration. Figure C-5 shows a typical rain garden. Key elements of a rain garden include:

- Ponding depths of **1 foot** or less (recommended).
- A combination of native shrubs, grasses or mulch, trees, and flowers that can tolerate dry and wet weather also known as facultative plants (FAC). A list of

types of plants to use in the bioretention area is shown below in Table C-5. The plants shown below are taken from the PA Wildlands Conservancy plant list, and the plant list found in Appendix B of the PA BMP Manual. The PA Wildlands Conservancy plant list is found at: http://www.wildlandspa.org/TDE_CMS/database/UserFiles/File/weblist%202008.pdf, and the PA BMP Manual is found at: http://www.depweb.state.pa.us/watershedmgmt/cwp/view.asp?a=1437&q=529063&watershedmgmtNav=%7C. When using the PA BMP Manual plant list, check the Wetland indicator column for plants with a FAC designation. When using the PA Wildlands Conservancy list check the culture column for plants that can tolerate both wet and dry conditions, denoted by the abbreviations W and DR.

- Only shrubs, grasses, trees, and flowers should be used; vegetables should not be planted in the bioretention area.
- An overflow area where, if the bioretention area were to overflow, the water would flow over pervious area (i.e., grass, meadow), and would not cause harm to property
- An overflow such as a domed riser to allow excess flow from large storms to travel to other substantial infiltration areas or pervious areas.
- Typical side slopes of 3:1 are recommended, with 2:1 being the maximum.
- The soil/planting mix depth should be between 1.5 feet and 6 feet deep.

Figure C-5: Typical Rain Garden/Bioretention Area

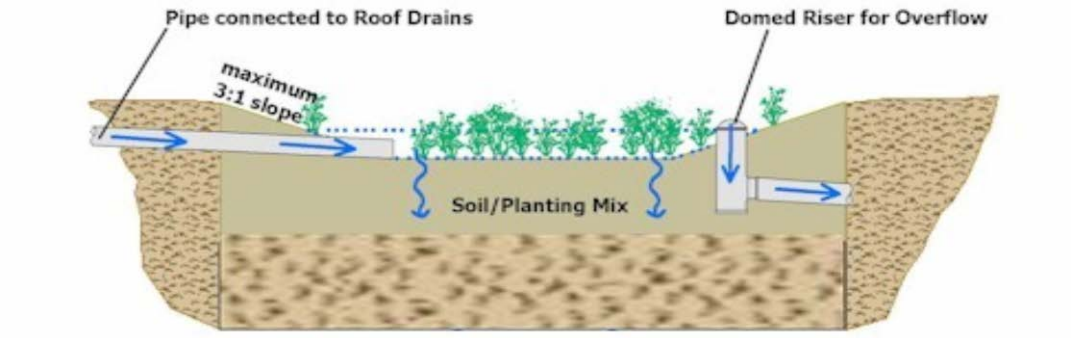


Table C-5: Plant List for Use in a Bioretention/Rain Garden

Common Name	Scientific Name	Plant Type	Photos
Red Maple	Acer rubrum	Tree	
Grey Birch	Betula populifolia	Tree	
Shadbush Serviceberry	Amelanchier canadensis	Tree	
Eastern Cotton-wood	Populus grandidentata	Tree	
Virginia Sweetspire	Itea virginica	Shrub	
Red-Twig Dogwood	Cornus sericea (stolonifera) 'Arctic Fire'	Shrub	

Southern Arrow-wood	Viburnum dentatum	Shrub	
Black Choke Berry	Aronia melanocarpa	Shrub	
Great Blue Lobelia	Lobelia siphilitica	Perennial	
Dwarf Pink false aster	Boltonia asteroides 'Nana'	Perennial	
White false aster	Boltonia asteroides 'Snowbank'	Perennial	
Switchgrass	Panicum virgatum	Grass	

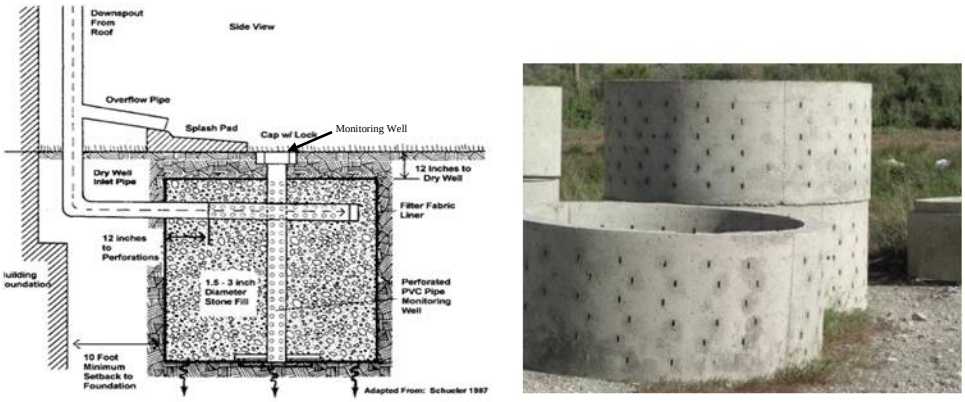
Source: Pennsylvania Stormwater BMP Manual (2006)

Dry Wells

A dry well, also referred to as a seepage pit is a subsurface storage facility that temporarily stores and infiltrates runoff from the roofs of buildings or other impervious surfaces. A dry well can be either a structural prefabricated chamber (Dry Well #1) or an excavated pit filled with stone fill (Dry Well #2). Dry wells discharge the stored runoff via infiltration into the surrounding or underlying soils. Figure C-6 shows a typical prefabricated dry well and a typical dry well configuration with stone fill. The following elements shall be incorporated into all dry well designs:

- These facilities should be located a minimum of ten (10) feet from the building foundation to avoid foundation seepage problems and are not recommended if their installation would create a risk for basement flooding.
- Construction of a dry well should be performed after surface soils in all other areas of the site are stabilized to avoid clogging.
- During construction, compaction of the subgrade soil in the bottom of the dry well should be avoided, and construction should be performed only with light machinery.
- Depth of a dry well should be between **1.5 feet and 4 feet**. Gravel fill should consist of stone of an average of one and one half to three (1.5 – 3.0) inches in diameter with the gravel fill wrapped in a nonwoven geotextile that separates the stone fill from the surrounding soil.
- At least 1 foot of soil needs to be placed over the top of the dry well.
- Dry wells should be inspected at least four (4) times annually as well as after large storm events.
- Dry wells should have overflow pipes to allow high volumes of runoff to connect to other on-site substantial infiltration areas or pervious areas.
- Every dry well needs to have at least one monitoring well.
- Infiltration testing is recommended to ensure that the underlying soil is capable of infiltrating the needed volume of stormwater.

Figure C-6: Typical Dry Well Configuration filled with Stone Fill (DRY WELL #2) (Left) and Structural Prefabricated Chamber (DRY WELL #1) (Right)



Source (for pic on left): http://www.seagrant.sunysb.edu/pages/BMPsForMarinas.htm
Source (for pic on right): http://www.copelandconcreteinc.net/1800652.html

Routine Maintenance for BMPs

- Vegetation along the surface of an infiltration trench should be maintained in good condition, and any bare spots should be revegetated as soon as possible.
- Vehicles shouldn't be parked or driven on an infiltration trench, and care should be taken to avoid excessive compaction by mowers.
- Any debris such as leaves blocking flow from reaching an infiltration trench or bioretention/rain garden should be routinely removed.
- While vegetation is being established, pruning and weeding may be required for a bioretention/rain garden.
- Mulch in a bioretention/rain garden needs to be re-spread when erosion is evident. Once every two to three years or after major storms the entire area may require mulch replacement.
- At least twice a year the landowner needs to inspect the bioretention/rain garden for sediment buildup and vegetative conditions.
- During periods of extended drought, the bioretention/rain garden requires watering.
- Trees and shrubs in a bioretention/rain garden need to be inspected at least twice per year by the landowner to evaluate their health. If they are in poor health, they need to be replaced.
- Dry wells need to be inspected by the landowner at least four times a year and after significant rainfalls, and debris/trash, sediment, and any other waste material need to be removed and disposed of at suitable disposal/recycling sites and in compliance with local, state, and federal waste regulations.
- For dry wells, gutters need to be regularly cleaned out, and proper connections must be maintained to facilitate the effectiveness of the dry well.
- The filter screen for the dry well that intercepts roof runoff must be replaced as necessary.
- Dry wells that are damaged need to be fixed or replaced within two weeks of being damaged.

- If an intermediate sump box exists in conjunction with a dry well, it must be cleaned out at least once per year.
- Rain barrels and cisterns need to be cleared of debris routinely at least every three months and after significant storms to allow stormwater from gutters to enter them.
- Gutters that directly convey rain water to dry wells, rain barrels, and cisterns need to be routinely cleared of trash and debris at least every three months and after significant storms.
- Rain barrels and cisterns must be kept covered.
- Rain barrels and cisterns should be routinely emptied so that they are only ¼ of the way full to allow for storage of additional rainwater.
- Overflow outlets from rain barrels and cisterns must be kept free and clear of debris.
- Rain barrels and cisterns that are damaged need to be fixed or replaced within two weeks of being damaged.

C.4 Example

Simplified Approach Volume Determination:

Joe Homeowner wants to build a 400 square foot two car garage, and a 540 square foot (30' L x 18' W) impervious driveway that is graded so that the stormwater runoff drains to the grassy area along one edge of the driveway. (A duplicate of Table C-1 is provided below in Table C-6, a duplicate of Table C-3 is provided below in Table C-7 and outlines the steps of this example) a duplicate of Figure C-1 (Figure C-7) and a duplicate of Table C-4 are provided in Table C-8.

STEP 1 - Determine the total area of all proposed impervious surfaces to drain to each BMP:

Garage Roof (Front)	10 ft. x 20 ft.	=	200 sq. ft
Garage Roof (Rear)	10 ft. x 20 ft.	=	200 sq. ft.
Driveway (Front)	30 ft. x 18 ft.	=	540 sq. ft.

Total Proposed Impervious Surface			**940 sq. ft.**

Note: If the driveway used pervious pavement (i.e., paving blocks), then the total impervious area would only be 400 square feet, and no stormwater management practices would need to control runoff from the driveway.

Select a BMP or combination of BMPs from Section C.3 to be used to satisfy the volume requirement. Determine the length, width, depth and other requirements for the BMPs in Section C.3. A BMP needs to be placed to catch runoff from the back of the garage, and a BMP needs to be placed to capture runoff from the front of the garage and the driveway. Figure C-7 shows the direction the runoff flows and the locations where the BMPs are to be placed.

Joe Homeowner would like to use a rain barrel (BMP #1) to capture the runoff from the rear of the garage and an infiltration trench (BMP #2) to capture runoff from the front of the garage and the driveway.

STEP 2 and 3 for BMP #1 (Rain Barrel/Cistern)

STEP 2 - Select the proposed impervious area value for BMP #1, the rain barrel or cistern, in Column 1 that is closest to, but not less than 200 in Table C-6:

The value in Column 1 that is closest to but is not less than 200 is 200.

STEP 3 - Determine the volume that BMP #1 must be to satisfy the volume requirements using Columns 2 and 3 in Table C-6:

The volume in gallons of the rain barrel/cistern to be used as BMP #1, assuming the rain barrel/cistern is 25% full, is determined by finding the row in Column 3 that corresponds to the impervious area value determined in Step 1. Therefore, the volume of BMP #1, the rain barrel/cistern must be $\geq$ 166 gallons. A combination of rain barrels could be used in succession as shown in Figure C-2, or a cistern could be used.

Table C-6: Example – Calculating Storage Volume for Rain Barrel/Cistern[1]

Column 1	Column 2	Column 3
Proposed Impervious Area (square feet)	**Volume of Rain Barrel/Cistern[2] (cubic feet)**	**Volume of Rain Barrel/Cistern (gallons)**
I	V_{RBcf}	V_{RBgal}
Sum of all Proposed Impervious Areas	$(1*(1/12)*I)/0.75=V_{RBcf}$	$V_{RBcf} * 7.48=V_{RBgal}$
50	6	42
100	11	83
200	22	166
300	33	249
400	44	332
500	56	416
600	67	499
700	78	582
800	89	665
900	100	748
1000	111	831
1100	122	914
1200	133	997
1300	144	1,081
1400	156	1,164
1500	167	1,247
1600	178	1,330
1700	189	1,413
1800	200	1,496
1900	211	1579
2000	222	1662
2100	233	1745
2200	244	1829
2300	256	1912
2400	267	1995
2500	278	2,078
2600	289	2161
2700	300	2244
2800	311	2327
2900	322	2410
3000	333	2494
3100	344	2577
3200	356	2,660
3300	367	2743
3400	378	2826
3500	389	2909
3600	400	2992
3700	411	3075
3800	422	3158
3900	433	3,242
4000	444	3325
4100	456	3408
4200	467	3491
4300	478	3574
4400	489	3657
4500	500	3740
4600	511	3,823
4700	522	3906
4800	533	3990
4900	544	4073
4999	555	4,155

[1]The typical volume of a rain barrel is between 50-200 gallons, so more than 1 rain barrel may be needed. Larger volumes may require a cistern.
[2]Assume that the rain barrel/cistern is 25% full

STEPS 2 and 3 for BMP #2 (Infiltration Trench)

STEP 2 - Select the proposed impervious area value for BMP #2, the infiltration trench, using Column 1 in Table C-7:

Find the row in Column 1 that is closest to but not less than 740 (200 from the front of the garage + 540 from the driveway). Therefore, the value selected is 800.

STEP 3 - Utilizing the value from Column 1 determined above, and the surface area that the proposed BMP will occupy, identify the proposed depth and corresponding surface area needed using Column 2 in Table C-7:

Joe Homeowner would like to place the infiltration trench along the edge of the driveway that the runoff drains to, so it would have a length of 20 feet. The smallest width that can be used, as stated in the infiltration trench requirements in Section C.3, is 3 feet. Therefore, the area of the infiltration trench is:

$$20 * 3 = 60 \text{ square feet}$$

To find the minimum depth of the trench, move toward the right side of the table from 800 square feet in Column 1 to Column 2, and find the column with a value of as close to but not more than 60 square feet, which is 56 square feet. Then obtain the minimum depth of the facility by reading the depth from the column heading at the top of the table. Therefore, the depth of the trench would need to be 3.0 feet.

Selected BMPs: Rain barrel(s) ≥ 166 gallons and a 20' L x 3' W x 3.0' D infiltration trench

STEP 4 – Make a sketch of the site plan as shown in Figure C-7, and fill in the small projects worksheet found as shown in Table C-8.

Table C-7: Example – Calculating Storage Volume Surface Area and Depth for Infiltration Trench

Column 1	Column 2							
Total Proposed Impervious Area (square feet)	**Surface Area of Infiltration Trench or Dry Well #2** Acceptable Depths for Each BMP are indicated by the arrows below **(square feet)**							
	Area Required for a BMP with a Depth(D) of 1.5'	*Area Required for a BMP with a Depth(D) of 2.0'*	*Area Required for a BMP with a Depth(D) of 2.5'*	*Area Required for a BMP with a Depth(D) of 3.0'*	*Area Required for a BMP with a Depth(D) of 3.5'*	*Area Required for a BMP with a Depth(D) of 4.0'*	*Area Required for a BMP with a Depth(D) of 4.5'*	*Area Required for a BMP with a Depth(D) of 5.0'*
	Infiltration Trench (2.0'-5.0') / **Dry Well #2 (1.5'-4.0')**							
I	*A(sf)*							
Sum of all Proposed Impervious Areas	A = Volume/D, where Volume[1] = ((1/12)**I*)/0.4							
100	14	10	8	7	6	5	5	4
200	28	21	17	14	12	10	9	8
300	42	31	25	21	18	16	14	13
400	56	42	33	28	24	21	19	17
500	69	52	42	35	30	26	23	21
600	83	63	50	42	36	31	28	25
700	97	73	58	49	42	36	32	29
800 (2)	111	83	67	56 (3)	48	42	37	33
900	125	94	75	63	54	47	42	38
1000	139	104	83	69	60	52	46	42
1100	153	115	92	76	65	57	51	46
1200	167	125	100	83	71	63	56	50
1300	181	135	108	90	77	68	60	54
1400	194	146	117	97	83	73	65	58
1500	208	156	125	104	89	78	69	63
1600	222	167	133	111	95	83	74	67
1700	236	177	142	118	101	89	79	71
1800	250	188	150	125	107	94	83	75
1900	264	198	158	132	113	99	88	79
2000	278	208	167	139	119	104	93	83
2100	292	219	175	146	125	109	97	88
2200	306	229	183	153	131	115	102	92
2300	319	240	192	160	137	120	106	96
2400	333	250	200	167	143	125	111	100
2500	347	260	208	174	149	130	116	104
2600	361	271	217	181	155	135	120	108
2700	375	281	225	188	161	141	125	113
2800	389	292	233	194	167	146	130	117
2900	403	302	242	201	173	151	134	121
3000	417	313	250	208	179	156	139	125
3100	431	323	258	215	185	161	144	129
3200	444	333	267	222	190	167	148	133
3300	458	344	275	229	196	172	153	138
3400	472	354	283	236	202	177	157	142
3500	486	365	292	243	208	182	162	146
3600	500	375	300	250	214	188	167	150
3700	514	385	308	257	220	193	171	154
3800	528	396	317	264	226	198	176	158
3900	542	406	325	271	232	203	181	163
4000	556	417	333	278	238	208	185	167
4100	569	427	342	285	244	214	190	171
4200	583	438	350	292	250	219	194	175
4300	597	448	358	299	256	224	199	179
4400	611	458	367	306	262	229	204	183
4500	625	469	375	313	268	234	208	188
4600	639	479	383	319	274	240	213	192
4700	653	490	392	326	280	245	218	196
4800	667	500	400	333	286	250	222	200
4900	681	510	408	340	292	255	227	204
4999	694	521	417	347	298	260	231	208

[1]Assume a void ratio of 40%

Figure C-7: Typical Dry Well Configuration filled with Stone Fill (Left) and Structural Prefabricated Chamber (Right)

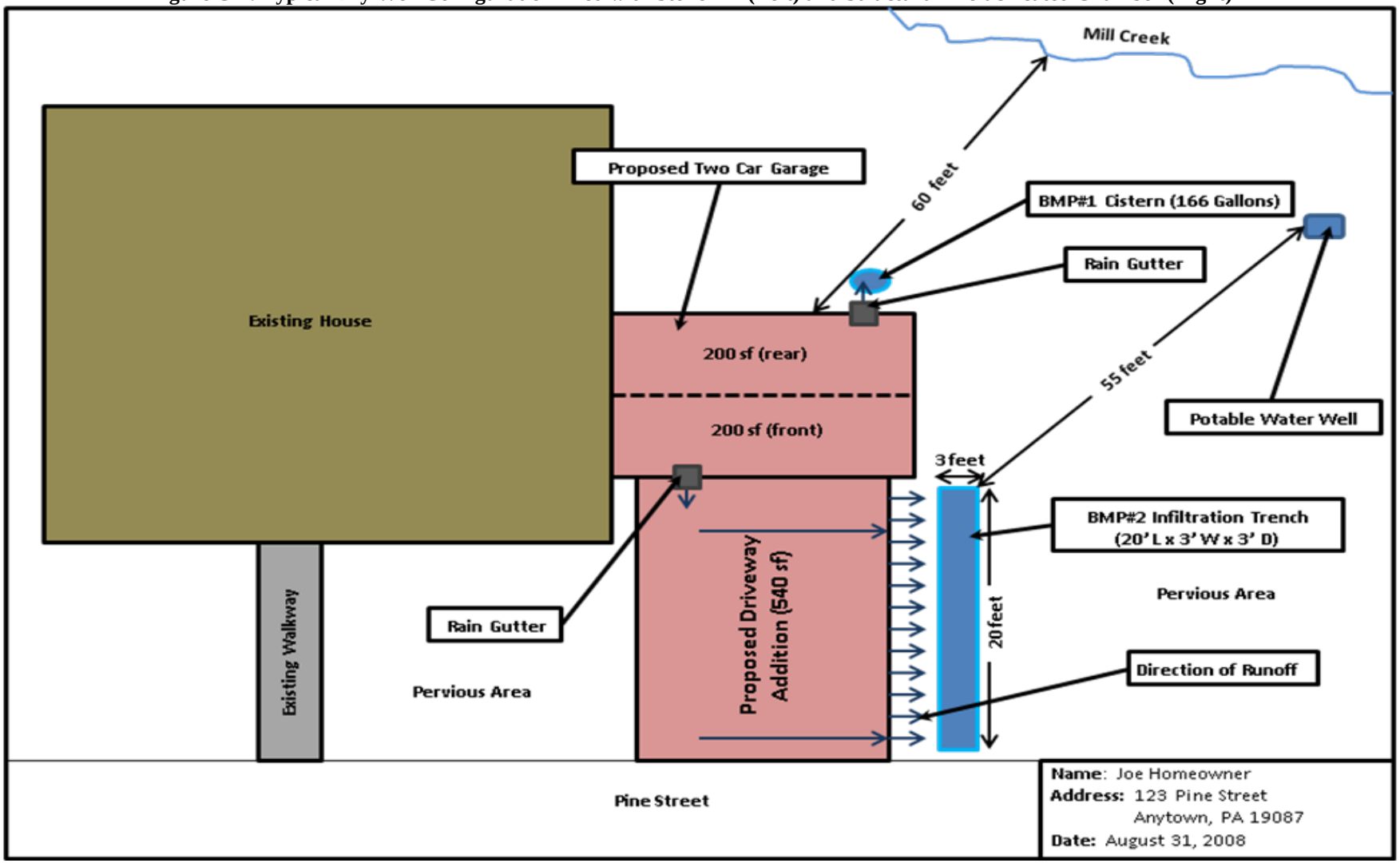


Table C-8: Example – Small Projects Worksheet with Results

Small Projects Worksheet			
STEP 1			
Proposed Impervious Surface for BMP #1	**Proposed Impervious Surface for BMP #2**	**Proposed Impervious Surface for BMP #3**	
200	740		
STEPS 2&3			
Rain Barrel or Cistern			
Proposed Impervious Surface from Column 1 in Table C-5	**Volume from Column 2 or 3 in Table C-5**		
200	166		
Rain Garden/Bioretention or Dry Well #1			
Proposed Impervious Surface from Column 1 in Table C-2	**Area of BMP from Column 2 in Table C-2**	**Depth of BMP from Column 2 in Table C-2**	**Types of Material to Be Used**
Infiltration Trench or Dry Well #2			
Proposed Impervious Surface from Column 1 in Table C-6	**Area of BMP from Column 2 in Table C-6**	**Depth of BMP from Column 2 in Table C-6**	**Types of Material to Be Used**
800	56	3	Infiltration Trench, Uniformly Graded Aggregate, HDPE 8" pipe, Geotextile material, Grass planted on top
Note: For additional BMPs, use additional sheets			

APPENDIX D

MANAGEMENT DISTRICTS MAP

STONYCREEK RIVER - CAMBRIA AND SOMERSET COUNTIES
ACT 167 STORMWATER MANAGEMENT PLAN

Management Districts* Legend

District	Design Storm Proposed Conditions		Design Storm Existing Conditions
A	2-Year 6-Year 10-Year 25-Year 60-Year 100-Year	Reduce to	1-Year 6-Year 10-Year 25-Year 60-Year 100-Year
B1	6-Year 10-Year 25-Year 60-Year 100-Year	Reduce to	2-Year 5-Year 10-Year 25-Year 100-Year
B2	2-Year 25-Year 60-Year 100-Year	Reduce to	2-Year 10-Year 25-Year 100-Year

Management Districts Map

Legend

- WATERSHED BOUNDARY
- STREAMS
- WATER BODIES
- COUNTY BOUNDARIES
- MUNICIPAL BOUNDARIES
- SUBAREAS

Roads

- Interstate
- US Federal Highway
- PA State Route
- Other State Road
- Local Roads

NOTE:
Portions of this map were generated from existing data sources as listed below. This existing data was utilized for base mapping purposes and is shown on the maps for spatial reference only. This data did not enter into any computations or affect the reliability of the hydrologic analysis. Borton-Lawson Engineering has found some inaccuracies in some of this data and has corrected the data in locations where these discrepancies were obvious, however, it was not a part of this ACT 167 Plan to correct all of the mapping data.

SOURCES:
Watershed Boundary - PADEP Modified by BLE
State and Local Roads - PennDOT
County Boundaries - PennDOT
Municipal Boundaries - PennDOT
Streams - PaDEP
Water Bodies -Derived from USFWS NWI Wetlands data
Management Districts/ Subareas - Delineated by BLE

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PREPARED BY: WSB CHECKED BY: SJD
Date: 5/15/2009 PROJECT #: 2005-1719-00

FILE: \\Athens\d\Projects\2005\1719\00\DATA\GIS\FINAL_REPORT_MAPS\ArcMap\Appendix_D_Stonycreek_Mgmt_Districts.mxd

THE EADS GROUP

ENGINEERING ARCHITECTURE AND DESIGN SERVICES

Municipal Separate Storm Sewer System (MS4) Pollution Reduction Plan (PRP)

For the Sediment Impaired Surface Waters

Seese Run and Paint Creek

Prepared For:

Windber Borough
1401 Graham Avenue
Windber, PA 15963

Prepared By:

The EADS Group, Inc.
450 Aberdeen Drive
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September 2017
Revised December 2017

WINDBER BOROUGH
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
POLLUTION REDUCTION PLAN

TABLE OF CONTENTS

WINDBER BOROUGH
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
POLLUTION REDUCTION PLAN

SECTION A – PUBLIC PARTICIPATION

On behalf of Windber Borough, The EADS Group, Inc. has prepared this Pollution Reduction Plan (PRP) for Windber Borough's Municipal Separate Storm Sewer System (MS4), as required by the Pennsylvania Department of Environmental Protection (PA DEP), in an effort to address the siltation impairments of Seese Run and of Paint Creek, upstream from its confluence with Seese Run. The plan was made available for public review beginning on August 7, 2017 at the Windber Municipal Building, 1401 Graham Avenue, Windber, PA 15963. Windber Borough accepted written comments related to the PRP from any interested member of the public between August 7, 2017 and September 6, 2017. Windber Borough will accepted comments at a public meeting held at 7:00 PM on August 8, 2017, at the Windber Municipal Building. No comments were received during the public review period.

SECTION B – MS4 MAPS

Please refer to Appendix A for Windber Borough's MS4 Maps, which contain the following information:

1. The municipal boundary of Windber Borough
2. The boundary of the Johnstown Urbanized Area within Windber Borough
3. Windber Borough's MS4 components, including the following:
    a. Storm Sewer Mains
    b. Open Channels
    c. Inlets
    d. Manholes
    e. Structural BMPs
    f. Outfalls
    g. Observation Points
4. Identified non-municipal storm sewer facilities
5. The storm sewershed boundary of each outfall to sediment impaired surface waters
6. Surface waters within Windber Borough
7. Aerial imagery
8. PRP Planning Areas

SECTION C – POLLUTANTS OF CONCERN

The PA DEP MS4 Requirements Table (Municipal) (Revised 8/2/2017) identifies the following Impaired Downstream Waters or Applicable TMDL Names for Windber Borough:

1. Seese Run (Pathogens & Siltation)
2. Weaver Run (Metals/pH)
3. Stonycreek River (Cause Unknown)
4. Paint Creek (Metals/pH & Siltation)
5. Kiskiminetas-Conemaugh River Watersheds TMDL (Metals/pH)

The purpose of this PRP is to address contributions of sediment into siltation impaired waters downstream from Windber Borough's MS4 Outfalls. These impaired downstream waters include Seese Run and Paint Creek, upstream from its confluence with Seese Run.

Within this PRP, the terms "sediment", "siltation", and "suspended solids" all refer to inorganic solids.

SECTION D – EXISTING LOADINGS FOR POLLUTANTS OF CONCERN

The first step in the chosen process to estimate the existing pollutant loadings was to determine the storm sewershed boundary, the planning area, and the land cover within each planning area, of each MS4 Outfall to the siltation impaired sections of Seese Run and Paint Creek. Only the portions of the storm sewersheds within Windber Borough are included within the planning areas. Once the planning areas were identified, they were uploaded into the Wikiwatershed Model My Watershed tool to obtain an estimate of the existing land cover within the planning areas. Knowing that the Model My Watershed tool utilizes the National Land Cover Database, the land covers were able to be converted into three categories: undeveloped area, developed pervious area, and developed impervious area. See the following table on Page 3.

Land Cover Type	% Undeveloped Area	% Developed Pervious Area	% Developed Impervious Area
Developed, High Intensity	0	0	100
Developed, Medium Intensity	0	21	79
Developed, Low Intensity	0	51	49
Developed, Open Space	0	81	19
Pasture/Hay	0	100	0
Cultivated Crops	0	100	0
All Other Land Cover Types	100	0	0

The next step was to multiply each land cover type by an associated land loading rate for sediment (TSS) and to then sum those results to obtain the estimated total loading of sediment to each MS4 Outfall from within its planning area in lb/yr. See the following table for the loading rates used within this PRP.

Land Cover Category	TSS Loading Rate (lbs/acre/yr)
Undeveloped Area	234.60
Developed Pervious Area	293.42
Developed Impervious Area	1,845.70

The TSS Loading Rates were obtained from Attachment B of PA DEP's MS4 PRP Instructions (Rev. 3/2017).

The final step was to determine whether or not any reductions in TSS Loading from existing structural Best Management Practices (BMPs) was to be accounted for within any of the planning areas. One existing BMP was analyzed within the planning area of Outfall WB-PC-001, a vegetated open channel (WB-PC-001-EBMP-1). It was estimated that WB-PC-001-EBMP-1 provides a reduction of 22,014.26 lb/yr of sediment from discharging from Outfall WB-PC-001 into Paint Creek.

The existing pollutant loading estimates were completed on August 4, 2017.

The following tables on Page 5 provides the estimated TSS Loading for each MS4 Outfall discharging to each sediment impaired downstream surface water:

Impaired Surface Water No. 1 – Paint Creek (Upper Section)		
Outfall	**Planning Area (acre)**	**Estimated TSS Loading (lb/yr)**
WB-PC-001	83.15	9,434.69
WB-PC-002	7.38	6,777.15
WB-PC-003	28.70	13,846.08
WB-PC-004	1.33	602.43
WB-PC-005	6.27	3,271.98
WB-PC-006	10.38	4,285.26
WB-PC-007	32.43	22,888.01
WB-PC-008	41.49	40,744.75
WB-PC-009	2.72	4,423.07
WB-PC-010	0.41	623.09
Total	**214.26**	**106,896.50**

Impaired Surface Water No. 2 – Seese Run		
Outfall	**Planning Area (acre)**	**Estimated TSS Loading (lb/yr)**
WB-SR-001	8.36	7,063.35
WB-SR-002	4.44	3,080.77
WB-SR-003	14.56	9,896.74
WB-SR-004	2.20	2,663.83
WB-SR-005	1.20	1,544.26
WB-SR-006	1.29	2,030.67
WB-SR-007	2.52	2,754.75
WB-SR-008	0.56	590.26
WB-SR-009	9.81	5,700.05
WB-SR-010	6.77	8,159.82
WB-SR-011	5.35	4,968.91
WB-SR-012	8.61	7,344.98
WB-SR-013	1.55	2,115.21
WB-SR-014	0.34	358.37
WB-SR-015	5.64	7,055.76
WB-SR-016	0.10	184.57
WB-SR-017	12.52	8,717.13
Total	**85.82**	**74,229.43**

Refer to Appendix 2 - Existing Pollutant Loading Analysis for supporting documentation.

SECTION E – SELECTED BMPs TO ACHIEVE THE MINIMUM REQUIRED REDUCTIONS IN POLLUTANT LOADING

Per the DEP MS4 PRP Instructions (Rev. 3/2017), a minimum 10% reduction in sediment loading to siltation impaired surface waters from the planning areas is required to be achieved with proposed BMPs.

The following proposed BMPs and their expected sediment loading reductions have been selected to meet the required TSS loading reduction for Impaired Surface Water No. 1 – Paint Creek:

BMP	BMP Type	TSS Reduction (lb/yr)
WB-PC-PBMP-1	Street Sweeping	1,669.44
WB-PC-PBMP-2	Solids Removal	5,344.83
WB-PC-PBMP-3	Stream Restoration	4,488.00
	Total Reduction	11,502.26
Required Reduction (10% of Existing Estimated TSS Loading)		10,689.65

It is estimated that approximately 10.05 acres of streets can be swept within the Paint Creek Planning Areas. Street sweeping will need to be performed on the following streets within the Paint Creek Planning Areas at least 25 times per year to achieve an expected sediment reduction of 1,669.44 lb/yr to Paint Creek:

1. Railroad Street
2. Stockholm Avenue
3. Somerset Avenue
4. Graham Avenue
5. Cambria Avenue
6. 17th Street
7. 18th Street
8. 19th Street
9. 20th Street
10. 21st Street
11. 22nd Street
12. 23rd Street
13. 25th Street

The maximum amount of the pollution reduction requirement that PA DEP will allow to be met through Storm Sewer System Solids Removal is 50%. 50% of the requirement for the Paint Creek Planning Areas is 5,344.83 lb/yr of sediment. It is estimated that the potential exists for this much sediment to be removed from the Paint Creek Planning Areas yearly throughout the upcoming MS4 Permit Term of five (5) years. However, if it is determined that the estimated amount of yearly sediment removal is less than 5,344.83 lb/yr after the first year of the upcoming permit term, additional BMPs will need to be considered to meet the 10% reduction requirement.

The final proposed BMP for Paint Creek is Stream Restoration. Windber Borough can work with the Paint Creek Regional Watershed Association (PCRWA) to identify the location of a stream restoration project to prevent channel or bank erosion in the upper section of Paint Creek. A stream restoration project of 100 lineal feet of Paint Creek would result in an expected sediment reduction of 4,448.00 lb/yr and therefore bring the total planned reduction for Paint Creek to 11,502.26 lb/yr, thus exceeding the required reduction amount of 10,689.65 lb/yr.

The following proposed BMPs and their expected sediment loading reductions have been selected to meet the required TSS loading reduction for Impaired Surface Water No. 2 – Seese Run:

BMP	**BMP Type**	**TSS Reduction (lb/yr)**
WB-SR-PBMP-1	Street Sweeping	1,400.33
WB-SR-PBMP-2	Solids Removal	3,714.97
WB-SR-PBMP-3	Vegetated Open Channel	2,484.45
	Total Reduction	7,599.76
Required Reduction (10% of Existing Estimated TSS Loading)		7,422.94

It is estimated that approximately 8.43 acres of streets can be swept within the Seese Run Planning Areas. Street sweeping will need to be performed on the following streets within the Seese Run Planning Areas at least 25 times per year to achieve an expected sediment reduction of 1,400.33 lb/yr to Seese Run:

1. Jackson Avenue
2. Graham Avenue
3. Cambria Avenue
4. Stockholm Avenue
5. Hillside Avenue
6. Baumgardner Avenue
7. 17th Street
8. 19th Street
9. 21st Street
10. 22nd Street
11. 24th Street
12. 25th Street
13. 26th Street
14. 28th Street
15. 29th Street

The maximum amount of the pollution reduction requirement that PA DEP will allow to be met through Storm Sewer System Solids Removal is 50%. 50% of the requirement for the Seese Run Planning Areas is 3,714.97 lb/yr of sediment. It is estimated that the potential exists for this much sediment to be removed from the Seese Run Planning Areas yearly throughout the upcoming MS4 Permit Term of five (5) years. However, if it is determined that the estimated amount of yearly sediment removal is less than 3,714.97 lb/yr after the first year of the upcoming permit term, additional BMPs will need to be considered to meet the 10% reduction requirement.

The final proposed BMP for Seese Run is a vegetated open channel within the planning area of Outfall WB-SR-011. It is estimated that approximately 300 feet of vegetated open channel can be located in the downstream section of the planning area within PennDOT right-of-way and would capture the entire storm sewershed before discharging to Seese Run. Windber Borough can work with PennDOT on planning and permitting the project. The project could also potentially decrease the volume and rate of municipal storm runoff entering PennDOT's drainage system. The expected sediment removal resulting from this BMP would be 2,484.45 lb/yr and therefore bring the total planned reduction for Seese Run to 7,599.76 lb/yr, thus exceeding the required reduction amount of 7,422.94 lb/yr.

SECTION F – FUNDING OF PROPOSED BMPs

The following table provides a summary of the proposed BMPs and their estimated fees over the five (5) year permit period:

BMP	BMP Type	Estimated Cost
WB-PC-PBMP-1	Street Sweeping (Paint Creek Areas)	$26,250
WB-PC-PBMP-2	Solids Removal (Paint Creek Areas)	$33,250
WB-PC-PBMP-3	Stream Restoration in Paint Creek	$35,500
WB-SR-PBMP-1	Street Sweeping (Seese Run Areas)	$25,250
WB-SR-PBMP-2	Solids Removal (Seese Run Areas)	$28,000
WB-SR-PBMP-3	Vegetated Swale in WB-SR-011 Area	$12,000
Total Estimated Cost for BMPs (5 Year Permit Term) =		**$158,250**

WB-PC-PBMP-1 (Street Sweeping in the Paint Creek Planning Areas) is estimated to cost Windber Borough **$26,250** over the five (5) year permit period. This is based on an estimated operation time of 100 hr/yr, an employee expense of $20/hr, and half of the estimated annual cost of owning a street sweeper at $6,500/yr (The other half of that expense is applied to the cost of WB-SR-PBMP-1). Windber Borough's street sweeper was purchased in 2016 for $152,000 and has a life expectancy of approximately 25 years with normal maintenance.

WB-PC-PBMP-2 (Solids Removal in the Paint Creek Planning Areas) is estimated to cost Windber Borough **$33,250** over the five (5) year permit period. This is based on an estimated operation time of 0.5 hr/inlet, an operation cost of $140/hr, and an estimated number of inlets cleaned per year of 95. The operation cost includes two (2) employees at $20/hr and an equipment rental of $100/hr.

WB-PC-PBMP-3 (Stream Restoration in Paint Creek) is estimated to cost **$35,500**. This based on an estimated total project cost of $355.00 per lineal foot of stream restoration.

WB-SR-PBMP-1 (Street Sweeping in the Seese Run Planning Areas) is estimated to cost Windber Borough **$25,250** over the five (5) year permit period. This is based on an estimated operation time of $90 hr/yr, an employee expense of $20/hr, and an estimated annual cost of owning a street sweeper at $6,500/yr (The other half of that expense is applied to the cost of WB-PC-PBMP-1).

WB-SR-PBMP-2 (Solids Removal in the Seese Run Planning Areas) is estimated to cost Windber Borough **$28,000** over the five (5) year permit period. This is based on an estimated operation time of 0.5 hr/inlet, an operation cost of $140/hr, and an estimated number of inlets cleaned per year of 80. The operation cost includes two (2) employees at $20/hr and an equipment rental of $100/hr.

WB-SR-PBMP-3 (Vegetated Open Channel in WB-SR-011 Planning Area) is estimated to cost **$12,000**. This is based on an estimated total project cost of $40.00 per lineal foot for the proposed vegetated open channel.

Windber Borough can work with PennDOT and the Paint Creek Regional Watershed Association to obtain funding for the proposed structural BMPs (WB-PC-PBMP-3 & WB-SR-PBMP-3) through Pennvest and/or Growing Greener Grants.

Historically, Windber Borough has funded stormwater related maintenance and improvements with their sewer fund. Income to the sewer fund is generated through sanitary sewer service charges. Windber Borough does not charge a stormwater fee.

SECTION G – OPERATION AND MAINTENANCE OF BMPs

Windber Borough will operate a street sweeper and solids removal equipment to implement the proposed non-structural BMPs.

The process and calculation for sediment removal is planned to be as follows:

1. Sediment is proposed to be removed by utilizing a vacuum truck and is to be properly disposed of at an approved dumpsite.
2. The dry weight (lbs) of sediment collected is to be documented for each annual period.
3. The annual dry weight (lbs) of sediment collected is to be multiplied by 0.9967 to determine the annual sediment concentration removed.

Windber Borough and PennDOT would need to determine who the responsible party would be for maintenance of the proposed vegetated open channel. Maintaining vegetated conditions and removing sediment from the vegetated open channel will be required. The channel should be inspected monthly and after runoff events to ensure that vegetation is established and sediment should be removed as necessary to maintain the designed elevations within the channel.

Appendix 1 – MS4 Maps

Appendix 2 – Existing Pollutant Loading Analysis

Windber Borough - MS4 Polution Reduction Plan - Planning Area Summaries								
Impaired Surface Water No. 1 - Paint Creek (Upper Section)								
Outfall	Planning Area (acre)	Undeveloped Area (acre)	Pervious Area (acre)	Impervious Area (acre)	Existing TSS Reduction (lb/yr)	Total TSS Loading (lb/yr)	Percent of Planning Area	Percent of TSS Loading
WB-PC-001	83.15	64.27	11.90	11.90	22,014.26	9,434.69	38.8%	8.8%
WB-PC-002	7.38	1.84	2.50	3.04	0.00	6,777.15	3.4%	6.3%
WB-PC-003	28.70	14.58	10.07	4.05	0.00	13,846.08	13.4%	13.0%
WB-PC-004	1.33	0.76	0.41	0.17	0.00	602.43	0.6%	0.6%
WB-PC-005	6.27	3.94	1.25	1.07	0.00	3,271.98	2.9%	3.1%
WB-PC-006	10.38	5.08	4.31	0.99	0.00	4,285.26	4.8%	4.0%
WB-PC-007	32.43	13.07	10.25	9.11	0.00	22,888.01	15.1%	21.4%
WB-PC-008	41.49	12.74	9.86	18.89	0.00	40,744.75	19.4%	38.1%
WB-PC-009	2.72	0.00	0.38	2.34	0.00	4,423.07	1.3%	4.1%
WB-PC-010	0.41	0.00	0.09	0.32	0.00	623.09	0.2%	0.6%
Total	**214.26**	**116.28**	**51.03**	**51.87**	**22,014.26**	**106,896.50**	**100%**	**100%**
Paint Creek Required TSS Reduction (10% of Total TSS Loading) (lb/yr) =					**10,689.65**			
Impaired Surface Water No. 2 - Seese Run								
Outfall	Planning Area (acre)	Undeveloped Area (acre)	Pervious Area (acre)	Impervious Area (acre)	Existing TSS Reduction (lb/yr)	Total TSS Loading (lb/yr)	Percent of Planning Area	Percent of TSS Loading
WB-SR-001	8.36	0.00	5.39	2.97	0.00	7,063.35	9.7%	9.5%
WB-SR-002	4.44	1.40	1.84	1.20	0.00	3,080.77	5.2%	4.2%
WB-SR-003	14.56	4.43	6.34	3.79	0.00	9,896.74	17.0%	13.3%
WB-SR-004	2.20	0.00	0.90	1.30	0.00	2,663.83	2.6%	3.6%
WB-SR-005	1.20	0.00	0.43	0.77	0.00	1,544.26	1.4%	2.1%
WB-SR-006	1.29	0.00	0.23	1.06	0.00	2,030.67	1.5%	2.7%
WB-SR-007	2.52	0.00	1.22	1.30	0.00	2,754.75	2.9%	3.7%
WB-SR-008	0.56	0.00	0.29	0.27	0.00	590.26	0.7%	0.8%
WB-SR-009	9.81	4.01	3.83	1.97	0.00	5,700.05	11.4%	7.7%
WB-SR-010	6.77	0.00	2.79	3.98	0.00	8,159.82	7.9%	11.0%
WB-SR-011	5.35	0.00	3.16	2.19	0.00	4,968.91	6.2%	6.7%
WB-SR-012	8.61	0.48	5.01	3.12	0.00	7,344.98	10.0%	9.9%
WB-SR-013	1.55	0.00	0.48	1.07	0.00	2,115.21	1.8%	2.8%
WB-SR-014	0.34	0.00	0.17	0.17	0.00	358.37	0.4%	0.5%
WB-SR-015	5.64	0.00	2.16	3.48	0.00	7,055.76	6.6%	9.5%
WB-SR-016	0.10	0.00	0.00	0.10	0.00	184.57	0.1%	0.2%
WB-SR-017	12.52	2.15	7.04	3.33	0.00	8,717.13	14.6%	11.7%
Total	**85.82**	**12.47**	**41.28**	**32.08**	**0.00**	**74,229.43**	**100%**	**100%**
Seese Run Required TSS Reduction (10% of Total TSS Loading) (lb/yr) =					**7,422.94**			

Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-001	83.15	0.00	83.15	64.27	11.90	6.98
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
77.3%	4.9%	3.8%	11.3%	2.7%	0.0%	100.0%
TSS Loading (lb/acre/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
15,078.90	3,490.85	12,879.20				
Existing BMP in Sewershed						
BMP		BMP Type		Planning Area Treated	Effectiveness Value	TSS Reduction (lb/yr)
WB-PC-001-EBMP-1		Vegetated Open Channel (A Soils)		83.15	70%	22,014.26
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-PC-001	**83.15**			**9,434.69**		

Sewershed Information (Areas in acres)						
BMP	Tributary Area			Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-001-EBMP-1	83.15			64.27	11.90	6.98
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
77.3%	4.9%	3.8%	11.3%	2.7%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
15,078.90	3,490.85	12,879.20				
Sewershed Summary						
BMP	**Planning Area (acres)**			**Total TSS Loading (lb/yr)**		
WB-PC-001-EBMP-1	**83.15**			**31,448.95**		
BMP Type		**Effectiveness Value**		**Total TSS Loading Reduction (lb/yr)**		
Vegetated Swale (A Soils)		**70%**		**22,014.26**		

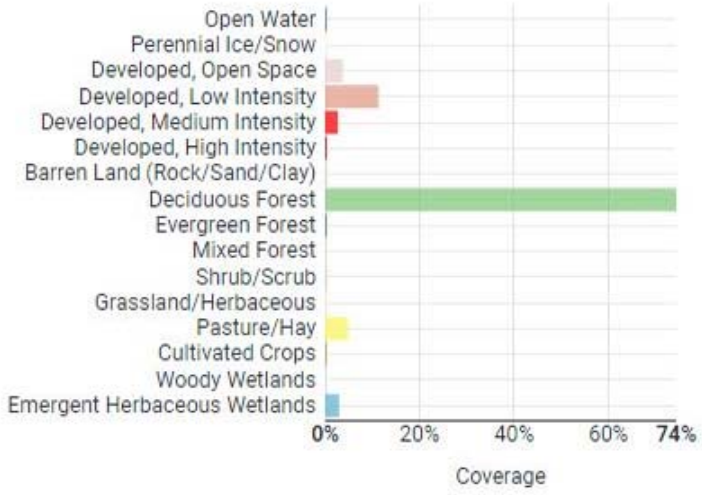
Selected Area 336,878 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Deciduous Forest	247,631.33	74.4
Developed, Low Intensity	37,683.03	11.3
Pasture/Hay	16,149.87	4.9
Developed, Open Space	12,561.01	3.8
Emergent Herbaceous Wetlands	9,869.36	3.0
Developed, Medium Intensity	8,972.15	2.7
Grassland/Herbaceous	0.00	0.0
Evergreen Forest	0.00	0.0
Shrub/Scrub	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Woody Wetlands	0.00	0.0

Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-002	7.38	0.00	7.38	1.84	2.50	3.04
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
24.9%	0.0%	9.4%	43.8%	18.8%	3.1%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
431.11	734.08	5,611.96				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-PC-002	**7.38**			**6,777.15**		

Model My Watershed

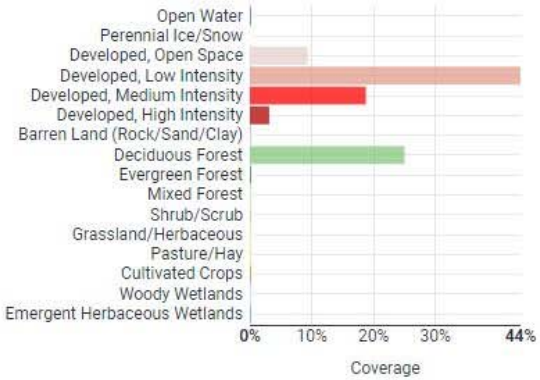
Selected Area 29,888 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

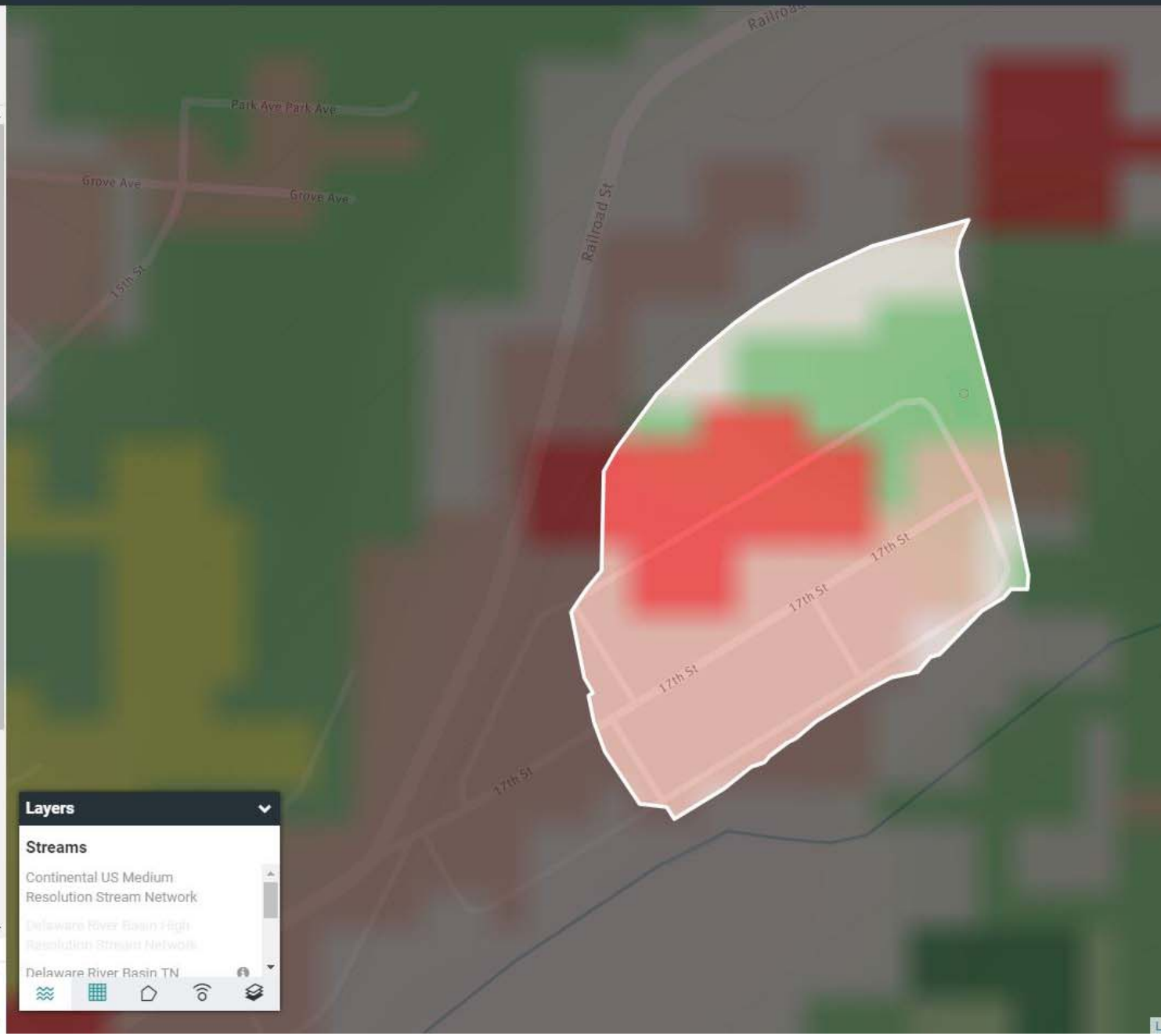
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Low Intensity	12,561.02	43.8
Deciduous Forest	7,177.72	25.0
Developed, Medium Intensity	5,383.29	18.8
Developed, Open Space	2,691.65	9.4
Developed, High Intensity	897.22	3.1
Evergreen Forest	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-003	28.70	0.00	28.70	14.58	10.07	4.05
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
50.8%	9.4%	20.3%	17.2%	2.3%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
3,420.37	2,955.66	7,470.05				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-PC-003	**28.70**			**13,846.08**		

Model My Watershed

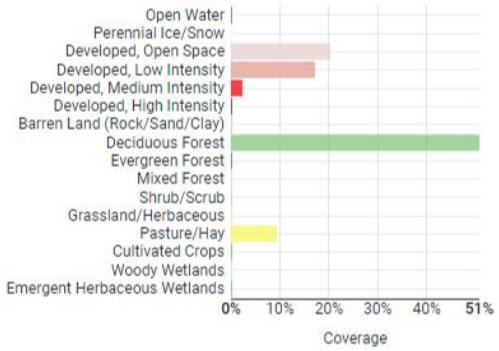
Selected Area 116,264 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

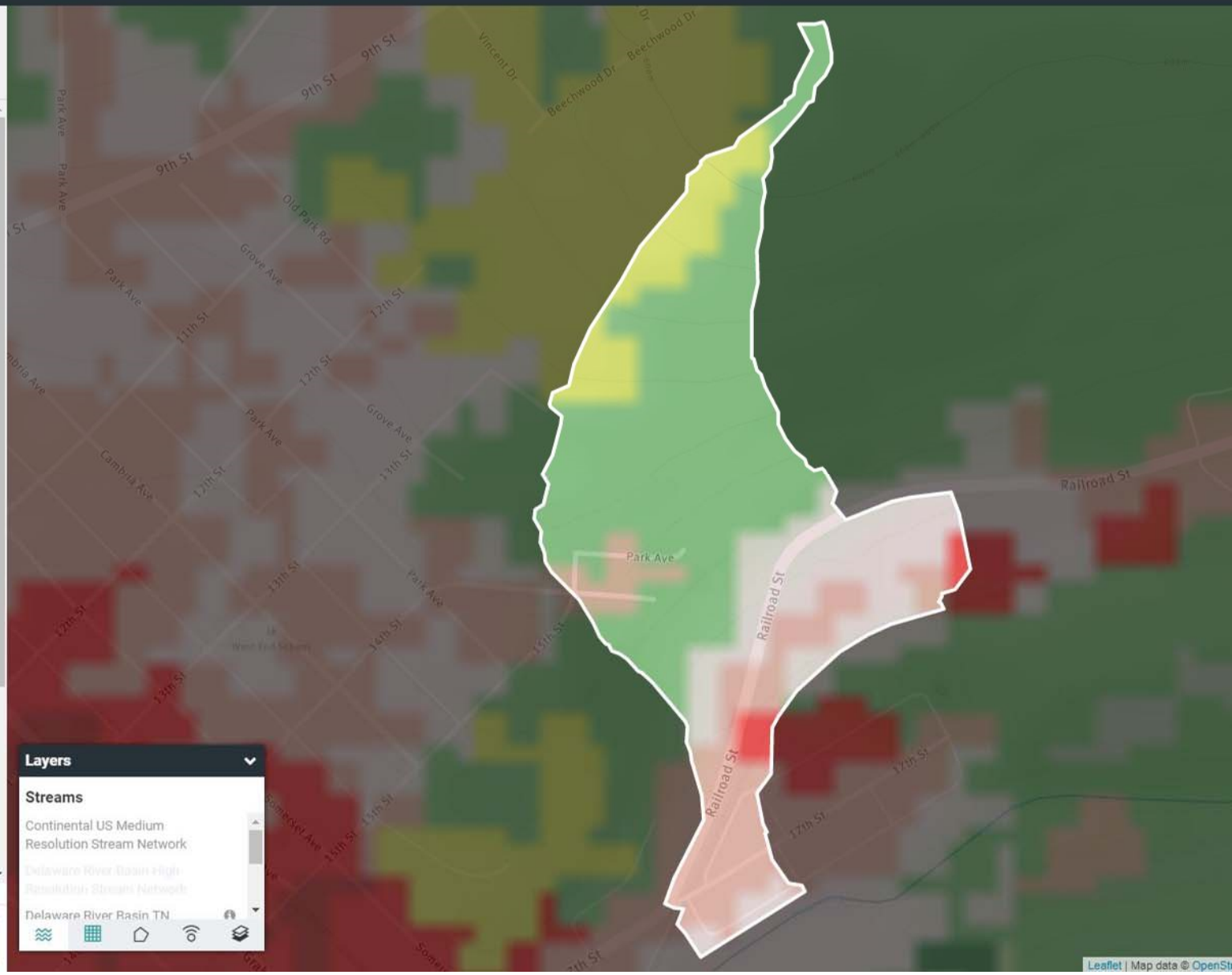
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Deciduous Forest	58,318.98	50.8
Developed, Open Space	23,327.59	20.3
Developed, Low Intensity	19,738.73	17.2
Pasture/Hay	10,766.58	9.4
Developed, Medium Intensity	2,691.65	2.3
Evergreen Forest	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-004	1.33	0.00	1.33	0.76	0.41	0.17
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
57.1%	0.0%	28.6%	14.3%	0.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
178.16	118.87	305.40				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-PC-004	**1.33**			**602.43**		

Model My Watershed

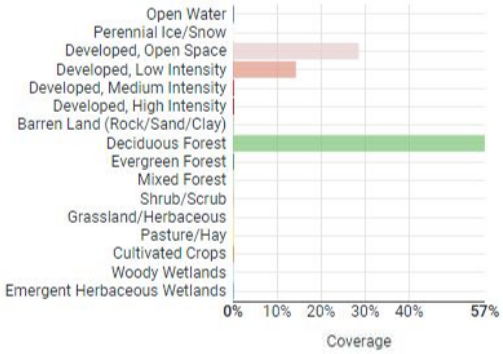
Selected Area 5,378 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

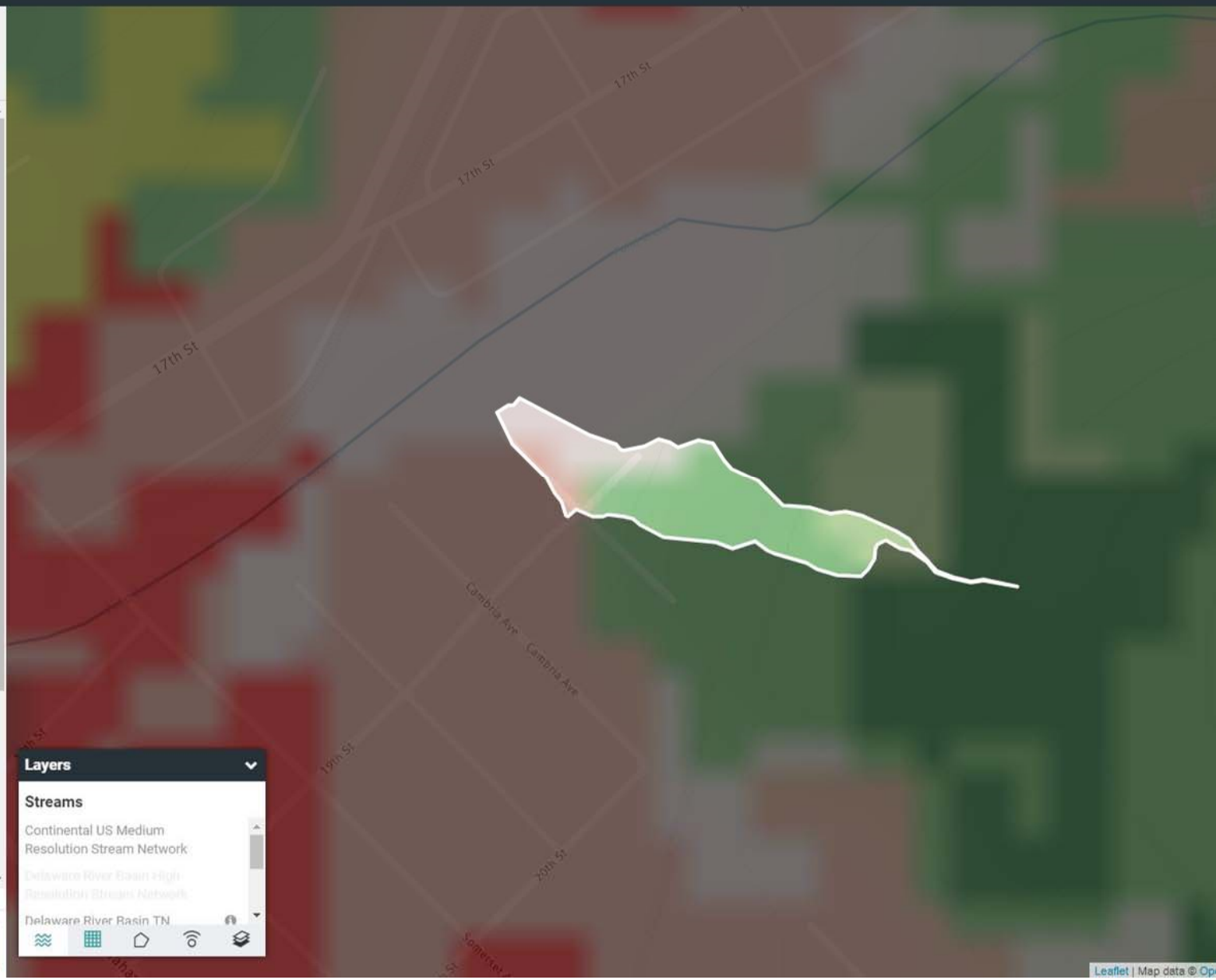
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Deciduous Forest	3,588.86	57.1
Developed, Open Space	1,794.43	28.6
Developed, Low Intensity	897.22	14.3
Evergreen Forest	0.00	0.0
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-005	6.27	0.00	6.27	3.94	1.25	1.07
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
62.9%	0.0%	7.4%	25.9%	3.8%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	6.27	Developed (Impervious)				
925.22	367.97	1,978.79				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-PC-005	**6.27**			**3,271.98**		

Model My Watershed

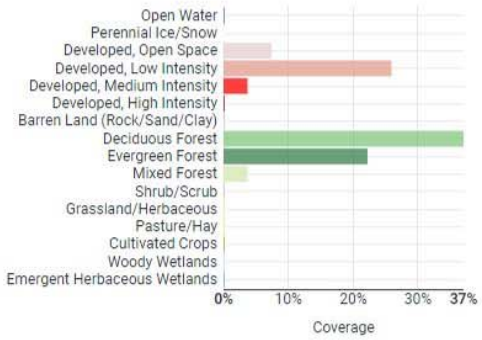
Selected Area 25,404 m^2

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

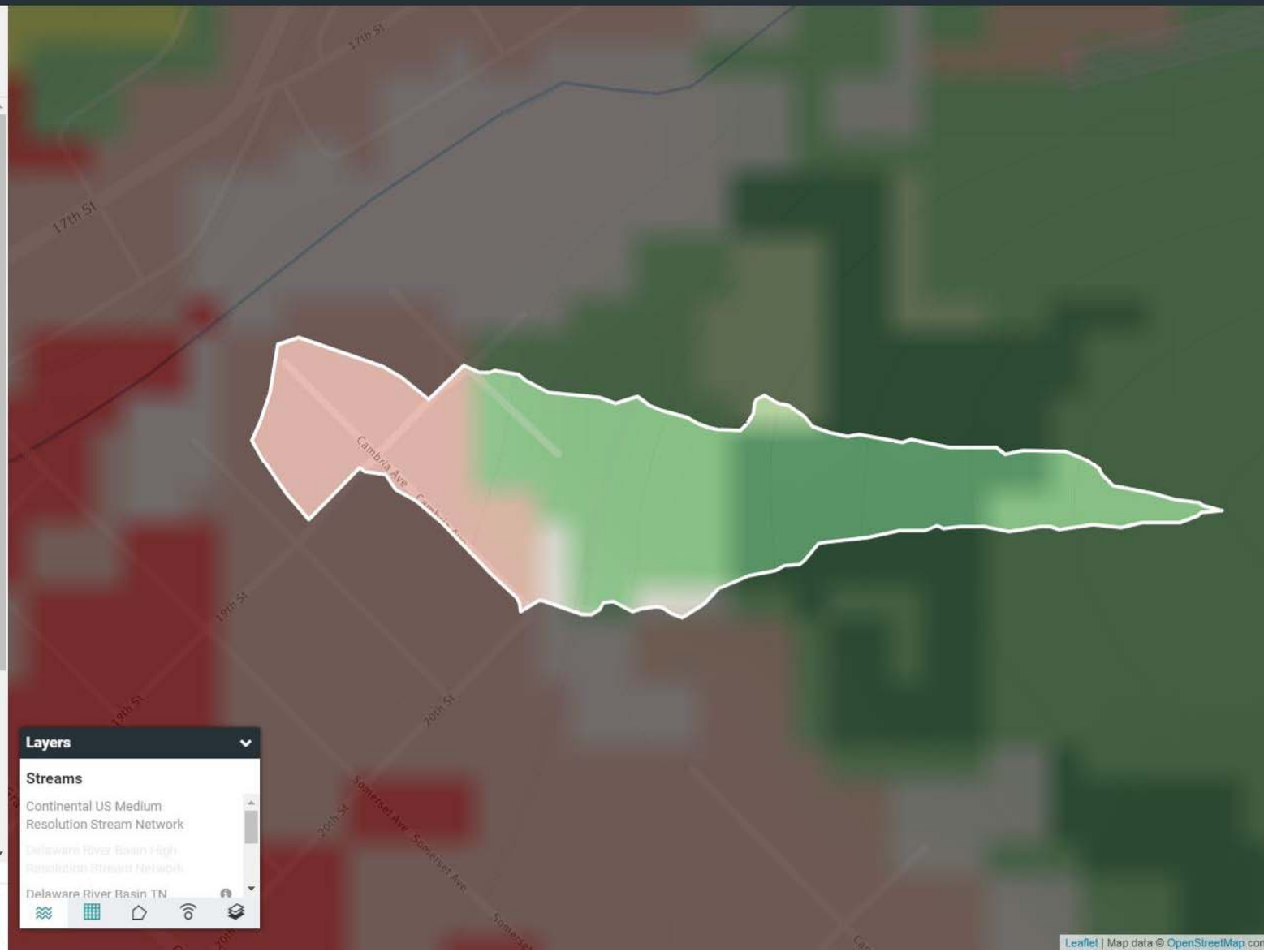
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m^2)	Coverage (%)
Deciduous Forest	8,972.16	37.0
Developed, Low Intensity	6,280.51	25.9
Evergreen Forest	5,383.30	22.2
Developed, Open Space	1,794.43	7.4
Developed, Medium Intensity	897.22	3.7
Mixed Forest	897.22	3.7
Barren Land (Rock/Sand/Clay)	0.00	0.0
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Developed, High Intensity	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | **Select a model**



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-006	10.38	0.00	10.38	5.08	4.31	0.99
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
48.9%	27.7%	6.4%	17.0%	0.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
1,190.79	1,265.61	1,828.86				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-PC-006	**10.38**			**4,285.26**		

Model My Watershed

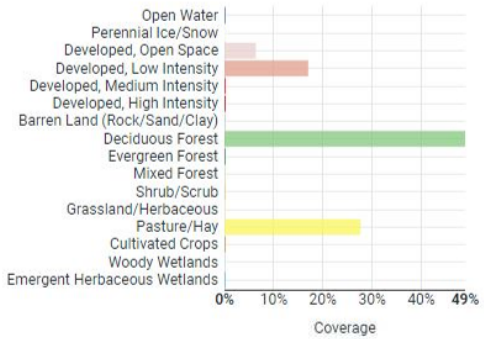
Selected Area 42,038 m^2

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

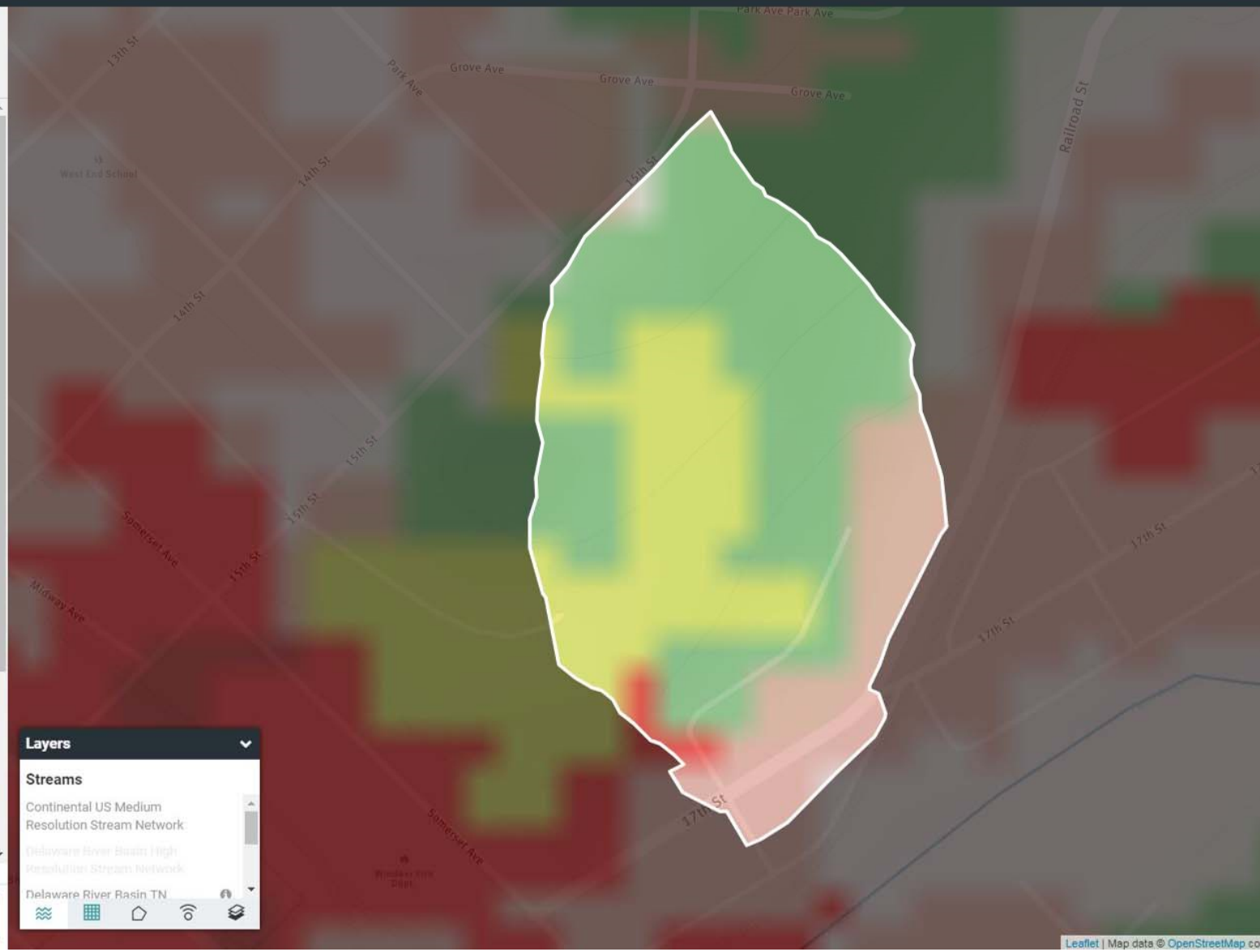
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m^2)	Coverage (%)
Deciduous Forest	20,635.96	48.9
Pasture/Hay	11,663.80	27.7
Developed, Low Intensity	7,177.72	17.0
Developed, Open Space	2,691.65	6.4
Evergreen Forest	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-007	32.43	0.00	32.43	13.07	10.25	9.11
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
40.3%	2.8%	7.6%	41.0%	8.3%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
3,066.06	3,007.79	16,814.16				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-PC-007	**32.43**			**22,888.01**		

Model My Watershed

About

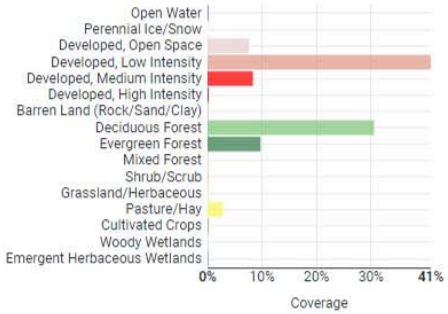
Selected Area 131,380 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

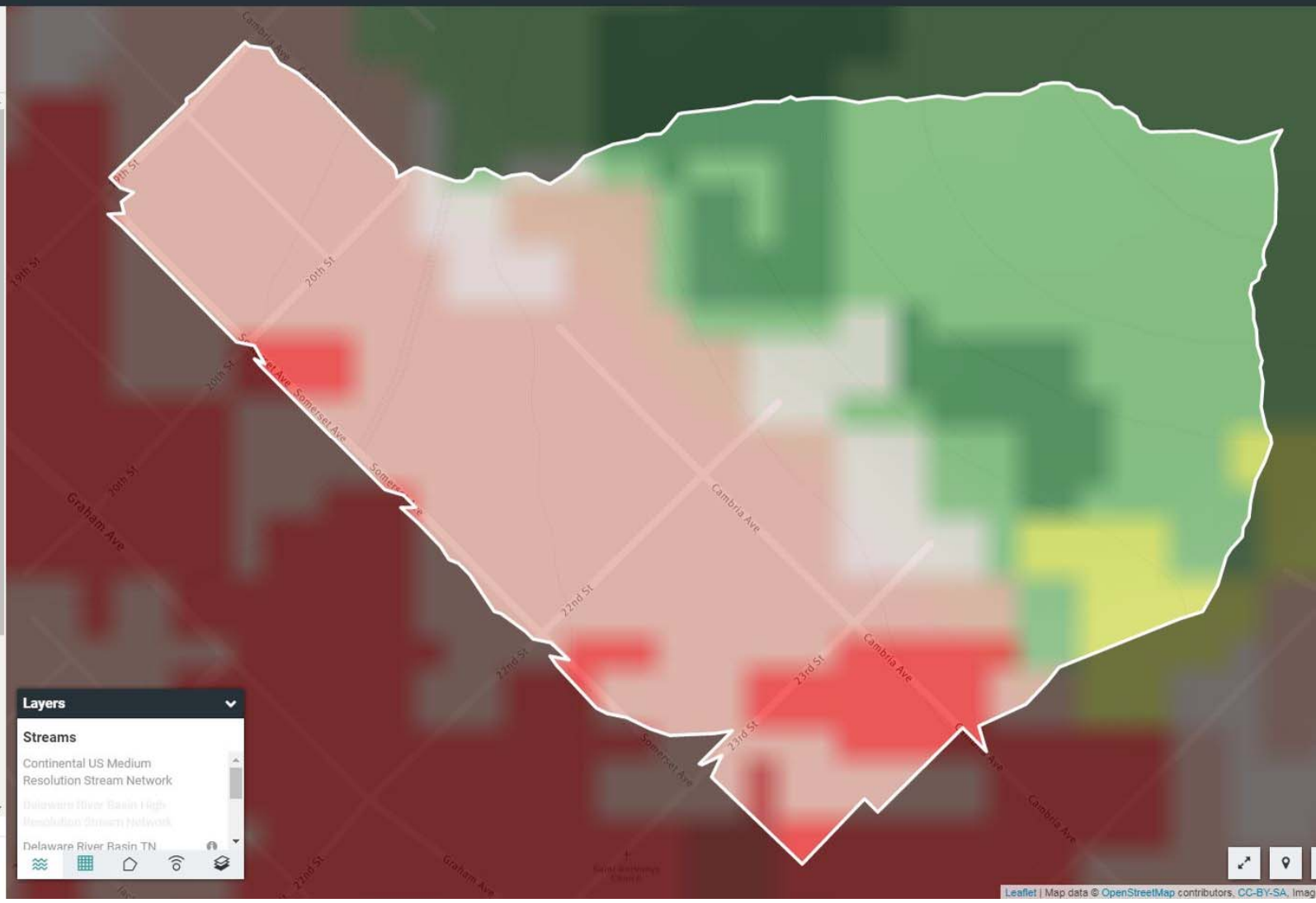
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Low Intensity	52,935.74	41.0
Deciduous Forest	39,477.50	30.6
Evergreen Forest	12,561.02	9.7
Developed, Medium Intensity	10,766.59	8.3
Developed, Open Space	9,869.38	7.6
Pasture/Hay	3,588.86	2.8
Barren Land (Rock/Sand/Clay)	0.00	0.0
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-008	41.49	0.00	41.49	12.74	9.86	18.89
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
30.7%	4.8%	4.2%	15.3%	37.0%	8.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
2,988.20	2,894.37	34,862.18				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-PC-008	**41.49**			**40,744.75**		

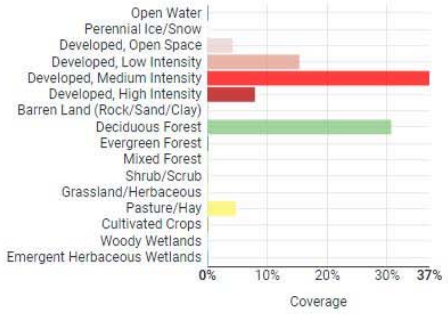
Selected Area 168,089 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Medium Intensity	62,805.13	37.0
Deciduous Forest	52,038.54	30.7
Developed, Low Intensity	26,019.27	15.3
Developed, High Intensity	13,458.24	7.9
Pasture/Hay	8,074.95	4.8
Developed, Open Space	7,177.73	4.2
Evergreen Forest	0.00	0.0
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model

Layers

Streams

Continental US Medium Resolution Stream Network

Delaware River Basin TN

Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-009	2.72	0.00	2.72	0.00	0.38	2.34
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	9.0%	45.5%	45.5%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	112.89	4,310.18				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-PC-009	**2.72**			**4,423.07**		

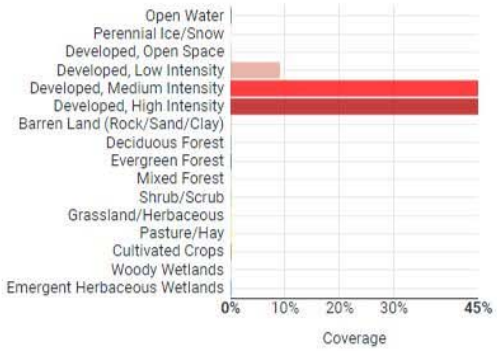
Selected Area 11,032 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Medium Intensity	4,486.08	45.5
Developed, High Intensity	4,486.08	45.5
Developed, Low Intensity	897.22	9.1
Evergreen Forest	0.00	0.0
Developed, Open Space	0.00	0.0
Open Water	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model

Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-010	0.41	0.00	0.41	0.00	0.09	0.32
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	25.26	597.82				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-PC-010	**0.41**			**623.09**		

Model My Watershed

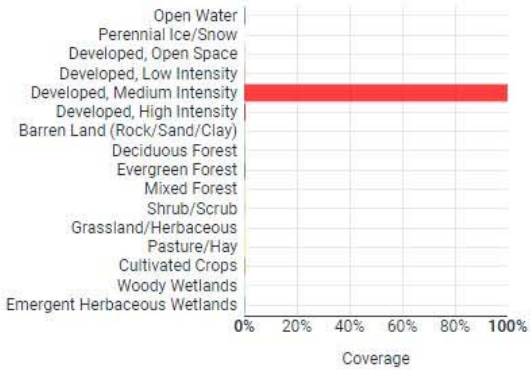
Selected Area 1,660 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

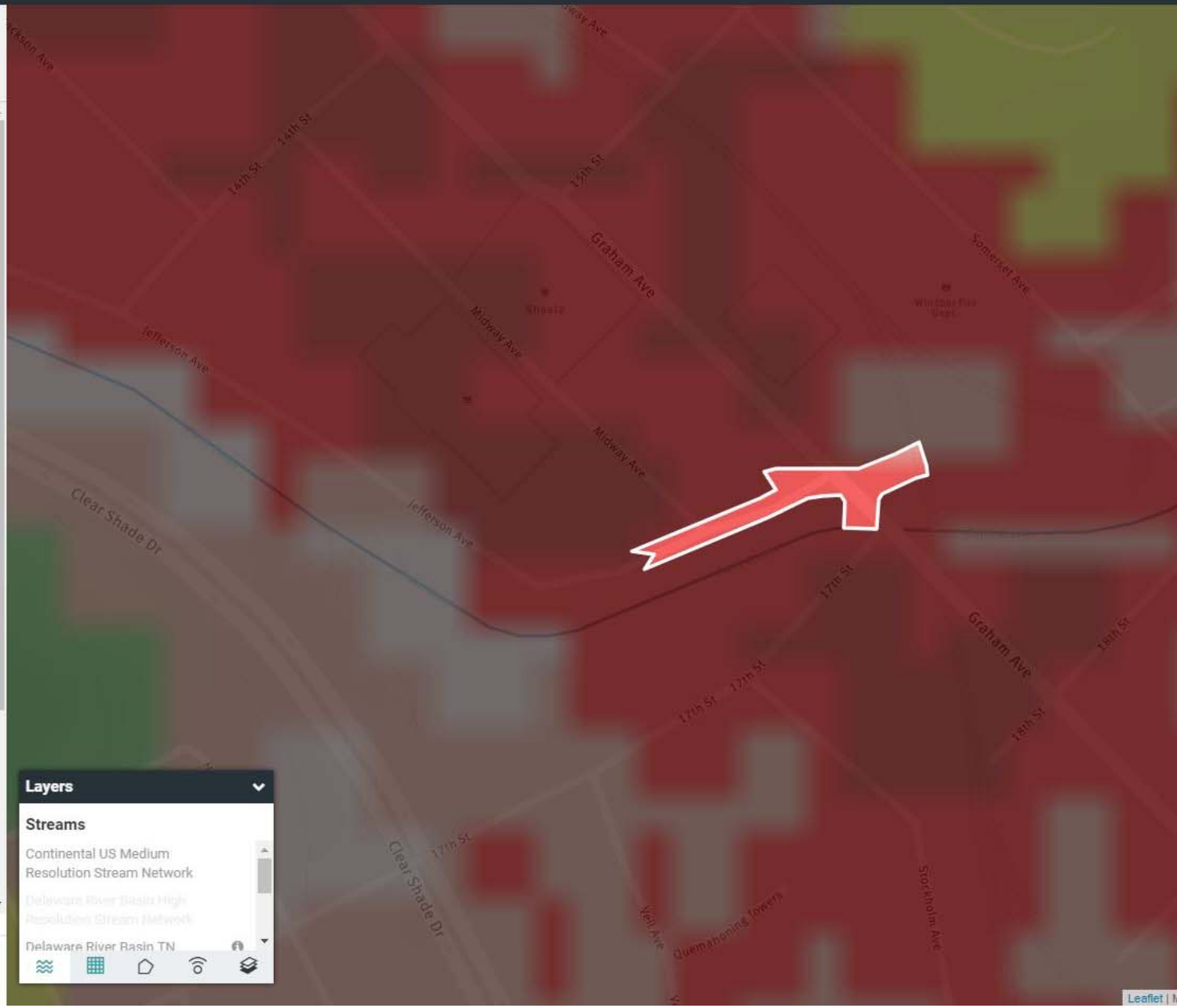
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Medium Intensity	2,691.65	100.0
Evergreen Forest	0.00	0.0
Developed, Open Space	0.00	0.0
Developed, Low Intensity	0.00	0.0
Open Water	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-001	8.36	0.00	8.36	0.00	5.39	2.97
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	2.7%	40.5%	56.8%	0.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	1,581.52	5,481.83				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-001	**8.36**			**7,063.35**		

Model My Watershed

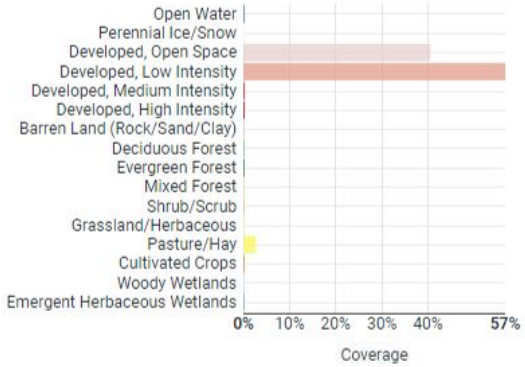
Selected Area 33,885 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

Related Layer: National Land Cover Database ✔ Turn on

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Low Intensity	18,841.55	56.8
Developed, Open Space	13,458.25	40.5
Pasture/Hay	897.22	2.7
Evergreen Forest	0.00	0.0
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model

Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-002	4.44	0.00	4.44	1.40	1.84	1.20
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
31.5%	21.1%	5.3%	31.6%	0.0%	10.5%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
328.11	540.77	2,211.89				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-002	**4.44**			**3,080.77**		

Model My Watershed

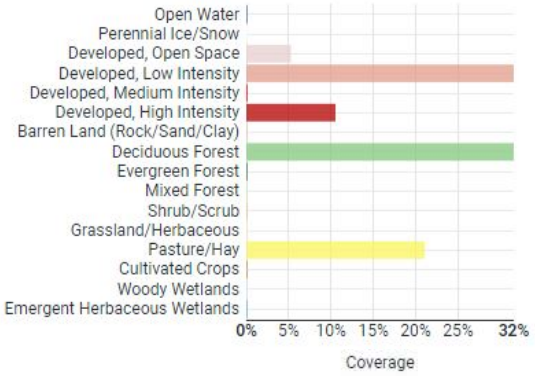
Selected Area 17,986 m^2

Land | Soil | Animals | Point Sources | Water Quality

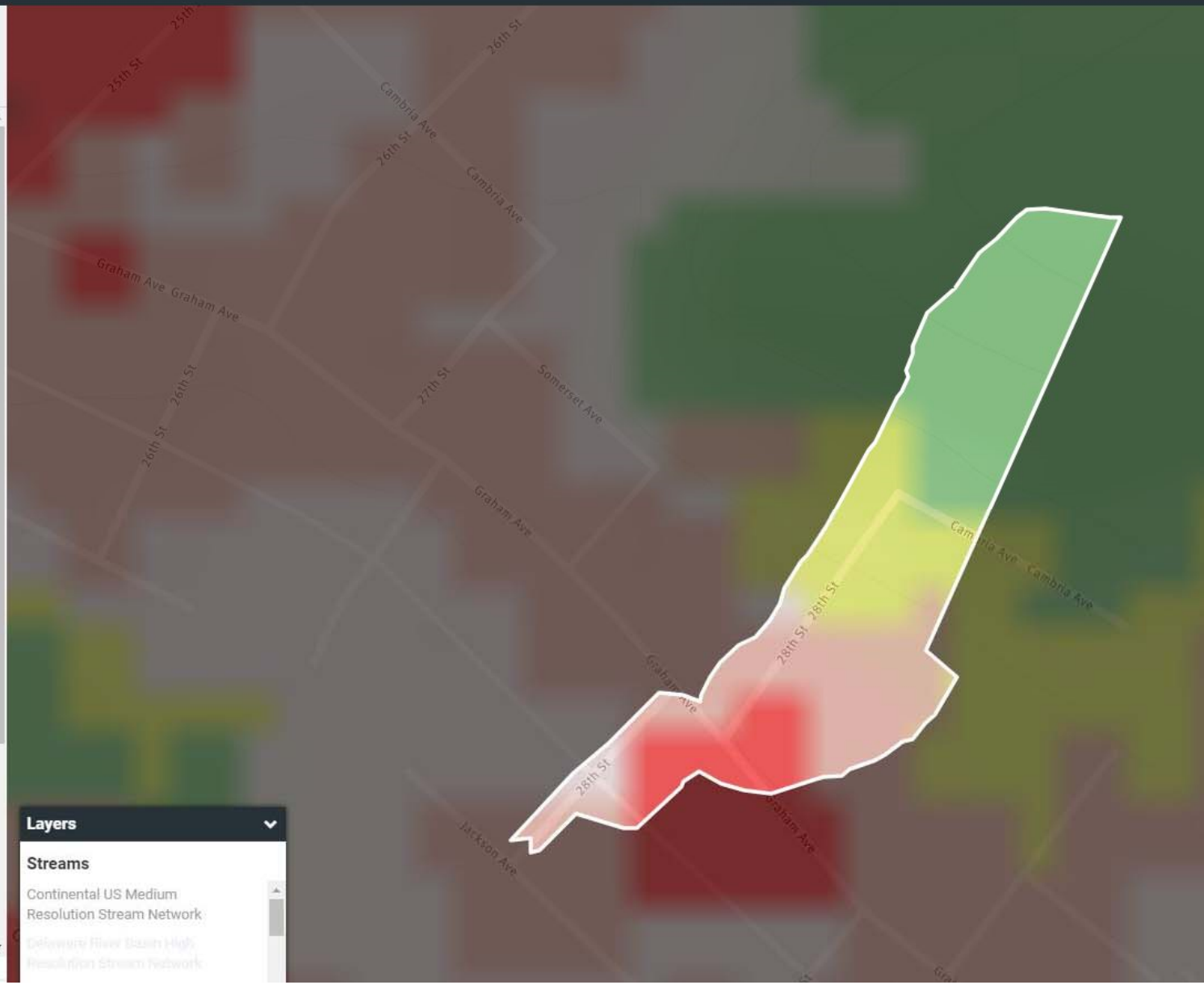
Land cover distribution

Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m^2)	Coverage (%)
Developed, Low Intensity	5,383.30	31.6
Deciduous Forest	5,383.30	31.6
Pasture/Hay	3,588.87	21.1
Developed, High Intensity	1,794.43	10.5
Developed, Open Space	897.22	5.3
Evergreen Forest	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Developed, Medium Intensity	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-003	14.56	0.00	14.56	4.43	6.34	3.79
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
30.4%	1.4%	29.0%	34.8%	4.4%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
1,038.40	1,861.05	6,997.29				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-003	**14.56**			**9,896.74**		

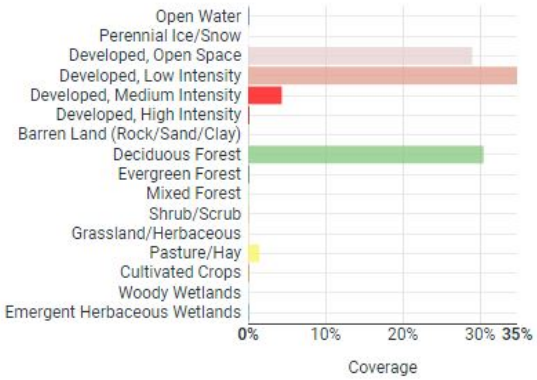
Selected Area 59,006 m^2

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

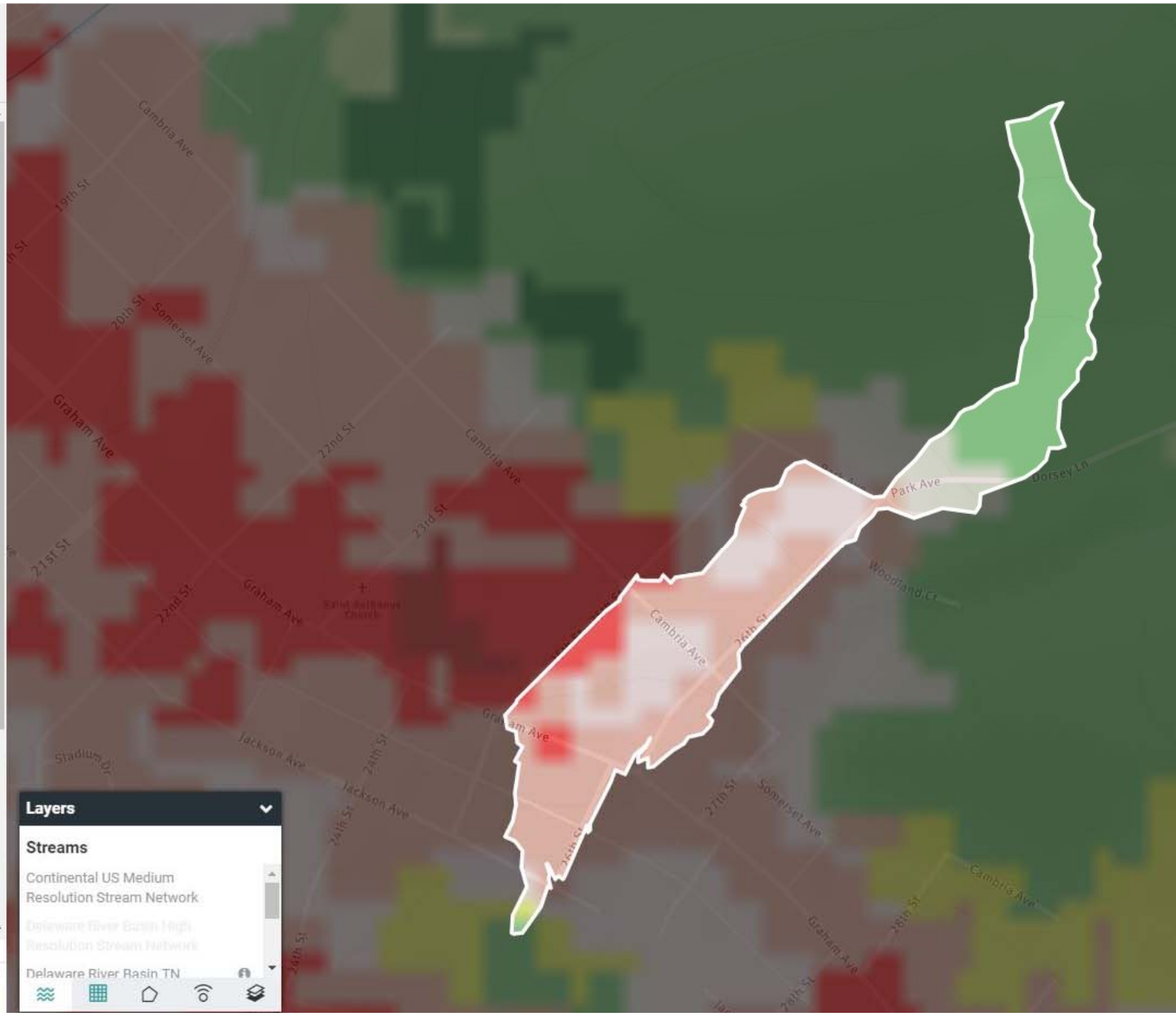
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m^2)	Coverage (%)
Developed, Low Intensity	21,533.19	34.8
Deciduous Forest	18,841.54	30.4
Developed, Open Space	17,944.33	29.0
Developed, Medium Intensity	2,691.65	4.3
Pasture/Hay	897.22	1.4
Evergreen Forest	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-004	2.20	0.00	2.20	0.00	0.90	1.30
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	72.7%	18.2%	9.1%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	264.01	2,399.82				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-004	**2.20**			**2,663.83**		

Model My Watershed

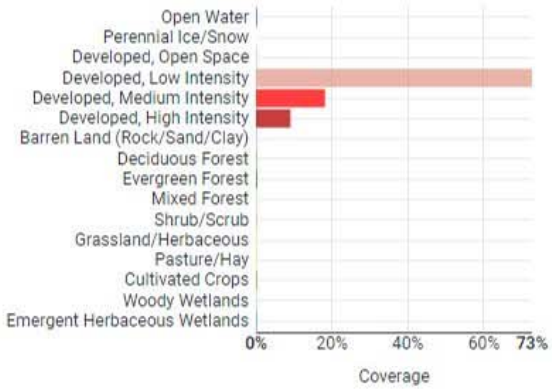
Selected Area 8,916 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Low Intensity	7,177.73	72.7
Developed, Medium Intensity	1,794.43	18.2
Developed, High Intensity	897.22	9.1
Evergreen Forest	0.00	0.0
Developed, Open Space	0.00	0.0
Open Water	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model

Layers

Streams

Continental US Medium Resolution Stream Network

Delaware River Basin TN

Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-005	1.20	0.00	1.20	0.00	0.43	0.77
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	50.0%	50.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	126.76	1,417.50				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-005	**1.20**			**1,544.26**		

Model My Watershed

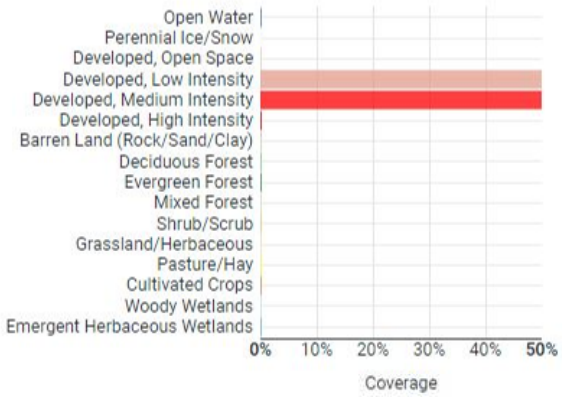
Selected Area 4,867 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Low Intensity	2,691.65	50.0
Developed, Medium Intensity	2,691.65	50.0
Evergreen Forest	0.00	0.0
Open Water	0.00	0.0
Developed, Open Space	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model

Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-006	1.29	0.00	1.29	0.00	0.23	1.06
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	0.0%	83.3%	16.7%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	66.21	1,964.45				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-006	**1.29**			**2,030.67**		

Model My Watershed

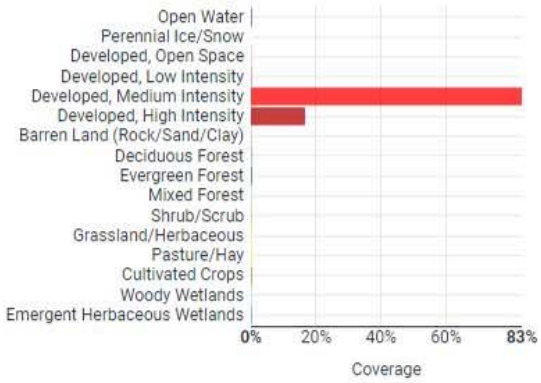
Selected Area 5,236 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

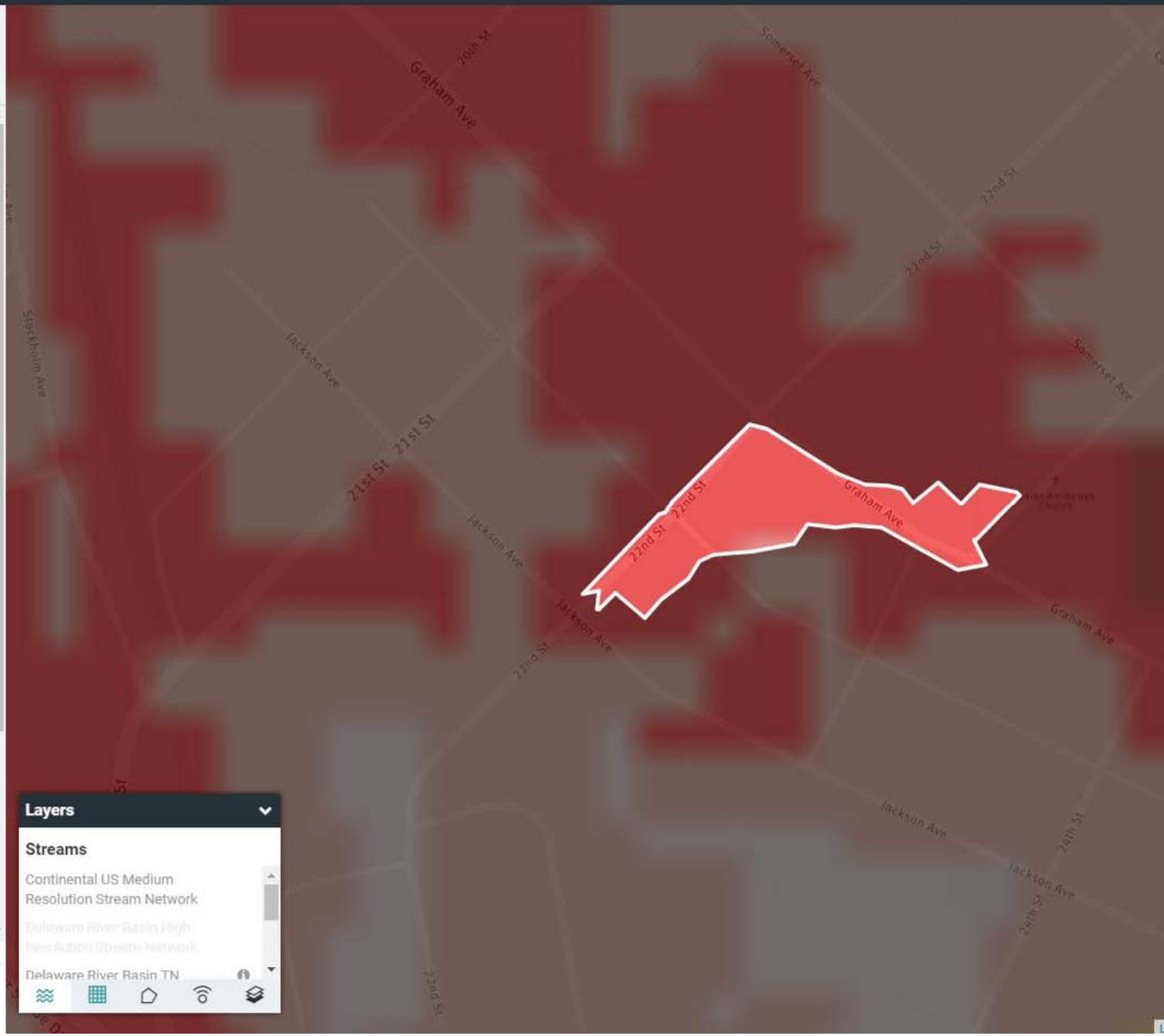
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Medium Intensity	4,486.08	83.3
Developed, High Intensity	897.22	16.7
Evergreen Forest	0.00	0.0
Developed, Low Intensity	0.00	0.0
Open Water	0.00	0.0
Developed, Open Space	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-007	2.52	0.00	2.52	0.00	1.22	1.30
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	8.3%	75.0%	16.7%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	358.47	2,396.28				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-007	**2.52**			**2,754.75**		

Model My Watershed

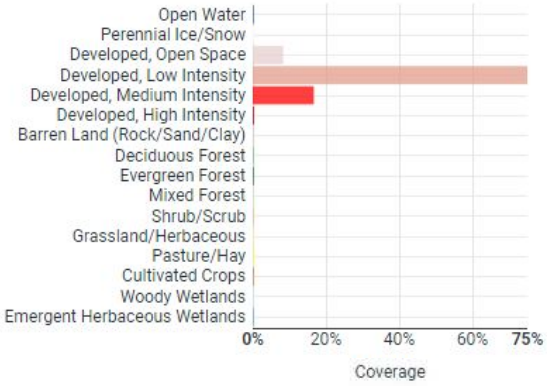
Selected Area 10,213 m^2

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

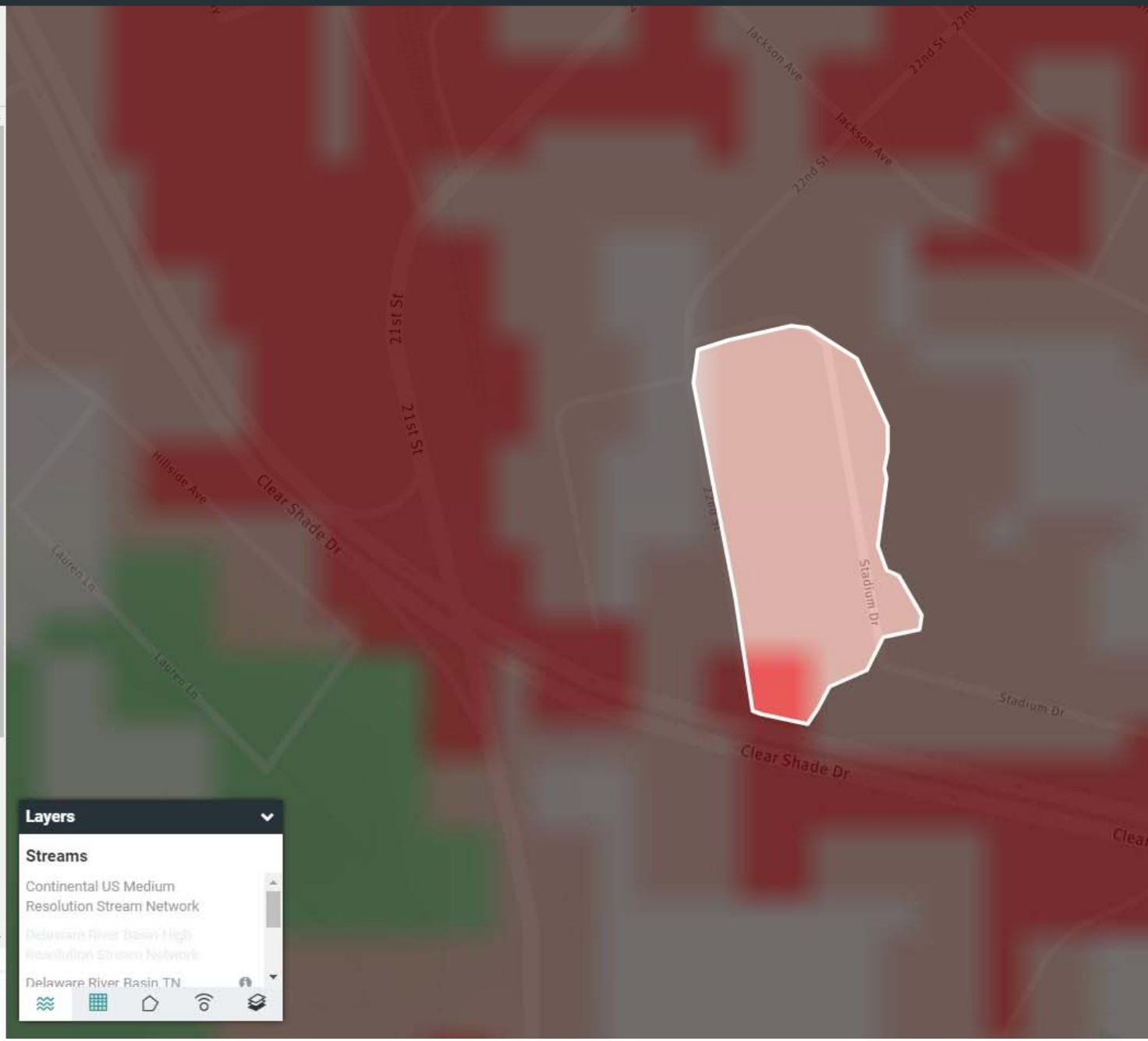
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m^2)	Coverage (%)
Developed, Low Intensity	8,074.95	75.0
Developed, Medium Intensity	1,794.43	16.7
Developed, Open Space	897.22	8.3
Evergreen Forest	0.00	0.0
Open Water	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-008	0.56	0.00	0.56	0.00	0.29	0.27
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	83.80	506.46				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-008	**0.56**			**590.26**		

Model My Watershed

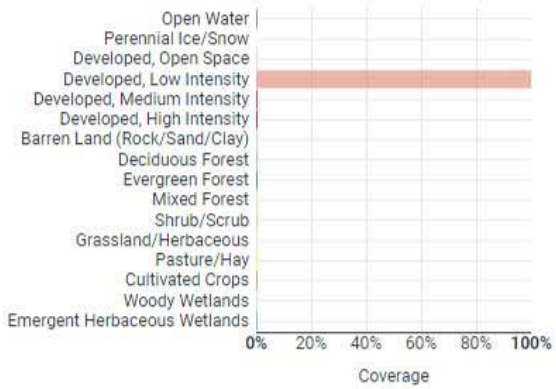
Selected Area 2,259 m^2

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

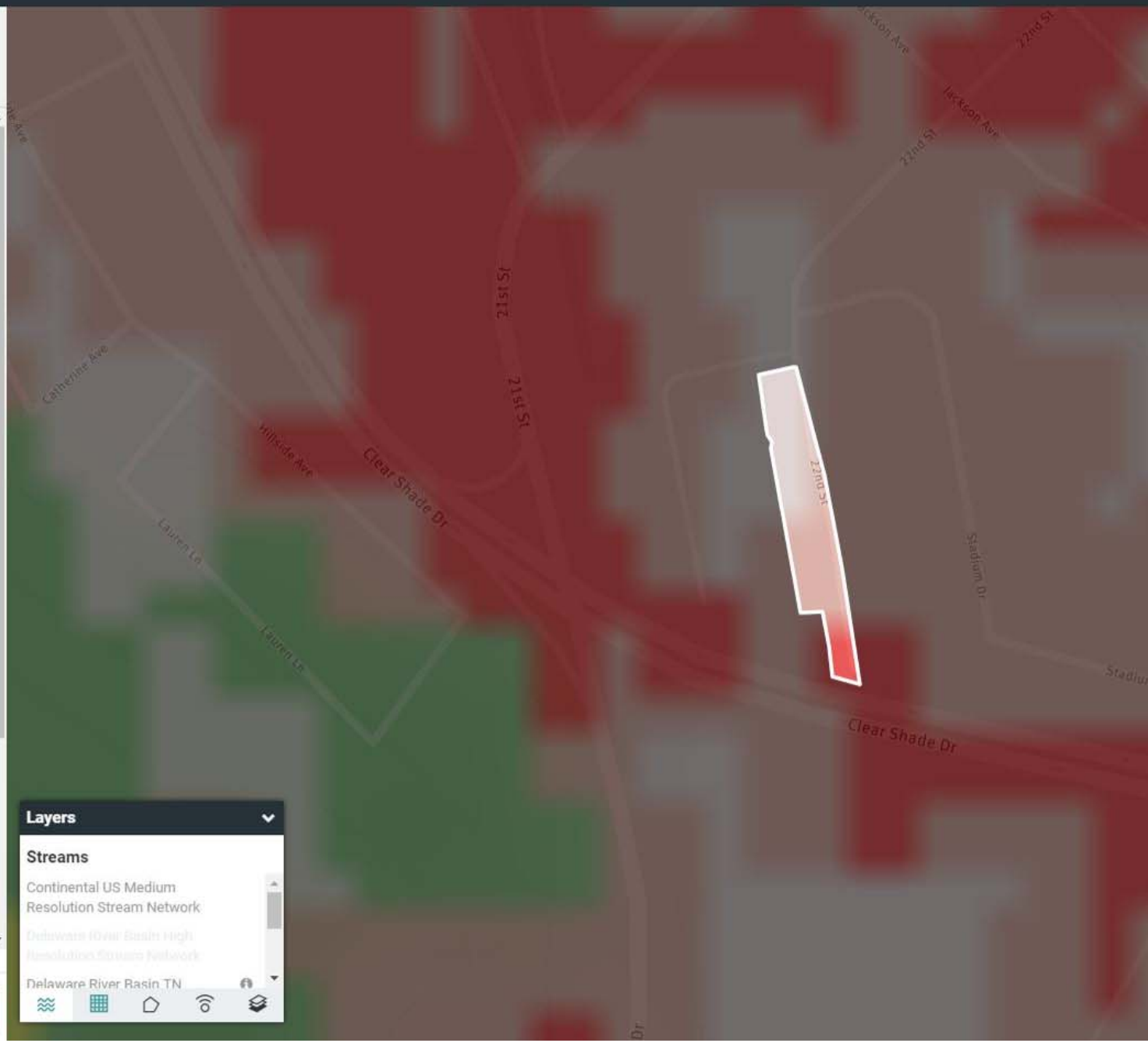
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m^2)	Coverage (%)
Developed, Low Intensity	1,794.43	100.0
Evergreen Forest	0.00	0.0
Developed, Open Space	0.00	0.0
Open Water	0.00	0.0
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-009	9.81	0.00	9.81	4.01	3.83	1.97
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
40.9%	0.0%	34.1%	20.5%	4.5%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
941.28	1,123.20	3,635.57				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-009	**9.81**			**5,700.05**		

Model My Watershed

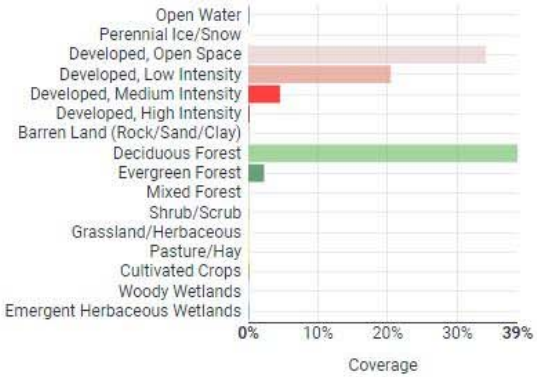
Selected Area 39,747 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

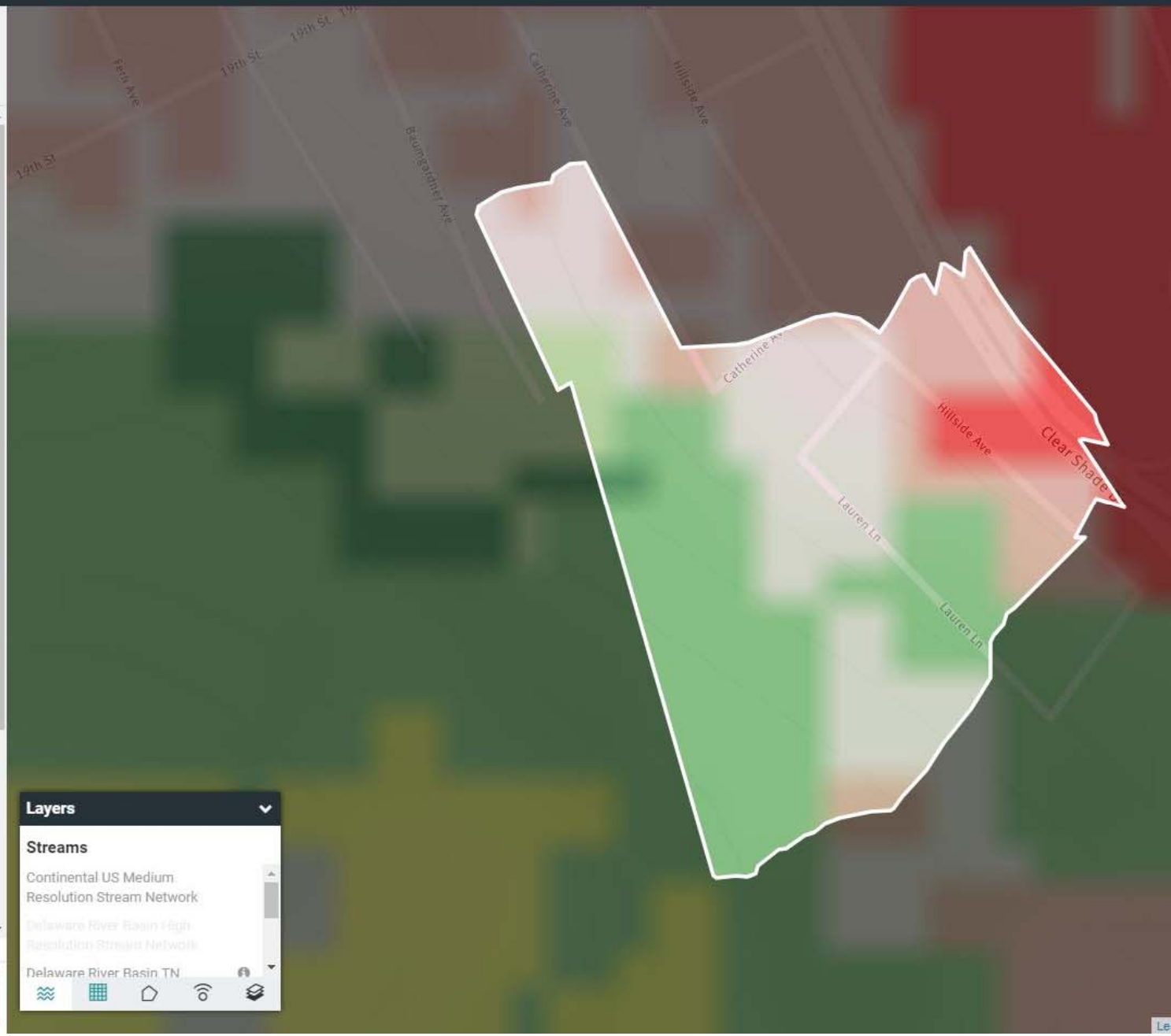
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Deciduous Forest	15,252.68	38.6
Developed, Open Space	13,458.25	34.1
Developed, Low Intensity	8,074.95	20.5
Developed, Medium Intensity	1,794.43	4.5
Evergreen Forest	897.22	2.3
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Open Water	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-010	6.77	0.00	6.77	0.00	2.79	3.98
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	3.3%	63.3%	30.0%	3.4%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	819.53	7,340.29				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-010	**6.77**			**8,159.82**		

Model My Watershed

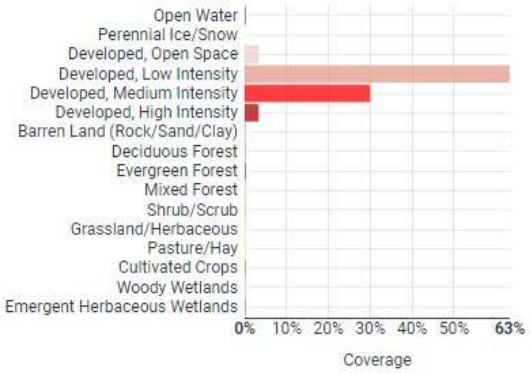
Selected Area 27,416 m^2

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

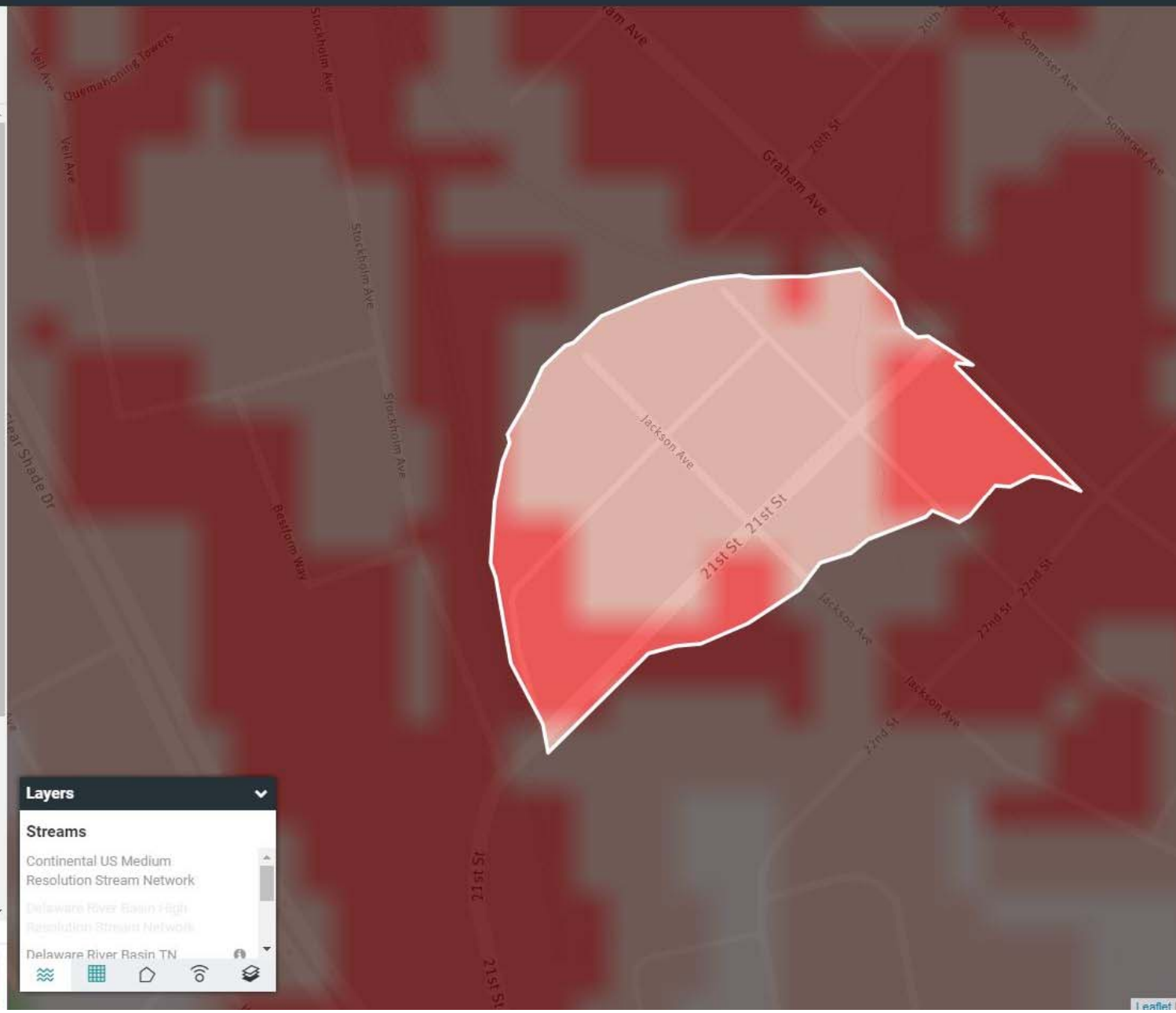
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m^2)	Coverage (%)
Developed, Low Intensity	17,047.11	63.3
Developed, Medium Intensity	8,074.95	30.0
Developed, Open Space	897.22	3.3
Developed, High Intensity	897.22	3.3
Evergreen Forest	0.00	0.0
Open Water	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-011	5.35	0.00	5.35	0.00	3.16	2.19
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	26.9%	73.1%	0.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	927.28	4,041.63				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-011	**5.35**			**4,968.91**		

Model My Watershed

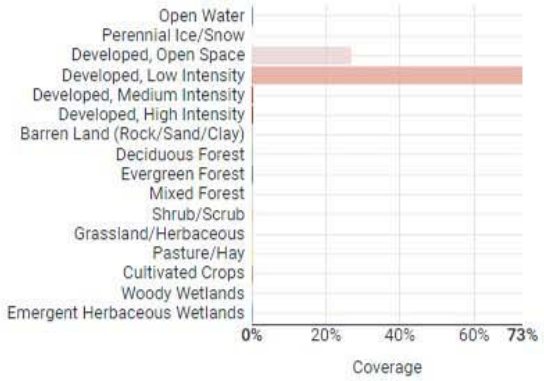
Selected Area 21,675 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

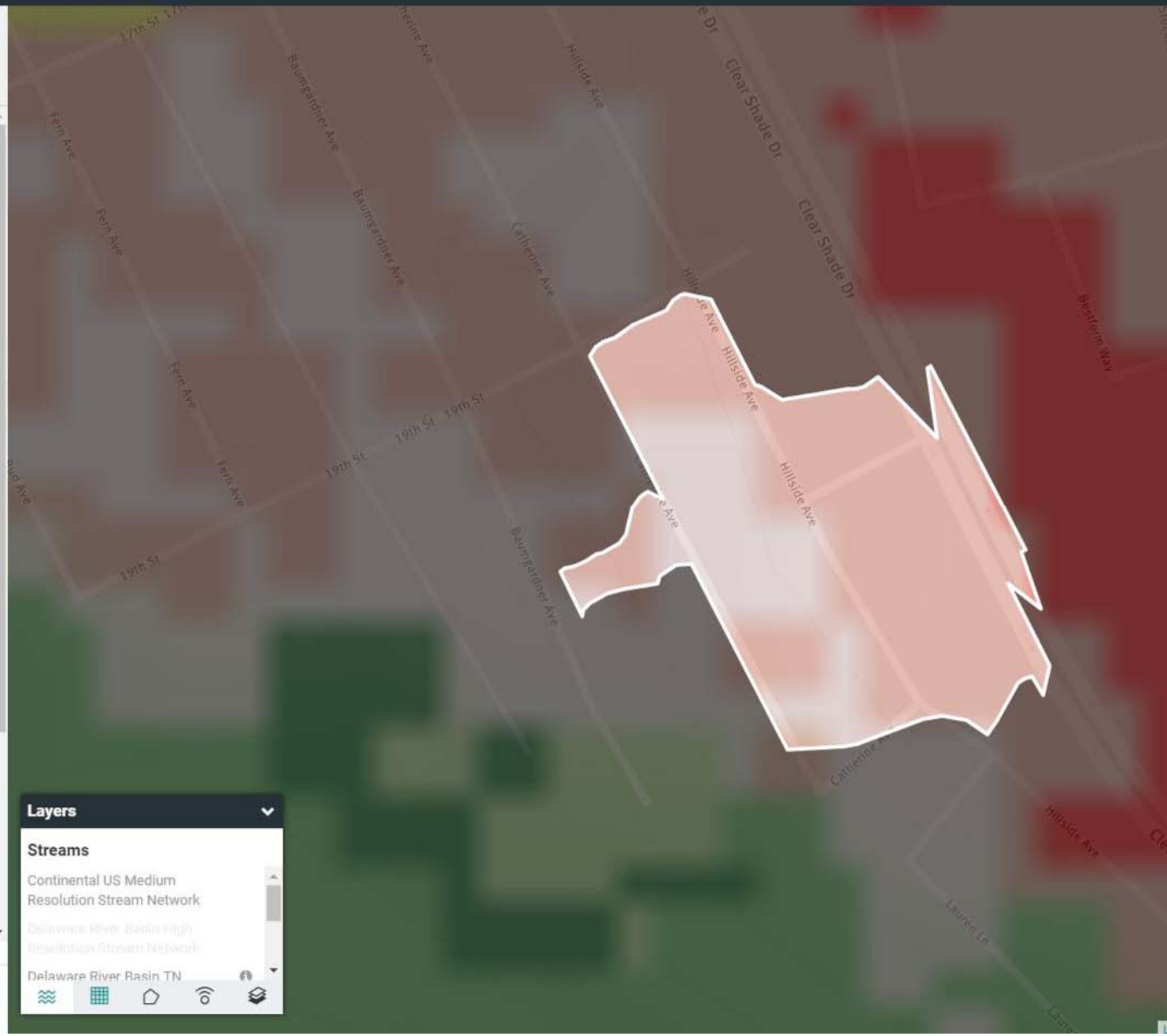
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Low Intensity	17,047.11	73.1
Developed, Open Space	6,280.52	26.9
Evergreen Forest	0.00	0.0
Open Water	0.00	0.0
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-012	8.61	0.00	8.61	0.48	5.01	3.12
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
5.6%	0.0%	33.3%	61.1%	0.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
113.11	1,468.67	5,763.20				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-012	**8.61**			**7,344.98**		

Model My Watershed

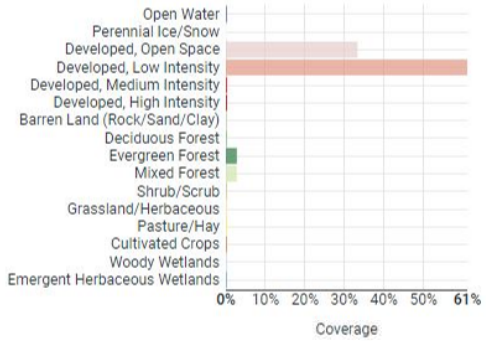
Selected Area 34,889 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Low Intensity	19,738.76	61.1
Developed, Open Space	10,766.60	33.3
Evergreen Forest	897.22	2.8
Mixed Forest	897.22	2.8
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Open Water	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model

Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-013	1.55	0.00	1.55	0.00	0.48	1.07
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	33.3%	66.7%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	140.94	1,974.26				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-013	**1.55**			**2,115.21**		

Model My Watershed

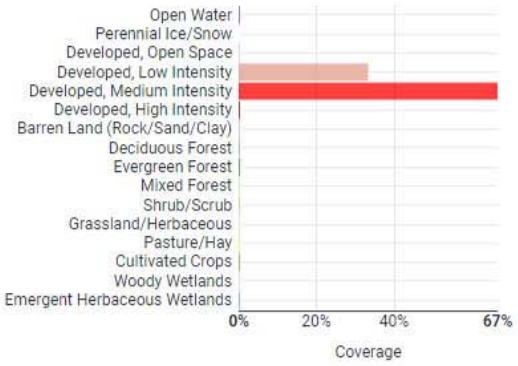
Selected Area 6,288 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

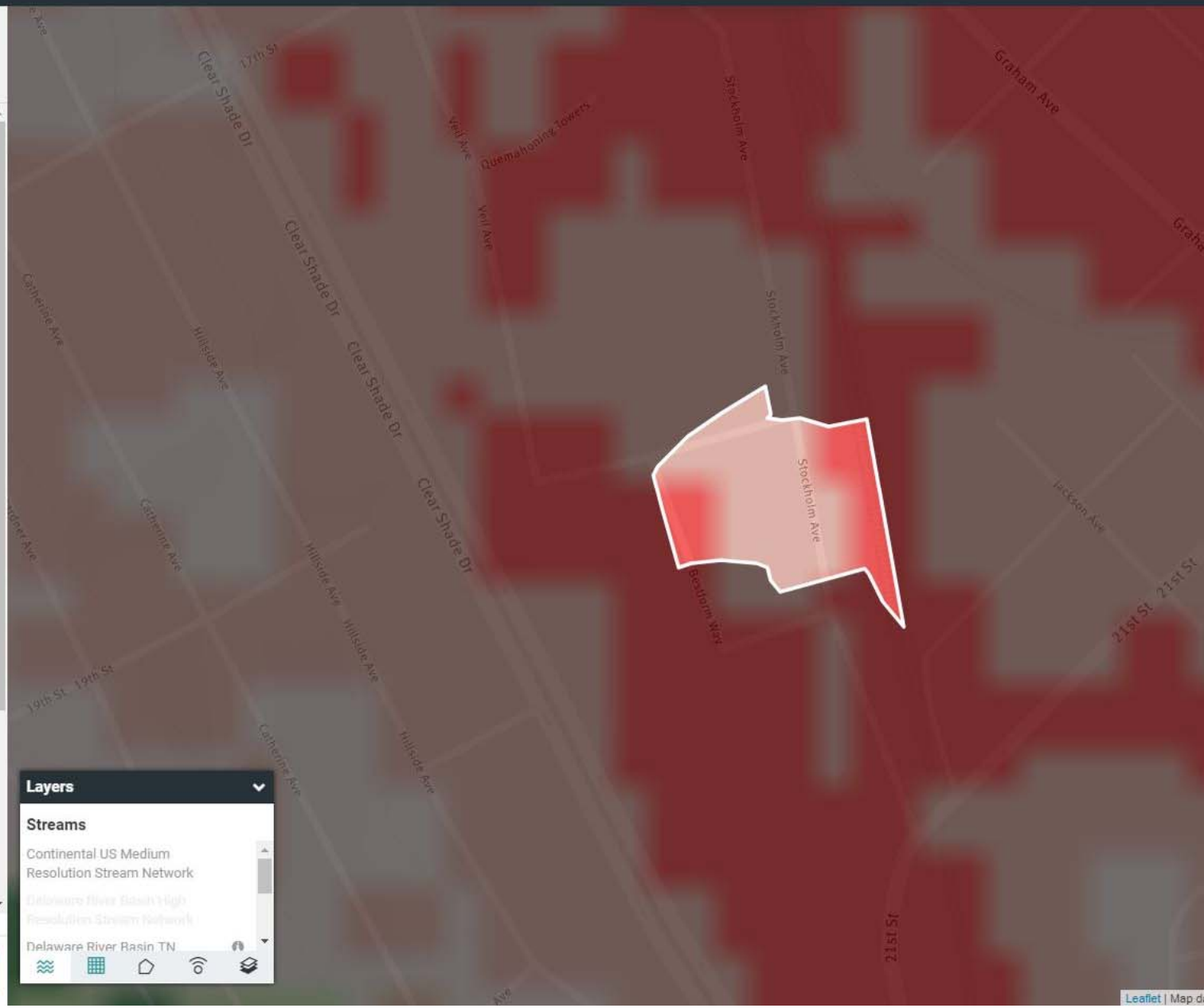
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Medium Intensity	3,588.87	66.7
Developed, Low Intensity	1,794.43	33.3
Evergreen Forest	0.00	0.0
Open Water	0.00	0.0
Developed, Open Space	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-014	0.34	0.00	0.34	0.00	0.17	0.17
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	50.88	307.49				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-014	**0.34**			**358.37**		

Model My Watershed

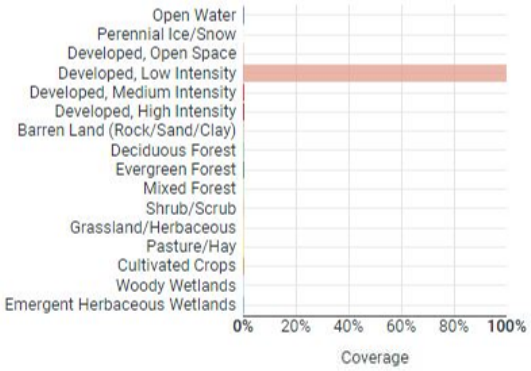
Selected Area 1,372 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

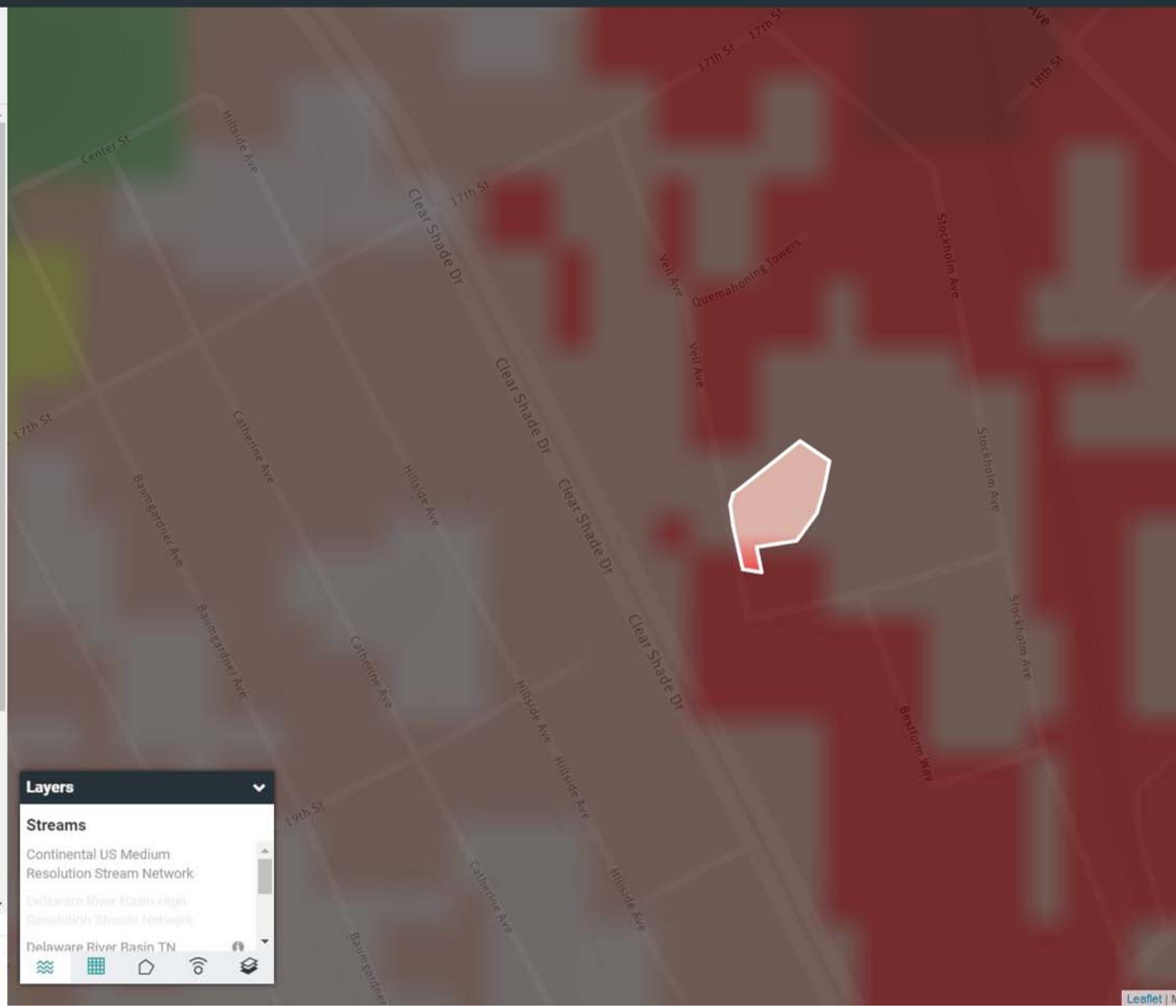
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Low Intensity	1,794.43	100.0
Evergreen Forest	0.00	0.0
Developed, Open Space	0.00	0.0
Open Water	0.00	0.0
Developed, Medium Intensity	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-015	5.64	0.00	5.64	0.00	2.16	3.48
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	7.7%	42.3%	50.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	633.99	6,421.77				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-015	**5.64**			**7,055.76**		

Model My Watershed

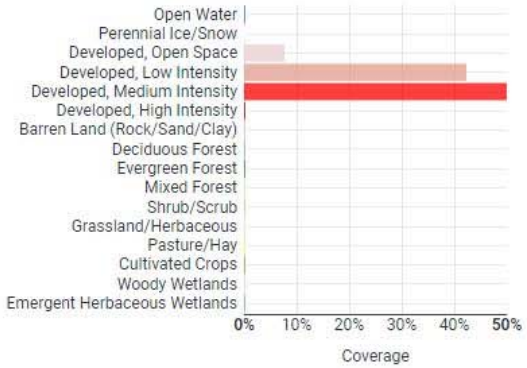
Selected Area 22,861 m^2

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

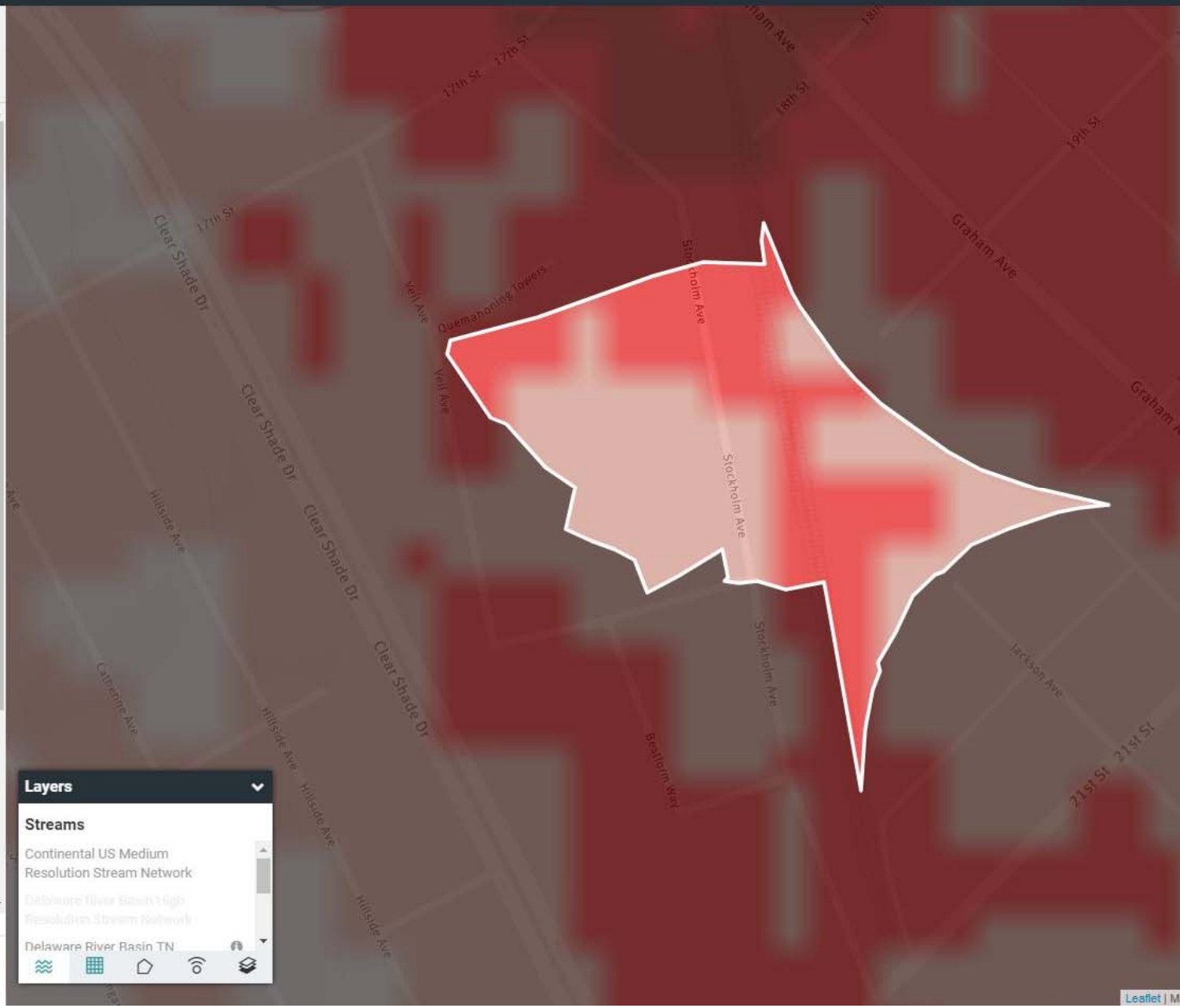
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m^2)	Coverage (%)
Developed, Medium Intensity	11,663.81	50.0
Developed, Low Intensity	9,869.38	42.3
Developed, Open Space	1,794.43	7.7
Evergreen Forest	0.00	0.0
Open Water	0.00	0.0
Developed, High Intensity	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Deciduous Forest	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



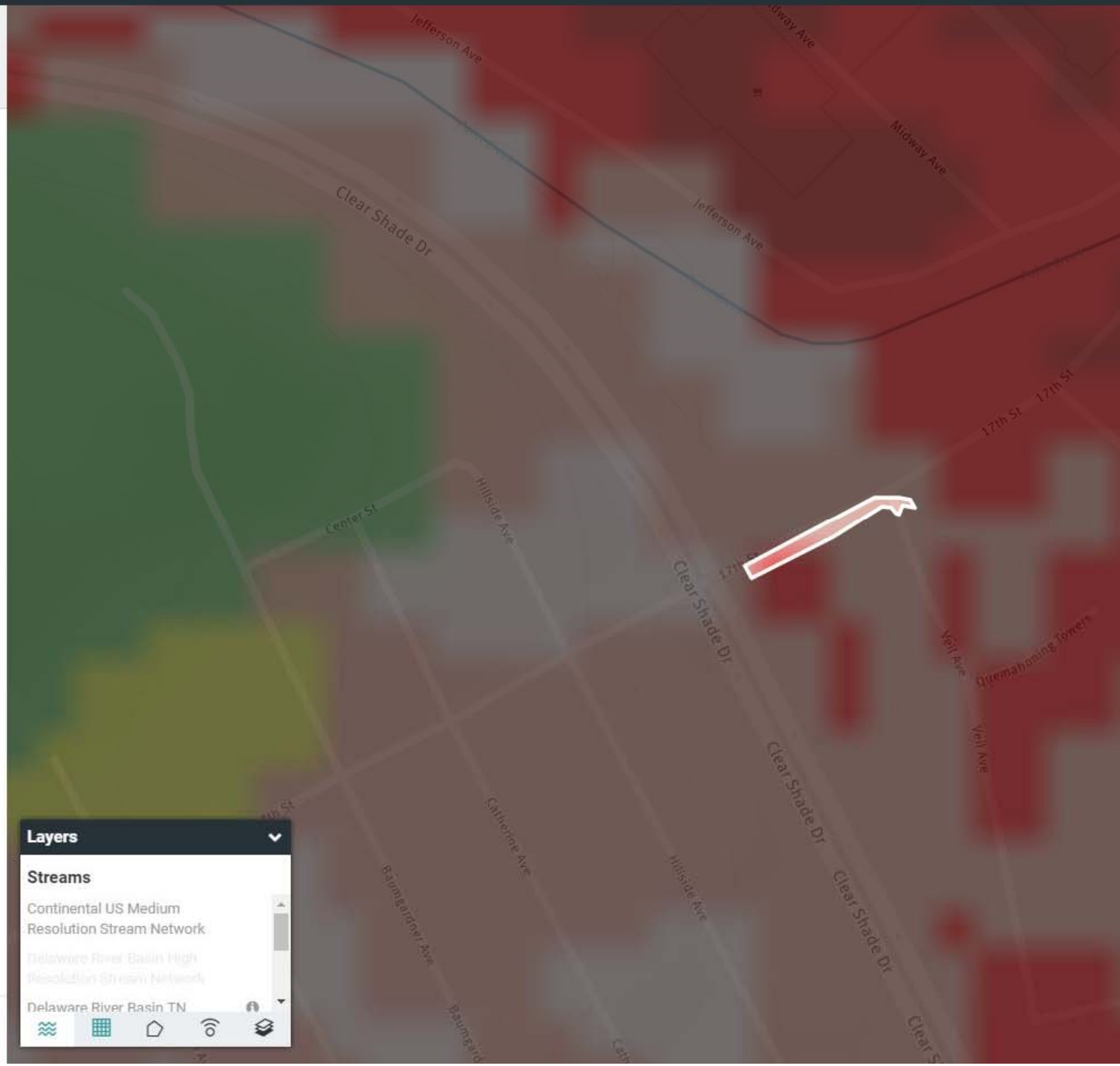
Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-016	0.10	0.00	0.10	0.00	0.00	0.10
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	0.00	184.57				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-016	**0.10**			**184.57**		

Model My Watershed

Selected Area 418 m²

Land Soil Animals Point Sources Water Quality

⚠ Error



Change area | Select a model

Sewershed Information (Areas in acres)						
Outfall	Municipal Sewershed Area	Parsed Area	Planning Area	Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-017	12.52	0.00	12.52	2.15	7.04	3.33
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
17.2%	10.3%	32.8%	37.9%	0.0%	1.8%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
505.20	2,064.46	6,147.46				
Sewershed Summary						
Outfall	**Planning Area (acre)**			**Total TSS Loading (lb/yr)**		
WB-SR-017	**12.52**			**8,717.13**		

Model My Watershed

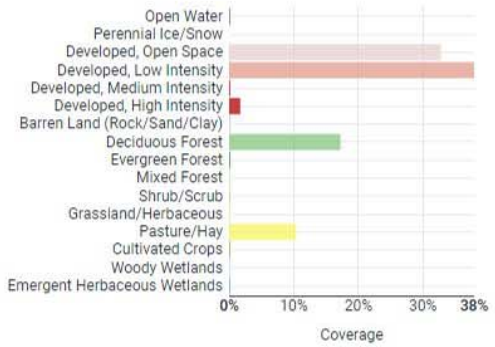
Selected Area 50,719 m²

Land | Soil | Animals | Point Sources | Water Quality

Land cover distribution

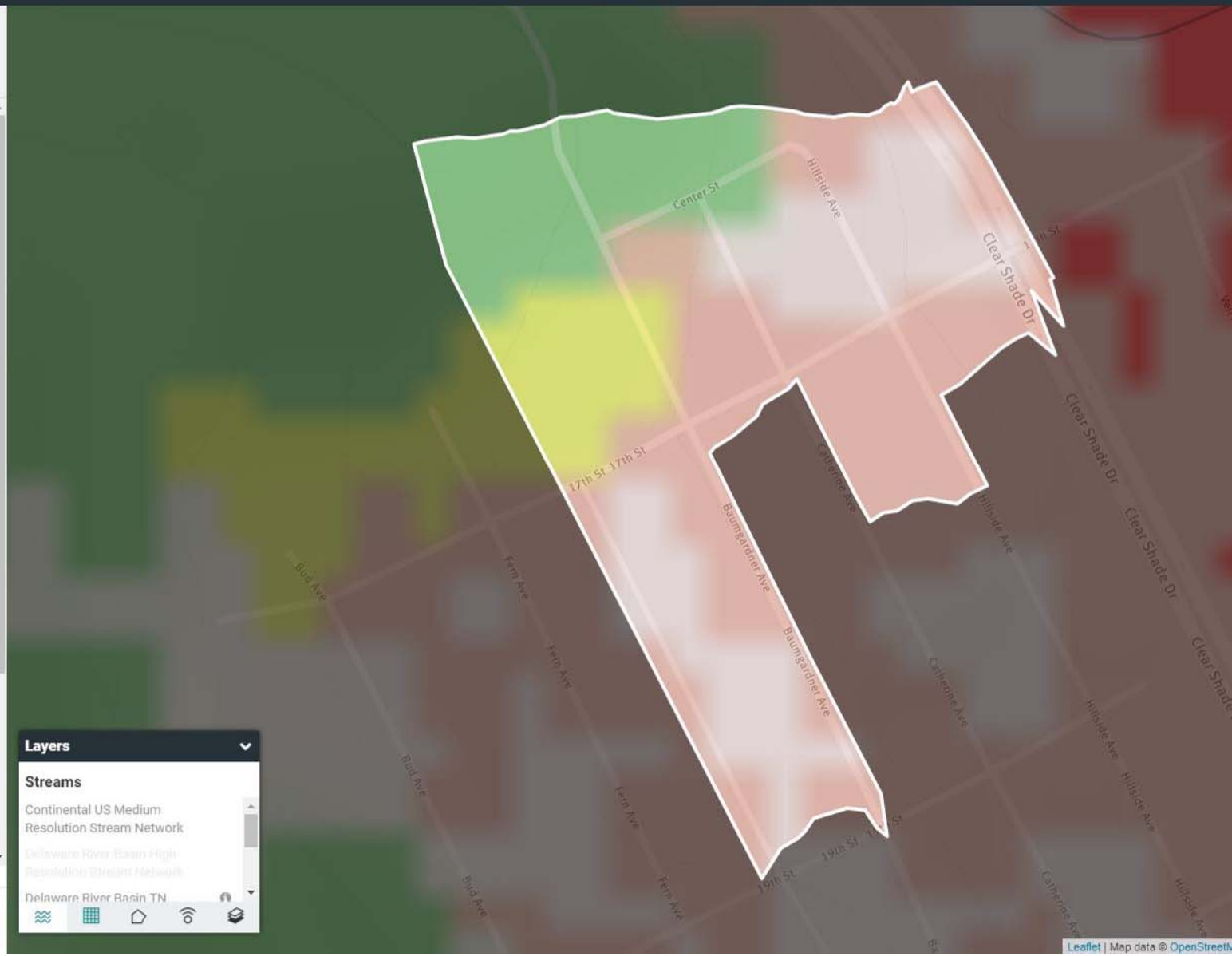
Related Layer: National Land Cover Database ✖ Turn off

Source: National Land Cover Database (NLCD 2011)



Type	Area (m²)	Coverage (%)
Developed, Low Intensity	19,738.75	37.9
Developed, Open Space	17,047.11	32.8
Deciduous Forest	8,972.16	17.2
Pasture/Hay	5,383.30	10.3
Developed, High Intensity	897.22	1.7
Evergreen Forest	0.00	0.0
Barren Land (Rock/Sand/Clay)	0.00	0.0
Developed, Medium Intensity	0.00	0.0
Perennial Ice/Snow	0.00	0.0
Mixed Forest	0.00	0.0
Shrub/Scrub	0.00	0.0

Change area | Select a model



Appendix 3 – Proposed BMP Analysis

Windber Borough - MS4 Polution Reduction Plan - BMP Selection & TSS Reduction Summaries							
Impaired Surface Water No. 1 - Paint Creek (Upper Section)							
BMP	BMP Type	Undeveloped Area (acre)	Pervious Area (acre)	Impervious Area (acre)	Total TSS Loading (lb/yr)	Effectiveness Value	Total TSS Reduction (lb/yr)
WB-PC-PBMP-1	Street Sweeping	0.00	0.00	10.05	18,549.29	9.0%	1,669.44
WB-PC-PBMP-2	Solids Removal	116.28	51.03	51.87	106,896.50	5.0%	5,344.83
WB-PC-PBMP-3	Stream Restoration	100.00 ft			N/A	44.88 lbs/ft/yr	4,488.00
						Total	**11,502.26**
Paint Creek Required TSS Reduction (10% of Total TSS Loading) (lb/yr) =					**10,689.65**		
Paint Creek Total Planned TSS Reduction (lb/yr) =					**11,502.26**		
Impaired Surface Water No. 2 - Seese Run							
BMP	BMP Type	Undeveloped Area (acre)	Pervious Area (acre)	Impervious Area (acre)	Total TSS Loading (lb/acre/yr)	Effectiveness Value	Total TSS Reduction (lb/acre/yr)
WB-SR-PBMP-1	Street Sweeping	0.00	0.00	8.43	15,559.25	9.0%	1,400.33
WB-SR-PBMP-2	Solids Removal	12.47	41.08	32.08	74,299.43	5.0%	3,714.97
WB-SR-PBMP-3	Vegetated Swale	0.00	3.16	2.19	4,968.91	50.0%	2,484.45
						Total	**7,599.76**
Seese Run Required TSS Reduction (10% of Total TSS Loading) (lb/yr) =					**7,422.94**		
Seese Run Total Planned TSS Reduction (lb/yr) =					**7,599.76**		

Sewershed Information (Areas in acres)						
BMP	Street Area			Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-PBMP-1	10.05			0.00	0.00	10.05
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	0.00	18,549.29				
Sewershed Summary						
BMP	**Street Area (acres)**			**Total TSS Loading (lb/yr)**		
WB-PC-PBMP-1	**10.05**			**18,549.29**		
BMP Type		**Effectiveness Value**		**Total TSS Loading Reduction (lb/yr)**		
Street Sweeping (25 times/yr)		**9%**		**1,669.44**		

Sewershed Information (Areas in acres)						
BMP	Street Area			Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-PBMP-1	8.43			0.00	0.00	8.43
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	0.00	15,559.25				
Sewershed Summary						
BMP	**Street Area (acres)**			**Total TSS Loading (lb/yr)**		
WB-SR-PBMP-1	**8.43**			**15,559.25**		
BMP Type		**Effectiveness Value**		**Total TSS Loading Reduction (lb/yr)**		
Street Sweeping (25 times/yr)		**9%**		**1,400.33**		

Sewershed Information (Areas in acres)						
BMP	Tributary Area			Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-PBMP-3	5.35			0.00	3.16	2.19
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	26.9%	73.1%	0.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	927.28	4,041.63				
Sewershed Summary						
BMP	**Tributary Area (acres)**			**Total TSS Loading (lb/yr)**		
WB-SR-PBMP-3	**5.35**			**4,968.91**		
BMP Type		**Effectiveness Value**		**Total TSS Loading Reduction (lb/yr)**		
Vegetated Open Channel		**50%**		**2,484.45**		

Appendix 3 – Proposed BMP Analysis

Windber Borough - MS4 Polution Reduction Plan - BMP Selection & TSS Reduction Summaries							
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WB-PC-PBMP-1	Street Sweeping	0.00	0.00	10.05	18,549.29	9.0%	1,669.44
WB-PC-PBMP-2	Solids Removal	116.28	51.03	51.87	106,896.50	5.0%	5,344.83
WB-PC-PBMP-3	Stream Restoration	100.00 ft			N/A	44.88 lbs/ft/yr	4,488.00
						Total	**11,502.26**
Paint Creek Required TSS Reduction (10% of Total TSS Loading) (lb/yr) =					**10,689.65**		
Paint Creek Total Planned TSS Reduction (lb/yr) =					**11,502.26**		
Impaired Surface Water No. 2 - Seese Run							
BMP	BMP Type	Undeveloped Area (acre)	Pervious Area (acre)	Impervious Area (acre)	Total TSS Loading (lb/acre/yr)	Effectiveness Value	Total TSS Reduction (lb/acre/yr)
WB-SR-PBMP-1	Street Sweeping	0.00	0.00	8.43	15,559.25	9.0%	1,400.33
WB-SR-PBMP-2	Solids Removal	12.47	41.08	32.08	74,299.43	5.0%	3,714.97
WB-SR-PBMP-3	Vegetated Swale	0.00	3.16	2.19	4,968.91	50.0%	2,484.45
						Total	**7,599.76**
Seese Run Required TSS Reduction (10% of Total TSS Loading) (lb/yr) =					**7,422.94**		
Seese Run Total Planned TSS Reduction (lb/yr) =					**7,599.76**		

Sewershed Information (Areas in acres)						
BMP	Street Area			Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-PC-PBMP-1	10.05			0.00	0.00	10.05
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	0.00	18,549.29				
Sewershed Summary						
BMP	**Street Area (acres)**			**Total TSS Loading (lb/yr)**		
WB-PC-PBMP-1	**10.05**			**18,549.29**		
BMP Type		**Effectiveness Value**		**Total TSS Loading Reduction (lb/yr)**		
Street Sweeping (25 times/yr)		**9%**		**1,669.44**		

Sewershed Information (Areas in acres)						
BMP	Street Area			Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-PBMP-1	8.43			0.00	0.00	8.43
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	0.00	15,559.25				
Sewershed Summary						
BMP	**Street Area (acres)**			**Total TSS Loading (lb/yr)**		
WB-SR-PBMP-1	**8.43**			**15,559.25**		
BMP Type		**Effectiveness Value**		**Total TSS Loading Reduction (lb/yr)**		
Street Sweeping (25 times/yr)		**9%**		**1,400.33**		

Sewershed Information (Areas in acres)						
BMP	Tributary Area			Undeveloped Area	Developed Pervious Area	Developed Impervious Area
WB-SR-PBMP-3	5.35			0.00	3.16	2.19
Land Cover Distribution						
Undeveloped	Pasture/Hay	Developed (Open Space)	Developed (Low Intensity)	Developed (Medium Intensity)	Developed (High Intensity)	Total
0.0%	0.0%	26.9%	73.1%	0.0%	0.0%	100.0%
TSS Loading (lb/yr)						
Undeveloped	Developed (Pervious)	Developed (Impervious)				
0.00	927.28	4,041.63				
Sewershed Summary						
BMP	**Tributary Area (acres)**			**Total TSS Loading (lb/yr)**		
WB-SR-PBMP-3	**5.35**			**4,968.91**		
BMP Type		**Effectiveness Value**		**Total TSS Loading Reduction (lb/yr)**		
Vegetated Open Channel		**50%**		**2,484.45**		

Section 8 – Progress Report

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) ANNUAL/PROGRESS REPORT

For the Reporting Period: May 31, 2016 to September 12, 2017

☐ **Annual Report** ☒ **Progress Report** **Due Date: September 16, 2017**
☐ **New Permittee** ☐ **Renewal Permittee**

GENERAL INFORMATION

Permittee Name:	**Windber Borough**	NPDES Permit No.:	PA**G136340**
Mailing Address:	**1401 Graham Avenue**	Effective Date:	**March 16, 2013**
City, State, Zip:	**Windber, PA 15963**	Expiration Date:	**March 15, 2018**
MS4 Contact Person:	**James Furmanchik**	Renewal Due Date:	**September 16, 2017**
Title:	**Borough Manager**	Admin. Extended?	☐ Yes ☒ No
Phone:	**(814) 467-9014**	Municipality:	**Windber Borough**
Email:	**windbermanager@comcast.net**	County:	**Somerset**

Co-Permittees (if applicable): **N/A**

WATER QUALITY INFORMATION

Are there any discharges to waters within the Chesapeake Bay Watershed? ☐ Yes ☒ No

Identify all surface waters that receive stormwater discharges from storm sewers within the MS4 urbanized area and provide the requested information (see instructions).

Receiving Water Name	Ch. 93 Class.	Impaired?	Cause(s)	TMDL?	WLA?
Paint Creek	CWF	Yes	Metals/pH/Siltation	Yes	Yes
Seese Run	CWF	Yes	Turbidity/Siltation	Yes	Yes
Unnamed Tributary to Seese Run	CWF	No	N/A	Yes	No
Weaver Run	CWF	Yes	Metals/pH	Yes	No

Identify any Wasteload Allocations (WLAs) identified in TMDLs for the MS4, if applicable. Identify the pollutant(s) and mass load(s)):

Paint Creek - WLA - (Al 44,432 lb/yr, Fe 89,832 lb/yr, Mn 54,991 lb/yr)
Seese Run - WLA - (Al 1,407 lb/yr, Fe 3,170 lb/yr, Mn 870 lb/yr)

GENERAL MINIMUM CONTROL MEASURE (MCM) INFORMATION

Have you completed all MCM activities required by the permit for this reporting period? ☐ Yes ☒ No

Provide current contact name and phone number information for the required MCMs (if same as page 1, leave blank):

MCM	Contact Name	Phone
#1 Public Education and Outreach on Storm Water Impacts	**James Furmanchik**	**(814) 467-9014**
#2 Public Involvement/Participation	**James Furmanchik**	**(814) 467-9014**
#3 Illicit Discharge Detection and Elimination (IDD&E)	**James Furmanchik**	**(814) 467-9014**
#4 Construction Site Storm Water Runoff Control	**James Furmanchik**	**(814) 467-9014**
#5 Post-Construction Storm Water Management in New Development and Redevelopment	**James Furmanchik**	**(814) 467-9014**
#6 Pollution Prevention / Good Housekeeping	**James Furmanchik**	**(814) 467-9014**

MCM #1 – PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

BMP #1: Develop, implement and maintain a written Public Education and Outreach Program

Measurable Goal: *For new permittees a Public Education and Outreach Program (PEOP) shall be developed and implemented during the first year of permit coverage and shall be re-evaluated each permit year thereafter and revised as needed. For renewal permittees, the existing PEOP shall be reviewed and revised as necessary. The permittee's PEOP shall be designed to achieve measurable improvements in the target audience's understanding of the causes and impacts of stormwater pollution and the steps they can take to prevent it.*

1. For new permittees only, attach the written PEOP or a summary thereof to the first report submitted to DEP.

2. If you are not a new permittee, did you complete and submit your written PEOP to DEP? ☒ Yes ☐ No
   If Yes, provide the latest submission date: **June 21, 2016**

3. Date of last evaluation of or revision to the PEOP: **Evaluation of the PEOP is in progress with possible revisions to follow.**

4. What were the plans and goals for public education and outreach for the reporting period?

   To provide educational media on stormwater management to the target audience list and discuss stomwater management at least once annually at a regular public meeting.

5. Did the MS4 achieve its goal(s) for the PEOP during the reporting period? ☒ Yes ☐ No

   Explain the rationale for your answer:

   Stormwater management information is available on the Borough website, the "Windber Spirit" included an article on stormwater this past year and is mailed to local residents, and "When it Rains, It Drains" pamphlets are made available to the public in the Borough building.

6. Identify specific plans and goals for public education and outreach for the upcoming year:

   Add links to the DEP and EPA websites to the Borough website. Evaluation of the PEOP is in progress with possible revisions to follow.

BMP #2: Develop and maintain lists of target audience groups present within the areas served by your MS4

Measurable Goal: *For new permittees, the lists shall be developed within the first year of coverage under the permit and reviewed and updated as necessary every year thereafter. For renewal permittees, the lists shall continue to be reviewed and updated annually.*

1. For new permittees only, attach your target audience list(s) to the first report submitted to DEP.

2. If you are not a new permittee, did you complete and submit your target audience list to DEP? ☒ Yes ☐ No
   If Yes, provide the latest submission date: **June 21, 2016**

3. Date of last review or revision to target audience list(s): **June 21, 2016**

BMP #3: Annually publish at least one educational item on your Stormwater Management Program

Measurable Goal: *For new permittees, stormwater educational and informational items shall be produced and published in print and/or on the Internet within the first year of permit coverage. In subsequent years (and for renewal permittees), the list of items published and the content in these items shall be reviewed, updated, and maintained annually. Your publications shall contain stormwater educational information that addresses one or more of the 6 MCMs.*

1. For new permittees only, attach your published stormwater educational or informational materials to the first report submitted to DEP.

2. If you are not a new permittee, did you complete and submit your published stormwater educational or informational materials to DEP? ☐ Yes ☒ No
   If Yes, provide the latest submission date:

3. Do you have a municipal newsletter? ☒ Yes ☐ No
   If Yes, how often was it published during the reporting period and what MS4-related material did it contain?
   The "Windber Spirit" included one article that discussed stormwarer within the past year.

4. Do you have a municipal website? ☒ Yes ☐ No (URL: **http://www.windberboro.com/StormWater.asp**)
   If Yes, what MS4-related material does it contain?
   MCM Summary information, general information, rain barrel brochure, various brochures and posters.

5. Describe any other method(s) used during the reporting period to provide information on stormwater to the public:
   Stormwater is ocassionally discussed at regular public meetings.

6. Date of most recent review and/or update to published stormwater educational materials: **Evaluation of the PEOP is in progress with possible revisions to follow.**

7. Identify specific plans for the publication of stormwater materials for the upcoming year:
   Evaluation of the PEOP is in progress with possible revisions to follow.

BMP #4: Distribute stormwater educational materials to the target audiences

Measurable Goal: *All permittees shall select and utilize at least two distribution methods in each permit year. These are in addition to the newsletter and website provisions of BMP #3.*

Identify the two additional methods of distributing stormwater educational materials during the previous year (e.g., displays, posters, signs, pamphlets, booklets, brochures, radio, local cable TV, newspaper articles, other advertisements, bill stuffers, posters, presentations, conferences, meetings, fact sheets, giveaways, or storm drain stenciling).

Posters and brochures.

MCM #2 – PUBLIC INVOLVEMENT/PARTICIPATION

BMP #1: Develop, implement and maintain a written Public Involvement and Participation Program (PIPP)

Measurable Goal: *A new permittee's PIPP shall be developed and implemented during the first year of coverage under this General Permit. All permittees shall re-evaluate the PIPP each permit year and revise as needed. Your PIPP shall include, but not be limited to:*

a. Opportunities for the public to participate in the decision-making processes associated with the development, implementation, and update of programs and activities related to this General Permit.
b. Methods of routine communication to groups such as watershed associations, environmental advisory committees, and other environmental organizations that operate within proximity to the permittee's regulated small MS4s or their receiving waters.
c. Making your periodic reports available to the public on your website, at your municipal offices, or by US Mail upon request.

1. For new permittees only, attach your written PIPP or a summary thereof to the first report submitted to DEP.

2. If you are not a new permittee, did you complete and submit your written PIPP or summary to DEP? ☒ Yes ☐ No
   If Yes, provide the latest submission date: **June 21, 2016**

3. Date of last review and/or update to the PIPP: **Review of the PIPP is in progress with possible revisions to follow.**

4. Explain how your PIPP addresses items a, b and c of the Measurable Goal:
   The Borough holds regular monthly meetings where the public can submit comments and questions regarding stormwater. The Borough discusses stormwater at these regular meetings. Information is availble at all times on the Borough's website. Meeting minutes are public record.

BMP #2: Prior to adoption of any ordinance (municipal permittees) or SOP (non-municipal permittees) required by the permit, provide adequate public notice and opportunities for public review, input, and feedback.

Measurable Goal: *Advertise any proposed MS4 Stormwater Management Ordinance or SOP, provide opportunities for public comment, evaluate any public input and feedback, and document the comments received and the municipality's response.*

1. Was an MS4-related ordinance or SOP developed during the reporting period? ☐ Yes ☒ No

2. If Yes, describe how you advertised the draft ordinance and how you provided opportunities for public review, input and feedback:

3. If an ordinance or SOP was enacted/developed or amended during the reporting period, provide the following information:

Ordinance No. / SOP Name	Date of Public Notice	Date of Public Hearing	Date Enacted

BMP #3: Regularly solicit public involvement and participation from the target audience groups. This should include an effort to solicit public reporting of suspected illicit discharges. Assist the public in their efforts to help implement your SWMP. Conduct public meetings to discuss the on-going implementation of your SWMP.

***Measurable Goals**: Conduct at least one public meeting per year to solicit public involvement and participation from target audience groups. The public should be given reasonable notice through the usual outlets a reasonable period in advance of each meeting. During the meetings, you should present a summary of your progress, activities, and accomplishments with implementation of your SWMP, and you should provide opportunities for the public to provide feedback and input. Your presentation can be made at specific MS4 meetings or during any other public meeting. Under this MCM, you should document and report instances of cooperation and participation in your activities; presentations you made to local watershed organizations and conservation organizations; and similar instances of participation or coordination with organizations in your community. You also should document and report activities in which members of the public assisted or participated in your meetings and in the implementation of your SWMP, including education activities or organized implementation efforts such as cleanups, monitoring, storm drain stenciling, or others.*

1. Date of the public meeting(s): **Meetings held every second Tuesday**
2. How were meeting(s) advertised to the public? **Once annually in newspaper**
3. Indicate where the meeting(s) were held and the number of attendees:
   Windber Borough Municipal Building / Attendance varies
4. What types of MS4-related activities did you solicit public involvement and participation for?
   Opportunities for public discussion is provided at every meeting.
5. What MS4-related activities did the public participate in?
   Unknown

MCM #3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDD&E)

BMP #1: You shall develop and implement a written program for the detection, elimination, and prevention of illicit discharges into your regulated MS4s. Your program shall include dry weather field screening of outfalls for non-stormwater flows, and sampling of dry weather discharges for selected chemical and biological parameters. Test results shall be used as indicators of possible discharge sources.

***Measurable Goal**: For new permittees, the IDD&E program shall be developed during the first year of coverage under this General Permit and shall be implemented and evaluated each year thereafter. For renewal permittees, the existing IDD&E program shall continue to be implemented and evaluated annually. Records shall be kept of all outfall inspections, flows observed, results of field screening and testing, and other follow-up investigation and corrective action work performed under this program.*

1. For new permittees only, attach your written IDD&E program to the first report.
2. If you are not a new permittee, did you complete and submit your written IDD&E program to DEP? ☒ Yes ☐ No
   If Yes, provide the latest submission date: **June 21, 2016**
3. Date of last review and/or update to IDD&E program: **Review of the IDD&E Program is in progress with possible revisions to follow.**

BMP #2: Develop and maintain a map of your regulated small MS4. The map must also show the location of all outfalls and the locations and names of all surface waters of the Commonwealth (e.g., creek, stream, pond, lake, basin, swale, channel) that receive discharges from those outfalls.

***Measurable Goals**: For new permittees, develop the map(s) of your regulated small municipal separate storm sewer systems and the information on all outfalls from your regulated small MS4 by the end of the fourth (4th) year of permit coverage. For renewal permittees, the existing map(s) of your regulated small MS4 shall be updated and maintained as necessary during each year of coverage under the permit.*

1. Have you completed a map(s) of all outfalls and receiving waters of your storm sewer system? ☒ Yes ☐ No

2. For new permittees only, attach the completed map to the 4th year Annual Report.

3. Date of last update or revision to map(s): **September 1, 2017**

4. Total number of discharge points in your storm sewer system that:
   Discharge directly to surface waters (outfalls): **49**
   Discharge to storm sewers owned by others: **1**

5. Total number of outfalls that are mapped at this time: **49**

BMP #3: In conjunction with the map(s) created under BMP #2 (either on the same map or on a different map), new permittees shall show, and renewal permittees shall update, the entire storm sewer collection system, including roads, inlets, piping, swales, catch basins, channels, basins, and any other features of the permittee's storm sewer system including municipal boundaries and/or watershed boundaries.

***Measurable Goals**: For new permittees, develop the map(s) by the end of the fourth (4th) year of coverage under the permit and update and maintain the map(s) as necessary each year of permit coverage thereafter. For renewal permittees, update and maintain the map(s) as necessary during each year of permit coverage.*

1. Have you completed a map(s) that includes roads, inlets, piping, swales, catch basins, channels, basins, municipal boundaries and watershed boundaries? ☒ Yes ☐ No

2. If Yes, is the map(s) on the same map(s) as for outfalls and receiving waters? ☒ Yes ☐ No

3. For new permittees only, attach the completed map to the 4th year Annual Report.

4. If you are not a new permittee, did you complete and submit your map to DEP? ☒ Yes ☐ No
   If Yes, provide the latest submission date: **September 13, 2017**

5. Date of last update or revision to map: **September 1, 2017**

BMP #4: Following the IDD&E program created pursuant to BMP #1, the permittee shall conduct outfall field screening, identify the source of any illicit discharges, and remove or correct any illicit discharges using procedures developed under BMP #1.

For all permittees, outfall inspections need to be prioritized according to the perceived chance of illicit discharges within the outfall's contributing drainage area. Observations of each outfall shall be recorded each time an outfall is screened, regardless of the presence of dry weather flow. Proper quality assurance and quality control procedures shall be followed when collecting, transporting or analyzing water samples. All outfall inspection information shall be recorded on the Outfall Reconnaissance Inventory/Sample Collection field sheet excerpted from the Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments (CWP, October 2004). Adequate written documentation shall be maintained to justify a determination that an outfall flow is not illicit. If an outfall flow is illicit, the actions taken to identify and eliminate the illicit flow also shall be documented.

The results of outfall inspections and actions taken to remove or correct illicit discharges shall be summarized in periodic reports.

1. For new permittees only, were at least 40% of all outfalls screened during dry weather? ☐ Yes ☐ No

   If Yes for #1, indicate the number screened and the percent of all outfalls it represents. If No for #1, indicate reason(s) why this was not completed:

   Are you on pace to screen all outfalls twice during the permit term? ☐ Yes ☐ No

2. For renewal permittees, indicate the percent of outfalls screened during the reporting period: **0**%

   Are you on pace to screen all outfalls once during the permit term? ☐ Yes ☒ No

3. For all permittees, indicate the percent of outfalls screened that revealed dry weather flows: %

4. Did any dry weather flows reveal color, turbidity, sheen, odor, floating or submerged solids? ☐ Yes ☐ No

5. If Yes for #4, attach all sample results to this report with a map identifying the sample location. Explain the corrective action(s) taken in the attachment.

6. Do you use the "Outfall Reconnaissance Inventory / Sample Collection Field Sheet" provided in the permit?

   ☐ Yes ☐ No

   If No, attach a copy of your monitoring form.

BMP #5: Enact a stormwater management ordinance (municipal entities) or develop an SOP (non-municipal entities) to implement and enforce a stormwater management program that includes prohibition of non-stormwater discharges to the regulated small MS4.

***Measurable Goal**: Within the first year of coverage under the permit, new permittees shall enact and implement an ordinance from an Act 167 Plan approved by the Department in 2005 or later, the MS4 Stormwater Management Ordinance; or an ordinance that satisfies all applicable requirements in a completed and signed MS4 Stormwater Management Ordinance Checklist. (For non-municipal permittees, new permittees shall develop and implement a Standard Operating Procedure (SOP) within the first year of coverage).*

Renewal permittees must continue to maintain, update, implement, and enforce a Stormwater Management Ordinance that satisfies all applicable requirements. (For non-municipal permittees, the SOP satisfies this requirement. If no existing SOP exists, it should be developed during the first year of coverage).

***Measurable Goal**: New permittees shall submit a letter signed by a municipal official, municipal engineer, or the municipal solicitor as an attachment to their first year report certifying the enactment of an ordinance that meets all applicable requirements of this permit. Renewal permittees shall update their existing ordinance, if necessary, and submit documentation of completion to the Department. (For non-municipal permittees, submit the SOP to the first report).*

1. Do you have an ordinance (municipal) or SOP or other mechanism (non-municipal) that prohibits non-stormwater discharges? ☒ Yes ☐ No

   If Yes, indicate the date of the ordinance or SOP: **May 11, 2011**

2. For new permittees only, attach an ordinance (or SOP) and letter from an official, engineer or solicitor that prohibits non-stormwater discharges to the first report submitted to DEP.

3. If you are not a new permittee, did you complete and submit your ordinance (or SOP) and letter from an official, engineer or solicitor that prohibits non-stormwater discharges to DEP? ☒ Yes ☐ No

4. Were there any violations of the ordinance during the reporting period? ☐ Yes ☒ No

   If Yes, describe what enforcement actions were taken for each violation:

BMP #6: Provide educational outreach to public employees, business owners and employees, property owners, the general public and elected officials (i.e., target audiences) about the program to detect and eliminate illicit discharges.

***Measurable Goals**: During each year of permit coverage, appropriate educational information concerning illicit discharges shall be distributed to the target audiences using methods outlined under MCM #1. If not already established, set up and promote a stormwater pollution reporting mechanism (e.g., a complaint line with message recording) by the end of the first year of permit coverage for the public to use to notify you of illicit discharges, illegal dumping or outfall pollution. Respond to all complaints in a timely and appropriate manner. Document all responses, include the action taken, the time required to take the action, whether the complaint was resolved successfully.*

1. Was IDD&E-related information distributed to public employees, businesses, and the general public during the reporting period? ☐ Yes ☒ No

   If Yes, what was distributed?

2. Is there a well-publicized method for employees, businesses and the public to report stormwater pollution incidents?
   ☒ Yes ☐ No

3. Do you maintain documentation of all responses, action taken, and the time required to take action? ☒ Yes ☐ No

MCM #4 – CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

Are you relying on PA's statewide program for stormwater associated with construction activities to satisfy this MCM?

☒ Yes ☐ No **(If No, complete all remaining questions for this MCM; if Yes, skip to MCM #5)**.

BMP #1: Develop your program consisting of all procedures necessary to comply with the requirements of this MCM. Your program shall provide for construction stormwater permitting, construction inspection, and enforcement of installation and maintenance of the necessary E&S control measures. Your program shall describe clearly how your program will be coordinated with DEP's NPDES Construction Stormwater Permitting program.

***Measurable Goals**: For new permittees, the written program for this MCM shall be developed during the first year of permit coverage; nevertheless, you are responsible for implementation of this MCM during entire term of this permit, including the time you are developing your program.*

For all permittees, your program shall be reviewed and updated during each year of permit coverage. The purpose of the written program is to establish clear roles and responsibilities for the implementation of the MCM #4 requirements. An agreement between the permittee, the CCD, and any other resources to be used by the permittee that clearly defines roles for each entity is recommended. If an agreement is made, you shall place and keep a written copy in your file, consistent with the Retention of Records requirements in this Permit. Please note that in accordance with Section A.2.h in Part A of the Authorization to Discharge, as the permittee you are responsible to ensure that implementation of all requirements under this Permit are fulfilled.

1. For new permittees only, attach the written stormwater associated with construction activities program to the first report submitted to DEP.

2. If you are not a new permittee, did you complete and submit your written stormwater associated with construction activities program to DEP? ☐ Yes ☐ No

   If Yes, provide the latest submission date:

3. Date of last update or revision to the stormwater associated with construction activities program:

BMP #2: The permittee shall enact, implement, and enforce an ordinance to require the implementation of erosion and sediment control BMPs, as well as sanctions to ensure compliance.

***Measurable Goal**: Within the first year of coverage under the permit, new permittees shall enact and implement an ordinance that meets all applicable requirements of this permit. (Non-municipal permittees shall develop and implement an SOP).*

***Measurable Goal**: Permittees shall submit a letter signed by a municipal official, municipal engineer or the municipal solicitor as an attachment to their first periodic report certifying the enactment and implementation of a stormwater management ordinance that meets all requirements of this permit.*

1. For new permittees only, attach an ordinance (or SOP) and letter from an official, engineer or solicitor that addresses stormwater associated with construction activities to the first report submitted to DEP.

2. If you are not a new permittee, did you complete and submit your ordinance (or SOP) and letter from an official, engineer or solicitor that addresses stormwater associated with construction activities to DEP? ☐ Yes ☐ No

   If Yes, provide the latest submission date:

BMP #3: Develop and implement requirements for construction site operators to control waste at the construction site that may cause adverse impacts to water quality. While sediment is the most common pollutant of concern for MCM #4, there are other types of pollutants that also can be a concern and the intent of this BMP is to address these other types of pollutants, such as, but not limited to, discarded building materials, washout from concrete trucks, chemicals, litter, and sanitary waste.

***Measurable Goal**: New permittees shall establish requirements to address this BMP by the end of the first year of permit coverage. Renewal permittees shall continue to implement existing requirements and update as necessary. This could be implemented by written municipal ordinance/code provisions, by standard notes on the site plans, by any other written format that accomplishes the objectives of this BMP, or by any combination of these measures. The goal of this BMP shall be communicated to construction site operators during pre-construction meetings. This BMP shall be implemented during each year of the MS4 permit. Permittees must prepare and maintain records of site inspections, including dates and results and you must maintain these records in accordance with the Retention of Records requirements in this Permit.*

1. Identify the mechanism(s) in place to regulate construction site operators and wastes produced at construction sites:

2. During the reporting period what has been the results of implementing the mechanism(s) described above?

BMP #4: Develop and implement procedures for the receipt and consideration of public inquiries, concerns, and information submitted by the public (to the permittee) regarding local construction activities. The permittee shall demonstrate acknowledgement and consideration of the information submitted, whether submitted verbally or in writing.

***Measurable Goal**: Permittees shall establish and implement a tracking system to keep a record of any submitted public information as well as your response, actions, and results. This BMP shall be implemented during each year of coverage under this General Permit and information should be submitted with the each periodic report.*

Describe the tracking system established for documenting public information concerning local construction activities and describe responses taken during the reporting period:

MCM #5 – POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

Are you relying on PA's statewide program for MCM #5 BMPs #1 - #3? ☒ Yes ☐ No

(**If No, complete all remaining questions for this MCM; if Yes, skip to BMP #4**)

BMP #1: Develop a written procedure that describes how the permittee shall address all required components of this MCM. Guidance can be found in the Pennsylvania Stormwater Best Management Practices Manual.

***Measurable Goal**: The written procedure shall be developed by the end of the first year of permit coverage and be reviewed and updated every permit year thereafter, as needed. The intent of BMP #1 is for the permittee to describe how the listed tasks will be accomplished.*

1. For new permittees only, attach your written procedure for post-construction management to the first report.

2. If you are not a new permittee, did you complete and submit your written procedure for post-construction management to DEP? ☐ Yes ☐ No

If Yes, provide the latest submission date:

3. Date of last review or update of post-construction management procedure:

BMP #2: Require the implementation of a combination of structural and/or non-structural BMPs that are appropriate to the local community, that minimize water quality impacts, and that are designed to maintain pre-development runoff conditions. This requirement can be met by ensuring that the selected BMPs comply with the municipal Stormwater Management Ordinance that meets the requirements of the permit.

Measurable Goal*: All qualifying development or redevelopment projects shall be reviewed to ensure that their post-construction stormwater management plans and selected BMPs conform to the applicable requirements. A tracking system (e.g., database, spreadsheet, or written list) shall be maintained to record qualifying projects and their associated BMPs. In your records, you shall note if there are no qualifying projects in a calendar year.*

1. Number of development or redevelopment projects in urbanized area during reporting period:

2. Describe the tracking system in place:

3. Describe the structural and/or non-structural BMPs that were required for these projects:

BMP #3: Ensure that controls are installed that shall prevent or minimize water quality impacts.

Measurable Goal*: All qualifying development or redevelopment projects shall be inspected during the construction phase to ensure proper installation of the approved structural PCSM BMPs. A tracking system (e.g., database, spreadsheet, or written list) shall be implemented to track the inspections conducted and to track the results of the inspections (e.g., BMPs were, or were not, installed properly). Permittees not relying on DEP's statewide QLP to satisfy requirements under this BMP shall summarize construction inspections and results in periodic reports. See BMP #6 for requirements related to post-construction inspection and tracking of PCSM BMPs to ensure that the operation and maintenance plan is being implemented.*

If there were development or redevelopment projects during the reporting period, attach documentation of inspections of PCSM BMPs to this report.

BMP #4: The permittee shall enact, implement, and enforce an ordinance (municipal) or SOP or other regulatory mechanism (non-municipal) to address post-construction stormwater runoff from new development and redevelopment projects, as well as sanctions and penalties associated with non-compliance, to the extent allowable under State or local law.

Measurable Goal*: Within the first year of coverage under this permit, new permittees shall enact and implement a stormwater management ordinance (municipal) or SOP (non-municipal) that meets the requirements of this General Permit.*

Measurable Goal*: All permittees shall submit a letter signed by a municipal official, municipal engineer or the municipal solicitor as an attachment to their first periodic report certifying the enactment of a stormwater management ordinance that meets the requirements of this General Permit.*

1. Do you have an ordinance (or SOP) to address post-construction stormwater runoff from new and redevelopment projects and does it include sanctions? ☒ Yes ☐ No

   If Yes, indicate the date of the ordinance or SOP: **May 11, 2011**

   For new permittees only, attach a copy of the ordinance or SOP.

2. If you are not a new permittee, has the ordinance (or SOP) been submitted to DEP with a letter from an official, engineer or solicitor that certifies the enactment of an ordinance or SOP for PCSM activities? ☒ Yes ☐ No

3. Do you have authority to take enforcement action for failure to properly operate and maintain stormwater practices/facilities? ☒ Yes ☐ No

BMP #5: Develop and implement measures to encourage and expand the use of Low Impact Development (LID) in new and redevelopment. Measures also should be included to encourage retrofitting LID into existing development. DEP's Pennsylvania Stormwater Best Management Practices Manual provides guidance on implementing LID practices.

***Measurable Goal**: In your inventory of development and redevelopment projects authorized for construction since March 10, 2003, that discharge stormwater to your regulated MS4s, indicate which projects incorporated LID practices and for each project list and track the BMPs that were used.*

***Measurable Goal**: Enact ordinances consistent with LID practices and repeal sections of ordinances that conflict with LID practices. Progress with enacting and updating your ordinances to enable the use of LID practices shall be summarized in the periodic reports.*

1. Identify ordinances enacted or updated during the reporting period to ensure consistency with LID practices:

BMP 6: Ensure adequate operation and maintenance of all post-construction stormwater management BMPs installed at all qualifying development or redevelopment projects (including those owned or operated by the permittee).

***Measurable Goal**: Within the first year of coverage under this permit, new permittees shall develop and implement a written inspection program to ensure that stormwater BMPs are properly operated and maintained. The program shall include sanctions and penalties for non-compliance. All permittees shall review and update the inspection program annually and shall continue to implement this BMP.*

***Measurable Goal**: An inventory of PCSM BMPs shall be developed by permittees and shall be continually updated during the term of coverage under the permit as development projects are reviewed, approved, and constructed. This inventory shall include all PCSM BMPs installed since March 10, 2003 that discharge directly or indirectly to your regulated small MS4s. The inventory also should include PCSM BMPs discharging to the regulated small MS4 system that may cause or contribute to violation of water quality standard. The inventory shall include:*

- *all PCSM BMPs that were installed to meet requirements in NPDES Permits for Stormwater Discharges Associated with Construction Activities approved since March 10, 2003;*
- *the exact location of the PCSM BMP (e.g., street address);*
- *information (e.g., name, address, phone number(s)) for BMP owner and entity responsible for BMP Operation and Maintenance (O&M), if different from BMP owner;*
- *the type of BMP and the year it was installed;*
- *maintenance required for the BMP type according to the Pennsylvania Stormwater BMP Manual or other manuals and resources;*
- *the actual inspection/maintenance activities for each BMP;*
- *an assessment by the permittee if proper operation and maintenance occurred during the year and if not, what actions the permittee has taken, or shall take, to address compliance with O&M requirements.*

1. For new permittees only, attach the written inspection program to ensure that stormwater BMPs are properly operated and maintained.

2. If you are not a new permittee, did you complete and submit your written inspection program to ensure that stormwater BMPs are properly operated and maintained to DEP? ☒ Yes ☐ No
   If Yes, provide the latest submission date: **first permit period, date unknown. Ordinance is to be followed.**

3. How do you ensure that stormwater BMPs are properly operated and maintained? Explain if you rely on means other than municipal inspections to ensure adequate O&M (consistent with your stormwater ordinance).
   Inspection by Borough employees, Conservation District and DEP inspection

4. Date that inspection program was last reviewed or updated: **May 11, 2011**

5. Total number of sites with PCSM BMPs installed as of the date of this report: **0**

6. Total number of sites inspected during this reporting period: **0**

7. Number of sites found to have PCSM BMP deficiencies: **0**

8. Number of enforcement actions taken during this reporting period: **0**

MCM #6 – POLLUTION PREVENTION / GOOD HOUSEKEEPING

BMP #1: Identify and document all facilities and activities that are owned or operated by the permittee and have the potential for generating stormwater runoff to the regulated small MS4. This includes activities conducted by contractors for the permittee. Activities may include the following: street sweeping; snow removal/deicing; inlet/outfall cleaning; lawn/grounds care; general storm sewer system inspections and maintenance/repairs; park and open space maintenance; municipal building maintenance; new construction and land disturbances; right-of-way maintenance; vehicle operation, fueling, washing and maintenance; and material transfer operations, including leaf/yard debris pickup and disposal procedures. Facilities can include streets; roads; highways; parking lots and other large paved surfaces; maintenance and storage yards; waste transfer stations; parks; fleet or maintenance shops; wastewater treatment plants; stormwater conveyances (open and closed pipe); riparian buffers; and stormwater storage or treatment units (e.g., basins, infiltration/filtering structures, constructed wetlands, etc.).

***Measurable Goal**: By the end of the first year of permit coverage, new permittees shall identify and document all types of municipal operations, facilities and activities and land uses that may contribute to stormwater runoff within areas of municipal operations that discharge to the regulated small MS4. Renewal permittees should have completed this list during the previous permit term. For all permittees, this information shall be reviewed and updated each year of permit coverage, as needed. Part of this effort shall include maintaining a basic inventory of various municipal operations and facilities.*

1. Have you identified all facilities and activities owned and operated by the permitee that have the potential to generate stormwater runoff into the MS4? ☒ Yes ☐ No

2. When was the inventory last reviewed? **August 31, 2012**

3. When was it last updated? **August 31, 2012**

4. How many new facilities and/or activities were added to this inventory during this reporting period? **0**

BMP #2: Develop, implement and maintain a written operation and maintenance (O&M) program for all municipal operations and facilities that could contribute to the discharge of pollutants from the regulated small MS4s, as identified under BMP #1. This program (or programs) shall address municipally owned stormwater collection or conveyance systems, but could include other areas (as identified under BMP #1). The O&M program(s) should stress pollution prevention and good housekeeping measures, contain site-specific information, and address the following areas:

- **Management practices, policies, procedures, etc. shall be developed and implemented to reduce or prevent the discharge of pollutants to your regulated small MS4s. You should consider eliminating maintenance-area discharges from floor drains and other drains if they have the potential to discharge to storm sewers.**
- **Maintenance activities, maintenance schedules, and inspection procedures to reduce the potential for pollutants to reach your regulated small MS4s. You also should review your procedures for maintaining your stormwater BMPs.**
- **Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt / sand (anti-skid) storage locations and snow disposal areas.**
- **Procedures for the proper disposal of waste removed from your regulated small MS4s and your municipal operations, including dredge spoil, accumulated sediments, trash, household hazardous waste, used motor oil, and other debris.**

***Measurable Goal**: During the first year of permit coverage, new permittees shall develop and implement a written O&M program that complies with BMPs #1 and #2. Renewal permittees shall continue to implement their existing program. All permittees shall review the O&M program annually, edit as necessary, and continue to implement during every year of permit coverage.*

1. For new permittees only, attach the written O&M program to the first Annual Report.

2. If you are not a new permittee, did you complete and submit your written O&M program to DEP? ☒ Yes ☐ No

   If Yes, provide the latest submission date: **June 21, 2016**

3. Date of last review or update to O&M program: **August 31, 2012**

BMP #3: Develop and implement an employee training program that addresses appropriate topics to further the goal of preventing or reducing the discharge of pollutants from municipal operations to your regulated small MS4s. The program may be developed and implemented using guidance and training materials that are available from federal, state or local agencies, or other organizations. Any municipal employee or contractor shall receive training. This could include public works staff, building / zoning / code enforcement staff, engineering staff (on-site and contracted), administrative staff, elected officials, police and fire responders, volunteers, and contracted personnel. Training topics should include operation, inspection, maintenance and repair activities associated with any of the municipal operations / facilities identified under BMP #1. Training should cover all relevant parts of the permittee's overall stormwater management program that could affect municipal operations, such as illicit discharge detection and elimination, construction sites, and ordinance requirements.

Measurable Goal*: During the first year of permit coverage, new permittees shall develop and implement a training program that identifies the training topics that will be covered, and what training methods and materials will be used. Renewal permittees shall continue to operate under their existing program. All permittees shall review the training program annually, edit it as necessary, and continue to implement it during every year of permit coverage.*

Measurable Goal*: Your employee training shall occur at least annually (i.e., during each permit coverage year) and shall be fully documented in writing and reported in your periodic reports. Documentation shall include the date(s) of the training, the names of attendees, the topics covered, and the training presenter(s).*

1. For new permittees only, attach the written training program to the first Annual Report.

2. If you are not a new permittee, did you complete and submit your written training program to DEP? ☒ Yes ☐ No
   If Yes, provide the latest submission date: **June 21, 2016**

3. Date of last review or update to training program: **August 31, 2012**

4. Identify the date(s) of employee training, the names of attendees, the topics covered, and the training presenters:
   April 22, 2016, attended by Borough Manager James Furmanchik, training covered an overview of the MS4 program and was presented by Jacob Bolby and Vincent Paczek of The EADS Group.

BEST MANAGEMENT PRACTICES (BMPs)

Provide an assessment of the appropriateness of the BMPs implemented to date, and identify any steps that will be taken to address deficiencies in the BMPs or make changes to BMPs or other aspects of the SWMP developed by the permittee.

MS4 TMDL Plan	Chesapeake Bay Pollutant Reduction Plan (CBPRP)
Is the permittee required to develop an MS4 TMDL Plan? ☐ Yes ☒ No	Is the permittee required to develop a CBPRP? ☐ Yes ☒ No
What is the status of the TMDL Design Details (if applicable)? ☐ Under Development (Due Date:) ☐ Submitted to DEP (Submission Date:) ☐ Approved by DEP (Approval Date:)	What is the status of the CBPRP (if applicable)? ☐ Under Development (Due Date:) ☐ Submitted to DEP (Submission Date:) ☐ Approved by DEP (Approval Date:)

For permittees with DEP-approved MS4 TMDL Plans and/or CBPRPs, describe progress with implementing BMPs and other activities identified in those plans:

For permittees with DEP-approved MS4 TMDL Plans and/or CBPRPs, complete the section below. Identify the required pollutant reductions (for those with MS4 TMDL Plans) or pollutant reductions committed to by the permittee (for those with CBPRPs) and the cumulative reductions achieved through implementing the BMPs, as of the end of the reporting period:

BMP INVENTORY

List all <u>new</u> structural BMPs installed and ongoing non-structural BMPs implemented in the urbanized area <u>during the reporting period</u> that are being used toward achieving load reductions in the permittee's MS4 TMDL Plan and/or CBPRP. Provide a name or description for each BMP, the area, in square feet (sf) that drains to each BMP (drainage area (DA)) (if applicable), the location of the BMP (latitude and longitude), the name of the water body that receives discharges from the BMP (if applicable), the date the BMP was installed or implemented, and whether the BMP was completed pursuant to an NPDES permit for stormwater associated with construction activities or other NPDES permit (check box if done under an NPDES permit).

BMP Name / Description	DA (sf)	Latitude	Longitude	Receiving Waters	Date Installed or Implemented	NPDES Permit?
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OTHER REQUIRED REPORT ELEMENTS

Identify the progress towards achieving the statutory requirements of reducing the discharge of pollutants to the Maximum Extent Practicable (MEP) and complying with water quality standards.

Windber Borough prepared and submitted to PA DEP a "MS4 Program Action Plan" to address MS4 Program deficiencies in August of 2016. Windber Borough is currently working to implement this Action Plan and is also submitting a Pollution Reduction Plan to PA DEP for the sediment impaired sections of Paint Creek and Seese Run.

Provide a summary of stormwater activities planned during the next reporting cycle (not identified previously in this report):

Continued efforts of MCMs as described herein.

Provide a summary of notices, intergovernmental agreements and other relevant documents if the permittee is relying on another governmental entity to satisfy any of its permit obligations

N/A

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

James Furmanchik	
Name of Responsible Official	Signature
(814) 467-9014	9-12-17
Telephone No.	Date

Section 9 – Compliance Inspection Report

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

MS4 COMPLIANCE INSPECTION REPORT

NPDES Permit No.	Mo/Day/Yr	Entry Time	Exit Time	Inspection Type	eFACTS Inspection ID
PAG136340	**6/20/2016**	**9:30**	**12:15**	**CEI**	**2498312**

MS4 Permittee Name: **Windber Borough**	☒ PAG-13 Coverage ☐ Individual Permit ☐ Check here if a "joint permit" with co-permittees
Mailing Address: **1409 Somerset Avenue Windber, PA 15963**	Municipality: **Windber Borough**
Responsible Official: **James Furmanchik** Title: **Borough Manager**	County: **Somerset**
Business Phone: **(814) 467-9014** Email: **windbermanager@comcast.net**	Permit Expiration Date: **11/30/2018**
Co-Permittees (if applicable): **N/A**	Permit Renewal Application/NOI Due: **9/16/2017**
	Chesapeake Bay Watershed? ☐ Yes ☒ No
☒ Office Visit ☒ Field Visit	Discharge(s) to TMDL Waters? ☒ Yes ☐ No **(TMDL-Metals)**

Violations:	☐ Yes ☒ No

Inspection:
Office and field inspections were conducted pertaining to the Windber Borough MS4 permit PAG136340 on 6/20/2016.

Attendance:
Windber Borough: Jim Furmanchik, Borough Manager; David Swiokla, Street Department
EADS Group: Vinny Paczek, Engineering Designer
PA DEP: Lisa Milsop, WQS

Permit Status:
The MS4 Permit expires on 11/30/2018. A permit renewal application is due to the Department, postmarked on or before 9/16/2017.

Person Interviewed: **Jim Furmanchik, David Swiokla, Vinny Paczek**	Date: **6/20/2016**	Inspector: **Lisa Milsop** **286 Industrial Park Road** **Ebensburg, PA 15931**	Date: **6/20/2016**
Signature: **Emailed 7/5/2016**	Phone No.: **(814) 467-9014**	Inspector Signature:	Phone No.: **(814) 472-1925**
Title: **Borough Manager, Street Department & EADS**		Title: **Water Quality Specialist**	
Email: **windbermanager@comcast.net** **vpaczek@eadsgroup.com**		Email: **lmilsop@pa.gov**	

This document is official notification that a representative of the Department of Environmental Protection inspected the above facility. The findings of this inspection are shown above and on any attached pages. Any violations which were noted during the inspection are indicated. Violations may also be discovered upon examination of the results of laboratory analyses of the discharge and review of Department records.

MS4 COMPLIANCE INSPECTION REPORT

Comments

Office Inspection Comments:

- **MCM#1 – *Public Education & Outreach on Stormwater Impacts***

BMP#1 – The Public Education and Outreach Program (PEOP) was available for review during this inspection.
BMP#2 – A general inventory of groups of target audiences within the regulated MS4 is available in the PEOP.
BMP#3 – Stormwater information is available on the Borough's website at:

http://windberboro.com/StormWater.asp

- There are no links to the DEP or EPA stormwater websites.

BMP#4 – The "Windber Spirit" included an article on Stormwater this past year. The stormwater educational pamphlet "When it Rains It Drains" is available in the Borough building.

- The "Windber Spirit", printed by the Tribune-Democrat newspaper, is mailed to local residents.
- No additional educational material mailings have occurred.

- **MCM#2 – *Public Involvement & Participation***

BMP#1 – The Public Involvement and Participation Program (PIPP) was available for review during this inspection.
BMP#2 – The Borough has not had an MS4 related ordinance or SOP developed during the reporting period.

- The Stonycreek River Act 167 Model Stormwater Management Ordinance has been adopted.

BMP#3 – Borough meetings are held monthly and open to the public.

- Meetings are announced once annually in the local newspaper.
- No public meetings have been designated specifically for the MS4 program. An opportunity for public discussion concerning the MS4 program is provided at every meeting.
- Minutes of the meetings are available to the public.

- **MCM#3 – *Illicit Discharge Detection and Elimination (IDD&E)***

BMP#1 – The Illicit Discharge Detection and Elimination (IDD&E) Plan was available for review during this inspection.

- A formal illicit discharge and complaint tracking system is not currently in place.
- The forms "Illicit Discharge Detection Elimination" and "Citizen Complaint Illicit Discharge Reporting Form" are attached to the IDD&E Plan.

BMP#2 – The MS4 mapping was last review/updated 8/31/2012.

- The map shows the location of all the outfalls, locations and names of all surface waters of the Commonwealth, Municipalities, urbanized areas, catch basins and manholes.
- A total of 79 outfalls were originally mapped.

BMP#3 – The MS4 mapping shows the location of the outfalls, location and names of all surface waters of the Commonwealth, Municipalities, urbanized areas, catch basins and manholes.
BMP#4 – Outfall field screening for the MS4 permit was last conducted in 2006.

- The "Outfall Reconnaissance Inventory/Sample Collection Field Sheet" provided by the permit is the monitoring form used.
- At the time of the last outfall screening, 6% of the outfalls screened revealed dry weather flows, none of which required sample collection.

BMP#5 - The Borough has a Stormwater Management Ordinance available on site.

- The Stonycreek River Act 167 Model Stormwater Management Ordinance has been adopted to implement and enforce the stormwater management program and prohibit non-stormwater discharges.
- No changes have been made to this ordinance.

BMP#6 – Educational outreach concerning IDD&E has not been implemented.

- IDD&E related information has not been distributed to any target audiences.

- **MCM#4 – *Construction Site Stormwater Runoff Control***
  - Windber Borough is relying on the PA statewide Program.

MS4 COMPLIANCE INSPECTION REPORT

Comments

Office Inspection Continued:

- **MCM#5 –** ***Post Construction Stormwater Management in New Development & Redevelopment.***

BMP#4 – The Borough ordinance "The Stonycreek River Act 167 Stormwater Management Ordinance" to address post-construction stormwater runoff from new and redevelopment projects including enforcement ability was adopted May 11, 2011.

BMP#5 – The Borough has not developed measures to encourage the use of Low Impact Development (LID).

BMP#6 – The Borough does not have an O&M plan for qualifying post-construction stormwater BMPs or an inspection program to ensure the BMPs are properly maintained.

- An agreement is executed as part of meeting ordinance provisions that ensures proper O&M by the owner.
- The EADS Group reviews construction plans for compliance.

- **MCM#6 –** ***Pollution Prevention/Good Housekeeping***

BMP#1 – The Borough has an inventory of facilities/activities owned or operated by the permittee – "Inventory of Facilities and Operation and Maintenance Plan".

BMP#2 – O&M responsibilities to address good housekeeping are included in the "Inventory of Facilities and Operation and Maintanance Plan".

BMP#3 – The Borough does not have a written employee training program.

Office Inspection Recommendations:

- **MCM#1**
  - The Public Education and Outreach Program (PEOP) should be revised and further developed to include the following:
    - ✧ Who will receive the PEOP.
    - ✧ Who is responsible for the PEOP.
    - ✧ What information will be distributed and to which target groups.
    - ✧ How (what methods) will the information be distributed.
    - ✧ When/how frequently will the information be distributed.
  - The PEOP should be reviewed yearly and revised as necessary - keep a log of review dates.
  - Develop and maintain a target audience list (names & contact information/address) within your regulated MS4 that a mailing list can be retrieved and tracked from.
    - ✧ In addition to the list of Municipal employees & officials, developers and local school districts, include a list of churches, businesses, residents, watershed groups and environmental clubs.
  - Publish in print and/or on the internet stormwater educational/informational material that addresses one or more of the 6 MCMs and a general description of your Stormwater Management Program.
    - ✧ Consider printing and distributing a yearly newsletter containing stormwater educational material.
    - ✧ Consider a "Navigational Button" on your website to enable the viewer to locate specific MS4/stormwater related information. Include links to DEP's and EPA's stromwater websites.
  - Utilize at least two methods of educational/information distribution each permit year in addition to a newsletter or website. Document these methods and the target audience(s) and include this documentation in your Progress Report.
    - ✧ This could include: displays, posters, signs, pamphlets, radio/local cable TV, newspaper, bill stuffers, posters, storm water stenciling.
- **MCM#2**
  - The Public Involvement and Participation Program (PIPP) should be revised to include the following:
    - ✧ Describe types of public participation activities – do BMPs to involve the public.
    - ✧ Methods for encouraging and getting public input and involvement.
  - The PEOP should be reviewed yearly and revised as necessary - keep a log of review dates.
  - Advertise any proposed MS4 stormwater management ordinance and document the meeting.
    - ✧ Provide for, evaluate and document any public input received and the Borough's response.
  - Document any public involved MS4 activities, such as any local Watershed Association activities.

MS4 COMPLIANCE INSPECTION REPORT

Comments

Office Inspection Recommendations Continued:

- **MCM#3**
  - Revise and further develop the IDD&E Plan to better describe the detection, elimination, prevention and documentation of illicit discharges into your regulated MS4.
    - ✧ Outline procedures for priority area identification (ex. Illicit connections, illegal dumping, failing septic systems) and for screening procedures in those identified areas.
    - ✧ Procedures for identifying the source of an illicit discharge and the elimination of that discharge.
    - ✧ Outline the procedure for documenting and evaluating the outfall screening.
  - The PEOP should be reviewed yearly and revised as necessary - keep a log of review dates.
  - Update the MS4 map. Revise the outfall listing as needed.
    - ✧ The map should also include the storm sewer collection system.
    - ✧ If applicable, include ponds, swales, basins and receiving channels.
  - Document all complaints received, action taken, time required to take the action and whether the complaint was resolved successfully.
  - Screen any outfall dry weather flows in accordance with the NPDES permit.
    - ✧ Outfalls with continual dry weather flows are to be screened annually.
    - ✧ Lab testing should include chemical and biological parameters to determine if the dry weather flow is illicit. Common parameters can include: pH, Fecal Coliform, conductance, TSS, metals, ammonia, detergents, chlorine and fluoride.
  - Maintain all sampling records and lab results; include the chain of custody forms as well.
  - Distribute information to the target groups concerning reporting of illicit discharges.
    - ✧ Document materials distributed and attach with the Progress Report.
- **MCM#5**
  - In addition to the Ordinance, encourage the use of Low Impact Development (LID) when possible.
  - Develop and implement a formal written inspection program to ensure adequate O&M of all PCSM BMPs installed; include a method for documentation.
- **MCM#6**
  - Include in the "Inventory of Facilities and Operations and Maintenance Plan" the physical location/address for the facilities on the list.
  - Develop, implement and document a written employee training program.
    - ✧ Document topics covered, materials used, presenter, training dates & times and attendants.

Field Inspection Comments: Maintenance garage & storage area located at 2100 21st Street

- Minor truck maintenance is performed inside the garage building, most repairs are contracted out.
- The garage has 4 bays; each bay has a floor drain that reportedly discharges to the outside.
- A small amount of liquids are stored in the garage. Bags of sand are available in the event of a minor spill.
- Vehicle washing is performed outside in the graveled area during the warmer months & inside during the winter.
- The area in front the office/garage area is paved with no catch basins. The storage area surrounding the garage is graveled or established vegetation.
- A small amount plastic pipes and equipment is stored in the garage yard area.
- There is no fueling station at the garage.
- Road salt is stored under roof and shows no evidence of salt washout.
- Maintain a log for the catch basin cleaning, street sweeping, and leaf collection for MS4 documentation.

Field Inspection Recommendations:

- Discharge from the garage floor drains to the outside is an illegal discharge. This practice should be discontinued. Possible solutions could include:
  - ✧ Contain any floor drain discharge in a holding tank and dispose of properly.
  - ✧ Sealing the floor drains.
  - ✧ Connect the drains to the sanitary sewer system. Please discuss this with the POTW.
- Store all garage fluids in secondary containment.
- Continue good housekeeping practices to ensure that salt does not washout of the containment area.

MS4 COMPLIANCE INSPECTION REPORT

Comments

MS4 Outfalls Observed: 79 Outfalls are listed in the Progress Report. The following were observed:

Outfall No.	Location	Comments
1	Paint Creek at the Levy – Jefferson Ave	Flapper gate – discharge observed
2	Paint Creek at the Levy – Jefferson Ave	Flapper gate – discharge observed
3	Paint Creek at the Levy – Jefferson Ave	Flapper gate – discharge observed
4	Paint Creek at the Levy – Jefferson Ave	Flapper gate – discharge observed
10	Paint Creek Road – between 10th & 11th street	Large discharge

Stormwater Sediment Pond Observed:

- Privately owned but Windber Borough will maintain for a 10 year period.
  - ✧ Located at 40°14'07"N 78°49'53"W
  - ✧ Large pond with grassed sides.
  - ✧ Contained no water; no discharge.

Request:
Within 30 days of receiving this report, please submit to this inspector a written plan of action and timeline to address any recommendations.
Please send your response to the following address:

DEP - Cambria District Office
Attn: Lisa Milsop, WQS
286 Industrial Park Road
Ebensburg, PA 15931
lamilsop@pa.gov

Note: Included with this report are the FACT SHEETS for the Small MS4 Program from the Southwestern Pennsylvania Commission.

***If you have any questions regarding this report please contact this inspector.*
Contact information is available on page 1 of this report.

MS4 COMPLIANCE INSPECTION REPORT

OFFICE INSPECTION

Most Recent Annual/Progress Report Due Date: **January 29, 2015**

Date Most Recent Annual/Progress Report Submitted: **November 10, 2015**

List all deficiencies identified in the most recent Annual/Progress Report Review:

Please refer to the Office Inspection section of this report.

Describe the permittee's progress with addressing deficiencies, if applicable:

Verify the presence of the following documentation; check "Yes" if available, "No" if not available, and "NA" if not applicable.

MCM	Item	Yes	No	NA
1	Public Education and Outreach Program (PEOP) (written plan)	☒	☐	☐
	Lists of target audience groups	☐	☒	☐
	Published stormwater educational materials	☒	☐	☐
	Two methods of distributing educational materials in past year	☐	☒	☐
2	Public Involvement and Participation Program (PIPP) (written plan)	☒	☐	☐
	Public notice prior to adoption of any ordinance (municipal) or SOP (non-municipal)	☐	☐	☒
	At least one public meeting in past year	☒	☐	☐
3	Illicit Discharge Detection and Elimination (IDD&E) Program (written plan)	☒	☐	☐
	Outfall inspection and illicit discharge tracking system	☒	☐	☐
	Complaint tracking system for illicit discharges	☒	☐	☐
	Map of all outfalls, receiving waters, stormwater collection system, swales, basins, etc.	☒	☐	☐
	Stormwater sampling and monitoring records	☐	☒	☐
	Ordinance (municipal) or SOP (non-municipal) prohibiting non-stormwater discharges	☒	☐	☐
4	If not relying on PA's program, a written stormwater associated with construction activities program (written plan)	☐	☐	☒
	If not relying on PA's program, an ordinance (municipal) or SOP (non-municipal) requiring implementation of erosion and sediment control BMPs	☐	☐	☒
	If not relying on PA's program, written procedures for managing public inquiries of local construction activities	☐	☐	☒
5	If not relying on PA's program, a written post-construction stormwater management plan	☐	☐	☒
	If not relying on PA's program, a tracking system containing post-construction BMPs	☐	☐	☒
	If not relying on PA's program, inspection results of post-construction BMPs	☐	☐	☒
	An ordinance (municipal) or SOP (non-municipal) to enforce post-construction BMPs	☒	☐	☐
	An inspection program ensuring stormwater BMPs are properly operated and maintained	☐	☒	☐
6	Inventory of municipal facilities and land uses that contribute to stormwater runoff	☒	☐	☐
	Written Operation & Maintenance Plan for municipal facilities addressing housekeeping	☒	☐	☐
	Written employee training program	☐	☒	☐

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

MS4 COMPLIANCE INSPECTION REPORT

FIELD INSPECTION – BMPs

BMP Description:

Salt Storage Covered

☐ Structural BMP ☒ Non-Structural BMP

BMP Reported In:
☒ Annual/Progress Report ☐ Other (_____)

Locational Description:

Maintenance Garage
2100 21st Street
Windber, PA 15963

Structural BMPs Only:

Latitude: **40° 13' 57.6"**
Longitude: **-78° 49' 25.9"**

Property: ☒ Public ☐ Private

Is BMP Implemented or Being Implemented? ☒ Yes ☐ No

Who Is Responsible for O&M (Structural BMPs Only)?
☒ Municipality ☐ Other (Name: _____)

Comments/Deficiencies: **Salt is maintained under cover year round. No evidence of runoff from storage area.**

Date Installed (Structural BMPs Only):

Is BMP Located in Urbanized Area? ☒ Yes ☐ No

BMP Description:

Street Sweeping

☐ Structural BMP ☒ Non-Structural BMP

BMP Reported In:
☒ Annual/Progress Report ☒ Other (_____)

Locational Description:

Windber Borough

Structural BMPs Only:

Latitude: ° ' "
Longitude: ° ' "

Property: ☒ Public ☐ Private

Is BMP Implemented or Being Implemented? ☒ Yes ☐ No

Who Is Responsible for O&M (Structural BMPs Only)?
☐ Municipality ☐ Other (Name: _____)

Comments/Deficiencies: **1/week; more often during the annual festival**

Date Installed (Structural BMPs Only):

Is BMP Located in Urbanized Area? ☒ Yes ☐ No

BMP Description:

Recycling Program

☐ Structural BMP ☒ Non-Structural BMP

BMP Reported In:
☐ Annual/Progress Report ☐ Other (**Office Inspection**)

Locational Description:

Cambria County Recycling Program participant

Structural BMPs Only:

Latitude: ° ' "
Longitude: ° ' "

Property: ☒ Public ☐ Private

Is BMP Implemented or Being Implemented? ☒ Yes ☐ No

Who Is Responsible for O&M (Structural BMPs Only)?
☐ Municipality ☐ Other (Name: _____)

Comments/Deficiencies: **Borough advertises**

Date Installed (Structural BMPs Only):

Is BMP Located in Urbanized Area? ☒ Yes ☐ No

BMP Description:

Catch Basin Cleaning

☐ Structural BMP ☒ Non-Structural BMP

BMP Reported In:
☒ Annual/Progress Report ☐ Other (_____)

Locational Description:

Windber Borough

Structural BMPs Only:

Latitude: ° ' "
Longitude: ° ' "

Property: ☒ Public ☐ Private

Is BMP Implemented or Being Implemented? ☒ Yes ☐ No

Who Is Responsible for O&M (Structural BMPs Only)?
☐ Municipality ☐ Other (Name: _____)

Comments/Deficiencies: **Performed 2/year; clogged catch basins first – generally 40 catch basins cleaned/year**

Date Installed (Structural BMPs Only):

Is BMP Located in Urbanized Area? ☒ Yes ☐ No

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

MS4 COMPLIANCE INSPECTION REPORT

Photos

Stormwater Flyer Posting – Windber Boro Office

Garage – 2100 21st Street

Outside Garage Storage

Outside Garage Storage

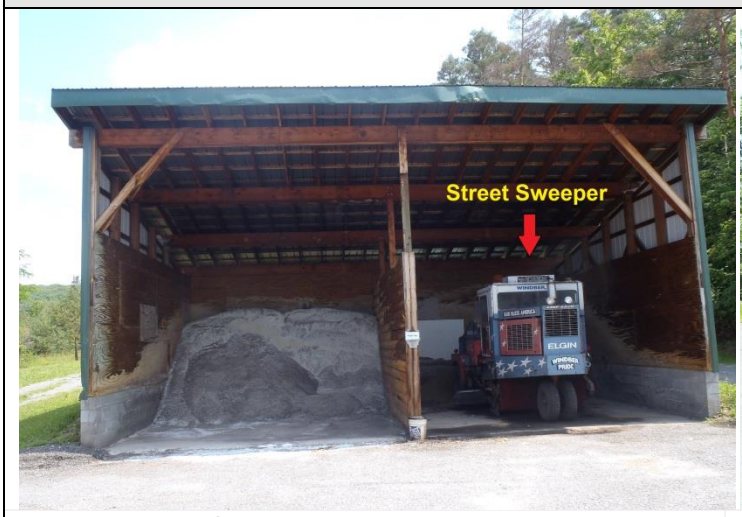
Garage - Inside

Garage Floor Drain

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

MS4 COMPLIANCE INSPECTION REPORT

Photos

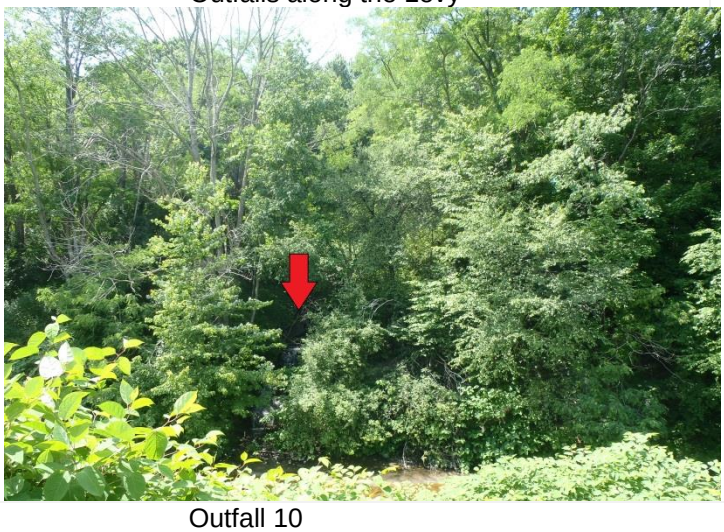


Salt Storage & Street Sweeper

Front of Garage

Outfalls along the Levy

Outfall along the Levy



Outfall 10

Stormwater Basin

Section 10 – Action Plan

Windber Borough
MS4 Program Action Plan
August 2016

MCM# 1 (Public Education & Outreach Program) PEOP

1. Revise the PEOP within the MS4 O&M Manual to include the following:
    i. Party responsible for the PEOP.
    ii. Recipients of information to be distributed.
    iii. Information to be distributed.
    iv. Frequency of distributions.
    v. Distribution methods to be utilized.
2. Hold a meeting to review the PEOP annually and revise as necessary.
3. Create a spreadsheet that includes target audience groups and contact information.
4. Include DEP and EPA links on website.
5. Include a stormwater related article in the "Windber Spirit" annually.
6. Utilize two (2) distribution methods per year.

MCM#2 (Public Involvement & Participation Program) PIPP

1. Hold a meeting to review the PIPP annually and revise as necessary.
2. Utilize public participation activities.
3. Document any MS4 activities completed by the public.

MCM#3 (Illicit Discharge Detection & Elimination Plan) IDD&E Plan

1. Revise the IDD&E Plan within the MS4 O&M Manual to include a procedure for the following:
    i. Priority area identification and screening.
    ii. Identifying and eliminating any discovered illicit discharges.
    iii. Documentation of outfall screening.
2. Hold a meeting to review the IDD&E Plan annually and revise as necessary.
3. Update MS4 System Mapping.
4. Screen 20% of all outfalls annually.
5. Screen 100% of outfalls with a continuing dry weather flow annually.
6. Sample any unknown discharges. (Maintain lab results and chain of custody forms.)
7. Include illicit discharge detection material within a distribution to a target audience.

MCM#4 (Construction Site Stormwater Runoff Control)

1. Continue relying on the Somerset Conservation District to enforce E&S Requirements.

MCM#5 (Stormwater Management Ordinance)

1. Provide Low Impact Development (LID) information when issuing building permits.
2. Develop and implement a formal written inspection program to ensure adequate O&M of PCSM BMPs owned by the Borough.

MCM#6 (Pollution Prevention and Good Housekeeping)

1. Complete one of the following to eliminate or permit the discharge of the garage floor drains to the surface:
    i. Seal floor drains.
    ii. Connect floor drains to public sewage.
    iii. Connect floor drains to holding tank.
    iv. Obtain an NPDES Permit for the discharge.
2. Create an inventory list of Borough owned or operated facilities or activities with physical address, GPS location or mapping.
3. Develop and implement an employee training program.
4. Provide secondary containment for liquid storage.
5. Document all catch basin cleaning, street sweeping and leaf collection.