

# APPENDIX B

## Questionnaire



1085 S. Hermitage Rd.  
Hermitage, PA 16148  
Phone: (724) 981-0155  
Fax: (724) 981-0156

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*natural resource professionals / design and construction*

## Questionnaire Instructions

The attached questionnaire shall be completed by each Municipality and returned to Wallace & Pancher, Inc. by **January 18, 2008**. A self addressed envelope is included for your use. Please include the completed questionnaire and any information deemed necessary to assist in the development of the Phase I Act 167 Stormwater Management Plan.

Included with the questionnaire is a map of your municipality showing the municipal boundary, roadways and streams. Please use this map in coordination with questions 6, 13 and 14, marking the locations of problem areas, water obstructions, storm sewer systems and stormwater management facilities. Please include the questionnaire, map and any other information with you feel may help clarify the problematic areas and possible causes of the problems.

Any questions can be directed to Mr. Daniel P. Wallace, P.E., (or Mrs. Brandy Kunsman, P.E.) Wallace & Pancher, Inc., at 724-981-0155 or Mrs. Lisa Holm Schrader, Mercer County Regional Planning Commission, at 724-981-2412, Ext. 225.

The next scheduled WPAC meeting will be held at the end of January or beginning of February. Notifications will be sent out to each Municipality by Mid January.

Your time and attention to the development of the Mercer County Act 167 Stormwater Management Plan is greatly appreciated.

# **Mercer County Act 167 Stormwater Management Plan**

## **Questionnaire**

### **Item 6 – Definitions**

#### **Stream Flooding**

Stream segments where storm waters frequently overtop the banks and cause property damage

#### **Street Flooding**

Roadway locations where no storm sewer system exists or where the storm sewer system cannot accept routine storm flows, causing flooding on the roadway. Roadway catch basins are typically designed to accept the rainfall runoff from certain storm frequencies (e.g. 10-year storm). This item is not meant to address the very large storm events, just the frequent average storm event.

#### **Property Flooding**

This can result from either #1 or #2 above. Stream and street flooding may not cause property flooding/damage. This item is meant to identify those areas where properties (e.g. houses, yards, barns, sheds, etc.) are being flooded and help prioritize the problematic areas

#### **Soil Erosion**

The detachment or movement of topsoil by the action of wind or flowing water. Areas where soil is being washed away into the storm sewer system or streams. Many different areas can contribute to soil runoff, such as farmlands, gravel pits, construction areas, poorly grassed areas, steep slopes, etc.

#### **Sediment in Streams**

These are areas within the stream where larger sediment depositional areas occur. Often these are called gravel bars. Some sediment deposition in the stream is normal (at the inside of stream meanders or curves/bends). We are trying to identify those areas where the stream is most disturbed with larger abnormal looking sediment deposition areas or where sediment depositional areas are frequently changing (e.g. a depositional area disappears after a larger storm event, then re-appears after another storm event).

Other definitions include the suspended solids such as silt, sand, gravel or chemical precipitates that are transported by flowing water that can settle out of a suspension to the bottom of the stream and affect aquatic habitat.

### **Stream Bed/Bank Erosion**

Stream bank erosion is the direct removal of bank material or a bank collapse due to increase flowing water speeds that produce scouring. Bare and near-vertical banks or areas of slumped bank material are obvious signs of stream bank erosion.

Stream bed erosion is the process by which the bed of the stream is eroded to a new lower level at a much faster rate than occurs naturally. Bed lowering can move in both an upstream direction (as a “headcut”) and/or downstream, influencing channel stability over an extensive length of the stream system.

### **Scour at Outfalls**

The transport of stream bed or bank material due to high velocity discharge from pipe outfalls. The resultant is pipe sloughing or failure beneath the pipe

### **Property/Infrastructure and Bridge/Culvert Damage**

The damage done to buildings, roadways, culverts, bridges or structures due to flooding events or age of the structure.

### **Pollution**

A change in chemical, physical or biological quality of water that is injurious to its existing, intended or potential uses. The general term of water pollution generally refers to human induced changes to water quality. Pollution can consists of discharge from toxic chemicals from a pipe; release of livestock waste into a nearby body of water; sewage outfalls; acid rain from agricultural runoff or urban areas; oil spills or oil from vehicles/roadway; runoff from areas that are mined or areas under construction; and runoff from fields treated with chemical fertilizers. Pollution is the contamination of groundwater, rivers, lakes, stream or wetlands.

### **Habitat/Resource Damage**

These would be natural areas that are damaged due to stormwater issues. If your not sure what constitutes “damage”, please identify the area, provide a description/photo, and it will be investigated by one of our biologists

Another definition is the loss of wetlands, streams, animals, plants and vegetation due to flooding, pollution, development, industrial activities, agricultural, forestry, mining, etc.

# Mercer County Watersheds

## Act 167 Stormwater Management Plan

### Questionnaire

<b>PLEASE COMPLETE THE FOLLOWING AND RETURN THE QUESTIONNAIRE AND MARKED UP MAP TO:</b>	
Mr. Daniel P. Wallace, P.E. Wallace & Pancher, Inc. 1085 S. Hermitage Road Hermitage, PA 16148	Please return this form and additional material by January 18, 2008
Questions can be directed to:	Daniel P. Wallace, P.E.      724-981-0155 Lisa Holm-Shrader (MCRPC)      724-981-2412 Ext 225

<b>PERSON COMPLETING QUESTIONNAIRE:</b>	
Municipality	
Name	
Phone	
e-mail	

<b>1. DOES YOUR MUNICIPALITY HAVE:</b>													
	Yes	No	Location/Date										
Comprehensive Plan	<input type="checkbox"/>	<input type="checkbox"/>											
Zoning Ordinance	<input type="checkbox"/>	<input type="checkbox"/>											
Subdivision/Land Development Ordinance	<input type="checkbox"/>	<input type="checkbox"/>											
Floodplain Regulations*	<input type="checkbox"/>	<input type="checkbox"/>											
Stormwater Management Regulations*	<input type="checkbox"/>	<input type="checkbox"/>											
Erosion Control Regulations*	<input type="checkbox"/>	<input type="checkbox"/>											
Drainage Regulations*	<input type="checkbox"/>	<input type="checkbox"/>											
<p>*For the above regulations, please list where the regulation is found in the "Location" column.</p> <p>Use the following abbreviations:</p> <table style="margin-left: 40px;"> <tr> <td>CP</td> <td>Comprehensive Plan</td> </tr> <tr> <td>BC</td> <td>Building Code</td> </tr> <tr> <td>SL</td> <td>Subdivision and Land Development Ordinance</td> </tr> <tr> <td>ZO</td> <td>Zoning Ordinance</td> </tr> <tr> <td>SO</td> <td>Separate Ordinance</td> </tr> </table>				CP	Comprehensive Plan	BC	Building Code	SL	Subdivision and Land Development Ordinance	ZO	Zoning Ordinance	SO	Separate Ordinance
CP	Comprehensive Plan												
BC	Building Code												
SL	Subdivision and Land Development Ordinance												
ZO	Zoning Ordinance												
SO	Separate Ordinance												

<b>2. IS YOUR MUNICIPALITY CONSIDERED A SMALL MS4 MUNICIPALITY UNDER THE CURRENT NPDES PHASE II STORMWATER REGULATIONS?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, is your small MS4 Municipality currently in compliance with the NPDES Phase II Permit?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

**3. THE WATERSHED PLAN WILL ADDRESS FIVE KEY STORMWATER CONSIDERATIONS.**  
 THESE FIVE ARE LISTED BELOW. PLEASE INDICATE HOW IMPORTANT YOU BELIEVE IT IS TO ADDRESS EACH CONSIDERATION.

CONSIDERATION		Very Important					Not Important
		5	4	3	2	1	
Peak Flows	Increase flows from stormwater runoff contribute to stream erosion, localized ponding and flooding, may cause damage to infrastructure (roads, sewers, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Water Quality	Dissolved and un-dissolved pollutants washed off the land surface - negative impacts to recreation, aesthetics and in-stream habitat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Groundwater Recharge	Increase runoff decreases amount of rain that becomes groundwater; decreased groundwater supplies may have negative effects on well water supplies and decrease or dry up stream baseflow in dry periods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Stream Erosion	Eroding banks and beds may undercut roads and utilities, damages in-stream habitat, clog culverts and bridges.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Flooding	Larger scale overbank flows such as the 100-year flood associated with extreme storm events.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**4. WOULD YOU LIKE TO SEE INFORMATION ON ANY OF THE FOLLOWING PRESENTED AT A WATERSHED PLAN ADVISORY COMMITTEE MEETING?**

	Yes	Maybe	No
Stormwater Controls and Best Management Practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Model/Implemented Ordinances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Current Stormwater Regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other topics you would like to have considered:			

**5. WHAT IS THE MOST IMPORTANT STORMWATER RELATED ISSUE TO YOUR MUNICIPALITY?**


**6. THE FOLLOWING LISTS THE TYPES OF STORMWATER RELATED PROBLEMS YOUR MUNICIPALITY MAY BE EXPERIENCING. FOR EACH PROBLEM TYPE, PLACE A CHECK MARK IN THE COLUMN THAT BEST DESCRIBES THE SEVERITY, FREQUENCY AND CAUSE. IF YOUR MUNICIPALITY IS EXPERIENCING A PROBLEM NOT LISTED, PLEASE LIST IT IN THE SPACE MARKED "OTHER". FOR YOUR USE, A DEFINITION SHEET IS ATTACHED WHICH DESCRIBES EACH PROBLEM**

Problem	Severity			Frequency (years)				Cause *
	Severe	Moderate	None	<1	1-2	3-6	>6	
Stream Flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Street Flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Property Flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Soil Erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sediment in Streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Stream Bed/ Bank Erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Scour at Outfalls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Property/ Infrastructure Damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Habitat/Resource Damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bridge/Culvert Damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\*Use the following abbreviations to list the causes in the "Causes" column.

- IN      Increased Runoff
- PD      Poor/No Drainage
- US      Undersized Structure
- FD      Floodplain Development
- UN      Unknown

**7. STORMWATER MANAGEMENT PLANS ARE REQUIRED UNDER THE PENNSYLVANIA STORMWATER MANAGEMENT ACT, ACT 167. AUTHORIZATION TO PROCEED WITH THIS PLAN AS REQUIRED BY ACT 167 HAS BEEN GIVEN BY THE COUNTY COMMISSIONERS. THE LONG-TERM GOAL OF THIS PLAN WILL BE TO MAINTAIN EXISTING HYDROLOGIC CONDITIONS INCLUDING GROUNDWATER LEVELS, WATER QUALITY, STREAM BASE FLOW AND STREAM STORM FLOWS. WITH THIS IN MIND, WHAT LEVEL OF SUPPORT WILL YOUR MUNICIPALITY OR AGENCY PROVIDE FOR THIS PROJECT?**

Strongly Support				Strongly Oppose
5	4	3	2	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>8. WILL YOUR MUNICIPALITY/AGENCY ATTEND WATERSHED PLAN ADVISORY COMMITTEE MEETINGS (WPAC)?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, who will attend:		
Name		
Address		
Phone		
e-mail		

<b>9. WOULD YOU SUGGEST ANY OTHER AGENCIES OR ORGANIZATIONS THAT SHOULD BE INCLUDED ON THE WPAC?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, provide contact:		
Name		
Organization		
Address		
Phone		
e-mail		

<b>10. DO YOU KNOW OF ANY EXISTING OR PROPOSED FLOOD CONTROL PROJECTS IN YOUR MUNICIPALITY?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, please describe the project(s) below:		

<b>11. ARE EXISTING (PUBLIC OR PRIVATE) STORMWATER MANAGEMENT FACILITIES (OUTFALLS, BASINS, ETC.) BEING MAINTAINED (I.E. REMOVAL OF DEBRIS FROM OUTLET STRUCTURES, ADEQUATE CONTROL OF VEGETATION, CAPACITY MAINTENANCE, ETC.)?</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, please describe the location(s) below:		

<b>12. PLEASE PROVIDE ANY INPUT YOU FEEL IS RELEVANT REGARDING CURRENT WATERSHED MANAGEMENT PROCEDURES</b>

**13. THE FOLLOWING TABLE REQUESTS INFORMATION ON PROBLEM AREAS AND OBSTRUCTIONS. PLEASE PLACE A CHECK MARK IN THE "P" COLUMN IF THE SITE IS A PROBLEM AREA OR PLACE A CHECK IN THE "O" COLUMN IF THE SITE IS AN OBSTRUCTION.**

Problem Areas                      Areas of ponding or flooding, erosion, stream channel or bank erosion, property damage, safety concerns, etc.

Obstructions                         Bridges, pipes, culverts, dams or other physical barriers to stream flow that restricts the channel flow and typically cause ponding or flooding upstream of the structure.

In the "Description" column describe the type, location, and size of the Problem Area or Obstruction (i.e. undersized 36-inch CMP where Kidds Mill crosses an Unnamed Tributary to the Shenango River). For each site listed, place the Number of the site at the appropriate location on the enclosed map of your Municipality (attached at the end of this packet). If a solution to the Problem Area or Obstruction is proposed, describe the solution in the "Solution" column. Please copy this sheet if additional space is needed.

Number	Problem	Obstruction	Description	Solution
1	<input type="checkbox"/>	<input type="checkbox"/>		
2	<input type="checkbox"/>	<input type="checkbox"/>		
3	<input type="checkbox"/>	<input type="checkbox"/>		
4	<input type="checkbox"/>	<input type="checkbox"/>		
5	<input type="checkbox"/>	<input type="checkbox"/>		
6	<input type="checkbox"/>	<input type="checkbox"/>		
7	<input type="checkbox"/>	<input type="checkbox"/>		
8	<input type="checkbox"/>	<input type="checkbox"/>		
9	<input type="checkbox"/>	<input type="checkbox"/>		
10	<input type="checkbox"/>	<input type="checkbox"/>		
11	<input type="checkbox"/>	<input type="checkbox"/>		

14. THE FOLLOWING REQUESTS INFORMATION ON EXISTING OR PROPOSED STORM SEWER SYSTEMS OR MANAGEMENT FACILITIES. THESE ARE STORM SEWER SYSTEMS, PERMANENT STORMWATER DETENTION PONDS, UNDERGROUND DETENTION FACILITIES OR OTHER SYSTEMS OR FACILITIES INTENDED TO COLLECT, CONVEY OR DETAIN STORMWATER. PLEASE LETTER EACH SITE SEQUENTIALLY AND PLACE THE LETTER CORRESPONDING TO EACH SITE AT THE APPROPRIATE LOCATION ON THE ENCLOSED MAP OF YOUR MUNICIPALITY. PLEASE COPY THIS SHEET IF ADDITIONAL SPACE IS NEEDED.

Letter	Description
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	
K	
L	
M	
N	

Please copy this sheet if additional space is needed.