Wissahickon Creek Watershed

ACT 167

STORM WATER MANAGEMENT PLAN

Watershed Plan Advisory Committee (WPAC) Meeting No. 1

October 7, 2010

Related Documents/ Studies:

- An Integrated Watershed Management Plan for the Wissahickon Creek Watershed is currently under development by the PWD.

Related Documents/ Studies:

- A Comprehensive Characterization of the Water Quality, Habitat and Biology for the Wissahickon Creek Watershed was completed in 2007.

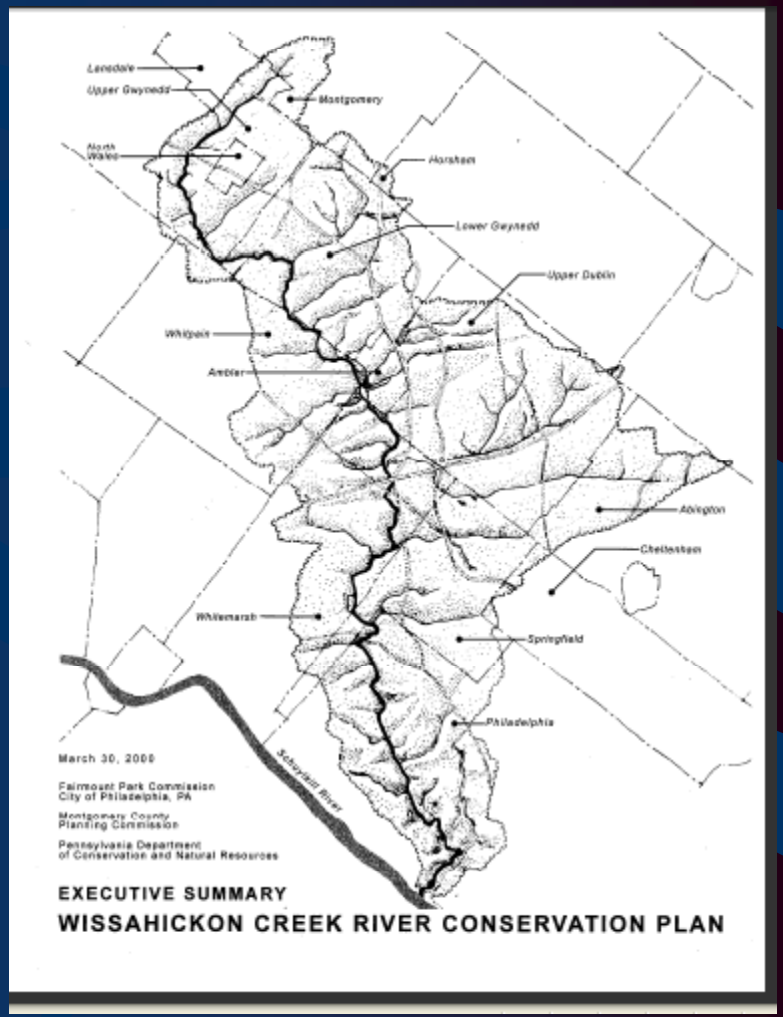
Related Documents/ Studies:

Wissahickon Creek Watershed Comprehensive Characterization Report

• Table of Contents •

Related Documents/ Studies:

- A Wissahickon Creek River Conservation Plan was completed in 2000 by the Fairmount Park Commission and the Montgomery County Planning Commission;



Related Documents/ Studies:

- Sandy Run Creek River Conservation Plan completed by the Sandy Run Coalition in 2003
- Not on-line – If anyone could provide us a copy we would appreciate it.

Related Documents/ Studies:

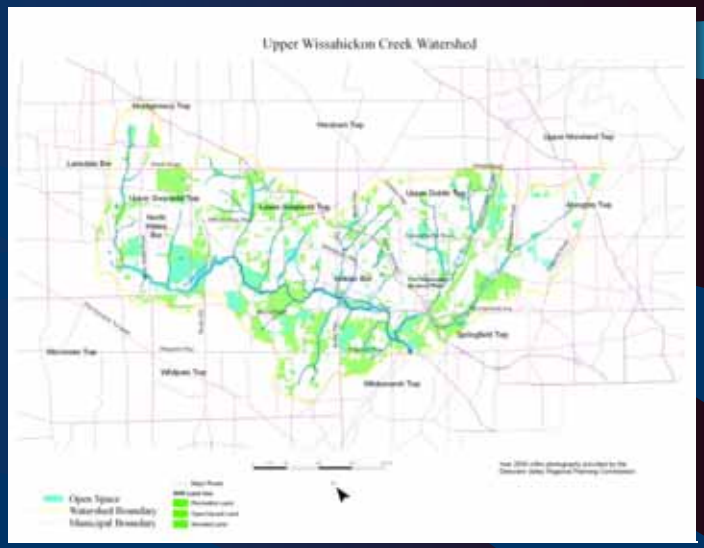
- Floodplain Mapping Study: Sandy Run and Ambler Area Watersheds underway – Temple.

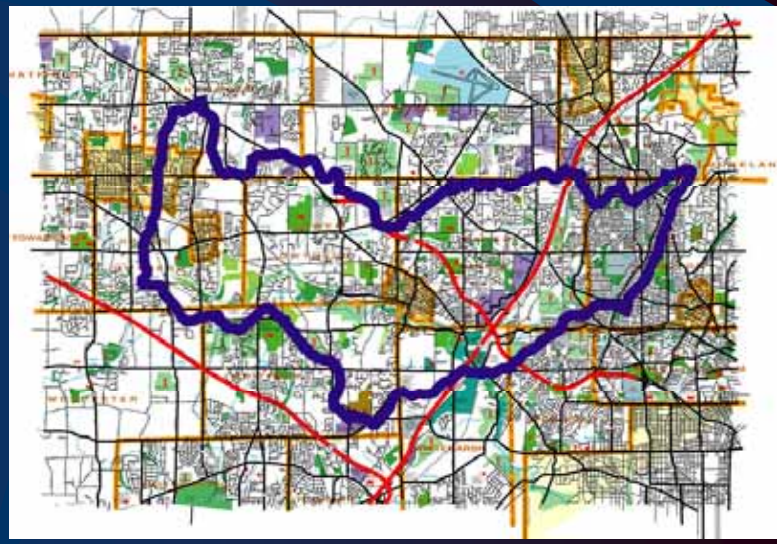
Related Documents/ Studies:

- Fort Washington Area Flooding and Transportation Improvement Study underway - Temple

Related Documents/ Studies:

- A 'Special Area Management Plan' is currently being developed for the Upper Wissahickon Watershed in Montgomery County to demonstrate the critical area planning process established under Act 220 of 2002—The Pennsylvania Water Resources Planning Act.



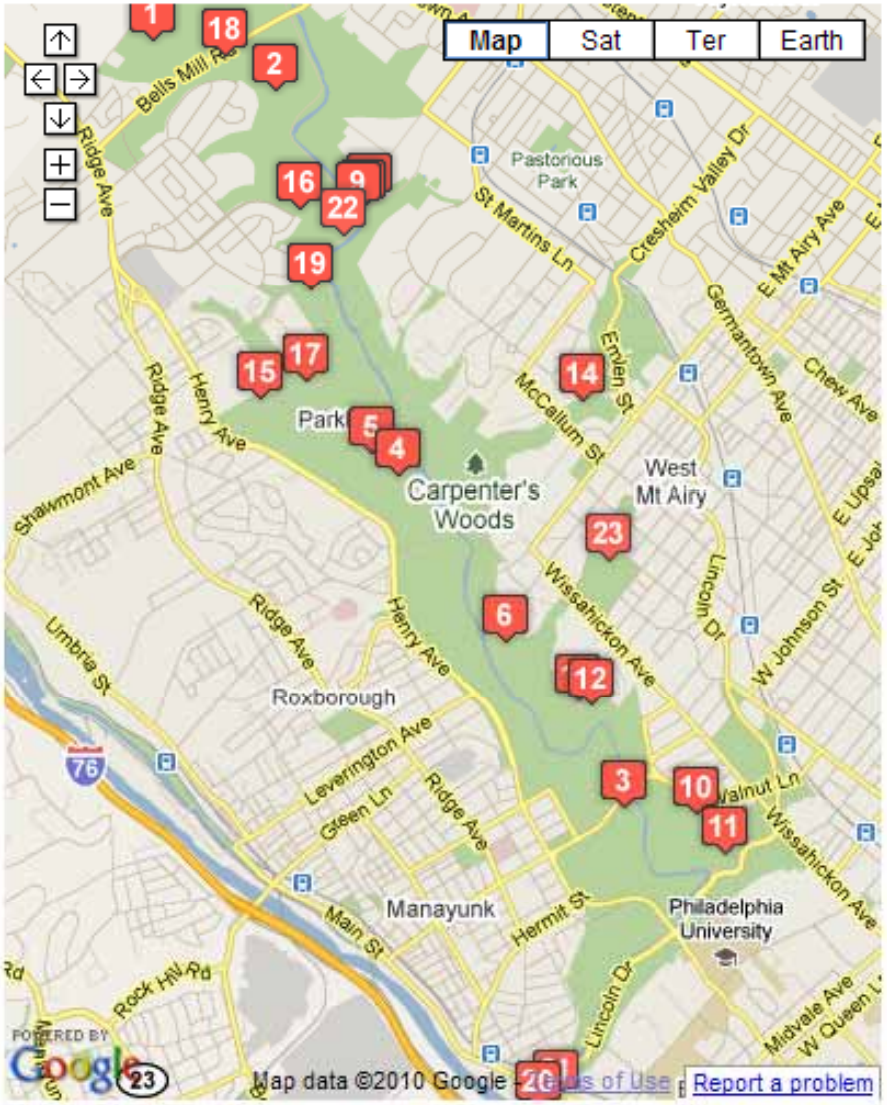


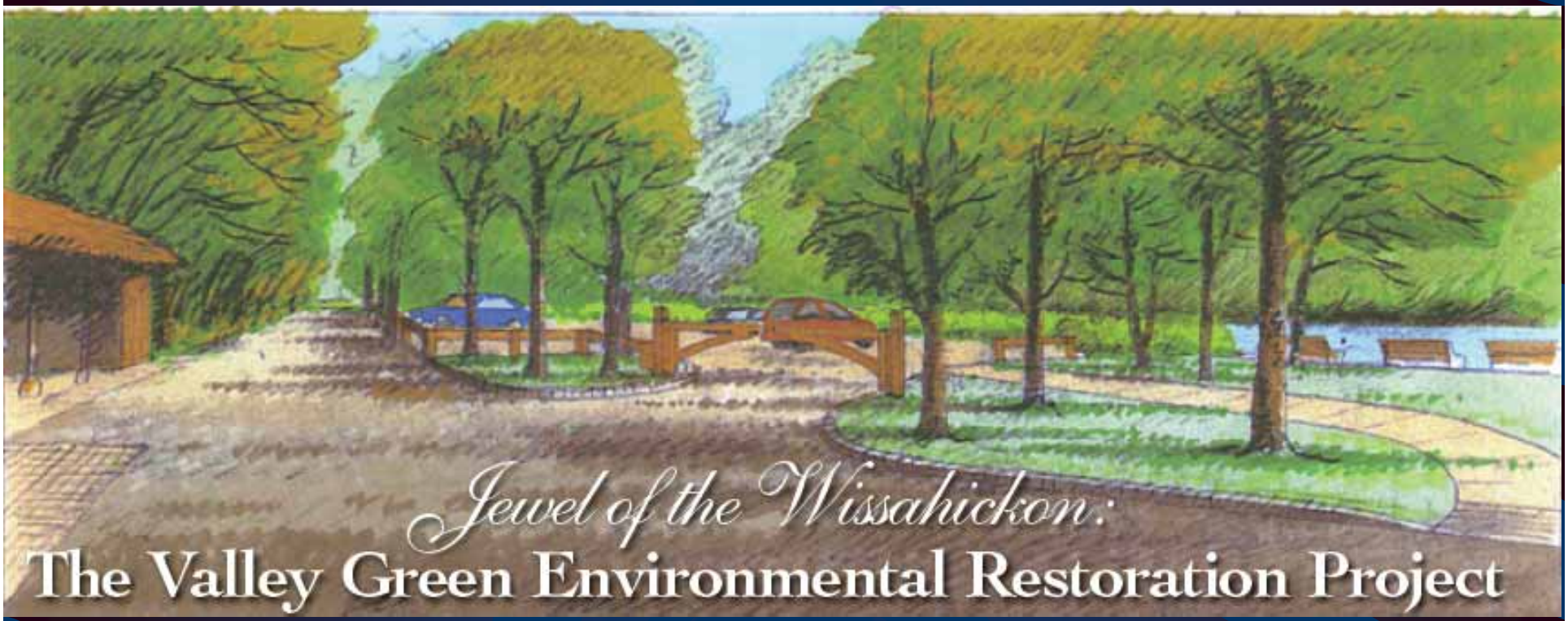
Related Documents/ Studies:

- The Philadelphia Water Department has recently completed the Wissahickon Creek Detention Basin Inventory and Retrofit Program;

Friends of the
Wissahickon

Click on the icons for more details about each project, or view the list below





Jewel of the Wissahickon:
The Valley Green Environmental Restoration Project

Related Documents/ Studies:

- An Integrated Watershed Management Plan
- A Comprehensive Characterization of the Water Quality, Habitat and Biology
- A River Conservation Plan
- Sandy Run Creek River Conservation Plan /
- Floodplain Mapping Study: Sandy Run and Ambler Area Watersheds
- Fort Washington Area Flooding and Transportation Improvement Study
- A 'Special Area Management Plan'
- Detention Basin Inventory and Retrofit Program;

Data Available:

1) GIS shape files for the Wissahickon watershed boundary - Provided by the PWD
2) GIS shape file for Wissahickon Streams - Provided by the PWD
3) A shape file showing existing detention basin locations based on a survey by the PWD.
4) Spreadsheet listing existing and potential detention basin volume prepared in August 2009 for the PEC.
5) Spreadsheet listing potential infiltration facilities prepared in August 2009 fort the PEC.
6) Table listing potential acreage of riparian buffer restoration by municipality
7) New floodplains prepared for FEMA.

Municipal Participation

–

Data Collection Forms

(Paul DeBarry, NTM)

Form	Symbol	Description	Types of Examples	Sources of Information
A		Stormwater Problem Areas	Flooding, Drainage, Erosion/Sedimentation	Existing studies or reports, Township Documentation, Personal memory, Township engineer
B		Obstructions	Bridges. Culverts, Fill, Structures	Owner or structure, township files, subdivision applications, roadmaster, township engineer
C		Existing Flood Control Projects	Channel excavation, rip-rap, floodwalls, etc.	Township records, township engineer, owner of facilitiy
D		Proposed Flood Control Projects	Channel excavation, rip-rap, floodwalls, etc.	Township records, township engineer, owner of facilitiy
E		Existing Stormwater Control Facilities	Detention basins, recharge basins, roof-top stroage	Subdivision files, township engineer, owner of facility
F		Proposed Stormwater Control Facilities	Detention basins, recharge basins, roof-top stroage	Subdivision files, township engineer, owner of facility
G		Existing Stormwater Collection Systems	Storm sewers, man-made channels, diversions	Existing plans, township engineer, owner of system
H		Proposed Stormwater Collection Systen	Storm sewers, man-made channels,	Existing plans, township engineer, owner of

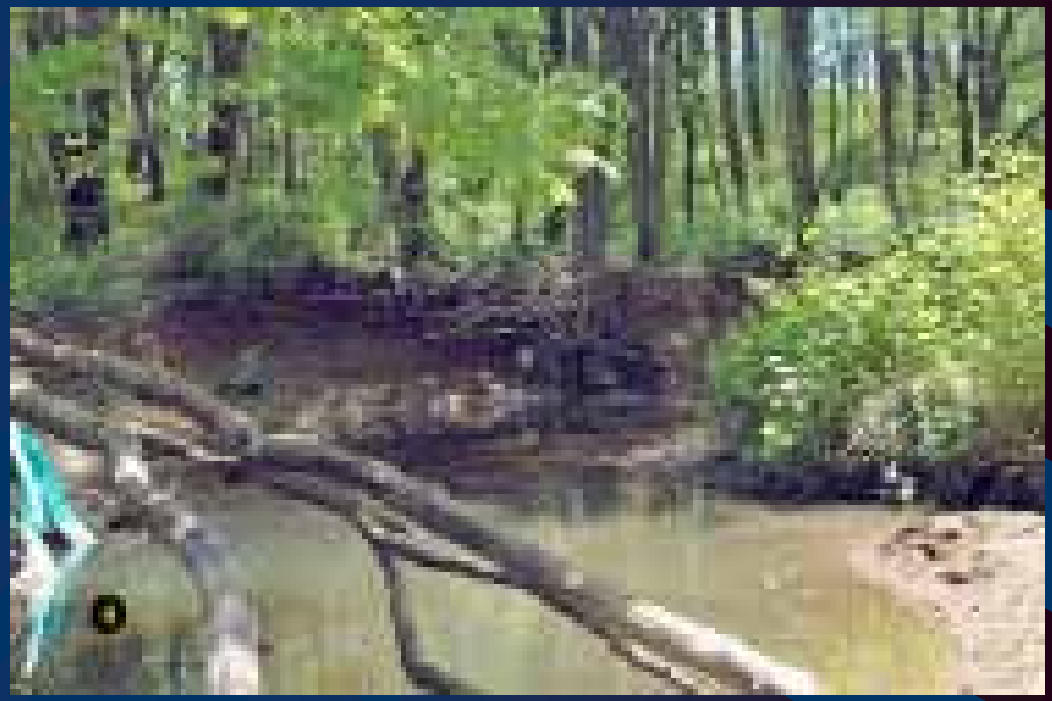
Problems in the Watershed

- Floodplain encroachment
- Undersized storm drains
- Undersized stream channels
- Erosion/Sedimentation
- Water Quality/Pollution
- Existing Ordinances
- Others ????

Flooding

Undersized or Blocked Storm Drains

Obstructions



Erosion / Sedimentation Problem Area

Water Quality Problem Area

Problem Area Survey

FORM A - STORM WATER PROBLEM AREAS SHEET_____ OF _____

WATERSHED	FORM COMPLETED BY	Before Filling Out Form, See Instructions On Back
Name:	Name:	
Municipality:	Telephone:	For County Use: A-1
County:	Date:	

MAP NO. *	A-	A-	A-	A-	A-	A-	A-	A-	A-	A-	A-	A-
Types of Storm Water Problems												
Flooding												
Accelerated Erosion												
Sedimentation												
Landslide												
Groundwater												
Water Pollution												
Other (Explain)												
Explanation Line No. (On Back)												
Cause (s)												
Storm Water Volume												
Storm Water Velocity												
Storm Water Direction												
Water Obstruction												
Other (Explain)												
Explanation Line No. (On Back)												

Frequency												
Year of Most Recent Occurrence												
Year of First Known Occurrence												
Occurs More Than Once Per Year												
Occurs Less Than Once Per Year												
Only During Major rainfall events (e.g. Hurricane)												
Total occurances in 2003												
Duration (If Applicable)												
Less Than 1 Day												
1 Day + (Enter Days)												
Damage												
Loss of Life/Personal injuries												
Private Property: Damage to Structures (houses/businesses)												
Major Road Closures												
Sinkhole Development												
Minor Road Closures												
Utilities/Infastructure Damage												
Number of Properties Affected												
10 or less												
more than 10												
Public Facilities (schools, parks etc.)												
Solutions												
Planned or Underway												
Explanation(Line No.)												

INSTRUCTIONS

Begin with A.1 as the first map number to identify the first' storm water problem area. Illustrate the defined problem on the watershed map provided, and identify it with its map number.

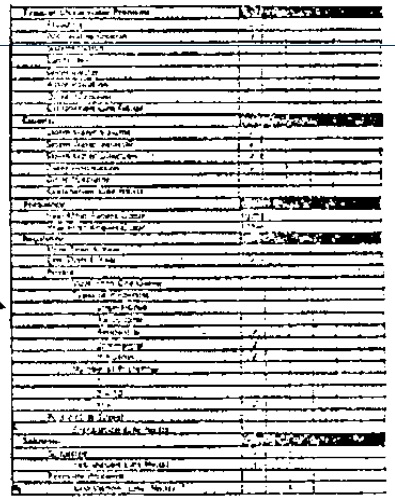
For each storm water problem area within your municipality, enter the map identification number at the head of the column. Describe the problem by placing a check (4 in the appropriate blocks of the column under this map identification number.

When an additional explanation is required, write the line number(s) used in the column marked "Explanation Line No. (s)".Example 1, 2-3, etc.

If storm water problem occurred during and after Agnes, describe the frequency of the problem after Agnes.

Use the explanation lines to list the types of public property damages ,e.g.roadways, hospitals, etc.

Enter the line no. (s) used to list the map ID no. (s) for the proposed facilities.



Definitions

Storm Water Problem Area
An area that defines the farthest extent of a storm water problem, including any area that experiences property damage, inundation, accelerated erosion, surface water pollution, groundwater pollution, landslides, or any other problem as a result of storm water runoff.

Groundwater
Water in the ground below the water table.

Accelerated Erosion
The removal of the surface of the land through the combined action of man's activities and the natural processes at a rate greater than would occur because of the natural process alone.

Sedimentation
The process by which soil or other surface materials, transported by surface water, is deposited on stream bottoms.

Water Obstruction
Any dike, bridge, culvert, wall, wingwall, fill, pier, wharf, embankment, abutment, or other structure located in, along, across, or projecting into any watercourse, floodway, or body of water.

EXPLANATION LINES (continued)

DETERMINE NUISANCE V. REGIONAL PROBLEMS AND PROPOSED SOLUTIONS

TABLE 1: SUMMARY OF RESPONSE ITEMS FROM MUNICIPAL QUESTIONNAIRE

Municipality	Problems/ Concerns Identified (A)	Causes of Storm Water Problems (B)	Frequency of Occurrence Incurred (C)	Types of Damages
Bucks County				
Upper Southampton Township	1 & 4	1, 2, 3 & 4	4	Private Property
Lower Southampton Township	1	1 & 2	4	Private & Public Property
Bensalem Township	1, 2 & 5	1, 2, 3 & 4	1, 3 & 4	Private & Public Property
Montgomery Co.				
Lower Moreland Township		2, 3 & 4	4	Private & Public Property
City of Phila.	1, 2, 3, 4	1, 2, 3, 4, 5	2	Private & Public Property

(A) Problems/Concerns Identified

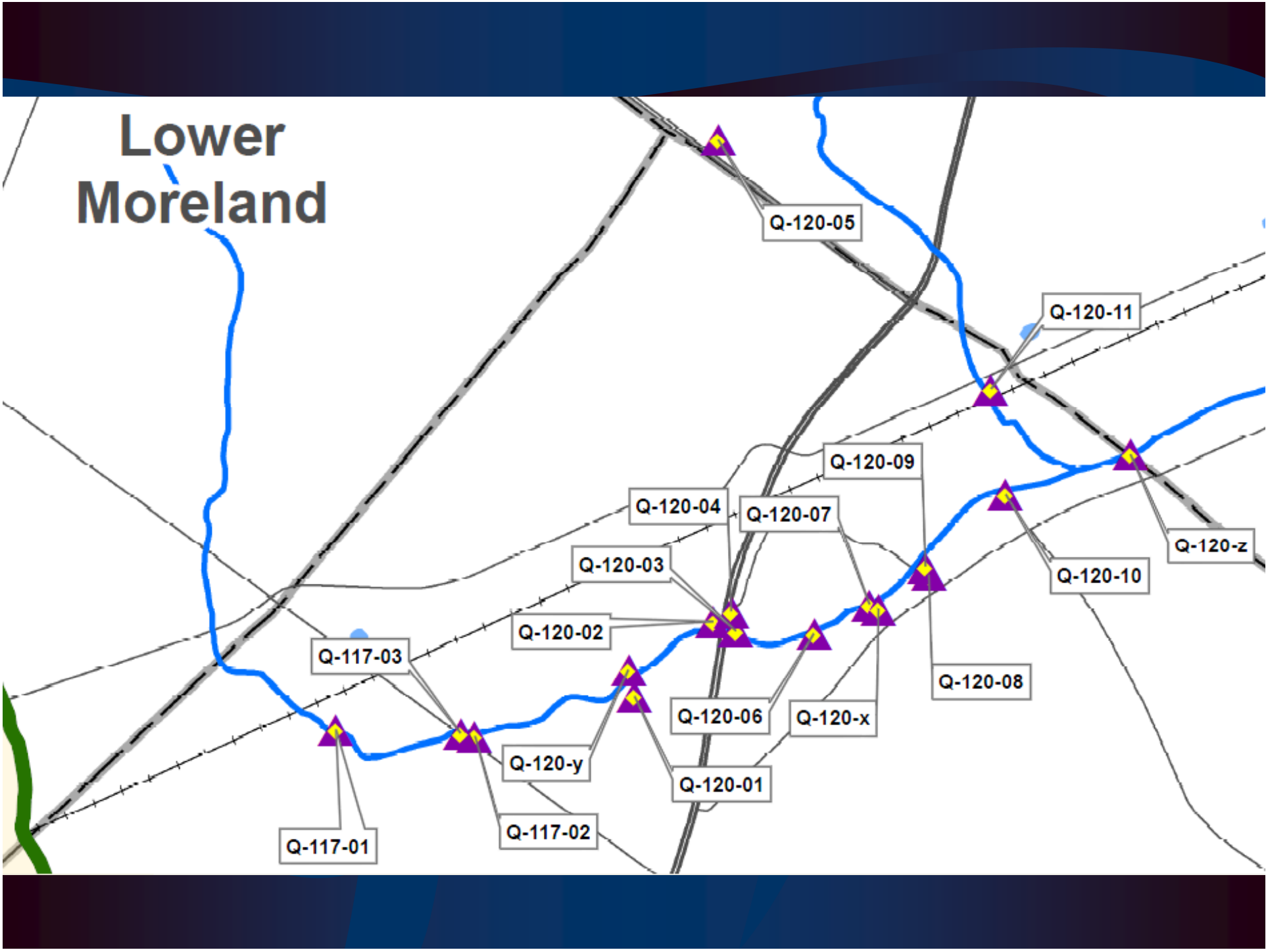
1. Stream flooding
2. Street flooding
3. Soil washoff
4. Stormwater pollution
5. Other

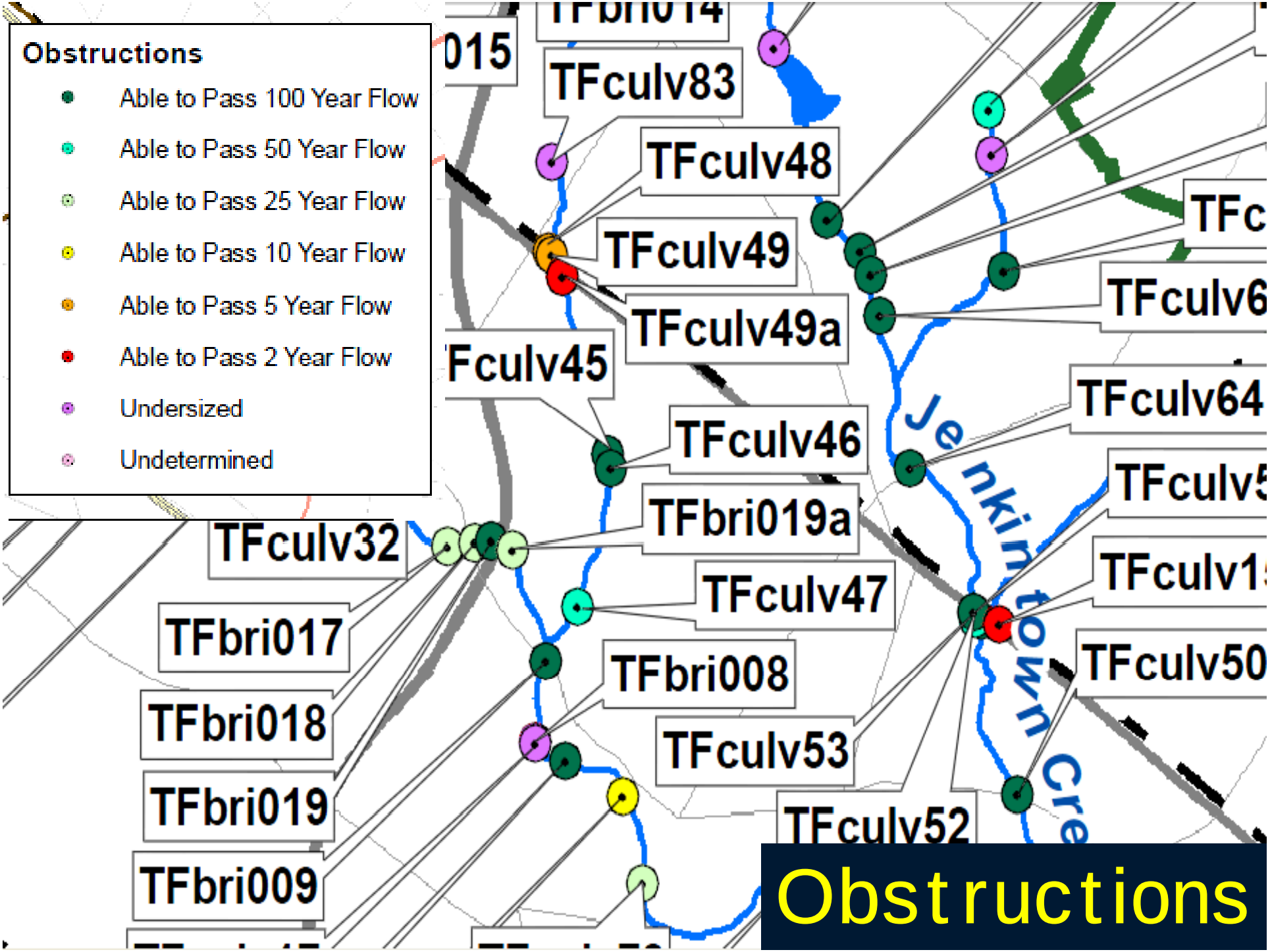
(B) Causes of Stormwater Problems

1. Too large an increase in uncontrolled runoff
2. Uncontrolled runoff from upstream municipalities
3. Inadequate drainage system

(C) Frequency of Occurrences

1. Every rain
2. More than 10 times per year
3. More than 1 time per


Lower
Moreland
Q-120-05
Q-120-11
Q-120-09
Q-120-04
Q-120-07
Q-120-03
Q-120-z
Q-120-10
Q-120-02
Q-117-03
Q-120-08
Q-120-06
Q-120-x
Q-120-y
Q-120-01
Q-117-02
Q-117-01


Obstructions
Able to Pass 100 Year Flow
Able to Pass 50 Year Flow
Able to Pass 25 Year Flow
Able to Pass 10 Year Flow
Able to Pass 5 Year Flow
Able to Pass 2 Year Flow
Undersized
Undetermined
TFculv83
TFculv48
TFculv49
TFculv49a
TFculv45
TFculv46
TFculv64
TFbri019a
TFculv32
TFculv47
TFbri017
TFbri008
TFbri018
TFculv53
TFbri019
TFculv52
TFbri009
Jenkintown Cre
Obstructions

Dec-81 EXISTING FLOOD CONTROL PROJECT FORM C. SHEET _____ OF _____

WATERSHED	FORM COMPLETED BY	TYPICAL TYPES OF FLOOD CONTROL PROJECTS		
Name: _____	Name: _____	Channel Excavation / Widening	Levee	Dams
Municipality: _____	Telephone: _____	Channel Realignment	Gabions	Floodwall
County: _____	Date: _____	Rock Riprap	Pipe Channel	Concrete Lining

For County Use:

Map ID No.	Type of Flood Control Project	Year Constr Built	Expected Life Yrs.	Design Flood Frequency Yrs.	Design Flood Discharge C.F.S. (if known)	Owner Name, Address, and Phone
C-						
C- 1	Levee	1986	100	100		

FORM C - EXISTING FLOOD CONTROL PROJECTS

C-1


Baeder and Wanamaker Roads TTF Watershed Jenkintown, PA
Flood Control Project

Dec-81 PROPOSED FLOOD CONTROL PROJECT FORM D. SHEET _____ OF _____

WATERSHED

Name: _____
Municipality: _____
County: _____

FORM COMPLETED BY

Name: _____
Telephone: _____
Date: _____

TYPICAL TYPES OF FLOOD CONTROL PROJECTS

Channel Excavation / Widening	Levee	Dams
Channel Realignment	Gabions	Floodwall
Rock Riprap	Pipe Channel	Concrete Lining

For County Use:

Map ID No.	Type of Flood Control Project	Study Phase Begun			Year Constr. Planned	Projected Compltn. Date	Expected Life Yrs.	Design Flood		Map ID No. Form A*	Owner Name, Address, and Phone
		YES		N0				Frequency Yrs.	Discharge C.F.S.		
		Prelim.	Final								
D- 1	Dam	x	x		1998	2000	100	100	400	1	
D- 2	Dam	x		x	2000	2002	100	100	250	2	
D-											
D-											
D-											

* Enter the storm water problem area's Map ID No., if the proposed project will solve or reduce any / all of an identified drainage problem.

FORM D - PROPOSED FLOOD CONTROL PROJECTS

D-1

Jan-82 EXISTING STORM WATER CONTROL FACILITIES FORM E. SHEET _____ OF _____

WATERSHED	FORM COMPLETED BY	DEFINITION
		Storm Water Control Facility
Name:	Name:	A natural / man-made device or structure specifically designed and / or
Municipality:	Telephone:	utilized to reduce the rate and / or volume of storm water runoff
County:	Date:	from a site or sites.

For County Use:

Map ID No.	Type of Storm Water Control Facility	Year Built	Contact Person Name, Address and Phone	Comments
E-				
E- 1	Detention Basin	1978		
E-				
E-				
E-				
E-				
E-				
E-				

TYPICAL TYPES OF STORM WATER CONTROL FACILITIES

Detention / Retention Basin

Natural Pond or Wetland

Parking Lot Pondling

Roof-Top Storage

Semi-Pervious Paving

Infiltration Device (Seepage / Recharge Basin or Underground Tank)

FORM E - EXISTING STORM WATER CONTROL FACILITIES

E-1


MD_2
Montgomery

Jan-82 PROPOSED STORM WATER CONTROL FACILITIES FORM F. SHEET _____ OF _____

WATERSHED

FORM COMPLETED BY

Name:

Municipality:

County:

Name:

Telephone:

Date:

DEFINITION

Storm Water Control Facility

A natural / man-made device or structure specifically designed and / or utilized to reduce the rate and / or volume of storm water runoff from a site or sites.

For County Use:

Map ID No.	Type of Storm Water Control Facility	Proposed Constr. Dates Start	End	Map No. Form A*	Contact Person Name, Address and Phone	Comments
F-						
F-						
F-						
F-						
F-						
F-						
F-						
F-						

* Enter the storm water problem area's Map ID No., if the proposed project will solve or reduce any / all of an identified drainage problem.

TYPICAL TYPES OF STORM WATER CONTROL FACILITIES

Detention / Retention Basin	Roof-Top Storage
Natural Pond or Wetland	Semi-Pervious Paving
Parking Lot Pondling	Infiltration Device (Seepage / Recharge Basin or Underground Tank)

FORM F - PROPOSED STORM WATER CONTROL FACILITIES

F-1

Dec-81 | EXISTING STORM WATER COLLECTION FACILITIES - FORM G. | SHEET _____ OF _____

WATERSHED

Name:

Municipality:

County:

FORM COMPLETED BY

Name:

Telephone:

Date:

INSTRUCTIONS

Diagram each system on the appropriate map. Establish map points to show changes in system elements, pipe size, or pipe direction. (If unknown, outline the system extent.) Complete this form only where specific information on construction is available. Use a separate form for each system. Identify the points within a system consecutively (ex. G-1,G-2,G-3). Start the first point in each additional system 20 numbers higher. For example, G-3 ends one system, so G-23 begins the next. See Sample Diagrams & Form on Reverse.

Map I.D. No.		System's Elements (x)			Measurements *						Design Data		Name of Final Ownership and
					Pipe	Channel / Swale			Material	Year		Contact Person	
From	To	Pipe	Open Channel	Swale	D	TW	B	Depth		Constr.	Available	Name and Phone	Maintenance Responsibility
G-	G-												
G-	G-												
G-	G-												
G-	G-												
G-	G-												
G-	G-												
G-	G-												
G-	G-												
G-	G-												
G-	G-												

* See measurement key on reverse side.

FORM G - EXISTING STORM WATER COLLECTION FACILITIES

G-1


Household wastewater
(toilet, sinks, etc.)
Catch Basin
Sewer Pipe
Storm Drain
Tunnel
Two
Underground
Systems
Outflow
to
treatment
Outflow
to bayous,
rivers, bay

Dec-81					PROPOSED STORM WATER COLLECTION FACILITIES - FORM H.											SHEET _____ OF _____
WATERSHED			FORM COMPLETED BY					INSTRUCTIONS								
					On the map for proposed storm water collection systems, diagram each proposed system. Indicate a map point to show changes in system elements, pipe size, pipe direction and connections											
Name:			Name:		to existing systems. For proposed additions to existing systems, diagram only the additions and their connection point into the existing system. Complete a separate form for each proposed,											
Municipality:			Telephone:		new system and one for each existing system having one or more proposed additions. Identify the points within a system consecutively (ex. H-1, H-2, H-3). Start the first point in each											
County:			Date:		additional system 20 numbers higher (if H-3 ends one system, begin the next with H-23). Be sure to show the point where proposed additions connect into existing systems, using the map											
					point number from the existing system form and map. See Sample Diagrams and Form on Reverse.											
Map I.D.		System's Elements (x)			Measurements *					Map I.D.	Proposed		Design	Contact Person	Name of Final	
No.					Pipe	Open Channel / Swale			Material	Nos.**	Const. Dates		Data	Name and	Ownership and	
From	To	Pipe	Open Channel	Swale	D	TW	B	Depth		Form A	Start	End	Avail.	Phone	Maintenance Responsibility	
H-	H-															
H-	H-															
H-	H-															
H-	H-															
H-	H-															
H-	H-															
H-	H-															
H-	H-															
H-	H-															
H-	H-															
H-	H-															
H-	H-															

* See measurement key on reverse side. ** Enter the storm water problem areas' Map I.D. Nos., if proposed project will solve or reduce any / all of the drainage problems.

FORM H - PROPOSED STORM WATER COLLECTION FACILITIES

H-1

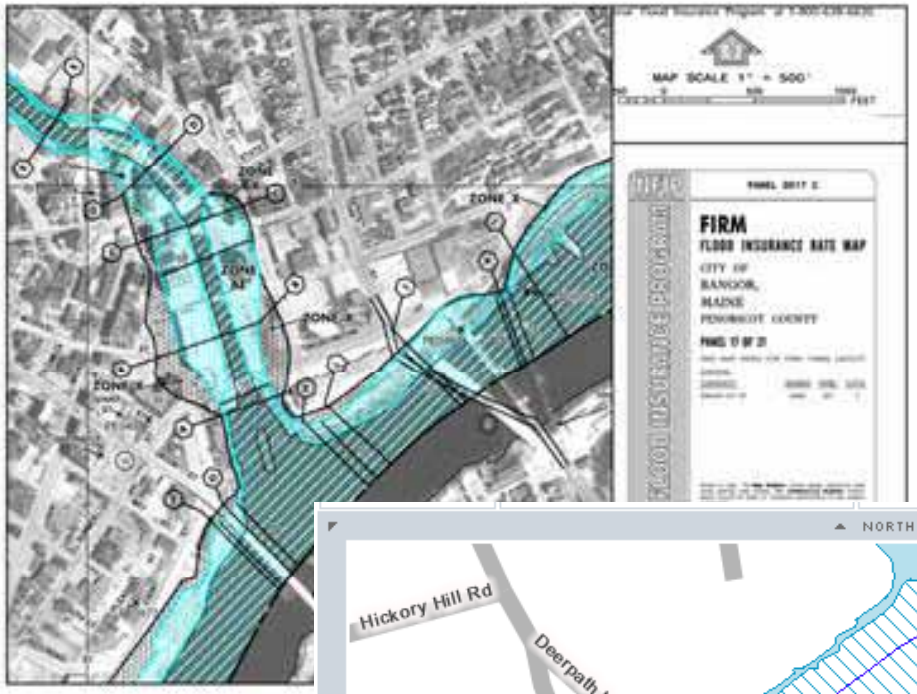
Dec-81 PRESENT & PROJECTED DEVELOPMENT IN THE FLOOD HAZARD AREA (FORM 1) SHEET _____ OF _____

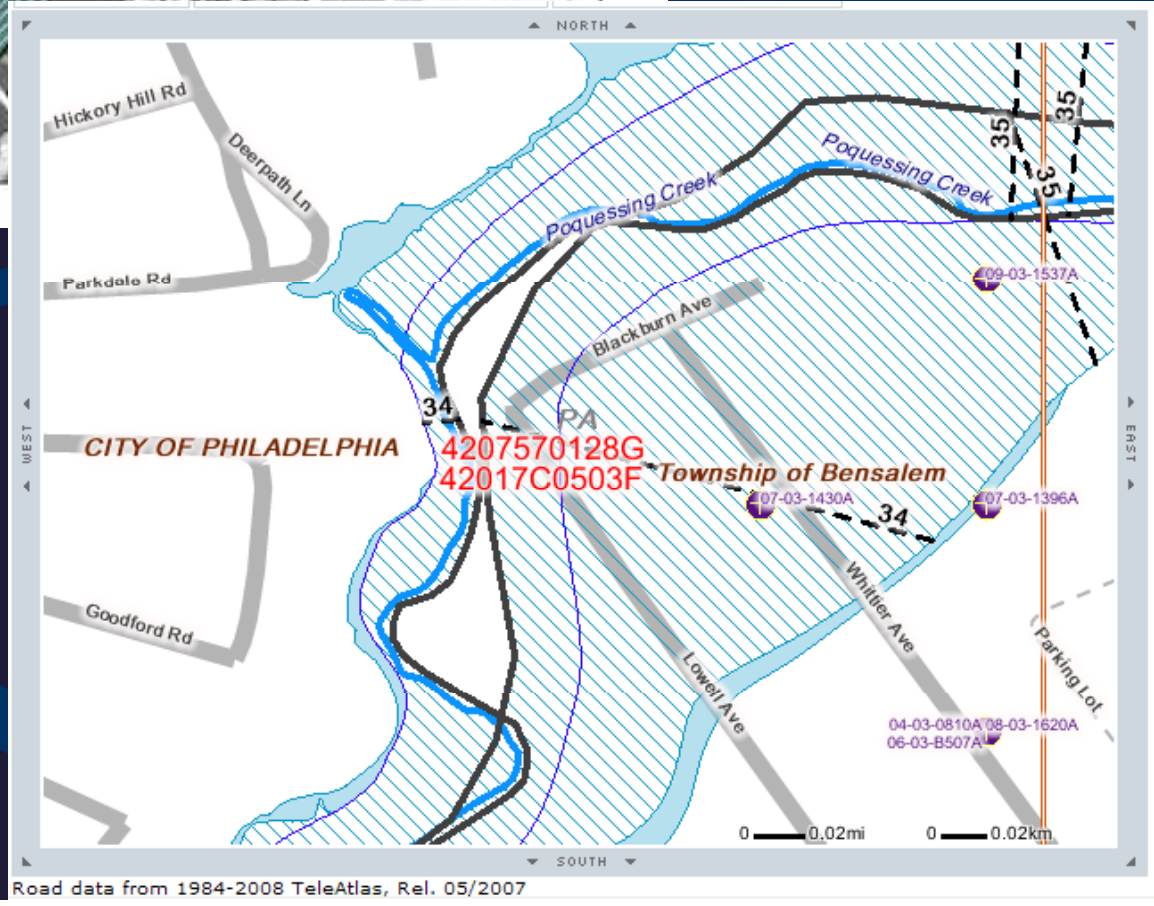
WATERSHED	FORM COMPLETED BY	DEFINITION
Name: _____	Name: _____	FLOOD HAZARD AREA:
Municipality: _____	Telephone: _____	A NORMALLY DRY LAND AREA THAT HAS BEEN OR IS
County: _____	Date: _____	SUSCEPTABLE TO BEING INUNDATED BY THE
		100-YEAR FLOOD.

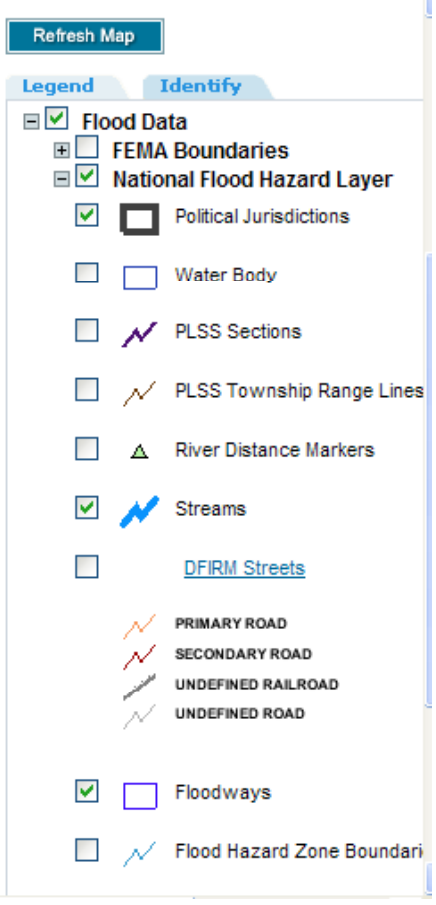
For County Use:

Map ID No.	TYPE OF DEVELOPMENT	Year Built	Contact Person Name, Address and Phone	Comments
I -				
I -				
I -				
I -				
I -				
I -				
I -				

Form I - Development in the flood hazard area.


MAP SCALE 1" = 500'
FIRM
FLOOD INSURANCE RATE MAP
CITY OF
BANGOR,
MAINE
PENOBSCOT COUNTY


NORTH
SOUTH
WEST
EAST
Hickory Hill Rd
Deerpath Ln
Parkdale Rd
Goodford Rd
Poquessing Creek
Poquessing Creek
Blackburn Ave
Whittier Ave
Lowell Ave
Parking Lot
35
35
35
34
34
PA
CITY OF PHILADELPHIA
4207570128G
42017C0503F
Township of Bensalem
09-03-1537A
07-03-1430A
07-03-1396A
04-03-0810A
08-03-1620A
06-03-B507A
0 0.02mi
0 0.02km
Road data from 1984-2008 TeleAtlas, Rel. 05/2007


Refresh Map
Legend
Identify
Flood Data
FEMA Boundaries
National Flood Hazard Layer
Political Jurisdictions
Water Body
PLSS Sections
PLSS Township Range Lines
River Distance Markers
Streams
DFIRM Streets
PRIMARY ROAD
SECONDARY ROAD
UNDEFINED RAILROAD
UNDEFINED ROAD
Floodways
Flood Hazard Zone Boundari

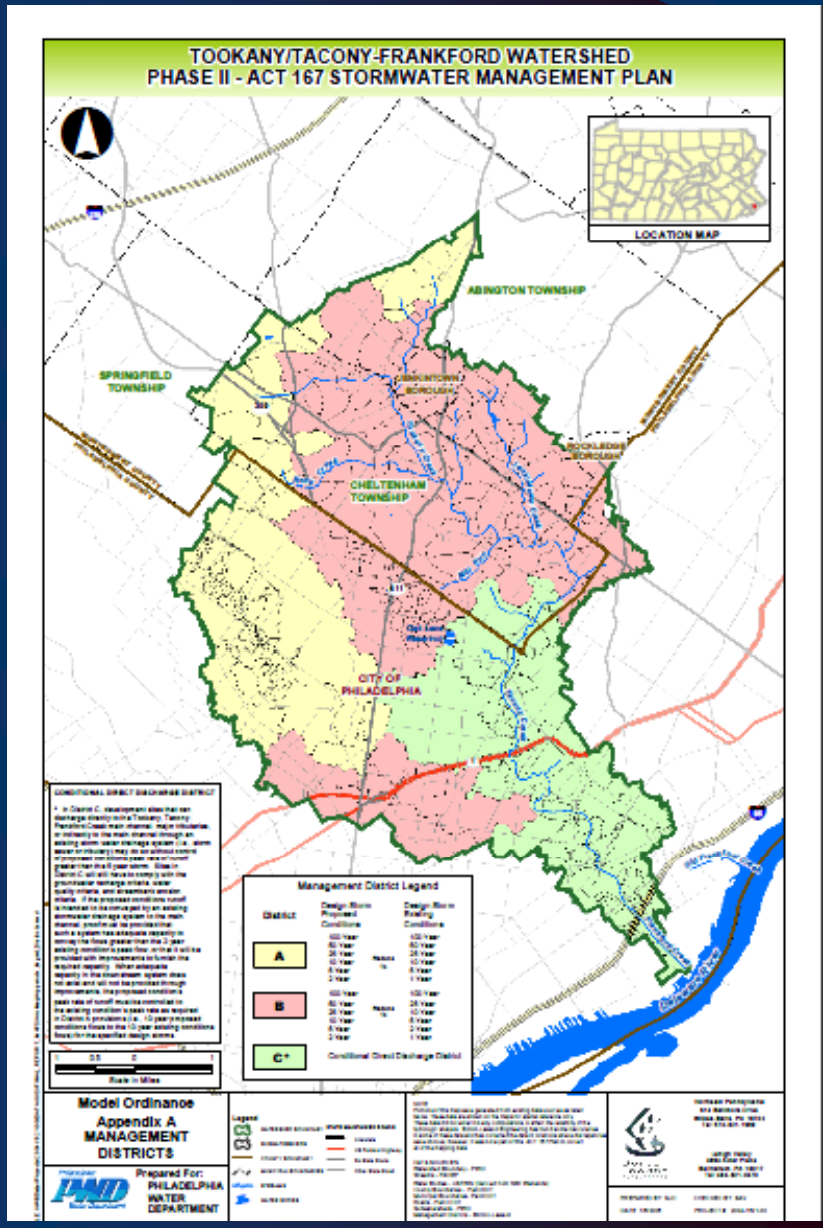
FORM J - WATER QUALITY PROBLEM AREAS

Dec-81	WATER QUALITY PROBLEM AREAS FORM J. SHEET_____ OF _____											
WATERSHED				FORM COMPLETED BY								
Name:				Name:								
Municipality:				Telephone:								
County:				Date:								
SITE	J-	J-	J-	J-	J-	J-	J-	J-	J-	J-	J-	J-
Types of Water Quality Problems												
High Community Tolerence												
High Temperature												
High Turbidity												
Hydrocarbon Pollution												
Low Community Diversity												
Low Dissolved Oxygen												
Low pH												
Nutrient Enrichment												
Poor Habitat												
Other/Explanation Line No.												
Potential Cause(s)												
Agriculture												
Construction Site												
Erosion												
Lake Discharge												
STP Outfall												
Other/Explanation Line No.												
Frequency												
Year Most Recent Occurence												
Year First Known Occurence												
Source of Information												

J-1

Final Products:

- Inventory of detention basins with proposed retrofits
- Inventory of problem areas with proposed solutions
- Final report
- Model Stormwater Mgmt Ordinance



Questions

? ? ? ?