



Bureau of Clean Water



Municipal Separate Storm Sewer System (MS4)

Eastern PA Greenways & Trails Summit 2018

October 1, 2018

Tom Wolf, Governor

Patrick McDonnell, Secretary

Today's Goal

- Obtain a basic understanding of the MS4 program.
 - Minimum Control Measures (MCMs)
 - Stormwater Ordinance Requirements
 - Pollution Reduction Plans
 - Pollutant Control Measures
 - TMDL Plans
- Start the process of identifying opportunities for trail and greenway developers to work collaboratively with MS4 permittees.

What is MS4?

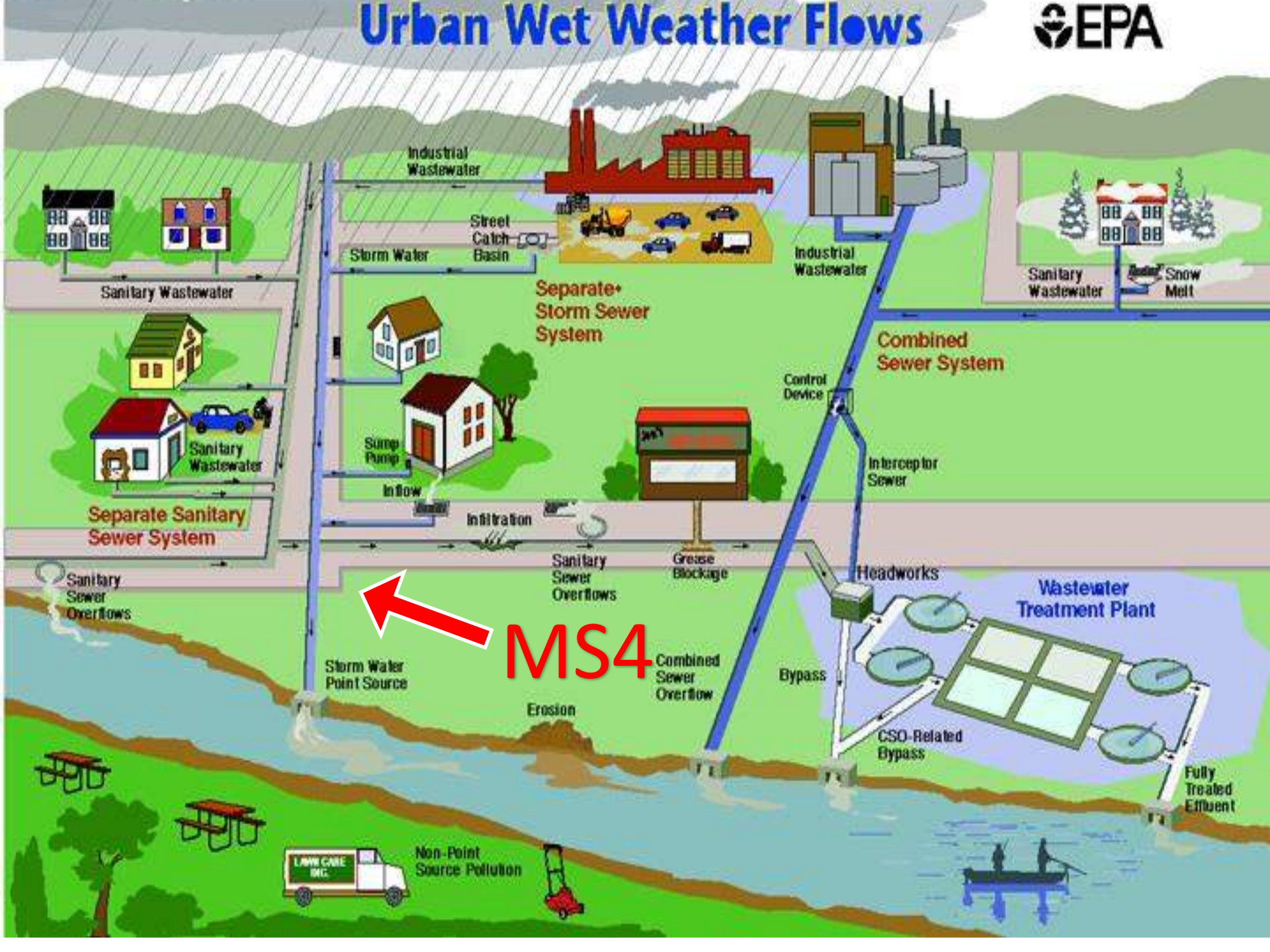
Municipal Separate Storm Sewer System



What is MS4?

- 40 CFR 122.26(b)(8) - “municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):
 - (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States.
 - (ii) Designed or used for collecting or conveying stormwater
 - (iii) Which is not a combined sewer; and
 - (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.”

Urban Wet Weather Flows



History - Not a New Program

In **1990**, updates to Federal Clean Water Act regulations established the National Pollutant Discharge Elimination System (NPDES), requiring **municipalities with populations of 100,000 or more** to obtain NPDES (Phase I) permits and develop stormwater management plans.

History - Not a New Program

In **1999**, NPDES Phase II was signed into law to build on the initial program. **Phase II required small municipalities to obtain permits for their stormwater discharges.**

The Big Picture



NPDES

Construction
Chapter 102 Permits

Waste Water
Treatment Plant
Discharge Permits

CAFO Permits

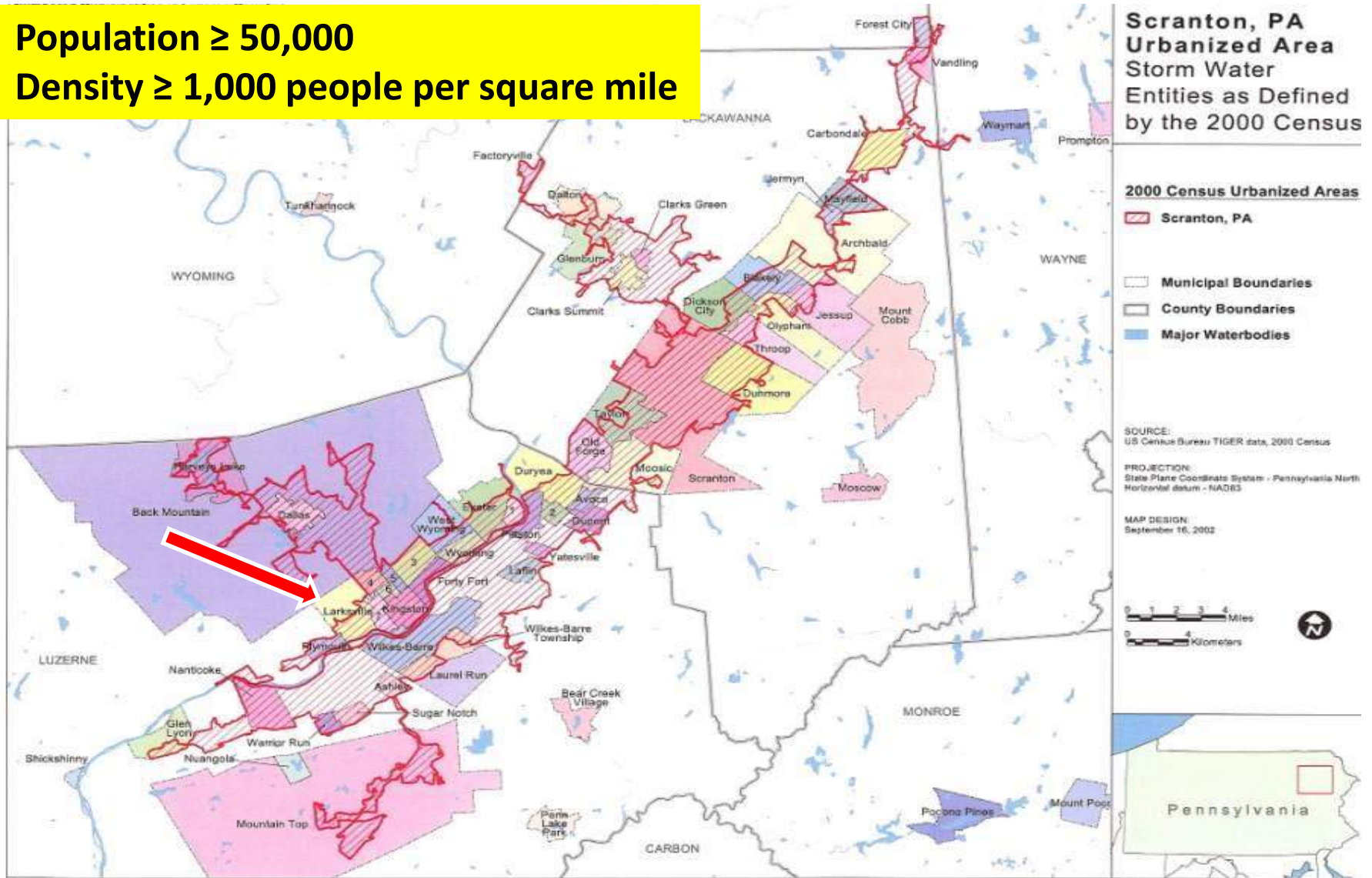
Industrial Stormwater
Discharge Permits

MS4 Permits

Pesticide Discharge Permits

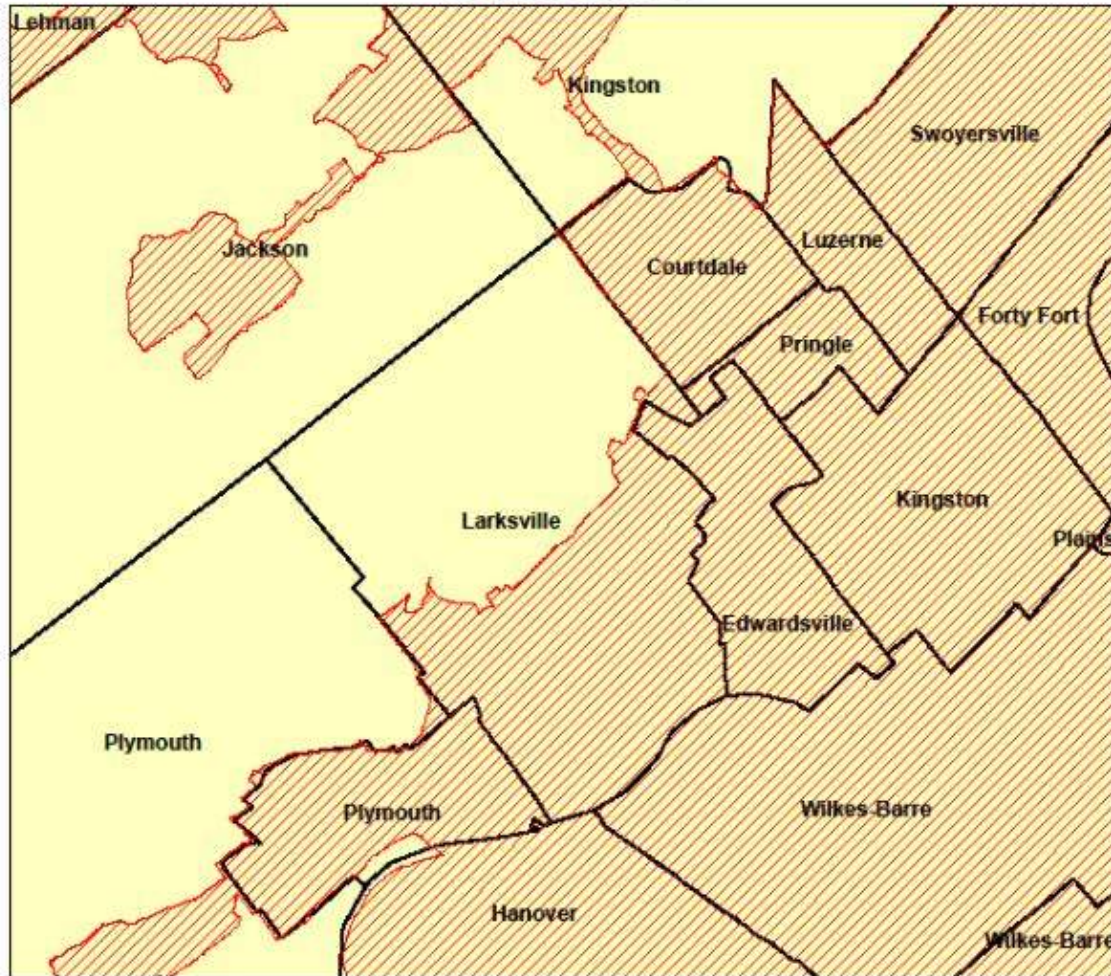
Urbanized Areas

Population $\geq 50,000$
Density $\geq 1,000$ people per square mile

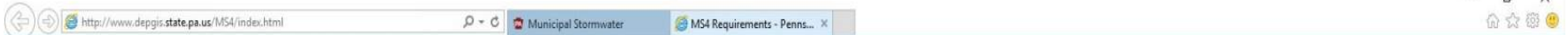


Understanding the MS4 Regulated Area

*Larksville (2010) Urbanized Area
"Regulated Area"*



Why is MS4 Important?



Tom Wolf, Governor

MS4 Requirements



Patrick McDonnell, Secretary

MS4 Requirements

BACKGROUND

Municipalities and other entities such as universities and prisons that meet certain standards must obtain NPDES permit coverage for discharges of stormwater from their municipal separate storm sewer systems (MS4s).

A municipal separate storm sewer is any conveyance or system of conveyances (including but not limited to streets, ditches, and pipes) that is: owned by a municipality or other public body (created under state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater or other wastes; designed or used for collecting or conveying stormwater; not a combined sewer (i.e., not intended for both sewage and stormwater); AND not part of a publicly owned treatment works (POTW).

Additional information regarding permitting requirements can be found at the [Pennsylvania Municipal Stormwater Homepage](#).

Help is available by clicking the question mark icon in the header.

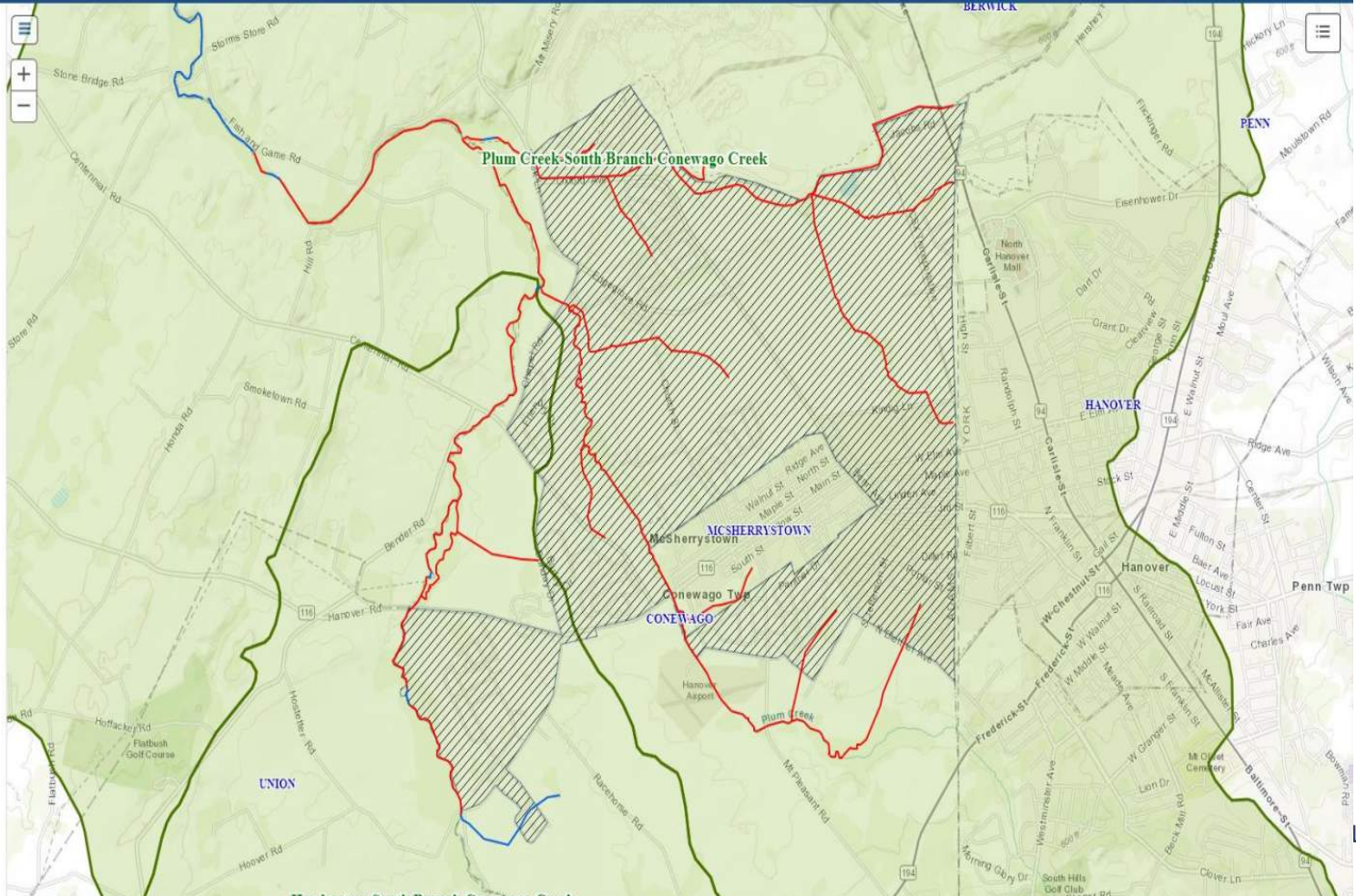
Select a County

ADAMS

Select a Municipality

CONEWAGO TWP

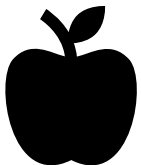
Click to View Features



The Basic MS4 Program



Six Minimum Control Measures



MCM #1

Public Education and Outreach on Stormwater Impacts

Key idea:

The MS4 has a responsibility to provide stormwater management education.



Public Involvement / Participation

Key idea:

The MS4 has a responsibility to involve the public in stormwater management decisions and activities.



Illicit Discharge Detection and Elimination (IDD&E)

Key idea:

Map (know) your stormwater conveyance system, locate, and stop **unauthorized** non-stormwater Discharges.



Construction Site Runoff Control

Key idea:

- Ensure that appropriate Erosion/Sediment controls during construction are in place.
- Work with CCD



Post-Construction Stormwater Management (PCSM)

Key idea:

- Ensure appropriate Post Construction Stormwater Management (PCSM) controls are in place, maintained and operating as designed.



Pollution Prevention/Good Housekeeping

Key idea:

- Minimize stormwater pollution from municipal operations.
- DPW training
- Maintain inlets
- Manage street sweeping



2018 Permit Difference

PRP/TMDL Plans



2018 MS4 Permit - PRPs

- Pollutant Reduction Plans (PRPs)
 - Chesapeake Bay PRP
 - Local Impaired Waters PRP
- Specific load reduction must be accomplished within 2018-2023 permit term
 - This means implementing BMPs!



Preparing a PRP

- Map drainage areas (sewersheds)
- Calculate current pollutant loads
- Reduce loads by existing BMPs
- Identify required load reductions
 - 10% sediment reduction required
- **Locate planned BMPs**
- Calculate load reductions

May be a
reiterative
process!

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Pollutant Control Measures

Different than PRPs:

- Appendix A: AMD
- Appendix B: Pathogens
- Appendix C: Toxics
 - an inventory of pollutant sources by 9/2020
 - report of investigations by 9/2022



Funding

- General Fund
- Fee Systems
- Authorities



Collaboration: part of the solution

- Stormwater Authorities
- Do your MCMs & PRP/PCM/TMDL plans as a group of municipalities
- Involve local environmental groups and non-profit organizations



▶ Collaboration: part of the solution

- Assume that there is opportunity in every improvement project.
- Stormwater parks starting to surface in PA.
 - Dallas Township Park
 - Jackson Township Park
 - Plains Township Park
- Riparian Buffer protection and reestablishment opportunity with linear projects.

▶ Collaboration: part of the solution

- Be aggressive in seeking out opportunity to work with municipalities.
- Be the “glue” that holds the effort together.
- Many situations are mutually beneficial.



pennsylvania
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Bureau of Point and
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& Trails Summit 2018

How Trails Can Help their Local MS4



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Ways to Partner with Your Local MS4

Working with your municipality to help them achieve permit compliance

- Every day help
- Large project implementation

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It's the Little Things that Count

Small projects put on by your non-profit that the local MS4 municipality can benefit from

- Clean-ups
- Public meetings / workshops
- Educational handouts: brochures, flyers, handouts
- Info table at community events
- Guided walks with a stormwater focus
- Signage / educational panels
- Training sessions / workshops for municipal staff
- Outfall screening & water quality testing

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Back-up, back-up, back-up

Important items that are needed for the annual report

- Pre-event marketing: posters, invitations, FB/IG posts, emails
- Event materials: agenda, handouts, sign-in sheet
- Post-event items: certificates, meeting minutes
- ***Memorandum of Understanding***

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Ways to Partner with Your Local MS4

Working with your municipality to help them achieve permit compliance

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The Big Picture

Implementation of stormwater BMPs

- Raingardens
- Bioswales / vegetated swale
- Infiltration trench
- Porous pavement
- Riparian buffers
- Underground infiltration beds

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Project Examples

Municipal rec projects achieving SW credit

- Dallas Township Park
- Jackson Township Park
- Nesbitt Park

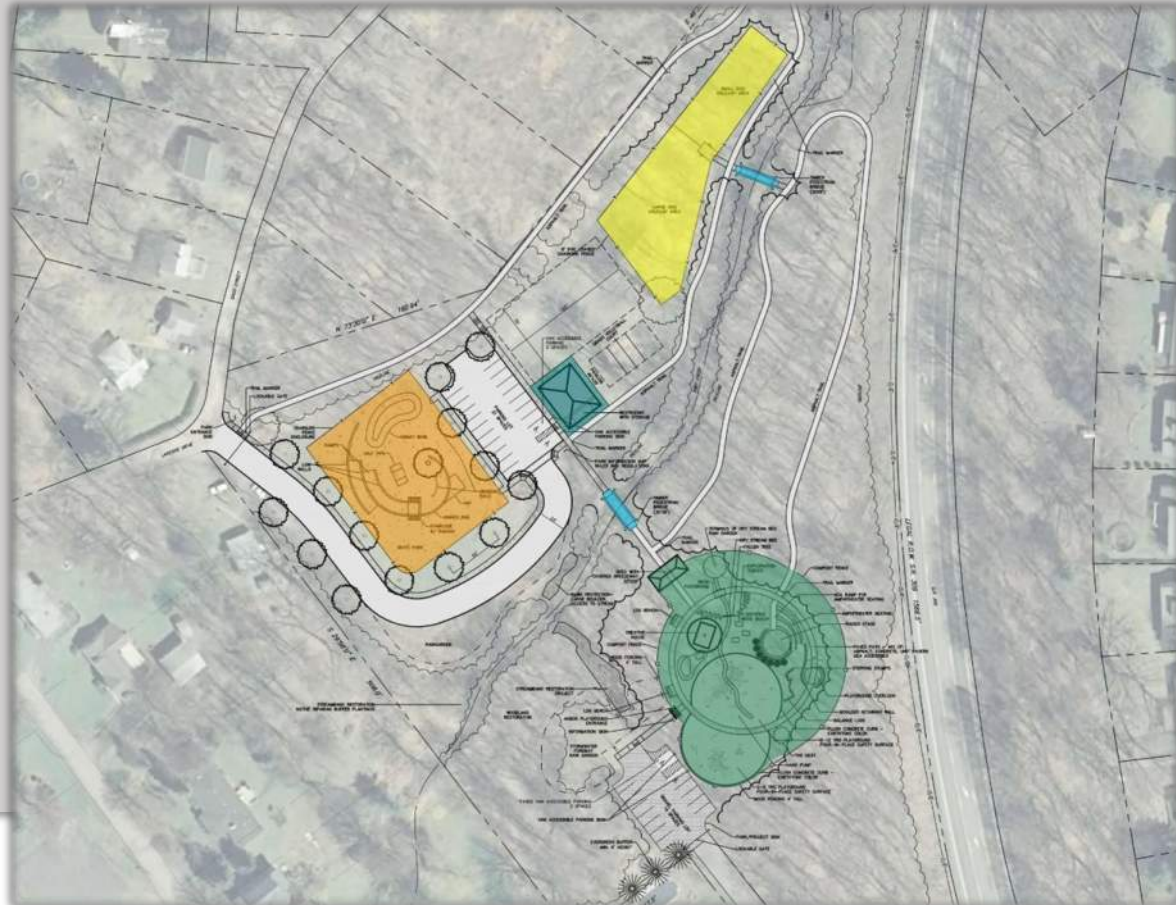
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Dallas Township Park

Municipal park with walking trails, playground, ...



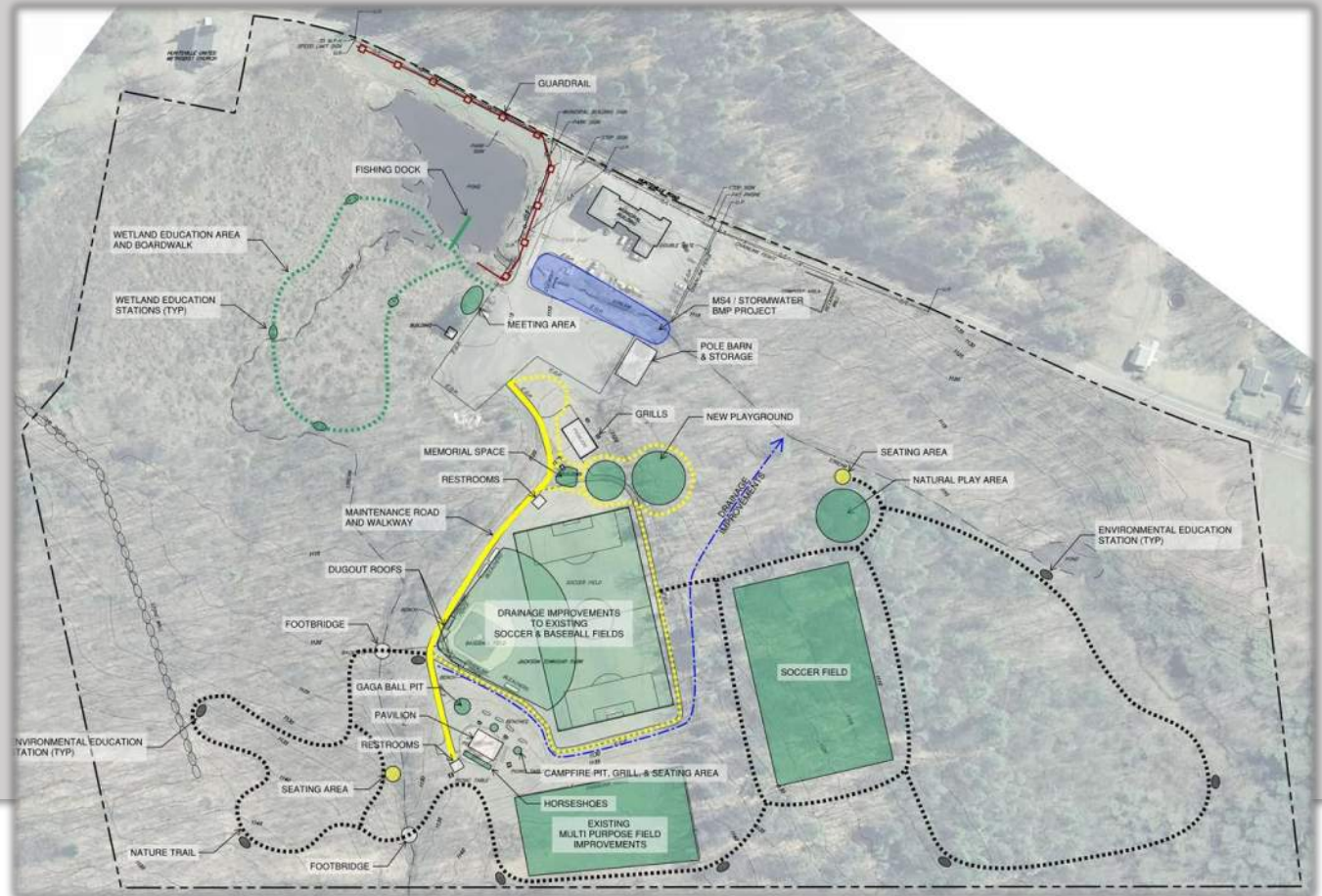
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Jackson Township Park

Municipal park with walking trail, playground, ballfields...



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associates** INC
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Nesbitt Park

Municipal park within flood control levee with walking trail
and boat launch





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ISETT &**
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