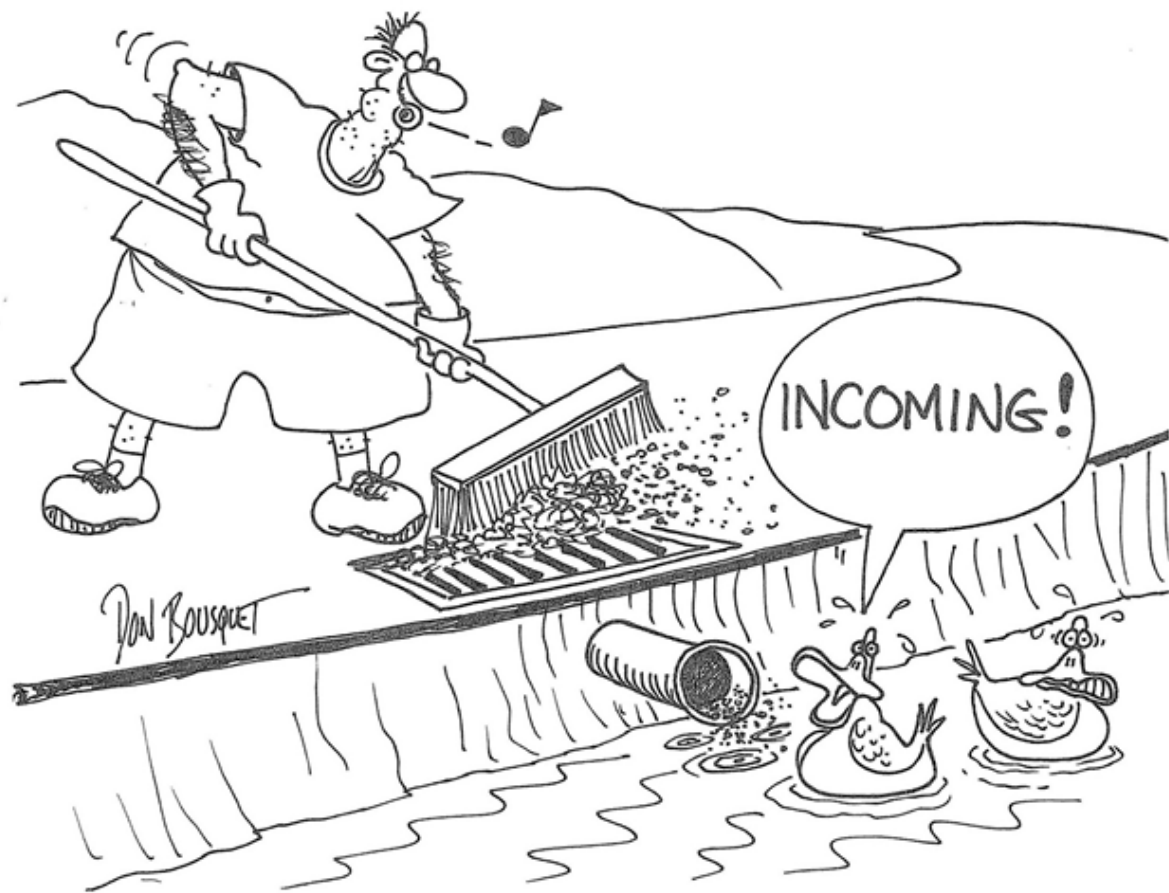


What does it mean to
be an MS₄ Community?





MS4 Basics:

Know your watershed

Know how your community collects & drains stormwater

Know how the system is being maintained

Ordinances that allow enforcement of regulations

Plan for how residents will be engaged & informed

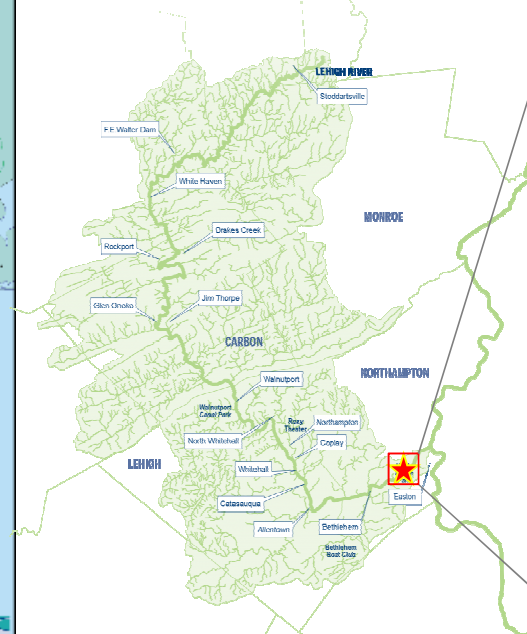
WHAT's NEW ???

STATE: Delaware River Basin



Studied by DEP

REGION: Lehigh River Watershed



Studied by Conservation Districts and Watershed Groups

LOCAL: Fry's Run Sub-Watershed



Studied by MS4 Community

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WHAT'S NEW ???

Information the MS₄ Community Needs to Determine:

- Where do discharges from West Easton Borough go?
Best answered by mapping where stormwater is entering and exiting the Borough
- Does DEP discharge to an impaired stream?
Yes, the Lehigh River
- What does it mean to be 'impaired'?
A river or stream is designated as 'impaired' if it fails to meet specific water quality standards, as dictated by DEP.
(recreational use, fish habitat, native trout stream, etc.)
- Does DEP have restrictions on what can be discharged to the river?
Some rivers and streams have Water Quality reports that will have numerical limits on specific pollutants that can enter the waterway.
(sediment, nitrogen, phosphorous, lead, copper, etc.)



Sediment is the most common source of pollution. It's estimated 70% of sediment in waterways is generated from accelerated erosion by land uses.

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WHAT's NEW ???

Typical Storm Infrastructure



Inlets



Pipes



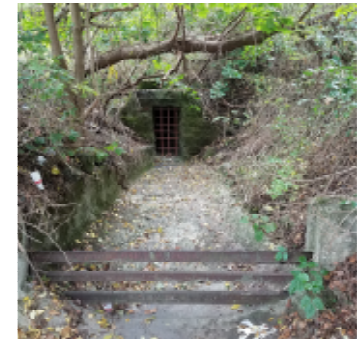
Endwalls



Drainage Cuts



Swales



Storm Channels

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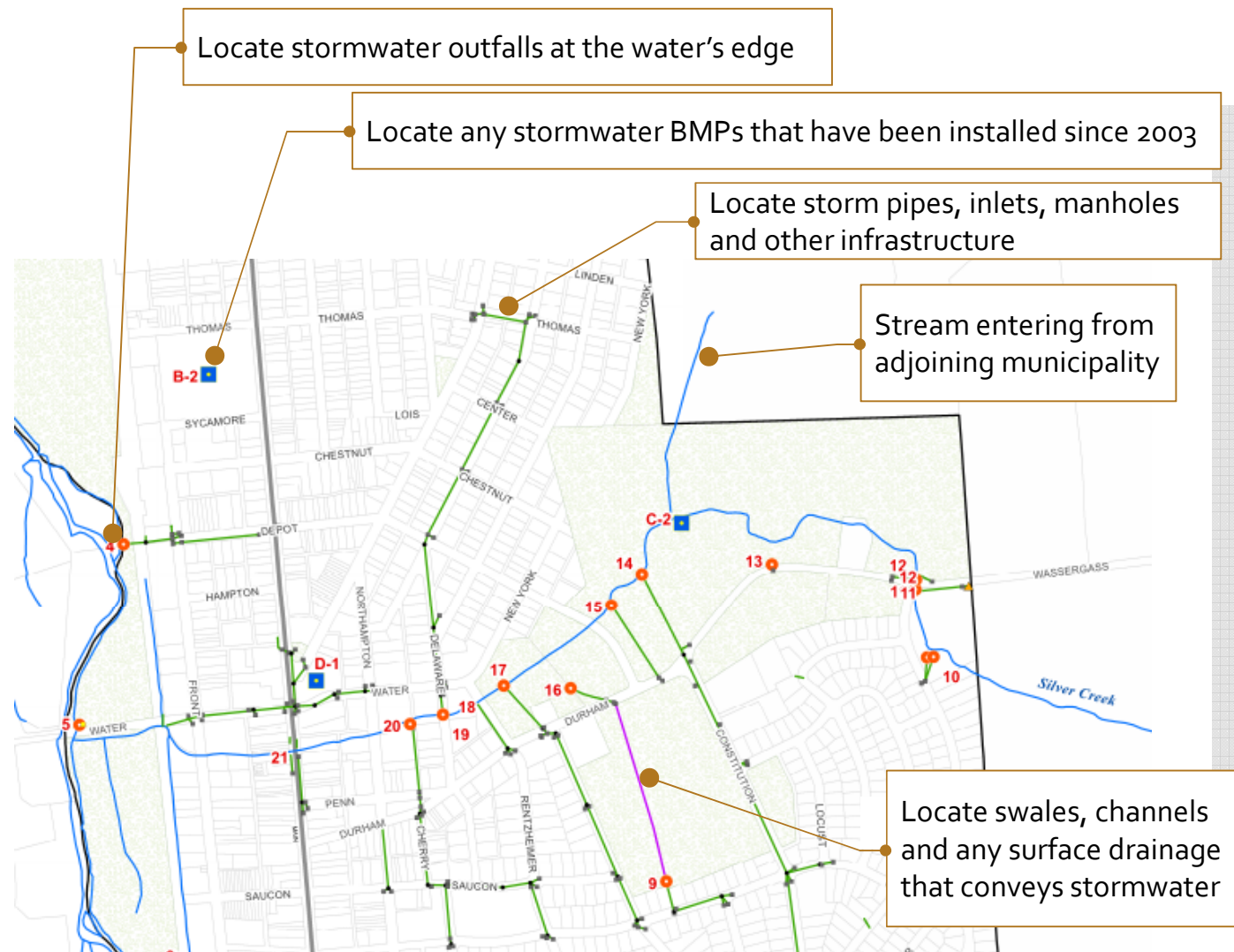
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WHAT's NEW ???



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WHAT's NEW ???

Explain the year-round tasks completed by Borough staff

- Inlet cleaning, vacuum trucks
- Snow removal, winter salts
- Leaf collections
- Road repairs
- Vehicle maintenance
- Equipment maintenance
- Spill response to road accidents
- Proper storage and disposal of chemicals

Keep a log of the work being done.

Tip: Work records are already being done by providing monthly public work reports.



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WHAT's NEW ???

The Purpose?

- DEP wants to know that West Easton Borough understands all the properties they are in charge of maintaining.
- DEP wants the MS₄ permittee to be the model example for the community. *If the Borough doesn't maintain its own properties, then how can it enforce other properties to follow stormwater guidelines.*
- Have the procedures and tasks in one place, as a resource tool. *As employees change over time, a document can help maintain the continuity of work standards and procedures.*

Policies and procedures for maintenance tasks to be collectively organized in a single document, called the Operations & Maintenance (O&M) Manual

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WHAT's NEW ???

Stormwater Ordinances

Ensure that West Easton Borough has the ability to issue violation letters to correct:

- Erosion & Sedimentation Control Failures
- Improper installation of stormwater controls
- Improper maintenance of stormwater BMPs
- Illegal dumping and/or discharges into the storm drainage areas
- Altering grades which results in stormwater flowing onto adjoining properties (without a permit)



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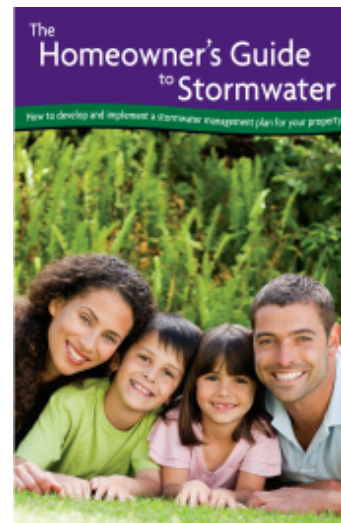
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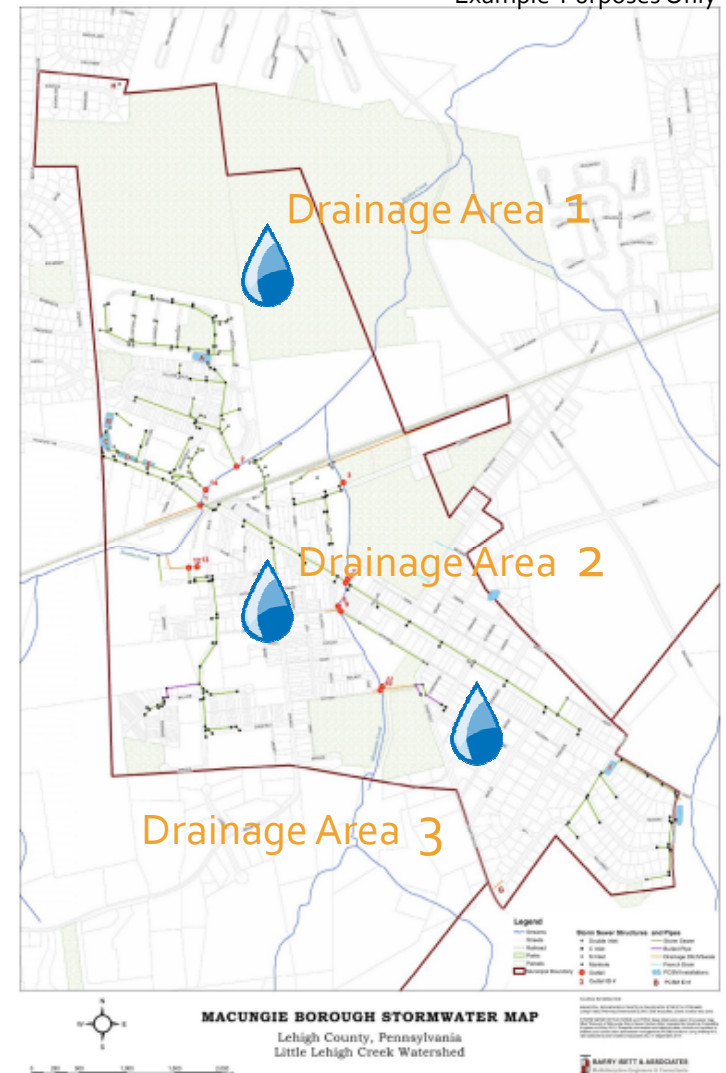
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WHAT'S NEW ???

Additional Mapping

- Map the drainage areas in your MS₄
- Identify the land uses within these drainage areas
(pervious vs. impervious surfaces)
- Check if the stream has an
impairment listed by DEP
- ID and show all the existing BMPs on
the map and in a table format

Example Purposes Only



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WHAT'S NEW ???

Existing BMPs

- Calculate the impact each existing BMP is having on the impairment listed by DEP

(Existing Effectiveness)

- If the existing BMPs are not enough to meet the MS₄ requirement, then New BMPs are required to make up the difference



$$\text{Pollution Load for Drainage Area} = \frac{\text{Land Use}}{\text{Loading Rate Based on that Land Use}} \times \text{Land Area (Acres)}$$

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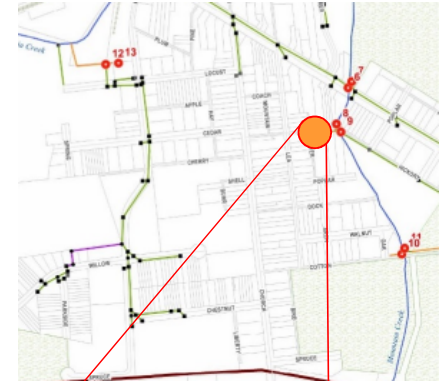
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WHAT'S NEW ???

NEW BMPs

- Show the location of each new BMP
- Calculate what pollution impact that BMP will have
- Detail why that specific location was chosen
- Repeat these steps for each BMP in each stream drainage area



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WHAT's NEW ???

Planning

- Show DEP where funding will come from in order to install and maintain these BMPs
- Prepare a list of anticipated maintenance tasks to keep the BMPs working efficiently
- The MS₄ has 5 years to complete the installation of the BMPs laid out in a **Pollution Reduction Plan**
- Resident participation must be included in the plan process and documented to DEP



Questions?

Permit Renewal (NOI) + Pollution Reduction Plan =
Due September 15, 2017

