

April 26, 2016 Presentation Allen Township's MS4 Stormwater Management Program

Presented by:
Jason Smith



HanoverEngineering



Where Does Stormwater Runoff Go in Our Community?

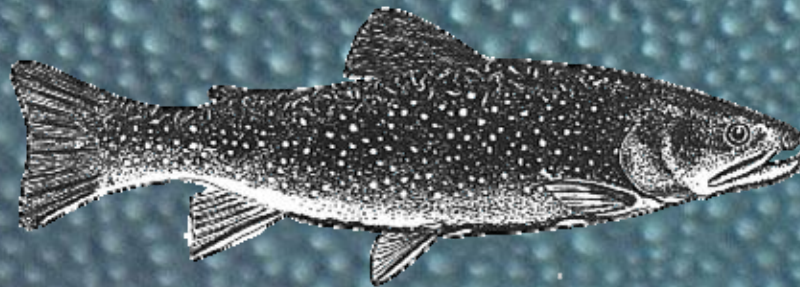
- **Travels over land**
 - Private Property
 - Public Property
- **Carried through swales, ditches, pipes, basins, etc.**
- **Discharges into local wetlands and streams**
- **Lehigh and Delaware Rivers**
- **Delaware Bay**

Why is Stormwater Runoff a Problem?

- **Reason 1: Decrease in quality**
 - Pollutants
- **Reason 2: Increase in quantity**
 - Loss of groundwater/baseflow
 - Increase in erosion
 - Nutrients
 - Sediments – attached nutrients and deposition
 - Organics
 - Pesticides
 - Streambed scour → impacts to organisms
 - Flooding
- **Reason 3: Invasive Species**

Stormwater Pollutants

- Sediment
- Nutrients
- Bacteria
- Organics
- Oil and Grease
- Trace Metals
- Toxic Chemicals
- Chlorides
- Thermal Impacts

















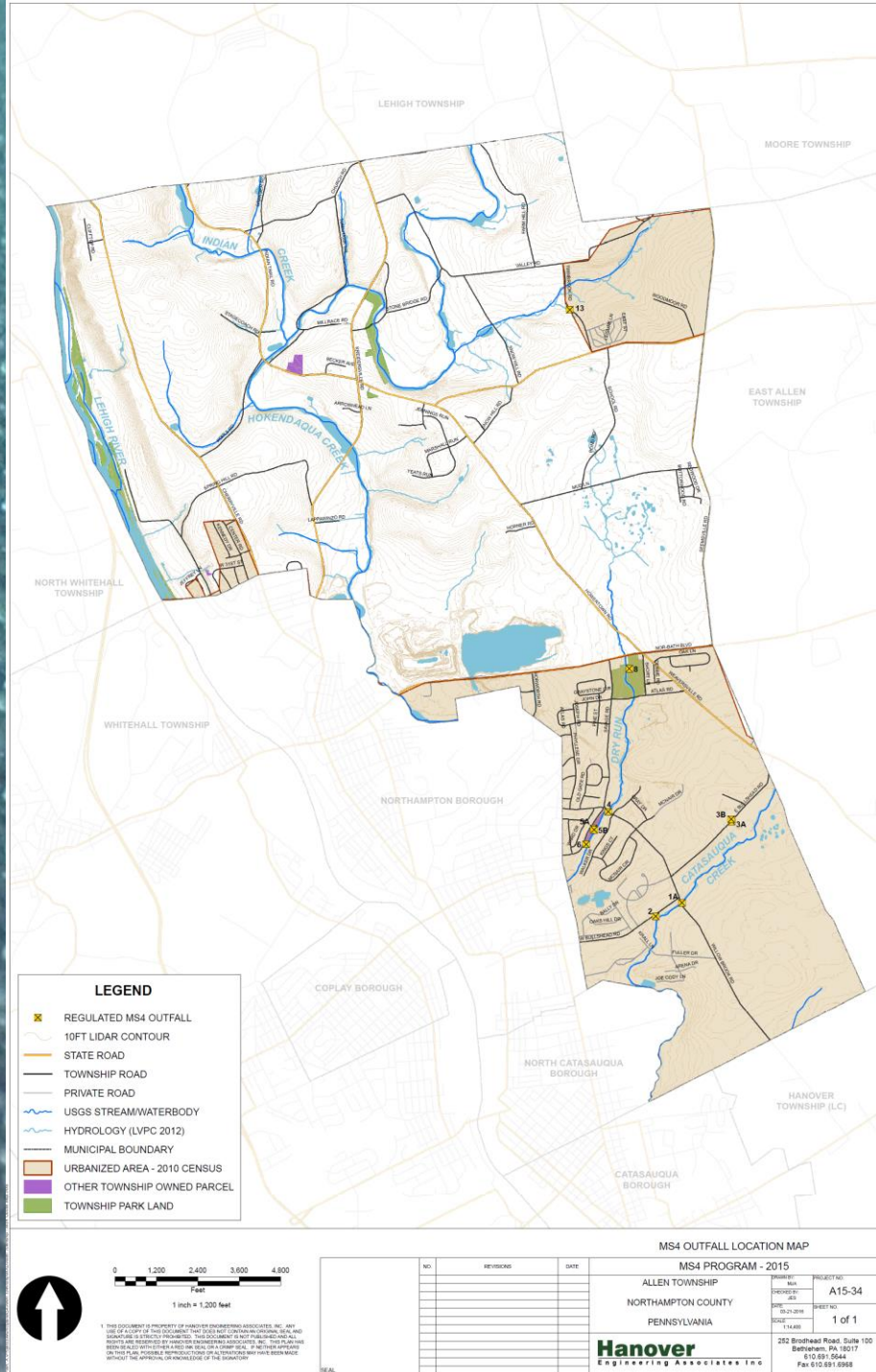


What Gets Impacted?

- Fish/Fishing
- Aquatic Organisms
- Flooding
- Lakes and Ponds
- Shipping
- Recreational Boating
- Drinking Water
- Process Water
- Shellfish
- Birds
- Mammals
- People

MS4 Requirements

- **Minimum Control Measures (MCMs)**
 - What are they???
 - Things that the municipalities are required to do to improve stormwater quality and decrease impacts related to stormwater runoff.
- **Urbanized Areas (UAs)**
 - Areas within the municipality with high population density, as based on the 2000 Census (to be updated to 2010, will change)
 - Areas where MCMs are required



MS4 Requirements

- **Minimum Control Measures (MCMs)**
 - **MCM#1** Public Education and Outreach
 - **MCM#2** Public Involvement and Participation
 - **MCM#3** Illicit Discharge Monitoring
 - **MCM#4** Construction Site Stormwater Runoff Control
 - **MCM#5** Post-Construction Stormwater Management
 - **MCM#6** Good Housekeeping / Pollution Prevention

MCM#1 - Public Education and Outreach

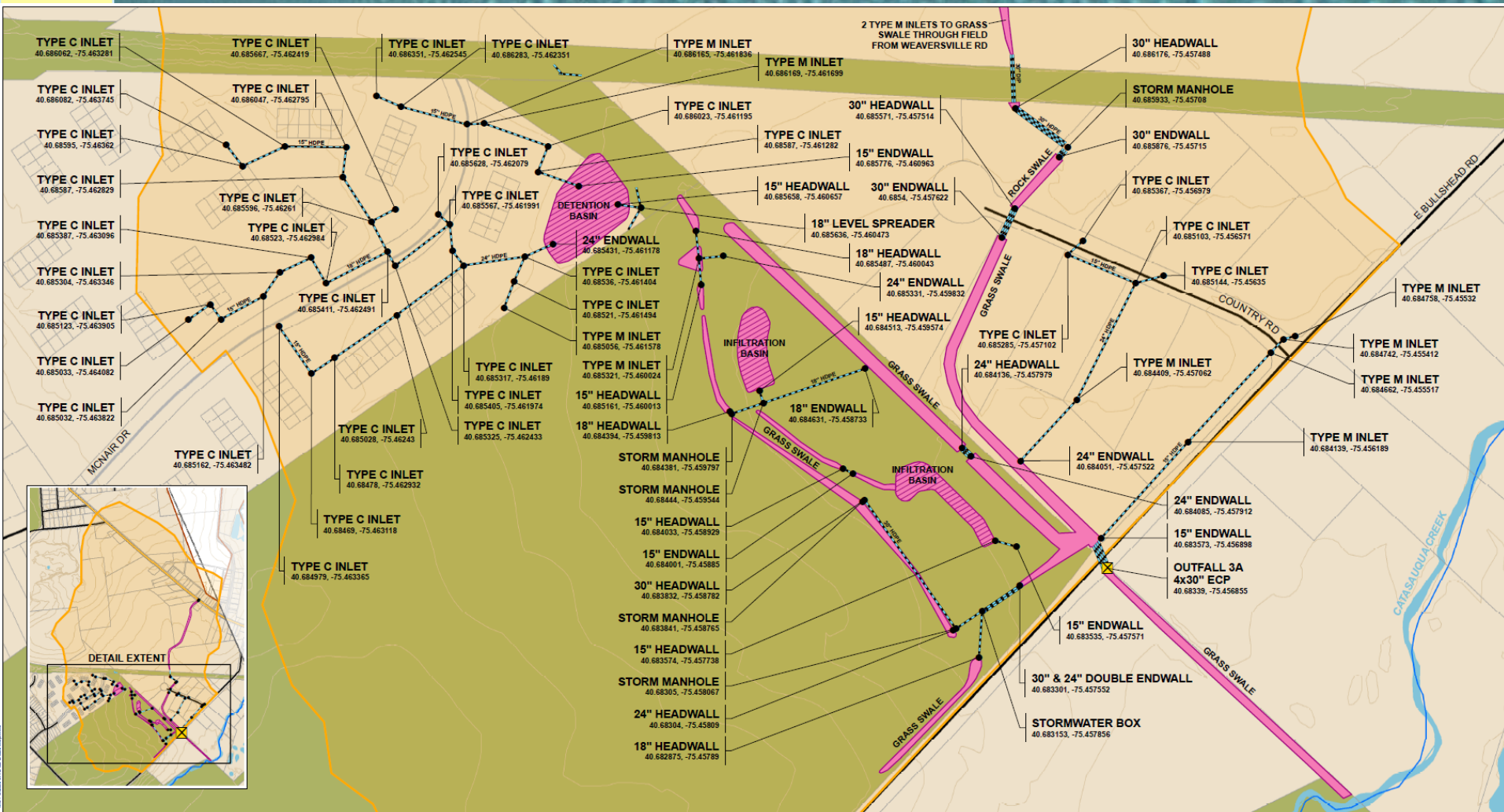
- **Develop PE&O Plan**
- **Provide SWM Educational Materials**
 - Newsletter
 - Website – dedicated page
 - Public presentations
 - Training events
 - Brochures and posters at municipal building
 - List of Township Ordinances
 - Educational materials for school children
- **Target Audience List**

MCM#2 – Public Involvement and Participation

- **Develop a PIPP (plan)**
- **Provide public notice about SWM Program**
- **Hold a public meeting on the program**
- **Start a volunteer program**
 - **Water quality monitoring**
 - **Storm drain stenciling**
 - **Stream clean-ups**
- **Work with local interest groups**
- **Involve schools**
- **Provide link for stormwater game on website**

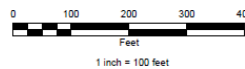
MCM#3 - Illicit Discharge Detection and Elimination

- **Develop and implement an IDD&E Plan**
- **Enact an NPDES compliant SWM Ordinance (e.g. LVPC model)**
- **Develop stormwater system map for UAs**
- **Implement program to detect non-stormwater (aka – illicit discharges) in systems – annual monitoring with reporting**
- **Educate community on problems related to dumping in storm sewers, as well as proper waste disposal**



LEGEND

- | | | | |
|---|-----------------------|---|--|
| ● | REGULATED MS4 OUTFALL | — | USGS STREAM/WATERBODY |
| — | STORMWATER FEATURE | — | HYDROLOGY (LVPC 2012) |
| — | STORMWATER PIPE | — | 10FT LIDAR CONTOUR |
| — | FLOW CHANNEL | — | OTHER TOWNSHIP OWNED PARCEL |
| — | MUNICIPAL BOUNDARY | — | PARK LAND |
| — | STATE ROAD | — | URBANIZED AREA - 2010 CENSUS |
| — | TOWNSHIP ROAD | — | SWALE |
| — | PRIVATE ROAD | — | DETENTION/INFILTRATION BASIN |
| — | PARCEL BOUNDARY | — | APPROXIMATELY DELINEATED MS4 WATERSHED |



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MS4 OUTFALL 3A LOCATION DETAIL			
MS4 PROGRAM - 2015			
ALLEN TOWNSHIP		PROJECT NO.	
NORTHAMPTON COUNTY		A15-34	
PENNSYLVANIA		SHEET NO.	
		1 of 1	
Hanover Engineering Associates Inc.		262 Brodhead Road, Suite 100 Bethlehem, PA 18017 610.691.5544 Fax 610.691.5988	

MCM#4 - Construction Site Stormwater Runoff Control

- **Enact an NPDES compliant SWM Ordinance (e.g. LVPC model)**
- **Coordinate with Northampton County Conservation District for assistance with:**
 - **Erosion and Sediment Control Program**
 - Review of development plans
 - Enforcement for implementation of plans
 - **NPDES Construction Stormwater Permitting**
- **Implement policy for Zoning Officer and Engineer to provide inspections to ensure plan implementation**
- **Educate construction industry**

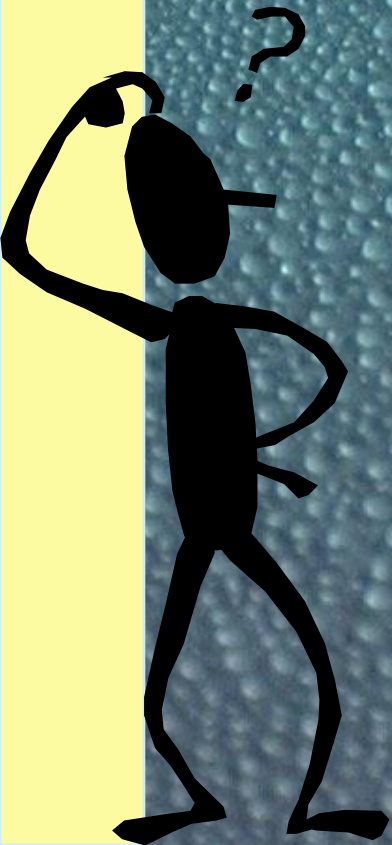
MCM#5 - Post-Construction Storm Water Management

- **Develop and implement a PCSM Plan**
- **Enact an NPDES compliant SWM Ordinance (e.g. LVPC model)**
 - Contains language to allow inspections for implementation and O&M
 - Contains an Agreement to be signed and recorded
 - All facilities approved and constructed after 2003
- **Create inventory of PCSM facilities with schedules and responsible parties**
- **Conduct inspections and monitoring**
- **Follow through on maintenance → keep records**

MCM#6 - Pollution Prevention/ Good Housekeeping

- **Develop and implement O&M Plan that focuses on pollution prevention for municipal operations**
- **Conduct trainings for staff**
- **Retrofit Public Works Facilities, as needed**
 - Salt storage → sheds, drainage
 - Stormwater runoff → basins, infiltration, etc.
 - Equipment and supply storage
 - Spill prevention and clean-up materials

How Will Our Stormwater Program Benefit Our Community?



Expected Benefits of Our SWM Program

■ Direct Benefits:

- Improved fishing**
- Enhanced opportunities for recreation**
- Reduced flood damage**
- Drinking water quality**
- Healthier conditions**
- Enhanced aesthetic value**

■ Indirect Benefits:

- Recreation**
- Safe, reliable seafood**
- Cost savings/improved economy**