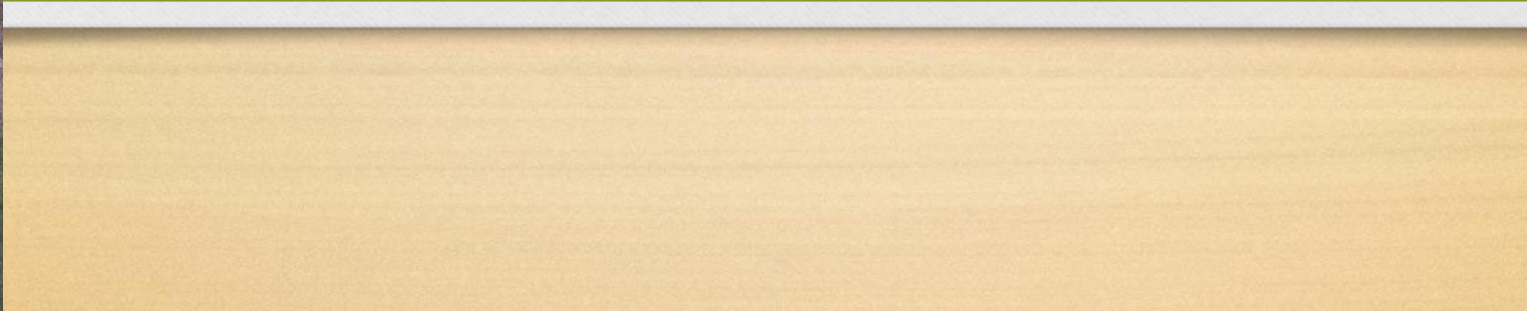


# Dover Township

Annual Municipal Separate Storm Sewer System Public  
Presentation

By: Laurel Oswalt, Township Manager

Michael Fleming, Public Works Director



# What is the Municipal Separate Storm Sewer System (MS4) Program?

- A program under which a municipality is issued a permit to discharge stormwater into the creeks, streams, rivers and ultimately for Dover Township, the Chesapeake Bay. The intent of the MS4 Program is to reduce pollutants. It is regulated by both the United States Department of Environmental Protection Agency (EPA) and the Pennsylvania Department of Environmental Protection (DEP).



# How does the Municipal Separate Storm Sewer System Permit work?

- The Township's permit covers a 5 year period, during which, we must measure our efforts in 6 different areas. These areas are referred to in the permit as Minimum Control Measures (MCMs). Annually, the Township must report to the Pennsylvania DEP on how it has improved, changed, and managed these areas in order to stay in compliance with the permit. Each Minimum Control Measure Area must be re-evaluated annually and the Township must report to the public on their efforts on an annual basis as well.

# Program #1: Public Education and Outreach

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- Develop and implement a written plan to achieve measurable improvements to the following target audiences:
  - Residents
  - Businesses
  - Developers
  - Schools
  - Municipal Employees
- Establish lists of target groups in order to conduct the outreach.
- Publish educational materials including articles in the newsletter, pamphlets, and flyers.
- Place educational materials and links on the Township Website.
- Utilize a minimum of 2 other distribution methods to distribute materials.

# How is Dover Township Providing Education and Outreach?

- Developed lists through resources available.
- Provide pamphlets in the entry way to the Township Building and on the Township website with the required links to the regulatory agencies.
- Additional distribution methods:
  - Township events
  - Joint Public Education Sessions
  - Mailings
  - Bulletin Boards
  - Educational Video
  - Door hangers
  - Education Station at Rain Garden in Brookside Park
  - Work with the School District on curriculum





Joint Public Education Sessions with West Manchester and Manchester Townships



# Program #2: Public Involvement and Participation Program

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- Provide opportunities for the public to participate in public meetings. At least one meeting annually.
- Provide information to the public on community organizations like watershed and environmental groups.
- Post the annual report on the website.
- Advertise in the newspaper any changes in the ordinance, allowing for public comment.
- Provide methods for the community to report suspected illicit discharges or pollution events to the Township that would affect waterways.

# How does Dover Township Involve the Community in the Process?

- Tonight's meeting is our required annual meeting.
- We utilize our website and newsletter as a tool to inform the public about watershed group events.
- Advertisement of changes to ordinances are a legal requirement of any ordinance revision.
- Illicit discharge reporting can be done through our website contact or by telephone.

## **NOTICE OF MUNICIPAL SEPARATE STORM SEWER SYSTEM PUBLIC EDUCATION WORK MEETING**

The Dover Township Board of Supervisors will be holding a Municipal Separate Storm Sewer System Public Education Work Meeting prior to the Dover Township Board of Supervisors regularly scheduled meeting on Monday, April 25, 2016. The educational meeting will begin at 6:00 PM in the Meeting Room of the Dover Township Municipal Building, 2480 West Canal Road, Dover, PA 17315. This meeting is open for public attendance.

Dover Township

Tiffany Strine, Dover Township  
Secretary



# Program #3: Illicit Discharge Detection and Elimination

- Identify and map the entire stormwater sewer system including the MS4 area and areas that are considered high priority for possible illegal discharges.
- Screen outfalls during various seasonal conditions at least once during the permit term (5 years).
- Develop procedures to detect and eliminate illicit discharges in the field.
- Evaluate educational or inspection based programs to prevent on lot septic systems failures.

**Stormwater Pollution Found in Your Area!**  
This is not a citation.

This is to inform you that our staff found the following pollutants in the storm sewer system in your area. This storm sewer system leads directly to

- Motor oil
- Oil filters
- Antifreeze/transmission fluid
- Paint
- Solvent/degreaser
- Cooking grease
- Detergent
- Home improvement waste (concrete, mortar)
- Pet waste
- Yard waste (leaves, grass, mulch)
- Excessive dirt and gravel
- Trash
- Construction debris
- Pesticides and fertilizers
- Other

For more information or to report an illegal discharge of pollutants, please call:

**EPA**  
United States  
Environmental Protection  
Agency

**WHICH IT RUNS  
IT DRAINS**  
www.epa.gov/epd/stormwater  
EPA 833-F-03-002  
April 2003

- Develop methods for obtaining access to properties through agreements with property owners.
- Develop, pass and implement a stormwater management ordinance to enforce this program and prohibit non-stormwater discharges into the stormwater system.
- Provide an Educational Program to target audiences regarding illicit discharges.

# How does Dover Township Manage Illicit Discharges?

- Dover Township has mapped the system and divided it into 4 quadrants.
- Crews inspect an area annually and look to address:
  - Maintenance issues
  - Cleaning Inlets
  - Illicit discharges
    - Investigate and take samples
    - Use the ordinances to enforce a remedy



# How does Dover Township Manage Illicit Discharges?

- On lot septic systems are required to be pumped and inspected every 4 years. Permits are required to bring the system into compliance.
- Stormwater Operations and Maintenance agreements are obtained through the building permit process.
- An ordinance is in place to aid in enforcement actions. It is periodically reviewed and amended.



# Program #4: Construction Site Stormwater Runoff Control

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- Dover Township relies on the Pennsylvania Department of Environmental Protection's National Pollutant Discharge Elimination System Permits which are administered by the York County Conservation District.
- Under an agreement with the County regular inspections of construction activities are performed and enforcement procedures are enlisted to bring compliance. Dover Township is informed of all inspections and their outcomes via letter.

# Program #5: Post Construction Stormwater Management in New and Re-Development Activity

- Develop a program to require the use, proper selection and inspection of stormwater infrastructure to minimize water quality issues through the development process. Track these new systems.
- Adopt an ordinance that establishes the procedure for review, approval, permitting, financial security and inspections of the facilities.
- Develop and implement measures to encourage low impact development techniques. Track them.
- Establish a written program to inspect these facilities. The program must have enforcement authority to mandate corrections to deficiencies.
- Determine the inventory of stormwater facilities and whether they are public or private facilities.

# How does Dover Township Promote the Stormwater Management in the Development Process?

- Through Ordinances and guidance from state agencies regarding best management practices, water quality improvements are required.
  - Stormwater Ordinance
  - Subdivision and Land Development Ordinance
  - Zoning Ordinance
- A list of all the developments with stormwater management facilities has been developed. Ownership is determined and responsible parties are identified.



# How does Dover Township Promote the Stormwater Management in the Development Process?

- Crews inspect the facility with our Trimble units to determine proper maintenance is occurring, GPS the location and get pictures of the facility. They are plotted with our mapping software.
- If privately owned, letters are generated and reports provided to the owner for maintenance and repairs to be completed.
- Enforcement action would need to be taken if the matters are not addressed.



# Program #6: Pollution Prevention/Good Housekeeping for Municipal Operations

- Identify and document municipal operations listing all facilities owned and operated, the activities performed there, including development of a written plan to track these activities and education of the employees. Some activities include:
  - Street sweeping
  - Snow removal/Deicing
  - Inlet/Outfall cleaning
  - Lawn/Grounds care
  - General Stormwater
  - Maintenance/Repairs
  - General Stormwater Maintenance/Repair
  - Park and Open Space Maintenance
  - Municipal Building Maintenance
  - New Construction and Land Disturbances
  - Right-of-Way Maintenance
  - Vehicle Operation
  - Vehicle Fueling
  - Vehicle Maintenance
  - Leaf/Yard Debris Disposal, etc.



# Program #6: Pollution Prevention/Good Housekeeping & Salt Use

- Changes to winter operation activities included salt spreader calibration.
  - “Sensible Salting” to prevent bonding of snow & ice to pavements.
  - Materials are used most efficiently with minimal damage to environment.
  - Reduction in street sweeping



Agency: **24 East 55th**  
 Truck No: **17/2016**  
 Date: **11/2016**  
 Operator: **NA**  
 Spreader No: **York County**  
 By: **MEP**

**CALIBRATION CHART**  
 100% Salt 1700 RPM

Control Setting	Travel Rate (mph)	Discharge Rate (lb/min)	MINUTES TO TRAVEL ONE MILE											
			5 mph x 12.00	10 mph x 6.00	15 mph x 4.00	20 mph x 3.00	25 mph x 2.40	30 mph x 2.00	35 mph x 1.71	40 mph x 1.5	45 mph x 1.33			
1	11	12	132.00	1,584	792	528	396	317	264	226	198	176	156	
2	16	12	192.00	2,304	1,152	768	576	454	379	324	280	244	212	
3	20	12	240.00	2,880	1,440	960	720	567	470	402	348	304	268	
4	30	12	360.00	4,320	2,160	1,440	1,080	840	700	600	516	448	392	
5	40	12	480.00	5,760	2,880	1,920	1,440	1,113	933	800	696	608	536	
6	45	12	540.00	6,480	3,240	2,160	1,620	1,260	1,050	900	780	680	596	
7	51	12	612.00	7,344	3,672	2,448	1,836	1,456	1,224	1,044	916	800	704	
8	54	12	648.00	7,776	3,888	2,592	1,944	1,536	1,284	1,104	972	852	752	
9	64	12	768.00	9,216	4,608	3,072	2,304	1,843	1,536	1,313	1,152	1,004	884	
10	64	12	768.00	9,216	4,608	3,072	2,304	1,843	1,536	1,313	1,152	1,004	884	

**SPREADER CALIBRATION PROCEDURE**  
 Calibration is always conducted the pounds per mile discharged at various truck speeds by the counting of number of auger or conveyor shaft revolutions per minute. Measure the feet discharged in one revolution, then multiply the feet and divide by the minutes it takes to travel one mile. Each spreader must be calibrated individually, even the same model may vary widely at the same control setting.

**Equipment needed:**  
 1. Scale to weigh salt  
 2. Salt collection device  
 3. Measuring device  
 4. Wheel with second hand

**Calibration steps:**  
 1. Refuel the vehicle for full tank of fuel.  
 2. Make truck's hydraulic oil to normal operating temperature with spreader system cooled.  
 3. Put pallet load of salt on truck.  
 4. Mark shaft end of auger on truck.  
 5. Dump salt on auger or conveyor.  
 6. Stop truck engine to starting RPM.  
 7. Count number of shaft revolutions per minute at each spreader control setting, record.  
 8. Correct salt for one revolution, weigh, excluding weight of container. For greater accuracy, collect salt for several revolutions and divide by this number of turns.  
 9. Repeat for the one revolution, weigh, excluding weight of container.  
 10. Safety shaft RPM (Calculated) by Discharge per Revolution (Collected) to get Discharge Rate in pounds per minute (Column C), then multiply Discharge Rate by Minutes to 1 Mile (Column A) by Discharge per Revolution (Collected) to get Discharge Rate in pounds per mile (Column B).  
 \*For example, at 20 MPH with 30 Shaft RPM and 7 lbs. Discharge = 30 x 7 = 210 x 3.00 = 630 lbs. Per mile.

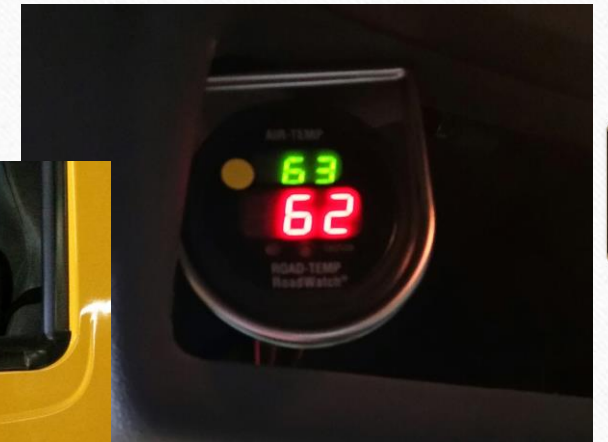
**CALIBRATION OF AUTOMATIC CONTROLS**  
 Automatic controls may be calibrated using the following steps:  
 1. Refuel the vehicle for full tank of fuel.  
 2. Set control on grams control.  
 3. The salt on heavy canvas under automatic discharge area.  
 4. Mark specific distance, such as 100 or 1,000 feet.  
 5. Drive that distance with automatic operating.  
 6. Weigh salt collected.  
 7. Multiply weight of salt by 9.2 (in case of 1,000 feet) or 92.4 (in case of 100 feet).  
 Manufacturer's literature which illustrates need for on-road operation for calibration.  
 Note: Calibration must be done for each control setting. Some automatic control

# Program #6: Pollution Prevention/Good Housekeeping & Salt Use

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## **ROADWATCH**

Temperature Indicating System



Questions or Comments?

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