

**MAMARONECK UNION FREE
SCHOOL DISTRICT
1000 WEST BOSTON POST ROAD
MAMARONECK, NY 10543**

MS4PY10 STORMWATER PROGRAM

**NEWSLETTER #1
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**PREVENTING CONTAMINATION OF
OUR DRINKING WATER THROUGH
STORMWATER MANAGEMENT**

**FOR MORE INFORMATION, CONTACT
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1. STORMWATER RUNOFF

Stormwater runoff is rainwater or snowmelt that flows over land. Runoff can carry sediment and contaminants from rooftops, roads and parking lots, lawns and gardens, as well as improperly stored chemicals. During storms, rainwater flows over impervious surfaces to nearby surface water bodies and our drinking water and can also infiltrate through the soil to groundwater. The key sources of stormwater runoff contaminants are:

- **Rooftops:** It consists of tars and roofing materials as well as sediment
- **Paved Areas:** It consists of sediment, litter, plastics, oils and greases and automotive fluids
- **Lawns and Gardens:** It consists of fertilizers, pesticides and herbicides, as well as pet and wildlife waste
- **Runoff from Construction Activities:** It consists of sediment from excavated areas, construction wastes, vehicle washing, fuels, oils and other pollutants used in vehicle and equipment operation and maintenance
- **Uncovered Materials:** It consists of any uncovered materials such as improperly stored chemicals, such as household cleaners, pool chemicals, lawn care products, paints and thinners

2. THE IMPACT OF INCREASED IMPERVIOUS SURFACES

- **Reduced Infiltration:** Impervious surfaces prevent the natural

infiltration of rainfall into the soil and the pollutant removal that occurs when runoff moves through the soil

- **Reduced Amount of Land for Vegetation:** Impervious surfaces reduce the amount of available land for vegetation, which would normally slow down flow of water
- **Flooding and Erosion:** Increased impervious surfaces cause increased peak discharge and velocity resulting in flooding and erosion, especially in areas without vegetative cover
- **Reduction in Groundwater Recharge:** Increased impervious surfaces cause localized reduction in groundwater recharge
- **Excess Stream Sediment:** Less vegetative cover due to increased impervious surfaces causes excess sediment carried by streams. Excess sediment increases turbidity and provides a transport medium for pathogenic bacteria and viruses. The increased stream sediment also reduces aquatic breathing grounds, leading to habitat loss and decreased biodiversity

3. WHAT HOMEOWNERS CAN DO TO MANAGE STORMWATER POLLUTION

To decrease polluted stormwater pollution from homes, homeowners can do the following:

- **Porous Pavements:** Homeowners can develop alternatives to traditionally covered impervious surfaces. Porous pavement materials are available for driveways and sidewalks.
- **Native Vegetation and Mulch:** Homeowners can replace high maintenance grass lawns with vegetation and mulch
- **Limited Fertilizers Use:** Do not use fertilizers unless the soil has been tested. Use grass clippings to replenish the nutrients in the soil

- **Sweeping Driveways:** Instead of using a water hose, homeowners should sweep their driveways and sidewalks and dispose debris in a closed container
- **Compost Piles:** Homeowners can start a compost pile. Use the mulch to cover shrubs and plants, which reduces watering and improves the soil
- **Integrated Pest Management:** Homeowners can learn to use Integrated Pest management to reduce dependence on harmful pesticides
- **Cleanup Pet Waste:** Pick up pet waste and dispose waste in a closed container
- **Decrease Pollution from Cars:** Homeowners should check their cars and trucks for leaks and recycle motor oil and antifreeze when fluids are changed. Never dump anything down storm drains. Homeowners can also avoid impacts from car wash runoff (detergents, greases) by using car wash facilities that do not generate runoff
- **Septic Systems:** Households served by septic systems should have them professionally inspected and pumped every 3 years. Homeowners should also practice water conservation to extend the life of their septic system

4. SPDES GENERAL PERMIT MINIMUM CONTROL MEASURES

The SPDES General Permit requires the

development of a Stormwater Management Program (SWMP) that includes six required program components, or the six minimum control measures (MCMs), as outlined below:

- **MCM1: Public Education and Outreach:** This includes the distribution of educational materials and outreach information on the impacts of polluted stormwater runoff on our water quality
- **MCM2: Public Participation and Involvement:** This includes information on how the public can get involved in the stormwater management program process
- **MCM3: Illicit Discharge Detection and Elimination:** This involves the mapping of stormwater outfalls, and an annual field inspection of these outfalls and school operations to prevent and eliminate illicit discharges to our waterways
- **MCM4: Construction Site Stormwater Runoff Control:** This involves the development, implementation and enforcement of an erosion and sediment control program for construction activities that disturb greater than or equal to 5,000 square feet (East of the Hudson Basin) or greater than, or equal to one (1) acre of land for other basins
- **MCM5: Post-Construction Runoff Control:** This involves the enforcement of stormwater runoff from new development and redevelopment projects. Applicable controls include preventative measures that protect areas such as grassed swales or porous pavements
- **MCM6: Pollution Prevention/Good Housekeeping:** The program includes operation and maintenance staff training on pollution prevention measures and activities such as street sweeping, cleaning of catch basins and the reduction of the use of pesticides or street salt

5. GREEN INFRASTRUCTURE PRACTICES FOR STORMWATER MANAGEMENT

Green infrastructure practices preserve and restore natural areas such as forests stream buffers and wetlands. These practices may include:

- **Rain Gardens:** Rain gardens manage and treat small volumes of stormwater by filtering runoff through soil and vegetation within a shallow depression
- **Bioretention Areas:** Bioretention areas capture and treat stormwater, allowing the water to filter through soil and vegetation. Bioretention areas are usually larger than rain gardens and are designed with an underdrain system to connect to a nearby storm drain system
- **Vegetated Swales/Dry Swales:** Swales are natural drainage paths or vegetated channels used to transport runoff instead of underground storm sewers or concrete open channels. They increase the time of concentration, reduce discharge and provide infiltration
- **Green Roofs:** Green roofs are layers of soil and vegetation installed on rooftops that capture runoff. The vegetation allows evapotranspiration to reduce the volume and discharge rate of stormwater
- **Porous Pavements:** Pervious types of pavements allow the stormwater to infiltrate through the surface, reducing stormwater runoff and some pollutants