

# STORMWATER MANAGEMENT PROGRAMS AFFECTING THE CITY OF OAK RIDGE

## ➤ Current Oak Ridge Stormwater Management Program

The City of Oak Ridge currently addresses stormwater management issues through several policies currently discussed in City regulations. These regulations are:

1. *Comprehensive Plan*
2. *Subdivision Regulations*
3. *Erosion Control and Storm Water Management Ordinance*
4. *Zoning Ordinance*
5. *Standard Construction Requirements and Details*
6. *Development Handbook*
7. *Code of Ordinances*



## ➤ NPDES MS4 Program

In addition to the ongoing Stormwater Management programs, other stormwater programs may also be added in the future in response to the recent EPA regulations. Pursuant to the Clean Water Act, EPA has developed a number of water quality regulations. Among them is a system that permits discharges to waters of the United States. This system, known as the National Pollution Discharge Elimination System

(NPDES), has historically regulated point source discharges such as Waste Water Treatment Plants (WWTP), or industrial processes. The City currently maintains an NPDES permit for its WWTP. New regulations now require some cities to obtain NPDES permits for stormwater discharges.

The Stormwater NPDES program has been implemented in two phases. Phase I was designed for medium and large Municipal Separate Storm Sewer Systems (MS4s) and industry, and Phase II is designed to focus on stormwater discharges from small MS4s. Locally, the DOE facilities fell under the Phase I requirements and currently maintain a single NPDES permit which includes stormwater discharges.

Operators of MS4s include municipalities, local sewer districts, state and federal departments of transportation, universities, hospitals, military bases and correctional facilities. Medium and large MS4s are defined as systems that serve, or are located in an incorporated place or county with a population greater than 100,000. Small MS4s are any MS4 that is not covered by the existing Phase I of the NPDES Stormwater Program as a medium or large MS4.

Phase I, promulgated on November 16, 1990, required large, medium, and specific other MS4s to obtain NPDES stormwater discharge permits. The Phase II Final Rule was signed by the EPA Administrator October 29, 1999 and published in the Federal Register December 8, 1999: The Phase II Final Rule requires Regulated Small MS4s to obtain NPDES stormwater discharge permits.

## ➤ **Phase II MS4 Designation**

The NPDES Stormwater Phase II Final Rule covers a small subset of small MS4s called regulated small MS4s. A small MS4 is designated as a regulated small MS4 in one of three ways:

- 1. Automatic Nationwide Designation**—An MS4 is automatically designated if it is located within the boundaries of an urbanized area (UA) as determined by the Bureau of the Census based on data from the current census.
- 2. Potential Designation by the NPDES as a result of Meeting Specific Criteria**—The Phase II Rule requires the NPDES permitting authority to establish and apply a set of criteria to MS4s outside of an UA, located in an

area with a population of at least 10,000 and a population density of at least 1,000 people per square mile.

3. **Physically Interconnected**–Any small MS4 located outside of an UA that contributes a large amount of pollutants to a physically interconnected MS4, which is already permitted by the NPDES stormwater program, must be designated.
4. **Potential Designation After Evaluation by the NPDES**–Additional MS4s may be designated as regulated small MS4s if the NPDES permitting authority determines that stormwater discharges into a local water body cause, or have the potential to cause water quality problems.

## ➤ Phase II MS4 Program Requirements

The Phase II rule will require development of programs in support of six minimum controls. Each Regulated Small MS4 will be required to develop a Stormwater Management plan that incorporates all of the six minimum controls. The six minimum controls are listed below.

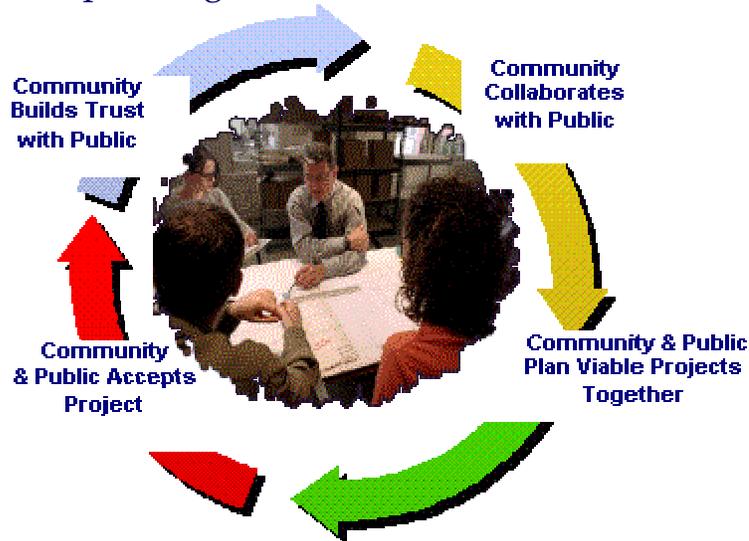
1. **Public Education and Outreach**–The EPA recommends this control be focused on three areas.

- a) They encourage MS4s to form partnerships with other governmental and non-governmental entities to establish more cost-effective regional or statewide programs.
- b) Educational material and strategies should be relevant to local issues. Existing materials from governmental, public interest, or trade organizations may be used for this purpose.
- c) The education program should be applicable and available to all communities, including industrial and commercial entities that may likely have considerable stormwater impacts.



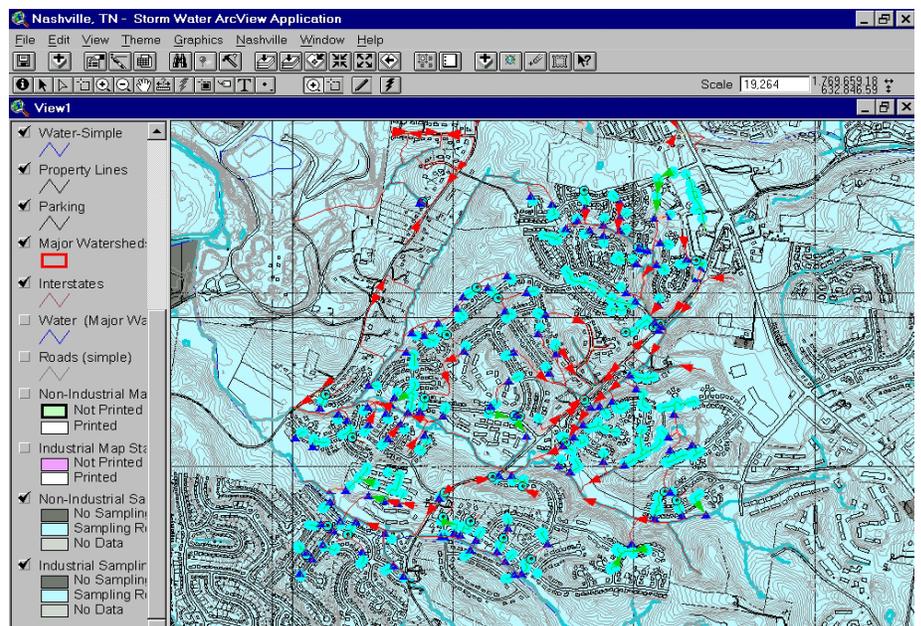
2. **Public Participation and Involvement**–The involvement and participation of the public in the stormwater management program broadens public support

and provides economic and intellectual resources otherwise unavailable. The purpose of public involvement and participation is to involve a diverse group of participants incorporating various ideas and concerns.



- 3. Illicit Discharge Detection and Elimination**—Illicit discharges can contribute significant levels of pollutants to the storm sewer system. Untreated discharges containing heavy metals, oil and grease, bacteria, viruses, toxic materials, and other constituents can bear serious consequences on receiving waters, wildlife, and human health. The purpose of this control is to eliminate discharges to the stormwater system.

*The City of Nashville utilizes GIS to track illicit stormwater discharges.*



#### 4. Construction Site Stormwater Runoff Control

Construction sites can contribute a considerable amount of pollutants to stormwater without appropriate runoff control measures. Sediment runoff is generally the primary concern. Short-term sediment runoff from a construction site can be equivalent to decades of sediment runoff in natural conditions. In addition, other pollutants such as oil and grease, pesticides, construction chemicals, construction debris and various other construction-related pollutants, can contribute detrimentally to the physical, chemical, and biological conditions of aquatic habitats. This control requires the implementation of a program to reduce impacts to stormwater from construction activities.

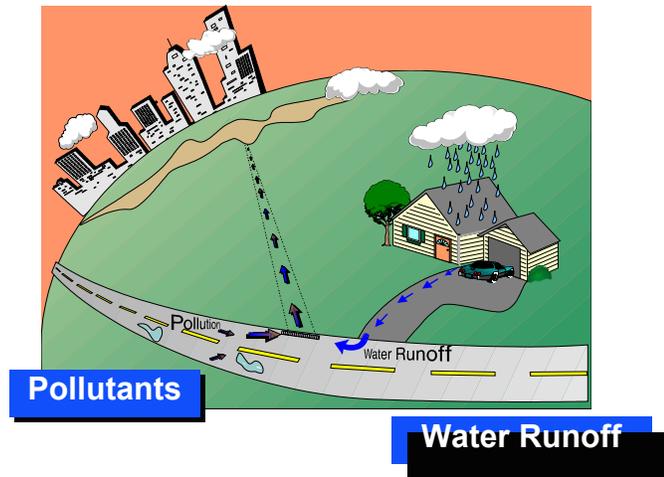


#### 5. Post-Construction Stormwater Runoff Control

The intent of post-construction runoff control is to address two major impacts associated with new development or redevelopment. The first issue is the increased quantity of stormwater runoff due to a greater impervious area. The impervious areas prevent the percolation of water through soil and vegetation, increasing the volume channeled to the storm sewer system producing higher and faster peak flows. The second major impact is an increase in the type and quantity of pollutants in stormwater runoff. Pollutants such as oil and grease, nutrients, chemicals, heavy metals, and pesticides often become suspended in runoff and are carried to receiving waters such as creeks, rivers, and lakes. The Phase II rule therefore requires the implementation and enforcement of a program to reduce these impacts.



**6. Pollution Prevention and Good Housekeeping**–The purpose of this control is to address potential water quality issues associated with municipal operations such as fleet management, materials storage or operations such as landfill management or wastewater treatment.



### ➤ How will the NPDES Program affect Oak Ridge?

Though the City of Oak Ridge has not been officially designated as a Regulated Small MS4, the state is currently considering the City's status. The City of Oak Ridge is committed to effective Stormwater Management regardless of the requirement to obtain a permit. The following are options being considered in our current Stormwater Management Program:



1. Public Involvement and Education (this web site is an example!)
2. Regulation Update- Oak Ridge will evaluate an update to current regulations through an ordinance or other regulatory mechanism to address issues in the Phase II regulation.
3. Emphasize the need to consider potential water quality impacts.
4. Have standard procedures for site inspection and enforcement of control measures.
5. Establish procedures for the receipt and consideration of information submitted by the public.
6. Develop and implement strategies, which include a combination of structural and/or non-structural Best Management Practices.

7. Ensure our own municipal operations are managing Stormwater Quality Properly.

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