FACT SHEET JULY 24, 2008

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Municipal Separate Storm Sewer Systems (MS4)

www.idem.IN.gov

Mitchell E. Daniels, Jr. **Governor** *Thomas W. Easterly* **Commissioner**

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Description:

- When it rains or snows, the water that runs off of city streets, parking lots, construction sites and other impervious surfaces can wash sediment, oil, grease, toxics, pathogens and other pollutants into nearby storm drains, waterways, streams and other conveyance systems.
- MS4s are designated entities that utilize conveyances for rainwater such as roads with drainage systems, municipal streets, curbs, gutters, ditches or storm drains.
- In November 1990, the U.S. Environmental Protection Agency (U.S. EPA) began Phase I of its storm water program requiring states to develop regulatory programs to address pollution issues associated with storm water.
- Today, new regulations, known as Storm Water Phase II, have been established in Indiana to reduce the impacts of storm water run-off from construction, industrial, municipal, governmental and institutional sources.
- General storm water rules are found in 327 IAC 15 (Article 15).
- 327 IAC 15-13 (Rule 13) establishes requirements for designated Municipal Separate Storm Sewer System (MS4) entities to develop local Storm Water Quality Management Plans (SWQMP). This Rule became effective on August 6, 2003.
- The SWQMP developed by a MS4 is required to address six minimum control measures that include public education and outreach, public involvement, illicit discharge, construction run-off, post-construction run-off, and pollution prevention and good housekeeping.

Environmental Impacts:

- Impervious surfaces, such as streets, sidewalks and parking lots cannot easily absorb water.
- When a pollutant is spilled on an impervious surface, it stays there until storm water run-off washes it away.
- When it rains or snows, the water that runs off of land surfaces can wash sediment, oil, grease, toxins, pathogens and other pollutants into nearby water bodies.
- This water is normally discharged untreated into local surface water causing environmental impacts.
- The pollutants associated with storm water run-off can adversely affect the physical and biological integrity of Indiana's surface waters. Pollutants can reduce the recreational use of Indiana's waters and be detrimental to the habitat and diversity of aquatic organisms, fish and other wildlife.

IDEM's Role:

- IDEM is responsible for protecting human health and the environment in accordance with federal and state regulations, while providing for safe industrial, agricultural, commercial and governmental operations vital to a prosperous economy.
- IDEM administers the MS4 Storm Water Program as part of the National Pollutant Discharge Elimination System (NPDES) Permitting Program established by 327 IAC 15-13 (Rule 13).
- The designations of MS4s are based on a combination of population, population density and population growth.
- Each designated MS4 is required to obtain a General Permit (individual permits may also be required on a case by case basis). IDEM works with MS4 entities via the permitting process and program oversight to ensure that the MS4 program is administered in accordance with the local SWQMP. The purpose for SWQMP is to administer a local program that addresses water quality and protects the health of Indiana's environment.

Frequently Asked Questions

What Is MS4?

MS4 stands for Municipal Separate Storm Sewer System. (An MS4 community owns or operates a system for conveying storm water such as pipes or ditches in an urban or urbanizing area.)

Who Runs The MS4 Program?

You're Local Government, sewer utility, or county surveyor. (MS4 is a federally mandated program to improve water quality. The state requires your community to comply with this rule.)

Why Is It Necessary?

To improve water quality. (When it rains or snow melts, storm water flows through pipes or ditches and drains untreated into lakes, rivers, and streams, carrying pollutants with it.)

How Is The Program Funded?

Your Community must fund it. (There is no state or federal funding for this mandate.)

What Does The MS4 Program Do?

It reduces water pollution from storm water runoff. (Through 6 required Minimum Control Measures.)

What Is My Community Required to Do?

I. **Public Education and Outreach**- Teach you the importance of cleaning up storm water and the negative impact daily activities have on lakes and streams.

II. **Public Participation and Involvement**- Include you in the development and implementation of the community MS4 program.

III. **Illicit Discharge Detection and Elimination**- Identify and eliminate illegal discharges into the storm sewer system from homes and businesses.

IV. **Construction Site Run-Off Control**- Ensure that developers, builders, and others implement suitable plans to prevent sediment and pollutants from running off construction sites.

V. **Post Construction Storm Water Management**- Design long term best management practices and control measures that reduce or eliminate polluted storm water runoff from newly developed or redeveloped areas and make sure that they are maintained over time.

VI. **Pollution Prevention and Good Housekeeping at Municipal Operations**- Reduce storm water pollution from local government facilities and activities such as road salting and pesticide use.

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Storm Water & Construction

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Description:

- Storm water discharges are generated by run-off from land and impervious areas such as paved streets, parking lots and building rooftops during rainfall and snow events.
- In November 1990, the U.S. Environmental Protection Agency (U.S. EPA) began Phase I of its storm water program requiring states to develop regulatory programs.
- Today, regulations known as Storm Water Phase II, have been established in Indiana to reduce the impacts of storm water run-off from construction, industrial, municipal, governmental and institutional sources.
- General storm water rules are found in 327 IAC 15 (Article 15). 327 IAC 15-5, commonly referred to as Rule 5, addresses storm water run-off that is associated with construction/land disturbance.

Environmental Impacts:

- Storm water run-off that is associated with construction activities can have a significant impact on water quality. Storm water impacts can occur during active construction as well as from run-off that is associated with the post-construction land use.
- As storm water flows over a construction site, sediment and other pollutants can be washed onto nearby properties and into water bodies. The post-construction land use can also generate pollutants as storm water run-off discharges off the property. The post-construction land use will determine the level and type of pollutants that are generated.
- Polluted storm water run-off can adversely affect the physical and biological integrity of Indiana's surface waters. Pollutants can reduce the recreational use of Indiana's waters and be detrimental to the habitat and diversity of aquatic organisms, fish and other wildlife.

IDEM's Role:

- The Indiana Department of Environmental Management (IDEM) is responsible for protecting human health and the environment while providing for safe industrial, agricultural, commercial and governmental operations vital to a prosperous economy.
- In accordance with this goal, IDEM administers 327 IAC 15-5 (Rule 5).
- Rule 5 requires a General Permit to be obtained prior to all land disturbing activities of one (1) acre or more.
- The General Permit requires the development and implementation of a Construction Plan/Storm Water Pollution Plan for each project meeting the applicability requirements of the Rule.
- Project site owners are also required to file a complete Notice of Intent with IDEM.

Citizen's Role:

- Citizen involvement has been and will continue to be a vital component of IDEM's overall plan to protect Indiana's environment and the health of Hoosiers.
- Citizens are encouraged to contact IDEM's Office of Water Quality with any questions or concerns about storm water run-off and its effects on water quality.

More Information:

- For more information about storm water quality please visit IDEM's Storm Water website at www.idem.IN.gov/4896.htm.
- For more information about Rule 5, visit IDEM's website at www.idem.IN.gov/4902.htm.
- For Rule 5 related questions or concerns, please call IDEM's Storm Water Permits Coordinator at (317) 233-1864.

What Is Sediment And Why Should I Care?

Sediment is the #1 water pollutant by volume in the United States. Sediment is the loose sand, clay, silt, and other soil particles that are carried from a site by runoff water that eventually settles at the bottom of streams, rivers, lakes, and ponds. Sediment comes from soil erosion. Water runoff, storm water from rain or melting snow, flows from rooftops, over paved streets, sidewalks, parking lots, across bare soil, through lawns and fields. As it flows, the runoff collects and transports soil as sediment, pet waste, salt, pesticides, fertilizer, oil and grease, litter, and other potentially toxic pollutants. This water drains directly into storm drains or nearby drainage ways into creeks, streams, and rivers most often without receiving ant treatment at a sewage plant.

Sediment is the most common pollutant in our waterways. While natural soil erosion produces about 30 percent of waterway sedimentation, accelerated erosion from human modifications of the land accounts for the remaining 70 percent. The most concentrated sediment releases come from construction activities, which can often exceed 100 times that from agricultural use of the land.

Why should you care? Sediment entering storm water can cause severe water quality degradation of the waterways that we depend on for our drinking water, that provide fish and wildlife habitat, and that provide us with recreation in the form of swimming, fishing, and boating. Excess sediment can also cause flooding, severe stream bank erosion, and undesirable physical and chemical changes to our lakes and ponds. It increases the cost the cost of treating our drinking water and it can affect the odor and taste. Sediment fills up storm drains, catch basins, road side ditches, and streams creating costly drainage, flooding, and associated problems.

Nutrients transported by sediment can activate blue-green algae that release toxins that make swimmers sick. Sediment deposits in rivers can alter the flow of water and reduce water depth, making navigation and recreational use more difficult. Water polluted by sediment disrupts the natural food chain by destroying the habitat of the smallest stream organisms and causing massive declines in fish populations. It can also cause the water to become cloudy, preventing animals from seeing food.

Sediment can clog fish gills, which reduces resistance to disease, lowers growth rates, and affects fish egg and larvae development. Murky water prevents natural vegetation from growing. Sediment pollution causes an estimated $16 billion in environmental damage each year in the U.S. Truly, an ounce of prevention could save a pound of cure, and free up funds for other priority issues.