



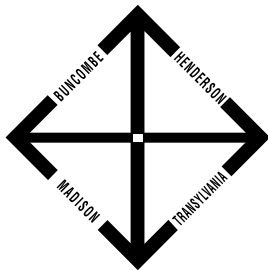
Municipal Pollution Prevention Planning



Stormwater Fact Sheet No. 5

This fact sheet is part of a series for local government officials and citizens on stormwater runoff problems and control strategies. The series covers:

1. Stormwater Problems And Impacts
2. Control Principles And Practices
3. Rules And Regulations
4. Local Program Elements And Funding Alternatives
5. Municipal Pollution Prevention Planning
6. Managing Stormwater In Small Communities: How To Get Started
7. Maintaining Wet Detention Ponds
8. Plan Early For Stormwater In Your New Development
9. How Citizens Can Help Control Stormwater Pollution



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Managing Stormwater Impacts

Managing stormwater runoff and its impacts has become an increasing challenge for growing communities in North Carolina. As communities grow there is an increase in impervious surfaces (e.g., buildings, roads and parking lots) and this causes an increase in the rate and volume of runoff when it rains. The result is more streambank erosion, streambed scouring and flooding. Stormwater runoff is also a significant source of water pollution. Pollutants include sediment, oil and grease, fertilizers and pesticides, heavy metals and other toxic materials that wash off streets, parking lots, lawns and commercial and industrial areas.

Some communities have developed stormwater programs to manage the flooding and water quantity impacts of runoff. Communities are now encouraged to develop local programs to address the water quality impacts of stormwater. Residential, commercial, institutional and industrial land uses all contribute to urban water quality problems and must be addressed in your stormwater quality management program.



Degraded Urban Stream

Setting A Good Example

Don't forget about your own municipal facilities and activities when developing a local stormwater quality management program. A few municipal facilities, like airports, are required to obtain federal stormwater discharge permits from the state, but most municipal facilities do not require permits at this time. However, these municipal facilities and activities can be significant sources of stormwater pollutants. Part of your community's stormwater management program should be the development of Stormwater Pollution Prevention Plans (SPPP) for appropriate city or county facilities and activities. By doing this you are setting a good example for others in your community.

Developing A Municipal Stormwater Pollution Prevention Plan

❑ Establish A Pollution Prevention Team

Appoint a municipal Stormwater Pollution Prevention Team to develop and implement your plan and program. This multidisciplinary group could include staff familiar with municipal operations and those with some knowledge of water or environmental management, such as your public works director, engineer, planner and water and sewer system operator.

❑ Identify Facilities/Activities

The Team's first task is to identify all municipal facilities and operations that could impact stormwater quality and receiving waters. Examples include:

- Airports
- Water and Sewer Treatment Plants
- Vehicle Fueling, Storage and Maintenance Facilities
- Land Disturbing Activities
- Chemical Storage and Application Sites
- Solid and Hazardous Waste Management Facilities
- Salt and Sand Storage Areas

❑ Identify Pollution Sources

Identify potential pollution sources at each site or for each activity (e.g., leaking valves on storage tanks, previous spill sites, fueling areas exposed to rainfall, non-stormwater discharges to streams or storm sewers such as floor drains receiving vehicle wash waters, etc.). Identify, map and inspect the facility's stormwater drainage system to

help identify pollutant sources. Sampling the quality of runoff from the site can also identify problem pollutants and sources.

❑ Minimize Use of Potential Pollutants

Examine your use of all chemicals and other potential pollutants and identify methods of reducing or eliminating their use in municipal operations. Also review procedures for applying chemicals on parks, golf courses, roadsides and other landscaped areas for opportunities to minimize impacts on water quality.

❑ Reduce Pollutant Exposure

Where possible, eliminate or reduce the exposure of potential pollutant sources to rainfall and stormwater runoff. It is more cost effective to prevent contamination than to treat stormwater once it is contaminated.

Quickly establish a vegetative cover on disturbed areas to prevent erosion and sedimentation. If possible, move machinery and chemical storage areas inside, or provide a cover (e.g., tarp, shed, etc.) to eliminate exposure. If areas cannot be covered, divert clean runoff away using diversions or dikes to prevent runoff contamination.



Cover Potential Pollutants Such As Sand And Salt If Possible.

❑ Plan For Spills

Develop a spill prevention and response plan for all facilities that use or store chemicals.

Provide secondary containment for chemical storage tanks.

Properly equip the facility to handle any size spill and assign a responsible person or team to coordinate spill response activities.

❑ Practice Preventive Maintenance & Good Housekeeping

Regularly inspect machinery, pipes, storage tanks, etc. for leaks or worn or damaged parts.

Use drip pans, absorbent pads and other devices to contain minor leaks and spills.

Use dry cleanup methods rather than washing contaminants into storm drains.

Stencil “Don’t Dump – Drains to Stream” messages on storm drains to warn employees and others that storm sewers drain to waterways without treatment.

❑ Train and Reward Employees

Train all employees to be conscious of stormwater pollution sources and prevention practices. Tell them who to contact when they observe a problem. Seek their ideas on methods to prevent stormwater pollution and reward those who participate in your program.

❑ Plan for New Facilities/Activities

Plan all new municipal facilities and activities with stormwater pollution prevention in mind.

Site new facilities away from sensitive waterways. Incorporate stormwater pollution prevention and control measures into the design and construction of new facilities and operations.



Provide Secondary Containment For Chemical Storage

Photo Courtesy of City of Fayetteville.

For example, minimize impervious surfaces, maintain stream buffers, use erosion and sedimentation control practices, infiltrate runoff within vegetated areas, eliminate pollutant exposure, and provide spill containment measures and structural stormwater management practices as necessary.

❑ Conclusion

Stormwater runoff is a major source of stream pollution in urbanized areas.

City and county governments carry out many operations that have the potential to impact water quality.

Some communities may not have the resources to completely implement a comprehensive stormwater quality management program.

However, they can begin by examining their own facilities and operations for stormwater pollution prevention opportunities.

Resources to assist communities are listed on the following page.

For More Information

☐ Reference Documents

- Stormwater Management in NC: A Guide For Local Officials, 1994, Land-of-Sky Regional Council - (704) 251-6622.

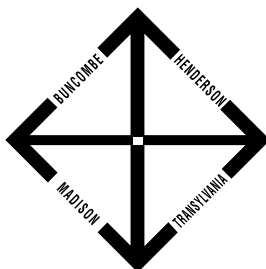
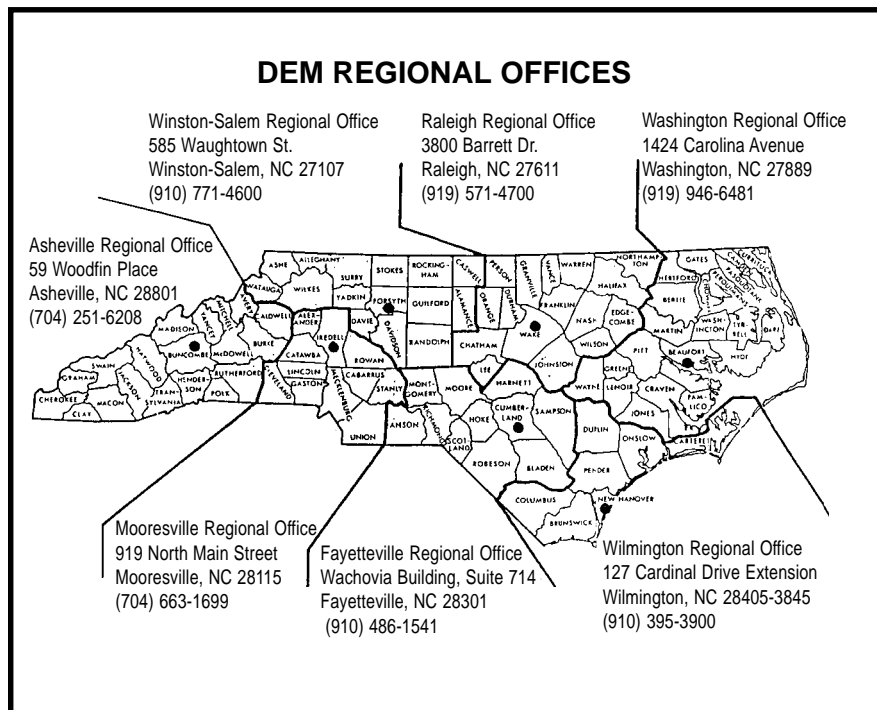
- Stormwater Management Guidance Manual, 1994, NC Cooperative Extension Service and NC DEHNR - (919) 515-3723.

☐ Contacts

- NC DEM Stormwater Management Group - (919) 733-5083, and DEM Regional Offices.

- NC Office of Waste Reduction - (919) 571-4100.

- Greg Jennings, N.C. Cooperative Extension Service – (919) 515-6795.



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