



Memorandum

To: Stormwater Management Task Force

From: CDM

Date: March 5, 2007

*Subject: Wake County Stormwater Task Force Meeting #10 Summary –
Tools & Strategies Module*

On February 15, 2007, CDM and Wake County staff facilitated the tenth meeting for the Wake County Stormwater Management Task Force. Attendees were provided with meeting materials, including a copy of the agenda, materials for a voting exercise, and a PowerPoint presentation. All meeting materials can be found on the Task Force website at <http://www.wakegov.com/environment/stormwater/>.

The meeting began with a welcome by Commissioner Kenn Gardner, Chairman of the Wake County Stormwater Task Force. CDM staff then provided a brief update on the work plan status. Meeting #10 was the fourth meeting of the “Tools and Strategies” module. In this meeting, the Task Force continued reviewing detailed evaluations of toolsets that scored well when compared to the evaluation criteria. The “Inspections, Operations and Maintenance” and “Conservation, Restoration, Rehabilitation & Replacement” toolsets were to be evaluated at this meeting. Due to time constraints, however, the “Conservation, Restoration, Rehabilitation & Replacement” tools were not discussed and have been deferred to Meeting #11.

Work Plan Update

David Mason with CDM provided a brief update on the status of the work plan. In addition to Meeting #10, the plan includes one more meeting on “Tools” before moving towards the recommendations phase. In the one or two meetings following the “Tools” discussion, Task Force members will discuss the results of the voting and present additional issues related to the priority tools. CDM will also begin to provide cost analysis on the tools for Task Force consideration. In parallel to this process, Stormwater Managers in the County will convene to review the tools and recommendations in order to provide additional technical support.

Inspections, Operations and Maintenance Tools Discussion

Mr. Mason facilitated the discussion about priority tools in the Inspections, Operations and Maintenance category. Inspections, Operations and Maintenance tools are used to ensure that the stormwater system is free of debris and maintained to provide the level of service intended in the original design and to meet customer expectations. Within this category, the priority tools identified by the Task Force included the following: 1) Inspection, Maintenance and Monitoring of the Stormwater System, 2) Illicit Discharge Detection and Elimination, and 3) Material Use, Exposure, and Disposal for Municipal Operations (i.e. Good Housekeeping).

Inspection, Maintenance and Monitoring of the Stormwater System

Mr. Mason began the discussion with a description of the various elements of the stormwater system and the maintenance associated with them. These elements included catch basins, culverts, storm sewers, floodplain, BMPs and streets (curb & gutter). The stormwater system is inspected and cleaned at some frequency to prevent clogging, reduce pollutants entering the system, and to ensure that the system functions at its full capacity.

Reactive vs. Proactive Maintenance

Mr. Mason proceeded to present some results from a survey given to task force members that suggested maintenance and operation of the stormwater system within the county was less than desirable. Mr. Mason also presented the results of a questionnaire completed by local stormwater managers that indicated maintenance of the system is generally performed on a reactive basis (i.e. in response to citizen complaints). A few jurisdictions, however, were proactively maintaining locations identified as “hot-spots”, or those locations that often experience flooding during larger storm events.

At this point in the presentation, the Task Force was asked to comment on a decision point regarding maintenance. The decision point pertained to the desired approach for maintenance of the stormwater system (reactive, inspection-based, or routine/proactive). The group generally favored inspection or routine-based maintenance. However, a task force member suggested that a fourth option might be desirable, such as a risk-based approach to maintenance. This recognizes that maintenance of the entire system on a routine basis may not be achievable, but at a minimum, should focus on areas of greatest risk. This concept was added as a fourth option for the group to consider.

Maintenance of NCDOT Roads

The next discussion focused on maintenance related to NCDOT roadways. A large percentage of the roadways in Wake County are owned and maintenance by NCDOT. Some local stormwater managers have suggested that culverts and catch basins on NCDOT roadways may not always be maintained at desired levels and that citizens often complain about maintenance issues on DOT roadways. In some cases, Towns have assumed this maintenance.

The Task Force was asked to discuss the desired approach to maintenance on NCDOT roadways. Options included no maintenance on any NCDOT roads or assuming maintenance on NCDOT roads as necessary. Local stormwater managers suggested that maintenance might be performed upon agreement from NCDOT for a reimbursement. Other task force members suggested that a risk-based approach be considered (i.e. identify critical facilities and ensure maintenance of those by either DOT or local governments).

Maintenance on Private Property

The next discussion topic focused on maintenance of infrastructure that is located on private property. A desktop GIS analysis suggested that over two-thirds of all streams are located outside of right-of-way and off publicly-owned property. To date, local governments have not assumed any maintenance responsibilities outside of the public right-of-way. However, some jurisdictions have a cost-share program to assist private property owners when stormwater issues arise.

Local stormwater managers suggest that many of their complaints from citizens involve private drainage issues. The advantage to providing maintenance on private property is that local governments would be provided with a mechanism to address many of these issues for their customers. The disadvantages of assuming maintenance on private property are an increased cost of service, increased legal liability, and an increased strain on staff resources. Mr. Mason provided a cost comparison between the City of Raleigh and City of Greensboro (which assumes maintenance on private property) that indicated the cost of Greensboro's maintenance program was almost double that of the City of Raleigh's program.

The Task Force was asked to discuss the desired approach to maintenance on private property. Options included status quo (no maintenance), cost share, maintenance of areas that receive public runoff, or maintenance of the entire system (regardless of ownership). A lengthy discussion followed regarding private property maintenance. Some members felt more public education was necessary to make citizens aware of their responsibilities. Others felt the line between public and private drainage needed more definition. Others felt like it wasn't the role of government to address issues on private property. Cost share programs are attractive, but need to include a priority system that recognizes the benefits of these private property issues.

Maintenance of Structural Stormwater BMPs

The next discussion addressed the maintenance of structural stormwater BMPs that are required by code. Necessary maintenance activities include debris/litter removal, silt/sediment removal, clearing of vegetation, minor repairs and nuisance control. Typically, these devices are required by code, built by developers, and owned by private citizens or homeowners associations. Maintenance agreements are in place to ensure that property owners perform the necessary maintenance, but these agreements aren't always enforced.

Also, the City of Raleigh requires that an escrow account be established to ensure that funds are available for maintenance or repairs if the property owner does not do them.

The Task Force was asked to discuss the desired approach to maintenance of structural BMPs. Options included status quo (maintenance by agreement between city and property owner), offering maintenance of BMPs by fee-for-service, or soliciting easements and assuming the maintenance. The general consensus was that the current system was not working and that maintenance was not being performed. Generally, the Task Force commented that if these devices are required to provide environmental protection, then there must be a process in place to ensure maintenance. No conclusions were drawn from the Task Force at this time.

Water Quality Monitoring

The next discussion focused on water quality monitoring in Wake County. At this time, the City of Raleigh is the only jurisdiction with an established monitoring program, as required by NPDES Phase I. Expansion of this program has been proposed in response to comments received from the secondary and cumulative impact study of the D.E. Benton Water Plant. Additional cost is \$5-\$6 million.

The benefits of water quality monitoring are a comprehensive picture of overall stream quality, tracking of long-term trends, cataloging of data to defend outside assessments and addition of scientific and educational value for the program. The cons include cost, long-term commitment and exposure of unknown deficiencies in the program.

The Task Force was asked to discuss the desired approach to monitoring. Generally thoughts were that monitoring is beneficial, but the group recognized the cost implications. One task force member suggested that a risk-based approach also be considered for monitoring.

Illicit Discharge Detection and Elimination (IDDE)

The next major topic discussed at meeting was illicit discharge detection and elimination tools. Illicit discharges are defined as dry weather flow that contains pollutants and/or pathogens. An IDDE program is required of all jurisdictions that fall under the NPDES Phase I and Phase II rules. Significant sources of illicit discharges include cross-connections from wastewater, leaking sewer systems, failing septic systems and other inappropriate discharges. Due to time constraints in the meeting, the only planned topic under this category that was discussed was failing septic systems.

Inspection and Maintenance of Septic Tank Systems

Everette Lynn of Wake County discussed the County's recent study of septic systems and the maintenance associated with them. The County's study concluded that ten percent of all systems in the County were failing, which translates to approximately 6,000 illicit discharges

per year and 1.2 million gallons per day. The pathogens associated with these leaks can be captured by rain events and transported to receiving streams and surface waters.

The study found that septic systems are a sustainable technology if properly maintained. The next steps in the study include a comparison of the County's maintenance program against peer communities, convening of a stakeholders group to recommend an ultimate course of action, and development of a database and tracking system for septic systems. The group was asked if the County should evaluate other options to address this issue.

Generally, the Task Force was supportive of finding a solution to this issue. Thoughts included more public education targeted at septic system owners, more inspection/enforcement of maintenance requirements, and certification programs for installers and companies that perform maintenance. Mr. Lynn suggested that an appropriate solution would be that every system should be inspected at least once every five years. Mr. Lynn felt like this would have a major impact.

Voting Exercise

The Task Force was asked by CDM staff to fill out a ballot/questionnaire throughout the meeting as each decision point was presented. Since the entire agenda was not completed, the Task Force was not able to provide responses for each question. Topics that were not covered at this meeting will be presented at the next task force meeting. Members are asked to bring back their questionnaires and complete them at the next meeting.

Wrap-Up and Path Forward

The next Task Force meeting will be held on March 15, 2007. This next meeting will continue the discussion from the February meeting and will also include a discussion of the "Development Standards" toolset. The upcoming meeting will be the final meeting of the Tools and Strategies module. The Task Force will next proceed to discussions regarding Task Force recommendations and cost analyses.