



Memorandum

To: Stormwater Advisory Committee

From: CDM

Date: July 30, 2010

Subject: Stormwater Advisory Committee Meeting #3

On July 15, 2010, the CDM team facilitated the third meeting of the Stormwater Advisory Committee (SWAC) for the City of Lynchburg (City). The session was held at 6:00 pm at the James River Conference Center.

CDM provided each member of the group with meeting materials including a list of three questions for the discussion session and a set of PowerPoint slides. The following is a list of agenda items covered during the session:

- Introduction to Level of Service and Program Evaluation
- Alternative Levels of Service and Benefits
- Discussion Session

Introduction to Level of Service and Program Evaluation

The first topic of the meeting was a presentation on the concept of “Level of Service”, and specifically how it relates to stormwater management in Lynchburg. Steve Sedgwick with CDM first discussed how level of service is typically defined for other forms of infrastructure, such as water, sewer, transportation, etc. With all of these, there is typically a minimum level of service that is driven by regulatory requirements, but there may be higher levels of services related to customer expectations. This same concept applies to stormwater management.

For stormwater management, the minimum level of service is typically defined by the NPDES rules, issues related to TMDLs (Total Maximum Daily Loads) and FEMA floodplain rules. However, the customers’ expectations related to level of service typically deal with flood protection, public safety, erosion, water quality and aesthetics. So, the important steps for determining the level of service for a City is to define what the minimum is by regulation, but also to involve the citizens in determining if the minimum regulatory level adequately addresses their expectations for what the City should provide.

When determining level of service for a stormwater management program, it is typically easier to break the program down into the four functional areas of stormwater management (program management, regulatory compliance, operations and maintenance and capital improvement projects). Then, we look at the spectrum by which service is provided in each of these areas, ranging at the lowest end (“no action”) to the highest end “pro-active”). Through CDM’s experience in evaluating stormwater programs and industry standard practices, a level of service matrix was developed with definitions of varying levels of service for each of the four functional areas. The lowest end or “in-active” end is rated a 1 and the highest end is rated at 5. The matrix is used to assign the City a level of service based on benchmarking with other programs.

The following is a summary of CDM’s assessment of the City’s current stormwater service level in each of the four program areas:

Program Management Level of Service Evaluation

For Program Management, the City is responsive to customer complaints and staff is well trained in the rules/regulations. The City has knowledgeable in-house staff to provide plan review and inspection. However, the City has not had adequate resources to perform system-wide stormwater master planning to identify future needs. The plans that have been developed have not been implemented due to a lack of resources. Also, limited information exists regarding the condition and extent of the current infrastructure. Finally, the City’s organizational structure for stormwater is decentralized and sometimes causes difficulties for customers in knowing who to contact for issues. Based on these items, CDM estimated the current program at Level 2.

Regulatory Compliance Level of Service Evaluation

Next, Mr. Sedgwick provided the committee with CDM’s estimate of the City’s current level of service for Regulatory Compliance. The City currently has one dedicated engineer for NPDES Compliance, which is a benefit for the program. The City has been able to develop and implement all required ordinances and there have been no reported violations of their permit. However, the current resources available for permit compliance are operating at capacity with limited ability to address pending regulations. Also, the City needs to address multiple impaired waters, as identified by the State. Based on the City’s adequate but minimal level of compliance, CDM estimated the current program at Level 3.

Operation and Maintenance Level of Service Evaluation

Next, Mr. Sedgwick provided the committee with CDM’s estimate of the City’s current level of service for Operations and Maintenance. The City currently performs routine inspection and maintenance of known problem areas, as identified by staff and through a review of customer complaints. The City also performs street sweeping of the system and routine maintenance of all City-owned BMPs. However, regular maintenance is only performed on a

small percentage of the entire system and the City has limited information on the location and condition of much of the infrastructure. Both of these deficiencies are the result of a lack of adequate resources available to perform the necessary tasks to effectively maintain the system. As such, CDM estimated the current program at Level 3.

Capital Improvements Level of Service Evaluation

Finally, Mr. Sedgwick provided the committee with CDM's estimate of the City's current level of service for the Capital Improvements Program. A review of the past five-years of budget documents shows routine funding of approximately \$550,000 annually to address minor drainage issues and perform replacement of failing infrastructure. For larger needs, the City has been able to effectively leverage funding from other programs such as CSO and Transportation to build new infrastructure as necessary. However, a comprehensive list of current and future CIP needs has not been generated (due to the lack of a formalized master planning type of study) and there remains minimal capacity to address the existing backlog of projects (i.e. no proper funding identified). As such, CDM estimated the current program at Level 2.

The overall program is rated about a level 2.5 out of 5. This rating is similar to many smaller communities that have not had a comprehensive stormwater program in place for many years. The cost for the current LOS is approximately \$2.3 million. The costs to provide an increased LOS will be provided in the next SWAC meeting.

Alternative Levels of Service and Benefits

Mr. Sedgwick listed several ways that communities can increase their level of service. These activities included gaining an increased knowledge of the system through stormwater master planning and stormwater system inventory & inspection. The activities also included proactive implementation of programs to comply with pending regulatory requirements. The City may also wish to perform routine and preventative maintenance on the stormwater system to extend its current design life. The City may also wish to develop a prioritized capital improvements program to focus limited dollars on the most critical projects.

Mr. Sedgwick presented examples of activities that could be implemented or enhanced to increase the level of service. Computer models could be used to verify existing water quality and quantity problems as well as predict the location of future problem areas. Armed with this information, the City can more efficiently implement projects to address these potential issues before they become hazardous to citizens. The cost for a typical master plan ranges from \$20K to \$40K per square mile depending on the components of the study and complexity of the area.

For regulatory compliance, the City is not sure yet exactly what will be required. However, there have been some estimates performed regarding the Chesapeake Bay rules that suggest the City's future cost of compliance may increase by \$800K to \$1.7 million annually. Failure

to provide adequate funding is not considered an acceptable answer for lack of compliance. The City and consultant team is working on the identification of these future dollars and they will be presented at the next meeting.

The potential benefits for a community of providing an increased level of service include several items. First, problems may be anticipated and/or eliminated in the system before they become costly replacement projects or threaten public health and safety. Also, providing an increased level of maintenance can reduce incidents of flooding related to maintenance activities, such as cleaning catch basins prior to large storm events so the system performs at optimum efficiency (and thus, does not back up and cause ponding on roadways). Lastly, regarding CIP, problems can be mitigated systematically based on a priority system that ensures that limited resources are spent on the highest priority problems or the problems with the most risk to the community.

Discussion Session

CDM presented the committee with a list of three questions to consider regarding the information that has been presented over the past three meetings. The following is a summary of comments received regarding the three questions:

What are your thoughts on the City's current level of service for stormwater management?

- Would like to know how Lynchburg compares to other communities in Virginia and what percentage of taxes is going to stormwater.
- The level of service is in need of improvement. The CSO program may help.
- The current level of service is adequate.
- The City does a good job.
- The City should be more pro-active regarding operations and maintenance and capital improvements. However, can the City afford to fund this?
- It seems that the current level of service is more closely a LOS 3 for program management.
- The City is very progressive and assertive in dealing with issues.
- As a City, we need to do our part to improve conditions in the Bay.

Does there appear to be a need to consider a higher level of service for customers?

- Yes, a higher level of service needs to be looked at.

- How much is expended per capita in cities considered to be leaders in this field?
- There is a need for a higher level of service.
- No, there is no need for a higher level of service (4 responses).
- There is somewhat of a need to consider a higher level of service.

What programs and activities discussed tonight should be a priority for the City?

- Program Management and Capital Improvement Projects should be prioritized.
- The City should increase the level of maintenance for the stormwater system and provide adequate funding for necessary capital improvements.
- The City should evaluate the current condition of the system to prevent potential road failures in the future (2 responses).
- The City should gain a better understanding of the pending regulations before committing to future studies.
- The City should explore the impacts of surrounding jurisdictions on the City which do not operate to the same standards as Lynchburg.
- The City should aim for a minimum standard and provide funding for that minimum.
- The City should focus on regulatory compliance.
- Program Management and O&M should be priorities with minimal cost increases as compared to regulatory compliance and CIP.

Summary of Stormwater Advisory Committee Questions and Comments

The following is a list of questions and comments made by the Advisory Committee over the course of the presentation:

Q - The City treats a portion of the stormwater runoff by way of the combined sewer system and removes pollutants through other methods. Do we understand what amount of flow/pollutants still enters the James River?

A- The combined sewer system only serves a small portion of the City as much of the City has been separated. Therefore, most of the flow and pollutants are still entering the James River. It is this portion that the City is most focused on trying to manage/control with the stormwater program.

Q – How much water is the City allowed to discharge by permit?

A – The permitted discharge is associated with the combined system, which includes both stormwater and waste water. As more of the system is separated, less pollution is getting into the James River. However, it should be noted that this project focuses on the stormwater component, not the CSO program. We do not have a permit related to flow discharge to the James River.

Q – What loads and flows need to be quantified to properly evaluate our contribution to pollution in the James River?

A – On the stormwater side, we are mostly concerned with nitrogen, phosphorus and sediment loadings to the James River and ultimately the Chesapeake Bay. The CSO program focuses on bacteria loads.

Comment – *Up to this point, the developers, citizens and the City have all be doing their part to reduce pollutant loads to the James River. However, the new regulations were not part of the original plan which must now be revised to meet the new pollutant load reductions required by EPA.*

Q – If the bacteria loading is “1” now and we need to reduce it to “0.9”, as an example, is it worth it?

A – The City must do what is necessary to comply with the permits issued. However, the question for the committee is whether meeting the regulations is enough or should the City go further to improve water quality in Lynchburg.

Comment – *Inspection of the stormwater system is an on-going process. Once a full sweep of the system is completed, crews start right again at the beginning. The City recognizes that the current organizational structure is not ideal and is working to improve it through this process.*

Q – What is a Retrofit project?

A – A retrofit project corrects mistakes from the past. Much of the old development in the City was built before regulations required treatment of stormwater runoff. A retrofit project would aim to alter an existing property to include some level of stormwater treatment.

Q – When all is said and done, will the City’s stormwater department be under public utilities?

A – There has not been any decision made regarding this issue.

Q – Right now, \$2.3 million for stormwater is funded through a variety of programs while water and sewer rates are separate? Will these be combined?

A – Funding issues will be discussed at the next meeting.

Q – How does Lynchburg compare to other Virginia cities regarding stormwater level of service?

A – Lynchburg is similar to smaller communities that do not have dedicated resources for stormwater management. Programs that have been able to establish a long-standing stormwater program have been successful at moving to a more pro-active management mode. This requires planning and an adequately funded CIP program.

Comment – *Proper planning can reduce the long term costs of the program.*

Q – There are five communities in Virginia that are considered to have mature stormwater programs. What are the costs per capita for these programs?

A – The team will investigate this data and bring back to the group at a later meeting. The item was put on the parking lot.

Q – Regarding capital needs, the map showed you identified projects. Is this true?

A – The 2004 study only identified candidate sites for projects. No cost or engineering analysis was performed.

Q – Has the City initiated any contact with surrounding communities that also contribute to the Bay issue?

A – The surrounding areas are also impacted by the same TMDLs, particularly the city's bacteria TMDL. City staff works with colleagues in other jurisdictions to coordinate efforts as appropriate.

Q – How does this coordination work if none of the surrounding jurisdictions have the same system as Lynchburg?

A – These other jurisdictions implement some of the same BMPs used by the City. Also, these communities have agriculture lands that contribute loads to the City. The City can work with them to encourage better practices on agriculture lands (such as keeping cattle out of streams). This may reduce pollutant loads to the City. The City is currently testing water quality entering from other jurisdictions to determine potential sources.

Comment – *The City should attempt to correct prior wrongs in the system where appropriate and feasible. The City should also better coordinate projects so that the fix is correct the first time and areas are not disturbed more than once.*

Parking Lot

The following items were noted on the parking lot and will remain on this list until addressed at a future meeting:

1. What is a reasonable timeline for implementing improved services?
2. How will the City deal with private property maintenance?
3. What funding options will we discuss?
4. How does the City Level of Service ranking compare to other communities in the state?
5. What are the expenditures per capita for other cities, particularly those that are more mature in providing stormwater management?

Next Meeting

The next meeting of the Stormwater Advisory Committee will be held on September 16, 2010 at 6:00pm at the James River Conference Center. Once again, snacks and drinks will be available. Attendees were thanked for their time and encouraged to attend the subsequent meetings.