

Tucker-Talk

by L. Scott Tucker

Timely Comment from the District's Executive Director



Stormwater Quality

Many small cities and counties throughout the United States will soon have to submit applications for Phase II stormwater permits. To my knowledge just about all permits will be granted under general permit authority of the state or EPA. The states and EPA were to have their general permits ready to go by mid-December 2002 and the Phase II communities have until March 10, 2003 to submit the information required.

The State of Colorado published a general permit for stormwater discharges from municipal separate storm sewer systems on December 13, 2002. Over 30 communities in the Denver metro area are required to submit stormwater management plans to the state for approval by the March 10 deadline. The management plans are to outline what the communities are going to do in each of six areas of activity. John Doerfer in another article in this issue of *Flood Hazard News* discusses the effort local governments and the District have been making to respond to the Phase II permit requirements.

The permit will be for a five-year period. However, the state, during the five-year permit period may require changes to the management plan to address negative impacts caused by stormwater, to include more stringent requirements if necessary to comply with new federal requirements, and to include other conditions deemed necessary by the State.

Phase I communities in the Denver area are the City and County of Denver, City of Aurora and City of Lakewood. These communities were issued individual Phase I stormwater permits in 1996, and in 2001 they submitted applications to renew their permits. So far their permits have not been renewed and they are operating under their original permits.

So the regulatory screws continue to tighten. Soon practically all communities in urban areas in the United States over 50,000 population will be under a National Pollutant Discharge Elimination System (NPDES) permit. Fortunately, so far the permitting requirements have been reasonable for both Phase I and II communities. Unfortunately, however, there are potential storm clouds, so to speak. First there is the fundamental problem of regulating a non-point source of pollution, stormwater, by a point source regulatory program, NPDES. Second, the specter of end of pipe numerical effluent limits still hangs over the head of municipal stormwater dischargers like the Sword of Damocles. Third, Total Maximum Daily Load studies may require much more of local government than is now being required. And last, but not least, how are water quality standards going to be applied to municipal stormwater? Some thoughts regarding these issues follow.

There is a fundamental disconnect between the NPDES program and stormwater. The NPDES program is designed to regulate point sources such as wastewater treatment plant discharges. Such discharges are steady, predictable and not subject to huge swings in flow rate. A treatment process can be designed to remove pollutants from the waste stream and the plant discharge can be monitored to insure water quality requirements are being met at the end of the pipe. Now picture a rainstorm over a metropolitan area and huge quantities of water flowing out of hundreds of stormwater outlets in the area. There is no practical way to control or monitor or measure the flows from such a myriad of outfalls. Nor is there any practical way to control all the pollutants that stormwater may pick up as rain falls through a dirty atmosphere

and then through a city environment comprised of everything from soup to nuts.

Many communities just wish the mandate would go away, but this is not going to happen. There is too much popular support for us as a nation to have clean water. One of my mantras has been, however, that we need to have a regulatory program that is tailored to fit municipal stormwater discharges. Such a regulatory program could keep the feet of local governments to the fire but in such a way that recognizes the physical realities of stormwater. To me it doesn't make sense to continue to implement a regulatory program that doesn't fit the physical realities of municipal stormwater discharges. Unfortunately it will take Congressional action to make a change, which is very difficult to accomplish.

The second issue mentioned was end of pipe numerical effluent limits (NEL). This problem is an outgrowth of the disconnect discussed above. Non-point sources such as municipal stormwater discharges simply do not lend themselves to NEL. First, local governments do not have total control over what gets into their storm sewer system. Second, it is difficult and prohibitively expensive to treat stormwater to levels like in waste treatment plants. In fact in some cases it may be simply impossible to meet NEL, such as for fecal coliforms. If a NEL can't be met except through a prohibitively expensive treatment process then what?

To illustrate the point consider the NEL that has been imposed on Los Angeles County in California. The State has issued a permit that requires Los Angeles to have a zero discharge of trash from their storm sewers in ten

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years. They have to meet interim goals of a ten percent reduction each year. How in the world does the State expect this to be realistically accomplished? Technically, Los Angeles will be in violation of their permit if these conditions are not met and then subject to citizen suit and enforcement actions by the state. This is a regulatory program run amuck.

Most Phase II communities will be initially permitted without having to consider the implications of a Total Maximum Daily Load (TMDL) study. TMDL studies are performed for water bodies that are not meeting their beneficial uses. Wasteload allocations (WLA) are assigned to each point source which if met will theoretically restore the beneficial use to the stream. TMDLs are done for each pollutant that is causing the water not to meet its beneficial use. For point sources the TMDL WLA will be enforced and implemented through NPDES permits. What this means is that Phase I and Phase II municipal stormwater permitted entities can expect their permits to be cranked up a notch or two to meet the WLA assigned to them if a TMDL has been completed in their watershed. Local governments will have to do whatever it takes to meet the WLA requirement regardless of cost. TMDLs are a big sleeping giant that could escalate the cost of complying with Phase I and Phase II permits dramatically.

The last issue is how water quality standards will be applied to municipal stormwater. The bottom line in municipal Phase I and Phase II permits is

that stormwater discharges must not cause or have the reasonable potential to cause or contribute to a violation of a water quality standard. Also, if a TMDL is in place the WLA necessary to meet requisite water quality standards are to be expressed in numeric form in the TMDL. For the classic or normal point source these are translated to numeric maximum allowable concentrations of the pollutant in question at the end of the pipe. The discharger is required to monitor the effluent and report any exceedences. The impracticality of doing this for storm sewers, however, is recognized and EPA in recent guidance stated that "... wasteload allocations in TMDLs may be expressed in the form of best management practices (BMPs) under specified circumstances". The EPA guidance goes on to say "... that most WQBELs (Water Quality Based Effluent Limits) for NPDES-regulated municipal and small construction storm water discharges will be in the form of BMPs, and that numeric limits will be used only in rare instances." So for the time being meeting water quality standards will mean implementing the BMPs that are determined necessary to meet the standard. The good news is that compliance will be based on doing the BMPs you said you were going to do in your NPDES permit and not on numeric effluent limits at the end of the pipe. The bad news is that the BMPs that are determined to be necessary to meet water quality standards could be quite extensive and expensive, much more than the initial Phase I and Phase II permits.

To summarize the municipal stormwater NPDES permit program in my view, it could be said that what we see now is just the beginning. Requirements will be

ramped up with each 5-year permit renewal. If a TMDL has been completed for an impaired receiving water and a WLA has been assigned to municipal stormwater the increased requirements could be substantial. Just look at Los Angeles and a requirement of zero trash in stormwater discharge at the end of ten years. Also, there is always the specter of end of pipe numerical effluent limits being applied to municipal stormwater. EPA has been careful to say, for example, that wasteload allocations may be expressed in the form of BMPs, leaving the door open to impose numerical effluent limits if they or a state chooses to do so.

Board Chairmanship Change

Councilwoman Cathy Reynolds has been Chairman of the Board of Directors of the Urban Drainage and Flood Control District since 1980 and she has served on the Board since 1976. Her term as a Councilwoman in Denver will end in July 2003 and she will no longer be able to serve on the Board. Speaking for myself, the staff, and the entire Board, her leadership will be greatly missed. She is a natural leader, which is demonstrated by the fact that a disparate Board made up of mayors and county commissioners from all over the metro area expressed their confidence in her by asking her each year for 22 years to be their chairman. No mean feat from a pretty tough crowd. I have worked with Cathy on many issues and will miss her guidance. She is not only smart, but she has good common sense, good instincts, and a good sense of humor. I have always respected, trusted, and followed her judgment and advice. We will all miss Cathy a great deal.

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being on November 15, 2001. The District saw the creation of this county as an opportunity to prepare a new countywide Digital Flood Insurance Rate Map (DFIRM), utilizing FEMA's DFIRM specifications. Our belief was that we could learn a great deal about the process that would be involved in such an effort while completing a countywide map for a small county, which was affordable to the District.

Although this project was not the subject of a CTP task agreement, we felt our relationship with FEMA was such that we could both benefit from this effort.

After the District had begun its DFIRM conversion effort, FEMA published a draft Implementation Strategy for Flood Map Modernization. We determined that our Broomfield effort very closely resembled FEMA's definition of a Level 1 Flood Map Upgrade. The

process we followed and the lessons we learned are discussed in a paper published on our web site. This paper is intended to demonstrate how the District has in effect developed a Level 1 map upgrade for Broomfield, and how that DFIRM is vastly superior to the current paper FIRM. The paper has been provided to FEMA for their use in finalizing DFIRM conversion guidance. The DFIRM was provided to FEMA in November and is currently undergoing their reviews.