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COMBINED SEWER OVERFLOW NOTIFICATION AND CONTROL: MUNICIPAL PERSPECTIVES

A combined sewer is a sewage collection system that consists of interconnected pipes and tunnels that also collects and transports surface runoff (stormwater). As with any pipe system there are hydraulic limits to the flows a combined sewer can convey. Because these systems also collect highly variable amounts of stormwater, combined sewer capacity can be overcome during high intensity or long duration rainfall. As a result, combined sewers were often designed with a relief system to convey excess flows to the nearest waterway rather than allowing them to backup into basements or streets. These relief systems are known as combined sewer overflows or CSOs. When combined sewers were introduced back in the 1800's they offered an important engineering solution to serious water pollution issues of the day. Following the promulgation of the Clean Water Act in 1972, an infusion of federal and state funds was allocated allowing for important upgrades and advancements in centralized wastewater treatment facilities. These investments resulted in dramatic water quality improvements that have been observed in rivers and streams across the country. In an effort to further advance water quality protection and improvement interests, water resource management professionals have begun to re-evaluate potential benefits of minimizing and where feasible eliminating CSOs.

Active Legislation

Four bills were introduced in the 191st session of the Massachusetts Legislature relative to CSOs and public notification – H751, H820, S458 and S490. While municipalities and regional wastewater utilities are on the front line of protecting public health and environment, they were not involved in the crafting of these legislative initiatives. The Massachusetts Coalition for Water Resources Stewardship (MCWRS) recognizes the importance of these initiatives and is working with our members to offer our professional perspective and expertise in the creation of final legislation that will ensure CSO education and notification programs are responsible and effective.

To this end, MCWRS is leading the efforts of a statewide CSO stakeholder group comprised of municipalities, regional utilities, river advocates and MassDEP. The goal of this group is to constructively discuss the various interests and opportunities to arrive at a solution that is acceptable to everyone. This consensus driven process will result in a sustainable solution, and must include federal and state funding. Local boards of health and the MA Department of Public Health should also be at the table.

Key Points

CSOs are permitted by EPA

There are already provisions in EPA's National Pollutant Discharge Elimination System (NPDES) permits that authorize CSO discharges and address notification to the public. Every community with a known CSO has a NPDES permit issued by EPA. Notification legislation should not include language that is redundant or result in two separate notification requirements that would lead

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to confusion in interpretation of information and duplicative effort. For instance, most wastewater treatment plants need to divert high, wet weather flows around parts of their treatment processes in order to protect the long-term operation of the treatment plant. As the proposed legislation stands, these discharges would be captured by the legislation language. However, under the NPDES permits governing these plants, this “partially treated” flow has to be mixed with fully treated flow and the resultant blend has to meet all NPDES limits before discharge to a river. A special public notice for such an occurrence is unnecessary as the water quality discharged from the plant would still be in full compliance with the Clean Water Act.

Early Notification

Notification of a CSO event should be done in a responsible and time sensitive manner and should be provided to any and all interested parties. Such notification should be made within a reasonable time allowance, in keeping with industry accepted monitoring protocols, be performed through clearly defined and reliable communication channels, and should include easy to understand language that is commensurate with potential risks that have been sufficiently defined and vetted by public health officials.

Messaging

Local boards of health and the state already monitor swimming beaches and already have a robust system in place to notify the public about pollution concerns. MCWRS advocates for the inclusion of local boards of health and the state department of health in public notification messaging associated with CSO occurrences. This will leave municipalities and utilities with the resources and time needed to responsibly manage the event and work on solutions.

Data Validation

Before quantitative data on volumes discharged through a CSO is released, a utility must perform appropriate data analysis and validation. While deference should be made to the level of potential public health threat created (as determined by public health agencies) the level of accuracy should be consistent with industry standards and potential risks created. In the interest of benchmarking CSO “trends”, monthly or quarterly reporting would be sufficient.

Implementation

An issue of this magnitude will not only take funding, but also time. To address the underlying cause, communities will need reasonable schedules within which they can make needed upgrades cost-effectively. The actual schedule should allow for adequate flexibility based upon site specific challenges and needs.

Funding

The notification procedures outlined within the aforementioned bills may be impractical for some communities to implement without significant investment in instrumentation and data collection. Additionally, these bills include a need for MassDEP to create the program, write and administer permits, track compliance, issue enforcement and maintain a comprehensive website that would be the clearinghouse for the data. Any new notification program must come with funding for both the CSO permittees and MassDEP.

Beyond CSO Notification

It’s critical for the public to be informed, not just about CSO events, but also about their cause and the need for more funding for long-term work toward further control. Public understanding and support will help Massachusetts municipalities and utilities effectively advocate for more funding from the state legislature and federal government to solve the underlying issue.

Notifying the public in the short-term is important. Ultimately, it’s necessary to update municipal and regional infrastructure to further reduce or eliminate these discharges. In both cases, more state and federal funding will be needed, to the tune of billions of dollars. Every CSO community will need help, and poorer communities will need more help than others. If MassDEP is to provide a clearinghouse of information and have other responsibilities, the agency will also need more funding.