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ALCOSAN consent order time extension to be met with increased impervious surface management

As part of a settlement between county, state, and federal authorities, the Pittsburgh area has until 2036 to decide how much “green infrastructure” and other methods of source flow reduction it will adopt to manage its impervious surfaces that cause annual discharges of untreated sewage into the region’s waterways.

Tom Hoffman, Clean Rivers Campaign coordinator for the Pennsylvania Chapter of the Sierra Club, said that the region’s plan should be a “green first” strategy that maximizes the amount of stormwater source reduction by using green infrastructure, practices such as rain gardens and permeable pavements that capture rain and snow where it falls.

Every year, an “estimated 22 billion gallons of untreated sewage” contaminate the region’s waterways and drinking water sources during wet weather events from sewage overflow and “can seriously harm public health by carrying dangerous bacteria,” said Granta Nakayama, the EPA's assistant administrator for enforcement and compliance assurance.

In 2008, the EPA responded to this sewage overflow problem by entering a consent decree with state and county authorities that mandated the region’s waste water treatment provider, Allegheny County Sanitary Authority, develop a “comprehensive plan to greatly reduce the amount of annual discharge of billions of gallons of untreated sewage into local waterways,” said Roy Seneca of the EPA.

Part of ALCOSAN’s plan to comply with the consent decree is building underground tunnels below the region’s rivers to capture the sewer overflow and prevent it from entering the waterways during periods of wet weather. This has been referred to as the “grey solution” because it does not address the source of the storm water runoff from impervious surfaces, said Hoffman.

Yet the final plan that ALCOSAN must implement is not “a choice of doing green versus grey,” said Hoffman, because green infrastructure alone will not be capable of completely eliminating the sewage overflows due to its limitations, such as available space and capacity for higher rainfalls.

Hoffman said that instead, ALCOSAN’s final plan should incorporate as much green infrastructure as possible first before it decides on the extent of the grey solution to reduce the amount of stormwater runoff entering the sewer system that the underground tunnels will in turn have to handle.

Beth Dutton, program manager for 3 Rivers Wet Weather, said that the 2036 deadline marks the EPA’s recent 10 year extension given to ALCOSAN to evaluate and implement green infrastructure and other source reduction practices, like stream reconstruction. The extension will also lower the service rates of ALCOSAN’s customers by lengthening the compliance schedule of the consent decree, said Dutton.

With this added time, Dutton and Hoffman said that they would also like to see the municipalities introduce a “stormwater fee” that would charge residential and commercial property owners based on the amount of stormwater runoff they feed into the sewer system.

The intent of a stormwater fee is to address the amount of impervious surfaces in the Pittsburgh area and also the disparity that exists between residential and commercial properties, where many businesses with sizable parking lots and rooftops that generate significant runoff have smaller water bills compared to residential properties, said Hoffman.

With 33 percent of ALCOSAN’s service region, composed of 83 municipalities in Allegheny County, being impervious surface, Dutton said that a “region-wide standard” stormwater fee could be introduced to incentivize reducing stormwater contributions while avoiding the problems associated with each municipality adopting its own fee and regulations.

In a 2013 stormwater utility survey, Warren Campbell, a civil engineering professor at Western Kentucky University, said that common systems across the United States for stormwater utilities establish residential fees based on the amount of impervious land on their property, and commercial fees based on a land ratio to residential property.

Despite this precedence for establishing storm water fees, Dutton said that a major concern is that businesses would move developments to other regions with less-stringent or non-existent standards because commercial and residential property owners would view the fee as a “rain tax.”

Campbell said that other apprehensions include businesses paying for the stormwater fee but not actively reducing the stormwater runoff they produce, higher prices in response to the fee, “court challenges, political challenges (repeal), opinions of state Attorneys General, and attempts to change state constitutions.”

However, an effective storm water fee is a viable option for the Pittsburgh area because it can act as “a means to fund stormwater management and treatment that can otherwise cause impaired water quality and sewage overflow,” said Dutton.

And if “properly funded and managed,” a “stormwater utility can mean more parks and open space, less flooding, cleaner streams, and increased property values,” said Campbell.

Hoffman said that the Pittsburgh area is also more than capable of developing green infrastructure that could additionally be funded by the stormwater fee. Regional organizations like the Pittsburgh Parks Conservancy and the Nile Mile Run Watershed Association already have great expertise in implementing such source reduction practices successfully.

The question then remains, where and how much green infrastructure the region should install, said Hoffman, who hopes that ALCOSAN will make optimal use of the time extension to study the impact of green infrastructure and other source reduction practices that will provide the maximum returns to the Pittsburgh area’s communities affected by the sewage overflows.