



River Institute

Ohio Environmental Protection Agency  
Division of Surface Water  
Permits Processing Unit  
50 W. Town St., Suite 700  
P.O. Box 1049  
Columbus, OH 43216

Re: OEPA Plan Approval No. 01-302-PW  
Wet Weather Management Plan

For years, the Sierra Club Central Ohio Group has advocated for improvements to the Columbus sewer system in order to eliminate sanitary sewer overflows and significantly reduce combined sewer overflows. The Wet Weather Management Plan (WWMP) is the City's blueprint to address those problems, as required by the 2002 Sanitary Sewer Overflow (SSO) Consent Order and 2004 Combined Sewer Overflow (CSO) Consent Order. Oversight and compliance with the consent orders, as well as state environmental regulations, rests with the Ohio Environmental Protection Agency (OEPA).

Significant reductions in sewer overflows both improve water quality and the environment for public health. The Sierra Club Central Ohio Group appreciates that the City of Columbus has committed to significantly reduce sewer overflows in the Wet Weather Plan. The undersigned groups (Sierra Club Central Ohio Group, Friends of Big Walnut, River Institute and Ohio Environmental Council), representing thousands of members in Columbus and Central Ohio, respectfully submit the following comments on the draft approval of the WWMP, which can strengthen the WWMP and strengthen actions in the future.

#### 1. Affordability Analysis (page 2)

In #4 of OEPA's draft approval letter to Columbus Mayor and Council, the OEPA requires Columbus to perform an affordability analysis in 2016 to determine if the remainder of the program can be implemented using an accelerated schedule. The documents that define what OEPA means by an affordability analysis will be nearly twenty years old when the analysis is to be performed, so we encourage the OEPA to require that affordability of wastewater control will be assessed using the costs of wastewater control and a community wide measure of income.

We are supportive of the OEPA's decision to include additional benchmarks in the draft approval. In addition to affordability, technical feasibility also plays a role in the implementation process. Will it be possible in 2016 to accelerate the schedule by 15 years to create a 25 year schedule? If not then this provision is not describing a meaningful endeavor. If there is to be serious consideration of a 15 year acceleration of the schedule, then perhaps the affordability analysis should be completed sooner than 2016.

Rather than a one-time affordability analysis of project implementation, we suggest that Columbus perform an affordability analysis every three years starting now and begin accelerating the schedule accordingly.

It is imperative that the City make these public health commitments by completing improvements laid out in the WWMP as soon as possible while scarce resources are available. Economic predictions for the Plan are based on 2005 dollars and the cost of fuel and construction are likely to continue to increase. As oil prices increase, prices of everything that depends on petroleum will also increase. This will translate into reduced income for individuals and therefore for government. We encourage the City and OEPA to continue advocacy efforts toward restoring federal funds to relieve the financial pressures on local government and ratepayers. Locally, regionally, and nationally, the Sierra Club has supported and will support efforts to restore federal funding for clean water. Inclusion of source water controls and green infrastructure must be a part of clean water management.

## 2. Analysis of costs and benefits (page 3)

In #5 of OEPA's letter to Columbus Mayor and Council, OEPA requests that the City perform by 2019 an analysis of the costs and benefits to further minimize bypasses at the Jackson Pike High Rate Treatment System (Jackson). We suggest that the term "cost effectiveness" be substituted for "cost and benefits". Further, we suggest that language be inserted that says that "all operational changes and all additional storage and/or treatment options that are capable of being done and that are cost effective be implemented expeditiously".

The cost/benefit language is troubling since it is so much easier to count the cost of a change than it is to count the benefits of a change. The benefits are reductions in risk to human health and the environment. The costs are the market prices of bricks and mortar, labor, engineering, design and other quantifiable factors. At the extreme, valuing reductions in risk to human health involves placing a value on human life, less extreme it involves valuing human suffering, still less extreme it involves finding the cost of illness. A similar analysis would need to be performed for protection of the environment.

Substituting cost-effectiveness language and using a technical feasibility standard avoids all of this. It requires only that Columbus determine how it would reduce bypasses, the number of gallons eliminated, and the cost of so doing. The decision about Jackson then turns on whether the cost per gallon is in line with other costs for eliminating overflows.

The proposed program for Columbus will cost \$2.5 billion and will reduce overflows from 1.65 billion gallons per year to 250 million gallons by 2025.<sup>1,2</sup> This works out to a program average of about 11 cents/gallon.<sup>3</sup>

The program average is not an indicator of a threshold for further overflow and bypass reductions. Columbus will pay more than this average to control overflows and bypasses at some sites. A better threshold would be to implement any control at Jackson that can reduce overflows for less than the highest cost per gallon paid elsewhere in the system.

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<sup>1</sup> The Fact sheet for Jackson at p.4: [http://www.epa.state.oh.us/dsw/cso/4PF00000\\_1.pdf](http://www.epa.state.oh.us/dsw/cso/4PF00000_1.pdf)

<sup>2</sup> The 2025 date in the Fact sheet is for CSO control; while projects in Attachment B with later dates are for controlling spills from sewers that carry only sanitary waste.

<sup>3</sup> Annualizing of the \$2.5 billion capital cost at 6% ( $\$150 \text{ million} / (1.65 - .250) = .107$ ). The 6% factor is an estimate of municipal borrowing rates in the first half of this century.

We also recommend an independent technical advisory committee to review the analysis from creation to completion and make recommendations to the City. This committee should be comprised of individuals who are not employed by the City, regulatory agency or stakeholders. The committee should function as a public entity, engaging in public meetings and making all work and meeting minutes open records. The City, regulatory agency and stakeholders from the environmental community should come to a consensus about the process for appointing such committee.

### 3. Temporary lowering of water quality (page 3)

The OEPA proposes a temporary lowering of water quality to certain areas in the Scioto River, Olentangy River, Alum Creek and Big Walnut Creek.

We suggest that the OEPA limit any lowering of the water quality standards by establishing:

- A date certain for ending the reduction in water quality standards;
- A limit to how low OEPA will lower the standards; and,
- An automatic return to the higher water quality standard at the end of the limited period of degradation.<sup>4</sup>

### 4. Additional considerations for Wet Weather Management Plan approval

More evaluation is needed to address the volume of wastewater contributed by contract communities, the impacts of unlimited growth, and increased precipitation during atypical years. Currently, the City cannot provide an accurate account of the wastewater volume accepted from 22 contract communities, and field verified modeling may produce differing results than current assumptions-based modeling. Information is also lacking on inflow and infiltration from contract communities. Therefore, it is difficult to determine if the Plan truly provides adequate capacity now and 40 years down the road when all sewer projects have been completed.

We encourage the City of Columbus to conduct field verified modeling of all contract communities to determine if there is a need to modify projects included in the Wet Weather Management Plan. Installing master meters would also allow for a better account of wastewater volume. The City of Columbus should calculate flow specifically for in-coming sources and determine if the head-works at both treatment plants have adequate capacity to avoid by-passing. Heavy rainfall events should be modeled for Central Ohio to predict capacity with proper functioning of the plants. The City should consider a moratorium on further sewer expansion

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<sup>4</sup> An automatic return is one that does not require a process to reset the standard. If the city needs more time **it** has to initiate a process to return to the lower standard. The public does not have to initiate a process to return to the standard that is being temporarily taken from them. An automatic return to the higher standard will place added pressure on the City to keep to its schedule and place the burden of any delay on the City. If water quality standards return to the current level automatically and if the city is not ready, then the City will begin violating their NPDES permit. A citizen group after a period of time will be able to file suit.

and consider a new plan to increase capacity at both treatment plants once plants reach an overall design flow treatment capacity of 90%.

We have also observed increased sewer overflow events triggered by wet weather between 2006 and 2007. According to the Columbus Department of Public Utilities 2007 Annual SSO and Water in Basement (WIB) Report, 341 wet weather SSO events occurred, compared to 305 SSO wet weather events documented in the 2006 annual report. June 2008 was a record-setting month for rainfall in Central Ohio, breaking a 50 year record with 9.92 inches according to *The Columbus Dispatch* on June 29. In addition, Columbus is almost 10 inches above normal rainfall for the year at the end of June. We are likely to see another increase in wet weather SSO events compared to 2007 if higher than average rainfall continues.

#### 5. Recommendations for source water control

*Friends of Alum Creek and Tributaries (FACT) supports the recommendations on green infrastructure.*

Page 11 of the CSO consent order states the following:

3). Columbus shall consider ways to reduce public sources of storm water flow into combined sewers. Steps to consider include diverting storm water away from the combined system (e.g., by constructing retention basins;) as well as methods to store and retain stormwater (e.g.; using catch basin flow restriction, stormwater retention basins).

We encourage the City of Columbus to move forward with additional stormwater controls to reduce sewer overflows and protect Central Ohio watersheds. For example, the Watershed Action Plan for the Lower Olentangy suggests measures including rain gardens, permeable pavement, rain barrels, green rooftops, wetlands, and native landscaping, which have proven effective in reducing the volume of storm water runoff entering sewer systems. Those reductions result in fewer sewer overflows and are particularly important in combined sewer areas. In addition, protected stream buffers and increased requirements for pervious surface area along local waterways serve to reduce pollution from runoff and protect water quality.

Cities across the country are implementing green infrastructure solutions to help minimize sewer overflows and save money. Green infrastructure is an interconnected network of green space that provides benefits to the community and the environment. Green infrastructure techniques typically utilize natural or engineered systems that mimic natural landscapes in order to capture, infiltrate and reduce storm water runoff.

The benefits of green infrastructure techniques are far reaching in many areas including the environment, the economy, and public health. Those benefits include:

- Fewer sewer overflows, reduced flooding - Green infrastructure reduces storm water runoff by capturing and absorbing water. This can result in fewer sewer overflows, cleaner water, and reduced flooding or wet basements.
- Reduced water pollution – Storm water runoff is a major source of water pollution in the United States. In urban areas, rain water runs off of buildings, yards and pavement, picking up chemicals and a variety of other pollutants. Green Infrastructure techniques help to prevent pollutants from entering nearby storm drains and sewers, which then flow

into our waterways.

- Improved air quality - The plants and soils included in green infrastructure not only increase aesthetics, but they also help improve the surrounding air quality by removing CO<sub>2</sub> and other pollutants.
- Reduced energy demands – Cities and dense urban environments trap heat from the sun, increasing average air temperature and leading to heat related deaths. Green infrastructure techniques, especially green roofs, can help alleviate this heat build-up and reduce the need for air conditioning in buildings. This saves money and reduces global warming pollution.
- Additional wildlife habitat and recreational space - All forms of green infrastructure can provide increased access to recreational space and create new wildlife habitat. Parks and protected natural areas increase quality of life while serving important environmental functions for cleaner water.

The U.S. EPA recognizes green infrastructure as “an approach to wet weather management that is cost-effective, sustainable, and environmentally friendly” and has created a green infrastructure partnership with national groups “to promote green infrastructure as an environmentally preferable approach to storm water management”. More than 50 national groups have signed onto an additional statement of support for green infrastructure. A primary goal of this partnership is to reduce runoff volumes and sewer overflow events through the wide-spread use of green infrastructure management practices. Corporations, organizations, municipalities, and government entities are invited to join the partnership. In January 2008, the partnership also released an Action Strategy for Managing Wet Weather with Green Infrastructure, which can be found at <http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#greenpolicy>.

The U.S. EPA also provides valuable information on their Urban BMP Performance Tool website, which includes the International Stormwater BMP Database. This database includes over 300 detailed BMP studies to help guide decision-making and promote improvements in BMP design and performance. The database can be found at [www.bmpdatabase.org/](http://www.bmpdatabase.org/).

We recommend that the City give high priority for source water control measures and include requirements for green storm water BMPs in construction and design contracts during the implementation of the WWMP. In addition, the most recent City of Columbus Stormwater Drainage Manual requires a riparian buffer along streams for new construction and the City should adhere to these requirements by not allowing any variances.

With new construction projects, there are opportunities to include conservation practices that help to slow and filter storm water to reduce sewer overflows and protect waterways. Green storm water practices can also enhance the City's 12 priority area projects and go hand in hand with neighborhood improvement projects. There are also opportunities with new construction to include “No Dumping” physically precast into the iron grates and covers of storm sewers.

The City can take the following steps, in addition to current measures, to protect our water quality and make Columbus a better place to live:

1. Develop green infrastructure incentives or other creative mechanisms to encourage residents, developers and businesses to reduce impervious surface area and capture and absorb storm water. For example, offer an incentive, such as a credit on a utility bill, for households that implement backyard conservation measures like rain gardens and rain barrels. Continue to fund and expand rain barrel programs across the City and quantify the stormwater benefits desired from programs.
2. Increase installation of rain gardens and other green infrastructure measures on City properties to reduce storm water runoff, beautify neighborhoods and raise public awareness about conservation practices. Installation of green storm water measures could coincide with sewer project implementation, road construction, building redevelopment and neighborhood beautification projects.
3. Create a green infrastructure and development roundtable to educate the public, policy makers and developers on the benefits of green infrastructure, and to inform them of local resources and provide technical expertise. Public outreach and education are important in moving forward with significant improvements.
4. Include language in satellite community contracts requiring the development of green infrastructure programs to further reduce stormwater and protect local watersheds.
5. Develop an ordinance modeled after New York City to codify green source control practices to guide development. This will ensure that there are guidelines in place beyond the leadership of current elected officials (See attached).

We appreciate the opportunity to contribute ideas and concerns on behalf of our members and constituents. We are committed to working with the City of Columbus and the Ohio EPA on the Wet Weather Management Plan and future projects. We will continue to monitor sewer improvement projects and provide input where possible to help ensure that money is spent in the best, most efficient way to achieve environmental benefits. Thank you for your consideration.

Sincerely,

Brandi Whetstone  
Conservation Program Coordinator  
Sierra Club Ohio Chapter  
131 N. High St., #605  
Columbus, OH 43215  
(P) 614-461-0734 x311

Trent A. Dougherty  
Director of Legal Affairs  
Ohio Environmental Council  
1207 Grandview Ave., Ste. 201  
Columbus, OH 43212  
(P) 614-487-7506

Dan Binder  
President, Board of Directors  
Friends of Big Walnut Creek and Tributaries  
Executive Director  
River Institute  
817 S. Remington Rd.  
Bexley, OH 43209