



Sewer district to spend \$42M on 'green' infrastructure to curb stormwater (videos)

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By **Dave Davis, The Plain Dealer**

Regional sewer district projects that will help curb combined sewer overflows

Kellie Rotunno talks about a \$42 million program by the Northeast Ohio Regional Sewer District for "green" projects aimed at curbing stormwater runoff and helping community groups improve neighborhoods. Rotunno is the district's director of engineering and construction.

CLEVELAND, Ohio -- In what environmental officials say could set an example for the nation, the **Northeast Ohio Regional Sewer District** plans to spend \$42 million in the next few years on neighborhood "green"

projects aimed at reducing flooding and the discharge of untreated waste.

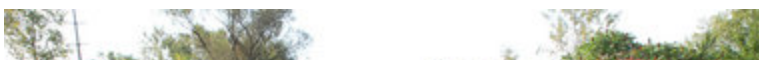
For 38 areas being considered for the program, which is being funded by ratepayers as a part of the district's \$3 billion in court-ordered system improvements, it likely will reduce local flooding and add a variety of new amenities.

They'll see the peeling back of concrete and asphalt to create ponds and park-like green spaces, the demolition of abandoned homes in favor of community gardens, the installation of green streetscapes, and hundreds of thousands of dollars in improvements.

All told, sewer district officials want to transform 1,000 acres of unused highly impervious urban landscape -- parking lots, roadways, and abandoned buildings - into green spaces designed to capture and clean stormwater naturally, keeping most of it out of the sewer system altogether.

"All in all, we're pretty excited to have \$42 million to spend on green infrastructure projects around Cleveland," said **Kellie Rotunno**, the sewer district's director of engineering and construction. But, Rotunno added, "It's going to take a lot of little green pieces, and fitting them all together, to get the results that we need."

Kyle Dreyfuss-Wells, the district's manager of watershed programs, and engineer Denis Zaharija have been working for months to find those pieces. A list ranking the 38 projects on merit will be turned over to state and federal officials by December for a review of the overall plan.





Chuck Crow, The Plain Dealer

Paved roads, crumbling and clogged with illegally dumped debris, crisscross a 23-acre site in Kinsman, part of Cleveland's Urban Agriculture Innovation Zone. Work is beginning on farms that eventually are expected to produce jobs and fresh produce for inner-city residents.

For the district, it's all about hydrology, Dreyfuss-Wells said. That and the court requirement to reduce discharges of untreated waste by 44 million gallons in the next eight years using green projects. For the program, the idea is to marry the district's interest with those of communities.

"It's all about taking advantage of what folks are already doing," Dreyfuss-Wells said. "It's not all about combined sewer overflow volume or the court, but a lot of it is about the communities and the some of the intangible benefits to them."

Those benefits include that projects are above ground, visible, aesthetically pleasing, and can improve air quality and property value, according to Marc Camaratta, head of the Philadelphia Water Department's watershed office.

"There's even studies linking it to crime reduction," Camaratta added. Philadelphia has embarked on what appears to be the nation's most aggressive **green infrastructure program** to manage its combined sewer overflows, which currently stand at about 13.5 billion gallons a year.

Philadelphia plans to reduce those discharges by 7 billion gallons in the next 25 years with \$2.4 billion in improvements -- about 70 percent of them green infrastructure projects.

"I think the key here is we have a huge opportunity to give something back to the ratepayers," Camaratta added.

The Northeast Ohio Regional Sewer District has been tapped by the U.S. Environmental Protection Agency as one of 10 partners nationwide to help lead the way in developing green stormwater management solutions. It represents the EPA's Great Lakes Region.

"All the cities are doing something with green infrastructure, but not all the same thing," said Bob Newport, an EPA official in Chicago. "They are trying new things that are ... breaking new ground."

Newport said the sewer district's idea of linking stormwater management with neighborhood revitalization was a new concept.

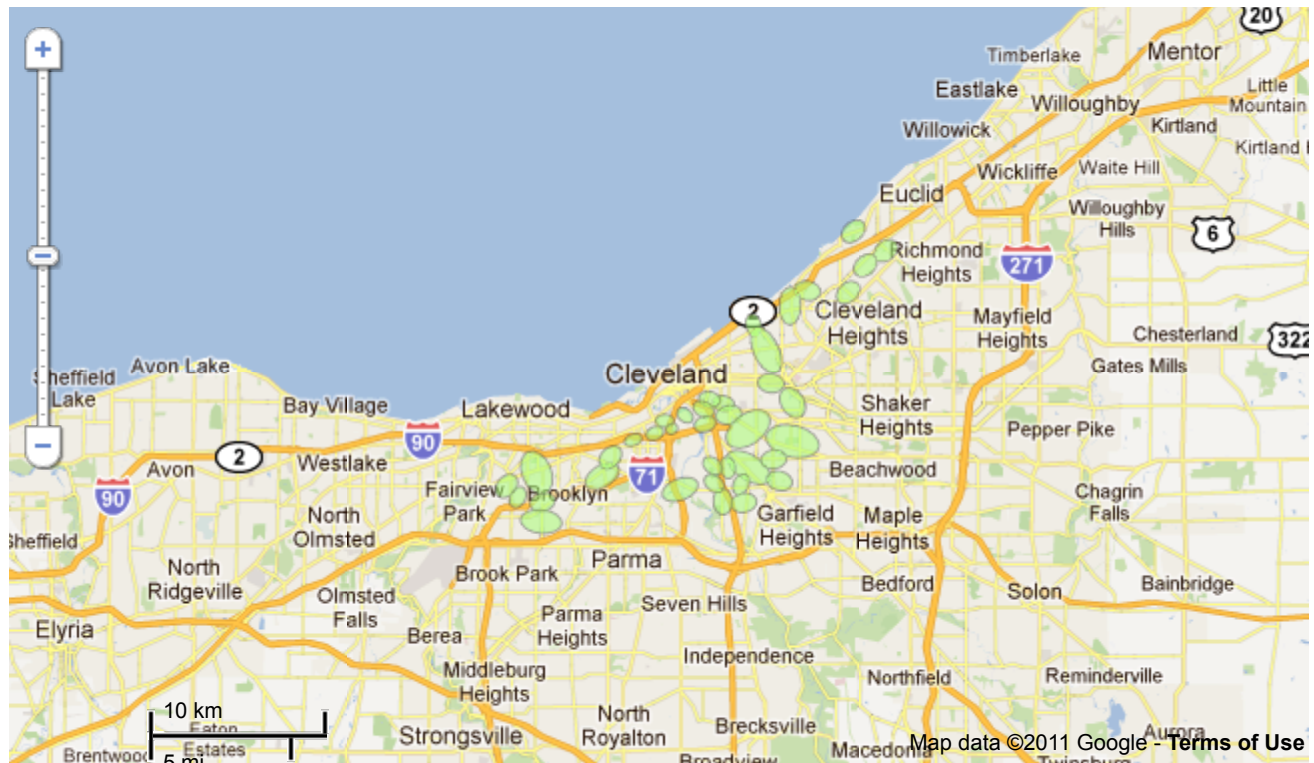
He applauded the district's approach of working with community leaders to try to enhance, rather than replace, local efforts that are already underway.

"It's quite a lot of work to put this in place," Newport added. "You have to make sure the community really wants this."

"But I think they realize there's a big payback in getting this double benefit of soaking in the stormwater and also providing an amenity for the community, helping stabilize some of these neighborhoods."

Green infrastructure priority areas

Use the zoom tool on the map for more detailed look.



Rich Exner, The Plain Dealer

Like Cleveland, more than 700 communities nationwide have combined storm and sanitary sewers and are being pressured by state and federal regulators to develop long-term plans to control discharges of untreated waste.

Those discharges, 5 billion gallons in an average year for the Northeast Ohio Regional Sewer District, typically happen during heavy rains or melting snow when runoff floods the sewer system. It forces a mixture of sewage and rain water through outfalls placed along local waterways to relieve pressure on the system. In extreme cases the runoff backs up onto streets and into basements.

"What's so exciting about Cleveland and the other places that are starting to use green infrastructure is that all of a sudden we're really thinking about how to both meet Clean Water [Act] requirements and also create

broader value for communities," said Katherine Baer, a senior program director for the environmental group American Rivers.

"We're creating better places to live because they're greener and have cleaner water."

The sewer district's 25-year plan centers on spending nearly \$3 billion to build seven massive underground tunnels to store stormwater until it can be pumped back to the surface and treated. But federal officials are now saying that these so-called "gray" construction projects may be swapped for green ones depending on the success of projects in Cleveland and other cities.

Baer said the success of the projects would likely bring a larger financial commitment. "I think for communities to take it on a step-by-step basis and evaluate their investment really makes sense," she added.

John Hopkins, who heads the nonprofit **Buckeye Area Development Corp.** that serves a neighborhood being eyed by the sewer district, noted that the district has money -- the hardest ingredient to come by for neighborhood revitalization.

Good ideas, like cleaning up abandoned property, are plentiful in his neighborhood. "I'm very excited about the prospect of working with them," Hopkins said.

Eco-friendly projects in Cleveland's Collinwood neighborhood

Kyle Dreyfuss-Wells talks about the "green" features of the new Collinwood Recreation Center on Lakeshore Boulevard and how the Northeast Ohio Regional Sewer District might be able to build on what Cleveland has done there. Dreyfuss-Wells is the district's manager of watershed programs.

The soon-to-open Collinwood Recreation Center on Lakeshore Boulevard is an \$11 million Cleveland project that boasts state-of-the-art stormwater management --

bio-retention ponds, sand beds for water filtration and an 1,800-gallon cistern.

A look down Lakeshore Boulevard shows acres of parking lots, now barely used, that surround apartment complexes and businesses. Each acre of hard surface sends roughly a million gallons of water a year toward local sewers.

"We don't need to design our parking lots for the 100-year shopping event," Rotunno said, underscoring why the area is such a problem for stormwater runoff.

Sewer officials are considering piggy-backing on the recreation center and sewer work slated to be done on Lakeshore Boulevard by Cleveland to break up the hard surfaces and create green streetscapes, long stretches of trees, plants and other landscape features that allow water to drain directly to the soil. It's a lift that Cleveland Councilman Michael Polensek says will help turn the area around.

Driving on Cedar Avenue near East 105th Street, engineer Zaharija points out large stretches of land without homes. "It will be rebuilt," he said, "so we have an opportunity to work with Cleveland if we want to make this

a green street."

And on 23 acres off Kinsman Road, part of the Urban Agriculture Innovation Zone, sewer district officials are clearly excited as they talk about the chance to help themselves and the Kinsman neighborhood. The site is now home to a fish farm and greenhouse and work is beginning on the farms that eventually are expected to produce jobs and food for inner-city residents.

But roughly four acres of paved roads, once the arteries of a residential neighborhood that no longer exists, crisscross the property, serving only to produce millions of gallons of storm water runoff and give people access to illegally dumped tires and building debris.

"With the district's help, this could be taken to the next level," Rotunno said. "I'd love to come in here and peel back this pavement."

Zaharija talked of capturing and cleaning storm water for crop irrigation. Right now city water is used.

"We're excited about the partnership," said Timothy Tramble, executive director of the nonprofit **Burten, Bell, Carr Development Inc.**, which is overseeing the development of the site.

"We're going to eliminate every food desert in Cleveland with a mobile market," Tramble said. "If you can't get to fresh food, it's going to get to you."

Urban planner **Terry Schwarz** said Cleveland has an opportunity to reshape itself as the population declines and vacant land becomes available. Schwarz heads Kent State University's **Cleveland Urban Design Collaborative**, which is providing assistance to the Urban Agriculture Innovation Zone.

"It needs a lot of water," she said. "The sewer district is looking for a place to put water."

"I think there are lots of places around the city where green infrastructure could be transformational. But for now, these combined overflow projects have to happen in some key places where they're needed.

"That's one limitation," Schwarz said. "But, hey, who can complain about \$42 million in green projects around the city?"

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