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DEC and DEP Announce Groundbreaking Agreement To Reduce Combined Sewer Overflows Using Green Infrastructure in New York City

\$2.4 Billion in Green Infrastructure and \$1.4 Billion in Gray Infrastructure to Target the City's Most Impaired Waterbodies; Total Savings of \$1.4 Billion from Grey Infrastructure Substitution Projects and an additional \$2 Billion in Deferred Costs

The New York State Department of Environmental Conservation and New York City Department of Environmental Protection today announced an agreement on an enforcement Order to improve the overall water quality in New York Harbor waters. Under this agreement, the City will invest approximately \$187 million over the next three years and an estimated \$2.4 billion of public and private funding over the next 18 years to install green infrastructure technologies to manage stormwater before it enters the City's combined sewer system. The City maintains the flexibility to prioritize green investments in areas of the City that will benefit most from the resulting reductions in combined sewer overflows.

"DEC and New York City worked collaboratively to develop an innovative and cost-saving approach to water quality problems in New York Harbor," DEC Commissioner Joe Martens said. "New York City's use of green infrastructure to achieve water quality goals at lower cost to ratepayers should serve as a model for other large, urban communities in New York State and the nation. Green infrastructure beautifies the urban landscape, a benefit long sought by environmental justice stakeholders."

Deputy Mayor for Operations Cas Holloway said: "Mayor Bloomberg has made the revitalization of the waterfront and the harbor signature priorities for his Administration, and this plan commits \$1.5 billion to green infrastructure that will improve water quality, beautify the Cityscape, and save New Yorkers billions of dollars over the next 20 years. I want to thank Governor Cuomo and DEC Commissioner Joe Martens for making this plan possible by working with us to set a new course for waste water infrastructure that will benefit the City for years to come."

"It is now an official green light for the groundbreaking NYC Green Infrastructure Plan," said New York City Environmental Protection Commissioner Carter Strickland. "This multi-

pronged approach strikes the perfect balance to meeting the goal of improving the water quality of New York Harbor: gray infrastructure where it is still cost effective and cutting-edge green technologies that not only absorb the water where it lands, but enhance the local quality of life by providing shade and beautifying the city. This agreement, which will be implemented in partnership with numerous city agencies and environmental stakeholders, truly represents a breakthrough in how we re-envision stormwater management and I want to thank the State Department of Environmental Conservation for working with us to make it happen.”

New York City, like other older urban communities, is largely serviced by a combined sewer system where stormwater and wastewater are carried through a single system. During heavy storms, the system often reaches capacity and must discharge a mix of stormwater and wastewater – called a combined sewer overflow – into New York waterbodies. If the overflows were not discharged, the City’s wastewater treatment plants would be flooded and unable to treat wastewater.

Through a mix of cost-effective gray infrastructure and cutting-edge green infrastructure, the agreement aims to significantly reduce sewer overflows into waterways through a combination of traditional and green infrastructure practices over the next 18 years. The City estimates that approximately 1.5 billion gallons of CSO flows will be removed annually by 2030 through the application of green infrastructure. Green infrastructure, such as green roofs and porous pavement, improves harbor water quality by capturing and holding stormwater runoff before it enters the sewer system and contributes to CSOs.

As part of the agreement, the state and City have resolved all outstanding compliance issues associated with the Consent Order. The modified Consent Order requires the City to complete \$1.4 billion in cost-effective gray infrastructure substitution projects to improve the City’s collection system performance. These substitute projects will save the City taxpayers \$1.4 billion from the original tanks and treatment plant expansions, required by the Consent Order, while providing equivalent water quality benefits.

The state has also agreed to defer decisions on the need for significant gray infrastructure projects, such as storage tunnels or holding tanks, to achieve water quality goals in Newtown Creek and Flushing Bay until completion of the green infrastructure demonstration projects. This will defer approximately \$2 billion in capital projects. This approach provides an opportunity for DEP to incorporate green infrastructure into its CSO Long Term Control Plans, which are aimed at achieving full water quality compliance, and will be developed with public input between 2013 and 2017. There is potential for future significant savings to City rate payers should green infrastructure prove effective in these watersheds.

Under the provisions of the agreement, the City agrees to pay a \$200,000 penalty; provide \$150,000 to support a water quality evaluation of the Hutchinson River; and fund \$5 million in environmental benefit projects, including supplemental funding for two neighborhood-scale green infrastructure demonstration projects and for DEP’s existing green infrastructure grant program for the next three years. The City will also accelerate the 26th Ward gray infrastructure substitution projects, and is subject to an additional \$1 million penalty if that schedule is not met.

The modified Consent Order puts into place the elements of a green infrastructure adaptive management approach. Over the next 18 years, the City will control the first inch of rain from 10 percent of the City's impervious surface with green infrastructure. The Order requires five-year incremental milestones to meet that goal, and annual reporting on progress. The \$187 million in public funds will be used toward the achievement of the first five-year target.

Examples of green infrastructure projects include: blue roofs and green roofs, which use mechanical devices or vegetation to slow roof water from draining too quickly and overwhelming sewers; porous pavement for parking lots that allows water to seep through it and be absorbed into the ground rather than running-off into the sewer system; tree pits and streetside swales for roadways that allow water to pool in underground holding areas until it can dissipate in the ground or transpire through plants; wetlands and swales for parks; and rain barrels in some residential areas.

Councilman James F. Gennaro, who wrote a letter to the DEC in support of the change in its agreement with the city that enabled the Green Infrastructure Plan to go forward, said, "This agreement locks in place an ambitious, adaptive, intelligently designed stormwater management plan through the next 20 years. It will establish enforceable milestones and a budget to implement it. The plan will offer better stormwater management at lower costs to the public. DEP projections indicate that the Green Infrastructure Plan will reduce combined sewage outflow volumes by nearly two billion gallons more per year than the previously required all-gray infrastructure plan—and all that for \$2.4 billion less in public spending. It's particularly important for the State and City to leverage innovative, cost-effective solutions like these when there are competing social needs and taxpayer dollars must deliver more services for less."

Peter Lehner, Executive Director of Natural Resources Defense Council, said, "New York City recognizes that green infrastructure – which stops rain where it falls – is the smartest way to reduce water pollution from storms. By making the cityscape literally greener, New York will make its rivers cleaner too — and with much greater return on investment than conventional solutions. Today's agreement establishes the City as a national leader in green infrastructure. It shows how the city, state, and citizens groups can successfully work together to clean up our waterways, using tools that also improve the health of our communities."

Marcia Bystryn, president of the New York League of Conservation Voters, said, "Sewage contamination of our waterways is not only a threat to human health, it also compromises the well-being of the entire New York Harbor ecosystem. Today's agreement marks a serious commitment to addressing this issue while also controlling costs. We applaud the New York City Department of Environmental Protection and the New York State Department of Environmental Conservation for this breakthrough. We look forward to more progress in improving the quality of all of New York City's creeks, bays and rivers."

Paul Gallay, President and Hudson Riverkeeper, "Riverkeeper commends DEC and DEP for crafting an agreement that will radically change our approach to reducing sewage pollution in New York City, using Green Infrastructure to improve water quality and green the city's urban neighborhoods. Riverkeeper is committed to working with the city and state to ensure

that we are on a clear path to achieving the ‘fishable, swimmable’ goals of the Clean Water Act for the Hudson River and New York Harbor.”

Debbie Mans, Baykeeper & Executive Director, NY/NJ Baykeeper said, "This announcement marks a significant investment by New York City in not only the environment, but also for the many users of the New York-New Jersey Harbor. By prioritizing green infrastructure to manage stormwater, NYCDEP will reduce pollution discharges from combined sewers, green our neighborhoods and provide jobs. We hope that New Jersey will follow NYC's leadership and step up to address its combined sewer overflows for a comprehensive solution for a swimmable and fishable New York-New Jersey Harbor."

Marc Matsil, NYS Director of the Trust for Public Land, said, "The Trust for Public Land, a national organization that has conserved more than 125,000 acres state-wide, applauds the Amended CSO Consent Order and agreement between NYC DEP and NYS DEC. Governor Cuomo and Mayor Bloomberg should be proud of this innovative milestone. The City and State have made great strides to create a program that incorporates green infrastructure and adds new tools that will contribute to improved water quality and enhanced natural resources values. Blue and green roofs, porous pavement for parking lots and playgrounds, enhanced tree pits and swales to better retain/transpire water and enhanced plantings contribute multiple benefits--and will reduce stormwater and CSO's into the harbor. Bravo!"

Tom Cochran, CEO and Executive Director for The U.S. Conference of Mayors, said, "We applaud the agreement New York City and New York State have chosen to implement to improve the water quality. Their approach demonstrates innovative thinking to solving an issue in a cost-effective and environmentally beneficial manner that will be a model for other communities and states."

Steven Spinola, President of the Real Estate Board of New York, said, "We congratulate the City and State for their agreement on the consent order which will protect our waterways and will save the City billions of dollars in infrastructure costs. We appreciate that the Green Infrastructure Plan, including the stormwater rule passed earlier this year, is a comprehensive and ambitious plan that involves all available public and private opportunities for stormwater management, and does not place the burden solely on the contributions from private development."

New York Chapter of the American Society of Landscape Architects President Denisha Williams said, "I am pleased to commend New York City and the state's embrace of green infrastructure approaches to reducing CSOs, as part of the overall sustainable design initiatives under Mayor Bloomberg's leadership. Green infrastructure helps reduce flooding and the storm water pulses that trigger raw sewage to bypass treatment to flow directly in NY-NJ Harbor waters. As important is conservation of thousands of acres of living green space dispersed throughout the city. The design and construction of sustainable infrastructure is also an important new market niche for a range of NYC firms, adding green job opportunities for landscape architects, engineers, architects, scientists, ecologists, other designers and construction contractors."

Dr. Stuart R. Gaffin, Research Scientist at the Center for Climate Systems Research at Columbia University, said, "The Amended Consent Order represents a radical re-visioning for New York City. Using green infrastructure to manage stormwater runoff for such a large urban area is unprecedented. Scientifically, the Consent Order is consistent with the conclusions we draw from the data we collect on the hydrology, temperature control and multiple benefits of urban greening. As we measure the quantitative effects of green systems and the impacts of the new technologies, we are looking at an exciting experimental broadening of what we mean by green infrastructure. This order will significantly stimulate urban environmental research for years to come."

U.S. Green Building Council of New York Executive Director Russell Unger said, "With this endorsement of the Department of Environmental Protection's newly negotiated Consent Order with NYSDEC, specifically the Green Infrastructure initiatives, the City will now be directing hundreds of millions of dollars toward trees, plantings and other green infrastructure rather than large tunnels and detention tanks. By taking a new, smarter approach to stormwater management, the City not only saves money but makes New York a better place to live."

Andrew Kimball, president and CEO of the Brooklyn Navy Yard Development Corporation, said, "The Brooklyn Navy Yard is the nation's greenest industrial park and constantly raising the bar by implementing a series of sustainability initiatives that reduce the 300-acre Yard's carbon footprint and attracting green businesses like Brooklyn Grange. We applaud the State Department of Environmental Conservation and the City Department of Environmental Protection for investing in green and gray infrastructure upgrades. Having made major investments to rebuild the Yard's storm-water management systems to be environmentally friendly, we couldn't be more supportive of the State and City's efforts."

DEP manages the city's water supply, providing more than one billion gallons of water each day to more than nine million residents, including eight million in New York City. The water is delivered from a watershed that extends more than 125 miles from the city, comprising 19 reservoirs and three controlled lakes. Approximately 7,000 miles of water mains, tunnels and aqueducts bring water to homes and businesses throughout the five boroughs, and 7,400 miles of sewer lines and 95 pump stations take wastewater to 14 in-city treatment plants. DEP employs nearly 6,000 employees, including almost 1,000 in the upstate watershed. DEP has a robust capital program with a planned \$13.2 billion in investments over the next 10 years that creates up to 3,000 construction-related jobs per year. For more information, like us on Facebook at www.facebook.com/nycwater, or follow us on Twitter at www.twitter.com/nycwater.

Contact: Farrell Sklerov (DEP) 718-595-6600
Emily DeSantis (DEC) 518-402-8000