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Contact:

deppressoffice@dep.nyc.gov, (718) 595-6600

$210 Million Upgrade of Historic Beaux-Arts Style Pump Station in South Brooklyn Substantially Improves the Health of Coney Island Creek

Sewer Overflows into Coney Island Creek Reduced by Nearly 90 Percent

Photos of the Century-Old Pump Station and Coney Island Creek are Available on DEP's Flickr Page

New York City Department of Environmental Protection (DEP) Commissioner Emily Lloyd today announced the completion of an extensive $210 million rehabilitation and upgrade of the century-old Avenue V Pumping Station in Gravesend, Brooklyn. The refurbished facility now has the capacity to pump 80 million gallons of sanitary and stormwater flow to the Owl's Head Wastewater Treatment Plant each day, more than 150 percent more than it could before the upgrade. Modeling shows that this will reduce sewer overflows into Coney Island Creek by 87 percent and substantially improve the health and cleanliness of the waterway. Originally built between 1911 and 1916, the pump station was designed in the Beaux Arts architectural style and, over the years, more utilitarian additions to the facility blocked much of the original building's façade. In consultation with both the Landmarks Preservation Commission and the Public Design Commission, those additions have been torn down and the building's distinctive original details have been meticulously restored.

"This $210 million investment reduces the amount of pollutant discharged into Coney Island Creek by nearly 90 percent, which will go a long way towards

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NYC Department of Environmental Protection
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59-17 Junction Boulevard
19th Floor
Flushing, NY 11373
(718) 595-6600

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restoring its ecological health and making the shoreline a more inviting destination for the residents of Brooklyn," said **DEP Commissioner Emily Lloyd**. "We also took great care in restoring the facility's historic façade to ensure that it remains a unique neighborhood landmark in southern Brooklyn."

"This investment means a significant increase in water quality in Coney Island Creek," said **Daniel Zarrilli, Director of the Mayor's Office of Recovery and Resiliency**. "This will strengthen the resiliency of communities in Southern Brooklyn and support the City's ongoing study of flood risk reduction and water quality impacts in a part of the city hit hard by storm surge during Hurricane Sandy."

"Effective management of combined stormwater and sanitary sewage flows is critical to protecting New York's water quality, natural resources and waterfront economy," said **New York State Department of Environmental Conservation Commissioner Joe Martens**. "New York City DEP has completed the upgrade of its historic Avenue V pump station on schedule, in accordance with our 2012 Agreement to significantly reduce CSO discharges in NYC. This provides a great benefit to the communities bordering Coney Island Creek."

"Here in Brooklyn, we don't just 'go with the flow' when something isn't working right, said **Brooklyn Borough President Eric L. Adams**. "When it comes to the sewer overflow problem, which leads to the release of diluted raw sewage into our marine ecosystem, major changes are needed to protect residents, business and wildlife alike. Just a couple weeks after my office announced a stormwater management plan to help reduce overflows into the East River, Gowanus Canal, New York Harbor and Newtown Creek, the upgrade to the Avenue V Pumping Station will do the same service for Coney Island Creek, cleaning this critical waterway. Additionally, this station's design, which originated within the Office of the Brooklyn Borough President, has been preserved, maintaining the architectural character that makes our borough unique. I applaud Commissioner Lloyd and the Department of Environmental Protection for their commitment to the environmental health of Brooklyn."

"Our waterways are essential to our communities, and having a 90 percent reduction in sewer overflows is a huge step toward ensuring that the waters around Gravesend are clean," said **Senator Marty Golden**. "In recent months, we have seen a significant return of marine life in our harbor, from whales to dolphins to seals, and much of this is a direct result of our coastlines and waterways being cleaner now than they have been in decades. I congratulate NYC DEP for completing this project, and hope that more steps are being taken to continue to reduce sewer overflows and improve our waterways."

"I thank the New York City Department of Environmental Protection for completing the upgrade and rehabilitation project of the Avenue V pumping station," said **Assemblyman William Colton**. "This renovation and upgrade will help better the quality of life for families throughout southwest Brooklyn by improving water quality in nearby Coney Island Creek which connects to Gravesend Bay, as well as other waters along southern Brooklyn."

"This investment in Southern Brooklyn's critical infrastructure will help improve the health and water quality of Coney Island Creek by greatly reducing the amount of pollutants that enter this important waterway," said **City Councilman Mark Treyger**. "This represents significant progress towards our goal of revitalizing our waterfront so that it can be utilized by the public for generations to come. I am also thrilled that DEP made restoring the building's incredible façade a priority and have preserved a piece of our neighborhood's character and history. We must continue to focus on improving our city's infrastructure and finding new ways to improve the quality of our shorelines and water."

On an average dry weather day in New York City, approximately 1.3 billion gallons of wastewater flow into the municipal sewer system and, primarily through the force of gravity, it travels through 7,500 miles of pipe to one of 14 wastewater treatment plants located throughout the five boroughs. DEP maintains 96 pump stations around the city that provide additional pressure to

the system and help the sewage navigate past topographically challenging areas, and ensure that it continues to flow towards the treatment plants. When sewage arrives at a pumping station it is lifted by pumps into a pressurized pipe, or force main, and from there it is discharged into a large interceptor sewer which runs downhill towards a wastewater treatment plant. The use of pumping stations and force mains reduces the required size and depth of sewer lines and decreases the overall costs of sewer system construction and maintenance.

The Avenue V Pumping Station serves southwest Brooklyn and helps to force wastewater to flow north through the sewer system towards the Owls Head Wastewater Treatment Plant, located in Bay Ridge. Prior to this upgrade, the facility could pump up to 30 million gallons of wastewater a day through two force mains, with 24 and 30-inch diameters. As part of the work, DEP built more than six miles of new, 42 and 48-inch diameter force mains, located up to 40 feet beneath street level. To provide a measure of redundancy, six new 350 horsepower centrifugal pumps were installed. When operating at full wet weather capacity the facility requires four pumps, so two additional pumps are now available in the event of an operating pump failure or if one is taken out of service. In addition, all the mechanical, electrical, and HVAC equipment has been upgraded. A significantly enhanced electrical system, including new transformers and network protectors, provide the power required to operate the facility and emergency generators will ensure continued operation in the event of a loss of power to the site.

The completion of the upgrade to the Avenue V Pump Station will help to support the overall environmental and economic revitalization and resiliency of Coney Island. This includes the ongoing Coney Island Creek Tidal Barrier and Wetlands Feasibility Study which is a key component of the City's comprehensive resiliency planning for the communities around Coney Island Creek and beyond.

The main building of the Avenue V Pumping station was originally designed by Albert A. Martin who was employed by the Department of Public Works, which at the time was housed within the Brooklyn Borough President's office. Eligible for a New York City Landmark designation in May of 1998, the building is designed in the beaux-arts style, with symmetrical facades and lavish use of terra cotta details. The rehabilitation was done in a manner consistent with the architectural detail of the original building to preserve its historical character. Martin also designed at least four other pumping stations in a range of styles, of which three, the Gowanus, Paerdegat Basin, and Coney Island Pumping Stations, still exist.

New York City, like other older urban communities, is largely serviced by a combined sewer system where stormwater that falls on roofs, streets and sidewalks, and wastewater from homes and businesses are carried through a single sewer line to treatment plants. The city's 14 treatment plants can manage and treat to federal Clean Water Act standards all the wastewater created in New York City on a dry weather day, or about 1.3 billion gallons on average. On a rainy day they have the capacity to clean more than twice the dry weather flows. However, during intense precipitation events, the stormwater that falls on the city's impervious surfaces exceeds that capacity and overflows can be discharged into local waterways. If the overflows were not discharged, the City's treatment plants would be flooded and severely damaged and wastewater could backup into homes and businesses.

Over the last decade DEP has invested more than $10 billion in upgrades to wastewater treatment plants and related efforts to reduce combined sewer overflows and testing confirms that the water in New York Harbor is cleaner today than it has been in more than a century. However, overflows remain the city's primary harbor water quality challenge. In 2010, the NYC Green Infrastructure Plan was launched. An alternative approach to improving harbor water quality, it combines traditional infrastructure projects, such as the upgrades to the Avenue V Pump Station, and the integration of green infrastructure to capture and retain stormwater runoff before it can ever enter the sewer system and contribute to overflows. The Plan has the ambitious goal of capturing the

first inch of rain that falls on 10 percent of the city's impervious surfaces in combined sewer areas. Over the next 15 years, DEP is planning for $1.5 billion in public funding, and another $900 million in funding connected to new development or redevelopment, for targeted green infrastructure installations, as well as approximately $2.9 billion in cost-effective grey infrastructure upgrades, to significantly reduce overflows and further improve the health of local waterways.

DEP manages New York 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 7,500 miles of sewer lines and 96 pump stations take wastewater to 14 in-city treatment plants. DEP has nearly 6,000 employees, including almost 1,000 in the upstate watershed. In addition, DEP has a robust capital program, with a planned $14 billion in investments over the next 10 years that will create up to 3,000 construction-related jobs per year. This capital program is responsible for critical projects like City Water Tunnel No. 3; the Staten Island Bluebelt program, an ecologically sound and cost-effective stormwater management system; the city's Watershed Protection Program, which protects sensitive lands upstate near the city's reservoirs in order to maintain their high water quality; and the installation of more than 820,000 Automated Meter Reading devices, which allow customers to track their daily water use, more easily manage their accounts and be alerted to potential leaks on their properties. For more information, visit nyc.gov/dep, like us on Facebook, or follow us on Twitter.

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