

IX. INFRASTRUCTURE AND OTHER CITY SERVICES

Needs Assessment

City Services: Storm Preparation and Emergency Response

The City undertook a massive preparation effort several days before Hurricane Sandy made landfall. The City's Office of Emergency Management (OEM) began tracking the storm that would eventually develop into Hurricane Sandy on Saturday, October 20. On October 25, the forecast showed that Sandy might hit the Northeast, OEM activated the City's Coastal Storm Plan (CSP), which is a series of plans that guide the City's response to and recovery from the hazards that hurricanes bring. These plans included storm tracking and decision-making, evacuation, sheltering, logistics, public information, and recovery, outlining a coordinated citywide response to any coastal storm event. On October 26, the City activated OEM's Emergency Operation Center (EOC), which was the hub of the City's storm preparations and immediate response efforts.

Storm Preparation

Once the CSP and EOC were activated, City agencies began transitioning to emergency operations, which included testing and fueling generators; taking inventory of critical supplies; and securing and relocating vehicles and other equipment out of flood zones. Additionally, each of the eleven hospitals within the City's Health and Hospitals Corporation (HHC) and the HHC central offices activated command centers that were fully staffed until several days after the storm.

Also on October 26, OEM activated the City's Advanced Warning System (AWS), which pushes targeted emergency information to warn the most vulnerable populations, such as the elderly and people with disabilities, 24 to 48 hours in advance of an impending emergency. OEM sent 16 AWS messages before, during, and after the storm.

The City's Department of Environmental Protection (DEP) activated all applicable emergency storm preparedness procedures several days in advance of Sandy's landfall. This included inspecting and cleaning catch basins in flood-prone areas to ensure optimal drainage during the storm. DEP created comprehensive staffing plans to ensure effective and continuous operations both during and after Hurricane Sandy. Where possible, staff and equipment located in low lying Zone A areas were moved to designated alternate operating facilities to minimize disruption in operations. This included relocating DEP's Emergency Communication Center, a critical operation during emergency events. DEP Distribution Operations personnel checked all critical structures and appurtenances to ensure uninterrupted operation of the water distribution system. Facilities personnel also undertook significant measures to minimize damage and disruptions to operations by securing items that could become comprised due to heavy winds, topping off chemical and fuel supplies, inspecting critical equipment for operational purposes, and rescheduling deliveries before the storm. DEP sandbagged wastewater treatment plants and pumping stations; fueled emergency generators; tied down loose equipment and suspended construction activities; scheduled staff for double shifts; pre-positioned mobile pumping equipment; made arrangement with contractors to provide as-needed services; and preformed training drills on power-down, evacuation and sheltering procedures in the event that a facility would flood. Throughout the storm, all wastewater treatment plants were fully staffed with personnel working twenty-four-seven.

As part of the Coastal Storm Plan, the City activated its Unified Operations Resource Center (UORC) on October 27, which coordinates operations of the City's emergency shelters. The UORC is staffed by 16 different City agencies, but is primarily made up of employees from the Department of Homeless Services (DHS). City employees who are designated as evacuation shelter staff reported to their respective shelters at 8am on Saturday, October 27. These shelters and evacuation centers were located in Department of Education (DOE) and City University of New York (CUNY) public school buildings. DOE provided custodial staffing, food supplies, and food service workers to run the shelters. Eight of the shelters were special medical need shelters that would serve residents with certain medical conditions. In conjunction, OEM began mobilizing the City's emergency shelter supply stockpile, which consists of more than 5,700 pallets of medical supplies, personal care items, cots, blankets, food, and water, baby and pet supplies.

The shelters began accepting voluntary evacuees on Sunday, October 28. However, as weather models showed that the City would likely sustain a more direct impact than previously predicted, the Mayor ordered a mandatory evacuation order for Zone A at 11a.m. Residents were ordered to evacuate to shelters by 7 p.m., at which time MTA and subway service was suspended. The City utilized 200 DOE school buses to evacuate New York City Housing Authority (NYCHA) residents prior to NYCHA powering down elevators in its developments. By 9 p.m. Sunday, October 28, MTA bus and subway service was essentially shut down.

Throughout this event, the City focused on ensuring that the public had the most up-to-date information. The Office of the Mayor coordinated efforts to inform the public, which included press conferences that were carried by major television and radio networks and were streamed on www.nyc.gov, YouTube, and other social media platforms; alerts sent through the City's NotifyNYC system; and through the Commercial Mobile Alert System (CMAS), which sent a text message to all City cellular phones notifying them of the evacuation order.

As the storm approached, the City's uniformed services drastically increased staffing levels. The NYPD switched its tours to 12-hour shifts and pre-positioned flat-bottom boats in the most vulnerable neighborhoods. Officers canvassed Zone A areas with bullhorns from marked NYPD vehicles flashing their lights and alerting residents about the mandatory evacuation order. NYPD officers drove MTA buses and provided transport to anyone who still had not evacuated. These operations continued until it was no longer safe for first responders or anyone to be on the roads. The NYPD also relocated the City's homeless individuals to shelters that were out of harm's way.

The FDNY also increased its operations in Zone A, adding a fifth firefighter to forty engine companies and placing five additional chiefs in service. The Department activated their Incident Management Team (IMT); pre-positioned marine skiffs (hurricane boats) in the Rockaways, Bronx, and Staten Island; deployed all seven brush-fire units to assist EMS response in Zone A; and deployed eight inflatable swift-water rescue boats with teams throughout the City. EMS operations had 100% staffing in all five divisions, including more than 100 additional ambulances. In total, FDNY had more than 600 additional personnel, both firefighters and EMS, working during the height of the storm.

In addition to being fully staffed and working significant overtime, the City's Emergency 911 and Informational 311 systems brought on additional, temporary call takers in anticipation of unprecedented call volume. The staffing levels proved to be invaluable, as call volume increased sharply. During the storm the 911 system reached its highest hourly call-volume ever – which peaked at 20,000 calls per hour. On October 29, 2012, 911 received over 100,000 calls – more than September 11, 2001, and the 2003 blackout. For 311, which is administered by the City Department of Information Technology and

Telecommunications (DoITT), call volumes increased prior to the storm as residents inquired about evacuation zone lookups and Sandy-related transit information. During and following the storm, call volume reached more than 274,000 calls per day, four times greater than the 2012 daily average.

Additionally, City agency staff took measures to protect City-owned property and equipment, which included, but were not limited to securing windows; sandbagging buildings; removing loose items from facility exteriors; fueling generators; moving generators to higher ground, etc. Certain agencies required more extreme measures. For example, HHC safely discharged patients where possible, and one hospital in a primary flood zone transferred ventilator-dependent patients to other facilities. The City's Department of Transportation (DOT) took measures to protect the Staten Island Ferry fleet by either moving boats to dry docks or fully staffing the vessels throughout the storm to prevent damage.

Emergency Response

The unprecedented storm surge generated by Hurricane Sandy caused catastrophic damage to the city's coastal neighborhoods and substantial damage across a wide area of the interior, from Staten Island to the Rockaways, to the Bronx. Uniformed services switched to search and rescue operations as the NYPD, FDNY and EMS services rescued stranded civilians who did not evacuate flood zones. Firefighters used the pre-positioned swift-water boats to rescue more than 500 individuals trapped by rising waters across Brooklyn, Queens, and Staten Island. There were a total of 94 fires the night of Hurricane Sandy, with the most devastating in Breezy Point destroying 126 homes and damaging 22 more. Additionally, all of the agencies worked with the Department of Buildings (DOB) and OEM to secure a collapsed crane on West 57th Street in Manhattan and evacuate the surrounding area.

The storm surge also required the evacuation of Coney Island Hospital on Tuesday, October 30, 2012 and Bellevue Hospital on Wednesday, October 31, 2012. Several hundred patients, including many who were critically ill and more than 15 neo-natal intensive care babies were delivered safely and without incident to caregivers at HHC facilities and other hospitals. EMS also assisted with the evacuation of NYU Langone Medical Center.

Following the storm, FDNY operations set up command posts in each of the hardest hit areas of Brooklyn, Queens, and Staten Island as bases from which to coordinate with other agencies and muster additional resources. The NYPD set up more than 500 light towers throughout the City and provided increased deployments to all five boroughs of the City, with larger deployments concentrated in Lower Manhattan, where power was out below 34th Street, and the hardest hit shore areas of Brooklyn, Staten Island, and Queens. Officers assisted with the distribution of necessities such as food and water to New Yorkers who lost their homes and personal property; enforcement activities including residential and commercial anti-looting patrols, focusing on key neighborhoods around the City that were without power; and performing neighborhood patrols and door-to-door checks on residents in the public housing facilities which lost water and electricity. Housing officers distributed food, water, blankets and transported vulnerable residents to medical care, particularly senior citizens.

Many agencies, primarily DEP and DOT, began water removal operations from their facilities as soon as it was safe to do so. Agencies worked closely with the Army Corps of Engineers and the Navy to pump out the Battery Park underpass and West Street underpass. DEP provided assistance with removing flood water citywide by lending out crews and industrial pumps. Of the City's 14 wastewater treatment plants, 13 came back online in record time and were treating 99% of the City's wastewater within days of the storm. The Rockaway Wastewater Treatment Plant came back online about a week later.

During the massive loss of power across the five boroughs, NYPD Traffic Enforcement Agents and DSNY employees directed traffic at hundreds of intersections. Additionally, throughout the citywide gasoline shortage, officers were posted at open gas stations throughout the city.

The Department of Citywide Administrative Services (DCAS), partnering with OEM, FEMA, and the Army Corps of Engineers, helped acquire many different types of supplies, including light towers, generators, portable toilets, pharmaceuticals, and bottled water to support emergency operations citywide. Generators and boilers were deployed to critical facilities such as nursing homes, hospitals, multi-unit housing, NYCHA developments, etc. Additionally, DCAS' Fleet Services coordinated the delivery of fuel to City entities and emergency fueling operations for City, State, and essential emergency response vehicles at Floyd Bennett Field in Brooklyn, Fort Wadsworth in Staten Island, and Orchard Beach in the Bronx.

The Department of Buildings (DOB) began conducting assessments of damaged properties on October 31. Buildings were tagged as red (seriously damaged and unsafe to enter or occupy), yellow (damaged with specific entry and restricted use), or green (no apparent structural hazards and no restrictions on use).

Restoration of Services

Nearly every City agency participated in recovery efforts. For example, during and immediately after the storm, Correction Officers provided security at relief stations, transported relief workers, and delivered food provisions and other emergency relief supplies. Correctional facility inmates also laundered clothes for thousands of New York City families temporarily residing in shelters after the storm.

In the immediate aftermath of Sandy, many of the City's recreational facilities were transformed into recovery centers. The East 54th Street Recreation Center in Turtle Bay provided recreation and shower facilities to children under the care of the Administration for Children Services (ACS) from the Lower East Side. The Sunset Park Recreation Center offered shower facilities to displaced New Yorkers from Red Hook. In Crown Heights, the St. John's Recreation Center was able to offer recreational opportunities and shower facilities for children and their families being sheltered at P.S. 249. The Asser Levy Recreation Center in Kips Bay served as an alternative location for New Yorkers to cast their votes on Election Day.

DoITT required employees to work overtime to ensure adequate on-site coverage for technology and telecom problems. DoITT also procured emergency mobile equipment and devices, including pictometry for surveying damage.

Many City agencies' offices were damaged in the storm. In order to ensure that City government entities could return to serving the needs of the citizens as quickly as possible, the Department of Citywide Administrative Services (DCAS) identified alternative temporary space or relocated City staff from damaged offices. DoITT secured equipment, such as routers and computers to replace items lost in the storm and provided desktop support, mobile communications services, and data analytics.

Limited critical care services were opened at Bellevue Hospital in the middle of December and at Coney Island Hospital in the beginning of January. Coney Island Hospital began to accept inpatients in the middle of January and began offering limited ambulance-related emergency services in late February. However, the hospital will not be able to restore fully all services until late May. Bellevue fully re-opened on February 7 and resumed its Level I Trauma Center status.

DEP's Bureau of Water and Sewer Operations immediately responded to water and sewer complaints following the storm. Within a few days of the storm, DEP inspected approximately 1,000 catch basins, and cleaned more than one third of those. Through the month of November, staff continued to inspect and clean catch basins citywide. More than 6,100 were inspected and more than 3,600 were cleaned as part of response operations. DEP crews conducted detailed visual surveys of all DEP assets in the Rockaways and along the coastline of Queens. Because of these surveys, DEP was able to repair approximately 900 hydrants citywide.

Throughout New York City, DEP flushed more than 37 miles of sewers. Contractor crews inspected approximately 51 miles of sewers in the Rockaways and cleaned more than eight miles of sewers in Brooklyn, Queens, and Staten Island. Approximately 450 cubic yards of debris was removed, nearly 85% of which was removed from Queens. DEP conducted a major cleanup effort at Jefferson Creek in Staten Island to restore the natural drainage. Two weeks after the storm, flusher trucks had cleaned nearly 10,000 linear feet of sewer lines and crews had removed almost 1,000 cubic yards of debris from Jefferson Creek.

Emergency Supply Distribution

Immediately following the storm, the City opened food, water, and emergency supply distribution sites in the hardest hit areas in order to protect the health and safety of the population in the hardest hit communities. The sites were staffed by City employees, volunteers, the Salvation Army and National Guard. From Thursday, November 1st through Monday, November 26, a wide assortment of urgently needed supplies were provided, including more than 2 million meals, water and other beverages, infant care items, garments, batteries, and cleaning and personal hygiene supplies.

As part of the Support to Residents in Their Homes (SRITH) operation, the Fire Department Incident Management Team, working with the Office of Emergency Management and the Department of Health, sent teams of National Guard troops, FEMA personnel, and AmeriCorps volunteers door-to-door in affected areas of the City to check on the health and well-being of residents in buildings without heat and/or power.

Restoration Centers

In order to assist the hardest hit communities to begin recovery efforts, between November 13, 2012 and February 23, 2013, the City operated NYC Restore, a comprehensive effort to connect residents and businesses impacted by Hurricane Sandy with financial, health, environmental, nutritional, and residential services, as well as Federal Emergency Management Administration (FEMA) reimbursement processing. The initiative consisted of seven NYC Restoration Centers, wheelchair accessible, offices located in the communities that were hardest hit to provide long-term assistance to New Yorkers, and brought together information and referrals for all of the City government services available in the aftermath of the storm.

Food Distribution

In the weeks immediately following the disaster, the Human Resources Administration (HRA) provided funding of approximately \$4.8 million to distribute more than 720,000 prepared meals at eight sites in the most heavily damaged neighborhoods during November of 2012. HRA's Emergency Food Assistance Program (EFAP) partnered with the Food Bank for New York City to provide an increase in emergency food deliveries to residents in storm affected areas.

Debris Removal

The strong winds, heavy rains, and storm surge also resulted in the accumulation of debris on streets, sidewalks, and other public facilities. The debris was composed of woody material, sand, stones, street and building/household wreckage, and other objects deposited by the storm surge and wind. Hurricane Sandy generated more than 700,000 tons of debris in New York City. To tackle the massive amount of debris, the Office of the Mayor immediately stood up the Debris Removal Task Force (DRTF) to coordinate debris removal in order to ensure safe passage for emergency vehicles, open traffic flow, and to create a safe and clean environment to allow for rebuilding. The DRTF comprised over 25 City, State and Federal agencies, including the Office of Emergency Management, Department of Sanitation, Department of Parks and Recreation, New York State Department of Environmental Conservation, Federal Emergency Management Agency, U.S. Army Corps of Engineers and the Environmental Protection Agency.

Most of the clearance work was done by the Department of Sanitation (DSNY), whose employees worked constantly 24 hours a day, 7 days a week, in twelve-hour shifts that lasted from the end of Hurricane Sandy through the beginning of December in the City's impacted communities to ensure that all storm-related debris was picked up expeditiously. Tree debris was so prevalent that the Office of Emergency Management (OEM) convened a special multi-agency task force, which responded to more than 20,000 street tree-related emergencies received through 311 and the Department of Parks and Recreation. DEP personnel conducted asbestos air monitoring and hazardous materials inspections in order to ensure the proper disposal of all debris. Also, sand needed to be collected and sifted to remove debris before it could be returned to beaches.

City Response for Special Needs Populations

The City made every effort to inform special needs populations of the potential dangers of Hurricane Sandy. The Advanced Warning System (AWS) warned vulnerable populations of Sandy's threat several days before the storm made landfall. OEM sent Sandy-related AWS messages before, during, and after the storm. The City used American Sign Language (ASL) interpreters at every press conference and encouraged television networks to provide closed captioning during mayoral briefings.

Department for the Aging (DFTA)

The Department for the Aging (DFTA) was in constant contact with all senior service providers that had communication capability before, during, and after the storm to field questions, provide information on resources, direct requests for emergency services/assistance, disseminate information on the City's restoration efforts, coordinate donations, and respond to all storm-related needs. Daily updates were provided to Mayor's Office and uploaded to the City's website for several weeks after the storm.

The Case Management Agencies contacted their clients in preparation for the storm, as well as during and following the storm. There were 14,995 contacts made between Friday, October 26 and Friday, November 2 to clients. Clients were referred for emergency care as needed. DFTA staff at the NYC OEM Emergency Operations Center also helped coordinate evacuations, requests for supplies from senior housing residences, and search for missing seniors.

DFTA also coordinated canvassing efforts with the National Guard and provided home delivered meals and other services when they were requested. In partnership with Citymeals-on-Wheels (CMOW), all 23 home delivered meal programs delivered meals to their clients. Between October 26, 2013 and November 17,

2012, DFTA and CMOW's home-delivered meals program delivered 363,945 meals, serving more than 15,000 clients. More than 15,000 meals were delivered daily. Providers mobilized volunteers to continue deliveries of meals and emergency food packs, often using creative solutions to fuel their delivery vehicles.

All 13 home care agencies stayed in touch with 2,575 clients when aides could not make visits.

During the first week, 201 centers were able to re-open by November 2; the rest followed as power was restored in the boroughs. More than 250 DFTA senior centers provided needed meals, support services, and operated as warming centers, some for extended hours and on weekends, in the months following the storm. A few remain closed due to more severe facility damage.

DFTA also provided additional miscellaneous assistance such as disseminating information on the FEMA reimbursement process for non-profit organizations; working with NYC OEM and utility companies to restore power in senior residential buildings sponsored by a DFTA-contracted service provider in Far Rockaway and Brooklyn; coordinating delivery of 1,500 space heaters donated by National Grid for older residents who had power but no heat; staffing shelters and DFTA programs that were under-staffed; and volunteering at the FEMA Disaster Assistance Centers.

Human Resources Administration (HRA)

Home Care Services Program

Prior to Hurricane Sandy, Home Care ("CASA") offices contacted all 2,967 clients in Zone A. CASA case managers informed clients of the evacuation order, provided them with information regarding the evacuation shelters, and discussed other options with them.

On November 3-4, 2012, CASA staff and first responders visited 51 previously unaccounted for clients in Far Rockaway. Home Care assisted in the evacuation of one client and provided food, water, and blankets to those who refused to evacuate. Home Care also provided food, water, and blankets to other (non-HRA Home Care clients). Far Rockaway residents who were in the immediate vicinity of the clients whom were visited. Home Care contacted 1,515 clients who were high risk (i.e., 56 hours and higher of home care service) following the storm to check on their status.

Adult Protective Services

Adult Protective Services (APS) staff made nearly 5,000 phone calls and more than 500 visits to clients in Flood Zone A, Coney Island, and the Rockaways both before and immediately after the storm. Before the storm, APS focused on assisting clients in evacuating to shelters and hospitals. APS used NYC EMS and HRA staff psychiatrists for assessments in cases where it was unclear if clients had the mental capacity to make appropriate decisions regarding evacuation.

HIV/AIDS Services Administration

In the aftermath of the storm, the HIV/AIDS Services Administration (HASA) worked to confirm the well-being of 393 clients residing in Zone A who were considered at risk due to medical limitations. HASA staff members, along with HRA police, also made home visits in Far Rockaway to check on clients whom they were unable to contact via telephone and those who had been contacted but were particularly frail. In

November 2012, HASA staff, alone or partnering with other agencies including FEMA and the NYPD, successfully contacted all 393 clients and made more than 350 home visits.

Immediately following the storm, HASA clients' requests for emergency housing increased approximately 60% because clients were displaced by the storm. During the first two weeks following the hurricane, HASA placed 354 clients who were temporarily or permanently made homeless by the storm into emergency housing programs.

Supplemental Nutrition Assistance Program (SNAP)

After the hurricane, HRA was able to issue special SNAP benefits to assist existing SNAP recipients and other low-income New Yorkers with the purchase of food. Along with New York State, HRA secured a waiver to provide certain benefits and to permit SNAP recipients to use their benefits to purchase hot/prepared foods through November 30, 2012. The combination of special SNAP programs provided additional benefits totaling more than \$72 million to households that were impacted by the storm:

- In the first week of November, 311,445 households residing in 82 of the most highly impacted zip codes received an automatic replacement benefit of 50% of their October SNAP grant, under a special USDA waiver.
- More than 107,000 households applied in person through the beginning of November 2012 and also received SNAP replacement benefits. Some of these were people who did not get the automatic replacement and some were those who had already received the replacement but were eligible for additional benefits.
- Under the USDA's Disaster Supplemental Nutrition Assistance Program (D-SNAP), more than 31,000 households in 10 of the most highly affected areas received a special allotment of SNAP benefits equal to the maximum grant for households of that size.

Medicaid

HRA Medicaid offices were open in all five boroughs and the Medicaid Help Line was also operational immediately after the storm. The Medicaid Program relocated staff from flood damaged offices to other locations so that operations could proceed normally. In addition, the Medicaid Program worked with the NYS Department of Health to implement program-easing measures to avoid case closings and lapses in coverage, including:

- A two month extension of Medicaid coverage for cases due to expire in November or December.
- Cancellation of closings in process.
- Suspension of closing transactions for failure to renew or failure to respond to a request for additional information.
- A seven day increase in the amount of time allowed to respond to a request for information at new application.
- A thirty day extension of current authorization for personal care services, including CD PAP services, for those due to expire during the state of emergency.
- An extended of the period of acceptance of physician orders for personal care services authorizations from thirty days to sixty days from the date of examination.

Mayor's Office for People with Disabilities (MOPD)

People with disabilities faced unique difficulties as a result of Hurricane Sandy, particularly if they lived within Zone A and faced mandatory evacuation. Those who lost power in other zones faced their own

challenges, including being trapped in their apartments with no elevator access; being unable to power life sustaining equipment; and dealing with shortages of food, durable medical equipment, and medication. In particular, those in need of dialysis found it very difficult to get treatment because sites were closed and transportation was not available.

MOPD undertook several initiatives to assist such populations, which included:

- Visiting shelters and evacuation centers to determine accessibility and informing shelter staff how to work with people with disabilities;
- Helping to coordinate effective Mayoral press conference communication for those who are Deaf and Hard-of-Hearing through the use of a real-time ASL interpreter;
- Having staff onsite at the OEM Emergency Operations Center taking calls and participating in meetings;
- Forwarding constituent calls directly to cell phones of staff to ensure calls would be answered;
- Coordination of food delivery to those in need by working directly with Citymeals-on-Wheels;
- Working directly with City agencies, including FDNY, to help remove those trapped in their apartments;
- Providing up-to-date information about the storm on our website on a 24/7 basis;
- Keeping a direct line of communication open with members of the disabled community to address specific and general problems;
- Taking part in daily meetings with representatives of groups that represent people with disabilities, OEM, and FEMA to address needs and concerns;
- Working directly with DCAS so that Access-a-Ride vehicles were given priority to fuel their vehicles;
- Working with local non-profits to supply mobility devices to those whose equipment was destroyed by the storm;
- Working with local non-profits to set up temporary clothing distribution centers that employed people with disabilities;
- Working with FEMA to identify the percentage of accessible temporary housing for people with disabilities; and
- Visiting NYC Restoration Centers to ensure that they were accessible and that staff were aware of the needs of people with disabilities.

The direct impact of Hurricane Sandy on the City extends beyond the immediate storm preparation and emergency response. As explained above, the City provided a tremendous amount of recovery and restoration services. In addition, the City's infrastructure (buildings, roads and streets, water and sewer systems, parks and recreational facilities, etc.) suffered extensive damage. An unmet needs analysis for the total cost of the storm response, recovery, and damaged City infrastructure is addressed in the "Infrastructure and Other City Services" section.

Impact to the City's Infrastructure

As discussed in the Impact Assessment section, Hurricane Sandy caused damage to City infrastructure and facilities. Damaged facilities that provide essential services such as police stations, fire stations, sanitation garages, and educational facilities were among those hardest hit. Despite efforts to protect City-owned infrastructure, facilities, and other assets, damage to such property was extensive. The estimated impact to City facilities is \$3.1 billion.

The NYC Health and Hospitals Corporation had ten large hospitals damaged, including extensive damage to Bellevue Hospital Center, Coney Island Hospital, and Coler-Goldwater Memorial Hospital. HHC also experienced damage to five smaller healthcare facilities as well as to one of its administrative office spaces. Two hospitals and one community clinic were evacuated and displaced. Temporary administrative offices also had to be leased, built-out and supplied with computers and telephones.

The New York City Police Department (NYPD) sustained storm related damage to more than 20 of their facilities. Damaged facilities include station houses, warehouse/storage facilities, boat docks, tow pounds, an aircraft hangar and the Department's firing range and bomb squad training buildings.

Seventy-one school buildings sustained damage from Hurricane Sandy. Damages to these school buildings included severe salt-water flooding, destroyed boilers and oil tanks, damaged electrical and computer/phone cabling and equipment, oil spills and resulting contamination, new sink holes, roof leaks, wrecked gym and auditorium flooring. Extensive upgrades are required to bring buildings back to their pre-storm condition, including the replacement of temporary boilers with permanent systems.

The City had damage to approximately 400 Parks sites, in addition to the displacement of more than 3 million cubic yards of sand from the City's beaches.

Twenty-nine Fire Department facilities were damaged due to the storm; this includes 16 Firehouses, 6 EMS stations, 5 Marine facilities and 2 support facilities (Paidge Avenue and Fort Totten). There was widespread damage to apparatus doors (after being hit by a high quantity of seawater), basements (which filled to the top with water), electrical and heating systems (including pipes), and various structural aspects. Marine facilities suffered damage to piers, piles, electrical systems and transformers, as well as the wave attenuator at Marine 9, which is intended to reduce wave height in order to provide safe berthing for vessels. FDNY also suffered losses of information technology equipment, communications networks and infrastructure, fire apparatus, and ambulances.

The Department of Sanitation (DSNY) sustained damage at 61 of its facilities throughout the City, and needed to evacuate 14 of its facilities; it also suffered damage to its vehicle fleet including 9 light/medium duty vehicles and 34 heavy duty vehicles that require repairs after being damaged by salt water. DSNY also manages the former Fresh Kills landfill which sustained damage to its pollution control infrastructure.

The Department of Correction (DOC) sustained damage along the northern shoreline of Rikers Island, losing an estimated four acres of land. All trailers located along the eroded north shore will need to be replaced and relocated. One jail's roof was significantly damaged. The electrical substation for the City's only jail barge, located in the Hunts Point section of the Bronx, will now need to be raised to meet FEMA's floodplain standards.

The Department of Transportation (DOT) determined that hundreds of lane miles of streets will require resurfacing and/or full reconstruction due to storm damage. Street lights, traffic signals, and underground wiring were damaged by floodwaters, and in some cases, backed up sewage. High wind speeds further caused extensive damage to the existing street fixtures and traffic equipment. Floodwaters severely damaged the Battery Park and West Street underpasses in Lower Manhattan, and repairs are also necessary for 20 moveable bridges. The mechanical and electrical systems at the Whitehall (Manhattan) and St. George (Staten Island) Ferry Terminals incurred significant damages. In addition, ferry piers and other ferry facilities suffered damage. Finally, the Department's administrative offices were flooded and contents, including technological equipment, were irreparably lost.

Ten of the City's 14 Wastewater Treatment Plants were adversely affected by Hurricane Sandy. Rockaway, the smallest wastewater facility by capacity, was the most severely affected. Most of the damage was to electrical systems including substations, motors, control panels, junction boxes and instrumentation. Power outages required many DEP facilities to operate on their emergency generators for up to two weeks. Of the 96 DEP pumping stations, 42 were impacted by the storm.

The New York City Department of Environmental Protection ensured that the City's drinking water remained safe during and after the storm despite the fact that all of the City's water pollution control plants (WPCPs) experienced some degree of damage as a result of Hurricane Sandy. Power was lost at many facilities that compose City's drinking water supply system, including a dam and several reservoir control stations. Power was lost at a number of water supply shafts, and fencing and security equipment was lost at several facilities. In addition a replacement water tunnel project between Brooklyn and Staten Island has been delayed due to damage caused by the storm, and critical equipment at several landfills was damaged.

The City also suffered damage to its extensive array of public cultural institutions including museums, the Aquarium, public libraries, the Brooklyn Navy Yard (a thriving small-business industrial park), historic buildings on Governor's Island, and facilities of new public space development along the Brooklyn waterfront.

New York City's Response to Infrastructure Impact

The City's survey of the damage inflicted on infrastructure and the restoration thereof is ongoing and involves virtually every City agency. In conjunction with FEMA's Public Assistance Program, the City is identifying and assessing damaged sites to develop cost estimates that quantify the scope of work and financial commitment required for the necessary capital infrastructure projects. A few of the most urgent issues that agencies must address are discussed below.

Health and Hospitals Corporation (HHC)

The unanticipated record level storm surge produced by Hurricane Sandy required the evacuation of Coney Island Hospital on Tuesday, October 30, 2012 and Bellevue Hospital on Wednesday, October 31, 2012. Additionally, the Coler campus of the Coler-Goldwater Specialty Hospital and Nursing Facility on Roosevelt Island was severely flooded, lost electricity and steam, and was forced to rely on generators as well as temporary boilers. Though Bellevue Hospital has fully reopened and Coney Island Hospital has reopened with limited services, HHC will further develop damage descriptions and scopes of work and conduct extensive repairs over the next several months in order to fully restore the medical and health facilities

listed prior. After further developing damage descriptions and scopes of work, HHC will be conducting extensive repairs over the next several months in order to fully restore medical and health facilities.

Department of Education (DOE) / School Construction Authority (SCA)

The School Construction Authority returned 48 schools in more than 30 buildings to operation by removing debris, installing temporary boilers, performing environmental remediation, pumping out millions of gallons of water and making other necessary repairs. The schools that were closed displaced 75,000 students who could not attend their assigned school building once school resumed after the storm. These students had to attend schools far from their homes and were taught in overcrowded public assembly spaces like gyms, auditoriums, and cafeterias in undamaged buildings that had to be shared with the students who regularly attended those school buildings. Additional repair and restoration efforts are on-going and necessary to return all school facilities to their pre-disaster capacity and function.

Department of Parks and Recreation (DPR)

After the storm, DPR staff went to work inspecting almost 2,000 parks and playgrounds to assess damage, clean and remove debris and quickly re-open as many sites as possible to the public. The Department's assessments of parks, playgrounds, recreational centers and other facilities citywide after Hurricane Sandy revealed significant storm-related damage. Significant efforts are being made to restore the recreational facilities, beaches and coastline areas.

Department of Transportation (DOT)

DOT's personnel quickly mobilized on numerous fronts to address damage from Hurricane Sandy. DOT bridge engineers inspected, cleared, and reopened the four East River bridges by 10 a.m. the day after the storm. With assistance from Army Corps of Engineers and DEP, DOT reopened all City-managed tunnels, with some 15 million gallons of water pumped from the Battery Park Underpass alone. DOT reopened long sections of the FDR Drive within 24 hours, restoring this vital north-south link. The crews of the Staten Island Ferry prevented damage to six ferryboats during the storm by manning them with 90 ship-board crew and another 60 on the docks to prevent the boats from striking slips and each other. DOT restored Staten Island Ferry service within 72 hours of the end of the storm. On New York's streets, DOT's crews assisted the Department of Sanitation to remove approximately 157,000 tons of debris. Crews inspected all storm-damaged streets and 2,525 acres of highway roadsides, removing more than 9,503 tons of downed trees and limbs, inspected 23,205 complaints of sidewalk damage, and repaired more than 6,000 traffic signals and signs damaged during the storm. Data pertaining to damaged streets was incorporated into a map portal to facilitate communication with other City and State agencies, Federal funding partners, as well as the general public.

Analysis of Unmet City Infrastructure and City Services Needs

Early estimates of the City's emergency response public services, debris removal expenses, and costs to repair and rebuild damaged City Infrastructure are more than \$4.5 billion. This early estimate is comprised of \$1.4 billion dollars for the costs of emergency response (protecting health and safety and assistance to special needs populations), debris removal, and more than \$3.1 billion in estimated costs to the City for repairing and rebuilding damaged City infrastructure. The City will use CDBG-DR funding to leverage other funding sources for the costs of emergency response, debris removal, and repairing and rebuilding damaged City infrastructure. The federal funding sources leveraged will be largely FEMA disaster public

assistance, among other Federal funding sources (FHWA and USACE). However, after accounting for other federal sources and mitigation activities, the City estimates a remaining unmet need for the City's emergency response public services, debris removal, costs to repair and rebuild damaged City Infrastructure at more than \$1.2 billion. In this first allocation of CDBG-DR funds, the City is dedicating \$400 million, one-third of its total unmet need. In addition, the City is allocation \$28 million for emergency demolition, debris removal, and code enforcement. Further, the City has allocated \$14 million of this first allocation of CDBG-DR funds for repairing and rebuilding damaged City infrastructure. These activities have been broken out as "programs" per the HUD CDBG-DR program requirements. (See the CDBG-DR Program Description section for more information.)

Infrastructure Goals

The severe destruction and flooding brought on by Hurricane Sandy caused significant damage to the infrastructure systems and key public facilities within the City of New York. Roads, bridges, drainage systems, utility infrastructure, schools, hospitals and park sites sustained damage throughout the City, causing the loss of critical services to homes and businesses and the creation of severe hardships, inefficiencies, and decreased performance and operating capacities. New York City is committed to addressing these needs and securing the health and stability of local communities and economies by helping to provide these essential services needed to attract and retain businesses as well as residents.

Infrastructure objectives include:

1. Rebuild, repair, and replace health and hospital facilities damaged in the impacted areas enabling the affected communities access to medical attention
2. Remove and dispose of all storm related debris that impacted a community's public health, safety, and threat to life and property
3. Repair and upgrade existing City water, storm water, and sewer systems for impacted residents returning to their neighborhoods, including addressing all storm related damage to roads and streets in order to restore public use expeditiously in those areas most impacted
4. Ensure the school facilities and other public facilities such as fire, police and other critical infrastructure damaged in the impacted areas are restored
5. Restore parks and recreational facilities in order for impacted communities to resume activities

As part of this infrastructure work, the City will evaluate project design elements, such as elevating building systems equipment, and will apply these design elements, as applicable, to storm water management practices, flood mitigation measures, utility and infrastructure improvements, and other projects designed to enhance preparedness for potential future disasters.

Infrastructure and Other City Services Programs

Public Services

PROGRAM OBJECTIVE AND DESCRIPTION: The City mobilized its vast workforce to provide various Public Services before, during, and following Hurricane Sandy to protect communities and to provide for the health, safety, and welfare of City residents. Detailed below are the services for which CDBG-DR funds will be used to leverage other federal funding sources, primarily FEMA Public Assistance. These costs were incurred prior to the preparation of this Action Plan. Although the City incurred significant costs to prepare for the storm, the City will only use CDBG-DR funds to reimburse costs incurred from the date of the storm in accordance with the CDBG-DR rules. CDBG-DR rules also limit expenditures for Public Services to 15% of the grant. However, due to the significant unmet need in this category, the City has budgeted \$358 million for these costs, which is approximately 21% of the grant. Accordingly, the City will be pursuing a waiver of this limitation.

Emergency Services

To provide immediate protection of health and safety for communities endangered by the storm surge, high winds, damaged infrastructure, and debris-clogged transportation systems, emergency services included, but were not limited to, activities from the following City agencies:

Office of Emergency Management (OEM): As the coordinating agency in the City's emergency response, OEM played a key role throughout preparations, during the storm itself and in the immediate aftermath. The agency incurred expenses related to supporting central operations at the Emergency Operations Center (EOC), logistics support citywide, and evacuation support (including the provision of buses and ambulances). OEM also played a major role in the implementation of the City's Emergency Shelter System and incurred significant expenses in the deployment of the Emergency Shelter Stockpile (ESS) along with their role as shelter support while the shelter system was activated. OEM assisted on a citywide level with the provision of trailers, janitorial services, portable toilet facilities, and with Logistics Staging Area operations at Citifield. Other storm-related work done by OEM included wellness checks, provision of pumps and sandbags for the dewatering effort, debris management and GIS mapping support.

Department of Education (DOE): City schools re-opened on Monday, November 5, 2012, but 48 schools in more than 30 buildings were not able to open due to storm damage. Several other buildings did not re-open because they had been used as shelters during the previous week and the citizens housed there on an emergency basis could not be re-located to their homes in a timely fashion. Approximately 75,000 students and thousands of school staff were displaced. Students were forced to attend schools far from their homes and were taught in overcrowded public assembly spaces such as gyms, auditoriums, and cafeterias in undamaged buildings that had to be shared with other schools. As an example, one school's students and staff had to travel 17 miles via shuttle buses to attend classes in another building. The Department of Education arranged for students at damaged schools to attend classes at alternate locations and provided transportation assistance to affected families and staff. Assistance included shuttle buses, MetroCards, and reimbursement for car service.

Department of Information Technology and Telecommunications (DoITT): The City's public information hotline provides the public with quick, easy access to all New York City government services and information while maintaining the highest possible level of customer service. This telephone, text, and web service is essential during emergencies, as it absorbs the important, yet non-emergency, calls that would otherwise overwhelm 911. DoITT retained additional call taking services for 311 in anticipation of a spike in call volume during and after the storm. Call volume did indeed increase steeply; at the post-Sandy peak, daily call volume reached 274,000 calls, four times greater than the 2012 daily average. Storm-related 311 calls immediately before and during the storm tended to be inquiries on such topics as evacuation zone lookups and Sandy-related transit information. Post-storm, 311 calls concentrated on damages, such as requests for removal of large branches or trees; reports of power outages and sewer backups; and other hazardous location or situation reports, as well as information requests related to the storm and transit.

DoITT also required employees to work overtime to ensure adequate on-site coverage for technology and telecom problems, and procured emergency mobile equipment and devices, pictometry for surveying damage and other equipment, such as routers and computers, to replace items lost in the storm. Since the storm passed, DoITT has also provided desktop support, mobile communications services, and data analytics for the City's Recovery Office.

Department of Citywide Administrative Services (DCAS): During and after the storm, DCAS provided critical support for the recovery efforts citywide. Its purchasing staff, partnering with OEM, helped acquire many different types of supplies, including light towers, generators, portable toilets, pharmaceuticals and bottled water to support emergency operations citywide. Additionally, its Fleet Services coordinated delivery of fuel to City entities and the fueling operations at Floyd Bennett Field which provided fuel to City, State and essential emergency response vehicles. DCAS also identified alternative temporary space or relocated City staff from offices damaged by the storm in order to ensure that City government entities could serve the needs of the citizens of NYC. Additionally, hotel rooms for temporary shelter of displaced persons were procured through DCAS, although this program was coordinated by the recovery office.

New York City Police Department (NYPD): The NYPD's citywide uniform and civilian deployment levels significantly increased by extending daily tours of duty from eight to 12 hours per day. The NYPD provided increased deployments to all five boroughs of New York City with larger deployments concentrated in Lower Manhattan, and the shore areas of Brooklyn, Staten Island, and Queens.

Uniform and civilian personnel coordinated and performed all types of rescue and security operations in areas that were affected to save lives and property prior to, during and after the storm. Emergency response activities included but are not limited to the following examples:

Preparation measures such as testing and fueling generators and relocating and securing Department assets such as aircraft, boats and vehicles. Emergency response measures included:

- Evacuation of citizens who reside in Zone A;
- Search and rescue of stranded civilians who did not evacuate flood zones;
- Assisting in relocating the City's homeless to shelters;
- Distribution of life-saving equipment such as food and water to residents who lost their homes and personal property;
- Enforcement activities including residential and commercial anti-looting patrols, focusing on key neighborhoods around the City that were without power;
- Assisting in debris removal by moving fallen trees, pumping water from flooded tunnels and other flooded areas,
- Regulating traffic, and monitoring citywide gas distribution;
- During the citywide gas shortage officers were posted at open gas stations throughout the City;
- Neighborhood patrols and door-to-door checks on residents in the public housing facilities which lost water and electricity;
- Housing officers distributed food, water, blankets and transported residents to medical care, particularly senior citizens;
- Police Communication Technicians worked significant overtime to ensure adequate coverage for the City's Emergency 911 system handling unprecedented call volume; and
- Traffic Enforcement Agents worked overtime to direct traffic in the neighborhoods without power throughout the duration of the power loss.

Fire Department (FDNY including EMS): The Fire Department doubled staffing levels for Fire and EMS at the 911 Dispatch Center to handle the surge in 911 calls, as well as the Department's Operations Center. EMS staffed all operational ambulances and EMS conditions cars (used by EMS officers), which in addition to responding to emergencies, assisted with the evacuation of NYU Langone Medical Center.

During the storm, fire companies added a fifth Firefighter to 40 Engine Companies in Zone A, activated the Fire Incident Management Team, deployed all seven brush-fire units to assist EMS response in Zone A and deployed eight swift-water rescue boat teams throughout the City. Despite deploying an additional 500 firefighters, the number of units available to respond to emergencies dropped from the average level of 90% to 9%. There were a total of 94 fires the night of Hurricane Sandy; the most devastating in Breezy Point destroyed 126 homes and damaged 22 more.

Department of Environmental Protection (DEP): Hurricane Sandy had an enormous impact on the City's water and sewer infrastructure. DEP staff pumped approximately 50 million gallons of water and removed thousands of trees as a part of their response efforts. In addition, DEP performed air quality monitoring, hazardous material inspections and fire hydrant repair across the city to ensure public safety.

Health and Hospitals Corporation (HHC): Each of the HHC hospitals and the Corporation central offices staffed and maintained command centers through the storm and until after the subsequent nor'easter. Moreover, HHC provided staff and supplies to New York City's Special Medical Needs Shelters.

As mentioned earlier, the damage, flooding, and power disruptions resulting from Hurricane Sandy forced to evacuate and temporarily close two of the City's public hospital facilities, Bellevue Hospital (a crucial level-one trauma center) and Coney Island Hospital, and to divert patients from the Coler-Goldwater Specialty Hospital and Nursing Facility. These closures, as well as damage to other HHC facilities, forced the displacement of hospital medical and support staff.

After the evacuations, Coney Island Hospital and Bellevue worked to reopen rapidly, and there was a four month process to fully restore services at Bellevue and partially restore services at Coney Island Hospital. During that four month period, inpatient (and most of the outpatient) services were not being provided at these hospitals. Medical employees were redeployed throughout HHC in order to avoid staff attrition which would have delayed the eventual reopening. In addition, non-medical staff were maintained to assist with the response and recovery of the closed facilities. Further, other expenses, such as contract payments to affiliated medical schools that provide physicians services such as New York University Medical School and Mount Sinai, continued. Most of these costs were not supported by additional revenue in the facilities to which they were redeployed, since patients were largely redirected to non-HHC facilities such as Beth Israel. Therefore the closed hospitals were cut off from Medicaid, Medicare, and commercial insurance. If necessary, the City will seek a waiver to recover these expenses incurred to maintain operational readiness.

Storm Recovery Services

The recovery efforts of several City agencies were centralized at the City's Restoration Centers. Recovery assistance mobilization included personnel; security; translation and sign language services; and set-up and lighting costs.

Restoration Centers

In order to assist the hardest hit communities to begin recovery efforts, between November 13, 2012 and February 23, 2013, the City operated NYC Restore, a comprehensive effort to connect residents and businesses impacted by Hurricane Sandy with financial, health, environmental, nutritional and residential services, as well as Federal Emergency Management Administration (FEMA) reimbursement processing. The initiative consisted of seven NYC Restoration Centers, accessible, neighborhood offices located in the communities that were hardest hit to provide long-term assistance to New Yorkers. The centers were

located in Far Rockaway, Gravesend, Coney Island, Staten Island, Red Hook, Breezy Point, and Throgs Neck-Pelham Bay. The Restoration Centers brought together information and referrals for all of the City government services available in the aftermath of the storm. FEMA staff was onsite to perform benefits intake as well as provide ongoing management and updates of applicants' FEMA cases. NYC Restore also partnered with non-profit community-based organizations including SCO Family Services, Metropolitan Council on Jewish Poverty, Catholic Charities of Brooklyn & Queens, Jewish Board of Children & Family Services, Catholic Charities Community Services – Staten Island, FEGS, Good Shepherd Services, Red Hook Initiative, Shorefront Y and BronxWorks to provide wrap-around support services.

Each center coordinated local resources to accommodate the specific needs of the communities where they were located. Staff from HRA connected impacted New Yorkers with benefit information such as Medicaid, Supplemental Nutrition Assistance Program (SNAP), and temporary cash assistance. Additionally, the Centers made available information regarding financial and rebuilding assistance to residents whose homes were destroyed or severely damaged. The Department of Small Business Services also provided information and assistance on loans and reimbursements to small business owners. Other onsite New York City agencies included the New York City Department of Health and Mental Hygiene, Administration for Children's Services, Department of Consumer Affairs, Department of Housing Preservation and Development, and Department for the Aging.

While operational, Restoration Centers received more than 34,000 visits from people impacted by Sandy. More than 7,400 visits were for information and assistance related to the Medicaid and Supplemental Nutrition Assistance (SNAP) Programs administered by the Human Resources Administration (HRA).

Public Information Services: Prior to the storm, the City increased the capacity of its 311 information system to handle the increased volume of calls. The City also took measures to ensure that 311 would be operational throughout and after the storm. The costs associated with the increased services include increased personnel and generators.

Staten Island Fast Ferry Service: Between November 26, 2012 and January 21, 2013, the NYC Department of Transportation operated a temporary fast ferry service in conjunction with New York Water Taxi. The service was provided to ease the commute of Staten Island's South Shore residents, whose travel times to work increased drastically due to damage to the Staten Island Rapid Transit (SIRT) system and the Hugh L. Carey (Brooklyn Battery) Tunnel.

Department of Homeless Services (DHS): DHS played a major role in the evacuation process and continues to provide services to those impacted by Hurricane Sandy through the programs listed below:

DHS provided managerial oversight of the emergency storm sheltering operations via the Unified Operations and Resource Center (UORC). UORC uses a unified command structure where multiple agencies work to coordinate and assist shelter staff on a tactical level. Sixteen key agencies provide staff to the UORC; DHS employees made up the largest percentage of workers in the UORC. At the same time that DHS staffed the UORC, closed evacuation sites and opened new ones, the Agency prepared to close its homeless shelters located in Zone A to protect shelter residents.

DHS deployed staff to various sites, resulting in overtime costs in three main areas of service to the public, sheltering families and single adult in evacuation center who were no longer able to stay in their homes, Setting up and staffing Evacuation Centers and providing equipment, volunteers, supplies, etc., and setting up and staffing the Unified Operations and Resource Center (UORC), which supports tactical management

of shelter operations by filling resource requests and resolving problems at individual shelter system facilities.

- **City Hotel Program:** The provision of services in the City Hotel Program was originally administered through the Red Cross. Later, DHS began to work with local, community-based experts to provide services to evacuees in hotels. BASICS, BRC, Project Hospitality, Samaritan Village Inc., and SCO Family Services continue to provide services to approximately 970 displaced households across 50 different locations. Organizations are providing case management services and connecting evacuees to any city or federal benefits for which they may be eligible and helping with housing plans including collaborating with FEMA to ensure that all eligible evacuees have registered with appropriate programs.
- **Homebase:** Those displaced by the storm were counseled by Homebase staff at Restoration Centers beginning on November 15, 2012. The role of Homebase at the Restoration centers was to provide information on temporary housing options and, when available, immediate hotel / apartment placement. Providers, included the Archdiocese of New York, BronxWorks, CAMBA, Catholic Charities of Queens, HELP USA, and Palladian. By November 29th, Homebase sites were making hotel placements with the Hotel Operations Desk.

Homebase assisted consumers with navigating the array of benefits and assistance available to them. Among the most common service partner referrals given to evacuees, 33% were referred to FEMA, 24% were referred to HRA, 36% were referred to HPD, and 16% were referred to NYCHA. Individuals may have been referred to more than one organization.

- **Relocation Services:** DHS was given the role of managing the moving of furniture donated to affected residents who are relocating into permanent housing in NYCHA apartments. The cost of these moves is currently being paid by DHS as other funding sources are being researched.

HUD ELIGIBILITY CATEGORY: Public Services

NATIONAL OBJECTIVE: Urgent Need; Low- and Moderate-Income Area; and Low- and Moderate-Income Persons.

CDBG-DR ALLOCATION: \$358 Million

PROJECTED ACCOMPLISHMENTS: 8.2 Million Persons Served

PROGRAM ADMINISTRATION: Office of Emergency Management, Office of the Mayor, Department of Education, Department of Information Technology and Telecommunications, Department of Citywide Administrative Services, New York City Police Department, Fire Department, Department of Sanitation, Department of Environmental Protection, Health and Hospitals Corporation, Department of Correction, The Board of Elections, Department for the Aging, Human Resources Administration, Department of Homeless Services, and Department of Transportation.

ELIGIBLE APPLICANTS / PROPERTIES: All members of the public impacted by Hurricane Sandy.

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: To provide for the health, safety, and welfare of City residents.

GEOGRAPHIC AREA TO BE SERVED: Citywide

PROGRAM START AND END DATES: October 27, 2012 – June 30, 2015

OTHER FUNDING SOURCES: FEMA Public Assistance

Emergency Demolition

PROGRAM OBJECTIVE AND DESCRIPTION: Nearly 400 structures throughout the City were so severely damaged by the storm that they posed a threat to the health and safety of the surrounding communities. The Department of Housing Preservation and Development demolished those sites for which the Department of Buildings issued an Emergency Declaration (order to demolish). The City will use CDBG-DR funds as the part of the non-federal share for all demolition activities utilizing FEMA Public Assistance. Accordingly, the City will be adopting FEMA's environmental reviews for all such projects. Some of these costs were incurred prior to the preparation of this Action Plan.

HUD ELIGIBILITY CATEGORY: Clearance and Demolition

NATIONAL OBJECTIVE: Slum and Blight Spot

CDBG-DR ALLOCATION: \$4 Million

PROJECTED ACCOMPLISHMENTS: 400 Demolitions

PROGRAM ADMINISTRATION: Department of Housing Preservation and Development; Department of Buildings

ELIGIBLE APPLICANTS / PROPERTIES: Properties for which the NYC Department of Buildings issued an Emergency Declaration, which indicates that the building is an imminent threat to the public's health and safety and must be demolished.

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: Properties were assessed for structural integrity.

GEOGRAPHIC AREA TO BE SERVED: Staten Island, Brooklyn, and Queens.

PROGRAM START AND END DATES: January-April, 2013

OTHER FUNDING SOURCES: Army Corps of Engineers, FEMA Public Assistance

Debris Removal/Clearance

PROGRAM OBJECTIVE AND DESCRIPTION: Leverage FEMA funding for CDBG-DR-eligible debris removal and clearance activities to protect the health and safety of residents, allow for open, safe traffic flow, and provide for economic activity. The City's debris removal costs, which were incurred prior to the preparation of this Action Plan, include the following activities:

Storm Debris: The strong winds, heavy rains, and storm surge resulted in the accumulation of debris on streets, sidewalks, and other public facilities. The debris was composed of woody material, sand, stones, street and building/household wreckage, and other objects deposited by the storm surge and wind. It hampered vehicular rights-of-way and posed an immediate threat to the public's health and safety. The Department of Sanitation (DSNY), in coordination with the Department of Parks and Recreation (DPR), the Department of Transportation (DOT), and the Department of Environmental Protection (DEP), has led the City's efforts to clear the streets in all five boroughs of storm-related debris to ensure safe passage for emergency vehicles, open traffic flow, and create a safe and clean environment to allow for rebuilding. As of late February, DSNY has collected more than 420,000 tons of Hurricane Sandy storm debris and more than 27,000 tons of woody debris throughout the City. This represented a substantial increase in tonnage over typical levels; last year, the Department disposed of 3.269 million tons. Given that the City no longer operates a landfill (the Fresh Kills landfill was closed in 2001), all refuse is exported, resulting in significant additional cost.

Department employees worked constantly 24 hours a day, 7 days a week, with Sanitation Workers assigned to twelve-hour shifts that lasted from the end of Hurricane Sandy through the beginning of December in the City's impacted communities to ensure that all storm-related debris was picked up expeditiously. The Department utilized collection trucks, front end loaders and dump trucks to facilitate the removal of storm debris. In addition, Department equipment from other districts was temporarily re-assigned to the impacted areas to expedite the removal of the storm debris. The Department also coordinated with the Department of Transportation, the Department of Environmental Protection, and several branches of the military for assistance with debris removal. Extra collection service was provided to New York City Housing Authority sites that had their containerized systems damaged, and the Department also provided collection service to special needs sites that were distributing important supplies and operating as feeding centers. Additionally, public use containers were placed out by the Department in the impacted areas to allow residents in those areas to discard storm-damaged materials. At the height of the storm clean-up, the Department placed out more than 100 containers, with roughly 30 containers remaining on site in early March.

DSNY's debris removal operations were coordinated by a temporary, intensive Emergency Response Division (ERD) Operation. The ERD operated citywide, but focused on debris removal in the hardest hit areas, including, but not limited to, Breezy Point and Howard Beach in Queens; Coney Island, Gerritsen Beach, and Red Hook in Brooklyn; Midland Beach, New Dorp Beach, and Tottenville in Staten Island; and Battery Park in Manhattan.

The enormity of the amount of debris, coupled with the City's desire to remove such debris as quickly as possible, led the City to open seven temporary debris storage and reduction sites for non-wood storm debris. Five of these sites were cleared and closed by November 19th. All subsequent loads of storm debris were delivered to the temporary sites at Riis Park (Brooklyn and Queens) and Father Capodanno Boulevard (Staten Island). As of early March, these sites are still needed for storm debris collection operations. The DEC issued a general permit for operating these temporary sites. The sites were staffed

and managed by the Department up until November 9th at which point the sites were taken over by a contractor for the United States Army Corp of Engineers.

In addition to establishing the temporary waste sites, the City entered into several emergency contracts for transfer station capacity of construction & demolition (C&D) material. The Department also utilized an existing contract with a C&D transfer station operator for disposal capacity. These contracts were used to deliver storm debris directly from street operations as well as from temporary debris storage sites. The Department also entered into three emergency contracts with operators of putrescible waste transfer stations. These contracts were necessary due to the impact of the storm on our export network, including rail disruptions, transfer trailers having difficulty getting fuel, and the temporary loss of the Covanta waste-to-energy plant, located in New Jersey, which serves Sanitation Districts in Manhattan and Brooklyn. The Department also contracted for piling and hauling equipment/operators through the use of an emergency contract for piling and hauling debris from the affected areas as well as piling and hauling at the temporary debris storage and reduction sites.

Sand Debris: In the area surrounding Rockaway Beach in Queens, the City's Parks Department, working with DSNY and the Economic Development Corporation, gathered sand that was pushed into the streets, much of it mixed with debris, and brought it to Jacob Riis Park, where the Army Corps of Engineers used a sifting machine to separate more than 150,000 cubic yards of sand from debris. This cleaned sand is now being returned to the beach. The City's agencies also worked to remove sand and other debris from public waterfront properties. A portion of this work had to be done by hand, especially in areas, like playgrounds, where heavy equipment would have damaged benches, fences, and play equipment.

Tree Removal: Sandy was by far the biggest storm in terms of tree damage the City has ever experienced. The Department of Parks and Recreation (DPR) is responsible for tree emergencies on a daily basis, but in major storm events like Sandy, the Office of Emergency Management convenes the Downed Tree Taskforce, consisting of DPR, NYPD, FDNY, DoITT, DSNY, DOT, and representatives from the major utility companies. Following the storm the Taskforce responded to more than 20,000 street tree emergencies received through 311. Approximately 13,000 street trees and 7,000 trees in parks and natural areas were destroyed. The trees, hanging limbs, and woody debris that accumulated on City streets and right-of-ways impeded vehicular traffic and posed an immediate threat to public health and safety. Additional public safety work included removing trees that had fallen on buildings or had become tangled in electrical wires.

During storms of this magnitude, nearly all of DPR is mobilized to respond. The response is led by trained in-house staff, the Climbers & Pruners in the borough Forestry units, supported by a network of Park Supervisors, Associate Park Service Workers, City Park Workers, and other staff including gardeners, construction engineers, Parks Enforcement Patrol officers, and Urban Park Rangers. Central Forestry, Horticulture and Natural Resources also played a key role in organizing contract support, information flow and inspections. In addition to the tireless work of DPR staff, the City had, at peak, 115 additional forestry contract crews working in all five boroughs. The City was also supported by mutual aid crews from State DOT, State DEC, NYC DEP, Delaware County Department of Public Works, the National Forest Service, and the National Guard.

HUD ELIGIBILITY CATEGORY: Debris Removal

NATIONAL OBJECTIVE: Low- and Moderate-Income Area

CDBG-DR ALLOCATION: \$23 Million

PROJECTED ACCOMPLISHMENTS: 8.2 Million Persons Served

PROGRAM ADMINISTRATION: Department of Sanitation; Department of Transportation; Office of Emergency Management; Department of Parks and Recreation; New York City Police Department; New York Fire Department; Department of Environmental Protection.

ELIGIBLE APPLICANTS / PROPERTIES: N/A

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: To clear the streets in all five boroughs of storm-related debris to ensure safe passage for emergency vehicles, open traffic flow, and create a safe and clean environment to allow for rebuilding.

GEOGRAPHIC AREA TO BE SERVED: Citywide

PROGRAM START AND END DATES: October 31, 2012 – June 30, 2013

OTHER FUNDING SOURCES: United States Army Corps of Engineers (USACE) debris teams have worked with the Department of Sanitation, operating temporary debris storage locations and disposing of waste. USACE costs associated with the debris mission assignment are estimated at near \$200 million. Additionally, SBS has worked with DPR to hire temporary workers to assist with clean-up efforts, using Federal National Emergency Grant funds.

Code Enforcement

PROGRAM OBJECTIVE AND DESCRIPTION: In response to the damage caused to privately-owned buildings by Hurricane Sandy's storm surge and high winds, the Department of Buildings sent inspectors into the impacted areas to protect the health and safety of the population by assessing the structural integrity of residential and commercial buildings. The Department placed inspection stickers on inspected properties as follows:

- **GREEN:** No restriction. No apparent structural hazard was observed; occupants were not restricted from entering and re-occupying their building.
- **YELLOW:** Restricted use. Property is damaged; entry limitations were specified on each posting. Conditions exist at the building that required the owner to make repairs and may restrict the use of the building.
- **RED:** Unsafe. Property was seriously damaged and is/was unsafe to enter or occupy; however, a red sticker did not represent an order to demolish.

These costs were incurred prior to the preparation of this Action Plan.

HUD ELIGIBILITY CATEGORY: Code Enforcement

NATIONAL OBJECTIVE: Urgent Need

CDBG-DR ALLOCATION: \$1 Million

PROJECTED ACCOMPLISHMENTS: 80,000 buildings were inspected.

PROGRAM ADMINISTRATION: Department of Buildings.

ELIGIBLE APPLICANTS / PROPERTIES: N/A

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: Assess building conditions to ensure the health and safety of the public.

GEOGRAPHIC AREA TO BE SERVED: Citywide.

PROGRAM START AND END DATES: October 31, 2012 – June 30, 2015

OTHER FUNDING SOURCES: Code Enforcement activities will be primarily reimbursed by FEMA's Public Assistance grant. However, the City will use CDBG-DR funds as the non-federal share for these costs.

Rehabilitation / Reconstruction of Public Facilities

PROGRAM OBJECTIVE AND DESCRIPTION: Hurricane Sandy impacted a variety of City infrastructure facilities that are operated by many City agencies. The initial estimated impact to City infrastructure and public facilities was \$3.1 billion (including costs for damage to water and sewer infrastructure, streets and roads, as well as other non-residential structures). The City will use CDBG-DR funds to leverage other federal funding sources to rehabilitate and reconstruct public facilities. The other federal funding sources CDBG-DR funding will leverage include FEMA Public Assistance grants as well as Army Corps of Engineers and Federal Highway Administration funds. Accordingly, the City will be adopting FEMA's environmental reviews (and, where possible, other federal agencies) for all such projects. For a list of sites that were damaged, please see Appendix A and the narratives below. Please note that the City is prioritizing its funds to address its public hospitals and damaged schools as well as for the restoration of its beaches. However, the extremely large additional City infrastructure unmet needs are expected to be rehabilitated pending funding availability in future allocations.

Health and Hospitals Corporation (HHC)

HHC had ten large hospitals damaged, including extensive damage to three facilities. HHC also experienced damages to five smaller healthcare facilities as well as to one administrative office space. Two hospitals and one community clinic were evacuated and displaced. HHC patients who were impacted had to seek services elsewhere or delay services until HHC's facilities were fully operational.

- **Bellevue Hospital Center:** Bellevue's basement housed the electrical systems, mechanical systems, medical gases, domestic water, pumps, and elevator motors, in addition to other critical services such as labs and mortuary. Accordingly, when the basement flooded, all these systems failed and were heavily damaged. In addition, medical equipment, supplies, and other valuable contents were destroyed.
- **Coney Island Hospital:** Flood waters washed through the entire first floor of Coney Island Hospital, requiring the removal of saturated sheetrock around the entire perimeter of the first floor and destroying a great deal of equipment. The Emergency Department, imaging, pediatrics, and laboratory services were shut down. Moreover, Coney Island suffered severe damage to its below grade electrical systems, which disabled the rest of the hospital. Ida G. Israel, an offsite ambulatory clinic of Coney Island Hospital, had its building flooded and is irrecoverable.
- **Coler-Goldwater Memorial Hospital:** The flooding that occurred on the Coler campus damaged all of the facility's electrical switchgear and severed it from Con Ed power- the facility continues to operate on generator power. The steam tunnel supplying heat to the facility was also damaged, requiring the use of a temporary boiler until January. Additionally, the flooding in the facility's basement necessitated that major asbestos and mold abatement measures be taken.

Department of Education (DOE) / School Construction Authority (SCA)

Seventy-one school buildings sustained damage during Hurricane Sandy. Damages to these school buildings included severe salt-water flooding, destroyed boilers and oil tanks, damaged electrical and computer/phone cabling and equipment, oil spills and resulting contamination, the creation of new sink holes, roof leaks, destroyed gym and auditorium flooring. Extensive long-term repairs are required to bring buildings back to their pre-storm conditions, including the replacement of temporary boilers with permanent HVAC systems.

Department of Parks and Recreation (DPR)

The Department identified damage to approximately 400 park sites, in addition to the displacement of more than 3 million cubic yards of sand from the City's beaches. DPR properties in the Rockaways, Coney Island, and the eastern shore of Staten Island suffered the most severe impacts from Hurricane Sandy. In Rockaway Beach, Queens, 37 blocks or nearly 3 miles of boardwalk experienced severe damage. On Staten Island, more than 60 derelict boats that washed up on DPR properties required removal. In Coney Island, Steeplechase Pier sustained considerable damage.

The Department is working to restore sections of the beach and supporting infrastructure across Queens, Brooklyn, and Staten Island, including the replacement of lifeguard stations, accessible comfort stations, installation of wheelchair accessible beach mobi-mats and ADA access ramps by the start of the 2013 beach season (May 24, 2013).

Some examples of planned restoration include new railings, replacement of trees and landscaping, safety surfacing, accessible play equipment, handball/basketball courts, fencing, planting, and general site work to replace the damaged or destroyed elements. DPR is also working to restore and replenish the sand in beaches along the shorelines in Queens, Brooklyn, and Staten Island to their pre-storm conditions. In the short-term, the Department will work with the United States Army Corps of Engineers (USACE) to dredge and replenish more than 3 million cubic yards of sand in Queens and Brooklyn. In addition to the Army Corps work, the Department will create dunes and other protective sand structures in Rockaway Beach, Queens to protect the community from future storm events. In Staten Island, the Parks Department will be

working with FEMA to restore 75,000 cubic yards of sand (USACE does not have jurisdiction in Staten Island for short-term sand replenishment work). In the medium/long term, the Department will work with USACE to develop and implement a more robust defense against future weather events, including the construction of sea walls and dunes.

The New York City Police Department (NYPD)

The New York City Police Department (NYPD) sustained storm related damage at more than 20 of their 240 facilities. Damaged facilities including station houses, warehouse/storage facilities, boat docks, tow pounds, an aircraft hangar and the Department's firing range and bomb squad training building.

Facilities were damaged at a variety of locations throughout the five boroughs including, Randall's Island, Lower Manhattan, Floyd Bennett Field, Red Hook, Brighton Beach and the Brooklyn Navy Yard in South Brooklyn, College Point and Rockaway Beach in Queens, Rodman's Neck in the Bronx and Port Richmond in Staten Island. In many cases damaged facilities required significant de-watering and debris removal before emergency and permanent work repairs could begin.

New York Fire Department (FDNY)

Twenty-nine Fire Department facilities were damaged due to the storm; this includes 16 Firehouses, 6 EMS stations, 5 Marine facilities and 2 support facilities (Paidge Avenue and Fort Totten). The damaged Firehouses, EMS stations and Fort Totten facilities experienced storm surges ranging from 1-7 feet. There was widespread damage to apparatus doors (after being hit by a high quantity of seawater), basements (which filled to the top with water), electrical and heating systems (including pipes), and various structural aspects of the structures. Marine facilities suffered damage to piers, piles, electrical systems and transformers, as well as the wave attenuator at Marine 9, which is intended to reduce wave height in order to provide safe berthing for vessels.

The Department also suffered losses of information technology equipment, communications networks and infrastructure, firefighting equipment, and ambulances. Communications damages include the loss of 391 street alarm boxes located throughout Staten Island and Queens, as well as damage to the underground cable plant that supports the alarm box network and other Departmental communications networks. Alarm boxes are two way communication devices that allow the public to contact emergency services (Fire, Police, EMS) from street corners. Vehicles determined to be a total loss include 7 ambulances, 8 pumpers, 6 ladders, 5 brush fire units, a HazMat truck and a foam truck, as well as many support vehicles.

Department of Sanitation (DSNY)

DSNY documented damage at 61 of its facilities throughout the City. The Department evacuated 14 of its facilities on or before October 29, 2012 and has since returned to all facilities except the Manhattan Community District 1 Garage. The Garage, located directly across the street from the Hudson River, was damaged beyond repair. Operations have been relocated to other facilities pending the completion of construction on the new Manhattan Community Districts 1, 2, and 5 Garage. Severe damage to the electrical cabling at the Brooklyn Community Districts 1 and 4 Garage, as a result of salt water immersion, has forced the facility to resume only limited operations under temporary generator power pending the completion of electrical repair work currently underway. Operations at Department offices located at 44 Beaver Street in Manhattan were displaced for four months following a complete loss of power to the building. Water entered elevator shafts, air conditioning and ventilation units, and electrical switches and

transformers and also disabled domestic water pumps, the fire safety system, and air compressors. The Department has recently begun the process of resuming operations at 44 Beaver Street.

The Department suffered damage to its vehicle fleet including 9 light/medium duty vehicles and 34 heavy duty vehicles that require repairs after being damaged by salt water. In addition, 22 light/medium duty vehicles and 10 heavy duty vehicles were damaged beyond repair.

The Bureau of Cleaning and Collection Warehouse was flooded, causing damage and destruction of DSNY supplies. Other DSNY facilities sustained damage to their contents and equipment including generators, air compressors, truck lifts, trash pumps, IT and communications equipment, appliances and furniture.

The Department manages the former Fresh Kills landfill which sustained damage to its leachate collection wells, storm water basins, and outfall pipes; this infrastructure is critical to maintaining environmentally prudent operations at the site. Leachate, water that passes through landfill material, requires treatment before it can be discharged, and this equipment facilitates the required treatment and discharge. The site also sustained damage at its Muldoon Ave. entrance.

Department of Correction (DOC)

Rikers Island, located at the intersection of the East River and Flushing Bay is home to nine of the City's twelve open correctional facilities, excluding two hospital prison wards managed by HHC. The facilities on Rikers Island are located at elevations of 15 feet or more and therefore were protected from the storm surge and flooding. One Rikers Island based facility; the Anna M. Kross Center sustained serious roof damage caused by high winds. The storm surge and flooding did significantly impact the north shoreline of the island eroding an estimated four acres of land. Dozens of permanent trailer complexes used as offices for both civilian and uniform staff members are located along the eroded north shore of the island. Four trailers were immediately decommissioned and the balance of the trailer complexes will need to be permanently evacuated before the next hurricane season. Off the island, the Vernon C. Bain Center, the City's jail barge located in the East River in the Hunts Point section of the Bronx, sustained significant flooding which damaged the land based electrical substation, access road and parking lot.

Department of Transportation (DOT)

- **Ferries:** The Staten Island Ferry system carries more than 20 million passengers per year and is the only direct connection between Staten Island and the economic center of Lower Manhattan. The mechanical and electrical systems at the Whitehall (Manhattan) and St. George (Staten Island) Ferry Terminals incurred significant damages. This includes the slip motor controllers, relays, contacts, and breakers. Passenger elevators, escalators, freight elevators, shops, and office spaces were flooded. In addition, ferry piers and other ferry facilities suffered millions of dollars in damage, including piers and ferry racks at the St. George Terminal, the Ferry Maintenance Facility on Staten Island, and smaller piers at Wall Street and 34th Street, which are used by privately-operated ferries, and on City Island, which serves a small ferry that transports the indigent dead to Hart Island.
- **Equipment:** The Department's headquarters at 55 Water Street in Lower Manhattan suffered heavy flooding and was closed for several weeks in the aftermath of the storm. While 55 Water Street has since reopened, there was extensive equipment damage, which will require full replacement.

Department of Information Technology and Telecommunications (DoITT)

As a result of the storm, DoITT had to repair damage at 11 Metrotech's rooftop, as well as damage to the NYC Wireless Network (NYCWIn), a government-dedicated broadband wireless infrastructure created to support public safety and other essential City operations. Also, storm-damaged telephone infrastructure will be replaced with voice over internet protocol (VOIP) systems.

Department of Citywide Administrative Services (DCAS)

DCAS is the capital budgeting agency for several different City entities, as well as its own portfolio. DCAS has requested funding for two capital projects in relation to Sandy. First, they will purchase a replacement surveillance van on behalf of the Manhattan District Attorney, whose previous van was destroyed by the storm. The other project is to restore a damaged elevator pit and controls at the Red Hook Community Justice Center in Brooklyn.

Brooklyn, New York, and Queens Public Library Systems

The Brooklyn, New York, and Queens Public Library systems are operated by non-profit organizations whose infrastructure is either owned by the City or the City is legally responsible for repairing. Hurricane Sandy caused damage to six branches of the Queens Borough Public Library System (Arverne, Broad Channel, Peninsula, Seaside, Howard Beach, and Far Rockaway), six branches of the Brooklyn Public Library (Brighton Beach, Coney Island, Gerritsen Beach, Gravesend, Red Hook, and Sheepshead Bay), and one branch of the New York Public Library (Stapleton). The three systems require significant renovation and reconstruction of the affected branches.

Cultural Organizations Funded Through Department of Cultural Affairs (DCLA)

There are a number of cultural institutions operated by non-profit organizations whose infrastructure is either owned by the City or the City is legally responsible for repairing. A number of these cultural institutions were significantly damaged by Hurricane Sandy, including the New York Aquarium (which is run by the Wildlife Conservation Society), the Police Museum, Snug Harbor Cultural Center, and Staten Island Historical Society. City-owned equipment leased and operated by Coney Island USA, Eyebeam Atelier, and Smack Mellon was also damaged.

Two cultural groups that sustained the most significant damage are:

1. The New York Aquarium experienced flooding that filled the lower levels of the facility and damaged the electrical and mechanical equipment that is critical to the life support systems and operations of the facility. In addition, the facility requires extensive repair and reconstruction in order to fully reopen to the public.
2. The New York City Police Museum experienced roof damage due to wind, and flooding in its basement and first floor galleries that destroyed the electrical and mechanical equipment as well as exhibition spaces. The landmarked building will require extensive repair instead, including remediation of mold and other potential contaminants, and will fully reopen to the public.

HUD ELIGIBILITY CATEGORY: Rehabilitation / Reconstruction of Public Facilities

NATIONAL OBJECTIVE: Low- and Moderate-Income Persons; Low- and Moderate-Income Area; Urgent Need

CDBG-DR ALLOCATION: \$14 Million

PROJECTED ACCOMPLISHMENTS: 95 Public Facilities (14 beaches; 71 schools; and 11 hospitals/health clinics)

PROGRAM ADMINISTRATION: As the City will be prioritizing rehabilitating its public hospitals, schools, and beaches, this program will be administered by the Health and Hospitals Corporation, Department of Education, School Construction Authority, and Department of Parks and Recreation.

ELIGIBLE APPLICANTS / PROPERTIES: N/A

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: The public hospitals, schools, and facilities have been prioritized both for the speed with which funds can be expended as well as for their direct benefit to low- and moderate-income persons.

GEOGRAPHIC AREA TO BE SERVED: Citywide; exact locations will be noted in the City's Quarterly Performance Reports.

PROGRAM START AND END DATES: October 31, 2013 – June 30, 2015

OTHER FUNDING SOURCES: FEMA Public Assistance, USACE (beach replenishment), Federal Transit Administration

Construction / Reconstruction of Water/Sewer Lines or Systems

PROGRAM OBJECTIVE AND DESCRIPTION: The Department of Environmental Protection (DEP) protects public health and the environment by supplying clean drinking water and collecting and treating wastewater. Throughout the storm, New York City drinking water remained safe despite Hurricane Sandy's significant impact on drinking water reservoirs, water mains, Water Pollution Control Plants (WPCPs), wastewater pumping stations, sewers, landfills, and associated facilities. CDBG-DR funds may be used as the part of the non-federal share to repair storm damage and possibly mitigate against future disasters, which will also be funded with FEMA Public Assistance funds. Accordingly, the City will be adopting FEMA's environmental reviews (and possibly other federal agencies) for all such projects. Please note that some of these costs were incurred prior to the preparation of this Action Plan.

DEP's Bureau of Water and Sewer Operations immediately responded to water and sewer complaints following the storm. Within a few days of the storm, DEP inspected approximately 1,000 catch basins, and cleaned more than one third of those. Through the month of November, staff continued to inspect and clean catch basins citywide. More than 6,100 were inspected and more than 3,600 were cleaned as part of response operations. DEP crews conducted detailed visual surveys of all DEP assets in the Rockaways and along the coastline of Queens. Because of these surveys, DEP was able to repair approximately 900 hydrants citywide.

Throughout New York City, DEP flushed more than 37 miles of sewers. Contractor crews inspected approximately 51 miles of sewers in the Rockaways and cleaned more than eight miles of sewers in

Brooklyn, Queens, and Staten Island. Approximately 450 cubic yards of debris was removed, nearly 85% of which was removed from Queens. DEP conducted a major cleanup effort at Jefferson Creek in Staten Island to restore the natural drainage. Two weeks after the storm, flusher trucks had cleaned nearly 10,000 linear feet of sewer lines and crews had removed almost 1,000 cubic yards of debris from Jefferson Creek.

Of the 14 wastewater treatment plants, 10 were adversely affected by Hurricane Sandy. Most of the damage to wastewater facilities was to electrical systems: substations, motors, control panels, junction boxes and instrumentation. Due to utility power outages, many DEP facilities operated on their emergency generators for up to two weeks. Of the 96 DEP pumping stations, 42 were affected during the storm. Approximately half of the pumping stations failed due to damage from floodwaters, and half due to loss of power supply. The large unmet need to reconstruct and rehabilitate the City's damaged water and wastewater systems are expected to be funded out of future allocations.

HUD ELIGIBILITY CATEGORY: Construction / Reconstruction of Water / Sewer Lines or Systems

NATIONAL OBJECTIVE: Low- and Moderate-Income Area & Urgent Need

CDBG-DR ALLOCATION: TBD

PROJECTED ACCOMPLISHMENTS: 8.2 Million Persons

PROGRAM ADMINISTRATION: NYC Department of Environmental Protection

ELIGIBLE APPLICANTS / PROPERTIES: N/A

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: To protect public health and the environment by supplying clean drinking water and collecting and treating wastewater.

GEOGRAPHIC AREA TO BE SERVED: Citywide

PROGRAM START AND END DATES: October 30, 2012 – June 30, 2015

OTHER FUNDING SOURCES: FEMA Public Assistance

Construction / Reconstruction of Streets

PROGRAM OBJECTIVE AND DESCRIPTION: The City will use CDBG-DR funds to leverage other federal funding sources to rehabilitate and reconstruct public facilities. The other federal funding sources CDBG-DR will leverage include FEMA Public Assistance grants and Federal Highway Administration grants. Accordingly, the City will be adopting FEMA's environmental reviews (and, where possible, other federal agencies) for all such projects. Please note that some of these costs were incurred prior to the preparation of this Action Plan.

Department of Transportation (DOT)

City transportation infrastructure sustained considerable damage as a result of Hurricane Sandy. DOT is responsible for the reconstruction or replacement of critical street and bridge infrastructure and the replacement of street lights, signals, and other traffic equipment.

DOT assessed conditions on all storm-damaged streets in New York City and determined that hundreds of lane miles of streets will require resurfacing and/or full reconstruction. Underground wiring beneath intersections was permeated by saltwater, damaging nearly 4,000 streetlights and 700 traffic signals, primarily in the Rockaways. In some cases, high winds damaged street light poles, bracket assemblies, and wiring. Flooding by saltwater corrodes electrical components, requiring DOT to replace lights, signals, and traffic control devices throughout the impacted parts of the City.

Floodwaters also severely damaged the Battery Park and West Street underpasses in Lower Manhattan. While temporary measures have been taken to ensure these thoroughways are currently open to the public, the electrical systems and other repairs will need to be addressed through permanent repair work. Repairs are also necessary for 15 moveable bridges, primarily on the Harlem River (connecting Manhattan and the Bronx), the Gowanus Canal in Brooklyn, and along Newtown Creek (connecting Brooklyn and Queens). Rising waters destroyed electrical equipment, bridge operator consoles, and some mechanical components. Some bridges sustained damages to warning gates and navigation lights. Other damaged bridges include those along the Belt Parkway (which links southern Brooklyn and Queens with John F. Kennedy Airport), and the FDR Drive (the only highway serving eastern Manhattan central business districts).

Department of Design and Construction (DDC)

As mentioned earlier, Sandy's high winds downed thousands of trees across the City and the storm surge destroyed sidewalks in the Inundation Area. DDC will be managing the replacement of sidewalks and street trees, which also includes the removal of damaged sidewalks, tree removal, and stump grinding.

HUD ELIGIBILITY CATEGORY: Construction / Reconstruction of Streets

NATIONAL OBJECTIVE: Urgent Need

CDBG-DR ALLOCATION: TBD

PROJECTED ACCOMPLISHMENTS: Damaged lane miles will be resurfaced/reconstructed, and damaged and destroyed sidewalks will be restored and replaced and trees will be replanted in the impacted areas.

PROGRAM ADMINISTRATION: NYC Department of Transportation; NYC Department of Design and Construction.

ELIGIBLE APPLICANTS / PROPERTIES: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: To restore critical City transportation infrastructure to ensure safe passage for the public and emergency vehicles.

GEOGRAPHIC AREA TO BE SERVED: Citywide

PROGRAM START AND END DATES: October 30, 2012 – June 30, 2015

OTHER FUNDING SOURCES: Federal Highway Administration (FHWA); Federal Transit Administration (FTA); FEMA Public Assistance.

Rehabilitation / Reconstruction of Other Non-Residential Structures

PROGRAM OBJECTIVE AND DESCRIPTION: The City will use CDBG-DR funds to leverage other federal funding sources to rehabilitate and reconstruct the City's other non-residential structures. These facilities include City-owned infrastructure managed by non-profit public entities such as the New York City Economic Development Corporation, the Brooklyn Navy Yard Development Corporation, the Trust for Governor's Island, and Brooklyn Bridge Park.

New York City Economic Development Corporation (NYCEDC)

NYCEDC is the City's primary agent for economic development. Acting under annual contracts with the City, NYCEDC is a City-controlled public entity (local development corporation) that serves as the catalyst for promoting economic development and business growth. Its principal mandate is to engage in the public purpose of encouraging investment and attracting, retaining, and creating jobs in New York City. Part of the way that NYCEDC fulfills its mission is through the management of City-owned property and the management of City Capital construction projects. Several of NYCEDC's assets were damaged during the storm.

Emergency and Permanent work is categorized into the following groups:

- Group 1 – Maritime and Aviation Assets (includes repairs needed to the Skyport Marina, Downtown Manhattan Heliport, and cruise terminals)
- Group 2 – Homeport in Staten Island (Includes debris removal, pier improvements, shoreline stabilization)
- Group 3 – EDC-Managed NYC Assets (includes debris removal, roof repairs and restoration of building systems)

Brooklyn Navy Yard Development Corporation (BNYDC)

The Brooklyn Navy Yard spans nearly 300 acres that contain more than 40 buildings, 3 fully functioning dry docks, 4 active piers, and approximately 4 million square feet of leasable space. The Navy Yard is administered by the non-profit Brooklyn Navy Yard Development Corporation (BNYDC) under a contract with New York City. BNYDC serves as the City's representative in connection with all industrial, commercial, waterfront, maritime, and other development projects at the Brooklyn Navy Yard. The Navy Yard has more than 250 tenants who cumulatively provide nearly 6,000 jobs, many of which benefit local residents from the neighboring community.

Situated directly on the East River and Wallabout Bay waterfronts, the Navy Yard falls within Evacuation Zone A. High winds and heavy flooding damaged buildings, electrical substations, elevators, roads, and waterfront infrastructure; in addition to the Yard's security, sprinkler and steam systems.

CDBG-DR funds will be used for rehabilitation and repair of the Brooklyn Navy Yard so that the Yard and its tenants may operate at full capacity and in turn effectively serve as an engine of economic growth and development in the City.

Trust for Governor's Island (TGI)

The City of New York is responsible for Governors Island and created the Trust for Governors Island (TGI), the organization charged with the operations, planning, and redevelopment of the Island. TGI owns 150 acres of land on Governors Island, which is located 800 yards from lower Manhattan. The Island is a cultural historic destination and also houses a New York City public school.

There was substantial flooding on the Island, which resulted in damages to numerous facilities and to the electrical systems and seawall. TGI and the New York Harbor School are both operational but without phone service. Additional assessments of the Island's electrical infrastructure are still ongoing. Necessary work includes removal of debris from the island, repairs to the Island's perimeter fencing and seawall; repairs to the electrical infrastructure; stabilization of historic buildings, repairs to sinkholes, as well as the repair or purchase of major equipment. Repairs are also required to some of TGI's transportation facilities including the Battery Maritime Building, Soissons Dock and some of TGI's lift bridges. It is anticipated that there may be an additional \$4 million in necessary replacement to electrical equipment.

CDBG-DR funds will be used for rehabilitation and repair of Governor's Island sites to return it to full functionality.

Brooklyn Bridge Park

Brooklyn Bridge Park sustained damages to electrical equipment and playground surfaces. Areas where electrical equipment was housed flooded and damaged transformers, switchgears, and other equipment, leaving the Park without lighting. Playground surfaces in two of the Park's four playgrounds buckled from flooding and need to be replaced.

HUD ELIGIBILITY CATEGORY: Rehabilitation / Reconstruction of Other Non-Residential Structures

NATIONAL OBJECTIVE: Urgent Need

CDBG-DR ALLOCATION: TBD

PROJECTED ACCOMPLISHMENTS: The damaged facilities will be repaired and rehabilitated to enable the continued occupancy and operation of the critical cultural organizations impacted by the storm.

PROGRAM ADMINISTRATION: New York City Economic Development Corporation; Brooklyn Navy Yard Development Corporation; the Trust for Governor's Island; Brooklyn Bridge Park; Department of Cultural Affairs.

ELIGIBLE APPLICANTS / PROPERTIES: Properties owned or managed by the New York City Economic Development Corporation, Brooklyn Navy Yard Development Corporation, Trust for Governor’s Island, and Brooklyn Bridge Park, the Department of Parks and Recreation, and the Department of Cultural Affairs.

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: N/A

GEOGRAPHIC AREA TO BE SERVED: Citywide

PROGRAM START AND END DATES: October 30, 2012 – June 30, 2015