NYC Recovery | Community Development Block Grant Disaster Recovery

THE CITY OF NEW YORK
ACTION PLAN INCORPORATING AMENDMENTS 1-5A

April 18, 2014

For CDBG-DR Funds
Disaster Relief Appropriations Act of 2013
(Public Law 113-2, January 29, 2013)

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I. EXECUTIVE SUMMARY

Hurricane Sandy hit New York City on October 29, 2012. Over the course of 48 hours, wind, rain, and water destroyed approximately 300 homes, left hundreds of thousands of New Yorkers without power, damaged critical public and private infrastructure, and left many New Yorkers vulnerable with limited access to food, drinking water, healthcare, and other critical lifesaving functions. The City of New York's immediate preparation and response to Hurricane Sandy was one of the largest mobilizations of public services in the City's history.

The months since Hurricane Sandy have demonstrated the dedication of the City's workforce and the perseverance of New Yorkers to recover and rebuild. The Community Development Block Grant Disaster Recovery (CDBG-DR) program provides communities with resources to address a wide range of community development needs; the programs outlined in this Partial Action Plan describe how New York City will use its first allocation to support recovery from Hurricane Sandy and to build resilience to the challenges of climate change. The programs in this Partial Action Plan include programs to build and support housing, businesses, resiliency, and New York City infrastructure and other City services.

Table: Summary of programs and allocations in the New York City CDBG-DR Action Plan

Program Name	CDBG-DR Allocations
Housing Programs	***$648,000,000***
NYC Houses Rehabilitation and Reconstruction	$306,000,000
Rental Assistance	$19,000,000
Multi-Family Building Rehabilitation	$215,000,000
Public Housing Rehabilitation and Resilience	$108,000,000
Business Programs	***$293,000,000***
Business Loan and Grant Program	$72,000,000
Business Resiliency Investment Program	$90,000,000
Neighborhood Game Changer Investment Competition	$90,000,000
Infrastructure and Building Resiliency Technologies Competition	$41,000,000
Infrastructure and Other City Services	***$360,000,000***
Public Services	$237,000,000
Emergency Demolition	$1,000,000
Debris Removal/Clearance	$8,000,000
Code Enforcement	$1,000,000
Rehabilitation/Reconstruction of Public Facilities	$15,000,000
Interim Assistance	$98,000,000
Resilience	***$294,000,000***
Coastal Protection	$174,000,000
Building Mitigation Incentive Program	$120,000,000
Citywide Administration and Planning	***$177,820,000***
Planning*	$89,820,000
Administration*	$88,000,000
TOTAL	**$1,772,820,000**

* These initial allocations are based on the best data currently available and reflect projections of need to support the programs. It can be anticipated there will be future adjustments based on actual experience once programs are implemented; however, neither planning nor administrative expenses will surpass their statutory caps.

On March 22, 2013, the City made the draft CDBG-DR Partial Action Plan A available to the public for a 14-day comment period. A dedicated recovery-related website (www.nyc.gov/recovery) was posted prominently on the City's homepage (www.nyc.gov) along with a direct link to the Action Plan and commenting forms. The Plan, commenting forms, and all other information on the site were translated into Spanish, Russian, and Chinese (simplified). The online materials were also accessible for the visually impaired. Comments were accepted electronically via the website, by speaking to 311 operators, and in paper form via mail.

The comment period was announced by Mayor Bloomberg at a press event on the first day of the period and a corresponding press release was issued. New York City elected officials were notified of the comment period, as well as Community Boards and numerous community-based organizations through the Mayor's Community Affairs Unit, Office of Immigrant Affairs, the Office for People with Disabilities, and Governmental Affairs staff. Notices advertising the public comment period were placed in the following daily newspapers and weekly community newspapers on the first day of the period:

- Daily News
- NY Post
- Newsday Queens Edition
- Staten Island Advance
- El Diario
- Sing Tao Daily
- Russkaya Reklama
- Rockaway Wave

Printed copies of the draft Partial Action Plan, including in large print format (18pt font size), were made available in English, Chinese (simplified), Russian, and Spanish. Copies were available for pickup in the Department of City Planning's Bookstore, at the NYC Office of Management and Budget's front desk, and in all five boroughs at each Borough Hall.

Any change greater than $1 million in funding committed to a certain program, the addition or deletion of any program, or change in the designated beneficiaries of a program constitutes a substantial amendment and such amendment will be available for public review and approval by HUD. A comment period of at least seven (7) days is required for all substantial amendments to the Action Plan.

The City submitted its first proposed substantial amendment (Amendment 1) on July 12, 2013, followed by a 7-day public comment period. The amended Action Plan was published to the City's web site on October 4, 2013. This revised action plan includes the proposed amendments and addresses public comments where needed. Two non-substantial amendments, Projections of Expenditures and Outcomes (Amendment 2) and Amended Projections and Outcomes (Amendment 3), were acknowledged by HUD and published to the City's web site on August 5 and October 4, 2013, respectively.

The City submitted its second substantial amendment (Amendment 4) on October 4, 2013, followed by a 7-day public comment period.

The City submitted its third substantial amendment (Amendment 5) to HUD on March 21, 2014, after a public comment period for a version of the document published for public comment on December 27, 2013. This substantial amendment was broken into two components, Amendment 5A and Amendment 5B. HUD approved Amendment 5A on April 18, 2014. The revised action plan incorporating Amendment 5A was published to the City's web site on April 22, 2014.

The City will post all Action Plans, amendments, and its responses to public comments on the City's CDBG-DR website: www.nyc.gov/cdbg.

For more details of the citizen participation plan, see the Citizen Participation Plan in Section XIII of this document.

II. INTRODUCTION

With more than 520 miles of waterfront and 375,000 people in the highest risk areas for flooding, New York City is one of the cities most susceptible to hurricanes and coastal storms in the country. Hurricane Sandy, which hit New York City on October 29, 2012, was unlike any storm in the City's long recorded history and followed a century in which sea levels have risen by more than one foot. The power and strength with which the storm hit and the destruction it left in its wake resulted from a worst-case scenario combination of weather patterns: Sandy's arrival coincided with a full moon that gave rise to astronomical high tides approximately 5% higher than normal; a rare "leftward hook" that changed the course of the storm and put NYC in its northwest quadrant which had the strongest winds. These factors led to the massive storm surge that hit many waterfront neighborhoods – from the Rockaways, to Midland Beach and other communities on Staten Island's East and South shores, to Coney Island, Hamilton Beach, Gerritsen Beach, Orchard Beach, and the South Street Seaport in Lower Manhattan. Water levels at the Battery reached an unprecedented 14 feet – a scenario that the Federal Emergency Management Agency (FEMA) estimated had a less than 1% chance of happening in any given year. Tragically, 44 New Yorkers lost their lives in the storm.

Starting several days before the storm, Mayor Bloomberg convened daily executive-level briefings at City Hall and New York City's Office of Emergency Management (OEM) headquarters in Brooklyn to receive detailed information from City Commissioners and senior staff, the National Weather Service, and partners such as the Metropolitan Transportation Authority (MTA) and the New York State Department of Health (NYS DOH). These briefings, along with worsening weather forecasts, led OEM to activate the Emergency Operations Center (EOC), which became the nerve center for all decision-making and storm response management and centralized active preparations for the storm across City agencies and relevant partners. Based on the storm's trajectory and strength, the City opened the Logistics Center (LC) to provide various supplies and equipment; the Healthcare Evacuation Center (HEC) to prepare for the possible evacuation of healthcare facilities; and deployed the Emergency Supply Stockpile (ESS) to ready the schools within the City's shelter system. The decision with the most significant repercussions – whether to issue a mandatory evacuation – resulted from updated storm surge predictions from the National Weather Service (NWS) on the morning of October 28.

After the storm arrived, the New York City Police Department (NYPD) Special Operations division rescued more than 1,200 people, with likely many more unreported rescues by other divisions, and the Fire Department of New York (FDNY) rescued at least another 500 New Yorkers. Power outages beginning at approximately 8:00P.M. on Monday, October 29 disrupted other aspects of maintaining public safety. In response, the City sourced approximately 500 light towers to place in affected communities. The NYPD also provided traffic management and intersection control in some areas without signals. The City also deployed as many generators as it could source to meet a demand that exceeded the number of requests from any other incident. Prioritizing placement to locations that asked for generators to protect life and safety, the City worked with FEMA and the US Army Corps of Engineers (USACE) to deploy approximately 230 generators to hospitals, nursing homes, large multi-family buildings, and New York City Housing Authority (NYCHA) developments in the days following the storm. The City worked closely with Con Edison and the Long Island Power Authority (LIPA) to monitor power restoration, which was largely restored to Manhattan south of 39th Street by November 3, approximately five days after the storm.

To provide New Yorkers with a safe place to evacuate, the City opened the first tier of evacuation shelters – enough for up to 71,000 people – the morning of Sunday, October 28, with enough time to allow people to collect their belongings and travel inland while it was safe to do so, and before the MTA shut down the subway and bus system. The City also opened eight Special Medical Needs Shelters (SMNS) staffed with medical professionals and administration from the City's Health and Hospitals Corporation (HHC), mental

health professionals from the City's Department of Health and Mental Hygiene (DOHMH), medical volunteers from the City's Medical Reserve Corps, and federal Disaster Medical Assistance Teams (DMATs) comprised of 25 doctors, nurses, mental health professionals, and clinical personnel. The City's Medical Reserve Corps, a group of medical professional volunteers organized and managed by DOHMH also worked more than 18,000 hours over the course of the storm.

After the storm, New Yorkers' ability to live and work in the City's building stock was compromised in two ways: through immediate damage from storm surge and wind and through outages from damage to power, gas, and water networks. The restoration of homes and commercial buildings required City agencies, utility companies, and private property owners to work together to assess the needs of each property and sequence the work, which included dewatering, structural assessment, and generator installation, to ensure everyone's safety and as efficient a use of resources as possible. Saltwater inundation of building systems was particularly destructive – NYCHA sourced temporary boilers from as far away as Texas in order to restore heat and hot water to all occupied buildings by November 18.

The City's Department of Environmental Protection (DEP) and the Department of Transportation (DOT) pumped out many of their own facilities, including wastewater treatment plants, and worked closely with USACE and the Navy to pump out the Battery Park Underpass and the West Street Underpass. USACE also assisted in major tunnel and subway pumping operations for the MTA and Port Authority, and many of the critical parts of the City's transportation network came back online in record time. The City's and MTA's extensive preparations leading up to the storm, including shutting down the subway system to move trains and equipment to higher ground and placing sandbags at vulnerable assets, allowed the City's transportation and wastewater systems to endure the storm with far less damage than otherwise would have been the case.

On Wednesday, October 31, the City's Department of Buildings (DOB) began conducting damage assessments of residential and commercial buildings in inundated areas. The first set of assessments – called windshield assessments – provided a rough overview of flooding damage and provided the baseline from which DOB made building-specific assessments, categorizing each as green (safe), yellow (use caution), or red (structurally unsound). DOB followed the windshield, or "rapid" assessments, with detailed assessments of all red- and yellow-tagged properties and conducted extensive outreach to homeowners, architects, and contractors. Many homes were reclassified from red or yellow to yellow or green as property owners made repairs. The Mayor's Fund to Advance New York City[1] sponsored local cleanup teams from the Doe Fund and the Center for Employment Opportunities, two local non-profits that provide training and employment to underemployed New Yorkers. Hurricane Sandy completely destroyed approximately 300 homes across Brooklyn, Queens, and Staten Island, and damaged thousands more, creating a need for many New Yorkers to seek temporary housing or immediate home repairs. For those evacuees who were unable to return to their homes and remained in emergency shelters, the City entered into agreements with hotels to provide alternative stable, short-term evacuation sheltering. The newly-created Office of Housing Recovery Operations (HRO) created the Hotel Operations Desk, staffed with personnel from the City's Department of Housing Preservation and Development (HPD), Department of Homeless Services (DHS), and the Mayor's Office to reserve hotel rooms and place families into them. DHS transitioned remaining evacuees from shelters to hotels beginning November 12, with additional incoming referrals from the National Guard's door-to-door outreach program and from non-profit providers at public

[1] The Mayor's Fund to Advance New York City is a 501(c)(3) non-profit organization, which is supporting immediate needs as well as long-term restoration efforts in the wake of Hurricane Sandy.

evacuation shelters through November 19. DHS providers delivered on-site case management services at the hotels to connect evacuees to City or Federal benefits and worked with households to develop a longer-term plan for permanent housing.

On the principle that the best temporary housing is permanent housing, the City worked with FEMA to develop and implement the federal Sheltering and Temporary Essential Power (STEP) program as NYC Rapid Repairs, a free program to restore power, heat, and hot water to private homes. Rapid Repairs is the first program of its kind in the country and will have repaired more than 11,500 homes representing more than 20,000 units when it concludes at the end of March 2013. At the peak of the program in January 2013, Rapid Repairs completed work on more than 200 homes per day with labor from more than 2,300 skilled workers in a single day working under 9 prime contractors.

After the demand for generators in the interest of life and safety was met, the next highest priority was the restoration of NYCHA's building systems: approximately 80,000 residents in over 400 buildings were affected by loss of power, heat, or hot water. NYCHA staff worked to restore at least temporary services as quickly as possible, though many buildings subjected to salt water and sand required a significant amount of work to bring them even to this standard. The City also worked with the owners of large multi-family buildings in the HPD portfolio and used contact information from tax records and water accounts to reach out to building owners to work with them and to hold them responsible for restoring habitability.

Sandy triggered one of the most severe fuel shortages in the City's history by damaging energy infrastructure along the regional supply chain, including fuel terminals, pipelines, and gas stations. City agencies had prepared for this possibility by fueling vehicles and generators before the storm, but the enormous scale of the cleanup and recovery operation required more fuel than the maximum capacity of the City's fuel sites. Beginning Sunday November 4, the City worked with the National Guard to set up a fueling operation at Floyd Bennett Field for City vehicles, para-transit vehicles, and other first responders and critical recovery-related personnel. Along with two satellite locations at Fort Wadsworth in Staten Island and Orchard Beach in the Bronx, more than 22,000 emergency and other essential vehicles filled up through this partnership with the National Guard. First responders, including private ambulances, also had the option to fuel at 10 NYPD-managed Hess locations throughout the City.

Sandy generated an estimated over 700,000 tons of storm debris, which included construction and demolition debris, sand, concrete, and more than 27,000 tons of wood debris from nearly 20,000 downed trees and limbs. Clearing this debris from the public right-of-way and from storm-damaged homes removed obstacles and hazards from roads and allowed residents to safely and quickly dispose of wet and damaged housing materials. The City activated its Debris Removal Task Force (DRTF) to coordinate the collection and removal of debris from the City's rights-of-way to seven NYS Department of Environmental Conservation (DEC)-licensed Temporary Storage Sites, including Floyd Bennett Field and Jacob Riis Park, both part of the National Parks Service's Gateway National Recreation Area in Jamaica Bay. Five of the Temporary Storage Sites closed by November 19 and two remained open longer to receive remaining debris, including from Rapid Repairs. From the Temporary Storage Sites, the City's Department of Sanitation (DSNY) and contractors hired through USACE transported the debris out of the City for permanent disposal. DEP monitored debris piles in the Rockaways and Staten Island for asbestos and all samples met the clearance criteria established for asbestos abatements conducted indoors. Major damage to waterfront and coastal infrastructure, including beaches, boardwalks, and waterfront structures will require extensive repair. New York City's beaches lost more than three million cubic yards of sand, including 1.5 million cubic yards on the Rockaway Peninsula alone.

Widespread coastal flooding also damaged 10,000 recreational boats and 100,000 personal vehicles, many of which were carried by floodwaters onto streets, sidewalks, and private properties. Although the City

regularly tows vehicles for parking violations, the scale of the post-Sandy tow operations outstripped the City's towing capabilities. Within two weeks following the storm, the City executed a contract to tow and store damaged cars and boats, located paved storage areas tolerant of leaking fluids without leading to environmental contamination, and created a process for the public to locate and reclaim their property. In total, the City towed approximately 3,400 cars and 135 boats.

Sandy left thousands of New Yorkers without the ability to prepare hot food and closed supermarkets throughout entire communities. On Thursday, November 1, the City and the National Guard set up a major food and water distribution operation based at Floyd Bennett Field that served 17 community food distribution points on City-owned land that ultimately gave out more than 2.1 million Meals Ready to Eat (MREs), and more than 925,000 bottles of water. In addition to major distribution points in communities, the City, along with the National Guard and volunteers through NYC Service, worked with NYCHA and human services agencies to identify homebound populations and deliver food, water, and other goods directly to residents in single- and multi-family homes, as well as high-density, multi-family dwellings. In addition to emergency food distribution, several City agencies provided relief by extending existing services. The City's Department of Education (DOE) received approval from the U.S. Department of Agriculture (USDA) to provide free school lunches to all public school students during the months of November and December, for menu flexibility, and to provide free lunches in Sandy-impacted districts through March. New York City's Human Resources Administration (HRA) obtained a federal waiver to replace 50% of the October Supplemental Nutrition Assistance Program (SNAP) grant for 311,000 households in 82 zip codes at an average benefit of $140, totaling more than $43 million, and processed applications manually where there were no working computers or internet connection. More than 107,000 households received these replacement benefits, totaling more than $23 million (average benefit $219). HRA also increased its support of Emergency Food Assistance Providers, delivering about 535,000 pounds of food to food pantries that served affected neighborhoods.

The City opened Disaster Assistance Service Centers (DASCs) in the hardest hit areas of the City – Coney Island, the Rockaways, Staten Island, and Breezy Point – on Friday, November 2, just four days after the storm. As client needs became clearer, on November 13, Mayor Bloomberg opened the first of seven Restoration Centers, one-stop-shops for City, State, and Federal resources for those most impacted by the storm. Restoration Centers served more than 30,000 clients from opening on November 13th to the closing of the last three centers in Coney Island, Arverne, and Staten Island on February 23. Restoration Centers served personal households and businesses with a focus on financial assistance, housing, and reconstruction. In the financial assistance category, HRA registered new clients for SNAP, the City's Department of Consumer Affairs (DCA) scheduled appointments at its Financial Empowerment Centers, and the City's Department of Small Business Services (SBS) helped with applications to the Hurricane Sandy Relief Fund and referred clients to the Workforce1 Career Centers and business owners to its Business Solutions Centers. Housing resources included short-, medium-, and long-term solutions that ranged from hotel placements and emergency transfer vouchers for Section 8 residents to registration with the HPD Housing Recovery Portal, which connects households that need shelter to available rental units in the HPD portfolio. Homeowners accessed information about building cleanup, demolition, debris removal, reconstruction, as well as guidance on mold removal and how to hire reputable and licensed contractors. Rapid Repairs, the City's free program to restore temporary heat, hot water, and power to homes, was one of the most requested services and enrolled more than 17,000 homeowners across all methods of registration, although the number of requests for each service varied across Restoration Centers based on neighborhood characteristics.

Distribution sites and Restoration Centers met the needs of many New Yorkers, including those with disabilities, but for people who were unable to leave their homes, the City launched a door-to-door outreach program on November 9; from November 9th through November 15 the U.S. Department of Health

and Human Services (HHS), FEMA, and the National Guard knocked on doors in high-rise buildings in the Rockaways and on Coney Island. Along with a NYCHA program to provide medical care in Red Hook, the teams canvassed more than 42,000 people and provided food and water to 1,700 residents, prescriptions for 335 people, and evacuated 44 for medical reasons. A second major wave of door-to-door outreach began on November 26 to visit residents of severely damaged single-family homes and multiple-unit dwellings with six or fewer stories in affected areas of Brooklyn, Queens, and Staten Island. On December 8, the outreach operation expanded to include all single-family homes and buildings with fewer than six stories in affected neighborhoods, or approximately 140,000 households, in order to check on overall resident wellness, distribute supplies, provide information about available resources and Restoration Centers, make client referrals to medical teams, and identify homes for Rapid Repairs.

To provide basic primary care in affected communities, the City brought temporary mobile healthcare services to areas with extensive power outages and incorporated health referrals in door-to-door outreach. Eleven mobile medical vans offered basic primary care and prescriptions to adults and children in rotating areas in the Rockaways, Brooklyn, and Staten Island based on community needs. These vans performed, on average, more than 40 visits each day. By January 14, more than 600 people had received medical care from the National Guard at their homes and another 1,100 received follow-up care from the Visiting Nurse Service.

In addition to providing a safe home for New Yorkers to return to, food and water, convenient enrollment for City public services, and medical care, the City launched a suite of programs, including financial assistance and the coordination of in-kind donations, to help businesses recover from both physical damage and losses from extended closures. To focus resources and identify neighborhood-specific needs, Mayor Bloomberg announced the creation of five Business Recovery Zones (BRZs) on December 5 with designated leaders to organize City resources and provide a central point of contact for businesses and agencies. In total, there are approximately 13,200 businesses with more than 143,000 employees in the Business Recovery Zones. Mayor Bloomberg also announced the creation of the Recovery Business Acceleration Team, modeled after the City's New Business Acceleration Team, to streamline and expedite City agency processes to re-open at the same time. SBS's Business Outreach Team's Emergency Response Unit also visited severely impacted areas in order to assess damages and work with individual business owners to expedite re-inspections, applications, and permit processes necessary to re-open; replace lost or damaged City permits and/or paperwork; work with the New York State Insurance Department to resolve issues; and connect businesses to free legal services and tax abatements for reconstruction, utility rebates, and other incentives.

In the form of financial assistance, the City's Emergency Loan Fund and matching grant program provided businesses that experienced direct damage through flooding or power outages with up to $25,000 through a low-interest loan (interest and payment free for the first six months) and up to $10,000 in a matching grant to cover working capital, repairs, and equipment replacement. The $25.5 million loan and grant fund included contributions from the New York City Economic Development Corporation (NYCEDC), Goldman Sachs, the New York Bankers Association, the Mayor's Fund to Advance New York City, and the Partnership for New York City. The City, through the New York City Industrial Development Authority (IDA), also issued emergency sales tax letters to waive up to $100,000 in New York City and New York State sales taxes for up to 250 businesses on materials purchased for recovery efforts. NYC Business Solutions, a division of SBS, offers technical assistance to accessing federal loan applications as a part of their normal expertise. For displaced businesses that could not return to their previous office space, NYCEDC secured more than 300,000 square feet of temporary office space across the five boroughs, as well as donated services.

The Community Development Block Grant Disaster Recovery (CDBG-DR) program provides communities impacted by disasters with resources to address a wide range of disaster-related needs. CDBG-DR

allocations provide funding to develop viable communities, particularly for low- and moderate-income persons, through decent housing, a suitable living environment, and opportunities to expand economic opportunities. The programs outlined in this Partial Action Plan and those in the design phase for future CDBG-DR allocations will support New York City's recovery.

On October 28, 2012, President Obama signed an emergency declaration for the States of New York and New Jersey. The declaration meant that state and local governments could receive Federal assistance for the costs of evacuation, sheltering, and other measures. On January 29, 2013, President Obama signed into law the "Disaster Relief Appropriations Act, 2013" (Public Law 113-2), which included $16 billion in CDBG-DR funds "for necessary expenses related to disaster relief, long-term recovery, restoration of infrastructure and housing, and economic revitalization in the most impacted and distressed areas resulting from…Hurricane Sandy and other eligible events in calendar years 2011, 2012, and 2013". The U.S. Department of Housing and Urban Development (HUD), which administers CDBG-DR funds, was ordered to disburse at least 33% within the 60 days following the law's enactment with the remainder to be released at a later date. The Act also requires grantees to submit a plan to the HUD Secretary "detailing the proposed use of all funds, including criteria for eligibility and how the use of these funds will address long-term recovery and restoration of infrastructure and housing and economic revitalization in the most impacted and distressed areas."

The City's initial allocation of CDBG-DR funds is $1,772,820,000. The City's Partial Action Plans detail how the City intends to use the first allocation to fulfill unmet funding needs, which exceed the initial allocation. As a result, this allocation will not allow the City to assist every homeowner or business that was affected by Sandy; it is instead the City's intention to design and implement programs that will address the greatest needs in each of the programmatic areas outlined within the Plan. The City's Partial Action Plans will also describe how it will leverage other funding sources to address areas of unmet need.

Consultation with Stakeholders and Other Governments

The programs in the City's Partial Action Plans are the product of significant stakeholder outreach, which was conducted to ensure that programs meet the City's most crucial needs and reflect the characteristics of neighborhoods and businesses throughout the five boroughs.

In addition to working with local elected officials, the City's Housing agencies – the New York City Housing Authority (NYCHA), the Department of Housing Preservation and Development (HPD), the Housing Development Corporation (HDC), the Department of Environmental Protection (DEP), and the Mayor's Office of Housing Recovery Operations (HRO), which was created by Mayor Bloomberg through an Executive Order to address Sandy-related housing needs – partnered on a comprehensive outreach plan to gather feedback from affected communities and elected officials and leverage existing community connections. The housing team consulted and partnered extensively with NYCHA.

The outreach efforts included:

- Touring affected neighborhoods with local residents;
- Engaging in small group conversations with elected officials, community stakeholders, and constituents;
- Hosting housing forums in each impacted area of the City to provide information to residents about the rebuilding process, zoning ordinances, FEMA assistance, financial resources, and to capture resident feedback, needs, and concerns;
- Presenting to community board and civic association meetings;

- Collaborating with housing non-profit partners to distribute information and administer tenant needs assessment surveys; and
- Convening a working group with banks and other housing and financial industry partners.

The Special Initiative on Rebuilding and Resiliency (SIRR), responsible for developing a plan to make New York City more resilient to the impacts of climate change, has also undertaken a massive effort to increase the resiliency of the hardest hit areas. SIRR held more than two dozen group and one-on-one briefings for more than 60 elected officials, met with more than 100 community-based organizations, and hosted 10 public meetings in impacted areas to solicit input on resiliency priorities. The result of SIRR's analysis, planning, and outreach is a 438-page report entitled "A Stronger, More Resilient New York", released on June 11, 2013. The report contains over 250 detailed initiatives addressing the vulnerabilities of the city's infrastructure, built environment, and coastal communities. Among the report's initiatives are the crucial programs included in this Action Plan to address important unmet needs that Sandy highlighted. The plan can be reviewed at: http://www.nyc.gov/html/sirr/html/report/report.shtml

Additionally, through the New York-Connecticut (NY-CT) Sustainable Communities Consortium, the City has discussed flood zone management, climate resilience, and long-term planning with its partners in New York State, Connecticut, and also New Jersey. The NY-CT Sustainable Communities Consortium will advance both on-the-ground implementation strategies to create more livable, economically vibrant places, and regional strategies to integrate and enhance housing, transportation, and economic and environmental plans and programs. The initiative will work to reduce congestion, improve the environment, and create a strategy to build resilience to the effects of climate change in New York City, with applications for other parts of the region.

The NY-CT Sustainable Communities Consortium includes the following entities:

- City of New York (Department of City Planning);
- City of Mount Vernon (NY);
- City of New Rochelle (NY);
- City of White Plains (NY);
- City of Yonkers (NY);
- New York Metropolitan Transportation Council (NYMTC);
- Long Island Regional Planning Council (LIRPC) (NY);
- Nassau County (NY);
- Suffolk County (NY);
- City of Bridgeport (CT);
- City of New Haven (CT);
- City of Norwalk (CT);
- City of Stamford (CT);
- South Western Regional Metropolitan Planning Organization (SWRMPO) (CT);
- Greater Bridgeport/Valley Metropolitan Planning Organization (GBVMPO) (CT);
- South Central Regional Council of Governments (SCRCOG) (CT); and
- Regional Plan Association (RPA).

The Consortium's Advisory Board consists of eleven state agencies and non-profit organizations, including:

- Connecticut Department of Economic and Community Development;
- Connecticut Housing Finance Agency;
- Empire State Development Corporation;
- International Council for Local Environmental Initiatives;
- Local Initiatives Support Corporation;
- New York State Department of State;
- New York State Homes & Community Renewal;
- North Jersey Transportation Planning Authority

- One Region Funders Group;
- Urban Land Institute; and
- WE ACT for Environmental Justice.

Following Hurricane Sandy, the Consortium, in cooperation with partners in the North Jersey Sustainable Communities consortium, has convened a Joint Climate Resilience Committee. Participants in the joint committee, including the cities of Jersey City and Hoboken, face many similar challenges to those confronting New York City. The joint committee's goals include coordinating among local, state, and federal initiatives, and sharing key information resources and best practices within the region, as well as integrating climate resilience within the consortia's activities.

For the City's infrastructure programs, the City has coordinated and will continue to coordinate with its State and Federal partners, such as USACE, FEMA, the New York State Department of Environmental Conservation, and the New York State Division of Homeland Security and Emergency Services. The City will continue to perform such outreach to all relevant and/or impacted parties for all future CDBG-DR projects.

Finally, regarding the Action Plan's development, the City remained in contact with its local partners through the Lower New York State CDBG Grantee Jurisdiction Roundtable, which includes representatives from nearly 15 CDBG entitlement communities within the State of New York.

III. OVERALL STORM IMPACT AND RESPONSE

The Hurricane Sandy Operational Inundation Area, which consists of areas in New York City that the Federal Emergency Management Agency (FEMA) determined were inundated with flood waters, encompassed areas well beyond the pre-storm flood zones identified by FEMA. The disparity was particularly pronounced in the areas in the southern half of New York City subject to Atlantic Ocean wave action. The Inundation Area includes the full range of land uses in the City, from homes to commercial office towers. This section contains maps showing the Inundation Area for each borough and a description of the Inundation Area on a citywide basis, as well as an assessment of conditions by borough. Each borough map depicts the Operational Inundation Area with its 2010 census tracts indicated.

The "Selected Housing Characteristics," "Land Use," and "Demographics and Housing Profile" charts that follow the maps are based on the Operational Inundation Area on a citywide basis. For charts depicting this information on a borough basis, please see Appendix C. This information has been and will continue to be used to inform planning decisions for the City's long-term recovery.

Citywide Inundation Area

Hurricane Sandy impacted a broad cross-section of New Yorkers. According to 2010 Census data, approximately 10.3% of New York City's population (846,056 persons) resided in the Inundation Area. The impact varied across geography. In terms of absolute population, Brooklyn had the highest number of persons impacted (310,227), followed by Manhattan (230,742), Queens (188,444), Staten Island (75,651), and the Bronx (40,992).

In terms of percentage within a specific borough, Staten Island, which has the smallest portion of the City's overall population, had the highest percentage of its residents impacted (approximately 16.0%). Manhattan had 14.5% of its residents impacted, Brooklyn 12.4%, Queens 8.4%, and the Bronx 3.0%, respectively.

In New York City, no one racial group comprises more than half the total population. New York City's population is 33.3% White non-Hispanic, 22.8% Black non-Hispanic, 28.6% Hispanic origin, and 12.6% Asian non-Hispanic. In addition, approximately 2% of New York City's population is multi-racial non-Hispanic. Within the Inundation Area, approximately 45.5% are White non-Hispanic, 22.3% Black non-Hispanic, 20.6% Hispanic, and 9.4% Asian non-Hispanic, respectively. Slightly more than 1.5% are multi-racial non-Hispanic.

The mean household size in the Inundation Area is 2.41, slightly less than the mean household size citywide (2.57).

With respect to age, 25.9% of the persons within the Inundation Area are young adults (ages 18-34), the highest percentage of all age intervals. The elderly (age 65 and over) comprised 14.5% of the population within the Inundation Area, 2.4 percentage points higher than the City's elderly population overall.

Hurricane Sandy also impacted people with disabilities. The U.S. Census Bureau's 2009-2011 American Community Survey (ACS) data indicates that 11.4% of the population within the Inundation Area is comprised of persons with a disability living in a non-institutional setting. This is nearly 1.0 percentage point higher than the City's total population of people with disabilities living in non-institutional settings.

In terms of poverty, 2006-2010 ACS data indicate that 19.1% of New Yorkers are below the poverty line, and 5.1% are considered near poor. Within the Inundation Area, poverty is slightly less pronounced than

New York City as a whole, but nonetheless significant: 17.3% of persons within the areas are below the poverty line, and 4.7% are considered near poor.

According to 2006-2010 ACS data, the total number of housing units (vacant and occupied) in New York City is 3,371,062. The total number of occupied units is 3,109,784. Approximately 335,300 (10.7%) of these occupied units are within the Inundation Area.

In terms of tenure, owner-occupied units constitute 34.4% of all occupied units within the Inundation Area (115,195 units). This is 3.4 percentage points higher than the percentage of owner-occupied units within New York City overall.

Of the 3,371,062 housing units in the City, the majority of units are within multi-family buildings (three or more units within the structure)[2]. Approximately 1,080,400 units are in multi-family elevator buildings, and approximately 828,700 units are located in multi-family walk-up buildings, respectively. These two types of structures contain 32.0% and 24.6% of the housing units within the City, respectively. One- and two-family buildings, which constitute the majority of owner-occupied housing, contain 24.4% of the housing units citywide (822,717). Mixed-use residential/commercial buildings accounted for 18.0% of the housing units (606,838 units).

Within the Inundation Area, 36.4% of the housing units are in multi-family elevator buildings, which is 4.4 percentage points higher than for the City overall. One- and two-family buildings contain a higher percentage of housing units impacted than their percentage of the City's total housing stock (29.0% versus 24.4%, respectively).

The vast majority of the City's stock (87.2%) was built prior to the 1980 census, which was the last decennial census before the Building Code was amended in 1983 to include flood-resistant construction. Of the housing stock within the Inundation Area, 80.1% was constructed prior to 1980.

Among renter-occupied units within the Inundation Area, 10.2% of renters have a cost burden between 30.0 and 34.9% of their household income. Another 37.4% of renters have a cost burden greater than 35.0% of their household income.

Bronx

The Inundation Area in the Bronx includes portions of major industrial areas, including Port Morris and Hunts Point along the East River, Zerega along Westchester Creek, and Eastchester along the Hutchinson River. It also includes low-density residential communities in the Soundview, Throgs Neck, and Country Club neighborhoods.

Of the approximately 1,385,100 persons who reside in the Bronx, just 3.0% were located within the Inundation Area (approximately 41,000 persons).

A majority of the Bronx's residents are Hispanic (53.5%). Black non-Hispanics make up 30.1% of the population and 10.9% are White non-Hispanic. Within the borough's Inundation Area, no one racial group comprises more than half of the impacted population. Hispanics account for 34.4%, White non-Hispanics 34.7%, and Black non-Hispanic 26.8%.

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[2] Please note that this definition of a multi-unit building differs from the Federal definition of a multi-unit building, which is five or more units.

The mean household size within the Bronx's Inundation Area is 2.45, slightly less than the borough's mean household size of 2.77.

With respect to age, 31.4% of the persons within the Bronx's Inundation Area are young adults (ages 18-34), the highest percentage of all age intervals. The elderly (age 65 and over) comprised 13.7% of the population within the borough's Inundation Area that is 3.2 percentage points higher than the borough's overall elderly population.

Persons with disabilities living in a non-institutional setting make up 13.7% of the Bronx's population. Within the borough's Inundation Area, people with disabilities constitute 14.8% of its impacted population.

In terms of poverty, 2006-2010 ACS data indicate that 28.4% of Bronx residents are below the poverty line. Within the borough's Inundation Area, the percentage of persons below the poverty line is 18.7%. The percentage of persons considered near poor in its Inundation Area is also lower than for the borough as a whole (4.9% versus 6.7%, respectively).

According to 2006-2010 ACS data the total number of housing units (vacant and occupied) in the Bronx is approximately 511,900. The total number of occupied units is approximately 483,450. Approximately 11,400 (2.4%) of these occupied units are within the borough's Inundation Area.

In terms of tenure, owner-occupied units constitute 19.3% of the housing units within the borough overall. However, in the Bronx's Inundation Area, 45.7% of the housing units are owner-occupied.

Of the approximately 511,900 housing units in the Bronx, approximately two-thirds are within multi-family buildings, 17.8% are in mixed-use residential/commercial buildings, and 14.7% are in one- and two-family buildings.

Within the Bronx's Inundation Area, 44.1% of the housing units are in one- and two-family buildings, 20.5% are in mixed-use residential/commercial buildings, and 35.3% are in multi-family buildings.

A significant percentage of the borough's housing stock is pre-1980 construction (90.1%). Of the housing stock within its Inundation Area, 78.2% of the units were constructed prior to 1980.

Among households within the Bronx's Inundation Area that rent, 7.5% of renters who reported that they pay rent have a cost burden between 30.0% and 34.9% of their household income and 44.8% have a cost burden greater than 35.0% of their household income.

Brooklyn

Beginning with Community District 1 in Greenpoint/Williamsburg, the Inundation Area encompasses largely industrial areas along the south side of Newtown Creek and the English Kills, a Federally-designated Superfund site, as well as the East River waterfront, largely rezoned in the past decade to permit mid- to high-rise residential redevelopment. Moving south along the East River, the Inundation Area includes the Brooklyn Navy Yard industrial and business park and the mixed residential and commercial DUMBO area, dominated by converted industrial loft buildings. Beyond Brooklyn Heights, the Inundation Area includes the Red Hook container port and the mixed-use neighborhood of Red Hook, including older residential buildings, converted industrial lofts, the Red Hook public housing development, and commercial and industrial businesses. It also includes the mixed-use areas along the Gowanus Canal, a Federally-designated Superfund site. South of the Gowanus Canal, the Inundation Area includes portions of the Sunset Park industrial area.

Due to changes in topography, the Inundation Area is limited in extent until it reaches the low-lying areas of southern Brooklyn. There, it includes all of the beachfront neighborhoods of Coney Island, Brighton Beach, and Manhattan Beach. These include the low-density Seagate neighborhood to the west; the Coney Island neighborhood dominated by high-rise public housing as well as other publicly-assisted housing, with the beach, New York Aquarium, minor league baseball stadium and amusements to the south; and the medium-density Brighton Beach neighborhood and the mainly low-density Manhattan Beach neighborhood, including Kingsborough Community College, to the east. Also inundated were portions of the Gravesend and Sheepshead Bay neighborhoods, including commercial and low- to mid-density residential areas, the Coney Island subway yards, and Coney Island Hospital.

Moving east from Sheepshead Bay, the Brooklyn shoreline is dominated by finger inlets adjacent to low-density residential communities that were inundated. These include Gerritsen Beach, Mill Island, Bergen Beach, Paerdegat Basin, and portions of Canarsie.

The borough of Brooklyn had the highest total number of residents impacted by the storm (310,227 persons). This represents 12.4% of the borough's total population.

Similar to New York City as a whole, no one racial group comprises more than half of the borough's total population. Brooklyn's population is 35.7% White non-Hispanic, 31.9% Black non-Hispanic, 19.8% Hispanic origin, and 10.4% Asian non-Hispanic. In addition, 1.6% of the borough's population is multi-racial non-Hispanic. Within the borough's Inundation Area, White non-Hispanic represented the majority of persons impacted with 53.6%. As a result, the percentage of Black non-Hispanic and Hispanic persons within impacted areas (20.7% and 13.6%, respectively) is less than the borough's overall population in the Inundated Area. The percentage of Asian non-Hispanic within the borough's Inundation Area is the same as the percentage of the borough's overall population (10.4%).

The mean household size within the Inundation Area is 2.48, slightly less than the borough's mean household size (2.69).

With respect to age, 23.4% of the persons within Brooklyn's Inundation Area are young adults (ages 18-34), the highest percentage of all age intervals. The elderly (age 65 and over) comprised 16.4% of the population within the borough's Inundation Area. This is 4.9 percentage points higher than the borough's elderly population and 1.9 percentage points higher than the elderly population within the Inundation Area citywide.

Hurricane Sandy also impacted people with disabilities. The 2009-2011 ACS data indicates that 12.8% of the population within the borough's Inundation Area is comprised of persons with a disability living in a non-institutional setting. This is 3.3 percentage points higher than Brooklyn's total population of people with disabilities living in non-institutional settings.

In terms of poverty, 2006-2010 ACS data indicate that 28.4% of Brooklyn residents are below the poverty line, and 6.7% are considered near poor. Within the Inundation Area, the percentage of persons below the poverty line is significantly less (18.7%). The percentage of persons considered near poor is 4.9%.

According to 2006-2010 ACS data, the total number of housing units (vacant and occupied) in Brooklyn is 1,000,293. The total number of occupied units is 916,856. Approximately 122,600 (13.4%) of these occupied units are within the borough's Inundation Area.

In terms of tenure, owner-occupied units constitute 37.5% of all occupied units within the Inundation Area (45,992 units). This is 9.8 percentage points higher than the percentage of owner-occupied units within the borough (27.7%).

Of the 1,000,293 housing units in Brooklyn, the majority of units are within multi-family buildings (three or more units within the structure). Approximately 282,000 units are in multi-family elevator buildings, and approximately 336,300 units are located in multi-family walk-up buildings. These two types of structures contain approximately 28.2% and 33.6% of the housing units within the borough, respectively. One- and two-family buildings contain 25.5% of the borough's housing units (254,672). Units in mixed-use residential/commercial buildings accounted for 11.9% of the housing units (118,940 units).

Within its Inundation Area, 37.5% of the housing units are in multi-family elevator buildings, which is 9.3 percentage points higher than for the borough. One- and two-family buildings represented a higher percentage of housing units impacted than its percentage of Brooklyn's total housing stock (32.6% versus 25.5%, respectively).

In terms of year the structures were built, a significant percentage of Brooklyn's housing stock is pre-1980 construction (89.2%). Of the housing stock within its Inundation Area, 88.9% were constructed prior to 1980.

Among households within the borough's Inundation Area that rent, 10.5% of renters who reported that they pay rent have a cost burden between 30.0 and 34.9% of their household income, and 40.7% of renters have a cost burden greater than 35.0% of their household income.

Manhattan

In Community District 1 in Lower Manhattan, the Inundation Area includes the Water Street corridor, an important high-rise office district, as well as upland areas that include a mix of commercial office and residential uses and the South Street Seaport Historic District. On the west side of Lower Manhattan, the Inundation Area runs along the Route 9A corridor and includes mixed-use areas including portions of TriBeCa, the West Village, and Chelsea. Along the East Side, the Inundation Area includes residential portions of the East Village, Con Edison facilities, and north of 14th Street, the mid-rise residential developments of Stuyvesant Town and Peter Cooper Village. North of 23rd Street, the Inundation Area includes the important medical corridor that contains the Veterans Administration, Bellevue, and NYU Langone hospitals. To the north, the Inundation Area includes residential portions of East Harlem and areas of northern Manhattan including the Dyckman Houses public housing development and the 207th Street subway yards.

According to 2010 Census data, there are 1,585,873 persons living in Manhattan. Of those, 14.5% reside in the Inundation Area (230,742 persons).

Within the borough the impact of the storm varied by race and ethnicity. Approximately 30.8% of persons residing in Manhattan's Inundation Area are Hispanic, approximately 5 percentage points higher than the percentage of Hispanics living within the borough. In addition, Black non-Hispanic persons constituted 17.4% of the persons residing in its Inundation Area, 4.5 percentage points higher than the percentage of Black non-Hispanics within the borough. Asian non-Hispanic persons are 12.7% of the impacted population, slightly higher than its borough percentage (11.2%). In contrast, 36.6% of persons within the Inundation Area are White non-Hispanic, approximately 12 percentage points lower than the percentage of White non-Hispanics within Manhattan.

The mean household size within Manhattan's Inundation Area is approximately two persons per household (2.09 persons), which is similar to the borough's small household size (1.99 persons).

With respect to age, 31.4% of the persons within Manhattan's Inundation Area are young adults (ages 18-34), the highest percentage of all age intervals. The elderly (age 65 and over) comprised 13.5% of the

population within the borough's Inundation Area. This is the same percentage of elderly persons within the borough overall.

According to 2009-2011 ACS data, persons with a disability living in a non-institutional setting represented 10.1% of the population within the borough's Inundation Area.

For Manhattan residents for whom poverty status was determined, a greater percentage of persons living below the poverty line lived within the borough's Inundation Area (21.8%) than within the borough overall (17.8%), based on 2006-2010 ACS data. The percentage of persons considered near poor is also higher in the Inundation Area (5.4% versus 4.3%, respectively).

According to 2006-2010 ACS data, the total number of housing units (vacant and occupied) in Manhattan is 847,090. The total number of occupied units is 763,846. Approximately 105,800 (13.9%) of the occupied units are within the borough's Inundation Area.

In terms of tenure, renter-occupied units constitute 84.7% of all occupied units within its Inundation Area (89,632 units).

A majority of Manhattan is zoned for higher density. Of its 847,090 housing units, the majority of units are within multi-family buildings (approximately 506,100 units). Units in multi-family elevator buildings accounted for 42.4% of Manhattan housing units, while units in mixed-use residential/commercial buildings accounted for approximately 321,900 housing units, or 38.0% of the borough's housing stock.

The borough's Inundation Area contains 13.9% of Manhattan's occupied housing units, with 50.6% of these units in multi-family elevator buildings (53,555 units). Approximately 48,800 housing units (46.1%) are in mixed-use residential/commercial buildings.

A significant percentage of Manhattan's housing stock is pre-1980 construction (84.6%). However, of the housing stock within its Inundation Area, the percentage constructed prior to 1980 is 74.9%.

Among households within the borough's Inundation Area that rent, 10.0% of renters who reported that they pay rent have a cost burden between 30.0 and 34.9% of their household income and 32.9% of impacted renters have a cost burden greater than 35.0% of their household income.

Queens

The Queens Inundation Area has two distinct components: a northern area along the East River and a southern area bordering Jamaica Bay and the Atlantic Ocean. Beginning at Community District 2 in the north, the Inundation Area includes the industrial northern shore of Newtown Creek and areas bordering the Dutch Kills in Maspeth and Long Island City. Moving north along the East River, the Inundation Area includes the Queens West development in Long Island City and the peninsula that includes the Astoria Houses public housing development.

Moving east of the Robert F. Kennedy Bridge, the Inundation Area includes the northern Astoria waterfront dominated by power generating facilities and LaGuardia Airport. It also includes much of Flushing Meadows-Corona Park, Citi Field, two subway yards, and the Willets Point industrial area. Farther to the east, it includes much of the College Point industrial park and shoreline areas of low-density residential communities including College Point, Whitestone, Bay Terrace, Bayside, Douglaston, and Little Neck.

In the south, the Inundation Area includes most of the Rockaway peninsula, lying between the Atlantic Ocean and Jamaica Bay. Beginning in the west, the peninsula includes the Breezy Point cooperative,

comprised of individual homes with private streets. To the east are the low-density communities of Neponsit and Belle Harbor. Moving farther east, the peninsula is served by the subway and is more developed. Rockaway Park and Rockaway Beach have commercial areas oriented towards local residents and summer visitors. Residential areas are a mix of single-family homes and multi-family housing. The eastern portion of the peninsula includes several public housing developments and other high-rise publicly assisted housing.

As in Brooklyn, the Queens perimeter of Jamaica Bay is low-density. It includes the Howard Beach residential communities of Old Howard Beach, New Howard Beach, and Hamilton Beach, Ramblersville, and Lindenwood. To the east are John F. Kennedy International Airport and the communities of Brookville and Rosedale, bordering Nassau County. Within Jamaica Bay is the low-density residential community of Broad Channel.

Of the 2,230,722 persons who reside in Queens, approximately 188,400 reside in its Inundation Area.

The borough's racial and ethnic composition is diverse. White non-Hispanic and Hispanic are 27.6% and 27.5% of the Queens population, respectively. Black non-Hispanic persons constitute 17.7% of its population. Queens' Asian non-Hispanic population (22.8%) is the largest Asian non-Hispanic population of any of the five boroughs in terms of both persons and percentage.

Within the borough's Inundation Area, White non-Hispanics and Black non-Hispanics were disproportionally impacted: 73.0% of the population within the Queens Inundation Area is either White non-Hispanic or Black non-Hispanic (36.7% and 36.3%, respectively). In contrast, only 6.6% of the population within the borough's Inundation Area is Asian non-Hispanic. Hispanics constitute 17.7% of the population within these areas.

The mean household size for Queens is 2.82 persons per household, which is the highest average for all of the five boroughs. Within its Inundation Area, the mean household size is 2.64 persons.

With respect to age, 23.5% of the persons within Queens' Inundation Area are young adults (ages 18-34), the highest percentage of all age intervals. The elderly (age 65 and over) comprised 13.8% of the population within the borough's Inundation Area, which is 1.0 percentage point higher than the borough's overall elderly population.

According to data based on the 2009-2011 ACS, 10.6% of the population within Queens' impacted areas is comprised of persons with a disability, 1.1 percentage points higher than the borough's total population of people with disabilities living in non-institutional settings.

In terms of poverty, 2006-2010 ACS data indicate that 13.0% of Queens' residents are below the poverty line. Within the borough's Inundation Area, the percentage of persons below the poverty line is higher at 15.3%. The percentage of people considered near poor within the Inundation Area is relatively the same as the percentage for the borough as a whole (4.1% and 4.7%, respectively).

According to 2006-2010 ACS data, the total number of housing units (vacant and occupied) in Queens is 835,127. The total number of occupied units is 780,117. Approximately 68,850 (8.8%) of these occupied units are within the borough's Inundation Area.

In terms of tenure, renter-occupied units comprise 57.0% and owner-occupied units comprise 43.0% of all occupied units within the borough. Within Queens' Inundation Area, the percentages are 55.3% and 44.7%, respectively.

Of the 835,127 housing units in Queens, 49.1% are within multi-family buildings. Approximately 209,900 units are in multi-family elevator buildings, and approximately 200,200 units are located in multi-family walk-up buildings.

One- and two-family buildings, which constitute the majority of owner-occupied housing, contain 41.9% of the borough's housing units (349,800). Units in mixed-use residential/commercial buildings account for 8.5% of Queens' housing units (approximately 71,000 units).

Within Queens' Inundation Area, 33.2% of the housing units are in multi-family elevator buildings, which is 8.1 percentage points lower than for the borough overall. Additionally, 13.2% of impacted units are located within multi-family walk-up buildings, which is 10.8 percentage points lower than for the borough overall.

In contrast, units within one- and two-family buildings represent a higher percentage of housing units impacted relative to its percentage of Queens' total housing stock (45.7% versus 41.9%, respectively).

A significant percentage of Queens' housing stock is pre-1980 construction (89.8%). Of the housing stock within its Inundation Area, 80.2% was constructed prior to 1980.

Among households within the borough's Inundation Area that rent, 10.4% of renters who reported that they pay rent have a cost burden between 30.0 and 34.9% of their household income. In addition, the percentage of Queens renters within the Inundation Area who have a cost burden greater than 35.0% of their household income is 38.7%.

Staten Island

Beginning at the St. George Ferry Terminal and moving south, the Inundation Area includes the Bay Street Landing mid-rise residential development and the vacant former Navy base on the Stapleton waterfront. South of the Verrazano-Narrows Bridge, the Inundation Area encompasses large areas of one- and two-family homes in the communities of South Beach, Midland Beach, New Dorp Beach, and Oakwood Beach. Farther south, it includes Great Kills harbor, an area dominated by marinas, and portions of the waterfront developed with single-family homes.

On the West Shore of Staten Island, the Inundation Area includes vacant land, natural areas, and parks, as well as some industrial businesses and the New York Container Terminal at Howland Hook. On the North Shore, the Inundation Area includes the waterfront, which is largely industrial or vacant, as well as portions of upland low-density residential communities.

Staten Island's population is 468,730 based on the 2010 Census. The total number of Staten Islanders within the borough's Inundation Area is 75,651, or 16.1% of its total population. As stated previously, this represents the highest percentage of people impacted relative to the borough's overall population.

The majority of Staten Island residents are White non-Hispanic (64.0%). Hispanics constitute 17.3% of the borough's population. Black non-Hispanic and Asian non-Hispanic are 9.5% and 7.4%, respectively. Similarly, within the borough's Inundation Area, 67.6% of those impacted are White non-Hispanic and 17.6% are Hispanic. The percentage of Black non-Hispanic persons within the Inundation Area is 6.6%.

The mean household size within Staten Island's Inundation Area and for the borough overall is 2.78.

With respect to age, 22.7% of the persons within the borough's Inundation Area are young adults (ages 18-34), the highest percentage of all age intervals. The elderly (age 65 and over) comprised 11.8% of the population within Staten Island's Inundation Area.

According to 2009-2011 ASC data, persons with a disability living in a non-institutional setting represented 9.9% of the population within the borough's Inundation Area. This is slightly higher than the percentage of Staten Island's total population of people with disabilities living in non-institutional settings (9.6%).

In terms of poverty, 2006-2010 ACS data indicate that 10.3% of Staten Island residents are below the poverty line. Within the borough's Inundation Area, the percentage of persons below the poverty line is lower at 9.0%. However, the percentage of persons considered near poor is higher in its Inundation Area than for the borough as a whole (4.5% versus 3.4%, respectively).

According to 2006-2010 ACS data the total number of housing units on Staten Island is 176,656 (vacant and occupied). The total number of occupied units is approximately 165,500. Approximately 26,600 (16.1%) of these occupied units are within the borough's Inundation Area.

In terms of tenure, approximately two-thirds of Staten Island's occupied units are owner-occupied. Within its Inundation Area, owner-occupied units were 63.8% of the units impacted.

A majority of Staten Island is zoned for low-density. Of its 176,656 housing units, the majority of units are one- and two-family buildings (137,610 units or 77.9%). Approximately 14,800 units are in multi-family elevator buildings, and approximately 19,700 units are located in multi-family walk-up buildings (8.4% and 11.1%, respectively).

Regarding the units located in the borough's Inundation Area, the percentage of units within a particular type of structure reflected Staten Island's overall housing profile. Slightly more than 78% of the impacted units are in one- and two-family buildings (22,375 units). Multi-family elevator buildings accounted for 9.6% (2,732 units) and multi-family walk-up buildings 8.8% (2,516) of the units.

Approximately 63% of Staten Island's housing stock was constructed prior to 1980. Within its Inundation Area, the percentage is 56.7%.

Among households within the borough's Inundation Area that rent, 10.0% of renters who reported that they pay rent have a cost burden between 30.0 and 34.9% of their household income and 44.0% report that they pay more than 35.0% of their household income towards rent.

Census Tract
Area of Impact
Bronx
309
293.01
293.02
283
279
269
53
361
60
123
54
65
51
93
19
1
24
2
4
4
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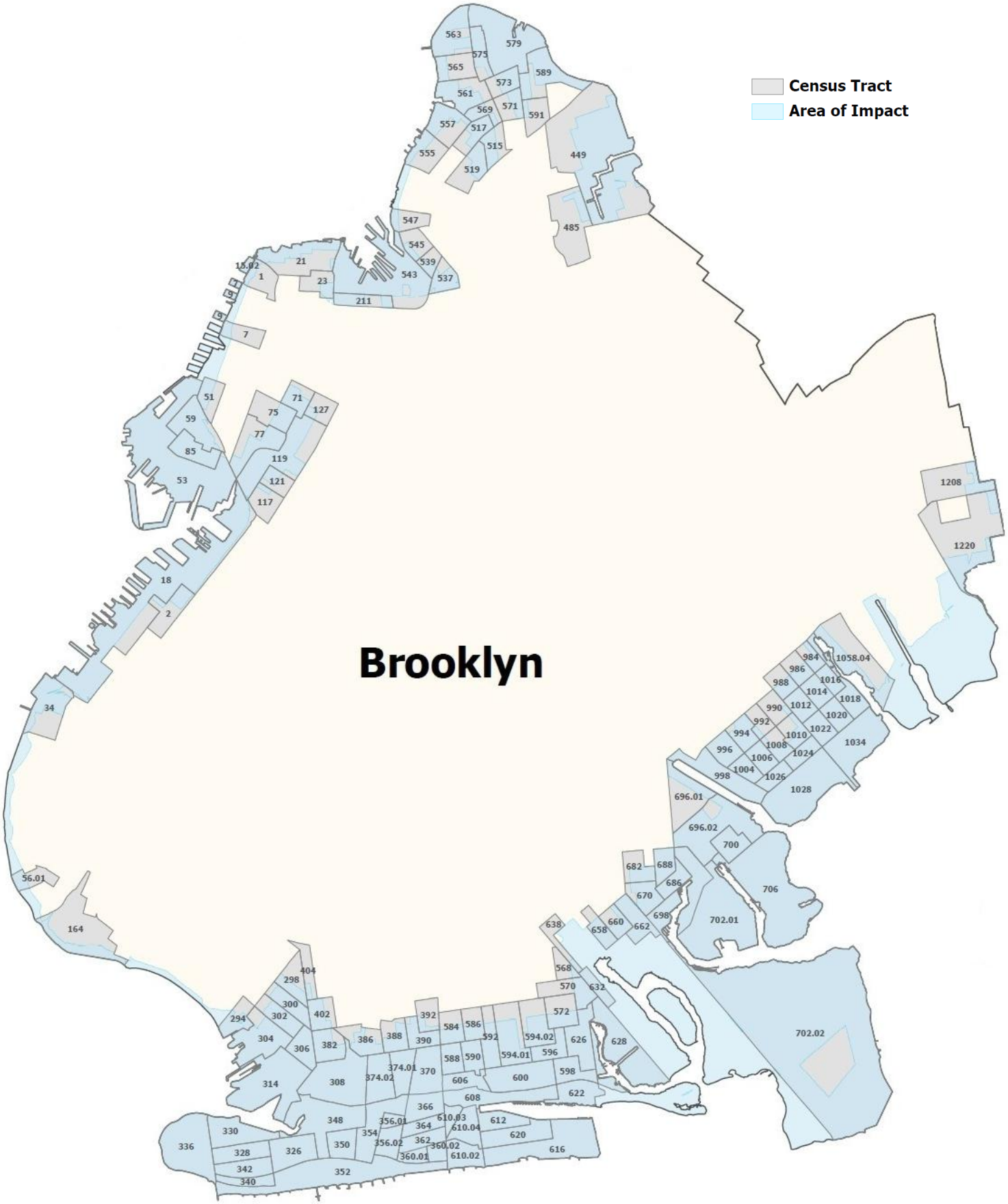
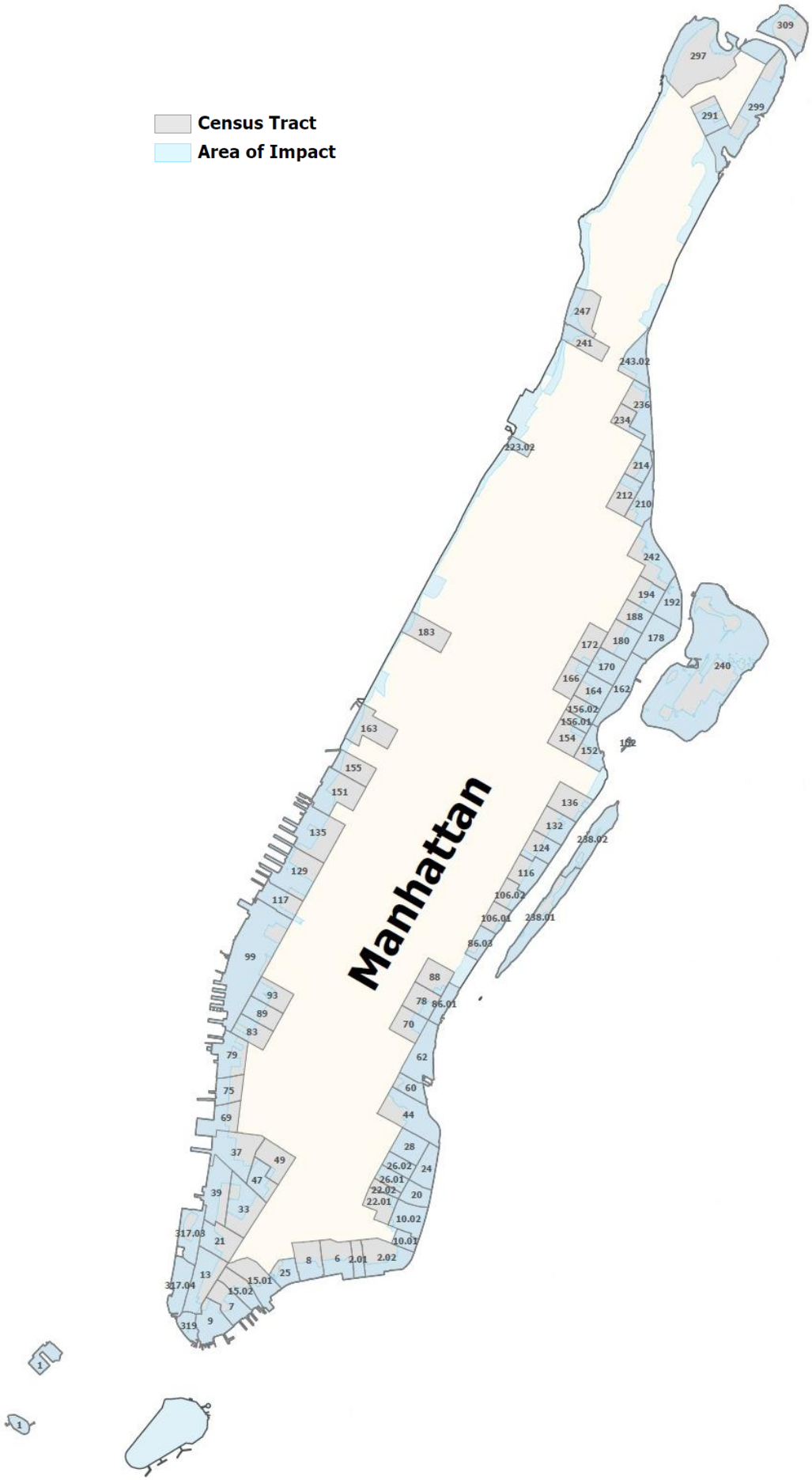
274.02
160
138
144
130
132
118


Census Tract
Area of Impact
Brooklyn


Census Tract
Area of Impact
Manhattan
309
297
299
291
247
241
243.02
236
234
223.02
214
212
210
242
194
192
188
183
178
172
180
240
170
166
164
162
156.02
156.01
163
154
152
155
151
136
132
238.02
135
124
129
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117
106.02
106.01
238.01
86.03
99
88
93
78
86.01
89
83
70
79
62
75
60
69
44
37
49
28
26.02
24
47
26.01
22.02
39
20
33
22.01
10.02
317.03
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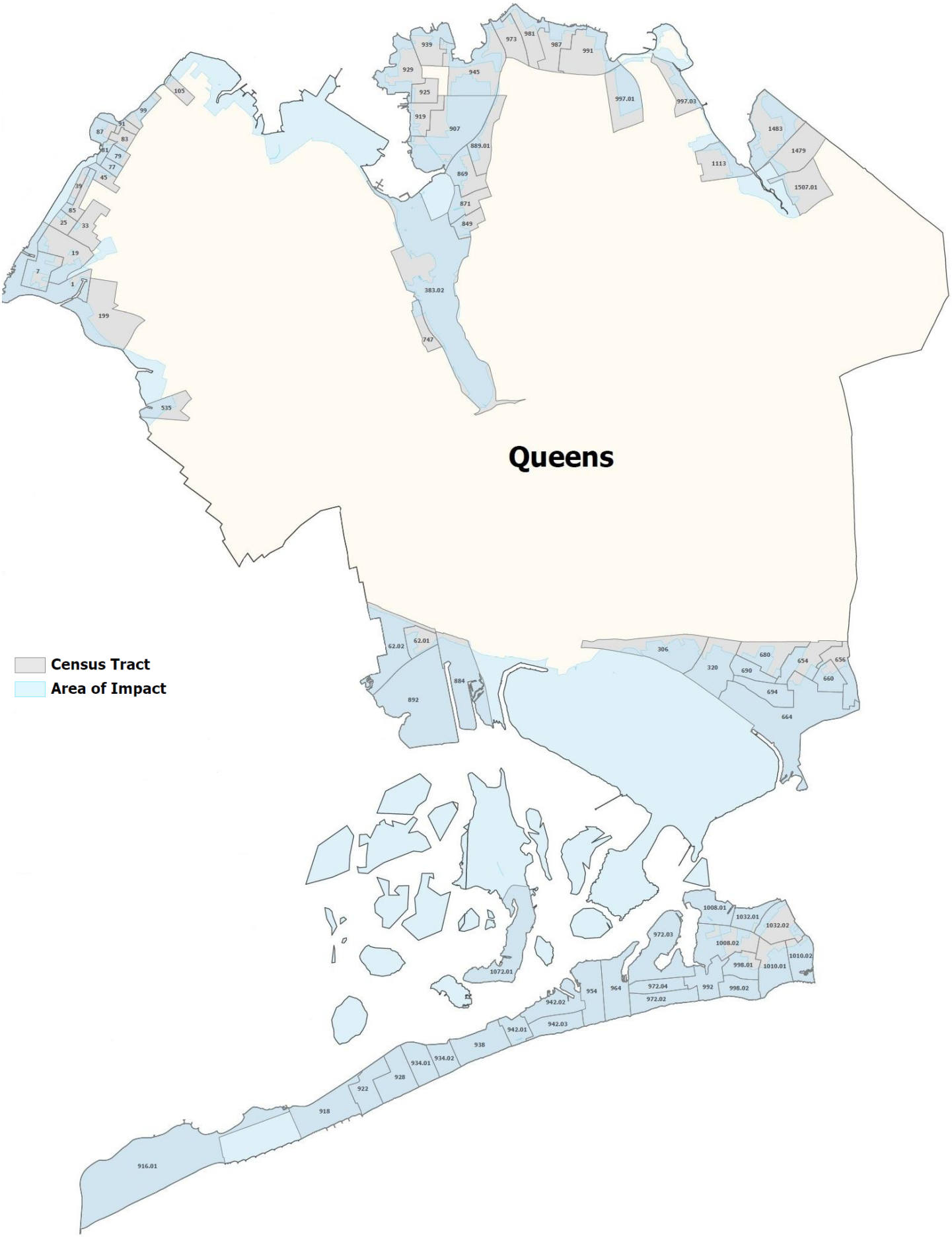
15.02
7
319
9
1
1


Queens
Census Tract
Area of Impact
939
929
925
919
945
907
889.01
869
871
849
383.02
747
973
981
987
991
997.01
997.03
1483
1479
1507.01
1113
105
99
91
87
83
81
79
77
45
39
85
25
33
19
7
1
199
535
62.02
62.01
892
884
306
320
680
690
654
656
660
694
664
1008.01
1032.01
1032.02
972.03
1008.02
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1010.01
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954
964
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992
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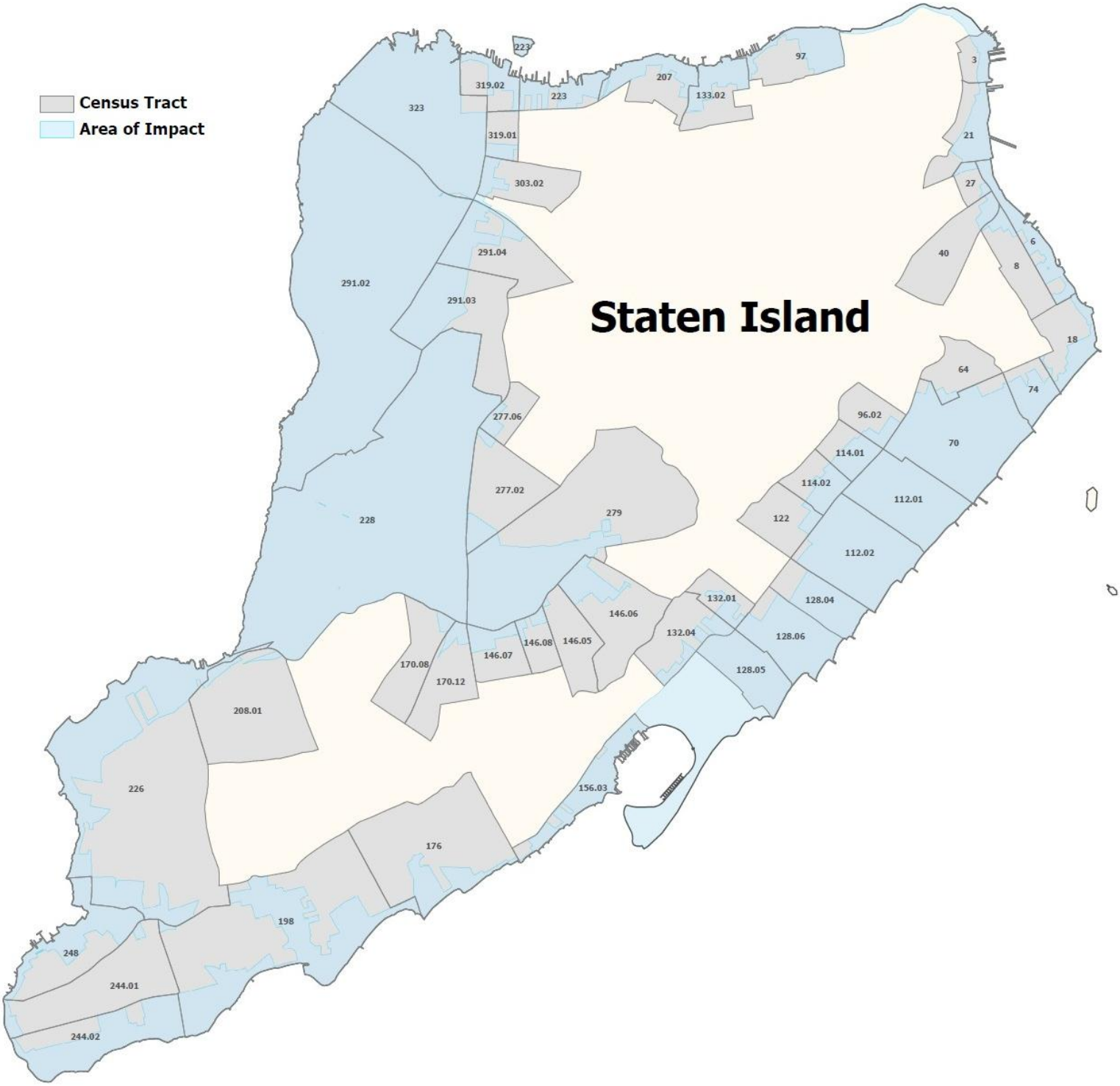

Census Tract
Area of Impact
Staten Island
223
319.02
223
207
133.02
97
3
323
319.01
21
303.02
27
291.04
40
6
8
291.02
291.03
18
64
74
277.06
96.02
70
114.01
277.02
114.02
112.01
279
122
228
112.02
132.01
128.04
146.06
132.04
128.06
146.08
146.05
146.07
170.08
128.05
170.12
208.01
156.03
226
176
198
248
244.01
244.02

Demographic and Housing Profile
Hurricane Sandy Operational Inundation Area*
New York City, 2010 Census

	New York City			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Population	846,056	100.0	8,175,133	100.0
Under 5 years	48,062	5.7	517,724	6.3
5 to 17 years	120,952	14.3	1,250,387	15.3
18 to 34 years	219,249	25.9	2,261,789	27.7
35 to 44 years	115,599	13.7	1,154,687	14.1
45 to 54 years	117,511	13.9	1,107,376	13.5
55 to 64 years	102,051	12.1	890,012	10.9
65 years and over	122,632	14.5	993,158	12.1
In Households	809,249	95.6	7,989,603	97.7
In Group Quarters	36,807	4.4	185,530	2.3
In Group Quarters	36,807	100.0	185,530	100.0
Institutionalized	23,914	65.0	70,041	37.8
Correctional Facilities for Adults	12,888	35.0	18,056	9.7
Juvenile Facilities	84	0.2	2,107	1.1
Nursing Facilities	9,481	25.8	45,516	24.5
Other Institutionalized	1,461	4.0	4,362	2.4
Non-Institutionalized	12,893	35.0	115,489	62.2
College/University Housing	3,624	9.8	51,101	27.5
Military Quarters	0	0.0	60	0.0
Other Non-Institutionalized	9,269	25.2	64,328	34.7
Housing Units	369,907	100.0	3,371,062	100.0
Occupied Housing Units	335,327	90.7	3,109,784	92.2
Occupied Housing Units	335,327	100.0	3,109,784	100.0
Renter-Occupied	220,135	65.6	2,146,892	69.0
Owner-Occupied	115,192	34.4	962,892	31.0
Average Household Size		2.41		2.57

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with floodwaters.

Civilian Non-Institutionalized Population with a Disability
Census 2010 Summary Files and American Community Survey 2009-2011 Estimates
Hurricane Operational Inundation Area in New York City*

	New York City			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Total civilian non-institutionalized population	836,990	100.0	8,106,684	100.0
With a disability	95,541	11.4	830,972	10.3
	Bronx			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Total civilian non-institutionalized population	39,727	100.0	1,360,310	100.0
With a disability	5,865	14.8	185,967	13.7
	Brooklyn			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Total civilian non-institutionalized population	308,785	100.0	2,492,534	100.0
With a disability	39,536	12.8	236,290	9.5
	Manhattan			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Total civilian non-institutionalized population	228,945	100.0	1,574,487	100.0
With a disability	23,198	10.1	153,877	9.8
	Queens			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Total civilian non-institutionalized population	184,864	100.0	2,215,874	100.0
With a disability	19,536	10.6	210,192	9.5
	Staten Island			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Total civilian non-institutionalized population	74,668	100.0	463,479	100.0
With a disability	7,406	9.9	44,646	9.6

Note: While population data were available for the Hurricane Operational Inundation Area, disability data were only available for a larger area that included all Public Use Microdata Areas (PUMAs) intersecting the Hurricane Operational Inundation Area. The percent distributions for the disability data were applied to the total civilian non-institutionalized population in the Operational Inundation Area for each respective PUMA to produce a set of estimates. PUMA estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. It should also be noted that the civilian non-institutionalized population for each borough was determined by taking the ratio of the civilian non-institutionalized population to the overall population, according to the 2009-2011 American Community Survey, and applying it to the overall population according to the 2010 Census. For consistency of comparison, the same process was used to produce overall City and borough estimates.

Ratio of Income to Poverty Level in the Past 12 Months for Persons for Whom Poverty Status is Determined
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Inundation Area in New York City*

	New York City			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
Persons for Whom Poverty Status is Determined	832,735	100.0	8,041,580	100.0
Under 1.00 (Below poverty threshold)	144,035	17.3	1,537,289	19.1
Under .50 (Extreme poverty)	61,069	7.3	679,880	8.5
.50 to .99	82,966	10.0	857,409	10.7
1.00 to 1.24 (Near poor)	39,276	4.7	412,961	5.1
1.25 to 1.49	39,357	4.7	402,813	5.0
1.50 to 1.84	46,730	5.6	522,361	6.5
1.85 to 1.99	19,652	2.4	212,097	2.6
2.00 and over	543,685	65.3	4,954,060	61.6

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with floodwaters.

Note: While population data were available for the Hurricane Operational Inundation Area, poverty data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the poverty data were applied to the population for whom poverty was determined (the poverty universe) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. It should also be noted that the poverty universe for each borough was determined by taking the ratio of the poverty universe to the overall population, according to the 2006-2010 American Community Survey, and applying it to the overall population according to the 2010 Census. For consistency of comparison, the same process was used to produce overall City and borough estimates.

	New York City Inundation Area									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	102,790	100.0%	812,894,840	100.0%	410,606,050	100.0%	401,440	100.0%	100,994	100.0%
One & Two Family Buildings	69,281	67.4%	133,031,679	16.4%	133,022,220	32.4%	101,969	25.4%	82,264	81.5%
Multi-Family Walk-Up Buildings	8,825	8.6%	46,270,792	5.7%	45,936,551	11.2%	52,625	13.1%	12,550	12.4%
Multi-Family Elevator Buildings	893	0.9%	150,764,892	18.5%	146,688,453	35.7%	154,316	38.4%	1,650	1.6%
Mixed Residential and Commercial Buildings	3,089	3.0%	92,463,298	11.4%	78,594,913	19.1%	89,369	22.3%	4,065	4.0%
Commercial and Office Buildings	2,709	2.6%	110,608,568	13.6%	537,758	0.1%	707	0.2%	213	0.2%
Industrial and Manufacturing	2,685	2.6%	87,220,805	10.7%	204,184	0.0%	293	0.1%	100	0.1%
Transportation and Utility	1,587	1.5%	54,624,859	6.7%	52,067	0.0%	31	0.0%	42	0.0%
Public Facilities and Institutions	1,046	1.0%	99,174,877	12.2%	5,504,647	1.3%	1,914	0.5%	83	0.1%
Open Space and Outdoor Recreation	1,553	1.5%	26,977,620	3.3%	47,930	0.0%	17	0.0%	17	0.0%
Parking Facilities	1,775	1.7%	7,462,622	0.9%	-	0.0%	-	0.0%	-	0.0%
Vacant Land	8,049	7.8%	13,107	0.0%	4,587	0.0%	-	0.0%	-	0.0%
No Data	1,298	1.3%	4,281,721	0.5%	12,740	0.0%	199	0.0%	10	0.0%

	New York City									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	858,968	100.0%	5,384,064,839	100.0%	3,481,433,365	100.0%	3,424,836	100.0%	917,916	100.0%
One & Two Family Buildings	563,788	65.6%	1,107,942,751	20.6%	1,107,886,836	31.8%	814,770	23.8%	677,317	73.8%
Multi-Family Walk-Up Buildings	129,807	15.1%	733,071,747	13.6%	728,670,636	20.9%	838,882	24.5%	164,141	17.9%
Multi-Family Elevator Buildings	11,658	1.4%	1,085,937,630	20.2%	1,052,655,082	30.2%	1,109,550	32.4%	15,383	1.7%
Mixed Residential and Commercial Buildings	48,479	5.6%	716,367,625	13.3%	563,365,287	16.2%	628,303	18.3%	56,549	6.2%
Commercial and Office Buildings	24,338	2.8%	763,448,885	14.2%	5,095,359	0.1%	7,122	0.2%	2,199	0.2%
Industrial and Manufacturing	12,153	1.4%	263,088,198	4.9%	2,139,665	0.1%	2,129	0.1%	720	0.1%
Transportation and Utility	6,617	0.8%	75,442,694	1.4%	252,679	0.0%	203	0.0%	222	0.0%
Public Facilities and Institutions	11,959	1.4%	559,598,872	10.4%	20,183,750	0.6%	23,503	0.7%	1,312	0.1%
Open Space and Outdoor Recreation	4,897	0.6%	38,007,145	0.7%	935,964	0.0%	41	0.0%	32	0.0%
Parking Facilities	11,499	1.3%	35,373,545	0.7%	68,467	0.0%	94	0.0%	14	0.0%
Vacant Land	29,628	3.4%	364,374	0.0%	121,599	0.0%	14	0.0%	-	0.0%
No Data	4,145	0.5%	5,421,373	0.1%	58,041	0.0%	225	0.0%	27	0.0%

Selected Housing Characteristics
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Impact Area in New York City*

	New York City			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
UNITS IN STRUCTURE (PLUTO distribution applied to 2010 Census control)				
Total housing units	369,907	100.0	3,371,062	100.0
One & Two Family Buildings	107,133	29.0	822,717	24.4
Multi-Family Walk-Up Buildings	53,073	14.3	828,722	24.6
Multi-Family Elevator Buildings	134,683	36.4	1,080,418	32.0
Mixed Residential and Commercial Buildings	72,197	19.5	606,838	18.0
Other	2,822	0.8	32,368	1.0
YEAR STRUCTURE BUILT (PLUTO distribution applied to 2010 Census control)				
Total housing units	369,907	100.0	3,371,062	100.0
Built 2000 or later	39,715	10.7	227,866	6.8
Built 1990 to 1999	12,789	3.5	81,110	2.4
Built 1980 to 1989	21,190	5.7	122,847	3.6
Built 1970 to 1979	31,367	8.5	184,761	5.5
Built 1960 to 1969	77,869	21.1	400,374	11.9
Built 1950 to 1959	55,544	15.0	381,862	11.3
Built 1940 to 1949	24,823	6.7	216,145	6.4
Built 1930 to 1939	39,107	10.6	476,732	14.1
Built 1920 to 1929	37,118	10.0	700,590	20.8
Built 1910 to 1919	11,823	3.2	287,255	8.5
Built 1900 to 1909	12,457	3.4	210,162	6.2
Built Before 1900	3,234	0.9	62,829	1.9
Unknown	2,871	0.8	18,530	0.5
ROOMS (ACS distribution applied to 2010 Census control)				
Total housing units	369,907	100.0	3,371,062	100.0
1 room	22,632	6.1	204,957	6.1
2 rooms	29,785	8.1	232,076	6.9
3 rooms	84,072	22.7	833,525	24.7
4 rooms	96,792	26.2	840,265	24.9
5 rooms	61,961	16.8	565,197	16.8
6 rooms	35,165	9.5	333,449	9.9
7 rooms	15,959	4.3	145,998	4.3
8 rooms	9,309	2.5	83,473	2.5
9 rooms or more	14,230	3.8	132,121	3.9
VEHICLES AVAILABLE (ACS distribution applied to 2010 Census control)				
Occupied housing units	335,327	100.0	3,109,784	100.0
No vehicles available	170,701	50.9	1,704,988	54.8
1 vehicle available	109,404	32.6	975,973	31.4
2 vehicles available	42,535	12.7	335,915	10.8
3 or more vehicles available	12,687	3.8	92,908	3.0
TELEPHONE SERVICE (ACS distribution applied to 2010 Census control)				
No telephone service available (excluding cell phones)	15,584	4.6	157,721	5.1

	New York City			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
HOUSE HEATING FUEL (ACS distribution applied to 2010 Census control)				
Occupied housing units	335,327	100.0	3,109,784	100.0
Utility gas	201,646	60.1	1,683,818	54.1
Bottled, tank, or LP gas	4,231	1.3	44,974	1.4
Electricity	39,691	11.8	258,890	8.3
Fuel oil, kerosene, etc.	78,650	23.5	1,048,618	33.7
Coal or coke	282	0.1	2,630	0.1
Wood	238	0.1	1,821	0.1
Solar energy	302	0.1	790	0.0
Other fuel	5,419	1.6	36,993	1.2
No fuel used	4,866	1.5	31,250	1.0
VALUE (ACS distribution applied to 2010 Census control)				
Owner-occupied units	115,192	100.0	962,892	100.0
Less than $50,000	3,763	3.3	23,593	2.5
$50,000 to $99,999	2,034	1.8	22,852	2.4
$100,000 to $149,999	2,541	2.2	22,185	2.3
$150,000 to $199,999	4,219	3.7	33,125	3.4
$200,000 to $299,999	9,615	8.3	77,914	8.1
$300,000 to $499,999	35,323	30.7	282,048	29.3
$500,000 to $999,999	47,414	41.2	393,911	40.9
$1,000,000 or more	10,282	8.9	107,264	11.1
GROSS RENT (ACS distribution applied to 2010 Census control)				
Occupied units paying rent	214,741	100.0	2,091,175	100.0
Less than $200	5,821	2.7	39,111	1.9
$200 to $299	16,076	7.5	98,747	4.7
$300 to $499	18,786	8.7	132,189	6.3
$500 to $749	32,986	15.4	260,064	12.4
$750 to $999	33,769	15.7	398,756	19.1
$1,000 to $1,499	52,184	24.3	674,842	32.3
$1,500 or more	55,120	25.7	487,465	23.3
No rent paid	5,394		55,717	
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) (ACS distribution applied to 2010 Census control)				
Occupied units paying rent (excluding units where GRAPI cannot be computed)	210,504	100.0	2,048,952	100.0
Less than 15.0 percent	34,768	16.5	294,824	14.4
15.0 to 19.9 percent	25,135	11.9	237,920	11.6
20.0 to 24.9 percent	25,042	11.9	238,490	11.6
25.0 to 29.9 percent	25,319	12.0	225,497	11.0
30.0 to 34.9 percent	21,416	10.2	184,014	9.0
35.0 percent or more	78,823	37.4	868,208	42.4
Not computed	9,631		97,940	

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Note: While general housing data were available for the Hurricane Operational Inundation Area, more detailed housing data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the detailed housing data were applied to the general housing data (housing units, occupied housing units, owner occupied housing units, and renter occupied housing units) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. For consistency of comparison, the same process was used to produce overall City and borough estimates.

IV. FUNDING JUSTIFICATIONS

New York City plans to spend its initial allocation of $1.77 billion of CDBG-DR funds to address the most urgent housing, business, and infrastructure needs in the neighborhoods hardest hit by Hurricane Sandy through several new programs, which fall into three categories of immediate need (housing recovery, business recovery, and infrastructure and other City costs) and one program under development (long-term resilience). Funds will also be used for administration of the programs and for long-term planning. The City's programs are described below.

Housing Recovery – $648 Million

Of the $648 million allocated for housing assistance through the build it Back Program, the City allocated $521 million to fund a permanent housing recovery program that will address a significant portion of the $1.4 billion identified as the unmet need for single-family and multi-family homeowners and landlords. Within this program, the City has further broken down funding into allocations for different types of assistance to address the distinct needs of homes, multi-family buildings, and public housing as follows:

- $306 million to provide for the rehabilitation and reconstruction of single-family homes (one to two units) that are either occupied by the homeowner or year-round tenants; and
- $215 million to provide for the rehabilitation of multi-family buildings (five or more units) and small multi-family buildings (three to four units).

This breakdown is proportional to the overall gross need breakdown (60% vs. 40%) when grouped as NYC houses and multi-family buildings.

The City also allocated $108 million to NYCHA for targeted efforts to strengthen resilience to future floods. This allocation provides for an immediate need to ensure NYCHA can move forward with a program for these critical resilience efforts. All of NYCHA's damaged properties are eligible for FEMA Public Assistance that covers all rehabilitations and a significant portion of resilience costs. However, to complete additional rehabilitation work and provide resiliency to the more at-risk non-damaged properties, NYCHA is required to directly pay for costs that are not paid by FEMA or insurance.

Finally, the City has allocated an initial amount of $19 million for a rental subsidy program to serve low-income households displaced by Hurricane Sandy.

The Action Plan's "Housing" section provides descriptions of how the City's programs and related paths for assistance will use the allocated funds. The City also identifies how future funding allocations will potentially be used, including the articulation of potential housing programs not funded by the first round of NYC's CDBG-DR funding allocation.

Business Recovery/Infrastructure Resilience – $293 Million

Loans and Grants: $72 million to provide loans and grants to as many as 750 businesses impacted by Hurricane Sandy. This program will provide expedited low-interest loans of up to $150,000 on similar terms to the City's existing emergency loan program; provide expedited grants of up to $60,000 to affected businesses; and select Community Development Finance Institutions to administer additional loan and grant programs. The City may, at its discretion, provide loans of up to $1 million and grants of up to $100,000 to businesses that can demonstrate significant additional damage. Businesses that can

demonstrate extreme hardship may be eligible to receive, at the City's discretion, a grant without receiving a loan.

Business Resiliency Investments: $90 million to provide grants to companies for physical investments to improve resiliency to severe weather. The program is anticipated to fund between 50-75%, up to $2 million, of the cost of specified physical improvements that will improve an estimated 13 million square feet of commercial space.

Neighborhood Game-Changer Investment Competition: $90 million to jump-start economic activity in the five Business Recovery Zones by allocating, through "Race-to-the-Top"-style competitions, grants to the most innovative and effective investment ideas for spurring long-term economic growth. Possible ideas could include attraction of growing companies and/or companies of significant size; attraction of companies that serve the needs of underserved populations, including those with disabilities; or other transformative investments in key corridors.

Infrastructure and Building Resiliency Technologies Competition: $41 million to allocate, through a "Race-to-the-Top"-style competition, grants to the most innovative and cost-effective measures to improve building and infrastructure resiliency. Grants will be allocated to identify technologies and measures that improve the resiliency of (1) critical infrastructure networks, and (2) building systems.

Infrastructure and Other City Services - $360 Million

In this Partial Action Plan, the City is dedicating to direct City agency costs an allocation of $360 million, nearly one-third of the total unmet need for these costs. Of this, $237 million has been allocated for public service activities that assisted the public during and after the storm, $1 million has been allocated for emergency demolition, $8 million has been allocated for debris removal and clearance, and $1 million has been allocated for code enforcement, $15 million has been allocated for the rehabilitation and reconstruction of public facilities, and $98 million has been allocated for interim assistance. The City plans to use CDBG-DR funds to leverage the non-federal share of FEMA Public Assistance disaster grants. The City is prioritizing its funds to address its public hospitals, public safety, and for the restoration of its beaches. These services, and the additional programs identified, have been prioritized both for the speed with which funds can be expended as well as for their benefit to low- and moderate-income persons. This will enable the City to expend funds within two years, which is a requirement of the appropriation.

The City expects to employ a range of mitigation measures as it restores and rehabilitates structures. These measures include raising boilers and electrical systems above the Advisory Base Flood Elevation levels. Additional mitigation needs will be determined on a site-specific basis.

Resilience - $294 Million

The Special Initiative on Rebuilding and Resiliency (SIRR) is responsible for developing a plan to make New York City more resilient to the impacts of climate change. SIRR released a report on June 11, 2013 which included recommendations , will identify a variety of specific unmet resiliency needs related to Hurricane Sandy that will be eligible for and dependent upon Federal and other funding sources, including CDBG-DR funds. The City's proposed plans for such CDBG-DR funds, which will be the subject of a future Partial Action Plan, will likely include the costs of further studies, pilot programs, and implementation activities associated with planning and development on the part of involved agencies including, but not limited to, the Department of City Planning, the New York City Economic Development Corporation, and the Mayor's Office of Long-Term Planning and Sustainability.

Planning and Administration - $178 Million

The City will use CDBG-DR funds for long-term community planning and rebuilding efforts, such as the planning and implementation of neighborhood recovery strategies; citywide zoning changes; urban design; geographic, demographic and legal support; environmental review of zoning and land use changes; integration of coastal protections into local land use and waterfront planning; and increasing resilience of enclosed industrial facilities.

Additionally, the City must provide administrative and support services necessary to formulate, implement, and evaluate the City's CDBG-DR programs. Such activities include preparation of and amending the CDBG-DR Action Plan; ensuring the public is aware of and understands the Plan; developing program policies and procedures; monitoring program expenditures; ensuring compliance with all requirements, etc.

Please note that the Planning and Administration allocations are based on the best data currently available. It can be anticipated that, as programs are implemented and actual needs are determined, these allocations and those of the programs listed above will be adjusted accordingly. However, neither planning nor administrative expenses will surpass their statutory caps of 15% and 5%, respectively.

Proportionality of CDBG-DR Allocation to Unmet Needs

The following table demonstrates the proportionate allocation of resources relative to areas and categories of unmet need. These figures are based upon best available data and projections for unmet need as defined in the individual unmet need sections. For more information on these amounts, please see the analyses of unmet need in each Action Plan section.

Table: CDBG-DR Allocations in Relation to Unmet Need (Amounts in Millions)

Category	Allocation by Category	% of Total Allocation	Unmet Need by Category*	% of Total Unmet Need*
Housing	$648	41%	$6,610	42%
Business	$293	18%	$2,400	15%
Infrastructure & City Costs	$360	23%	$4,300	27%
Resilience	$294	18%	$2,400	15%
Total	**$1,595**		**$15,710**	

*Note: These figures are estimates based upon the best available data. Numbers may be adjusted as more accurate data is identified.

V. SOURCES OF FUNDING TO BE LEVERAGED

The CDBG-DR allocation of $1.77 billion will be leveraged by numerous other sources of Federal, State, City, and private funding. The allocation of these combined funds will result in a more comprehensive and effective recovery effort by: 1) ensuring that a wide and diverse range of recovery needs are met; 2) assuring flexibility to address short-term and long-term recovery needs; 3) enabling communities to meet needs that would not likely be addressed by other funding sources; and 4) assisting communities to better position themselves to meet their post-disaster recovery needs.

The CDBG-DR Housing allocation will be leveraged against numerous other sources of Federal, State, City, and private funding, including proceeds from FEMA (Individual Assistance, Hazard Mitigation Grant Program, and Public Assistance), SBA Disaster Loans, National Flood Insurance Program payouts, private insurance payouts, and other Disaster Relief Appropriation funds. In compliance with program guidelines and regulations, CDBG-DR housing funding has been allocated toward recovery efforts in the most impacted and distressed areas of the City to support unmet needs not funded by these sources.

In addition to Federal sources and private insurance payouts, the private sector – both philanthropic and for-profit – has a role in providing financial resources to New Yorkers impacted by Hurricane Sandy. Since the storm, the Mayor's Fund to Advance New York City has been a critical support in the relief and recovery efforts. The goal of these privately-funded programs is to leverage flexible capital to begin to address immediate unmet housing needs while the CDBG-DR programs are put in place. A few of the housing-related programs are as follows:

- Neighborhood Recovery Fund and Counseling: The Center for New York City Neighborhoods, through support from the Mayor's Fund and Goldman Sachs Gives, deployed $1.4 million in new funding to help affected homeowners. The Mayor's Fund funded a network of housing counselors and legal services professionals to help homeowners secure resources and relief from FEMA, insurance providers, and other public and private programs. Goldman Sachs supported a complementary Neighborhood Recovery Fund, an emergency grant program that provides direct assistance with unmet needs to homeowners impacted by the storm and is already oversubscribed.
- Mold Removal and Safe Practices Training: The mold program is supported by more than $13 million in private funds from the Mayor's Fund, the American Red Cross, and the Robin Hood Foundation. The goal of the program is to remove mold in approximately 2,000 homes in the hardest hit areas. The work is administered by Neighborhood Revitalization NYC, an affiliate of the Local Initiatives Support Corporation (LISC), a community development non-profit corporation with 30 years of experience working in New York City. In addition to the direct mold treatment program, the Mayor's Fund is sponsoring awareness and safe practices workshops on mold led by a consortium of university partners, which include free supplies. The workshops are scheduled in targeted locations, including NYCHA campuses, with the help of City and community partners.
- Non-Profit Rebuilding Consortium: The City is working to leverage private resources and harness the work of voluntary agencies and contractors to begin making rehabilitations to homes in advance of the formal launch of the CDBG-DR program. The Mayor's Fund to Advance New York City, in partnership with HRO and other agencies, has created the NYC Home Repairs Consortium (the Consortium) that will select, fund, and oversee a set of non-profits to scale their rehabilitation work and serve more homes; coordinate their efforts to ensure rehabilitations to a targeted group of homes; streamline interaction between organizations; leverage City programs; and use private dollars to rehabilitate homes in advance of the launch of the CDBG-DR program.

The Department of Housing Preservation and Development's (HPD) loan programs almost always seek to leverage private investment to combine with subsidy. The City will continue this practice with CDBG-DR recovery loans, beginning with programs launched immediately after the storm:

- Emergency Loan Program: Neighborhood Housing Services (NHS), through its Emergency Loan Program, provides owner-occupants of one- to four-unit homes with loans and grants to repair water mains, boilers, sewer lines, sidewalk violations, roofs, plumbing, and electrical problems, and to eliminate conditions dangerous to health and safety. The maximum loan amount is $10,000, with low-interest rates and a maximum term of five years. NHS also operates the Landlord One emergency loan program for small property owners, corporations, non-profit owners, investors, and owner-occupants of 5- to 20-unit residential and mixed-use buildings in the five boroughs. The maximum loan amount is $25,000, which is available in increments of $10,000, $15,000, $20,000, and $25,000. The funds can be used to replace building-wide systems, eliminate code violations, upgrade vacant apartments, eliminate dangerous health and safety conditions, and make other essential rehabilitations.
- Storm Recovery Loan Program: HPD, in partnership with the Community Preservation Corporation (CPC) and Citi Community Capital, created the Storm Recovery Loan Program to provide loans to rehabilitate multi-family buildings (five or more units) damaged by Sandy. HPD provides City Capital or Federal funds at 1% interest. Combined with CPC conventional financing, the blended financing cost is significantly below market. The funds may be used for moderate or substantial rehabilitation of multiple dwellings damaged by the storm. Uses include refinancing existing debt, repairing damage, and/or mitigating future storm impacts.

Through CDBG-DR-funded recovery loans, HPD will be serving a diverse universe of building types, heavily concentrated in specific geographic areas, which limits its ability to extrapolate leverage projections based on past lending history. At this point, HPD tentatively projects that it will generate about $25 in private investment for every $100 of subsidy invested. That leverage estimate is subject to change, but HPD remains committed to a lending model that blends private capital with subsidy.

NYC Service is a City agency that leads targeted volunteer opportunities and initiatives. Since the storm, NYC Service, the FEMA Volunteerism staff, and the housing agencies have leveraged support and work from the volunteer community and served as an interface for coordination with the City's recovery efforts.

NYCEDC will leverage other funding sources in a number of ways. The existing loan and grant program leverages funds from private investors with funds from Goldman Sachs and 23 additional banks. In the Business Loan and Grant Program, which may seek additional administrators, one of the selection criteria will be the administrator's ability to leverage other funding sources. Based on its experience with the Cap Access loan guaranty program, NYCEDC estimates that it may be able to leverage funds up to five times. In addition, one of the selection criteria for choosing proposals in the Neighborhood Game Changers program will be the ability of the respondent to leverage private investment.

The CDBG-DR allocation for Infrastructure and Other City Services will be leveraged against supplemental sources of federal funds allocated toward recovery, including FEMA (Public Assistance Grant Program and Hazard Mitigation Grant Program), the U.S. Army Corps of Engineers, Federal Highway Administration, SBA Disaster Loans, and National Flood Insurance Program payouts.

The CDBG-DR allocation for Resilience will be leveraged against and dependent upon a variety of other funding sources. The Special Initiative for Rebuilding and Resiliency ("SIRR") report released on June 11, 2013 identifies specific needs and additional funding sources.

VI. CDBG-DR PROGRAM ALLOCATIONS

Program	CDBG-DR Allocations ($ millions)	% of Funds Expected to Benefit Low/Mod Persons	Total Funds Expected to Benefit Low/Mod Persons
Housing Programs	***$648***		***$439***
NYC Houses Rehabilitation and Reconstruction	$306	55%	$168
Rental Assistance	$19	100%	$19
Multi-Family Building Rehabilitation	$215	67%	$144
Public Housing Rehabilitation and Resilience	$108	100%	$108
Business Programs	***$293***		***$81***
Business Loan and Grant Program	$72	50%	$36
Business Resiliency Investment Program	$90	50%	$45
Neighborhood Game Changer Investment Competition	$90	TBD	TBD
Infrastructure and Business Resiliency Technologies Competition	$41	TBD	TBD
Infrastructure and Other City Costs	***$360***		***$206***
Public Services	$237	78%	$186
Emergency Demolition	$1	0%	$0
Debris Removal/Clearance	$8	100%	$8
Code Enforcement	$1	0%	$0
Rehabilitation/Reconstruction of Public Facilities	$15	80%	$12
Interim Assistance	$98	0%	$0
Resilience	***$294***		***$150***
Coastal Protection	$174	51%	$89
Building Mitigation Incentive Program	$120	51%	$61
Citywide Administration and Planning	***$178***		
Planning*	$90	N/A	N/A
Administration*	$88	N/A	N/A
TOTAL	$1,773	54.9%	$876

*These initial allocations are based on the best data currently available and reflect projections of need to support the programs. It can be anticipated there will be future adjustments based on actual experience once programs are implemented; however, neither planning nor administrative expenses will surpass their statutory caps of 15% and 5%, respectively.

Please note that, although New York City has identified the programs to which it will commit its first Hurricane Sandy CDBG-DR allocation, the City intends to pursue incremental obligations, as agreed to in consultation with HUD, in order to control the expenditure and delivery of these funds in the most efficient and effective manner. Funding for the City's Resiliency Investments will be requested in a future Partial Action Plan amendment. Under this initial incremental obligation, New York City is requesting 29% of the remaining funds, which is broken out as follows:

- $25 million for its Housing Programs,
- $50 million for its Business Programs,
- $300 million for its Infrastructure and Other City Costs, and
- $50 million for Citywide Planning and Administration.

This initial obligation is based on a preliminary assessment of the City's immediate expenditure needs, which includes costs already incurred and program start-up costs. As additional funds are needed based on the rate of actual demand, expanded delivery capacity, and program ready implementation, the City will request from HUD the obligation of further funds against the full allocations.

Please note that the amounts in the allocation chart have been revised since the draft Partial Action Plan was released. In the previous version, the City did not break out specific amounts for Planning and Administration activities; instead, it noted that the cost of these activities would not surpass the HUD-defined CDBG-DR expenditure caps. During the comment period, HUD requested that the City establish specific allocations for these programs. As stated in the footnote to the chart, these allocations are based on the best currently available projections of need to support the programs. It is anticipated that there will be future adjustments based on actual experience once programs are implemented.

Please also note that, in response to public comments, the City has broken out the Rental Assistance program, which was previously part of the NYC Houses Rehabilitation and Reconstruction program, as a separate program. The City felt it was necessary to clarify the purpose of this program, which is intended to serve vulnerable populations impacted by Sandy, including low-income families and those that may be at risk of homelessness. Please see the "Housing" section of the Action Plan for further details on this program.

VII. HOUSING

Needs Assessment

Impact to the City's Housing Stock

To understand the significant damage Hurricane Sandy caused to New York City's housing stock and the need for temporary and permanent housing, the City analyzed field inspections and a variety of data sources to estimate the number and severity of damaged buildings across the five boroughs. These data sources include Department of Buildings (DOB) and Department of Housing Preservation and Development (HPD) inspections, FEMA building inspections, inundation assessments, utility outages, and registrations for the Rapid Repairs program. The City also worked in close partnership and consultation with the New York City Housing Authority (NYCHA) to quantify the storm's impact on its buildings.

Public Housing

While no NYCHA buildings sustained permanent structural damage due to the storm, many buildings' systems – essential for supporting the living conditions for tens of thousands of New Yorkers served by NYCHA – were significantly impacted.

- Over 400 buildings in Brooklyn, Queens, and Manhattan, with 35,000 residential units housing roughly 80,000 residents, were affected significantly by Sandy. Of the over 400 buildings, 402 lost power and, with it, elevator and compactor service. 386 buildings lost heat and hot water.
  - In Coney Island, 42 buildings – home to 8,882 residents – were impacted.
  - In the Rockaways, 60 buildings – home to 10,100 residents – were impacted.
  - In Red Hook, 32 buildings – home to 6,173 residents – were impacted.
  - In Manhattan, 176 buildings – home to 41,513 residents – were impacted.
- NYCHA developments in Coney Island were especially impacted due to substantial sand and saltwater infiltration. The systems damage in other developments was due mostly to flooding.
- An additional 356 NYCHA buildings at 97 developments in all five boroughs sustained moderate damage, mostly due to wind damage to roofs and façades.

Housing (excluding public housing)

Based on the analyses conducted, the City estimates that more than 69,000 residential units have been impacted by physical damage as a result of Hurricane Sandy. In addition, many thousands of New Yorkers were temporarily displaced from their homes due to power outages or other service interruptions. The housing team is continuously coordinating with and gathering information from the Department of Homeless Services (DHS) and its social service providers supporting the New Yorkers who are sheltering in hotels run by FEMA and the City. The New York City Housing Recovery Portal website (www.nyc.gov/housingrecovery) is a resource that allows residents impacted by the storm to register with the City and be referred to vacant affordable housing or, depending on eligibility, a NYCHA unit. The Portal provides the City with further information about impacted residents with housing needs, including accessible housing for people with disabilities. However, given the dynamic nature of post-disaster housing, there is no accurate way to definitively quantify the number of families displaced at any given time.

The City's analysis shows that there are three main categories of housing damage, excluding the NYCHA housing stock described previously:

- **Severe damage (Reconstruction required):** More than 800 buildings (more than 900 units) were destroyed or became structurally unsound. More than 95% of these buildings are one- or two-family homes.
- **Major damage:** Approximately 1,700 buildings (more than 20,000 units) suffered major damage, of which approximately 1,400 are one- or two-family homes. Major damage typically corresponds to flooding of basements and ground floor living spaces.
- **Moderate damage:** Approximately 16,000 buildings (more than 42,000 units) suffered moderate damage, of which approximately 15,000 are one- or two-family homes. Moderate damage typically corresponds to basement flooding with little or no impact to ground floor living spaces.

New York City's Response to Impact to the Housing Stock

Department of Environmental Protection (DEP): NYC Rapid Repairs

Typically after a disaster of Hurricane Sandy's magnitude, families are forced to re-locate for extended periods of time to shelters and other forms of temporary housing, which delays the real recovery that begins when families return to their homes. Founded on the premise that the best temporary shelter is permanent shelter, the City implemented the Rapid Repairs program, which restores the basic services that families need to return home. Rapid Repairs is New York City's implementation of FEMA's Sheltering and Temporary Essential Power (STEP) program, created to address the unique housing challenges created by Hurricane Sandy. STEP funds emergency and necessary residential repairs such as restoration of temporary electricity, heat, and hot water so that residents can remain in their homes while permanent repair work continues.

DEP administers the Rapid Repairs program, which was first announced on November 9, 2012. Through Rapid Repairs – the first program of its kind – the City has deployed dozens of contractors and thousands of skilled construction workers to make emergency repairs, free of charge, on residential properties affected by Hurricane Sandy. The assistance provided through Rapid Repairs does not impact the assistance that families are eligible to receive through FEMA's Individual Assistance program. All work is supervised by the City and compliant with the relevant safety and building codes.

The program ended in March of 2013. NYC Rapid Repairs assisted over 11,500 buildings comprising nearly 20,000 residential units, in the five boroughs. Rapid Repairs has also provided significant construction opportunities for the City's Minority- and Women-Owned Business Enterprises (MWBEs). Rapid Repairs employed 9 prime contractors and approximately 185 subcontractors, including 37 MWBEs.

Rapid Repairs also provided priority assistance to people with disabilities by installing ramps so people could gain access into their homes.

Department of Housing Preservation and Development (HPD)

HPD, in conjunction with the Housing Development Corporation (HDC) and other key partners, has designed and implemented a number of housing and neighborhood relief and recovery programs to help stabilize those whose housing was impacted by Sandy. HPD specifically led the following key work streams to address immediate relief and response efforts:

Field Operations

HPD staff immediately started working in the affected neighborhoods, bringing relief to residents whose homes and buildings required services.

- Inspections, Emergency Repairs, and Demolitions: HPD attempted more than 9,100 inspections at approximately 6,000 properties affected by Sandy and notices were mailed to the owners of these properties. HPD has also assisted agency partners and private owners with finding resources to restore essential services. HPD is responsible for the demolition of approximately 400 affected structures, and is conducting emergency repair work in affected multi-unit properties where owners are not participating in Rapid Repairs. In addition, HPD has conducted community outreach in several affected areas. Approximately 900 survey visits to buildings were conducted and approximately 1,150 calls and 5,000 robo-calls were made to owners. A special e-mail address (HPDSandyIssues@hpd.nyc.gov) was created for owners who have property damage resulting from Sandy that would result in a Housing Code violation under normal circumstances.
- As of January 25, 2013, approximately 200 HPD staff members had been working overtime on critical Sandy-related recovery efforts in partnership with FEMA and other City agencies. HPD staff members were assigned to the three areas below:
  - Housing Recovery Link Desk/Hotel Operations: perform intake, data management, and technical assistance; assist 311 callers with registering online and addresses caller issues; liaise with FEMA, HPD's Code Enforcement Division, and other City agencies.
  - Restoration Centers: assist residents with registration for the Rapid Repairs program, conduct follow-ups, and coordinate services with contractors; help residents connect to City services including interim housing; and assist homeowners with HPD mortgages or liens who need insurance/FEMA checks endorsed.
  - Rapid Repairs: assist contractors in assessing properties for repairs.

Financial Sector

HPD convened banks and other housing and financial industry partners to develop new loan and grant programs. These proposals build on existing expertise and programs in both the private and public sector and on lessons learned from past disasters. The working group's discussions both drive immediate storm response and shape plans for use of CDBG-DR funds.

Developer Coordination and Housing Match Program

HPD, in conjunction with HDC, the U.S. Department of Housing and Urban Development (HUD), and the New York State Division of Homes and Community Renewal (HCR), worked with development partners at the NYS Association for Affordable Housing, the Real Estate Board of New York, and the Rent Stabilization Association to identify vacant apartments at different levels of affordability and make them available to affected New Yorkers.

The New York City Housing Recovery Portal website was launched in December 2012 for NYC residents displaced by Hurricane Sandy. Households could register with HPD, which sought to identify alternative housing options for that household. As of March 2013, 1,831 accounts had been created and 1,687 registrations had been completed. Income-eligible New Yorkers may also have been referred to public housing vacancies within NYCHA.

In addition to the Portal, HPD explored other housing options including a Section 8 Housing Choice Voucher pilot program. The pilot program provided approximately 111 Housing Choice Vouchers to displaced New Yorkers affected by Hurricane Sandy who meet eligibility requirements.

Non-Profit Coordination

HPD, in partnership with the Citizens Housing and Planning Council (CHPC), collaborated with established non-profit organizations to assist affected residents and rehabilitate damaged housing.

- Canvassing: HPD convened non-profits including CHPC, Local Initiatives Support Corporation (LISC), Mutual Housing Association of New York (MHANY), Center for NYC Neighborhoods (CNYCN), and others to develop and administer tenant needs assessment surveys. Staff developed and distributed fact sheets on humanitarian resources (Restoration Centers, warming centers, food distribution, Rapid Repairs, FEMA registration, etc.).
- Proposal development: HPD reviewed, developed, and aligned multiple recovery initiatives proposed to the Mayor's Fund by groups such as Enterprise Community Partners, LISC, Habitat, Restored Homes, and CNYCN.
- Communications: HPD sent periodic e-mail blasts to non-profit partners providing updates on City initiatives and resources and coordinated briefings and structured feedback between non-profits and City agencies (HPD, Mayor's Office of Housing Recovery Operations [HRO], and HDC).

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. (For an analysis of how Hurricane Sandy affected the City's existing homeless population, please see the "Impact to the City's Homeless Population" section.)

Emergency Shelter

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 provided staff to the UORC; DHS employees made up the largest percentage of workers. 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 Evacuation Zone A to protect shelter residents. The closing and opening of shelters was manageable because of immense preparation and planning for such an emergency. Notwithstanding the magnitude and devastation of Hurricane Sandy, DHS continued to meet its mandate to shelter all eligible New Yorkers and manage a homeless shelter program totaling approximately 48,000 individuals (single adults and families).

DHS deployed staff to various sites, resulting in overtime costs in three main areas of service to the public: sheltering families and single adults (who were no longer able to stay in their homes) in evacuation centers; setting up and staffing evacuation centers and providing equipment, volunteers, supplies, etc.; and

setting up and staffing the 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 American 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 provided services to approximately 3,132 displaced households across 50 different locations. Organizations provided case management services and connecting evacuees to any City or Federal benefits for which they may be eligible and are also helping with housing plans including collaborating with FEMA to ensure that all eligible evacuees have registered with the appropriate programs.

Homebase

The role of Homebase at the Restoration Centers was to provide information on temporary housing options and, when available, immediate hotel/apartment placement. Individuals displaced by the storm were counseled by Homebase staff at Restoration Centers beginning on November 15, 2012. Providers included the Archdiocese of New York, BronxWorks, CAMBA, Catholic Charities of Queens, HELP USA, and Palladian. By November 29, 2012, Homebase sites were making hotel placements with the Hotel Operations Desk.

In addition to making emergency shelter placements, Homebase assisted consumers with navigating the array of benefits and assistance available to them. Of those served, 33% were referred to FEMA; 24% were referred to HRA; 36% were assisted with the HPD Housing Recovery Portal; and 16% were referred to NYCHA. (Please note that individuals may have been referred to more than one organization.)

Relocation Services

DHS and the Mayor's Fund to Advance New York City were responsible for moving furniture donated to affected residents who relocated into permanent housing in NYCHA apartments.

Providing Adequate Housing for All Income Groups

NYCHA, HPD, HDC, HRO, and the Department of Environmental Protection (DEP), which administers the Rapid Repairs program, are active partners in developing the housing element of the Action Plan. To identify and address the needs of housing across all income groups and housing types impacted by Hurricane Sandy, the team has actively engaged community stakeholders to gather input on how to serve the range of household types affected by the storm. These agencies have worked collaboratively to address housing needs in developing programs to be leveraged with CDBG-DR funds. As demonstrated in the Unmet Needs section of the Action Plan, there are substantially greater needs than there are resources to address them.

City leadership established a foundation for recovery that focuses on resiliency. They have made the difficult decision to enforce the requirement for Hurricane Sandy-impacted New Yorkers to reconstruct to a higher standard than was in place before the storm. As evidenced by the impacts on properties that were built after floodplain management requirements became law, buildings with materials and methods targeted to be disaster resistant were measurably less impacted than those built prior to the requirements. The Mayor's Special Initiative for Rebuilding and Resiliency (SIRR) was formed specifically to focus on making New York more resilient to the risks of climate change.

Disaster-resistant measures have been incorporated into all housing programs. Different activities will emphasize the needs of different income groups.

Low-Income Population

Based on Census data for the most impacted zip codes, more than 50% of the households in the impacted areas are likely to have incomes at or below 80% of the area median. The City has been very focused on serving their needs. Low-income households disproportionately are in need of immediate relocation assistance; the housing team is working with approximately 1,300 displaced families who are at or below 50% of Area Median Income. To the extent possible, these households will be placed in NYCHA public housing units or provided HPD Section 8 vouchers, but the City anticipates that approximately 600 households will not be served by these options. These families would typically access Disaster Housing Assistance Program (DHAP) vouchers, but the program is a limited, state-run program. Through the Temporary Disaster Assistance Program HPD will deliver assistance with the goal of preventing homelessness among this population.

Going forward, NYCHA rehabilitation, reconstruction, and new construction activities will serve low-income households. HPD and HDC anticipate that the bulk of the multi-family lending will benefit persons of low-income, particularly those living in previously assisted housing, including Supportive Housing.

Moderate- and Middle-Income Population

Particularly in a high-cost city like New York, and in the wake of a devastating natural disaster like Hurricane Sandy, moderate- and middle-income households are also in need of assistance. The NYC Houses Rehabilitation and Reconstruction program is designed to focus on the homes most in need of rehabilitation, although owner incomes may be as high as 165% of area median. Multi-family buildings

with higher-income tenants will also be eligible for assistance if owners can demonstrate that other resources such as insurance and Small Business Administration (SBA) loans were insufficient to meet needs.

Impact to the City's Homeless Population

Single Adults and Childless Families

To date, Hurricane Sandy does not appear to have had a significant lasting effect on the demand for traditional shelter services for single adults or adult families. The average daily single adult census in September before the storm was 9,281. In November, the average daily census was 9,365. For childless families, the September and November average daily censuses were 1,680 and 1,689, respectively.

However, during and immediately after the storm, services were impacted and the Department of Homeless Services took all steps necessary to preserve the continuity of services to the City's homeless. Five single adult shelters located in low-lying areas were evacuated, which required the relocation of approximately 1,350 clients, along with the City's intake operations for single men and childless families (families with no minor children). Clients were moved into reserved emergency beds, a new shelter facility that had not yet opened, or absorbed into existing vacancies in the system. Shelter staff accompanied clients to these locations and made every effort to minimize the disruption of services.

The City's intake operations for single men and childless families were relocated to sites designated for back-up intake operations according to the agency's Continuity of Operations Plan. Single men were redirected to Brooklyn and childless families to Queens. The public was notified of the relocations through 311 and the Department continued to accept applications and place clients in accordance with all applicable laws and regulations.

With respect to the street homeless population, the City's outreach teams ramped up their operations to offer services to at-risk street homeless individuals during and after the storm. Many of them, some displaced by the storm, ended up in evacuation centers where they were engaged by shelter and outreach staff and, where possible, connected with appropriate shelter and outreach services.

The relocated shelters and their capacities are as follows:

1. McGuiness: 200
2. Huntington: 18
3. Borden: 240
4. Turning Point: 37
5. 30th Street: 850

The evacuees from these shelters returned within the following few weeks. Borden Avenue Shelter in Queens required significant capital work – including hazmat sewage abatement, floor replacement, and wall replacement – that was completed by the end of November. Additionally, the Pamoja House men's shelter in Brooklyn required a partial restoration of its roof, which was damaged in the storm. Furthermore, the drill floor of the Park Slope Armory was damaged as a result of using the facility for evacuees with medical needs. The roof at the Schwartz Shelter at Wards Island had to be repaired due to a fallen tree and the generator had to be repaired at the George Daly House.

Families with Children

The storm did not appear to have a significant lasting effect on the demand for traditional Family with Children shelter services. The average daily census for Families with Children in September before the storm was 9,616. In November, the average daily census was 9,845 (2% increase).

Since the hurricane, DHS identified over 420 families with children who either reported issues related to the hurricane as their primary reason for seeking shelter (112 families) or whose last residence prior to shelter was in an area that may have been affected by the hurricane (311 families during the time period covering the hurricane through January). DHS made efforts to engage all of these families at intake or in shelter and link them to FEMA and City public services to help victims of the hurricane. Some were then referred to hotels and received services at those hotels. Only ten families who reported the hurricane as their primary reason for seeking shelter were subsequently found eligible for DHS shelter.

In preparation for the storm, four family shelters located in low-lying areas were evacuated. Clients were given passes to make their own arrangements or transported to one of the City's evacuation shelters. Four shelters also lost power during the storm or immediately after the storm. These shelters were Helen's House, Nazareth, Children's Rescue Fund East, and LaGuardia. Meals and blankets were delivered to those sites.

The relocated shelters and their capacities were as follows:

1. LIFE: 93
2. Huntington House: 18
3. Henry Street Settlement Urban Family Center: 82
4. Bay Family Center: 99

The evacuees from LIFE, Huntington House, and the Urban Family Center returned to their shelters by the end of October. The majority of the households from Bay Family were also returned by the end of October. Final repairs were made to the last 38 units at the Bay Family Center in January and all families were able to return by February 1st.

Several family shelters also required significant capital work as a result of the storm. A boiler replacement is required at Urban Family Center (Manhattan) and a replacement generator is needed at Life Family Residence (Manhattan). Other repairs, such as roof and a sidewalk shed, were needed at Auburn Family Residence in Brooklyn and Regent Family Residence in Manhattan.

Homeless Population Needs Assessment

Pre-Storm Homeless

As described above, shelter counts taken one month prior to the storm and approximately one month after the storm did not show any significant increase in the homeless population, therefore indicating that there was not a new, quantifiable unmet need for this population. Accordingly, the pre-Sandy homeless population will continue to be served through the City's existing homeless programs. New York City has the largest and most robust shelter system of any municipality in the nation to meet the needs of the homeless. The City is unique in that it is mandated to shelter the homeless, stemming from the 1981 Callahan v. Carey lawsuit, which established the right to shelter for all homeless men and set standards for

shelter conditions, capacity, and staffing ratios. Two years later, the right was extended to single women and families (Eldredge v. Koch and McCain v. Koch). Even under the City's considerable financial constraint and the diminution of State assistance toward the costs of sheltering the growing homeless population, the City has maintained its commitment to meeting the needs of the homeless and helping shelter clients move toward self-sufficiency and stable housing in the community. Below is the Department of Homeless Services' budget for City Fiscal Year 2013.

DHS Division	Total (in millions)	City Tax Levy	New York State	CDBG	Other Federal	Other
Central Administration	$92.1	$32.5	$0.5	$0.0	$59.1	$0.1
Adult Shelter	$254.1	$174.4	$71.1	$0.0	$8.6	$0.0
Street Homeless Programs	$33.4	$31.8	$0.0	$0.6	$1.0	$0.0
Single Room Occupancy	$20.9	$10.4	$10.4	$0.0	$0.0	$0.0
Family Shelter	$420.2	$122.7	$45.7	$3.5	$248.3	$0.0
Other Adult Programs	$5.7	$4.8	$0.0	$0.0	$0.1	$0.9
Other Family Programs	$36.4	$9.2	$0.4	$0.0	$26.8	$0.0
Adult PS and OTPS	$73.4	$64.2	$0.0	$0.0	$9.2	$0.0
Family PS and OTPS	$64.0	$18.4	$0.5	$0.0	$45.1	$0.1
Total	$1,000.3	$468.4	$128.6	$4.1	$398.2	$1.1

DHS primarily funds family shelters with a mix of federal Temporary Assistance for Needy Family (TANF) funds, CDBG entitlement funds, NYS State Safety Net funds, and City resources. Single adult shelters are primarily funded with a capped grant from the State (the Adult Shelter Cap) and City resources. Those households that have already entered the shelter system as a result of Sandy are being provided with services funded with these resources.

DHS only utilizes a small amount of McKinney-Vento funding to operate their shelters. DHS receives two grants under the McKinney Program – the Emergency Solutions Grant (ESG) and the Supportive Housing Program. About $3 million of ESG helps fund ten different single adult shelters, while the rest goes to supporting programs (such as homeless prevention and street homeless outreach). The latter is used for a Homeless Management Information System (HMIS).

DHS plans to claim all directly Sandy-related expenses under FEMA's Public Assistance Grant Program as either Category B (emergency work) or Category E (permanent work). Additionally, DHS is investigating what can be done to be better prepared for a future event. These efforts are part of the Special Initiative for Rebuilding and Resiliency (SIRR) and include moving sensitive equipment to higher ground at facilities that are vulnerable to flooding, and possibly relocating facilities that are in flood zones.

Finally, HPD plans to spend at least $10 million of the CDBG-DR allocation to rehabilitate and build supportive housing projects that will serve chronically homeless individuals with a variety of special needs, such as mental illness or addictions. On-site supportive services would be provided through a variety of City- and State-funded contracts to ensure that these individuals remain stably housed. Investment in these projects will add to the supply of permanent housing for pre-storm homeless. In addition, the City will actively seek opportunities to convert damaged nursing homes, rooming houses, and other appropriate facilities to supportive housing. The City will continue to monitor this population and if unmet needs are identified, will consider including a further set-aside as part of its next CDBG-DR allocation.

Post-Storm Homeless

Some households have reported being made homeless as a result of Sandy. Additionally, it is not yet clear whether some of the households currently in transitional housing created for Sandy evacuees may eventually end up homeless. The City-managed hotel program ended in the fall of 2013, serving 3,132 households. DHS is provided these households with case management services with the goal of relocating these evacuees home or to other permanent housing as quickly as possible through referrals to the myriad of services being provided by City agencies. Some of these households returned home after necessary repair work, while others were relocated to Section 8 or NYCHA public housing units. However, in the absence of continued FEMA funding of these transitional arrangements, some were served by other programs.

For those households that have been and may potentially be made homeless by Sandy, the Department of Housing Preservation and Development (HPD) implemented a 25% marketing preference for households displaced by Sandy in new development projects. HPD will also use CDBG-DR funds to operate a rental assistance program for displaced, low-income households. (Please see the Rental Assistance program description for further information.) Finally, DHS will provide households with the same services that more traditionally homeless household receive, including assistance relocating to permanent housing.

Remaining Unmet Housing Needs

Assessing the Demand

To structure a program that addresses the unmet needs of NYCHA, single-family, and multi-family properties, the housing team coupled outreach efforts with a detailed assessment of damage at the building level. This allowed the City to understand the demand for housing repairs in monetary terms and related support to families. To estimate the demand for housing rehabilitation, the City defined the full cost to complete the work to rehabilitate or rebuild in a more resilient and sustainable way. The City focused on the "cost to complete" rather than any measure of the "market value" of a property. This anchored the City's approach around an end goal of completing rehabilitations to buildings, rather than on estimating need based on the value of the property or other figures, an approach that risks an inability to secure funding to complete rehabilitations. NYCHA employed a rational methodology that pulled from numerous existing data sources and involved several sets of experts and interviews with individuals working on the ground. NYCHA performed additional analyses to estimate the cost to comply with sustainability and green building standards and for construction methods to address increased resiliency to future storms. NYCHA continues to refine large-scale assessments of its infrastructure to determine the full cost of the storm and to inform decisions about how NYCHA can more strategically procure, locate, and protect important equipment.

Mandatory Rehabilitation - Cost to Reconstruct or Rehabilitate Damaged Buildings

Public Housing

To date, the storm has resulted in approximately $130 million of expenditures related to NYCHA's immediate response efforts including: dewatering efforts, mobile boilers, emergency electrical restorations, debris removal, clean up, and operating expenses such as emergency overtime.

Beyond those immediate costs, more than $410 million is needed for permanent rehabilitations and resiliency measures associated with replacement of damaged infrastructure, including replacement of mechanical and electrical systems.

In addition, NYCHA will need $35 million to deliver disaster programs through CDBG-DR and FEMA funding. This will include technical expertise, project management, accounting, information technology, and audit support.

Housing (excluding public housing)

By matching estimates for the distribution of types of damage with estimates for the cost to reconstruct or rehabilitate, we have concluded that the likely overall cost to reconstruct or rehabilitate destroyed, major, or moderately damaged buildings is estimated at $2.7 billion.

- Approximately $400 million is needed to reconstruct destroyed or structurally unsound units. The cost to reconstruct is estimated at $470,000 per single-family home (one to two units) and $1.6 million per multi-family building (three or more units).
- Approximately $1 billion is needed to rehabilitate buildings with major damage, based on an estimated rehabilitation cost of approximately $135,000 per single-family home (one to two units) and up to $3 million, on average, per multi-family building (three or more units). Rehabilitation will include fixing boilers not addressed with permanent fixes by the Rapid Repairs program, cooling systems, electrical systems, basements and ground floor living spaces, as well as resiliency requirements in order to meet building codes. This cost includes resilience measures of approximately $400 million to protect homes from future flood damage. The resilience cost estimates are based on preliminary high-level measures that may vary for each building.
- $1.3 billion is needed to rehabilitate buildings with less severe damage. The estimated cost is approximately $55,000 per single-family home (one to two units) and up to $2.5 million, on average, per multi-family building (three or more units).

The total cost is approximately $1.7 billion to reconstruct single-family homes (one to two units) and approximately $1 billion for multi-family buildings (three or more units).

Resilience and Rehabilitation of Damaged Buildings

Public Housing

In addition to the initial resiliency measures described above, NYCHA will proactively seek measures to further strengthen all of its impacted properties. These measures are intended to minimize the damage caused by future storms or minimize the direct impact to thousands of residents. These measures will include:

- $250 million to improve resiliency by adding permanent emergency generators at critical NYCHA buildings. Improving the resiliency of the electrical systems is one of the most critical places to begin resiliency work, as these systems are necessary for many other critical services. Permanent emergency generators do not currently exist at any NYCHA residential property. If added, these generators could provide backup power to critical systems such as elevators, boilers, emergency lighting, and critical life support systems.

- $120 million to enhance 60 Community Centers in damaged buildings located in Evacuation Zone A to enable them to serve as warming centers, information distribution sites, local command centers, phone charging stations, or emergency shelters in future storms.
- $50 million to increase the resilience of NYCHA's Emergency Operations Center (EOC) since the current EOC, which is currently in Evacuation Zone A, experienced flooding and suffered damage during Sandy.

Housing (excluding public housing)

Resiliency measures for buildings with moderate damage would require an additional approximately $2.5 billion to mitigate the future risk of flood damage. These resiliency measures are assumed not to be required by code as rehabilitation for moderate damage is unlikely to trigger the mandatory resilience measures required when addressing substantial damage (i.e., the law requires that resilience measures be incorporated when undertaking rehabilitation that will cost greater than 50% of a building's pre-storm market value). A property meets the "Substantial Damage" definition when the cost of restoring the structure to its before-damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred. This is the threshold at which rehabilitation work includes mandatory mitigation. Nevertheless, if rehabilitation is undertaken for a building, it is responsible policy to consider the inclusion of mitigation measures that will better protect properties from future damage.

- Approximately $2 billion of these costs are attributed to single-family homes (one to two units) with moderate damage and approximately $500 million are for multi-family building (three or more units), based on preliminary estimates for likely standard resilience measures.
- Without implementing these resilience measures, homeowners and landlords will likely face significant increases in flood insurance premiums, and neighborhoods will likely suffer declines in property values and risks of abandonment and blight.
- Note that resiliency measures for homes requiring reconstruction or major rehabilitation is included in the estimates of the costs to rehabilitate, as these will likely trigger the substantial damage threshold which requires reconstructing to code for flood mitigation (i.e., elevating the home or undertaking other measures).

In addition, New York City has a relatively old housing stock, and we anticipate that many of the buildings with storm damage will also have other rehabilitation needs unrelated to the storm. Addressing the building needs holistically ensures that these properties will function as high quality, accessible, and affordable housing stock to meet post-disaster needs and population demands.

Resilience for Non-Damaged Buildings

Public Housing

While several hundred NYCHA buildings lost critical services, in part because of direct damage to its facilities, families in hundreds of additional NYCHA buildings that suffered no direct storm damage but were in vulnerable areas of the City were significantly impacted when utility service to those buildings was disrupted for long periods of time. Because of the facilities' reliance on outside utilities, NYCHA's residents were left with no heat, hot water, lights, water, or elevator service and many have expressed a feeling of being trapped in their apartments. There was very little NYCHA could do in these cases to support the residents.

Accordingly, NYCHA will look beyond the infrastructure that was directly damaged by the storm and proactively seek measures to further strengthen all of its properties. The revised preliminary FEMA Advisory Base Flood Elevation (ABFE) Maps have nearly doubled the number of NYC buildings located in the 100-year flood zone, placing twice as many NYCHA buildings in Flood Zone A as there were pre-storm. Providing resiliency and mitigation measures in these buildings would ensure some 21,000 additional families would not lose critical services during future storm events. Applying similar resiliency and mitigation improvements to the Community Centers in these vulnerable developments would provide additional opportunity to ensure families and the critical services that they rely on, especially during emergencies, could remain readily available. Subject to funding availability, these additional measures would include:

- $620 million to implement basic resiliency and mitigation measures (i.e. raised boilers and electrical switch gear) to all buildings in the new flood zone as new ABFE Maps have nearly doubled the overall number of NYCHA buildings in Evacuation Zone A.
- $60 million to enhance 30 Community Centers in non-damaged buildings located in Zone A to enable them to be able to serve as warming centers, information distribution sites, local command centers, phone charging stations, or emergency shelters in future storms.

Housing (excluding public housing)

Another approximately $9 billion will address resilience measures for undamaged buildings located in the flood zones (Flood A or V zone) designated by the National Flood Insurance Program's Flood Insurance Rate Maps. These buildings will otherwise face an increase in flood insurance costs.

Determining Unmet Housing Needs

To understand the unmet need to be addressed by City programs, the City built upon the above estimates of the demand (or required funding) for Sandy-related reconstruction, rehabilitation, and mitigation by estimating the "supply" of funding already available to meet these needs. Many City, State, and Federal programs have funded some of the need for homeowners and landlords to undertake rebuilding and rehabilitation measures. The City will use CDBG-DR funding to complement and build upon such sources. For unmet need, the City subtracted the estimated funds authorized or received thus far from these programs, as well as privately-funded programs, from demand estimates. While the calculation of unmet needs is similar, the City has addressed Public Housing separately because NYCHA buildings are owned and managed by the government and therefore qualify for a different type of assistance from FEMA, but the calculation of unmet need is similar.

Public Housing Unmet Need

As publicly-owned properties, NYCHA facilities are eligible for FEMA's Public Assistance Grant Program. Mandatory rehabilitation, and a significant portion of the resilience improvement measures necessary for damaged buildings, should be covered by a combination of the National Flood Insurance Program (NFIP), existing commercial policies, and FEMA's Public Assistance Program, less the non-Federal cost share.

- NYCHA could receive approximately $440 million in insurance proceeds via both NFIP and commercial insurance policies.
- FEMA Public Assistance funds will cover between 75% and 90% of the remaining costs associated with rehabilitations, replacements, and mitigation.

- Funding has not yet been allocated towards the Hazard Mitigation Grant Program, a FEMA program that awards grants for resilience measures that can meet a cost-benefit hurdle, as New York State has not yet released guidelines. NYCHA will aggressively pursue that funding upon release of the guidelines; however, at this time it cannot assume any revenue from this source for the calculation of unmet need.

Potential available funding to address NYCHA's needs is approximately $515 million to $530 million (depending on the local cost share percentage). There is a gap in funding some of the mandatory rehabilitation, essentially driven by the local cost share portion of FEMA, which is estimated at 25% of the FEMA Public Assistance. NYCHA is also left with a significant gap in resilience and rehabilitation efforts for damaged buildings. Finally, no funding has been identified for the resiliency efforts in undamaged, but vulnerable buildings.

Housing (excluding public housing) Unmet Need

Of the $2.7 billion required to rebuild and rehabilitate non-NYCHA buildings, approximately$1.3 billion is anticipated to be funded by existing or identified programs and financial resources, leaving $1.4 billion in unmet need for rehabilitation and reconstruction costs.

Existing or identified funding resources include:

- $250 million portion of Rapid Repairs completed and planned that is deemed "permanent".
- $450 million of expected insurance payouts (preliminary, top-down estimate). While the estimate includes the projected payout for all open claims, the number is subject to change as the data is updated over time.
- Approximately $250 million of FEMA funds disbursed for permanent housing assistance to individuals. Estimates exclude any rental assistance given or projected to be disbursed from the overall housing assistance.
- Approximately $300 million from SBA loans authorized for building rehabilitation and reconstruction.
- Approximately $25 million from the NYS Homeownership Repair and Rebuilding Fund/Empire State Fund.
- More than $13 million of private funding, provided by the Mayor's Fund to Advance New York City, the American Red Cross, and the Robin Hood Foundation, was allocated to the mold remediation program.
- Other private assistance resources are being identified based on need.

Housing Goals

The City's housing recovery programs are designed to meet the unmet needs described above and help people affected by Hurricane Sandy – including homeowners and tenants of rental properties – achieve permanent, sustainable housing solutions that allow them to remain in New York City and, where possible, return to their neighborhoods.

The objectives of the programs include:

1. Helping people affected by Sandy directly by replacing and rehabilitating housing units, including identifying opportunities for mitigation enhancement measures;
2. Helping people affected by Sandy by improving the resilience of their housing units while restoring their buildings/residences;
3. Supporting resilience improvements to reduce risk and strengthen neighborhoods in flood zones; and
4. Leveraging philanthropic investments to address immediate gaps with flexible capital and maximize CDBG-DR dollars at scale.

To pursue these objectives, the City has built a program that incorporates lessons from past disasters; builds upon stakeholder input from agencies and relevant organizations across the City, State, and Federal levels; and leverages the experience of locally-based organizations to ensure the diverse needs and particular contexts of NYC's affected residents are addressed.

Current economic challenges have been taken into account and the City aims to leverage private sector and other funding where possible. The City's focus is to provide assistance to affected New Yorkers quickly while ensuring accountability and proper use of funds. We have also accounted for the complexities faced by affected residents working through the assistance process and therefore embedded quality customer service and counseling options to help people understand their options and the impacts (financial and otherwise) of their decisions.

The City's strategy will balance speedy response with adequate planning and support equity, and take into account the distinct needs of different communities and abilities of those community members. For program operations, the City will maximize private and non-profit sector expertise and the deep experience of the housing infrastructure in NYC while putting appropriate accountability and oversight mechanisms in place.

Housing Programs

Overview - NYC Build it Back

Based on lessons learned from past disasters, NYC Build it Back has been designed as a single program with several permanent housing recovery paths that maximize coordination across agencies. In this way, the City's program will leverage scale, where possible, while providing solutions tailored for the different needs of homeowners or landlords in need of assistance (e.g., by geography, building type, and size). Specifically, the City will have the following core paths to provide assistance to those who suffered damage from Sandy:

- **Rehabilitation and Reconstruction – 1-4 Unit Homes:** Grants or forgivable loans for reconstruction or rehabilitation of single-family (one- to two-unit) homes and small multi-family (three- to four-unit) buildings that have been destroyed or damaged by Sandy. Assistance will incorporate resilience measures for homes that are destroyed or have substantial damage, as defined by the Department of Buildings.
- **Multi-Family Building Rehabilitation:** Grants or forgivable loans for reconstruction or rehabilitation of multi-family homes (five or more units) that have been destroyed or damaged by Sandy. Assistance will incorporate resilience measures for homes that are destroyed or have substantial damage, as defined by the Department of Buildings. Note that small multi-family (three- to four-unit) buildings are funded out by the multi-family activity category.

Definitions, eligibility requirements, and other specifics for each of these paths are described below. The City will prioritize core program paths, provide additional program paths as rehabilitation and redevelopment options – such as a buyout for single-family homes through the State and, funds permitting, acquisition for redevelopment – and will consider further program activities described in this Action Plan to enhance investment in impacted areas listed, subject to sufficient funds. Additional funding may be used to support resilience measures for homes or multi-family buildings that suffered less severe damage and for undamaged properties within the FEMA Special Flood Hazard Areas (Zones A and V). More detail on these other types of assistance is provided in later sections.

Temporary relocation assistance for tenants is a standard component of existing HPD rehabilitation programs and will be applied to this program. Tenants have the right to return and tenants will be provided relocation assistance where applicable in compliance with the HUD Uniform Relocation Assistance and Real Property Acquisition Policies Act (URA) final rule (49 CFR Part 24). If tenants will be temporarily relocated (or temporarily displaced) for more than 12 months, they will be given "permanent" relocation assistance in accordance with HUD and URA requirements. Please note that homeowners who voluntarily apply for assistance are not required by URA to be assisted with relocation funds.

Summary of Program Priorities

The initial funding will allow the City to serve a segment of its targeted population, as follows:

- **Rehabilitation and Reconstruction – 1-4 Unit Homes:** With the initial $306 million for houses, the City will prioritize assistance for those with the most severe damage and the highest level of financial need. Accordingly, the City's first priority will be to assist up to 1,000 units of low-, moderate- and middle-income homeowners whose primary residences or rental properties with year-round tenants were destroyed and low- and moderate-income homeowners whose primary

residences or rental properties with year-round tenants experienced major damage. The City will also prioritize assistance for up to 8,300 low- and moderate-income households whose primary residences experienced moderate damage.

- **Multi-Family buildings:** The City will invest an initial $215 million in its multi-family housing stock – both affordable and market rate – capitalizing on the strong HPD and HDC institutional infrastructure. Through this first round of funding, the City will rehabilitate and enhance the resiliency of approximately 13,000 units of housing for low-, moderate-, and middle-income New Yorkers.

These priorities will be addressed through the various paths described below. These program paths will share unified program elements:

- Coordinated outreach and branding;
- Common intake and processing staff and procedures;
- Geographic areas to be served; and
- Coordinated program administration.

Coordinated outreach and branding

The City's housing recovery program will have a common outreach strategy, executed by the various participating City Housing agencies through a coordinated approach. This outreach will be supported by the Mayor's Office and other relevant City agencies and initiatives and will coordinate with the State outreach activities whenever appropriate. The City will also leverage the broad network of community service and volunteer organizations with well-established ties to our communities.

The program will have a single branding (NYC Build it Back) that will be leveraged in all its communication and outreach activities.

Common intake and processing staff and procedures

A single City program management entity, the Mayor's Office of Housing Recovery and Operations, will oversee intake and processing of all applications before applicants are connected directly with a specific program path and oversight agency. Program path options will be based on building type and an assessment of damage and financial need that will take place as part of the intake process. Existing affordable housing developments that have been previously assisted by HPD and/or HDC may be routed through separate intake procedures.

Coordinated program administration

For non-public housing, the City's permanent housing recovery program will be led by the City agencies that are responsible for housing preservation, rehabilitation and development, capital construction, and environmental protection for all building types (except public housing). These agencies include the Mayor's Office of Housing Recovery Operations (HRO), HPD, HDC, and DEP.

The City will structure the program to distribute work among these agencies along operational lines. Each agency will augment its capacity with contracted support as necessary.

- A combination of agencies including HRO, HPD, HDC, and DEP will lead the NYC Houses Rehabilitation and Reconstruction, with a dedicated team of City staff responsible for overall program administration.
- HPD will be the lead agency for administering multi-family rehabilitation assistance.

To support completion of the work in an efficient and effective manner, the team will use the City's procurement procedures (consistent with HUD procurement requirements at 24 CFR Part 85.36) to leverage the expertise and capabilities of private non-profits, community-based organizations, Community Development Financial Institutions, and contractor and consultant support. Please note that the City will enforce and monitor compliance with Davis-Bacon Labor Standards and Section 3 requirements wherever applicable.

Geographic area to be served

The program will cover areas in all of the five boroughs of New York City that were affected by Hurricane Sandy.

In the following charts, the City utilized Census and American Community Survey data to estimate the demographic makeup (including race, income, and homeownership rates) of the impacted housing units by the housing type and associated level of necessary rehabilitation or reconstruction. As all programmatic framework is based on damage and unmet needs, and owners of residential buildings that serve as a primary residences or have year-long tenants will be eligible to apply for assistance, subject to additional eligibility criteria and program priorities, these projections represent a reasonable assessment of beneficiaries of programs. However, it is impossible to forecast who will apply for assistance, and their level of unmet need, thus the demographic makeup of the actual recipients may be significantly different. The City's outreach plan will include considerations of this data.

Demographic and Housing Profile
Hurricane Sandy Estimated Units in Damaged Buildings
New York City

	Proportion of Units in Damaged Buildings				
	Single-family (SF)[1]			Multi-family (MF)[2]	Overall
	Reconstruction	Rehabilitation	All SF Damaged Units[3]	All MF Damaged Units[3]	All Damaged Units[3]
Overall	1.0%	48.2%	49.2%	50.8%	100.0%
Race of householder	100.0%	100.0%	100.0%	100.0%	100.0%
White	89.5%	63.8%	64.4%	65.3%	64.8%
Black / Af. Amer.	5.8%	27.7%	27.2%	18.0%	22.6%
Asian	2.1%	3.6%	3.6%	9.5%	6.6%
Other	2.6%	4.9%	4.8%	7.2%	6.0%
Household Income	100.0%	100.0%	100.0%	100.0%	100.0%
<$25k	17.8%	24.9%	24.7%	28.3%	26.5%
$25-50k	16.5%	20.6%	20.5%	19.9%	20.2%
$50-75k	13.7%	15.7%	15.6%	14.2%	14.9%
$75-100k	16.3%	12.7%	12.7%	10.3%	11.5%
$100-150k	19.8%	15.2%	15.3%	13.0%	14.2%
$150k or more	15.8%	11.0%	11.1%	14.3%	12.7%
Homeownership	100.0%	100.0%	100.0%	100.0%	100.0%
Owner-Occupied	75.8%	51.9%	52.4%	30.6%	41.4%
Renter-Occupied	24.2%	48.1%	47.6%	69.4%	58.6%
Age of householder					
65 years and over	30.1%	24.6%	24.7%	23.7%	24.2%
75 years and over	16.2%	12.2%	12.2%	11.9%	12.1%
85 years and over	4.8%	3.2%	3.2%	3.3%	3.3%

Methodology

Demographic information (race, household income, and homeownership) was collected at the zip code-level for all zip codes in which one or more building was damaged by Hurricane Sandy. The overall demographic makeup of each zip code was assumed to apply in the same proportion to all units within damaged buildings in that zip code. Individual zip code-level results were then aggregated into a citywide demographic profile of units within damaged buildings.

Data sources

U.S. Census, 2007-2011 5-year American Community Survey
NYC HRO Demand Assessment Model

1. 1- and 2-unit buildings
2. Buildings with 3 or more units
3. Note that % are of each column sub-section and are summed vertically, not horizontally.

Demographic and Housing Profile
Hurricane Sandy Demographics of Most-Impacted Neighborhoods
New York City

Top 10 neighborhoods by damage[4]	Share of City-wide Total Units in Damaged Buildings: Single-family (SF) [1] Recon-struction	Single-family (SF) [1] Rehab-ilitation	Single-family (SF) [1] All SF Damaged[3]	Multi-family (MF) [2] All MF Damaged[3]	Overall All Damaged Units[3]	Homeownership Owner-Occupied	Homeownership Renter-Occupied	Age of householder 65 years and over	75 years and over	85 years and over
Arverne	1.1%	9.2%	9.1%	2.6%	5.8%	32.3%	67.7%	12.5%	3.4%	0.3%
Bay Terrace, Staten Island	1.1%	0.8%	0.8%	0.0%	0.4%	83.1%	16.9%	25.0%	8.3%	1.6%
Belle Harbor / Rockaway Park	12.7%	12.5%	12.5%	10.2%	11.3%	58.0%	42.0%	26.6%	14.3%	3.1%
Breezy Point	44.3%	7.9%	8.7%	0.0%	4.3%	94.9%	5.1%	37.6%	21.4%	7.0%
Broad Channel	3.3%	4.1%	4.1%	2.3%	3.2%	50.1%	49.9%	19.1%	7.6%	1.2%
Canarsie	0.4%	6.8%	6.7%	1.3%	3.9%	49.7%	50.3%	14.5%	5.6%	1.4%
Coney Island / Seagate	2.5%	4.8%	4.8%	13.6%	9.3%	24.1%	75.9%	38.3%	18.0%	5.8%
Dongan Hills / New Dorp Beach / Midland Beach / Oakwood	17.9%	11.9%	12.1%	0.5%	6.2%	73.2%	26.8%	22.6%	11.4%	2.9%
Manhattan Beach / Sheepshead Bay / Brighton Beach	2.8%	5.0%	5.0%	13.9%	9.5%	38.0%	62.0%	30.8%	18.5%	4.9%
South Beach / Old Town	6.8%	4.3%	4.4%	0.2%	2.2%	64.1%	35.9%	22.1%	11.0%	3.0%
All other neighborhoods	**7.2%**	**32.5%**	**32.0%**	**55.5%**	**43.9%**					

Top 10 neighborhoods by damage[4]	Race of householder: White	Black / Af. Amer.	Asian	Other	Household income in the past 12 months [5]: <$25k	$25-50k	$50-75k	$75-100k	$100-150k	$150k+
Arverne	18.9%	72.9%	2.1%	6.1%	31.8%	27.7%	17.1%	8.5%	10.3%	4.6%
Bay Terrace, Staten Island	95.3%	0.0%	3.4%	1.3%	11.4%	13.5%	14.8%	16.7%	22.2%	21.4%
Belle Harbor / Rockaway Park	88.4%	7.7%	1.2%	2.7%	17.2%	19.6%	14.3%	11.6%	20.3%	17.0%
Breezy Point	99.4%	0.0%	0.0%	0.6%	15.1%	13.0%	11.0%	20.5%	22.5%	17.9%
Broad Channel	59.3%	33.2%	2.2%	5.3%	24.5%	25.4%	16.1%	14.8%	15.4%	3.8%
Canarsie	9.8%	83.0%	2.6%	4.6%	18.8%	21.9%	19.5%	15.9%	15.6%	8.3%
Coney Island / Seagate	68.8%	21.0%	3.9%	6.3%	41.6%	25.9%	14.6%	7.6%	7.2%	3.1%
Dongan Hills / New Dorp Beach / Midland Beach / Oakwood	89.9%	3.1%	3.5%	3.5%	15.2%	17.1%	16.4%	14.1%	20.2%	17.0%
Manhattan Beach / Sheepshead Bay / Brighton Beach	87.2%	2.5%	8.7%	1.6%	33.1%	22.1%	13.2%	11.4%	11.5%	8.7%
South Beach / Old Town	80.6%	5.1%	8.4%	5.9%	20.1%	20.7%	17.0%	14.7%	15.0%	12.5%

Methodology
Proportion of units within damaged buildings represents the proportion of total damage, by damage type, across New York City. Demographic information is zip code-level Census information.

Data sources
U.S. Census, 2007-2011 5-year American Community Survey
HRO Demand Assessment Model

1. 1- and 2-unit buildings
2. Buildings with 3 or more units
3. Note that %'s are of each column sub-section and are summed vertically, not horizontally.
4. Selected neighborhoods are top ten zip codes by number of buildings requiring reconstruction or major rehabilitation.
5. In 2011 inflation-adjusted dollars

NYC Build it Back (Core Paths)

PROGRAM OBJECTIVE AND DESCRIPTION: Under this program, the City will offer three core paths to provide different assistance types for owners of homes that fall into one of the following three categories:

- Reconstruction: Residential property that has been destroyed or is more expensive to rehabilitate than to reconstruct;
- Major rehabilitation: Residential property that is not destroyed but has substantial damage as assessed by the Department of Buildings; and
- Rehabilitation: Residential property that was damaged by Sandy, but is not destroyed and does not have substantial damage as determined by the Department of Buildings.

For these purposes, the City defines homes as single-family homes with one to two units that are either owner-occupied or occupied by a year-round tenant. This category also includes all small multi-family buildings containing three- and four-units. Small multi-family (three- to four-unit) buildings are funded out of the multi-family activity category. Note that under the specific Federal requirements for this disaster, CDBG-DR funds can only be used for primary residences, not second or vacation homes.

The program may also provide assistance for homeowners that have completed Sandy-related rehabilitation work with personal resources, subject to restrictions in line with applicable laws, regulations, and the program requirements (e.g., eligibility criteria, grant restrictions). Repair costs must be within the same footprint of the damaged structure, sidewalk, driveway, parking lot, or other developed area to be considered for reimbursement. Costs incurred after (or costs associated with contracts signed after) October 29, 2013 will not be eligible for reimbursements. In general, priorities for reimbursement will be based upon financial need. Furthermore, applicants seeking reimbursements may, in general, be given lower initial priority for processing than applicants who are requesting funds for essential rehabilitation or reconstruction of their homes.

In the Rehabilitation and Reconstruction program for one- to four-family homes, the property owner will receive access to a restricted grant/forgivable loan upon signing an assistance agreement. A restricted grant is funding to specifically support rehabilitation efforts as described above and that will impose requirements on the property in order to meet program priorities and prevent fraud, waste, and abuse. This program design is intended to help ensure compliance with program priorities; prevent fraud, waste, and abuse; and allow for scale. Restrictions on grants and direct payment procedures are based on lessons learned from previous disaster recovery programs.

Requirements associated with the restricted grant/forgivable loan may include the following conditions:

1. Maintained Ownership: The property owner must maintain ownership of the home for a period of up to five years, starting at the date of construction completion. The restricted period will decrease in cases where the estimated cost to rehabilitation is limited.
2. Flood Insurance: The property owner must maintain flood insurance in the amount and duration prescribed by FEMA's National Flood Insurance Program (typically the cost of the project). Program policies and procedures will enumerate the distinct CDBG-DR flood insurance requirements for grants and loans.

The City will consider various mechanisms to enforce the assistance agreement. The dollar amount associated with the restriction will be prorated based on the years met within the restricted period.

The City's residential programs will require that all rehabilitation, reconstruction, and new construction work adhere to the guidelines specified in the HUD CPD Green Building Checklist. Where feasible, new construction work will adhere to the Enterprise Green Communities Standard. Design and construction will comply with the accessibility requirements of all applicable federal, state, and local laws (as amended) including but not limited to: the American with Disabilities Act, the Fair Housing Act, Section 504 of the Rehabilitation Act of 1973, the Architectural Barriers Act, and Chapter 11 of the New York City Building Code.

For rehabilitation, homeowners may utilize a City-selected, qualified contractor or elect the option to select their own licensed contractor. For reconstruction, homeowners may work with qualified development teams including contractors, engineers, architects, and other professional service providers that will be selected by the City. Homeowners may also elect the option to select their own development team. Specific policies and procedures for this process will be distinct for homeowners in the rehabilitation and reconstruction program. In cases where homeowners select their own contractors, the same eligibility criteria and processes of the Build it Back program will apply. In addition to the program requirements and parameters for CDBG-DR assistance, specific additional requirements and program controls for the homeowner and their selected contractor may include, but are not limited to, the following:

- The homeowner must make a commitment to achieve reconstruction within a reasonable timeframe that, at minimum, meets the CDBG-DR program requirement of expending funds within two years of obligation.
- The City will conduct a damage assessment, compliance review, environmental review in accordance with HUD and NEPA guidelines, and the homeowner and contractor must adhere to standards determined by the City, and agree to City construction supervision and inspections to ensure timeliness and quality.
- The contractor must be licensed and provide the City with a Performance Bond equal to or in excess of the cost of the work to be performed as assessed by the City or a Letter of Credit satisfactory to the City to guarantee satisfactory completion of the construction.
- For the rehabilitation program, the Contractor must adhere to the unit pricing determined by the City through a competitive process, and for the reconstruction program, the Contractor must adhere to the reconstruction budget determined by the City based on the size and unit count of the pre-storm home.
- The homeowner and contractor must adhere to financial controls put in place by the City to ensure sound financial and project management including direct payments to the contractor based on City-conducted construction quality audits.

Unmet Need

For all program paths, the support will be limited to needs unmet by other disaster recovery assistance. For purposes of program calculations, the unmet need is defined as the estimated cost to rehabilitate less any other assistance received or available for the same purpose (e.g., insurance, SBA loans, other federal assistance). Criteria for determining unmet need include an analysis of the following:

- Funds received and spent on rehabilitation or reconstruction efforts in line with program parameters should reduce the unmet need;
- Funds received and not yet spent on rehabilitation or reconstruction efforts will be pooled with the assistance provided through the program and disbursed to support the rehabilitation or reconstruction efforts in line with the program parameters; and
- In instances where any funds already received and earmarked for housing rehabilitation or replacement have not been used for their intended purpose, the City will not replace that amount with grant/loan funding. The City may adjust rehabilitation scopes to meet program objectives in a manner consistent with Duplication of Benefits Requirements.

ELIGIBILITY CRITERIA: Owners of single-family homes (one to two units) in New York City who are eligible for CDBG-DR assistance and had their homes impacted by Hurricane Sandy. This program category will also include small multi-family buildings with three- to four-units. Landlord-owned buildings that are five or more units will be addressed by multi-family building rehabilitation assistance described below. There is no income limitation regarding eligibility; however, assistance will be prioritized based on income and level of damage. The program will prioritize those with lower incomes and more significant damage. Priorities are addressed below in "Program Priorities".

All residential buildings that act as a primary residence (whether owner-occupied or renter-occupied year-round) and were impacted by damage from Hurricane Sandy will be eligible. Second homes as defined by IRS Publication 936 are not eligible for assistance.

Homes that have suffered substantial damage will also qualify for assistance to mitigate against future losses and to comply with local building and zoning codes as adjusted to address future flood risk. Based on recent federal guidance (Federal Register Notice 78 FR 23578, published on April 19, 2013), the City will require that buildings elevated with CDBG-DR dollars adopt standards using the best available flood elevation data plus freeboard, a factor of safety specified in the Building Code. The City's intention is to utilize Preliminary Flood Insurance Rate Maps (P-FIRMs) when they are issued and to require that projects funded with CDBG-DR meet P-FIRM elevation plus freeboard, a factor of safety specified in the Building Code.

Homes with less severe damage may be eligible for assistance for resilience measures, funds permitting. The City is considering the viability of a more generally available mitigation program through funding mechanisms such as the Hazard Mitigation Grant Program, pending policy guidelines that will be put out by New York State. However, preliminary estimates suggest that available funding sources are far from adequate to support mitigation for homes beyond those that were the most severely impacted, with levels of damage requiring mitigation. As described below, the City will consider funding "discretionary resilience" for this category of properties if sufficient funding is made available. Some private associations may find that rehabilitation of their infrastructure is essential to the rebuilding of housing. In these cases, the infrastructure rehabilitation may be eligible for assistance.

PROGRAM PRIORITIES: In order to address the greatest need with the limited amount of funding available, program priorities have been established. These priorities allow the program to assist New Yorkers with the greatest need based on level of damage and Area Median Income (AMI). Pending final information from HUD and FEMA on the Disaster Housing Assistance Program (DHAP), the program will prioritize DHAP recipients for rehabilitation and reconstruction.

Eligible applications will be reviewed to establish priority groups. The priority groups are divided into a relationship of highest level of damage coupled with the AMI of the primary household(s). For the purposes of determining *priority* in the case of a single-family (one to two units)and small multi-family (three to four units) homes, the income category of the entire building will be determined by the household with the lowest income.

- Priority 1: All eligible applications where owners/tenants are at or below 80% of AMI, and all eligible applications where owners/tenants are at or below 165% of AMI and properties were destroyed or severely damaged;
- Priority 2: All remaining eligible applications where owners/tenants are at or below 165% AMI (i.e. whose properties suffered major-moderate damage from Sandy); and
- Priority 3: All eligible applications where owners/tenants have an income of more than 165% of AMI.

GRANT/LOAN SIZE LIMIT: For each path, the level of the support will be limited based on rehabilitation standards as predetermined by the program administration team. The maximum scope of work, with associated maximum unit pricing, will be defined during intake through the program and its administrative entities. Payments in the amount of the grant/forgivable loan will go directly to the contractors. The City may consider placing limits on assistance for higher-income applicants and landlords, such as replacing grants with low interest loans or other limits, pending availability of future funds.

The scope of work will be defined as follows:

- **Reconstruction:** Assistance may consist of a choice among a set of pre-designed homes whose size and features are determined based on a combination of the household size and the pre-storm square footage. Pre-designed model homes may be utilized to boost the speed of construction and contain costs. The program will seek to offer designs appropriate to the neighborhood character to meet the needs and preferences of households and designs will be adaptable for accessibility requirements in compliance with Section 504 of the Rehabilitation Act of 1973.
- **Major Rehabilitation:** The level of assistance will be based on the cost to rehabilitate the property according to preset maximum unit pricing, using standard specifications for materials and level of quality as determined by private architects, engineers, and building contractors working with the Housing Recovery program. It will NOT be based on "in-kind" replacement. The property owner will also receive assistance based on the cost to add required resilience measures according to preset unit pricing.
- **Moderate Rehabilitation:** The level of assistance will be based on the cost to rehabilitate the property according to preset maximum unit pricing, using standard specifications for materials and level of quality as determined by private architects, engineers, and building contractors working with the Housing Recovery program. It will NOT be based on "in-kind" replacement.

Build it Back Rehabilitation and Reconstruction (Additional Paths)

For owners, these programs will be second priority options for this funding allocation.

Buyouts

The City believes that buyouts can be an important component of an overall housing mitigation and resilience strategy in selected areas, alongside the resilience measures outlined elsewhere in this proposed Action Plan. The City is coordinating with New York State (NYS) to advance the NY Home Buyout Program as included in the NYS Action Plan. As a result, the City does not currently need to allocate any of its CDBG-DR funding for buyouts. Applicants interested in pursuing this option and who own property in the targeted areas will be referred to the State program through the City's intake process. These applicants would be required to demonstrate that they will achieve a sustainable permanent housing solution (i.e., have options and financial ability to sustain themselves in a permanent housing solution).

Other Additional Paths

In addition to the core paths (rehabilitation and reconstruction assistance) described thus far, the City will provide other paths for assistance to owners under the Build it Back program. These paths will be for limited assistance and targeted for specific areas to address clustered areas of damage with redevelopment that strengthens these communities against future risks or, in very limited cases, for owners seeking to undertake further resiliency measures but face a significant cost burden.

- **Acquisition for Redevelopment:** Under the NYC Houses Rehabilitation and Reconstruction program, the City will provide a program path to acquire properties for the rehabilitation or reconstruction of a home or cluster of homes in ways that mitigate future risks in limited and targeted cases. The City is coordinating with New York State on advancing this program. For example, the City could acquire homes or empty lots in an area where other homeowners have damaged properties but want to stay and support a broader reconstruction effort there. Different from buyouts, these acquisitions would be made at prices based on post-Sandy fair market values in compliance with HUD guidance. Such potential "smart" redevelopment would likely be limited to areas specifically targeted for this purpose by the City and community. Please note that the City will not use eminent domain for this activity.

  All applicants to this program path will participate on a voluntary basis. Similar to buyouts, households that voluntarily take advantage of this path would be required to demonstrate that they will achieve a sustainable permanent housing solution. As part of the acquisition path, the City will provide interim relocation assistance toward such a permanent housing solution as part of an overall plan for "smart redevelopment". The City will identify the types of assistance and eligibility criteria in an Optional Relocation Plan that is developed in conformance with HUD requirements.

- **Strategic Reconstruction:** In targeted areas, the City also intends to support reconstruction strategies for units or areas in which participating property owners request and envision a new density, structural, or design model, and organize around a specific solution. In these cases, there is not necessarily a change in landownership and all owners must voluntarily participate in the program. Please note that the City will not use eminent domain for this activity.

- **Additional Cost Assistance:** In extremely limited cases, where owners can justify and document the level of property damages directly related to Hurricane Sandy, and show that federal resources have otherwise been leveraged and that prior personal funds have been expended to rehabilitate these eligible property damages, the City will consider supplemental emergency payments for specific future activities to be undertaken related to the property, such as resilience measures or improvements to the structure. These cases would be limited to households that have a high level of financial need and would be means tested. In cases where new program-funded rehabilitation

and resilience measures are performed, payments will be provided to offset additional cost burdens such as flood insurance and, in extremely limited and time-specific instances, mortgage assistance. For example, interim assistance payments, if initiated, may be made in conjunction with a rehabilitation or reconstruction program during which a property is uninhabitable as described in 78 FR 14329, p. 14345. These payments are subject to availability of funding and will not be considered until after higher priority needs, as described in this Plan, have been addressed.

Subject to availability of additional CDBG-DR funds to meet the highest priorities for recovery, the City may also choose to undertake further recovery-related activities to address the remaining highest-priority unmet needs and fund efforts for post-Sandy resilience and redevelopment of damaged areas. Such activities would include, but are not limited to:

- **Discretionary Resilience Measures:** Funding for homeowners in areas at risk of future damage, but who did not suffer enough damage from Hurricane Sandy to require resilience measures in their reconstruction/rehabilitation. Potential funds used for this purpose would extend to homes that were not damaged, but are now facing higher insurance premiums due to the new FEMA Preliminary Work Maps (PWM).
- **Investment Incentives:** Funding for incentives to enhance investment in impacted neighborhoods. This potential funding would be used to encourage homeowners in these neighborhoods to purchase nearby lots, and encourage residents from other neighborhoods to purchase homes in an impacted neighborhood. It would also be used for targeted redevelopment of severely impacted neighborhoods. Such investment incentives might take various forms, such as down-payment or closing cost assistance.
- **Essential Infrastructure:** Funding for infrastructure, which is owned by private associations, yet is essential to the rehabilitation or reconstruction of housing stock in a neighborhood.

HUD ELIGIBILITY CATEGORY: Rehabilitation/Reconstruction of Residential Structures, Construction of New Replacement Housing, Construction of New Housing, Acquisition (Buyout of Residential Properties), Acquisition of Property for Replacement Housing

NATIONAL OBJECTIVE: The program will serve populations that meet three National Objectives: those with an urgent need, those who are low- to moderate-income, and preventing or eliminating slum or blight. All beneficiaries demonstrate an urgent need, as they live within a Presidentially-declared disaster zone. We expect that approximately 55% of funding for NYC Houses Rehabilitation and Reconstruction will be directed to low- and moderate-income households. This calculation is based on the self-reported income of damaged households who registered for FEMA assistance. It is expected that 22% of funding will be directed to extremely low-income households (less than 30% AMI), and another 33% of funding will be directed to low- to moderate-income households (above 30% AMI but below 80% AMI). Further, within the pools of homeowners needing reconstruction, major rehabilitation, and moderate rehabilitation, each is expected to see greater than 50% of funding directed to low- and moderate-income households.

PROJECTED ACCOMPLISHMENTS: Through this initial funding for NYC Houses Rehabilitation and Reconstruction, the City plans to serve a total of up to 1,000 units of low-, moderate-, and/or middle-income homeowners whose primary residences or rental properties with year-round tenants were destroyed or had major damage. In addition, the City plans to provide assistance to up to 8,300 low-, moderate-, and middle-income households whose primary residences experienced moderate damage.

Given subsequent additional funding, this assistance would serve up to an additional 13,000 units of this type of housing.

PERFORMANCE SCHEDULE: The City will begin preliminary outreach to homeowners during the Action Plan review process and anticipates that intake and processing will begin in the summer of 2013. However, each situation will need to be individually scoped and addressed, which means that the rehabilitation work will likely start in the winter of 2013.

Examples of performance benchmarks may include:

- Number of applications received (% of target);
- Number of applications processed (% of received);
- Number of applications approved (% of processed);
- Value of grants awarded (% of total available);
- Average value of grants awarded;
- Percent spent on low/mod buildings and housing units;
- Number of households assisted;
- Number of buildings and housing units assisted; and
- Number of buildings and housing units with resilience assistance.

Typical Flow for NYC Houses Rehabilitation and Reconstruction

Homeowner Intake and Case Management

Upon approval of this program, the City intends to undertake a broad three-pronged outreach strategy, building on efforts to date, which may include the following:

- An internet and media campaign to describe program parameters, announce program intake and provide guidance on how to apply;
- Community outreach in neighborhoods that sustained damage, including communication with public officials, non-profits, and local community groups; and
- Direct community-based meetings, discussions, and forums to provide further guidance and capture feedback from impacted neighborhoods.

Owners of properties damaged by Sandy are expected to register either online, via phone, or by coming to any of the program-designated locations. Once registered, applicants would be assigned a Housing Recovery Specialist who will accompany the homeowner throughout the process.

The homeowner would then provide all required documentation to the Housing Recovery Specialist to answer questions. The Housing Recovery Specialist may also recommend partners that can provide an applicant technical counseling (legal, home finance, etc.).

The Housing Recovery Specialist will also assign an assessment expert to visit the homeowner's property to assess the cost to complete rehabilitation. This expert will make an appointment with the homeowner to visit the property after registration is complete. The expert will document the required scope of work, type

of damage, property size, and calculate estimated costs for use by the program in determining the amount and type of assistance required.

Financial and Eligibility Review

The homeowner documentation will be thoroughly reviewed by a dedicated team that will perform the following reviews:

- Validate homeowner and property eligibility and determine their priority;
- Conduct all compliance and duplication of benefit reviews and analyses; and
- Determine all activities required to finalize financial review (for example, determining follow-up required with SBA, Mortgage Servicer, etc.).

Examples of criteria for which documentation may be required include:

- Ownership (e.g., deed, mortgage documents);
- Residence of owner/tenant (where applicable) (e.g., utility bills);
- Level of available assistance, incremental to the City's Housing Recovery Program (e.g., letters from insurance providers, FEMA grant documentation, SBA loan documentation); and
- Income (e.g., affidavits, tax forms).

The financial and eligibility review team will share the review results with the Housing Recovery Specialist.

Determination of Unmet Need and Rehabilitation/Reconstruction Path

The Housing Recovery Specialist will receive the cost to complete estimate from the assessment expert as well as the financial review file, documenting all resources and assistance already received by the homeowner. Based on these two inputs, the Housing Recovery Specialist will determine the unmet need and will work with the homeowner to determine the most appropriate path for the property. For example, it might be determined by the Housing Recovery Specialist, with approval from program management, that reconstructing a property that requires major rehabilitation is more cost effective that rehabilitating it and increasing its resilience.

The Housing Recovery Specialist will meet in person with the homeowner to describe the options and next steps. The Housing Recovery Specialist will then transition the homeowner to the appropriate path and ensure a first contact has been made with the customer service representative associated with that path.

Ongoing Homeowner Point of Contact

Each path will provide specific "customer service" and housing counseling to the homeowner throughout the rehabilitation/reconstruction process. However, the initial Housing Recovery Specialist will remain an available homeowner point of contact throughout the entire process, allowing for continuity of service.

Examples of Expected Typical Scenarios

The four following examples illustrate how single-family homeowners might receive assistance via the NYC Houses Rehabilitation and Reconstruction path. Please note that the examples are for illustrative purposes only, and do not limit or define the range of all the options that may be offered to applicants. The priority

focus of these programs will be to accommodate applicants and to adjust and adapt within HUD guidelines to meet their specific needs. Actual program implementation may look different for each homeowner depending upon the homeowner's contractor selection pathway.

- **Example 1:** A property needing reconstruction, for which funding (e.g., insurance) has already been received and set aside for its intended purpose.
- **Example 2:** A property needing major rehabilitation for which no additional resources have been identified.
- **Example 3:** A property needing moderate rehabilitation, for which enough additional resources have been identified that the unmet need is relatively small.
- **Example 4:** A property needing reconstruction, where the homeowner has significant SBA loan funding available.

Example 1: Rebuild, with insurance and other funding already received

Mrs. Smith's 1,800-square-foot, 2-bedroom, 2-bathroom home was destroyed by Hurricane Sandy. Her insurance company provided her $150,000 in funding, of which $110,000 was provided for the purpose of rebuilding her home.

After hearing about the City's assistance options at a neighborhood information session, Mrs. Smith registers for NYC Houses Rehabilitation and Reconstruction assistance. She is immediately assigned a Housing Recovery Specialist and an assessment expert. She meets with the Housing Recovery Specialist to submit the documents that she needs to provide. After making an appointment, the assessment expert visits her home to estimate the required scope of work and potential costs.

The documents Mrs. Smith provides demonstrate that she fulfills the eligibility requirements to receive assistance under the program. She has received $31,900 from FEMA – $20,000 of this was intended for the rebuild of her home (the remaining $11,900 was intended for rental assistance). She also received $20,000 from a New York State philanthropic fund. She has not used any of this money, nor the $110,000 she received from her flood insurance company for rebuilding.

The site visit results in an assessment confirming that the home was destroyed, and indicating that there are no special considerations resulting from the land or parcel conditions of the property. Based on the size of Mrs. Smith's household and the pre-storm square footage of her home, the assessment expert estimates that it would cost approximately $200,000 to build a pre-designed model home for Mrs. Smith at the program's elevation requirements based on best available data plus freeboard, a factor of safety specified in the Building Code.

The assessment and Mrs. Smith's documents form a complete application package, which is then reviewed by the financial review and eligibility team. The team determines that Mrs. Smith will receive a restricted grant of up to $50,000 to fill her unmet need (based on the total $200,000 construction costs minus $150,000 in combined funding already received for the purpose of rebuilding her home). The Housing Recovery Specialist then meets with Mrs. Smith again, describes to her the details of her assistance offer, including the size of the grant along with associated restrictions. The Housing Recovery Specialist also explains any alternative options available (e.g., buyout from New York State).

The Housing Recovery Specialist may also preview a sample of potential designs for model homes that Mrs. Smith may choose from. If Mrs. Smith is not comfortable with deciding on her assistance path, the Housing

Recovery Specialist can refer her to outside counseling for financial or legal guidance (e.g., financial analysis of each option, including the possible costs of relocating and the fair market value of similar homes in her area).

Mrs. Smith decides to rebuild, utilizing the restricted grant program. Her $150,000 in received funding is combined with the City's grant funding for use in the rebuild. The Housing Recovery Specialist refers her file to the rebuild path for assistance and arranges a first meeting with the designated general contractor (GC).

Mrs. Smith and the designated contractor would then finalize the agreement for assistance and select an appropriate model home, including some options for customization (e.g., paint color, window design). Over the course of construction, construction supervisors will help ensure work is being done on time and to quality standards. The City will make direct payments to the contractor. The Housing Recovery Specialist will continue to check in with Mrs. Smith as the construction continues to ensure that she is satisfied with the assistance she has received.

Example 2: Major Rehabilitation, with insurance, but no other prior funding received

Mr. Jones' 2-bedroom, 1,200-square-foot bungalow-style home sustained substantial damage from flood waters during Hurricane Sandy. Mr. Jones, who has a mortgage on his home, has flood insurance.

After hearing about the City's options for assistance on the radio, Mr. Jones registers for NYC Houses Rehabilitation and Reconstruction assistance. He is immediately assigned a Housing Recovery Specialist and an assessment expert. He meets with the Housing Recovery Specialist to submit the documents that he needs to provide. After making an appointment, the assessment expert visits his home to estimate the required scope of work and potential costs.

The documents Mr. Jones provides demonstrate that he is eligible for assistance under the program. He has received $10,000 from FEMA, all of which was intended for the rehabilitation of his home, and none of which has been spent. He has also received $5,000 from philanthropic organizations, but it was for heating oil, not for rehabilitation. His insurance company has decided to award him $70,000, though only $40,000 of this award was intended for rehabilitation of his home. Finally, NYC's Rapid Repairs program completed $15,000 worth of work on his home.

The site visit results in an assessment estimating that it would cost $75,000 to rehabilitate Mr. Jones' home, which is more than half of the estimated $130,000 market value of the structure, thereby confirming that the home is "substantially damaged". Though the expert determines the scope of work does not require complex rehabilitation, this level of damage requires the home to be rehabilitated in compliance with current building codes and elevated above the floodplain. The assessment expert estimates that to do so would cost an additional $50,000, for a total rehabilitation cost of $125,000. The assessor also estimates that it would cost more than $125,000 to demolish the existing structure and build a new home in its stead, thereby ruling out the option for assistance to rebuild instead of rehabilitate Mr. Jones' home.

Together, the assessment and Mr. Jones' documents form a complete application package, which is then reviewed by the financial review and eligibility team. The team determines that Mr. Jones will receive a restricted grant of up to $75,000 to fill his unmet need (based on the total $125,000 construction costs minus the $50,000 already received for the purpose of rehabilitating his home). The Housing Recovery Specialist then meets with Mr. Jones again, and describes to him the details of his assistance offer, including

the size of the grant along with associated restrictions. The Housing Recovery Specialist also explains any alternative options available (e.g., buyout from New York State).

If Mr. Jones is not comfortable with deciding on his assistance path, the Housing Recovery Specialist can refer him to outside counseling for financial or legal guidance (e.g., financial analysis of each option, including the possible costs of relocating and the fair market value of similar homes in his area).

Mr. Jones decides to accept rehabilitation assistance using the restricted grant program. His $50,000 in received funding is combined with the City's $75,000 grant for use in the rebuild. Given that the assessment has determined the rehabilitation effort required is not complex (compared to a rebuild), the Housing Recovery Specialist refers Mr. Jones' file to the moderate rehabilitation path for assistance, rather than the major rehabilitation path. The coordinator arranges a first meeting with the designated general contractor (the team managing the moderate rehabilitation path assigns the GC).

Mr. Jones and the designated contractor then finalize the agreement on the rehabilitation and resilience strategies and options, including any available options for customization (e.g., cabinet design), and the rehabilitation and resilience begin. Over the course of construction, construction supervisors will help ensure work is being done on time and to quality standards. The City will make direct payments to the contractor. The Housing Recovery Specialist will continue to check in with Mr. Jones as the construction continues to ensure that he is satisfied with the assistance he has received.

Example 3: Moderate Rehabilitation, relatively low amount of unmet need

Ms. Garcia's attached home sustained some water damage and flooding during Hurricane Sandy. Though the property was not previously in a flood hazard zone, Ms. Garcia did have flood insurance, and received an award in the amount of $20,000. She also received FEMA IA in the amount of $5,000. Ms. Garcia did not sign up for NYC's Rapid Repairs program as her home was considered livable.

After reading about the City's assistance options on the Internet, Ms. Garcia registers for NYC Houses Rehabilitation and Reconstruction assistance. She is immediately assigned a Housing Recovery Specialist and an assessment expert. She meets with the Housing Recovery Specialist to submit the documents that she needs to provide. After making an appointment, the assessment expert visits her home to estimate the required scope of work and potential costs.

The documents Ms. Garcia provides demonstrate that she is eligible for assistance under the program. She has received $5,000 from FEMA, all of which was intended for the rehabilitation of her home, and none of which has been spent. She expects to receive $20,000 from her insurance company, but only $10,000 of this money is intended for rehabilitation purposes.

The site visit results in an assessment estimating that it would cost $18,000 to repair Ms. Garcia's home. Given that this is not greater than 50% of the value of the structure, Ms. Garcia is not required to elevate her home above the new Advisory Base Flood Elevation. The Housing Recovery Specialist tells Mrs. Garcia that the City is considering the viability of other programs intended to support resilience measures such as elevation and that the State may be obtaining funding for a program that could support mitigation; however preliminary estimates indicate that there is not sufficient funding sources available at this time to elevate homes that are not considered "substantially damaged".

Together, the assessment and Ms. Garcia's documents form a complete application package, which is then reviewed by the financial review and eligibility team. The team determines that Ms. Garcia will receive a

restricted grant of up to $3,000 to fill her unmet need (based on the total $18,000 construction costs minus $15,000 already received for the same purpose). The Housing Recovery Specialist then meets with Ms. Garcia again, and describes to her the details of her assistance offer. These include the size of the grant along with associated restrictions, the list of pre-selected contractors she may choose from, and any alternative options that are available. If Ms. Garcia is not comfortable with making the choice, the Housing Recovery Specialist can refer her to outside counseling for financial or legal guidance.

Ms. Garcia decides to accept rehabilitation using the restricted grant program. The Housing Recovery Specialist refers her file for assistance via the moderate rehabilitation path and arranges to have a construction supervisor assigned to her case. The Housing Recovery Specialist also provides Ms. Garcia with information on how to submit her invoice for payment once the work has been completed.

After the work is complete, Ms. Garcia submits her invoice for payment. The construction supervisor will be responsible for visiting Ms. Garcia's home once to confirm that the work that the contractor invoiced has been completed, and then authorizes payment to that contractor.

The Housing Recovery Specialist will remain available as a point of contact for Ms. Garcia to ensure that she is satisfied with the assistance she has received.

Example 4: Rebuild, with significant SBA loan funding available

Mr. Lee's 4-bedroom, 2,500-square-foot home was destroyed by Hurricane Sandy. Mr. Lee had recently paid off his mortgage, and he had let his flood insurance lapse. He has received some assistance from FEMA IA and New York State. He also applied for a Small Business Administration (SBA) Disaster Loan.

After reading about the City's assistance options in the newspaper, Mr. Lee registers for NYC Houses Rehabilitation and Reconstruction assistance. He is immediately assigned a Housing Recovery Specialist and an assessment expert. He meets with the Housing Recovery Specialist to submit the documents that he needs to provide, and the assessment expert visits his home.

The documents Mr. Lee provides demonstrate that he is eligible for assistance under the program. He has received $31,900 from FEMA, with $20,000 of this intended for the rebuild of his home. He also received $20,000 from New York State philanthropic funds. Finally, he has been approved for the maximum $200,000 from SBA for a low-interest disaster loan. He has not yet used any of the money available to him.

The site visit results in an assessment confirming that the home was destroyed, and indicating that there are no special considerations resulting from the land or parcel conditions of the property. Based on the size of Mr. Lee's household and the pre-storm square footage of his home, the assessment expert estimates that it would cost $300,000 to build a pre-designed model home for Mr. Lee at the new Advisory Base Flood Elevation and incorporating the most current building codes.

Together, the assessment and Mr. Lee's documents form a complete application package, which is then reviewed by the financial review and eligibility team. The team determines that Mr. Lee is eligible to receive a restricted grant of up to $60,000 to fill his unmet need (based on the total $300,000 construction costs minus $240,000 funding already received for the same purpose). They refer the case to SBA for an increase in the loan size. SBA agrees with the assessment of the size of the unmet need, but declines to increase the size of the loan. At this point, the financial and eligibility review team confirm that Mr. Lee will receive an offer for a restricted grant of up to $60,000.

The Housing Recovery Specialist then meets with Mr. Lee again, and describes to him the details of his assistance offer. These include the size of the grant along with associated restrictions, some potential designs for modular homes he may choose, and any alternative options that are available (e.g., buyout from New York State, custom design, etc.). Due to his particular situation, the Housing Recovery Specialist may also present Mr. Lee with the option of choosing not to use the predesigned model homes, and instead supervising his own custom rebuild with either his designated contractor or a contractor of his choosing. If Mr. Lee is not comfortable with making any of these choices, the Housing Recovery Specialist can refer him to outside counseling for financial or legal assistance (i.e., financial analysis of each option, including the possible costs of relocating and the fair market value of similar homes in his area).

Mr. Lee decides to rebuild utilizing the restricted grant program, and selects the designated contractor. His $240,000 in received funding is combined with the grant for use in the rebuild. The Housing Recovery Specialist refers his file to the rebuild path for assistance and arranges a first meeting with the designated general contractor (the team managing the rebuild assistance path assigns the GC).

Mr. Lee and the designated contractor would then finalize the agreement for assistance and select an appropriate model home, including some options for customization (e.g., paint color, window design). Over the course of construction, construction supervisors will help ensure work is being done on time and to quality standards. The City will make direct payments to the contractor and the Housing Recovery Specialist will continue to check in with Mr. Lee as the construction continues to ensure that he is satisfied with the assistance he has received.

Temporary Disaster Assistance Program (TDAP)

Please note that this activity was originally reflected under the NYC Houses Rehabilitation and Reconstruction program in the draft CDBG-DR Action Plan A. However, the City received a significant number of public comments questioning whether applicants must be participating in the NYC Houses Rehabilitation and Reconstruction program in order to be eligible for assistance, which is not the case. In order to clarify this, the City has broken out this activity, as already described, as a separate program.

PROGRAM OBJECTIVE AND DESCRIPTION: The City will use CDBG-DR funds to create a rental subsidy program, Temporary Disaster Assistance Program (TDAP), to serve households displaced by Hurricane Sandy for up to 24 months. The City will assist households in finding apartments in the existing affordable housing portfolio, or participants may identify their own apartment. Clients will sign leases directly with the property owners, and will be responsible for paying up to 30% of income in rent. The City will use CDBG-DR to cover the gap between the contract rent and tenant share. To the extent practical, the program will be modeled to follow the regulations and procedures of Section 8 (units must pass Housing Quality Standards, etc.). The NYC Department of Housing Preservation and Development (HPD), which will oversee the program, successfully created a rental subsidy program from HOME funding to meet emergency rental assistance needs in the past, which was also based on the Section 8 model. All applicants must provide a pre-storm address and an explanation as to why they cannot return to their pre-storm residence.

The City recognizes that a CDBG-DR rental subsidy is only a bridge to permanent housing. During the two year subsidy period, the City will work with families to ensure they remain stably housed. The City anticipates some flow of Public Housing and potentially Section 8 units available. The City will transition participants to any vacancies that open during the 24 month period on a flow basis (i.e. households need

not have exhausted their two years of rental assistance to qualify for a vacancy). HPD will also outreach to owners and managers of various properties with project-based subsidies that will have vacancies over time, to create another pipeline of permanent housing options.

Finally, the City will seek ways to boost household income, so that participants are better able to afford suitable housing after program expiration. For example, the City will attempt to link households to income support payments for which they are eligible, but not currently enrolled. Outreach to participants will be ongoing during the two year subsidy period to try to avoid emergency situations at the end of the subsidy window. Households may also be linked to financial counseling. Initial outreach is proactively made to applicants during workshops and briefings. HPD will use a case manager to work with eligible TDAP participants to assist in the transition to more sustainable housing. This case manager will perform a needs assessment and coordinate counseling and case management sessions and/or referrals for other than housing needs.

In order to implement this rent subsidy program, the City asked HUD to waive the rule that limits income support payments to 90 days.

ELIGIBILITY CRITERIA: Eligibility for the Rental Assistance program will initially be limited to displaced households at or below 50% of Area Median Income. After the initial launch of this program, HPD will open eligibility to include households at or below 50% of AMI which relocated following Sandy and which now pay more than 40% of income in rent.

The TDAP program is currently unable to serve households with undocumented members. Eligibility for the CDBG-DR housing programs is determined by HUD. In accordance with HUD guidance, only "qualified aliens," as defined in Section 431 of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), are eligible to receive non-exempted Federal public benefits.

The City is currently exploring alternative options through private dollars to support individuals and families who do not qualify for the housing assistance programs.

PROGRAM PRIORITIES: To prevent homelessness among low-income households that were displaced by Hurricane Sandy and face significant barriers to relocation. After the initial launch of the program, priority was given to households that meet at least one of the following criteria:

1. Households residing in transitional housing placements (hotels, shelters) due to the storm;
2. Households with expiring FEMA rental assistance; and/or
3. Households were registered through the HPD Housing Portal and were not offered placements.
4. Households that had relocated as a result of Sandy but are unable to afford their current housing due to a high rent burden.

GRANT/LOAN SIZE LIMIT: Households may lease apartments with rents up to 110% of New York City Fair Market Rent. Subsidies will last up to two years. Actual subsidy per household will vary by household income and size, rent, and duration of subsidy.

HUD ELIGIBILITY CATEGORY: Public Services

NATIONAL OBJECTIVE: Low- and Moderate-Income Housing

CDBG-DR ALLOCATION: $19,000,000

PROJECTED ACCOMPLISHMENTS: 600 households

PERFORMANCE SCHEDULE: Rent subsidies will be limited to 24 months.

OTHER FUNDING SOURCES:
Although CDBG-DR funded rental assistance may bridge to other rental subsidies, tenants may not receive more than one rental subsidy simultaneously.

Build it Back - Multi-Family Building Rehabilitation

PROGRAM OBJECTIVE AND DESCRIPTION: The City has allocated $215 million for rehabilitation loans for multi-family (five units or more) housing and small multi-family (three to four units) properties. Small multi-family buildings are addressed through the NYC Rehabilitation and Reconstruction guidelines. Funds will be used throughout the City, and will serve a wide range of housing types, including market-rate properties, HUD-assisted properties, permanent housing for the homeless, and private market units receiving project-based assistance or with tenants that participate in the Section 8 Housing Choice Voucher Program.

As mentioned previously, HPD plans to spend at least $10 million of these funds to rehabilitate and build supportive housing projects that will serve chronically homeless individuals with a variety of special needs, such as mental illness or addictions. On-site supportive services would be provided through a variety of City- and State-funded contracts to ensure that these individuals remain stably housed. Investment in these projects will add to the supply of permanent housing for pre-storm homeless. In addition, the City will actively seek opportunities to convert damaged nursing homes, rooming houses, and other appropriate facilities to supportive housing. However, because these properties are privately-owned, the pipeline and therefore the funding allocation for these projects are uncertain.

HPD also plans to spend at least $75 million of the program's funds to rehabilitate and retrofit existing affordable housing developments. The portfolio of existing affordable housing includes HUD-assisted housing such as Section 202 senior housing, projects that received Low Income Housing Tax Credits, and developments created through the State Mitchell-Lama program (many of which have or had Federal mortgage subsidies). In addition, HPD will work with HUD to identify any HUD-assisted projects that are not yet in the City's identified pipeline, but which are in need of CDBG-DR funds to recover from Sandy.

This program may include reimbursements for storm-related costs already incurred. Costs incurred after (or costs associated with contracts signed after) October 29, 2013, will not be eligible. In general, priorities for reimbursement will be based on financial need and applicants must comply with all program procedures.

The CDBG-DR funds will be conveyed as low- or no-interest loans, which may be forgiven depending on property specific circumstances, or as restricted grants.

CDBG-DR funds can be used to reconstruct/rehabilitate property damaged by Hurricane Sandy, and to implement resiliency measures. On a case by case basis, the City will also consider scopes of work that

include non-storm-related elements. Non-storm-related scope items will be approved only when the work is necessary to maintain the property as a viable housing resource in a storm-impacted community. All work must meet Enterprise Green Communities or the HUD CPD Green Retrofit Checklist standards for environmentally sustainable construction.

Lending Options

The City will employ three different mechanisms for making CDBG-DR-funded rehabilitation loans.

1. Direct lending: The City will lend funds directly to owners of impacted buildings. The City's use of CDBG-DR funds will be modeled after two extremely successful, existing loan programs – the Article 8A loan program and the Participation Loan Program (PLP)– to meet the needs of buildings damaged during Sandy. For most properties, the program will closely resemble the Article 8A loan program that uses public money to repair buildings without capacity to absorb additional debt. In instances where buildings have an existing mortgage that is unsustainable, the City will seek to provide CDBG-DR funds in combination with a new or refinanced private first mortgage using the PLP model– PLP loans blend private and public money to repair properties and ensure supportable debt service payments. In most cases, these models will be used to serve buildings with more than 100 units, and which are not currently subject to affordability requirements.
1.
2. Partner lending: The City will enter into a sub-recipient agreement with one or more Community Development Financial Institutions (CDFIs) to administer rehabilitation loans to buildings with fewer than 100 units. The CDFI, under HPD oversight, will be responsible for outreach to owners, underwriting of loans, and servicing of funds. HPD will participate in the CDFI review of loans for viability, monitor the CDFI implementation of CDBG-DR requirements such as income certification, and have lead responsibility for NEPA review and Davis-Bacon monitoring.
3. In addition, HPD will work closely with the Housing Development Corporation (HDC), a New York State public benefit corporation that finances multi-family affordable housing in New York City. HPD and HDC will collaborate on outreach to and underwriting of loans for impacted affordable housing developments in the HDC asset management portfolio. The majority of asset management properties should meet the low- and moderate-income threshold. HDC will service loans and assets manage the properties.

The share of funds channeled through each lending mechanism will vary depending on the level of interest and need seen in different segments of the housing market.

In some cases, building owners may have self-funded emergency stabilization needs in the immediate aftermath of the storm. If the owner can document that building conditions represented an urgent threat to health and safety, meets all CDBG-DR eligibility requirements, and that he/she received no other financial assistance (FEMA, SBA, insurance, charitable gifts) to pay for this work, CDBG-DR funds may be used to cover these costs. In other instances, owners have self-funded rehabilitation work to address immediate needs after the storm that were critical to restoring habitability, but which do not meet the definition of emergency stabilization described above. In limited cases, where this has created financial hardships that jeopardize the owner's ability to make mortgage payments, HPD may use CDBG-DR funds to

make loan payments for up to 12 months. Mortgage assistance will only be available to owners who are also receiving CDBG-DR funds to do additional rehab work to address unmet needs.

In addition to the funding mechanisms described above, the City will consider funding to acquire properties for the redevelopment of a building or cluster of buildings in ways that mitigate future risks. For example, the City could acquire buildings or empty lots in an area where other owners have damaged properties but want to stay, and then support a broader redevelopment effort. These voluntary acquisitions would be made at prices based on post-Sandy fair market values. Such potential "smart" redevelopment would likely be limited to areas specifically targeted for this purpose by the City and community, and will include funding for relocation of tenants as necessary in accordance with HUD and URA requirements (e.g., moving costs and temporary or permanent housing assistance). This program will not use eminent domain.

Regulatory Compliance

The originating lender (the City or CDFI) will be responsible for ensuring compliance with the following:

- Income certification: collecting an affidavit from each household documenting size and income, or coordinating with HPD to use documentation from an existing income certification; and
- Accessibility: All projects are subject to Section 504 of the Rehabilitation Act of 1973, as amended.

The City will be responsible for ensuring compliance with the following:

- Environmental review: All projects must go through National Environmental Policy Act (NEPA) review; and
- Davis-Bacon: Where applicable, contractors will have to submit payroll records to HPD for review. Any contractor not paying the applicable prevailing wage rates will have funds withheld, will be required to reimburse workers, and will potentially be subject to additional penalties.

This program will also include funding for City staff working on loan programs. Eligible titles include, but are not limited to, project managers to review loan underwriting, environmental review experts, labor monitors, construction/engineering staff, and attorneys.

ELIGIBILITY CRITERIA:

- Owners of rental properties, co-ops, and condos with five units or more.

All owners of multi-family buildings, rentals, cooperatives, or condominiums that are located in the five boroughs of New York City and that have suffered damage from Hurricane Sandy will qualify for assistance to rebuild, rehabilitate, and, in the case of buildings with substantial damage, mitigate against future losses to comply with local building and zoning codes as adjusted to address future flood risk. Also, some private associations may find that rehabilitation of their infrastructure is essential to the rebuilding of housing. In these cases, the infrastructure rehabilitation may be eligible for assistance.

PROGRAM PRIORITIES:

- Properties requiring loans to restore basic habitability;

- Significantly damaged buildings with basic services restored but in need of major rehabilitation; and
- Buildings serving the most at-risk demographic populations.

GRANT/LOAN SIZE LIMIT: Loans will be capped at $200,000 on a unit basis, including both rehabilitation and resiliency scope items. Exceptions may be granted as determined by the City program management. However, the City anticipates that the average loan will be substantially smaller, approximately $20,000 per unit.

HUD ELIGIBILITY CATEGORY: Rehabilitation/Reconstruction of Residential Structures, Acquisition of Property for Replacement Housing

NATIONAL OBJECTIVE: The Multi-Family Building Rehabilitation program will primarily meet the Low- and Moderate-Income Housing national objective. HPD, HDC, and CDFIs will attempt to collect income certifications from all tenants in buildings receiving CDBG-DR-funded loans, but the City also anticipates that some buildings with largely higher-income tenants will require assistance. In the aggregate, the City anticipates that approximately 67% of the 13,000 units will serve low- and moderate-income households.

If a property requires rehabilitation financing, but cannot meet the Low- and Moderate-Income Housing national objective, it will qualify as Urgent Need.

CDBG-DR ALLOCATION: $215,000,000

PROJECTED ACCOMPLISHMENTS: Approximately 13,000 units, including market-rate properties, HUD-assisted properties such as developments with 202 or 236 contracts, permanent housing for the homeless, and private market units receiving project-based assistance, or with tenants that participate in the Section 8 Housing Choice Voucher Program.

PERFORMANCE SCHEDULE: New York City agencies will begin preliminary outreach to property owners during the Action Plan review process and anticipates that lending will begin in the fall of 2013. However, each project will need to be individually scoped and designed and will require permits and, in some cases, zoning review. In HPD's experience, large scale rehabilitation projects require an 18- to 24-month construction period (after the pre-development phase just described). In the course of construction, HPD typically holds back a portion of loan funds, as well as after construction is substantially complete as a tool to ensure that compliance requirements, such as filing of all Davis-Bacon paperwork, Fair Housing requirements, etc. are met.

As a result, expenditures may lag construction. While the City will make every effort to ensure a speedy and effective program delivery, it is likely that the City may need to seek an extension of the 24-month expenditure period.

Public Housing Rehabilitation and Resilience

PROGRAM OBJECTIVE AND DESCRIPTION: Under this program, improvements will be made to the City's public housing infrastructure. These improvements are intended to perform direct rehabilitation, replace

critical systems and building infrastructure, and install new measures that will restore buildings systems and services to pre-storm conditions, strengthening the buildings by making the new systems more resilient, and further promoting the preservation of the public housing asset with the implementation of sustainable designs. The program elements have been designed to address the diverse building infrastructure in NYCHA's current portfolio.

The City will allocate $108 million to design and construct improvements to public housing directly impacted by Hurricane Sandy. The first phase of this program will include the installation of permanent emergency generators or alternate measures to enhance power resiliency at NYCHA's most vulnerable buildings that were impacted. Accordingly, a portion of this allocation will be used as the non-federal share for FEMA Public Assistance projects.

Improving resiliency by activities such as adding permanent emergency generators at the remaining critical NYCHA buildings in Zone A will cost an additional $130 million and may be funded from future CDBG-DR tranches. NYCHA is considering the most cost effective and sustainable options to address this issue at the most vulnerable buildings and developments.

In addition, NYCHA is considering other efforts that include:

- Strengthening emergency response and preparedness for future floods with initiatives such as a new Emergency Operations Center, a standard Incident Command Structure-based system, and rehabilitating a total of 90 Community Centers located in Zone A.
- Increasing the resilience to mitigate future flood risk at NYCHA developments by implementing basic resiliency and mitigation measures (i.e. raised boilers and electrical switch gear) to all buildings in the new Zone A.

As previously described, many NYCHA developments sustained direct and substantial damage as a result of Sandy. However, a number of developments were also impacted through the loss of critical utility service, such as electricity and/or steam, when Hurricane Sandy impacted the infrastructure of those utility providers. In some cases, impacts were abated when service was restored. In other cases, minor flooding occurred due to the loss of pumps and other circumstances. Those minor issues were typically abated shortly after restoration of the utility with more routine maintenance measures. Despite the minor physical impacts in some developments, due to the facilities' reliance on outside utilities, NYCHA's residents were left with no heat, hot water, lights, water, or elevator service and many have expressed a feeling of being trapped in their apartments. There was very little NYCHA could do in these cases to support the residents.

Accordingly, under this program, NYCHA will consider all locations that were impacted, whether substantially or indirectly through utility loss, to implement improvements that will allow these facilities to be more resilient and better serve their residents. Efforts will be aimed at ensuring that the building infrastructure, and its occupants, are not impacted at all and see no loss of service when outside utilities are lost.

ELIGIBILITY CRITERIA: With a wide variety of building types in all five boroughs and a program with multiple priorities, the threshold and other criteria for determining eligible properties may vary slightly. However, all NYCHA buildings that have been impacted by damage from Hurricane Sandy, are located within the flood zone, or are otherwise vulnerable to future storms may be eligible.

PROGRAM PRIORITIES: Each eligible property will be carefully assessed according to the program priorities. Criteria that will be considered for selection of properties include: level of building damage; number of residents; resident population (e.g. seniors, vulnerable populations); whether or not it is a high rise building; services potentially impacted; and location of critical equipment. Priority would be given to the most vulnerable of NYCHA's residences such as senior buildings, 504 apartments, buildings with life sustaining equipment, and community/senior centers, etc.

HUD ELIGIBILITY CATEGORY: Rehabilitation/Reconstruction of Residential Structures

NATIONAL OBJECTIVE: Funding for restoration and resiliency will provide direct and long lasting benefits to all residents of a building. For example, permanent emergency backup generators to power critical building systems will provide residents safe egress via elevators, enhance resident safety by providing emergency lighting, and allow for sheltering in place by ensuring domestic water, heat, and hot water can continue to be delivered.

CDBG-DR ALLOCATION: $108,000,000

PROJECTED ACCOMPLISHMENTS: The program as a whole could have an impact on 300,000 NYCHA residents in nearly 180,000 units; benefits will be realized by approximately 80,000 residents who were significantly impacted by the storm. The first phase of this program is focused on 100 buildings with a population of approximately 20,000 residents.

PERFORMANCE SCHEDULE: NYCHA is currently preparing proposed design documents to address the rehabilitation and resiliency needs at each of the impacted NYCHA developments. It is anticipated that most resiliency measures will be implemented together with required rehabilitation work, with construction at some developments projected to begin as early as spring 2013. Construction developments with more complex improvements could take more than a year to complete.

VIII. BUSINESS

Needs Assessment

Impact to the City's Economy

Hurricane Sandy's impairment of the City's economy falls into two categories. The first is the economic activity that was interrupted or irrevocably lost due to the storm. This includes activities such as cancelled tourist visits, business loss due to shuttered offices, and wages not paid to workers who could not commute into the affected region. The second is the outright damage to residential housing, buildings, businesses, and public infrastructure, which can be viewed as a reduction in the City's wealth and stock of productive resources.

Disruption of City's Economy

In NYC, record-breaking storm surges hit Lower Manhattan and the coastal areas of Staten Island, Queens, and Brooklyn, damaging transportation, energy distribution, and telecommunications infrastructure, which led to sustained disruptions to businesses and their employees. The primary economic indicator of Sandy's impact is the weekly initial jobless claims data for New York State. Jobless claims jumped by about 44,000 claims in the week following the storm. Moody's Analytics estimates that in November, about 20,000 jobs were lost in the five boroughs of NYC, primarily in leisure and hospitality, local government, and education and healthcare.

Soon after Sandy moved out of the area, Moody's Analytics published initial estimates of lost output for the affected region, which stretched from Washington, D.C. to Bridgeport, CT. The estimates were derived from Moody's regional economic models and assumptions regarding the scope and duration of the disruption. Furthermore, their analysis took into account historical patterns noted in previous disasters; while most sectors are harmed, activity in others – such as the construction and manufacturing sectors – is actually enhanced. Moody's provided *net* estimates of base losses that account for both of these effects. From these base estimates, Moody's then scaled their values by the IMPLAN sector multipliers to include the additional impacts that losses would inflict on other parts of the economy. Their total net loss figure was $19.9 billion for the impacted region.

These aggregate estimates by sector were shared down to the five boroughs of New York City by NYC OMB using Moody's Analytics' county-level GDP estimates and then allocated to wage and business losses. Using this methodology, total losses in NYC economic activity is estimated to be $5.7 billion. Of this $5.7 billion, $2.4 billion is in the form of lost wage earnings, while $2.0 billion is due to lost business activity. The remaining losses were allocated to "All Other". Additional details are shown in the following table titled, "Sectoral Table of Economic Losses".

NYC OMB had to make certain assumptions to distribute the losses between wages and business surplus. The wage portion (49%) was estimated from OMB's economic model of the City and represents the total wage earnings in NYC in 2011 as a share of Gross City Product. The business share (40%) was derived from the 2010 Gross Operating Surplus for NY State as a share of NY GDP.

In January 2013, Moody's published an update to their original estimates. These new results increased the total net economic losses to the affected region to $25 billion. They also provided a breakdown of losses by region, and ascribe $10.3 billion of this loss to New York City alone, significantly higher than the original

$5.7 billion estimate produced by OMB. However, the data that will best measure Sandy's toll on area payrolls is the Quarterly Census of Employment and Wages (QCEW) published by the U.S. Bureau of Labor. The QCEW is the most comprehensive labor survey data and covers about 98% of all jobs. Because it is only available after a six month lag, the fourth quarter 2012 data is unavailable at this time.

Table 1: Sectoral Breakdown of Economic Losses

Net Losses Including Multiplier Effects ($ billions)					
Sector	**Net Losses for Region**	**NYC Share of Losses**	**Wage Income Losses**	**Business Losses**	**All Other Losses**
Finance & Insurance	7.00	1.99	0.98	0.78	0.22
Prof. & Business Services	4.60	1.31	0.64	0.52	0.14
Leisure & Hospitality	0.90	0.26	0.13	0.10	0.03
Information	1.80	0.51	0.25	0.20	0.06
Retail Trade	0.20	0.06	0.03	0.02	0.01
Other Services	0.50	0.14	0.07	0.06	0.02
Transportation & Utilities	0.70	0.20	0.10	0.08	0.02
Health	0.85	0.24	0.12	0.10	0.03
Education	0.85	0.24	0.12	0.10	0.03
Private Total	17.4	4.95	2.4	2.0	0.5
Government	2.6	0.74			
Total	20.00	5.69			

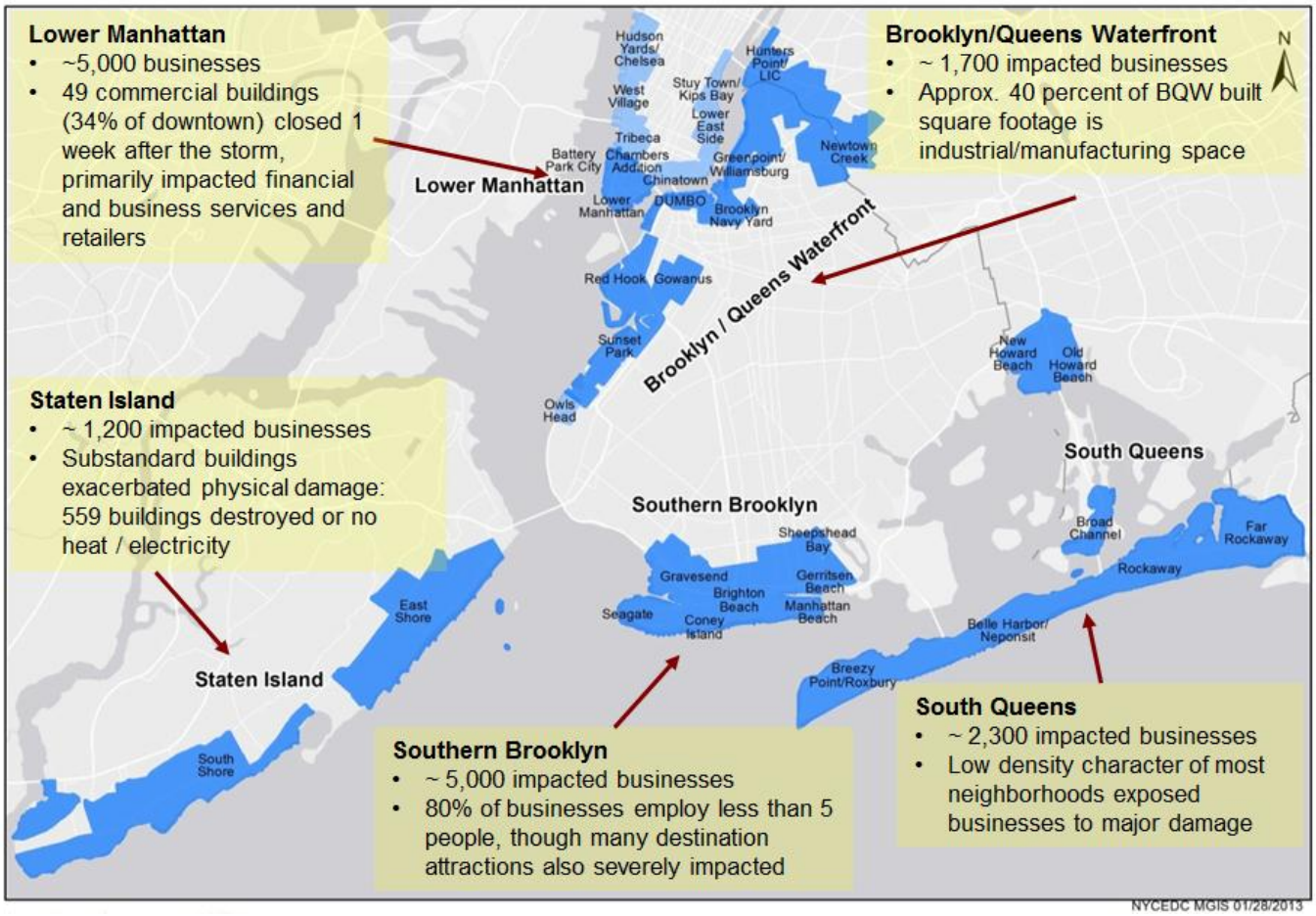
The economic losses initially estimated by NYC OMB derived from Moody's analysis resulted in a preliminary estimate that tax revenue would decline by approximately $250 million. However, recent tax collections data suggest that this estimate should be revised downward to approximately $160 million as there is little evidence that sales and hotel tax revenue were negatively impacted by the storm.

Damage to City Businesses

In addition to lost output, the City experienced significant outright damage to its wealth and stock of productive resources, including billions of dollars' worth of damages to businesses. Hurricane Sandy imposed significant commercial damages to neighborhoods across all five boroughs. Approximately 23,400 businesses and an associated 245,000 employees were located in flood-impacted areas and faced extensive damages from loss of inventory, ruined equipment, and damage to the interiors of their space and/or structural and extensive damage to their building systems. Approximately 65% of these flood-impacted businesses were located in five neighborhoods: Lower Manhattan, the Brooklyn-Queens Waterfront, Southern Brooklyn, South Queens, and Staten Island. According to a survey done by the Department of Small Business Services, as of March 2013, nearly 20% of impacted businesses remained closed.

Impacts varied by neighborhood. Lower Manhattan, which is the fourth largest business district in the country and saw its residential population double to 45,000 residents between 2000 and 2010, experienced significant damage to large utilities and flooding in high-rise commercial and residential buildings. Along the Brooklyn-Queens Waterfront, large-scale industrial businesses including port facilities and warehouses were heavily impacted, whereas Southern Brooklyn's small businesses and nearby destination/tourist attractions experienced severe damage. In South Queens and Staten Island, most of the impacted businesses serve the local population and seasonal visitors in low-density neighborhoods.

Map: Neighborhood Economic Impacts from Hurricane Sandy



Note: Based on Hoover's data for businesses located in areas with any level of inundation.

However, key similarities exist across these neighborhoods: nearly 95% of impacted businesses were small- and medium-enterprises (SMEs), employing 50 people or less, and the businesses were primarily concentrated in the retail and service sectors. For these SMEs, storm damage was significant; survey reports suggest retail stores experienced thousands of dollars in lost sales for each day they remained closed and experienced equipment and inventory damage losses in the hundreds of dollars per square foot. For a small 1,000 square foot retail business that remained closed for two weeks, this would mean damages of at least $100,000, before accounting for the impact of a reduced customer base in some residential neighborhoods.

In total, across all industries, the City's initial estimate of private commercial direct losses was $3.4 billion. This figure was calculated using New York City's share of the upper range of overall insured losses from Sandy as estimated by multiple insurance and risk management companies based on data from prior storms, together with industry ratios of insured-to-uninsured and commercial-to-residential losses. Based on these ratios, the City estimated that between $1.9 billion to $2.4 billion of commercial losses were uninsured.

While SME commercial impacts were far reaching, the City's industrial sector, much of which is concentrated along the Brooklyn-Queens Waterfront, suffered some of the largest direct losses from the

storm, primarily from the destruction of high-value equipment and inventory. Nearly 7,000 industrial businesses were impacted and reports from wholesale/retail trade, transportation, utilities, construction, and manufacturing firms place direct damages in the tens to hundreds of millions of dollars. Additional losses have accrued from supply chain disruptions and delivery delays.

Table 2: Summary of Business Impacts by Industry

NUMBER OF BUSINESSES IMPACTED BY INDUSTRY (NAICS Codes in Parentheses)

INDUSTRY	# of Businesses	% of Total
SERVICES	**14,163**	**60%**
Information (51)	886	
Professional, Scientific, and Technical Services (54)	3,932	
Management of Companies and Enterprises (55)	79	
Administrative and Support and Waste Management and Remediation Services (56)	2,781	
Educational Services (61)	447	
Health Care and Social Assistance (62)	2,202	
Arts, Entertainment, and Recreation (71)	621	
Accommodation and Food Services (72)	1,084	
Other Services (except Public Administration) (81)	2,131	
FIRE	**2,315**	**10%**
Finance and Insurance (52)	1,196	
Real Estate and Rental and Leasing (53)	1,119	
TRADE	**3,672**	**16%**
Retail Trade (44-45)	2,339	
Wholesale Trade (42)	1,333	
MANUFACTURING (31-33)	**796**	**3%**
TRANSPORTATION & UTILITIES (48-49, 22)	**1,066**	**5%**
CONSTRUCTION (23)	**1,417**	**6%**
TOTAL PRIVATE	**23,429**	**100%**

Source: Hoovers Listing Data for flood-impacted businesses. Impacted businesses based on Hoover's business data for businesses that were located in areas with any level of inundation, Mayors Analytics Team.

New York City's Response to Economic Impact

In recognition of Sandy's severe impact on small businesses, Mayor Bloomberg announced the creation of Business Recovery Zones (BRZs) on December 5, 2012. The Zones include Lower Manhattan/South Street Seaport; Brooklyn Harbor Waterfront/Newtown Creek (DUMBO, Greenpoint/Newtown Creek, Red Hook, Gowanus, Sunset Park); South Brooklyn (Coney Island, Brighton Beach, Manhattan Beach, Sheepshead Bay, Gerritsen Beach); South Queens (Howard Beach and the Rockaways); and the South Shore of Staten Island. Business Recovery Zone leaders were assigned to each area to identify neighborhood-specific needs; coordinate action plans and follow-up; organize City resources; and provide a central point of contact for businesses and agencies. Captains of each area convened local steering committees of elected officials, community organizations, non-profit organizations, Local Development Corporations, Business Improvement Districts, small business owners, and other community representatives, to help find and implement solutions in each impacted Zone. The Mayor also announced the creation of the Recovery

Business Acceleration Team: modeled after the City's New Business Acceleration Team, which helps businesses open faster by streamlining and expediting City agency processes, a Restoration Business Acceleration Team was tasked with helping to expedite inspections and allow businesses to re-open their doors faster.

NYC Department of Small Business Services (SBS)

After the storm, with the help of community-based organizations, SBS was able to determine the extent of the damage and quickly distribute information on available City and Federal recovery resources. SBS' Business Outreach Emergency Response Unit worked closely with NYC's Office of Emergency Management to respond to immediate business issues including power restoration and large debris removal. In partnership with City Hall and the NYC Economic Development Corporation, SBS quickly set up five informational meetings – one in each borough – to speak about available services and to distribute emergency loan applications. Dozens of other outreach events took place across the City. Materials on recovery programs were made available in English, Spanish, Mandarin, and Russian, and were also available both online and in print. Between October 29, 2012 and February 28, 2013, SBS handled 1,037 storm-related phone inquiries transferred from 311.

SBS' seven NYC Business Solution Centers and eight Industrial Service Providers informed impacted businesses about available recovery resources and packaged emergency loan applications. As of February 28, these centers helped 2,356 clients with storm-related issues. SBS has worked closely with SBA, which co-located two of its Disaster Recovery Centers with the NYC Business Solutions Centers in Brooklyn and Lower Manhattan.

Displaced Worker Assistance

In November, New York State received a grant for $27.7 million in Federal National Emergency Grant (NEG) funds to assist with recovery. The grant provided resources to hire temporary workers to clean up communities impacted by the storm and to provide information and services to impacted individuals and businesses to help them get back on their feet. The grant is aimed at employing individuals who lost their jobs as a direct result of Sandy or who are long-term unemployed.

New York City received $11.3 million to administer the program. SBS managed several large events where hundreds of candidates were interviewed and hired. SBS worked with the NYC Department of Parks and Recreation (DPR) to hire nearly 800 workers to clean up beaches and repair playgrounds in the Rockaways, Coney Island, Red Hook, and Staten Island. SBS is now working with DPR on a second project to hire 200 young adults (18-24) to help restore a variety of parks and beaches around Jamaica Bay. SBS also worked with NYCHA to hire more than 400 NYCHA residents to clean up public housing developments and to collect information from impacted tenants about their needs. SBS has also worked with DSNY to hire additional Job Training Participants (JTPs). SBS has also hired several employees to assist in outreach efforts. In total, more than 1,100 individuals have been hired to date.

Support NYC Small Business Campaign

Even where businesses are reopening in impacted areas, pedestrian traffic is much lower than normal. SBS is combating this drop-off in foot traffic with marketing campaigns to attract visitors back to the hardest-hit areas. The campaigns highlight individual businesses and appeal to New Yorkers' sense of solidarity with owners who have fought to stay in their communities.

In partnership with the City Council, the Mayor's Office of Media and Entertainment, and NYC & Company, SBS launched an ad campaign called *Support NYC Small Business*. The campaign highlights open businesses and their recovery stories and features them on radio, in bus shelters, and in print. These ads have been featured in major publications like the New York Daily News and the New York Post. The campaign also includes a *Support NYC Small Business* website with an interactive map that currently features over 1,300 businesses that have reopened after the storm. New Yorkers have consulted the website more than 20,000 times. SBS has also worked with 1010 WINS to highlight businesses in an "Open for Business" campaign – a daily segment on a reopened business. Segments have been done on businesses across all impacted areas.

Small Business Assistance Grants

In late January, as part of the City's effort to rebuild neighborhoods, SBS began providing Small Business Assistance Grants to businesses that have reopened but need help repairing or replacing items necessary for full recovery. SBS partnered with Barclays, Citi, and UBS to create a $1 million fund for these grants. Businesses can apply for grants of up to $5,000 for structural repairs, equipment repairs, or to purchase replacement equipment. As of March 4, 645 businesses have applied for a Small Business Assistance Grant and 51 have been approved.

Insurance Assistance

Through a partnership with the New York State Department of Financial Services (DFS), SBS is helping businesses receive assistance with insurance issues, including denial of coverage or unsatisfactory service. In the immediate aftermath of the storm, SBS referred more than 41 businesses to the State. SBS' outreach partnership with the State continues. Insurance workshops will take place in each impacted zone for companies still dealing with insurance issues and will include specialists to assist businesses looking to negotiate with their insurance providers.

NYC Economic Development Corporation (NYCEDC)

Neighborhood Canvassing

NYCEDC worked quickly to assess the damage done to the commercial corridors in New York City, immediately deploying neighborhood captains and beginning the process of formulating short- and long-term recovery plans. Neighborhood captains evaluated conditions, gathered economic data, documented damage, assisted impacted businesses, and coordinated with local business and non-profit organizations. The captains led teams that collected business surveys and helped organize business information sessions in the impacted areas. This work focused on commercial corridors in eight neighborhoods and resulted in the November 2012 joint NYCEDC/SBS report *Hurricane Sandy: An Assessment of Impacted Commercial Corridors and Recommendations for Revitalization.* The communities covered in the report were later organized as the five BRZs. This collective work was instrumental in identifying challenges and opportunities that informed the BRZs and the Special Initiative for Rebuilding and Resiliency (SIRR) efforts that followed.

Loan and Grant Program

NYCEDC launched a loan and grant fund to address the immediate business needs of SMEs in the days following the storm. A $20 million loan fund was created with funds provided by NYCEDC, Goldman Sachs, and 23 other commercial banks. The Mayor's Fund to Advance New York City and the Partnership for NYC also provided $5.5 million for a matching grant program. The program offered maximum loans of $25,000

with matching grants of up to $10,000. Thus far, approximately 550 businesses have been assisted with loans and/or grants. The average loan size is $22,803, and 85% of loans received have been for the maximum amount. Based on the current rate of applications and approvals, the loan fund is expected to be exhausted early in the second quarter of 2013.

Hurricane Emergency Sales Tax Exemption Program

The New York City Industrial Development Agency (IDA) provided emergency assistance to SMEs by establishing the Hurricane Emergency Sales Tax Exemption Program ("HESTEP"), to provide sales tax exemptions in an amount not to exceed $100,000 for each affected company on purchases of building, construction, and renovation materials; machinery and equipment; and other items of personal property and related services to such businesses. The program is limited to 250 applicants and the deadline to apply for the assistance was April 1, 2013. As of March 2013, approximately 79 businesses had been approved to obtain the necessary paperwork to obtain the sales tax exemptions.

Space Matching

NYCEDC partnered with the commercial real estate and development community to make temporary office and industrial space available at no rent to businesses displaced by Hurricane Sandy. Within three days after the storm, NYCEDC began advertising donated space on the NYCEDC website, detailing all necessary information about donated space in an easily accessible online location. As of February 2013, NYCEDC had secured more than 300,000 square feet of space for displaced businesses. Through this program, more than 45 companies with 680 employees, including those with disabilities, were able to move into temporary space and get back to work.

Remaining Unmet Economic Needs

According to the revised Moody's figures, the region suffered total net economic losses of $25 billion, which included direct private losses. Using a combination of insured loss estimates from multiple insurance and risk management companies and estimates of past storm ratios of insured-to-uninsured losses, initial cost estimates following Hurricane Sandy placed private direct losses, both commercial and residential, at $8.6 billion, $3.8 billion of which was insured and $4.8 billion of which was uninsured. Internal analysis based on industry sources estimated the commercial share of private uninsured losses to range from 40 to 50% or from $1.9 to $2.4 billion. While NYCEDC and SBS acted quickly to make capital available to impacted businesses immediately following the storm, it is clear that there is a significant unmet commercial need, especially amongst the significant amount of business owners, SMEs, and industrial companies that lacked business continuity or flood insurance to help weather the storm.

Additionally, approximately 23,400 businesses were located in Inundation Areas, many outside FEMA's 100-year flood zone. The revised preliminary FEMA Preliminary Work Maps have nearly doubled the number of NYC buildings located in the 100-year flood zone, suggesting that approximately 67,000buildings could be at risk for wave action or flooding in future storms. Sea level rise will further expand vulnerable areas, and unchecked storm surges in the future could cause damage equal to or greater than Hurricane Sandy.

Based on the determination of applying the unmet needs formula and the available data to date, the City of New York had incurred $10.3 billion in business and economic losses. After subtracting the insured losses of $4.1 billion and the SBA loans of $478.8 million, the City of New York is left with an unmet business and economic need of $5.7 billion. Of the 22,042 applications received by SBA as of early March 2013, 8,218

have been approved. The City anticipates that this unmet need will continue to grow as additional details and data is available and updated insurance, SBA, and other subsidy data becomes available.

Table 3: Small Business Administration Disaster Loan Applications (as of March 2013)

County	Applications Received	Applications Approved	Amount Approved
Bronx	272	71	$1,837,700
Kings	6,974	2,285	$106,257,900
New York	880	137	$4,084,000
Queens	9,424	3,680	$239,093,200
Richmond	4,492	2,045	$127,549,200
Total:	**22,042**	**8,218**	**$478,822,000**

Economic Goals

Job creation is one of the most important catalysts to establishing a sustainable long-term recovery. To that end, the City is placing specific emphasis on assisting and helping small businesses recover quickly and efficiently. The City is focusing its efforts on getting businesses reopened and allowing businesses to be able to sustain current employment levels as well as hire new staff. The City will employ additional strategies to sustain, attract, and recruit new businesses and capital to areas most impacted by the storm. In addition, the City will create an environment to foster new technologies to encourage both existing and new businesses to deploy mitigation measures to minimize the impact of future disasters and catastrophes. As a direct result of Hurricane Sandy, businesses located in the floodplain – regardless of whether or not they experienced damage or power outages – are evaluating whether to expand or even continue operations in these vulnerable areas. There is therefore a significant risk that the impacts of Sandy will continue to be felt in the 100-year floodplain and across the City as companies consider taking valuable employment out of vulnerable areas, many of which are low- and moderate-income areas. Investment in resiliency measures will address these concerns and reduce the direct, long-term effects of Hurricane Sandy.

Economic objectives include:

1. Helping SMEs recover and rebuild resiliently, while minimizing their reliance on high-interest debt;
2. Anchoring new or existing industry clusters and catalyzing significant long-term economic growth in the five BRZ's and adjacent impacted areas;
3. Protecting businesses in vulnerable floodplain areas of the City by incentivizing proactive investments in resiliency measures; and
4. Improving building and infrastructure resiliency through competitions that identify and deploy the most promising and cost effective technologies.

Private capital is best leveraged with public investment to create public-private partnerships in order to foster economic and social economic empowerment within low- and moderate-income communities. The CDBG-DR program will provide resources to further the long-term recovery effort in neighborhoods throughout the communities whose businesses and overall quality of life have been negatively impacted. Also, stabilization of businesses and their employee base will lessen the relocation of residents seeking job opportunities in other parts of the City.

Business Programs

Business Loan and Grant Program

PROGRAM OBJECTIVE AND DESCRIPTION: Nearly 95% of impacted businesses were small-and-medium enterprises (SMEs), employing 50 people or less, and were primarily concentrated in retail and service sectors. For these SMEs, storm damage was significant; survey reports suggest retail stores experienced thousands of dollars of lost sales for each day closed and estimated equipment and inventory damage losses in the hundreds of dollars per square foot. In response, the New York City Economic Development Corporation (NYCEDC) launched a loan and grant fund to address immediate business needs in the days following the storm. A $20 million loan fund was created with funds provided by NYCEDC and Goldman Sachs as well as 23 other commercial banks. The Mayor's Fund to Advance New York City and the Partnership for NYC also provided $5.5 million for a matching grant program. The program offered maximum loans of $25,000 with matching grants of up to $10,000. From data collected through on-the-ground canvassing and surveying of applicants, it is clear that the need far surpasses the funds that are currently available. While this program was able to quickly respond to the immediate needs of businesses, it was always anticipated that this program would be insufficient given the vast extent of damage and losses incurred by small businesses. Based on the current rates of application and approval, the funds will be exhausted in early 2013. The significant damage sustained by these SMEs, many of which did not carry flood insurance, as well as the strong response to the existing program, demonstrates the overwhelming need for a significantly larger and more generous loan and grant program to directly assist businesses with working capital requirements, incurred losses, and other recovery and rebuilding efforts.

Experience with the existing program indicates that, while it has provided an important service to affected small businesses, additional funding is needed to both increase the number of businesses that can be served by the program and increase the size of the loans and grants that are provided. These programs will impact businesses that are currently in need of low- or no-interest, direct investment.

The program would have two components that would A) contribute to expanding the current program, which may undergo minor changes if necessary, and B) seek one or more additional administrators and creative solutions to strengthen the small business loan and grant offerings in order to more effectively reach markets and communities that may be underserved by the current program. Businesses that can demonstrate extreme hardship may be eligible to receive, at the City's discretion, a grant without receiving a loan.

Please note that, where loans and grants are used for certain physical restoration and resiliency activities, the City will enforce and monitor compliance with Davis-Bacon Labor Standards and Section 3 requirements wherever applicable. Eminent Domain will not be used in this program.

HUD ELIGIBILITY CATEGORY: Special Economic Development Activities (aka Economic Development or Recovery Activity that Creates/Retains Jobs)

NATIONAL OBJECTIVE: Urgent Need; Low- and Moderate-Income Job Creation/Retention; and Low- and Moderate-Income Area

CDBG-DR ALLOCATION: $72,000,000

PROJECTED ACCOMPLISHMENTS: At least 750 businesses assisted and approximately 7,500 jobs retained

PROGRAM ADMINISTRATION: This program may be administered by the City's Department of Small Business Services (SBS). NYC Business Solutions Centers are managed by SBS and may conduct activities related to this program such as application intake and packaging. Staff are available to assist applicants in multiple languages. The operator of the current program, New York Business Development Corporation, may continue to operate the program as a subrecipient, but a Community Development Financial Institution (CDFI) or other allowable entity may be chosen to operate the program as well.

ELIGIBLE APPLICANTS/PROPERTIES: Borrowers shall be credit-worthy small businesses, (as defined by the Small Business Administration) which experienced business loss, damage, or interruption as a result of the storm and demonstrate an ability to repay the loan.

ELIGIBILITY CRITERIA: Businesses must demonstrate loss or damage as a result of the storm, be located within an impacted area, and exhibit ability to repay loans. It is anticipated that this program will provide funds to eligible borrowers on a first-come, first-served basis.

GRANT/LOAN SIZE LIMIT: Much of the current program will likely remain consistent, but loans of up to $150,000 would be made available to borrowers, with matching grants of up to $60,000. Existing borrowers would have the opportunity to increase loan size within the parameters of eligibility as well.

Applicants that demonstrate significant need exceeding the resources described above may, on a discretionary basis as determined by NYCEDC and the City, be eligible for loans up to $1,000,000 and grants up to $100,000.

PROGRAM PRIORITIES: It is anticipated that this program will provide funds to eligible borrowers that demonstrate need on a first-come, first-served basis.

GEOGRAPHIC AREA TO BE SERVED: Areas impacted by flooding or power outages throughout the five boroughs would be eligible.

PROGRAM START AND END DATES: Funds will initially be disbursed in the summer of 2013 and the program will expire when funds are exhausted.

OTHER FUNDING SOURCES: It is expected that funds will be leveraged by SBA Disaster Loans, private funds and contributions, insurance proceeds, etc. Please note that, in accordance with Federal duplication of benefits requirements, other assistance awarded to businesses for the purpose of providing compensation for economic losses arising from Hurricane Sandy will be deducted from grants provided through this program. If the application period for an SBA Disaster Loan is open, businesses will be required to apply for an SBA Loan before receiving CDBG-DR assistance.

Business Resiliency Investment Program

PROGRAM OBJECTIVE AND DESCRIPTION: During the recent storm, approximately 23,400 businesses were located in the Inundation Area, many in areas that were outside FEMA's 100-year flood zone. The revised preliminary FEMA Preliminary Work Maps (PWMs) released in June 2013 have nearly doubled the number of NYC buildings located in the 100-year flood zone, suggesting approximately 68,000 buildings could be at risk for wave action or flooding in future storms. Sea level rise will further expand vulnerable areas, and unchecked storm surges in the future could cause damage equal to or greater than Hurricane Sandy.

While the storm resulted in direct physical impacts in certain areas, it also affected the commercial viability of business districts within all vulnerable areas. For example, businesses located in the 100-year floodplain may now consider moving out of the floodplain, and businesses that previously considered locating in the floodplain may no longer be willing to do so. As such, citywide resiliency investments made as a result of this program will help to preserve the commercial viability of these districts, many of which employ low-income workers.

CDBG-DR funds will be used to provide funds to companies for physical investments to improve resiliency to severe weather. By helping businesses make long-term, strategic improvements to property, buildings, and infrastructure, the City will reduce the future cost and impact of severe weather.

Post-storm analysis has identified several strategies that can dramatically reduce the impact of future storms, such as:

- Elevation of critical building systems;
- Dry flood-proofing of ground floor; and/or
- Wet flood-proofing of certain uses.

This program will incentivize businesses to make these investments now by reimbursing a portion of the costs. The program is anticipated to fund between 50-75%, up to $2 million, of the cost of specified physical improvements that increase the resiliency of buildings or businesses to future storms. Above that amount, reimbursements or additional grants will be at NYCEDC's discretion.

Please note that the City will enforce and monitor compliance with Davis-Bacon Labor Standards and Section 3 requirements wherever applicable. Eminent Domain will not be used in this program.

HUD ELIGIBILITY CATEGORY: Special Economic Development Activities (aka Economic Development or Recovery Activity that Creates/Retains Jobs)

NATIONAL OBJECTIVE: Urgent Need; Low- and Moderate-Income Job Creation/Retention; and Low- and Moderate-Income Area

CDBG-DR ALLOCATION: $90,000,000

PROJECTED ACCOMPLISHMENTS: Up to 13 million square feet of commercial space that was impacted by Sandy or is otherwise currently at risk will be made significantly more resilient.

PROGRAM ADMINISTRATION: This program may be administered by NYCEDC or other subrecipient of the City's Department of Small Business Services. An additional allowable entity may be chosen to operate the program.

ELIGIBLE APPLICANTS/PROPERTIES: It is currently anticipated that, in order to be eligible for this program, businesses must:

- Meet the SBA definition of a small business;
- Undertake one or more of the prescribed resiliency measures;
- Occupy a commercial space that is not worth more than a threshold amount per square foot;

- Meet the following criteria
  1. Sustained direct physical impact of Sandy (inundation or power loss); or
  2. Were located in the inundation area of the storm and can demonstrate direct or indirect impacts from the storm; or
  3. Are located within FEMA's revised 100-year floodplain as defined by either the revised June 2013 FEMA Preliminary Work Maps (PWMs) or subsequent updates and can demonstrate direct or indirect impacts from the storm (i.e., are evaluating whether to expand or even continue operations in these vulnerable areas)
- Preference may be given for projects that demonstrate maximum impact to low- and moderate-income communities or employees.

ELIGIBILITY CRITERIA:

Commercial space that meets the following criteria will be eligible:

- sustained direct physical damages as a result of the storm (inundation or power loss); or
- were located in the inundation area of the storm and demonstrate direct or indirect impacts from the storm; or
- are located within the 100-year floodplain, as defined by either the revised June 2013 FEMA Preliminary Work Maps (PWMs) or subsequent updates and can demonstrate direct or indirect impacts from the storm (i.e., are evaluating whether to expand or even continue operations in these vulnerable areas)

Resiliency measures will be pre-approved, with the ability to approve additional measures at NYCEDC's discretion. It is anticipated that priority will be given to businesses that were directly impacted by Sandy and that can demonstrate maximum impact to low- and moderate-income communities or employees.

PROGRAM PRIORITIES: Although it is anticipated that funds would be disbursed on a first-come, first-served basis, NYCEDC reserves the right to prioritize if demand exceeds the program size, and to ensure that a mix of eligible businesses types are served (including resiliency investments that seek to protect adjacent communities from hazardous materials that might otherwise be subject to flooding). Investment in resiliency measures are needed to reduce the long-term loss of jobs resulting from Hurricane Sandy in vulnerable communities, as previously described.

GEOGRAPHIC AREA TO BE SERVED: Businesses that sustained direct physical damage from Sandy, were located in the inundation area of the storm, or are within FEMA's revised 100-year floodplain, as defined by either the revised June 2013 FEMA Preliminary Work Maps (PWMs) or subsequent updates.

PROGRAM START AND END DATES: Program will launch in the summer of 2013 and last until all funds are disbursed.

OTHER FUNDING SOURCES: It is expected that funds will be leveraged by SBA Disaster Loans, private funds and contributions, insurance proceeds, etc. Please note that, in accordance with Federal duplication of benefits requirements, other assistance awarded to businesses for the same purpose will be deducted from grants provided through this program. If the application period for an SBA Disaster Loan is open, businesses will be required to apply for an SBA Loan before receiving CDBG-DR assistance.

Neighborhood Game Changer Investment Competition

PROGRAM OBJECTIVE AND DESCRIPTION: As a result of Hurricane Sandy, entire neighborhoods experienced widespread damage, closure of businesses, and loss of jobs. The neighborhoods most severely impacted are the East Shore/South Shore of Staten Island, Lower Manhattan, Southern Brooklyn, the Brooklyn-Queens Waterfront, and South Queens. Businesses within these neighborhoods employ more than 143,000 individuals, and many experienced damage from flooding, high winds, and/or fire that forced them to close on a temporary or permanent basis. Unfortunately, many of these neighborhoods already faced economic challenges, and the sudden increase of vacancies and decreased demand for services due to nearby residential displacement could severely hamper future growth and potentially reverse the revitalization that has occurred in recent years without immediate and meaningful investment in revitalization.

The goal of this competition is to identify and fund projects or programs that will anchor new or existing industry clusters and catalyze significant long-term economic growth in each of the targeted neighborhoods. Recipients would demonstrate an ability to generate full-time jobs and bring permanent investment to target areas, leverage public funds to attract private investment, and develop hard and soft infrastructure to increase resiliency. Please note that the City will enforce and monitor compliance with Davis-Bacon Labor Standards and Section 3 requirements wherever applicable. Eminent Domain will not be used in this program.

Through a Request for Proposals, NYCEDC will harness the best ideas from public and private organizations and individuals to restore neighborhood vitality and economic strength. It is anticipated that because each neighborhood faces specific challenges, the winning idea(s) for each neighborhood will be tailored to those needs. The scope and content requirement in the Request for Proposals will specify that proposals must provide detailed and specific information demonstrating that the proposed activities and outcomes will not have adverse impacts on protected classes. The targeted neighborhoods are:

East Shore/South Shore of Staten Island

The East and South Shores of Staten Island include multiple residential neighborhoods, totaling nearly 70,000 residents. Out of the approximately 58 million developed square feet in the areas, approximately 75% of that space is residential. One- to two-family homes make up 95% of the East and South Shore housing stock and 84% of the East and South Shore housing units. In both of these areas, as in Staten Island as a whole, the percentage of homeowners is higher than the City average (53%).

While most businesses in the area have fewer than five employees (78%), more than half of the area's employees work for relatively larger businesses (> 100 employees) such as the Staten Island University Hospital. The retail and service sectors (which include healthcare) are both major employers. Public beaches, the 2.5-mile FDR boardwalk, and portions of the Gateway National Recreation Area serve as attractions to the area, especially during the summer months. With the exception of Hylan Boulevard, the area is comprised of small business commercial corridors primarily serving the local residential population and additional Staten Island residents during warm weather months. Hylan Boulevard is an auto-oriented retail strip that serves as the primary commercial corridor.

Though both areas have densities well below City averages, the East and South Shores were each growing steadily prior to Sandy. From 2000-2010, the total population of these areas grew by 11%.

Development in the East and South Shores has occurred within and adjacent to historic marshlands and wetlands, creating risks. During Sandy, the combination of increased population and inherent vulnerability proved particularly potent. With only 13% of all buildings in the City's Inundation Area, the East and South Shores accounted for 52% of all NYC tagged buildings, 31% of all NYC red-tagged buildings, and 40% of all recommended NYC post-storm demolitions. A majority of the City's storm-related deaths occurred on Staten Island.

More than 25,000 housing units were located in areas that experienced inundation, with impacted businesses employing more than 9,400 people. One- and two-family homes, many not built for year-round occupancy, sustained the heaviest damage. The damage is especially concentrated near the beaches, resulting in significant harm to retail and commercial structures and public infrastructure. Local retail corridors serving and relying on residents experienced damage and market loss, with many businesses still closed (e.g., Midland Avenue, with 51 of 72 retailers closed as of February 2013). Businesses experienced significant loss of equipment as well as damage to interiors and to building systems. Lack of customer base going forward (due to widespread residential destruction) will become the greatest concern as the hardest hit businesses are dependent on local residents who themselves are displaced or have restricted funds and mobility.

Lower Manhattan

Lower Manhattan, roughly the area south of Chambers Street, includes the historic Financial District, City Hall and City government offices, Battery Park City, and numerous tourist attractions. The area is the nation's fourth-largest central business district. Of the 132 million built square feet in Lower Manhattan, about 90 million square feet is commercial. Over the past decade, Lower Manhattan has also grown as a residential neighborhood with more than 45,000 residents in 2010.

In the fall of 2012, Lower Manhattan had 312,000 workers and an office vacancy rate of 9.3%. The local economy includes a strong governmental presence, but has been diversifying over the past decade from a heavy dependence on finance, insurance, and real estate to include other areas such as technology, media, legal services, and architecture.

Lower Manhattan includes regional attractions like the National September 11 Memorial & Museum, the Statue of Liberty, the New York Stock Exchange, the Brooklyn Bridge, and the South Street Seaport. Over the past decade, tourism has expanded with an increase in the number of hotel rooms. Lower Manhattan saw more than 11.5 million visitors in 2012.

In the years prior to Sandy, Lower Manhattan had experienced two major economic shocks (9/11 and the Great Recession (2008/2009)). After 9/11, vacancy rates increased and asking rents decreased in the area. These rents began recovering just as the Great Recession occurred, causing a similar trend. While the World Trade Center and immediate blocks surrounding it will represent new construction, most of the commercial office stock in Lower Manhattan is significantly older with the largest percentage of buildings built prior to 1950 in the U.S.

As Lower Manhattan recovered from its second major setback in a decade, Sandy created one more challenge. Sandy caused inundation in Lower Manhattan that affected nearly 35% of the office space, 30% of retail businesses, and 20% of the residential units. While no buildings were destroyed in Lower Manhattan, inundation caused significant damage to building systems in the area.

Southern Brooklyn

Southern Brooklyn consists of seven neighborhoods including Sea Gate, Coney Island, Brighton Beach, Manhattan Beach, Gravesend, Sheepshead Bay, and Gerritsen Beach. Much of the area is built on barrier islands, on historic marshland, or over-urbanized natural creeks and inlets. The area is home to approximately 200,000 residents and hosts a diverse mix of incomes, ethnic enclaves, varying housing stock, and disparate socioeconomics. The area is largely residential, with some key neighborhood commercial corridors, key destination attractions, and large institutional presences. Density is concentrated in Brighton Beach, Sheepshead Bay, Coney Island, and Gravesend, with the remaining neighborhoods of much lower density and mostly single-family homes. The area features a concentration of vulnerable populations and building stock, including more than 18,000 residents in public housing, more than 8,200 units of Mitchell-Lama housing, and more than 500 nursing home beds. The area features an oceanfront coastline and a three-mile boardwalk as well as inlets and bays including Coney Island Creek, Sheepshead Bay, and Gerritsen Inlet.

There are more than 5,000 businesses in Southern Brooklyn, the majority of which are small, with fewer than five employees. Nevertheless, of the approximately 26,000 employees in the area, one-third work at one of 30 businesses that employ more than 100 employees. The most significant sectors in the local economy are in services – particularly healthcare and business services – and in retail including amusement attractions and other entertainment. The largest employer in the area is Coney Island Hospital, a NYC Health and Hospitals Corporation facility with more than 3,000 employees.

Southern Brooklyn emerged in the early 20th century as a bustling waterfront escape from the City, featuring unique attractions, a wide variety of leisure activities, and a beautiful south-facing beach. Mirroring citywide trends during the period, the area experienced decline beginning primarily in the 1960s, including the severe contraction of the amusement area, shifting demographics including population decrease, and an uptick in crime and social ills. Since the 1990s, Southern Brooklyn has witnessed a renaissance in some neighborhoods, such as in Brighton Beach where a fast-growing immigrant population has turned the area into a bustling enclave. In Coney Island, recent major investments by the City, including the development of new amusement parks and a comprehensive rezoning, have ushered in increased visitation at the historic amusement area and have set a road-map for future neighborhood growth and economic recovery.

Hurricane Sandy had a dramatic impact on Southern Brooklyn, inundating more than 3,800 acres of inland property, wreaking havoc along the oceanfront, and flooding neighborhoods through inlets, bays, and creeks. At the peak of the storm, the ocean met the bay in many locations, and as much as 350,000 tons of sand was displaced from the Coney Island/Brighton Beach coastline, which itself was raised in the '90s by the Army Corps of Engineers to provide wave attenuation protection and was largely successful during the storm. Nevertheless, in areas where coastal protections were inadequate, some structures suffered direct wave impacts, and generally all buildings experienced debilitating flooding that impacted building systems and ground floor uses. In the days and weeks following the storm, utility outages plagued both single-family buildings and multi-family high rises, with significant temporary displacement of local residents. Nearly all ground floor spaces in the area experienced flood damage of three to eight feet of water, and as of five months after the storm as many as 30% of businesses in some neighborhoods were still closed. The amusement area and attractions were greatly impacted, with significant damage to the New York Aquarium, the amusement parks, and the Brooklyn Cyclones stadium, but all are currently working towards full restoration of their facilities and each plan to move forward with pre-storm expansion and enhancement plans.

The Brooklyn/Queens Waterfront

The Brooklyn/Queens Waterfront, which stretches from Sunset Park to Long Island City and along the Gowanus Canal and Newtown Creek, is a compilation of eight distinct and diverse neighborhoods. In total, the Waterfront is home to nearly 100,000 residents. The waterfront is characterized by diversity: of people, buildings, and commerce. Neighborhoods range from some of the City's most low-income, such as Red Hook with a 32% unemployment rate, to the City's wealthiest, such as DUMBO with only an 8% unemployment rate. Every type of housing is present, including multi-family elevator buildings, mixed-use buildings, and one- to two-family homes, but 48% of residential units are multi-family walk-ups. Nearly half of all businesses on the waterfront are industrial businesses.

Hurricane Sandy resulted in significant damage to the waterfront. The damage was primarily caused by still-water flooding, not waves, which resulted in basement and ground floor flooding and loss of power, but not completely destroyed buildings. Key highlights include: significant losses to industrial businesses, which often keep their valuable equipment on the ground floor, and major impacts to the residents of NYCHA's Red Hook Houses, who were without power, heat, and running water for up to three weeks following the storm. On a positive note, new waterfront residential developments fared quite well.

There have been numerous significant investments along the Waterfront in the past several years, including a rezoning of Long Island City, Williamsburg, and Greenpoint. These efforts will continue with the full confidence of the City. New developments include Hunters Point South in Long Island City and Greenpoint Landing in Greenpoint.

South Queens

South Queens encompasses 17 neighborhoods spanning Howard Beach, Hamilton Beach, Broad Channel, and the Rockaway Peninsula. The area is mostly residential, made up of older, one- to two-family homes. Density is concentrated in Rockaway and Far Rockaway although all neighborhoods are less densely populated than average for New York City. The area includes the wetland estuary of Jamaica Bay and miles of beaches on the Peninsula.

There are around 1,300 businesses in South Queens, the majority of which are small, with fewer than five employees. Larger businesses typically provide healthcare services and include nursing homes, St. John's hospital, or adult care facilities.

Sandy inundated the entire area of South Queens, with the exception of the center portion of Far Rockaway. In addition to extensive flooding, parts of the area were exposed to direct wave action that caused severe damage and destruction to many communities. Fires also hit a few areas, most severely in Breezy Point where 126 homes burned down and another 22 were seriously damaged. For the entire area, of all damaged buildings (destroyed or tagged yellow or red by DOB), 68% were destroyed or deemed unsafe to enter (red). Around 2,275 businesses were impacted. On the Peninsula, a commercial strip along Beach 129th Street was destroyed, more than 50 businesses experienced severe loss from fire and flooding on Rockaway Beach Boulevard from Beach 116th to Beach 100th Streets and more than 40 businesses on Beach 116th Street were seriously flooded. Several businesses were destroyed in Breezy Point and all were affected in Broad Channel. About 100 businesses along Cross Bay Boulevard in Howard Beach were also impacted. Far Rockaway's main commercial corridor on Mott Avenue experienced less impactful physical damage, but like the rest of the Peninsula the long-term power outages led to economic loss. Several months following Sandy, businesses remain closed and of those open, many are struggling to rebuild.

HUD ELIGIBILITY CATEGORY: Special Economic Development Activities (aka Economic Development or Recovery Activity that Creates/Retains Jobs)

NATIONAL OBJECTIVE: Urgent Need; Low- and Moderate-Income Job Creation/Retention; and Low- and Moderate-Income Area. Because this program focuses on neighborhoods with the highest levels of damage, and that have experienced the greatest difficulty in recovering from Hurricane Sandy, investments that do not meet a Low/Mod Area or Low/Mod Jobs National Objective will still help to create significant new employment and will thus meet an urgent need in these areas.

CDBG-DR ALLOCATION: $90,000,000

PROJECTED ACCOMPLISHMENTS: Identification and implementation of significant new investments intended to accelerate economic recovery in the five most impacted areas of New York City.

PROGRAM ADMINISTRATION: NYCEDC, which will be a subrecipient of the City's Department of Small Business Services, will administer the RFP release and selection process, with administration of winning proposals to be determined.

ELIGIBLE APPLICANTS/PROPERTIES: Those proposals able to demonstrate the above mentioned impact on at least one of the impacted neighborhoods.

ELIGIBILITY CRITERIA: Ability to demonstrate the above mentioned impact on at least one of the impacted neighborhoods. Proposals should include a plan to create new jobs, demonstrate significant investment on the part of the respondent, be permanent in nature, and primarily impact a neighborhood that experienced severe damage as a result of Hurricane Sandy. The winning ventures should generate meaningful economic growth both directly, through new job creation, and indirectly, by anchoring new or existing industry clusters and catalyzing significant secondary benefits to the local economy.

GRANT/LOAN SIZE LIMIT: Up to $20 million

PROGRAM PRIORITIES: Priority will be given to those proposals best able to demonstrate an ability to meet the stated program goals and feasibility.

GEOGRAPHIC AREA TO BE SERVED: The five neighborhoods that experienced significant storm damage, as described above.

PROGRAM START AND END DATES: March 2013 through December 2013 for RFP process; TBD for program administration

OTHER FUNDING SOURCES: TBD

Infrastructure and Building Resiliency Technologies Competition

PROGRAM OBJECTIVE AND DESCRIPTION: Sandy exposed significant vulnerabilities to critical infrastructure networks and building systems. Affected NYC infrastructure included, but was not limited to:

- Electric power (more than 800,000 customers lost power due to transmission substation failure, overhead line damage, and customer equipment flooding);
- Liquid fuels (supply chains disrupted on multiple levels, resulting in a three-week citywide gas shortage); and
- Telecommunications networks (power outages and flooding resulted in outages leaving thousands without landline, cable, and mobile service).

The FEMA Preliminary Work Maps (PWM) have nearly doubled the number of buildings located in the 100-year flood zone, suggesting approximately 68,000 buildings could be at risk for wave action or flooding in future storms. Sea level rise will further expand vulnerable areas, and unchecked storm surges in the future could cause damage equal to or greater than Hurricane Sandy.

CDBG-DR funds will be used to improve building and infrastructure resiliency through a competition to identify and deploy the most promising and cost-effective technologies. Addressing these vulnerabilities will require investment in technologies to prepare critical networks and building systems for future risks. Post-storm analysis identified priority areas to prepare for the future, but sourcing specific, cost-effective, innovative technologies remains difficult. The goal of this competition is to competitively allocate funds to identify and deploy the most promising technologies that improve the resiliency of NYC's buildings and critical networks.

Proposals submitted under the competition will be selected via a competitive process. NYCEDC – in coordination with the Mayor's Office of Long-Term Planning and Sustainability – may convene a technical advisory panel of industry experts and key stakeholders to evaluate proposals submitted under the competition. The proposal evaluation process may take the form of several rounds to ultimately select and award grants to the most potentially impactful and cost-effective solutions.

The scope and content requirement in the competition will specify that proposals provide detailed and specific information demonstrating that the proposed activities and outcomes will not have adverse impacts on protected classes. Please note that the City will enforce and monitor compliance with Davis-Bacon Labor Standards and Section 3 requirements wherever applicable. Eminent Domain will not be used in this program.

HUD ELIGIBILITY CATEGORY: Special Economic Development Activities (aka Economic Development or Recovery Activity that Creates/Retains Jobs)

NATIONAL OBJECTIVE: Urgent Need; Low- and Moderate-Income Job Creation/Retention; and Low- and Moderate-Income Area. In the absence of identified ways to secure infrastructure from future events, impacted areas, many of which are low- and moderate-income areas, are at risk of seeing a significant outflow of commercial enterprises, thereby extending and exacerbating the impact of Hurricane Sandy. Investment that decreases the vulnerability of infrastructure and buildings through resiliency measures address the urgent need that exists in these areas.

CDBG-DR ALLOCATION: $41,000,000

PROJECTED ACCOMPLISHMENTS: Innovative, impactful, and cost-effective solutions will be identified and implemented in order to aid impacted and at-risk businesses.

PROGRAM ADMINISTRATION:

NYCEDC will be a subrecipient of the New York City Office of Management and Budget. NYCEDC – in coordination with the Mayor's Office of Long-Term Planning and Sustainability – will procure a partner with sufficient technical expertise to advise on the design and implementation of a competition to identify technologies and measures that improve the resiliency of (1) critical infrastructure networks, including power, liquid fuel, steam, natural gas and telecommunications and (2) building systems.

NYCEDC and the Mayor's Office may convene a technical advisory panel of industry experts and key stakeholders to evaluate proposals submitted under the competition and may award grants to the most potentially impactful and cost-effective solutions.

ELIGIBLE APPLICANTS/PROPERTIES: Entities that demonstrate the ability to successfully implement proposed projects using impactful and cost-effective resiliency measures.

ELIGIBILITY CRITERIA:

Eligible projects must benefit small businesses that:

- sustained physical damages as a result of the storm; or
- were located in the inundation area of the storm and can demonstrate direct or indirect impact from the storm; or
- sustained a loss of power or utility connection as a result of the storm; or
- are located within the 100-year floodplain, as defined by either the revised June 2013 FEMA Preliminary Work Maps (PWMs) or subsequent updates and can demonstrate direct or indirect impact from the storm (i.e., are evaluating whether to expand or even continue operations in these vulnerable areas)

Eligible projects that can demonstrate a benefit to small businesses that incurred extensive physical damages as a result of the storm may be given preference, at the discretion of NYCEDC and the City.

GRANT/LOAN SIZE LIMIT: While NYCEDC intends to competitively award the $41 million grant to multiple proposals, award amounts will be based upon the proposal-specific proven financial need.

PROGRAM PRIORITIES: Proposals may be judged by a combination of NYCEDC and Mayor's Office employees and a technical advisory panel of industry experts to evaluate proposals, prioritizing based on technical potential and cost-effectiveness.

GEOGRAPHIC AREA(S) TO BE SERVED: Citywide

PROGRAM START AND END DATES:

Key program milestones and timing may include:

- Release solicitation and procure a technical consultant (Q2 2013);

- Launch competition and solicit proposals (Q3/Q4 2013); and
- Select proposals and award grants (Q2 2014).

OTHER FUNDING SOURCES: TBD

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, 2012. On October 25, as 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 compromised 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 arrangements with contractors to provide as-needed services; and preformed training drills on power-down, evacuation, and sheltering procedures in the event that a facility flooded. Throughout the storm, all wastewater treatment plants were fully staffed with personnel working 24/7.

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 8:00A.M. 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, water, and 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 11:00A.M. Residents were ordered to evacuate to shelters by 7:00P.M., at which time MTA bus 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 9:00P.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, the 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, the 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, 911 received over 100,000 calls – more than September 11, 2001 and the 2003 blackout. For 311, which is administered by the City's 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 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; 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 that lost water and electricity. Housing officers distributed food, water, and 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 U.S. Army Corps of Engineers (USACE) 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 USACE, 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 telecommunications 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 to relocate 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 fully restore 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, 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 to restore the natural drainage at Jefferson Creek in Staten Island. 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 the National Guard. From Thursday, November 1st through Monday, November 26, a wide assortment of urgently needed supplies was 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 operation, the Fire Department Incident Management Team, working with the Office of Emergency Management and the Department of Health and Mental Hygiene, 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 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 properties. 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 was comprised of 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 12-hour shifts that lasted from the end of Hurricane Sandy through the beginning of December. 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 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 the 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. Clients were referred for emergency care as needed. DFTA staff at the 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, 2012 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 after the storm, 201 senior 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 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. 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 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 following 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; and
- An extension 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 American Sign Language interpreter;
- Having staff on-site at the OEM Emergency Operations Center taking calls and participating in meetings;
- Forwarding constituent calls directly to the 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 the FDNY, to help remove those trapped in their apartments;
- Providing up-to-date information about the storm on its 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, which includes 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 next section.

Impact to the City's Infrastructure

As discussed in the Needs 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 Heath and Hospitals Corporation (HHC) 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 including 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 the resulting contamination, sink holes, roof leaks, and ruined gym and auditorium flooring. Extensive upgrades, including the replacement of temporary boilers with permanent systems, are required to bring buildings back to their pre-storm condition.

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 facility'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.

Hurricane Sandy adversely affected ten of the City's 14 Wastewater Treatment Plants. 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 the 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 water tunnel replacement 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 New York Aquarium, the City's public library systems, the Brooklyn Navy Yard (a critical small business industrial park), historic buildings on Governor's Island, and new public space facilities 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 Grant 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.

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 after the storm. These students had 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 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. 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 10:00A.M. the day after the storm. With assistance from the 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 by manning them during the storm 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 were more than $4.5 billion. These early estimates were comprised of $1.5 billion 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 for repairing and rebuilding damaged City infrastructure. Based on current information as of September 30, 2013, these estimates have held up comparatively well although overall costs are now estimated at approximately $4.8 billion, including both emergency response and infrastructure repairs.

Likewise, the City's unmet need for emergency response public services, debris removal, and costs to repair and rebuild damaged City infrastructure was estimated at more than $1.2 billion. Based on availability of funds, determinations of funding eligibility, completed damage assessments, and revisions to scopes of work, the current estimates of unmet need have increased from more than $1.2 billion to over $1.8 billion.

In this first allocation of CDBG-DR funds, the City is dedicating $360 million, roughly one-fifthof its total unmet need.

Infrastructure Goals

The severe destruction and flooding brought on by Hurricane Sandy caused significant damage to the infrastructure systems and key public facilities within New York City. Roads, bridges, drainage systems, public utility infrastructure, schools, hospitals, and park sites throughout the City sustained damage, 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. Rebuilding, repairing, and replacing health and hospital facilities damaged in the impacted areas enabling the affected communities access to medical attention;
2. Removing and disposing of all storm-related debris that impacted a community's public health, safety, and threaten life and property;
3. Repairing and upgrading 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. Ensuring that school facilities and other public facilities such as fire, police, and other critical infrastructure damaged in the impacted areas are restored; and
5. Restoring parks and recreational facilities in order for impacted communities to resume recreational activities.

As part of its restoration projects for Sandy-damaged infrastructure, the City will evaluate project design elements, such as elevating building systems equipment, and will incorporate these design elements, as applicable, 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.

Emergency Services

To provide for the 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:

Health and Hospitals Corporation (HHC): The Health and Hospitals Corporation (HHC) is a public benefit not-for-profit corporation controlled by the City of New York that primarily serves low-income residents. HHC provided healthcare services to the public during and after the storm and incurred expenses in three areas – the provision of new services to alleviate emergency conditions in impacted communities, restoring facilities serving low- to moderate-income patients to their full operational capacity, and hastening service readiness to more quickly serve vulnerable populations. A total of $183 million of currently available CDBG-DR funds is allocated towards the Public Services provided by HHC.

1) Provision of New Services:

Due to the impact from Hurricane Sandy, HHC facilities lost the ability to maintain all of their traditional services but quickly established several new service offerings to assist those vulnerable populations most affected by the storm. Each of the HHC hospitals and the Corporation's central offices staffed and maintained command centers through and after the storm. Moreover, HHC provided staff and supplies to New York City's Special Medical Needs Shelters for the most vulnerable populations. As soon as possible, both Bellevue and Coney Island Hospitals created urgent care clinics in their hospitals to provide additional services to the community because their Emergency Departments were unable to re-open. During a time of crisis and recovery, HHC and its staff adapted to the needs of the communities it serves, especially those most impacted by the hurricane.

Coney Island Hospital operated four mobile van units to provide services to neighborhoods that were tremendously impacted by the storm, ultimately serving over 4,000 patients since the storm. Also, additional dental services were provided at the hospital after Sandy to replace services lost due to the closure of the Community Health Center, with nearly 5,000 dental visits taking place in the new service location. In addition, the Bellevue Cancer Center staff provided oncology services at Woodhull Medical & Mental Health Center in Bushwick, with over 2,000 additional oncology visits provided to 1,000 additional patients at Woodhull when compared to the same period the year before.

2) Restoration of Facilities to their Full Operational Capacity:

Due to the Hurricane Sandy disaster, urgent measures were required to alleviate existing conditions that posed an immediate threat to the health of the communities due to the disaster and restore HHC facilities to their full operational capacity as soon as feasibly possible. All eleven acute HHC facilities undertook comprehensive preparations to ensure that inpatient services could remain open throughout the storm despite the transit shutdown. Eight facilities provided the clinical staff for the Special Medical Needs Shelters located throughout the system. Several of its central administrative offices were dislocated for five months due to flooding damage in their lower Manhattan office buildings. Ten facilities experienced physical damages from flooding or wind. Two facilities, Bellevue and Coney Island Hospitals were forced to evacuate due to major flooding. Coney Island Hospital is a 371-bed facility that admits an average of 18,000 patients a year and treats another 300,000 people a year on an outpatient basis. Bellevue Hospital is a 828-bed facility that annually treats over 30,000 inpatients, handles over 125,000 Emergency Service visits, as well as over 500,000 outpatient visits in more than 90 adult and pediatric ambulatory care clinics. Over 80 percent of Bellevue's patients come from the city's medically underserved populations.

Additional expenses were identified without which the physical facilities would not have been ready to re-open for the community. In addition to the emergency repair of the physical infrastructure, these staff and other expenses were critical to the continued maintenance, safety, and upkeep of the building. These include the regular-time labor of facility employees that responded in the immediate aftermath of the storm, such as engineering and plant maintenance, executive leadership and a variety of staff whose jobs were dedicated to responding to the hurricane-related damage and preparing the facility to re-open.

After the evacuations of Coney Island and Bellevue Hospitals, there was a four-month process to fully restore services at Bellevue and partially restore services at Coney Island Hospital. During that period, inpatient (and most of the outpatient) services were not being provided at these hospitals. Medical employees were redeployed throughout HHC to meet the demands of the community and 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.

3) Service Readiness:

In order to re-open medical services to the community as quickly as possible, it was necessary for HHC to maintain its staff in the period after the storm. Some of the staff were in critical supportive functions, both clinical and administrative, throughout HHC's medical facilities. These areas include but are not limited to human resources, laboratories, pharmacy, radiology, finance, quality management, purchasing, and nursing administration. These staff provided essential support and ancillary services necessary for the provision of services to the community during the interim period. In addition, these staff provided administrative support, such as scheduling and payroll, to the essential facility staff. HHC was able to recover as quickly as it did and ramp up services to vulnerable populations so swiftly because staff were maintained and ready to serve.

By continuing work to repair the buildings as quickly as possible, certain areas of HHC's medical facilities became physically ready to re-open earlier than others, and often earlier than initially

anticipated. The ability to gradually begin the provision of clinical services as each area became physically ready required the supportive services of the hospital to be fully operational before any such direct service could be provided. The staff in these supportive areas provided a variety of functions including testing and maintaining the laboratory and radiology equipment so that licensure could be maintained; ordering and purchasing supplies; providing payroll and other financial and human resources support to all staff; and managing employees to ensure sufficient staff were called back and available prior to re-opening. Other staff provided supportive patient care such as laboratory and pharmacy. Once all of HHC's facilities were fully repaired and functioning, staff were ready to meet the demands of the predominantly low-income populations it serves.

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 supply stockpile, 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 Citi Field. 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 telecommunications 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 Office of Housing Recovery Operations (HRO).

Department of Citywide Administrative Services (DCAS): During and after the storm, DCAS provided critical support for 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 return to serving the needs of NYC residents. Additionally, hotel rooms for temporary shelter of displaced persons were procured through DCAS, although this program was coordinated by HRO.

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 twelve 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;
- 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 and 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 and 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 that lost water and electricity;
- Housing officers distributed food, water, blankets and transported residents, particularly senior citizens, to medical care;
- 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 of New York (FDNY including EMS): The Fire Department doubled staffing levels for FDNY 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.

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 FEMA 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 Breezy Point and Far Rockaway in Queens; Coney Island, Gravesend, and Red Hook in Brooklyn; Dongan Hills in Staten Island, and Throgs Neck-Pelham Bay in the Bronx. 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 of 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 the Human Resources Administration (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 on-site 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 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 in evacuation centers families and single adults who were no longer able to stay in their homes; setting up and staffing Evacuation Centers, which included 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 of 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: Low- and Moderate-Income Area; Low- and Moderate-Income Persons; and Urgent Need

CDBG-DR ALLOCATION: $237,000,000

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 (including EMS), 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, Administration for Children's Services, Department of Buildings, Department of Health and Mental Hygiene, Department of Investigation, Department of Youth and Community Development, District Attorney of New York, Department of Housing Preservation and Development, Department of Parks and Recreation, 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

15% PUBLIC SERVICES CAP: With this reclassification of costs, the Public Services IOCS activity of $237 million and the TDAP activity of $19 million under Housing programs will account for 14.4% of the total $1.773 billion in grant funds.

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: Low- and Moderate-Income Area; Slum and Blight Spot; and Urgent Need

CDBG-DR ALLOCATION: $1,000,000

PROJECTED ACCOMPLISHMENTS: 400 Demolitions

PROGRAM ADMINISTRATION: Department of Housing Preservation and Development

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: U.S. Army Corps of Engineers, FEMA Public Assistance

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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, included 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 properties. The debris was composed of woody material, sand, stones, street and building/household wreckage, and other objects. 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 had collected more than 420,000 tons of Hurricane Sandy 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 costs.

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.

DSNY employees worked constantly 24 hours a day, 7 days a week with Sanitation Workers assigned to 12-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, DSNY equipment from other districts was temporarily re-assigned to the impacted areas to expedite the removal of the storm debris. DSNY also coordinated with DOT, DEP, 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 DSNY 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 cleanup, the Department placed out more than 100 containers, with roughly 30 containers remaining on-site in early March.

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 19. 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 were still needed for storm debris collection operations. The NYS Department of Environmental Conservation issued a general permit for operating these temporary sites. The sites were staffed and managed by DSNY up until November 9 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 the City's 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, DPR, working with DSNY and the NYC 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 U.S. 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. 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 NYS DOT, NYS DEC, NYC DEP, the 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; Urgent Need

CDBG-DR ALLOCATION: $8,000,000

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; Department of Citywide Administrative Services; Department of Education; Department of Health and Mental Hygiene; District Attorney of New York; Economic Development Corporation; Human Resources Administration; and Department of Correction.

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 cleanup efforts, using Federal National Emergency Grant funds.

Code Enforcement

PROGRAM OBJECTIVE AND DESCRIPTION: In response to the damage caused by Hurricane Sandy to privately-owned buildings, 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 have restricted 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: Low- and Moderate-Income Area; Urgent Need

CDBG-DR ALLOCATION: $1,000,000

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 facilities that are operated by many City agencies. The initial, and current, 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. Following HUD's guidance, the City will be adopt FEMA and other federal agency environmental reviews when feasible. 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 addressed 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 a 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; and 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 washed up on DPR properties and 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).

CDBG-DR funds will fund the planning, design, and related services for the Rockaway Beach Boardwalk, which was damaged by Hurricane Sandy. As of August 2013, the design of the Rockaway Beach Boardwalk has begun. It is anticipated to provide for protective structures that are more resilient and able to withstand storm and tidal forces that may impact the coastline in future years. A total of $10 million is currently available for the design and related services of Phase II of the Rockaway Beach Boardwalk covered under Planning, Administration, and IOCS Program costs. Construction of the boardwalk will be funded in a future CDBG-DR allocation.

Some examples of planned restoration include new railings, replacement of trees, 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 on 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 U.S. 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 included 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 repairs could begin.

New York Fire Department (FDNY)

Fire Department facilities were also damaged due to the storm, including 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 one to seven 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. 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, and EMS) from street corners. Vehicles determined to be a total loss included seven ambulances, eight pumpers, six ladders, five 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 of 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 Avenue 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, the agency 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 in Staten Island). 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, the Snug Harbor Cultural Center, and the 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, 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: $15,000,000

PROJECTED ACCOMPLISHMENTS: 96 Public Facilities (14 beaches; 71 schools; and 11 hospitals/health clinics)

PROGRAM ADMINISTRATION: Health and Hospitals Corporation; Department of Education; School Construction Authority; Department of Parks and Recreation; Department of Citywide Administrative Services; Department of Cultural Affairs; Department of Design and Construction; Department of Environmental Protection; Department of Health and Mental Hygiene; Department of Homeless Services; Department of Investigation; Department of Transportation; Economic Development Corporation; Fire Department of New York; Housing and Preservation Development; Human Resources Administration; Mayor's Office; Department of Parks and Recreation; New York Police Department; and the Department of Correction.

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 (some beach replenishment), Federal Transit Administration

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Interim Assistance

NYC Rapid Repairs

PROGRAM OBJECTIVE AND DESCRIPTION: The NYC Rapid Repairs Program assisted residential owners impacted by Hurricane Sandy with emergency repairs to their private properties to the extent necessary to alleviate the emergency conditions caused by the storm. These emergency repairs allowed residents to stay safely in their homes to complete permanent repairs. This was a pilot program approved by FEMA to be used in lieu of placing families into temporary housing units. Emergency repairs included restoration of heat, power and hot water, and other limited repairs to protect a home from further significant damage. NYC Rapid Repairs assisted over 11,500 buildings comprising nearly 20,000 residential units, in the five boroughs. Under the NYC Rapid Repairs program, the City deployed nine prime construction contractors and 185 subcontractors to make emergency repairs on residential properties affected by Hurricane Sandy. At the peak of the program, NYC Rapid Repairs completed work on more than 200 homes per day with a peak labor force of more than 2,300 skilled tradespeople working in a single day under 9 prime contractors. With the program near completion, NYC Rapid Repairs After-Care was launched, with a customer service team dedicated to assisting individual homeowners and answering their questions. Residential property owners that received NYC Rapid Repairs assistance are also eligible to apply for the NYC Build It Back program to complete repairs to the housing unit.

Table: NYC Rapid Repairs – Borough Breakdown

Borough	Buildings Repaired	Residential Units Repaired
Bronx	36	49
Brooklyn	4,148	7,418
Manhattan	15	148
Queens	5,276	9,707
Staten Island	2,298	2,938
TOTAL	**11,773**	**20,260**

Table: NYC Rapid Repairs – Additional Statistics

Average Daily # of Workers	1,500 Workers
Average # Buildings Repaired Per Day	103 Buildings
Average # Residential Units Repaired Per Day	177 Residential Units

HUD ELIGIBILITY CATEGORY: Interim Assistance

NATIONAL OBJECTIVE: Low- and Moderate-Income Area; Slum or Blighted Area; Urgent Need

CDBG-DR ALLOCATION: $98,000,000

PROJECTED ACCOMPLISHMENTS: Over 20,000 families (approximately 54,000 Persons) served.

PROGRAM ADMINISTRATION: Department of Environmental Protection, Mayor's Office of Housing Recovery, Department of Housing Preservation and Development, Office of Emergency Management, Office of the Mayor, Department of Buildings, Department of Citywide Administrative Services, Department of Sanitation.

ELIGIBLE APPLICANTS/PROPERTIES: Residential properties sustaining damage from Hurricane Sandy.

ELIGIBILITY CRITERIA:

- Residential property owners within the five boroughs of NYC.
- Owners of single or two-family homes were required to have a FEMA number. Owners of a multi-family building did not need a FEMA number to register with NYC Rapid Repairs.
- Homes were required to be deemed structurally safe by the NYC Department of Buildings as denoted by a Yellow or Green placard on the door, or no placard at all. Homes with Red placards had to make any necessary repairs to transition to a Yellow or Green placard before a NYC Rapid Repairs Team could safely enter their home.
- Homes were required to be free of standing water to allow for a safe inspection. If there was standing water in the home, homeowners were required to register with Rapid Repairs. The City dewatered homes prior to scheduling an appointment with a NYC Rapid Repairs Team.

GRANT/LOAN SIZE LIMIT: Determined based on need.

PROGRAM PRIORITIES: The highest priority of the program was to restore heat, electrical power and hot water to damaged homes.

GEOGRAPHIC AREA TO BE SERVED: Storm impacted areas of the five boroughs.

CONSTRUCTION START AND END DATES: November 9, 2012 – March 31, 2013

OTHER FUNDING SOURCES: FEMA

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 is 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 – This will be funded in a future CDBG-DR allocation.

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 funds 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 corroded 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 throughways 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's 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 – This will be funded in a future CDBG-DR allocation.

PROJECTED ACCOMPLISHMENTS: Damaged lane miles will be resurfaced/reconstructed; damaged/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

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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 NYC 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); and
- 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 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 the 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 – This will be funded in a future CDBG-DR allocation.

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; and Brooklyn Bridge Park.

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.

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

IOCS Summary

The following chart represents the most recent calculation of IOCS funding on an agency-by-agency basis, based on the best available information at the close of the City's Fiscal Year 2013. This CDBG-DR funding is across the Public Services, Emergency Demolition, Debris Removal/Clearance, Code Enforcement, Rehabilitation/Reconstruction of Public Facilities, and Interim Assistance activities within the overall IOCS program. The cost share reimbursement for IOCS programs will cover the CDBG-DR-eligible unmet needs not already reimbursed by FEMA, including the 10% non-federal share consistent with the cost share agreement, as well as additional costs associated with Hurricane Sandy not funded by FEMA, other Federal agencies, or other sources of funds.

IOCS Funding By Agency	
Agency	**CDBG-DR Funding ($ millions)**
Administration for Children's Services	$0.1
Department of Buildings	$0.5
Department of Citywide Administrative Services	$11.2
Department of Cultural Affairs	$0.0
Department of Design and Construction	$1.1
Department of Education	$4.9
Department of Environmental Protection	$101.9
Department of Health and Mental Hygiene	$2.6
Department of Homeless Services	$2.2
Department of Investigation	$0.0
Department of the Aging	$0.1
Department of Transportation	$2.2
Department of Youth & Community Development	$0.0
District Attorney of New York	$0.0
Economic Development Corporation	$0.1
Fire Department	$1.3
Health and Hospitals Corporation	$183.0
Housing and Preservation Development	$1.0
Human Resources Administration	$7.0
Mayoralty	$0.5
Office of Emergency Management	$0.4
Parks and Recreation	$6.6
Police Department	$16.0
Department of Correction	$0.3
Other	$17.0
Grand Total	$360.0

Note: All figures are rounded to the nearest $100,000. Agencies listed as $0.0 will be funded less than $100,000. May not sum to total due to rounding.

X. RESILIENCE

Overview

Hurricane Sandy had a devastating impact on New York City. The storm took the lives of 44 individuals. It also damaged over 23,000 residential structures containing more than 69,000 housing units, forced 6,500 patients to be evacuated from hospitals and nursing homes, knocked out power to over 800,000 customers, compromised 23,400 businesses, and barred 1.1 million New York City children from attending school for a week.

Sandy's biggest impacts were the result of its massive storm surge and the flooding that the surge caused. A staggering 50.6 square miles of New York City flooded—17 percent of the city's total land mass—and in many areas the depth of floodwaters was unprecedented.

Different parts of the city experienced the storm differently, with different consequences. For example, the coastline in the southern half of the city felt the full force of the surge, with powerful waves inflicting horrific damage on buildings, infrastructure, and communities while also causing extensive flooding. Meanwhile, other coastal areas experienced flooding only, though the damage from that flooding was serious and long-lasting.

The different types of flooding, in turn, caused different types of building damage. And the structural characteristics of the buildings themselves—which vary widely across the five boroughs of New York City—also affected the level and type of damage the buildings sustained.

Sandy underscored New York City's long-standing vulnerabilities as a large, diverse city with 520 miles of coastline. The storm also revealed additional vulnerabilities that had previously been unrecognized. Based on recently released flood maps from the Federal Emergency Management Agency (FEMA) and climate projections from the New York City Panel on Climate Change (NPCC), these vulnerabilities are likely to grow over time.

According to FEMA's Preliminary Work Maps (PWMs), which represent the federal government's current assessment of New York City's flood risk, the 100-year floodplain—the area with a 1 percent or greater chance of flooding in any given year—has expanded compared to the floodplain on the 1983 maps that were in effect when Sandy hit, increasing by about 15 square miles or 45 percent. The PWMs can be viewed at http://www.region2coastal.com.

The new floodplain includes larger portions of all five boroughs with significant expansion in Brooklyn and Queens. Citywide, there are now 67,700 buildings in the floodplain (an increase of 90 percent over the 1983 FEMA Flood Insurance Rate Maps) encompassing over 534 million square feet of floor area (up 42 percent). The number of residential units in the floodplain has increased to 196,700 (a jump of over 61 percent), with the majority of those residences in Brooklyn, Manhattan, and Queens. Almost 400,000 New Yorkers now live in the floodplain (up 83 percent).

The risks for New York City are even more serious going forward, taking climate projections from the NPCC into account. These projections indicate that sea levels around New York City, which have already risen by more than a foot over the last 100 years, could rise by more than 2.5 feet by mid-century. It is estimated that rising sea levels could expand the floodplain to 59 square miles by the 2020s (up 23 percent from the PWMs), encompassing 88,800 buildings (up 31 percent). By the 2050s, New York City's floodplain could be 72 square miles—nearly a quarter of the city, an area that today contains 114,000 buildings, along with 97

percent of the city's power generation capacity, 20 percent of hospital beds, and a large share of its public housing. Over 800,000 New Yorkers (or 10 percent of the city's current population) now live in the 100-year floodplain projected for the 2050s, assuming the high end of sea level rise projections.

Because of all these factors—the size and diversity of New York City and its coastline, the different ways Sandy affected different parts of the city, and the effects that climate change is expected to have—there is no one-size-fits-all solution to the vulnerabilities various parts of New York face today and will continue to face in the future. Instead, a range of varied and nuanced solutions are needed to help vulnerable areas continue to recover from the storm and better withstand climate events in the future. These solutions include measures to protect the city's coastline and its building stock. The City is seeking to address some of these unmet needs through this CDBG-DR funding allocation. The programs outlined in this Action Plan complement other efforts the City will be undertaking and represent essential investments targeted at vulnerable areas of the city that suffered from Sandy and that are likely to face further damage from future climate events.

New York City's Sustainability and Resiliency Planning Pre- and Post-Sandy

The programs identified in this Action Plan are the result of careful, thorough, well-documented research and analysis that began long before Sandy's arrival on October 29, 2012. In 2007 Mayor Michael R. Bloomberg launched *PlaNYC*, a comprehensive effort to make New York a more sustainable city, with activities coordinated by the newly created Mayor's Office of Long-Term Planning and Sustainability (OLTPS). Under *PlaNYC*, the City sought to understand its vulnerabilities as a coastal city as well as the effects that climate change were likely to have. For example, the City began working with FEMA to update its 1983 federal flood maps so that New York would have a better sense of its risks from coastal storms. It convened the NPCC to make climate predictions for New York so the City would understand its climate risks going forward. In addition, prior to Sandy, the City had started making resiliency investments so that it would be better prepared for the increasing and more intense coastal storms expected as a result of climate change. For example, the City required a climate risk assessment for major developments in vulnerable areas. As a result, new buildings and infrastructure located in areas that flooded during Sandy survived with minimal damage.

However, because of the magnitude of the storm and the impact it had on so many neighborhoods, the City realized that it was important to redouble resiliency efforts begun under *PlaNYC*. Therefore, in December 2012, while recovery efforts continued, the Mayor launched the Special Initiative for Rebuilding and Resiliency (SIRR) and charged it with analyzing what happened during Sandy to the city's coastline, buildings, infrastructure systems, and communities; forecasting what could happen in the future, given climate change; and identifying steps the City could take to make New York more resilient. Comprised of over 30 experts from inside and outside government, SIRR collaborated with OLTPS, building on the resiliency efforts begun under *PlaNYC*. SIRR also worked with the Department of City Planning, the New York City Economic Development Corporation (NYCEDC), and more than 30 other City, State, and Federal agencies; consulted outside experts; met repeatedly with the offices of more than 60 elected officials; engaged with over 250 civic, advocacy, and community-based organizations; and hosted 11 public meetings in impacted areas to solicit input on resiliency priorities.

The result of SIRR's analysis, planning, and outreach is a 438-page report entitled *A Stronger, More Resilient New York*, released on June 11, 2013. The report contains over 250 detailed initiatives addressing the vulnerabilities of the city's infrastructure, built environment, and coastal communities. Among the report's initiatives are the crucial programs included in this Action Plan to address important unmet needs that

Sandy highlighted. The plan can be reviewed at: http://www.nyc.gov/html/sirr/html/report/report.shtml

Needs Assessment

The Impact of Coastal Flooding

To understand the unmet needs that this Action Plan seeks to address, it is important to understand what happened during Sandy. According to the analysis presented in *A Stronger, More Resilient New York*, the storm surge and flooding that affected different parts of the city generally occurred in three ways.

- First, floodwaters came directly from the ocean, with water surging over beaches and bulkheads. Crashing waves brought destruction to ocean-facing areas of southern Brooklyn, the southernmost part of Queens, and the East and South Shores of Staten Island.

- Second, Sandy's floodwaters also came via a less direct channel: The storm surge from the ocean pushed into many bays, creeks, and inlets, and these "backdoor" channels overflowed onto land. For example, most of the floodwaters in Southern Brooklyn came not over the Atlantic beaches but instead via Coney Island Creek and Sheepshead Bay. Likewise while ocean waves crashed into the Rockaway Peninsula from the south, the surge also elevated water levels in Jamaica Bay, which flooded the Peninsula from the north side.

- Finally, a third source of flooding along the coast was the city's extensive array of shoreline drainage infrastructure. Although this piping network normally drains water from land and into the area's waterways, Sandy's surge overwhelmed this infrastructure, reversing water direction in these pipes, and channeling floodwaters into neighborhoods. (While the initiatives discussed herein do not address this third source of flooding, *Chapter 12: Water and Wastewater* in *A Stronger, More Resilient New York* details the City's plan to strengthen shoreline drainage infrastructure.)

Though Sandy's surge generally devastated all areas that it touched, some coastal measures provided protection against waves and flooding. For example, dunes (reinforced sand mounds, usually found at the back end of a beach) and nourished beaches (where large mounds of sand had been added to widen and elevate beaches) served to absorb the destructive energy of waves and floodwaters, in many cases buffering inland neighborhoods. Along other waterways, armor stone revetments—massive rocks, also known as rip-rap—hardened vulnerable shorelines and thus protected adjacent areas. Elsewhere, bulkheads—vertical retaining walls—were able to break waves and reduce the destructive energy of the storm surge. Elevated development sites, too, helped raise buildings and infrastructure up out of harm's way. Finally, drainage systems that implemented best practices guarded against spillover from the pipes.

Because these coastal protection measures were effective during Sandy, they were among the options that SIRR considered during its analysis of measures that might be implemented in New York City to protect vulnerable areas from damage in the future.

Unmet Coastal Protection Need

The need for the coastal protection measures outlined in this Action Plan was demonstrated by the damage caused to specific coastal communities and to critical healthcare facilities. According to federal flood maps

and climate projections, these areas and facilities will be at increasing risk from future climate events if protective measures are not taken. Therefore, it is essential to invest in neighborhoods that have been damaged by Sandy before severe flooding happens again.

South Shore of Staten Island

The South Shore is separated from the ocean in places by red clay bluffs, and even before Hurricane Sandy, ocean waves had eroded these bluffs over time, threatening homes and businesses in some locations. During the storm, powerful wind-driven waves running almost parallel to the coast carved away at the area's bluffs, completely shattering houses near the shoreline and in some cases leaving behind only their foundations.

Coney Island Creek in Southern Brooklyn

During Sandy, powerful waves from the ocean inflicted damage on buildings along the Atlantic coast of Southern Brooklyn, but much of the flooding damage in Southern Brooklyn came from Coney Island Creek. The Creek's low edges were overtopped early in the storm (in fact, there was flooding along Neptune Avenue, adjacent to Coney Island Creek, a full 12 hours before the surge's peak). Even in the ocean-facing neighborhoods of Coney Island, Brighton Beach, and Manhattan Beach, floodwaters came primarily from their "backdoors" until the peak of the storm when, in many areas, waters from the ocean met waters from the north on land. This flooding damaged residential ground-floor and basement spaces, destroyed electrical equipment and other building systems, and disrupted power service. Additionally, thousands of commercial spaces were inundated, resulting in the loss of inventory and valuable equipment that was not elevated, as well as the destruction of interior finishes.

Based on extensive analysis done during the SIRR research and planning process, the City believes that installing armor stone revetments along the South Shore of Staten Island and Coney Island Creek would have helped limit the damage done during Sandy and will help avert similar devastation in the future. Revetments are a proven coastal protection technique in New York City, and experience has demonstrated that they require minimal maintenance, and that their shallow slopes can provide near-shore habitat for marine organisms and vegetation. In evaluating revetments as a risk-reduction measure for Coney Island Creek and the South Shore of Staten Island, SIRR examined the geomorphology of both areas—the natural landforms, underlying geological conditions, and existing built conditions. It also employed sophisticated storm surge modeling to assess what level of protection revetments at this location would provide; evaluated the cost-effectiveness of this approach, considering both upfront construction costs and long-term maintenance costs to calculate total lifecycle expenses; and evaluated the proposed measures in light of other important public considerations, such as impact on waterfront access, environmental impact, effect on neighborhood character, and protection offered for vulnerable populations such as low- and moderate-income people.

Other Vulnerable Low-Lying Areas Citywide

Although bulkheads in some parts of the city were effective at breaking waves and minimizing the amount of floodwaters that infiltrated land during Sandy, the storm damaged some bulkheads. Furthermore, the absence of bulkheads or the inadequacy of existing bulkheads in some areas exposed adjacent neighborhoods to "backdoor" flooding. This was the case, for example, along the Brooklyn-Queens waterfront and on the north side of the Rockaway Peninsula. Furthermore, some low-lying parts of New York City that lack bulkheads or adequate bulkheads are exposed to flooding during non-storm conditions—simply from the regular movement of tides over the course of the monthly tidal cycle. This

effect is likely to worsen as sea levels rise with climate change. Sandy revealed that all areas within the 100-year floodplain are vulnerable to extensive flooding and damage.

Based on extensive analysis done during the SIRR research and planning process, and as described in *A Stronger, More Resilient New York*, the City believes that repairing, installing, and raising bulkheads in vulnerable areas throughout the city could have averted flooding of adjacent areas during Sandy and will help prevent similar impacts from coastal storms in the future as well as protect against tidal inundation as sea levels rise. Bulkheads, typically made of stone or concrete, are a proven coastal protection technique in New York City. In evaluating the construction, repair, and elevation of bulkheads as a risk-reduction measure for vulnerable areas throughout the city, SIRR pursued the same rigorous level of research and method of evaluation, as discussed above, to determine bulkheads were the right coastal protection intervention.

Hospital Row in Southern Manhattan

As Sandy's surge flowed from the ocean into the Upper Bay, it elevated water levels on the East River, which rose up over the bulkheads on the east side of Southern Manhattan. Floodwaters not only damaged homes and businesses, they inundated three hospitals located on what is known as "Hospital Row," along First Avenue, between East 23rd and 34th Streets. These hospitals are Bellevue Hospital, a public hospital managed by the Health and Hospitals Corporation with the only State-designated regional trauma center south of 68th Street, and neighboring facilities operated by the Veterans Administration and New York University. Although Bellevue remained open during Sandy, it was forced to evacuate directly after the storm due to flooding in the lower levels of its buildings. All three hospitals remained partially or fully closed for months following the storm, reducing Manhattan's capacity by 2,100 beds or nearly 65 percent of the bed capacity below 42nd Street.

Based on extensive analysis done during the SIRR research and planning process, and as described in *A Stronger, More Resilient New York*, the City believes that installing an integrated flood protection system at Hospital Row would have averted flooding of these critical healthcare facilities during Sandy and will help avert similar impacts in the future. Integrated flood protection systems have been demonstrated around the world—including in the Netherlands, the United Kingdom, and parts of the United States Midwest—to be effective at reducing flood risk. These systems may be composed of a variety of elements that can be combined and customized in areas where critical infrastructure requires a high level of flood protection. These systems could include passive floodwalls (that float into place in response to rising waters), permanent floodwalls, temporary features like deployable floodwalls (which can be erected in advance of a storm event and removed thereafter), and other localized measures where appropriate to integrate the system. The City would use such a system to provide protection to Bellevue Hospital, integrating it with protection provided by neighboring institutions.

The Impact of Coastal Protection Measures on New York City

When completed, the combined effects of revetments, bulkheads, and an integrated flood protection system would provide enhanced protection for approximately 30,650 buildings representing roughly 92,700 housing units.

Additionally, these coastal protection measures would help safeguard homeowners and business owners who have received loans and grants from the city and private partners in the aftermath of Sandy. For

example, New York City's Hurricane Sandy Emergency Loan and Matching Grant Program has assisted over 400 small businesses, with almost $4 million in loans (as of June 2013), in neighborhoods adjacent to Coney Island Creek, Hospital Row, and in the South Shore of Staten Island.

A Stronger More Resilient New York identifies a set coastal protection initiatives targeted at particularly vulnerable areas impacted by Sandy with a total cost of approximately $3.7 billion, of which approximately $850 million is expected to be funded from other, primarily Federal, sources. The unmet need to begin these projects is approximately $2.9 billion. The unmet need for the full build-out of coastal protection measures would be tens of billions of dollars. These coastal protection initiatives discussed herein set out to place revetments, floodwalls, and bulkheads in strategic areas that protect neighborhoods impacted by Sandy from further flood-related damages. The United States Army Corps of Engineers (USACE) is funding additional coastal protection measures, while another set of coastal protection measures not financed with CDBG funding will be funded out of New York City's capital budget (see *A Stronger More Resilient New York* for detail). The coastal interventions identified in this Action Plan are attainable first steps that the City estimates can be completed within the allowable CDBG-DR timeframe.

Coastal Protection

PROGRAM OBJECTIVE AND DESCRIPTION: This program aims to protect neighborhoods and hospitals that were adversely impacted by Sandy by strengthening coastal protection measures, as detailed below. These efforts will also protect other publicly funded repair (including CDBG-DR and FEMA Public Assistance), restoration, and improvement efforts, which will ensure the long-term viability of those investments. The City has prioritized these coastal protection measures because of the large number of homes, businesses, and investments that will be protected; the City's ability to implement these measures quickly; and the availability of federal dollars to fund these interventions.

Please note that all components of this program will comply with all applicable City, State, and Federal requirements including, but not limited to, the Davis-Bacon and Related Acts and Section 3 of the Housing and Urban Development Act of 1968. The City will also consider statistical analysis of the demographic makeup of the areas served and perform outreach as appropriate to ensure that there are no disparate impacts on certain communities and to maximize attention to areas with low- and moderate-income populations.

CDBG-DR ALLOCATION: $174 Million
Further estimates will be developed as each project moves into the design phase. NYCEDC, or an additional allowable agency, intends to draw upon its standard construction process, utilizing contracted construction managers or its typical procurement process to select engineers and architects that will generate further estimates when the project is at an appropriate point.

Install Armor Stone Revetments

Funding will be used to install armor stone shoreline revetments in areas where Sandy's water damage caused significant physical damage and left neighborhoods exposed to additional flooding.

The South Shore of Staten Island continues to be at risk for future erosion of its beaches and bluffs. Revetments on the South Shore of Staten Island will help stabilize bluffs that are exposed to erosion and

damage as a result of Sandy. This project will protect the adjacent neighborhood and provide useful information about the effectiveness of such shoreline erosion control.

During Sandy, Coney Island Creek was the source of much of the "backdoor" flooding in Southern Brooklyn including neighborhoods with low- and moderate-income populations. Raising the Coney Island Creek's lowest edge elevations to a consistent grade in locations vulnerable to flooding and erosion will eliminate flooding at low spots bordering the Creek.

HUD ELIGIBILITY CRITERIA: Rehabilitation/Reconstruction of Public Facilities; Rehabilitation/Reconstruction of Other Non-residential Structures; Rehabilitation/Reconstruction of a Public Improvement

NATIONAL OBJECTIVE: Urgent Need, Low- and Moderate-Income Area Benefit

PROJECTED ACCOMPLISHMENTS: Reduced risk of coastal wave action, erosion, and flooding in the neighborhoods adjacent to the South Shore of Staten Island and Coney Island Creek in Southern Brooklyn.

PROGRAM ADMINISTRATION: The City anticipates it will work through the OLTPS and NYCEDC. NYCEDC may serve as a sub-recipient from the City and may be responsible for procuring and implementing the installation of the revetments. NYCEDC may also secure permitting from all appropriate agencies, including the USACE, which will be consulted before any action is taken if such action would fall within the jurisdiction of the USACE. An additional allowable entity may be chosen to operate the program, such as a City agency or eligible nonprofit corporation through a sub-recipient agreement.

ELIGIBILITY CRITERIA: Neighborhoods adjacent to the South Shore of Staten Island and Coney Island Creek in Southern Brooklyn and that were adversely impacted by flooding as a result of Sandy and are located within the 100-year floodplain may be eligible.

PROGRAM PRIORITIES: Sites subject to wave action, erosion, and flooding–particularly in areas with large low- and moderate-income populations. Additionally, as the target service areas will likely be the focus of other restoration efforts funded by CDBG-DR and FEMA, such as through housing and economic development programs and other infrastructure investments, the identification and implementation of coastal protection measures will seek to ensure long-term protection of such investments and of investments in low- to moderate- income communities.

GEOGRAPHIC AREA TO BE SERVED: South Shore of Staten Island and Southern Brooklyn.

PROGRAM START AND END DATES: Revetment construction will begin in 2014 and will be completed by 2016.

OTHER FUNDING SOURCES: None

Repair, Install, and Raise Bulkheads

Funding will be used to raise bulkheads in low-lying neighborhoods throughout the city, including in a number of low- and moderate-income communities impacted by Hurricane Sandy, to minimize inland tidal flooding. The impact of daily and weekly tidal flooding during non-storm conditions on low-lying neighborhoods will further worsen neighborhoods in the floodplain. This will continue to threaten the

economic viability and residential stability of these neighborhoods. Implementing a program to raise bulkheads and other shoreline structures to minimize the risk of regular flooding in targeted neighborhoods will help ensure New York City's coastal communities are not further exposed to flood damage.

NATIONAL OBJECTIVE: Urgent Need, Low- and Moderate-Income Area Benefit

PROJECTED ACCOMPLISHMENTS: Repair, install, and raise bulkheads and other shoreline structures to reduce risk of flooding in neighborhoods in the 100-year floodplain.

PROGRAM ADMINISTRATION: The City anticipates working through OLTPS and NYCEDC through a sub-recipient agreement with the New York City Office of Management and Budget (OMB). An additional allowable entity may be chosen to operate the program. If selected, NYCEDC would be responsible for securing appropriate permitting and the USACE will be consulted before any work begins, to the degree such work requires consultation with the USACE.

ELIGIBILITY CRITERIA: Neighborhoods within the 100-year floodplain affected by Sandy's impact.

PROGRAM PRIORITIES: Vulnerable areas, with initial priority given to areas that suffered direct physical impacts from Sandy, and to areas with significant low- and moderate-income populations. Additionally, as the target service areas will likely be the focus of other restoration efforts funded by CDBG-DR and FEMA, such as through housing and economic development programs and other infrastructure investments, the identification and implementation of innovative coastal protection measures will seek to ensure long-term protection of such investments.

GEOGRAPHIC AREA TO BE SERVED: Impacted communities within the 100-year floodplain and critical infrastructure assets affected by Sandy's impact.

PROGRAM START AND END DATES:
Design: Bulkhead design and site selection will begin and end in 2013.
Installation: Phase I bulkhead installation will begin in 2014 and end in 2016. Phase II bulkhead installation will begin in 2015 and end in 2017.

OTHER FUNDING SOURCES: None

Install an Integrated Flood Protection System at Hospital Row

Funding will be used to install an integrated flood protection system at "Hospital Row," which includes Bellevue Hospital, the Veterans Affairs New York Harbor Hospital (VA), and New York University's Langone Medical Center (NYU). (Note: the floodwall will result from an international design competition discussed below.) The City intends to protect Bellevue Hospital and will work with the VA and NYU to coordinate investments and maximize the effectiveness of the floodwall. Utilizing passive floodwalls, other permanent features such as floodwalls, temporary features like deployable floodwalls, and other localized measures where appropriate to integrate the system will ensure that hospitals will have the protections necessary to serve New York City, including significant low- and moderate-income populations.

HUD ELIGIBILITY CRITERIA: Rehabilitation/Reconstruction of Public Facilities

NATIONAL OBJECTIVE: Urgent Need, Low- and Moderate-Income Clientele

PROJECTED ACCOMPLISHMENTS: To repair and strengthen Bellevue Hospital, in cooperation with the VA and NYU, to protect critical life-saving facilities.

PROGRAM ADMINISTRATION: The City will work with the VA and NYU to coordinate an integrated flood protection system that leverages resources to reduce the risk of flooding in this area. An additional allowable entity may be chosen to operate the program. The City will work through OLTPS and NYCEDC. NYCEDC will serve as a sub-recipient from OMB. An additional allowable entity may be chosen to operate the program, such as a City agency or eligible nonprofit corporation through a sub-recipient agreement.

ELIGIBILITY CRITERIA: Critical life-support facilities that were adversely impacted by flooding as a result of Sandy, are located within the 100-year floodplain, or are otherwise vulnerable to future storms.

PROGRAM PRIORITIES: Preserving and protecting critical facilities. Additionally, as these hospitals will likely receive other restoration work funded by CDBG-DR and FEMA, the use of funds for these coastal protection measures will ensure long-term protection of such investments.

GEOGRAPHIC AREA TO BE SERVED: East side of Manhattan

PROGRAM START AND END DATES:
Phase I: In 2014, the City will program 10 percent of the total project funds for design at the conclusion of the global competition (see below for program details).
Phase II: Between 2016 and 2018, the City will finish project construction.

OTHER FUNDING SOURCES: None

Conduct a Global Design Competition for Integrated Flood Protection Systems

To address the high risk of flooding along Manhattan's east side, the City proposes installing a flood protection system that is integrated with the urban environment. A global design competition will be held to build integrated floodwall systems. A competition is the best means to solicit proposals for floodwalls that minimize the impact to the built environment of the neighborhood, while providing enhanced protection during storm conditions. These systems can be deployed as needed and do not interrupt community life during non-storm conditions. Subject to available funding, the competition will launch in 2014, and upon designation of winning ideas, can proceed into design and construction in 2014. This measure will ensure Bellevue Hospital and other impacted and vulnerable neighborhoods in the 100-year floodplain have reduced risk from future flood inundation.

Through a Request for Proposals, NYCEDC will harness the best ideas from public and private organizations and individuals to look at floodwall protection systems. The score and content requirement in the Request for Proposals will specify that proposals must provide detailed and specific information demonstrating that the proposed activities and outcomes will not have adverse impacts on protected classes.

HUD ELIGIBILITY CRITERIA: Rehabilitation/Reconstruction of Public Facilities; Rehabilitation/Reconstruction of Other Non-residential Structures; Rehabilitation/Reconstruction of a Public Improvement

NATIONAL OBJECTIVE: Urgent Need, Low- and Moderate-Income Area Benefit

PROJECTED ACCOMPLISHMENTS: Identification and implementation of significant design technology intended to reduce the risk of flooding along Manhattan's east side.

PROGRAM ADMINISTRATION: The City will work through NYCEDC and OLTPS.

ELIGIBLE APPLICANTS/PROPERTIES: NYCEDC, which may be a sub-recipient of the City or OLTPS, will administer the RFP release and selection process, by the City, consistent with HUD rules and regulations, with administration of winning proposals to be determined.

ELIGIBILITY CRITERIA: Proposals should demonstrate innovative flood protection measures in complicated urban environments.

PROGRAM PRIORITIES: Efficient and cost-effective flood protection that does not disrupt the urban environment. As the target service areas will likely be the focus of other restoration efforts funded by CDBG-DR and FEMA, such as through housing and economic development programs and other infrastructure investments, the identification and implementation of innovative coastal protection measures will seek to ensure long-term protection of such investments.

GEOGRAPHIC AREA TO BE SERVED: Impacted communities within the 100-year floodplain and critical infrastructure assets along Manhattan's east side

PROGRAM START AND END DATES: The design competition will begin and end in 2014.

OTHER FUNDING SOURCES: None

Building Impacts

Sandy's surge and flooding had a huge impact on New York City's building stock. The storm inundated an area that included 88,700 buildings, or 9 percent of the city's building stock. These buildings encompassed 662 million square feet of space that included more than 300,000 housing units and 23,400 businesses. Buildings in the inundation and blackout area may have been directly exposed to flooding and damage or may have experienced power loss or other storm impacts that in many cases resulted in the displacement of residents and business interruption.

Significantly, half of the buildings in the inundation area were outside the boundaries of the 100-year floodplain delineated on the 1983 FEMA flood maps in effect when Sandy hit. The owners of these buildings thus were likely not aware of their flood risks, nor had they likely taken steps to protect their buildings from flooding.

Direct building damage from Sandy was widespread and in many cases severe. Of the approximately 47,000 owner-occupied housing units that FEMA inspected, 49 percent sustained damage in excess of $10,000, with 12 percent sustaining damage in excess of $30,000. Of the approximately 22,000 rental units

inspected, 26 percent sustained "substantial damage," the highest damage classification FEMA used, indicating that damage was 50 percent or more of the pre-flood market value of the building.

SIRR's analysis of building damages, which drew on information collected by New York City's Department of Buildings (DOB), indicated that many factors affected the type and level of damage. For example, flood characteristics correlated strongly with the degree of damage that buildings suffered. Thus, shoreline areas that experienced the strong lateral forces of waves had many more damaged buildings than areas with stillwater flooding. In fact, "wave action" along the Atlantic Coast accounted for the majority of damaged buildings and for nearly all buildings with structural damage or damage to such an extent that they were deemed "destroyed."

The physical characteristics of the buildings themselves also came into play in determining the damages sustained. During Sandy, single-story buildings were particularly susceptible to severe damage. Although such buildings accounted for less than 25 percent of the buildings in the area inundated by Sandy, they represented roughly 75 percent of the buildings that sustained the most severe damage, according to a survey conducted in December 2012 by DOB. By contrast, high-rise buildings experiencing inundation generally did not sustain structural damage.

Construction materials, which are often associated with building height, were also determinative of a building's damage. For example, light-frame buildings (which also tended to be low-rise structures) suffered the greatest amount of damage, while buildings constructed of more robust materials such as steel, masonry, and concrete (as larger buildings tend to be) fared better.

However, much of the Sandy-related damage was non-structural in nature. Instead, it was largely due to the flooding of building systems and equipment (including electrical, sanitary, and life-safety systems) located on ground floors or in basements. Damage to these systems resulted in the displacement of residents and businesses that were likely also to be contending with extensive damage to building contents, including business inventory. These buildings also required significant and costly repairs—often including the removal and replacement of walls and floors in basements and ground-floor spaces.

Like larger buildings made of robust materials, buildings with elevated or otherwise flood-protected systems fared better overall. Owners were able to remain in their buildings or experience shorter periods of displacement. They were less likely to face costly repairs. And they generally were able to resume normal lives and business operations sooner.

Unmet Building Needs

The risk of storm surge combined with sea level rise is likely to present the greatest climate threat to New York City's building stock. This is demonstrated by FEMA's recently released PWMs, which expand New York City's 100-year floodplain so that it now includes nearly 67,700 buildings. These buildings, encompassing approximately 534 million square feet of space, are home to approximately 398,000 residents and 271,000 jobs.

As vulnerable as New York's building stock may be today, it is likely to become more vulnerable in the future. According to projections on sea level rise from the NPCC, the number of buildings in the floodplain could increase to 88,800 by the 2020s and 114,000 by the 2050s.

This expansion of the floodplain not only indicates that buildings will face greater risks of flooding, but it will also place significant financial pressure on hundreds of thousands of New Yorkers who own homes or businesses in the floodplain. Property owners whose buildings are in the floodplain and who have federally backed mortgages may face new requirements for the purchase of flood insurance. And just at the time when they may be required to purchase flood insurance, premiums on flood policies will be increasing as a result of the Biggert-Waters Act of 2012, which is phasing out subsidized insurance rates. Owners in the floodplain may also be subject to new requirements to alter ground-level and below-grade spaces to comply with national flood-resistant construction standards.

Taken together, these requirements may cumulatively overwhelm property owners and ultimately have adverse impacts on coastal communities, including sizable low- and moderate-income populations. The owners of homes and businesses in the floodplain may find it prohibitively expensive—and ultimately untenable—to continue to live and do business in the floodplain. Spillover effects could include flight from impacted communities, leading to declining populations; a market-wide bias against new home purchases in floodplain areas because of the recognition of the higher costs of living and doing business there; a general lack of investment in the City's coastal communities; and the failure of businesses that cannot absorb the added costs. The City's intention is to physically harden buildings and their systems so that they are able to better withstand—and recover more quickly from—climate events; it also seeks to restore the value of properties in impacted areas.

Based on Federal and City research about how Sandy impacted New York City's building stock and on the best available information on techniques that provide flood protection for buildings and their systems, the City proposes a Building Mitigation Incentive Program, detailed in *A Stronger, More Resilient New York*. This program, which will cost approximately $1.2 billion, aims to rebuild and fortify buildings and building systems in vulnerable neighborhoods. The program discussed herein is 10 percent of the total need. The City plans to pursue additional federal assistance to fulfill the remaining need.

Building Mitigation Incentive Program

PROGRAM OBJECTIVE AND DESCRIPTION: The Building Mitigation Incentive program will offer loans and/or grants to owners of flood-impacted and vulnerable properties for the incremental cost of structurally reinforcing wood-framed buildings, dry flood-proofing, elevating mechanical systems, protecting critical systems, and implementing other mitigation measures. (The program will not fund repairs of damaged properties already eligible through other programs noted in the Action Plan.) The goal is to protect buildings and building systems in flood-vulnerable areas that were impacted by Sandy from inundation, power loss from a local source, and other impacts that threaten the economic vitality of coastal neighborhoods. This program will support and strengthen these Sandy-impacted and vulnerable neighborhoods in two ways. Firstly, owners will be encouraged to undertake flood-proofing improvements to avert the catastrophic losses in building types that have proven most vulnerable during Sandy. Secondly, because this incentive focuses efforts on elevation or protection of critical building systems, it will enable the buildings to recover faster, and thus enable inhabitants to reoccupy their buildings—and resume normal lives—sooner.

Please note that all construction work funded under this program will comply with all applicable City, State, and Federal requirements including, but not limited to, the Davis-Bacon and Related Acts and Section 3 of the Housing and Urban Development Act of 1968. The City will also consider statistical analysis of the demographic makeup of the areas served and perform outreach as appropriate to ensure that there is sufficient disbursement of funds through impacted and vulnerable communities.

HUD ELIGIBILITY CATEGORY: Rehabilitation/Reconstruction of Residential structures; Renovation of Structures; Rehabilitation/Reconstruction of Other Non-residential Structures.

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

CDBG-DR ALLOCATION: $120,000,000.

Of this amount $60 million is allocated for affordable housing, as defined by Department of New York City Housing Preservation and Development (HPD) housing programs. It is anticipated that 80 percent of these funds will benefit low- and moderate-income persons. Funds will be targeted towards properties which do not meet the City's definition of substantial damage and for which resiliency improvements have not been budgeted elsewhere in the Action Plan. To avoid duplication of benefits, these $60 million dollars will fund resiliency programs created in tandem with HPD/HRO repair programs to ensure effective use of federal dollars.

The remaining $60 million is allocated for high-density residential and commercial buildings that are facing financial hardship and are economically vulnerable due to rising insurance costs and loss of property value as a result of Hurricane Sandy. Low-density residential will be prioritized in subsequent rounds of CDBG funding.

PROJECTED ACCOMPLISHMENTS: This allocation would fund resiliency measures across approximately 20 million square feet.

PROGRAM ADMINISTRATION: This program is expected to be administered by HPD for residential buildings and by NYCEDC for commercial buildings through a sub-recipient agreement with the City. Staff will be available to assist applicants in multiple languages. The agencies will oversee the program, but one or more Community Development Financial Institutions (CDFI) or other allowable entities may be chosen to operate the program as well as a sub-recipient.

ELIGIBLE APPLICANTS/PROPERTIES: Eligible applicants shall be the legal owners of privately owned buildings impacted by Sandy. Cooperative and condominium properties will also be eligible. Applications will be accepted for all buildings in the 100-year floodplain (defined by the most current federal flood map) with a portion of the allocation (to be determined) reserved for (1) property owners in census tracts located in the Sandy Inundation Area (the Sandy Inundation Area is defined by the extent of the DSLOSH Hindcast Surge Extent Model and used as a boundary for DCP's PLUTO lot data to determine which lots were at risk of inundation by Hurricane Sandy—a dataset created on 2/15/13), (2) buildings where owners or tenants are low- or moderate-income and demonstrate a need for financial assistance to lessen property vulnerability, or (3) census tracts that experienced economic loss, damage, or business interruption as a result of the storm.

ELIGIBILITY CRITERIA: Eligible buildings must be located within the 100-year floodplain (based on the Preliminary Work Maps or the best information available) and demonstrate a need for flood-related improvements.

GRANT/LOAN SIZE LIMIT: The program will fund up to 95 percent of eligible costs of mitigation improvements in the form of loans or grants of up to $2 million per building. Projects above that cap may be approved based on demonstration of need after a full underwriting of the proposed project. The maximum subsidized share of eligible costs is scaled to the project assessed value with higher value

property receiving a lower percentage of eligible costs than lower value properties. In the case of affordable housing properties, the program may fund up to 100 percent of resiliency costs based on an analysis of financial need.

PROGRAM PRIORITIES: The $60 million allocated for affordable housing will be spent pursuant to the Program Priorities described for the Multifamily Rehabilitation Program in Action Plan A. These priorities are properties requiring loans to restore basic habitability; significantly damaged buildings with basic services restored but in need of major rehabilitation; and buildings serving the most at-risk demographic populations. It is anticipated that the remainder of this program will provide funds to eligible recipients that demonstrate a need for flood-proofing on a first-come, first-served basis, subject to the reservation of certain funding amounts for classes of high-density property to be specified and funds allocated pro rata to the boroughs based on the number of buildings located in the 100-year floodplain.

In subsequent allocations, funds will be utilized to assist single-family homes.

GEOGRAPHIC AREA TO BE SERVED: Areas in the 100-year floodplain throughout the five boroughs.

PROGRAM START AND END DATES: Funds will initially be disbursed in the fall of 2013 and continue through the fall of 2015 or until funds are exhausted.

OTHER FUNDING SOURCES: It is expected that funds will be leveraged by SBA Disaster Loans, private funds and contributions, insurance proceeds, etc. Please note that, in accordance with federal duplication of benefits requirements, other assistance awarded to businesses for the purpose of providing compensation for economic losses arising from Sandy will be deducted from grants provided through this program. If the application period for an SBA Disaster Loan is open, businesses will be required to apply for an SBA Loan before receiving CDBG-DR assistance.

Planning & Administration Costs

The two sections below describe expected planning and administration costs related to Resilience measures. Please note that these amounts are a part of the $177.8 million allocation for Citywide Administration and Planning costs referred to in Section XI of this document.

Planning

The City anticipates funds will be allocated to agencies as detailed below. However, the City reserves the right to change these allocations if Planning activities warrants such. If a change in funding is greater than $1 million, it constitutes a substantial amendment and such amendment will be available for public review and approval by HUD.

Department of City Planning (DCP): $8.4 million
Immediately following Sandy, DCP staff worked overtime to perform data and GIS work for the Office of Emergency Management (OEM) and the Housing Recovery Office. This work focused on mitigating the immediate threat and risk to health, life, and safety citywide, with a greater emphasis on the communities most severely impacted by the storm. DCP will use CDBG-DR funds to recover previously incurred Sandy-related costs, consistent with the HUD CDBG-DR Allocation Rules published in the Federal Register March 5, 2013, and for long-term community planning and rebuilding efforts, including land-use studies. These funds are intended for use in the following categories: planning, community outreach, and implementation

of neighborhood recovery strategies; citywide planning and zoning changes; urban design; geographic, demographic, legal, and other technical support; environmental review of zoning and land-use changes; and integration of coastal protections into local land-use and waterfront planning. CDBG-DR funds will be used to ensure DCP has adequate staff and capacity to support this work.

Mayor's Office of Long-Term Planning and Sustainability (OLTPS): $1.5 million
OLTPS played a critical role immediately following the storm, working closely with utilities and private customers to assist with energy system restoration efforts (power, gas, steam, and liquid fuel networks), and work on climate analysis and mapping as part of Special Initiative for Rebuilding and Resiliency's (SIRR) long-term resilience efforts. OLTPS will use CDBG-DR money to execute a variety of long-term planning efforts in areas such as coastal protection and flood protection, in addition to overall coordination of implementation of resiliency efforts.

NYC Economic Development Corporation (NYCEDC): $1 million
NYCEDC has supported and expects to continue to support the work of SIRR as described elsewhere herein. NYCEDC will use CDBG-DR funds, through a sub-recipient agreement with the New York City Office of Management and Budget, for SIRR-related and other long-term community planning and rebuilding efforts in close collaboration with DCP and other agencies. NYCEDC will undertake, jointly with OLTPS, a series of studies focused on repairing and flood-proofing the City's waterfront. The findings from these studies will inform a coordinated waterfront rebuilding effort and will aid the City in making strategic decisions about how to reduce the risk of living and building in the floodplain.

Department of Buildings (DOB): $1 million
In response to the damage caused by Sandy to privately owned buildings, DOB 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. DOB will use CDBG-DR funds to hire staff to revise the Building Code to better protect buildings as a result of Sandy.

Other: $1.3 million

HUD ELIGIBILITY CATEGORY: Planning

NATIONAL OBJECTIVE: There is no HUD national objective for planning activities.

CDBG-DR ALLOCATION: $13.1 million. The City may repurpose funds that are not used for planning for program activities. If a change in funding is greater than $1 million, it constitutes a substantial amendment and such amendment will be available for public review and approval by HUD.

PROJECTED ACCOMPLISHMENTS: N/A

PROGRAM ADMINISTRATION: Department of City Planning; Office of Long-Term Planning & Sustainability; New York City Economic Development Corporation; Department of Buildings

ELIGIBLE APPLICANTS/PROPERTIES: N/A

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: N/A

GEOGRAPHIC AREA TO BE SERVED: Citywide, with a particular emphasis on storm-impacted areas.

PROGRAM START AND END DATES: Duration of the CDBG-DR grant

OTHER FUNDING SOURCES: TBD

Administration

The City anticipates funds will be allocated to agencies as detailed below. However, the City reserves the right to change these allocations if Administration activities warrant such. If a change in funding is greater than $1 million, it constitutes a substantial amendment and such amendment will be available for public review and approval by HUD.

Office of Long-Term Planning and Sustainability: $5 million

New York City Economic Development Corporation: $1 million

Department of Information Technology and Telecommunications (DoITT): $1.2 million
During Sandy, DoITT played an integral role in communicating information to city residents. As a result of the storm, significant portions of the city–including areas that sustained inundation and areas that did not–suffered from wired and wireless communications outages. These outages threatened the health and safety of residents in these areas, inhibited City emergency response, and impaired economic activity. DoITT will use CDBG-DR funds to establish a new Telecommunications Planning and Resiliency Office that will identify the causes of Sandy-related outages, ensure adequate repairs are made, identify changes to operational policies and procedures, and monitor and leverage franchise agreements to ensure continued operations during extreme weather events.

Department of Housing Preservation and Development (HPD): $1 million
HPD will assist in executing the Building Mitigation Incentive Program

The Mayor's Office of Environmental Remediation (OER): $0.443 million
OER works to ensure that brownfield sites are redeveloped in an environmentally safe manner, while encouraging new construction that can create economic opportunity. OER will use CDBG-DR funds to develop a methodology to ensure that brownfields in flood-vulnerable areas do not overflow into the city during a storm, as consistent with EPA rules and regulations. OER will ensure brownfields are contained by exploring measures including cost-effective ways to enclose exposed substances in the 100-year floodplain and developing best practices for storing enclosed hazardous substances in the 100-year floodplain.

Other: $4.4 Million

HUD ELIGIBILITY CATEGORY: Administration

NATIONAL OBJECTIVE: There is no HUD national objective for Administration activities.

CDBG-DR ALLOCATION: $13.1 million. The City may repurpose funds that are not used for administration for program activities. If a change in funding is greater than $1 million, it constitutes a substantial amendment and such amendment will be available for public review and approval by HUD.

PROJECTED ACCOMPLISHMENTS: N/A

PROGRAM ADMINISTRATION: Office of Long-Term Planning and Sustainability; New York City Economic Development Corporation; Department of Information and Technology; Department of Housing, Preservation, & Development; Office of Environmental Remediation

ELIGIBLE APPLICANTS/PROPERTIES: N/A

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: N/A

GEOGRAPHIC AREA TO BE SERVED: Citywide, with a particular emphasis on storm-impacted areas.

PROGRAM START AND END DATES: Duration of the CDBG-DR grant

OTHER FUNDING SOURCES: TBD

XI. CITYWIDE ADMINISTRATION AND PLANNING

Planning

Please note that this section provides an overview of citywide planning costs for the implementation of CDBG-DR programs. Specific planning costs for the program areas (where known) are detailed in the appropriate sections of this document.

PROGRAM OBJECTIVE AND DESCRIPTION: Immediately following Hurricane Sandy, the Department of City Planning (DCP) staff worked overtime to perform data and GIS work for the Office of Emergency Management (OEM) and the Mayor's Office of Housing Recovery Operations. The nature of this work was focused on mitigating the immediate threat and risk to health, life, and safety citywide, with a greater emphasis on the communities most severely impacted by the storm. DCP will use CDBG-DR funds for long-term community planning and rebuilding efforts. These funds are intended for use in the following categories: planning, community outreach and implementation of neighborhood recovery strategies; citywide zoning changes; urban design; geographic, demographic and legal support; environmental review of zoning and land use changes; integration of coastal protections into local land use and waterfront planning; and increasing resilience of enclosed industrial facilities. The Mayor's Office of Long-Term Planning and Sustainability played a critical role immediately following the storm, working closely with utilities and private customers in assisting with energy system restoration efforts (power, gas, steam, and liquid fuel networks), and working on climate analysis and mapping as part of the SIRR-related long-term resilience efforts. In addition, the NYC Economic Development Corporation (NYCEDC) has supported and expects to continue to support the work of the Special Initiative for Rebuilding and Resiliency, as described elsewhere herein. NYCEDC will use CDBG-DR funds for SIRR-related and other long-term community planning and rebuilding efforts working closely with DCP and other agencies.

Additionally, Citywide Planning activities will include the preparation and revision of the CDBG-DR Action Plan, and Subrecipient Agreements or Memorandums of Understanding, as well as the preparation and oversight of Environmental Reviews.

HUD ELIGIBILITY CATEGORY: Planning

NATIONAL OBJECTIVE: There is no HUD national objective for Planning activities.

CDBG-DR ALLOCATION: $89,820,000; this allocation is based on the best currently available data and will likely be adjusted during a future amendment to the Action Plan.

PROJECTED ACCOMPLISHMENTS: N/A

PROGRAM ADMINISTRATION: The Mayor's Office of Housing Recovery Operations; Department of Housing Preservation and Development; the New York City Housing Authority; the NYC Economic Development Corporation; Department of City Planning; Department of Parks and Recreation; and the Mayor's Office of Long-Term Planning and Sustainability.

ELIGIBLE APPLICANTS/PROPERTIES: N/A

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: N/A

GEOGRAPHIC AREA TO BE SERVED: Citywide, with a particular emphasis on storm-impacted areas.

PROGRAM START AND END DATES: Duration of the CDBG-DR grant

OTHER FUNDING SOURCES: TBD

Administration

PROGRAM OBJECTIVE AND DESCRIPTION: This function provides administrative and support services for the management and citizen participation necessary to formulate, implement, and evaluate the City's CDBG-DR Program. These activities have already included and will include in the future:

- Ensuring citizen participation (including publication of public notices);
- Preparation of the required CDBG-DR quarterly reports;
- Maintenance of the CDBG-DR website;
- Monitoring of the expenditures for CDBG-DR programs;
- Delineation of population groups served by CDBG-DR programs;
- Liaison function with HUD, FEMA, and other federal departments; and
- Certification and maintenance of the necessary records that demonstrate that federal requirements for environmental review, fair housing, relocation, labor standards, equal opportunity, and citizen participation are met.

HUD ELIGIBILITY CATEGORY: Administration

NATIONAL OBJECTIVE: There is no HUD national objective for Administration activities.

CDBG-DR ALLOCATION: $88,000,000; this allocation is based on the best currently available data and will likely be adjusted during a future amendment to the Action Plan.

PROJECTED ACCOMPLISHMENTS: N/A

PROGRAM ADMINISTRATION: Office of Management and Budget; the Mayor's Office of Housing Recovery Operations; Department of Housing Preservation and Development; the New York City Housing Authority; Department of Small Business Services; the NYC Economic Development Corporation; Department of City Planning; the Mayor's Office of Long-Term Planning and Sustainability; and the Mayor's Office.

ELIGIBLE APPLICANTS/PROPERTIES: N/A

ELIGIBILITY CRITERIA: N/A

GRANT/LOAN SIZE LIMIT: N/A

PROGRAM PRIORITIES: N/A

GEOGRAPHIC AREA TO BE SERVED: N/A

PROGRAM START AND END DATES: Duration of the CDBG-DR grant

OTHER FUNDING SOURCES: TBD

XII. LONG-TERM RECOVERY PLANNING

Sound, Sustainable Long-Term Recovery Planning

The HUD regulations for the CDBG-DR funds requires New York City to describe how it will promote sound, sustainable, long-term planning that is informed by a post-disaster evaluation of hazard risk, especially land-use decisions that reflect responsible floodplain management and take into account possible sea level rise.

New York City is coordinating with other local and regional planning efforts to address long-term recovery. The City of New York solicited feedback from governmental entities, individuals, and groups through meetings held across the affected areas. All feedback was considered during the preparation of this Action Plan.

The objective for long-term recovery planning is to conduct damage assessments, review hazard mitigation plans, prioritize revitalization strategies, create mitigation strategies, encourage revitalization of disaster-resistance communities and infrastructure, and strengthen the capacity to support business and economic stability.

Principles of Sustainability

New York City's programs and activities will make every attempt to protect people and property from harm and will encourage construction methods that emphasize high quality, durable, energy efficient, and water- and mold-resistant materials. The City will use code enforcement and hazard mitigation measures to accomplish its long-term recovery goals.

Hurricane Sandy highlighted the extent to which New York City's large, dense, and older building stock was not designed to account for the climate hazards the City faces today and into the future.

Prior to the storm, under PlaNYC, New York City's long-term sustainability plan, the City had identified the need to update flood hazard maps and construction standards in the flood zone. Following Hurricane Sandy, the City has worked with FEMA to release updated Advisory Base Flood Elevation maps for New York City, used emergency powers to expedite the enactment of code and zoning standards to promote construction that is resilient to coastal flooding, and is continuing to take action to implement regulations that enable the construction and retrofitting of flood-resilient buildings on an as-of-right basis. The City has also initiated extensive planning and analysis to identify and pursue further regulatory and programmatic measures to address the unique and unprecedented demands of adapting New York City's built environment to increasing coastal flood hazards.

FEMA recently released Preliminary Work Maps (PWMs) for New York City, which contain the best currently available information about coastal flood risk and provide guidance on how to rebuild safely. A total of approximately 67,000 homes and commercial buildings, containing almost 600 million square feet of floor area, are now located within the City's flood zone and could be at risk in future storms. This vulnerability will increase as sea levels rise and coastal storms become more intense as a result of climate change.

The City will be in compliance with the provisions of Federal Register Notice FR 23578. The intent of this notice is to minimize harm related to actions within special flood hazard areas. It includes the requirement that, "In order to better ensure a sustainable long-term recovery, grantees must elevate (or may, for certain

non-residential structures, floodproof), new construction and substantially improved structures one foot higher than the latest Federal Emergency Management Agency (FEMA) issued base flood elevation. Instead of elevating non-residential structures that are not critical actions as defined at 24 CFR 55.2(b)(2), grantees may design and construct the project such that below the flood level, the structure is floodproofed using the best available flood data plus one foot".

As part of PlaNYC, New York City is pursuing numerous initiatives to support sustainable development, including land use strategies that promote transit-oriented development and substantial reductions in the City's greenhouse gas emissions. In addition, as part of the New York-Connecticut Sustainable Communities consortium, funded through a HUD Sustainable Communities Regional Planning grant, New York City has been leading research on coastal adaptation options for dense urban environments, which pose unique and novel challenges for adaptation. Because much of the transit network serving the City and region is located in or near the coastal area, strategies to support the resilience of existing communities and new transit-oriented development are critical to the City's and the region's economic future. By advancing strategies to make existing and new buildings more resilient in these dense, urban environments, the City will be supporting key regional planning priorities. Action Plan activities to rehabilitate and improve the resilience of housing, support businesses, and improve transportation and other infrastructure serve the six livability principles of the Partnership for Sustainable Communities. The Department of City Planning's research on coastal resilience strategies, initiated prior to the storm under the HUD grant, has guided rebuilding and long-term resilience activities by providing information on measures that can be undertaken at the scale of individual buildings, sites, neighborhoods, and coastal reaches. Action Plan activities are further developing this research to inform program design and investments. The Sustainable Communities research is also serving as a critical tool for shaping the resiliency strategies that will be a subject of a future amendment to the Action Plan.

There is ample evidence showing that the coastal flood zones and elevations are not static and will continue to shift. Therefore, the City will implement a program to revise flood elevation standards based on observations of and updated projections for sea level rise, and on consideration of how elevation standards can be achieved within the City's characteristic building types while maintaining the vitality of neighborhoods.

In order to better inform efforts to address future coastal flood risks, the City is developing maps for planning purposes that reflect future coastal flood risks due to coastal surge and sea level rise. Maps will be developed that illustrate the future 100-year and 500-year floodplains for the 2020s and 2050s. These products will be used to inform planning and develop appropriate resilience standards for various categories of buildings and critical infrastructure, such as power and liquid fuels infrastructure.

Department of City Planning

Prior to Hurricane Sandy, the Department of City Planning had initiated a climate resilience work program to identify resilience strategies at scales both large and small that can be effectively applied within New York City's dense, built-out environment. Following the storm, these activities are being expedited, expanded, and integrated within the City's coordinated recovery efforts, to address the challenges of rebuilding and retrofitting to standards that will make the City more resilient to current and future climate hazards.

- Citywide planning: The construction of new flood-resilient building and the adaptation of existing buildings to increase their flood resilience require changes to zoning regulations within areas that

will be subject to coastal flooding. Approximately 71,000 buildings are situated within FEMA's Advisory 1% chance flood zone, an increase of 100% over the number of buildings within the 1% flood zone on the currently effective Flood Insurance Rate Maps. Emergency Executive Order 230 of 2013 (see "Construction Methods") relaxed certain zoning restrictions effective immediately, in order to enable the required elevation of buildings above Advisory Base Flood Elevations and the reconstruction of damaged or destroyed buildings provided they comply with the applicable requirements. In spring 2013, DCP will introduce amendments to the City's Zoning Resolution to make these and other critical near-term citywide changes to facilitate flood-resilient construction and adaptation of existing structures. Further subsequent zoning changes are also anticipated to address more complex regulatory issues with respect to flood protection, and to complement updates to the Building Code. These regulatory changes will incorporate urban design analysis to ensure that building-scale resilience measures and coastal protections are suited to New York City's dense, urban fabric and support continued economic vitality and quality of life.

- Community planning: In neighborhoods affected by the storm and by shifts in coastal flood hazards, which necessitate changes to the form of buildings, local planning studies and community outreach will be required to identify and implement land use and zoning changes to facilitate rebuilding and increased resilience. With more than 6,000 City blocks in the Operational Inundation Area, and more than 4,300 blocks within the five areas characterized as experiencing the most severe damage, planning studies will need to be conducted in multiple distinct neighborhoods within these geographies as well as in other vulnerable neighborhoods. Neighborhood studies will take into account current and projected future flood hazards, land use, housing, access to shopping, services, jobs, and transportation, built form and quality of the public realm, economic challenges of rebuilding and flood insurance costs, and other factors.
- Planning and technical support: DCP provides data analysis and technical support for land use and zoning studies as well as housing recovery and retrofitting initiatives, business assistance and economic recovery efforts. These support activities include mapping and GIS analysis and data support, updates to population estimates for affected areas, and legal, procedural, and other technical support for land use actions.

Enactment of land use and zoning changes will require analysis of the effects of these changes on the environment under the City's Environmental Quality Review procedures.

Other City Activities

The SIRR report to be delivered in May is expected to identify a variety of specific unmet resiliency needs that will be eligible for and dependent upon federal funding sources, including CDBG-DR funds. The City's request for any such CDBG-DR funds will be the subject of a future Action Plan.

Construction Methods

Since 1983, New York City's Building Code has contained flood-proofing requirements for buildings in FEMA-designated flood hazard areas. A key provision of these requirements is that new or substantially altered buildings must elevate their lowest finished floor, or flood-proof up to the 'Base Flood Elevation' indicated on the FEMA flood maps. During the storm, buildings constructed to meet code standards fared significantly better than buildings that were built before the standards were in place, demonstrating the importance of these standards to protect property and other assets from flood risk. Still, Hurricane Sandy brought unprecedented flooding that was several feet higher – and extended over a larger area – than the base flood elevations estimated by FEMA prior to the storm.

On January 31, 2013, Mayor Bloomberg issued an emergency executive order (230) to suspend height and other restrictions to allow home and property owners rebuilding after Hurricane Sandy to meet updated flood standards without violating current zoning standards. The City also adopted a new rule to increase the required minimum flood-proofing elevation under the Building Code so that substantially damaged buildings and other new construction are built to withstand greater flood risk. The measures also should help New Yorkers limit the cost of future Federal flood insurance premiums by better protecting properties in flood-prone areas from risk and damage. The measures followed quickly upon the release of FEMA's Advisory Base Flood Elevation maps, which contain the best currently available information about coastal flood risk and provide guidance on how to rebuild safely. The Mayor first announced the City's intention to adjust construction requirements upon the availability of new flood data in an address in December.

FEMA's Advisory Base Flood Elevation (ABFEs) Maps represent the best currently available information on flood hazards and the elevation buildings should meet to be protected from damage. When FEMA releases Preliminary Flood Insurance Rate Map data in mid-May and late June it will replace the ABFEs as best available data and will be referenced in the Executive Order. Without the executive order, a number of existing and new buildings would not have been able to be built or elevated to comply with the FEMA-recommended elevations without creating conflicts with current zoning height limits and other requirements. The executive order suspends those limits so that those who need to build now can meet the new advisory elevations. The executive order also enables existing buildings to be reconstructed or retrofitted to meet the new advisory elevations, and new buildings can be built to adhere to these standards as well. The executive order also allows the reconstruction of many destroyed or severely damaged buildings that could not otherwise be rebuilt as they existed before the storm because of inconsistencies with current zoning requirements, provided that these buildings are flood-proofed to the new FEMA advisory elevations. This simultaneously promotes higher flood protection standards and swifter rebuilding and recovery in affected neighborhoods. The emergency suspension is necessary for property owners who need to make immediate rebuilding decisions, because the process of changing zoning limits takes many months. The City will proceed to introduce zoning text amendments through the land use review process in the coming months to extend these changes beyond the duration of the emergency period. By allowing large numbers of buildings to be elevated beyond ordinary zoning allowances on an as-of-right basis without the need for case-by-case review, the executive order and upcoming zoning text amendments represent an exceptionally progressive zoning approach to promoting coastal adaptation.

The emergency rule also promotes construction to better flood protection standards by increasing the minimum elevation requirements for buildings located in at-risk areas. New construction or buildings with substantial damage in need of repair must protect the structures by building at least one or two feet above the flood elevation previously required in the building code. The added elevation will provide a further margin of safety from potential flood damage, serve to enhance life safety, and reduce property loss.

These measures will also help New Yorkers prepare for and potentially reduce Federal flood insurance premiums. This is particularly important for New Yorkers, because, following the July 2012 Congressional reauthorization of the National Flood Insurance Program, FEMA will be phasing out subsidized premiums, meaning that premiums going forward will be more reflective of the actual risks faced by insured buildings. Therefore, premiums will be lower for buildings that comply with recommended FEMA standards than for buildings that do not.

Over the course of the coming months, the City, working with the federal government and others, will be seeking to put in-place programs that may assist property owners with compliance with the new

recommended elevations. While the order enables property owners who wish to rebuild now to do so, owners who elect to build at a later date may be able to utilize these additional resources.

A copy of the Mayor's executive order and rule are available on www.nyc.gov.

There are many planning efforts going on in the City in response to the impacts of Hurricane Sandy. These include:

- The Building Resiliency Task Force convened in December by the Mayor and City Council Speaker Christine Quinn, charged to review current building codes and operational practices, and to make recommendations on how they could be amended to improve building resiliency and to facilitate recovery. The Task Force is scheduled to release its recommendations by summer 2013;
- The Office of Housing Recovery Operations will conduct analyses of impacted buildings, scale of housing demand, characteristics of clients, and available supply for re-housing and promote best practices for retrofitting and rebuilding; and
- NYC Construction Code Revision: Every three years, the New York City Construction Codes must be updated by the Department of Buildings, based upon the latest version of the International Code Council Codes (I-Codes). The City is in the process of amending the NYC Construction Codes utilizing the 2009 I-Codes. It is anticipated that the Local Law of Construction Code revisions will be submitted to the City Council in the first half of 2013.

The Department of Buildings' website also contains a page devoted to relevant information related to post-Sandy information, especially the *Guide to Rebuilding After Hurricane Sandy*, which outlines procedures and requirements for reconstruction and repair work.

All new building construction and alteration and/or repairs of existing buildings in NYC are regulated by the 2008 NYC Construction Codes (which include the Administrative, Building, Fuel Gas, Mechanical, and Plumbing Codes) or the 1968 Building Code, which emphasize high quality and durability of materials. The NYC Energy Conservation Code ensures that all new construction and alteration and repairs to existing buildings meet prescribed energy efficiency standards.

Construction activities on buildings located within Special Flood Hazard Areas are required to comply with the special provisions of Appendix G of the NYC Building Code (Appendix G). Construction on buildings located in the areas that have been substantially damaged or totally destroyed (as defined in Appendix G) by Hurricane Sandy must comply with Appendix G as if a new building. Repairs or alterations of existing buildings located in the Special Flood Hazard Areas but not substantially damaged are not required to retrofit and make the building comply fully with the requirements of Appendix G; however, such repairs or alterations may not increase the degree of non-compliance.

Appendix G requires that the lowest floor of a building be elevated above the Design Flood Elevation. Additionally all utilities and attended equipment must be elevated above the Design Flood Elevation. Pursuant to the emergency rule by the Commissioner of Buildings, the Design Flood Elevation has been increased to two feet above the Base Flood Elevation for one- and two-family dwellings and one foot for most other buildings. Spaces below the lowest floor are required to be constructed of flood resistant materials. These materials by definition can be submerged in water for limited duration without contributing to or promoting the growth of mold.

Future property damage will be minimized by mandatory elevation of structures that are substantially or totally damaged. The Department of Buildings strongly encourages applicants to design buildings to a higher standard than required. Besides decreasing the risk of damage in future storms, owners will also have significant savings on flood insurance premiums for each foot of freeboard (elevation height above the required Base Flood Elevation, or "BFE"). As mentioned previously, FEMA has already issued advisory maps with new, increased BFEs; it is anticipated that the new final Flood Insurance Rate Maps (FIRMS) with higher BFEs will be released in the next year.

Additionally, new building construction is required to completely comply with the New York City Energy Conservation Code (NYCECC) resulting in a new building stock that is energy efficient. It should be noted that alterations, additions, and renovations to an existing building, building system(s), or portion thereof must conform to the NYCECC as they relate to new construction without requiring the unaltered portion of the existing building or building system(s) to comply.

In accordance with the standard practice at the Department of Housing Preservation and Development, the City's residential programs will require that all rehabilitation, reconstruction, and new construction work adhere to the Enterprise Green Communities Standard. For rehabilitation work that cannot meet the Enterprise Green Communities Standard, the City will follow the guidelines specified in the HUD CPD Green Building Checklist.

XIII. OTHER PROGRAM CRITERIA

Compliance

Prior to CDBG-DR grant expenditures, New York City agencies and subrecipients that will operate programs detailed in this and future Action Plans, together with the City agencies that oversee them ("CDBG-DR Agencies"), will be required to prepare (for new programs) or update (for expansions of existing programs) program-specific written procedures manuals ("Compliance Manuals") detailing procedures they will use to ensure compliance with programmatic and financial requirements of CDBG-DR. These will be reviewed for completeness by the CDBG-DR Unit within the New York City Office of Management and Budget ("OMB CDBG-DR") and, as appropriate, OMB will approve the manuals or require modifications.

CDBG-DR agencies may propose alternate compliance methodologies for approval by the OMB CDBG-DR Unit, where such alternate procedures are expected to be at least equally effective in a more efficient manner.

The steps for CDBG-DR agencies to use in developing Compliance Manuals for individual programs are:

1. Identify eligibility criteria and the point of initial evaluation or intake for each program.
2. Develop checklists/procedures for use in eligibility evaluation or intake, listing all criteria and documentation/certifications necessary to evidence compliance.
3. Determine and develop checklists/procedures for appropriate periodic monitoring procedures (certified status reports, site inspections, beneficiary eligibility recertification, measures to ensure the terms of affordability are being met, etc.).
4. Determine and develop checklists/procedures for appropriate close-out procedures.
5. Identify required record retention policies including what must be maintained (checklists, originals or copies of certifications and other documents, periodic reports), in what form (paper files, electronic files, etc.), short- and long-term storage location and the City's five year minimum record retention period for CDBG-DR funding.
6. Prepare written program Compliance Manuals, including required use of intake, periodic monitoring, and close-out checklists/procedures and record retention, for prior approval by OMB CDBG-DR, and for use in training and as reference materials for program staff.

The compliance checklists and manuals are an integral part of the City's monitoring process, as discussed below. Checklists/procedures allow for consistency, completeness, and documentation for monitoring activities.

Aggregated monitoring and reporting

The City will otherwise be responsible for ensuring compliance with the following regulations:

- Duplication of benefits: following the established City procedure for checking insurance, FEMA, SBA and other sources, and documenting that no duplication of benefits has occurred.
- Income certification: collecting an affidavit from each household attesting to household size and income.

- Environmental review: all projects must go through "reviews required by NEPA and related laws and authorities".
- Davis-Bacon Labor Standards and the Related Acts as well as other applicable federal regulations.
- Section 3 of the Housing and Urban Development Act of 1968, 24 CFR 135, for all covered projects and activities as described within this Action Plan.

Monitoring

After the appropriation of CDBG-DR funds, as a means to continually mitigate and manage risk associated with using CDBG-DR funds, the City will utilize monitoring procedures following the mandates of the Managing CDBG Guidebook for Grantees and Subrecipients and in accordance with the CPD Monitoring Handbook 6509.2 REV-6. The goal is to ensure compliance with City, State, and Federal regulations and provide for a centralized review and accountability of the CDBG-DR funds.

The City's grant monitoring will use a risk-based approach that will take into consideration the complexity of projects, staff changes, past performances, the level of experience of program managers and administrators, a review of progress reports, and in some cases will be tied to the dollar thresholds.

The monitoring system will operate on four levels, which together will substantially mitigate the risk of non-compliance including the risks of fraud, waste, or abuse in CDBG-DR programs and grant expenditures.

1. CDBG-DR Agency-Based Monitoring:

As formulated to encompass all compliance requirements and specified in the program's Compliance Manual, CDBG-DR Agencies will utilize the checklists/procedures as an integral part of the monitoring process. Checklists/procedures will be used to carry out and document the existence of these procedures as well as adherence to and fulfillment of the program requirements regarding:

1. Initial eligibility assessments/intake procedures;
2. Periodic monitoring procedures; and
3. Close-out procedures.

Additionally, CDBG-DR Agencies will provide programmatic and financial reports to OMB CDBG-DR.

2. OMB CDBG-DR Monitoring:

The OMB CDBG-DR unit will carry out centralized programmatic and financial monitoring of all CDBG-DR programs. This Unit will, for a particular grant or grantee, decide the nature and frequency of the activities using a risk-based approach.

The OMB CDBG-DR Unit will establish periodic reporting requirements for CDBG-DR Agencies, and perform desk reviews of submissions. A desk review of documents submitted will be used to identify omissions, anomalies, questionable activities and costs, including those cases where expenditures may not be necessary and reasonable. [24 CFR Part 225 states that "A cost is reasonable if, in its nature and amount, it does not exceed that which would be incurred by a prudent person under the circumstances prevailing at the time the decision was made."] The OMB CDBG-DR Unit will follow-up on any issues noted in the desk review to obtain adequate explanations and documentation from the CDBG-DR Agency, and where appropriate, may refer a specific program to Internal Audit (discussed below).

OMB CDBG-DR will also ensure that the City, State, and Federal program-related timelines and benchmarks are being achieved as projected.

Additionally, the OMB CDBG-DR Unit will prepare and submit all reports required by HUD on CDBG-DR programs such as the Quarterly Performance Reports, and/or coordinate with and review such reports prepared by CDBG-DR Agencies.

3. Internal Audit:

A Director of Disaster Recovery Grant Internal Audit ("IA Director") will be appointed and will report directly to the City's Director of Management and Budget, who serves as the Chief Executive Officer for the purpose of CDBG-DR. The IA Director will be responsible for the development and execution of an internal audit program including desk and field audits of CDBG-DR-funded programs in all CDBG-DR Agencies, on a rotating basis. The internal audit program and all audit work will be conducted in accordance with accepted internal audit practices. Some or all of the staffing of internal audit may be contracted to one or more outside certified public accounting (CPA) firms with appropriate expertise and experience.

A desk audit is a review of documents requested of and submitted by the CDBG-DR Agency, similar to but more complete than, the desk review. All programs will be subjected to at least one desk audit each year as part of the audit plan.

A field audit involves auditors working at program locations and interviewing CDBG-DR Agency staff and reviewing documents for the purpose of documenting and testing internal controls, and for the examination of documentation supporting expenditures for eligibility, allowable expenditures, and compliance with Federal and City laws and regulations applicable to CDBG-DR-funded expenditures generally and the specific program. As part of this, auditors will judge if costs are necessary and reasonable. Programs will be selected on a rotating basis for field audit based on general risk assessments, results of desk audits, and other factors as appropriate.

4. External Financial Reporting and Independent Audit:

New York City's budgeting and its annual external financial reporting are both done in accordance with generally accepted accounting principles applicable to U.S. state and local governments ("GAAP"), meaning that the City meets the highest standards of financial reporting and an extremely high – and rare – standard for budgeting.

The City's GAAP financial statements are audited by an independent CPA firm each year, and an annual Federal Funds Single Audit of all Federal grant expenditures is also conducted by that firm in accordance with Federal OMB Circular A-133 (including sub-recipient monitoring). Based on its size, the CDBG-DR grants are virtually certain to qualify as a "Major Program" within the Single Audit, meaning that they will be subject to extensive compliance and internal control testing by the independent auditors and that the auditors will report deficiencies noted, if any, in these programs.

Duplication of Benefits

The City of New York is creating several disaster recovery programs and must consider whether one program will duplicate assistance provided by another program. The following Framework provides structure for departments or other organizations implementing disaster recovery programs in determining the amount of CDBG-DR assistance that will not duplicate assistance from other resources. For purposes of

this plan, the term "City" refers to the City of New York and its agencies responsible for delivering CDBG-DR assistance.

A. Assessment of need prior to assistance.
B. Total assistance available to the person or entity.
C. Non-duplicative assistance excluded from final benefit calculation.
    1. Funds for a different purpose.
    2. Funds for same purpose, different eligible use.
    3. Funds not available to the applicant.
    4. Private loans.
    5. Other assets or lines of credit.
D. Calculate CDBG-DR award.
E. Unmet need.
F. Use of CDBG-DR Funds
    1. Use of funds for explicit and eligible purposes.
    2. Treatment of SBA Loans.
G. Collecting a Duplication of Benefit.

Administrative Procedures for Identifying the Duplication of Benefits

1. For each CDBG-DR-funded program, the City will identify potential assistance from insurance, Federal and State government, City agencies, and private or non-profit charity organizations (covered assistance) that it reasonably expects to be in a project or to otherwise be received by a beneficiary of CDBG-DR assistance.
2. All applicants for assistance from the City's CDBG-DR allocation will be required to identify their other sources and amounts of covered assistance (sources and uses), and to certify that the CDBG-DR assistance requested does not duplicate other covered assistance that has been received or is reasonably expected to be received.
3. In any application for CDBG-DR assistance, the City will require beneficiaries to agree to repay any assistance later received for the same purpose as the CDBG-DR funds.
4. In conjunction with its actions to prevent fraud, waste, and abuse, the City will employ data systems and data sharing and data matching to identify duplication of benefits. The City will enter into data-sharing agreements with relevant Federal and State agencies, and other entities, as appropriate.
5. The City will include duplication of benefits among its review criteria in monitoring for compliance with applicable laws, regulations, and other authorities.

Applicable Laws and HUD Guidance

- Public Law 113-2: Disaster Relief Appropriations Act, 2013 (at HR152-34) Signed January 29, 2013
- Section 312 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5155), as amended
- 44 CFR 206.191 Duplication of Benefit
- HUD *Federal Register* Notice, at 76 FR 71060, published November 16, 2011

- HUD *Federal Register* Notice, at 78 FR 14329, effective March 11, 2013
- Section 18 of the Small Business Act, as amended (14A U.S.C. 647)

Examples of Housing Duplication of Benefit Analysis

The Owner/Applicant will provide the program information related to funds received and spent as a result of Hurricane Sandy impacts.

The City will review all the funds received by the owner and determine which funds are for the same purpose as the assistance the owner is requesting. This is the amount for duplication of benefits calculation.

The owner will provide receipts and sign a statement of how the funds were spent. The statement of how the funds were spent will be divided into categories of 1) Rehabilitation/Reconstruction, 2) Allowed Activities, and 3) Not duplication of benefit expenditures. The statement of funds spent from category 1 is called the Certification of Work Already Completed. The statement of funds spent from category 2 is called the Allowed Activities. Category 3 is not subject to duplication of benefit calculation.

This information will be provided to the team conducting Home Evaluations for verification. The Home Evaluator will verify that the repair work documented by the owner is reasonable and completed; at the same time the Home Evaluator will estimate the cost of the work that needs to be completed in order to meet current code.

DOB Example, Not Displaced: Property owner is applying for home rehabilitation assistance from the NYC Houses program. The owner was able to live in the home while repairing the impacts from Hurricane Sandy.

Initial Cost estimate:	$180,000
Funds received from FEMA, SBA, insurance & others for same purpose:	$150,000
City's verification of Owner Certification of Work Already Completed:	-$100,000
Funds that the owner will provide to complete work:	$50,000
CDBG-DR NYC Houses Program Unmet Need, eligible for assistance	$30,000

DOB Example, Interim Housing: Property owner is applying for home rehabilitation assistance from the NYC Houses program. The owner was not able live in the home for a couple months while repairing the impacts from Hurricane Sandy, but has since moved in the completed area.

Initial Cost estimate:	$180,000
Funds received from FEMA, SBA, insurance & others for same purpose:	$150,000
City's verification: Owner Certification of Work Already Completed:	-$100,000
City's verification: Owner Certification of Allowed Activities:	-$10,000
Funds that the owner will provide to complete work:	$40,000
CDBG-DR NYC Houses Program Unmet Need, eligible for assistance	$40,000

DOB Example, Spent personal funds: Property owner is applying for home rehabilitation assistance from the NYC Houses program. The owner was not able to live in the home for a couple months while repairing the impacts from Hurricane Sandy, but has since moved in the completed area. The owner spent more than what they received from FEMA, SBA, insurance and others for repair work.

Initial Cost estimate:	$230,000
Funds received from FEMA, SBA, insurance & others for same purpose:	$150,000
City's verification: Owner Certification of Work Already Completed:	-$160,000
City's verification: Owner Certification of Eligible Costs for Interim Housing:	-$10,000
Funds that the owner will provide to complete work:	$0
CDBG-DR NYC Houses Program Unmet Need, eligible for assistance	$70,000

DOB Example, Received Additional funds after signing assistance agreement: Property owner is applying for home rehabilitation assistance from the NYC Houses program. The owner was not able to live in the home for a couple months while repairing the impacts from Hurricane Sandy, but has since moved in the completed area. The owner spent more than what they received from FEMA, SBA, insurance and others for repair work. After signing the assistance agreement, the owner receives an adjusted insurance settlement that must be provided back to the program as reimbursement of assistance, not to exceed the amount of received by CDBG-DR.

Initial Cost estimate:	$280,000
Funds received from FEMA, SBA, insurance & others for same purpose:	$150,000
City's verification: Owner Certification of Work Already Completed:	-$200,000
City's verification: Owner Certification of Eligible Costs for Interim Housing:	-$10,000
Funds that the owner will provide to complete work:	$0
CDBG-DR NYC Houses Program Unmet Need, eligible for assistance	$80,000
CDBG-DR Spent to complete work on home	$80,000
Owner receives an additional insurance settlement of $100,000, repays CDBG-DR	$80,000

Program Income

It is expected that certain CDBG-DR-funded programs will generate income. Any program income earned as a result of CDBG-DR-funded activities will be subject to the rules outlined in Federal Register notice 78 FR 14329. In the Notice, HUD provides grantees the option of transferring program income to their annual CDBG-DR entitlement grant (if applicable) or to be used as CDBG-DR funds until grant closeout. The City has opted to return program income received to the CDBG-DR program in order to further fund disaster-related activities. Accordingly, program income received before closeout of the CDBG-DR grant will be subject to CDBG-DR requirements and must be used in accordance with the City's CDBG-DR Action Plan. To the maximum extent feasible, HUD requires that program income shall be used or distributed before additional withdrawals from the U.S. Treasury are made.

Sub-Recipient Agreements

New York City may enter into sub-recipient agreements with community-based non-profit organizations to facilitate loan and/or grant making, particularly to homeowners. The City will create monitoring procedures to ensure compliance with state and federal regulations.

Sub-recipient agreements will outline all reporting requirements. These will include, but not be limited to Quarterly Performance Reports that include Performance Measures and Outcomes; annual audit reports; contractual obligations and Minority- and Women-Owned Business Enterprise reports; Section 3 reporting requirements; and Labor Standards.

Each sub-recipient will be reviewed at least once annually. Sub-recipients may be subject to more frequent monitoring based on complexity of projects, staff changes, past performance, level of experience of the program managers and administrators, the level of expenditures, a review of progress reports, and in some cases, the dollar threshold.

Sub-recipients will be responsible for ensuring that loans and/or grants made with CDBG-DR funds do not duplicate other benefits. In order to do so, sub-recipients must:

- Assess the full scope of the recovery need for each beneficiary.
- Calculate all benefits already received, including FEMA and SBA aid, other local, state, or federal assistance, and charitable grants.
- Calculate all benefits likely to be received in the future.
- Collect a signed agreement to repay any assistance later received for the same purpose as the CDBG-DR funds. This agreement shall cover a period of three years, and the sub-grantee is responsible for monitoring beneficiaries during that period.
- Create a system to collect and maintain documentation from beneficiaries documenting use of benefits received, such as receipts for interim rental payments.

Sub-recipient monitoring, including oversight of the duplication of benefits rules, will be conducted by agency program staff, working in conjunction with agency audit liaisons, and the Mayor's Office of Management and Budget.

Capacity Building

The New York City Office of Management and Budget (OMB) as well as the various agencies that are administering CDBG-DR programs are prepared to provide technical and management assistance to other intergovernmental agencies, sub-grantees, and sub-recipients when necessary. The assistance will be provided in the form of training sessions and/or individual meetings specific to the CDBG-DR requirements. Guidance for general requirements will also be covered for those individuals and entities that have no CDBG-DR experience.

OMB staff has extensive experience in successfully managing the CDBG Entitlement program. The City has been administering the CDBG Entitlement Program for 39 years and the OMB CD Unit collectively has 214 years of experience doing so. Given the depth of experience of the existing staff and the systems in place to track and measure CDBG-DR performance outcomes and compliance requirements, the City of New York staff can adequately ensure that the CDBG-DR program will be managed appropriately. In those areas where the City finds itself to be deficient, it will hire additional staff, seek the assistance of HUD's Technical

Assistance Program, and may work with outside professional consultants and other capacity building organizations.

The City of New York will also use its monitoring program to assist grant recipients and provide additional technical assistance and capacity building around specific programmatic functions and activities. This will further strengthen the program and assure that guidelines are adhered to, program objectives are met, and overall community capacity is increased and sustained throughout the long term recovery process.

Agencies, in conjunction with the New York City Office of Management and Budget, will hold trainings for subrecipients and, as appropriate, other entities participating in loan/grant programs to ensure that they have the capacity to administer CDBG-DR. Agency staff will be available on an ongoing basis to answer questions and provide support to subrecipients. For example, the Department of Housing Preservation and Development will train all subrecipient groups on key CDBG-DR regulations, including, but not limited to:

- Determination of low- and moderate-income eligibility;
- Calculations of duplication of benefit;
- Identification of properties in the 100-year floodplain;
- Purchase and maintenance of flood insurance;
- Compliance with lead-based paint requirements;
- Mold remediation; and
- Historic preservation review.

Citizen Participation Plan

a. Background

The City of New York is the recipient of a Community Development Block Grant-Disaster Recovery Grant (CDBG-DR) in accordance with the Disaster Relief Appropriations Act, 2013 (Public Law 113-2). These funds are being made available to assist disaster recovery efforts in response to Hurricane Sandy. A requirement of this program is the adoption of a Citizen Participation Plan. The Federal Register at 78 FR 14329 contains a list of waivers that permits changes to the City of New York's Consolidated Plan Citizen Participation Plan. The following section describes the citizen participation process in conformance with the regulations.

b. Public Hearing

Unlike the Citizen Participation Plan for the Consolidated Plan process, there is no requirement for a public hearing relative to the CDBG-DR Action Plan.

c. Public Notice and Comment Period

In accordance with CDBG-DR requirements, the City of New York has developed and will maintain a comprehensive website regarding all disaster recovery activities assisted with these funds. The City will post all Action Plans and amendments on the City's CDBG-DR website (www.nyc.gov/cdbg) to give citizens an opportunity to read the plan and to submit comment(s). This website is featured prominently on, and is easily navigable from, the City's homepage (www.nyc.gov).

Paper copies of the Action Plan will be available in both English (including large, 18pt type) and the languages listed in the "Individuals with Limited English Proficiency (LEP)" section at the following address:

Office of Management and Budget
255 Greenwich Street, 8th Floor
New York, New York 10007

A comment period of at least seven (7) days, as required by HUD, shall be provided for citizens, affected local governments, and other interested parties an opportunity to comment on substantial amendments to the Action Plan. Notices advertising the public comment period will be placed in daily newspapers, non-English newspapers, and weekly community newspapers. Comments may be submitted as follows:

- Electronically on the City's CDBG-DR website at www.nyc.gov/cdbg.
- Written comments may be mailed to:
  Mayor's Office of Operations
  253 Broadway, 10th Floor
  New York, NY 10007
- By telephone by contacting 311, New York City's main source of government information and non-emergency services. Dial 311 within New York City or (212)-NEW-YORK (212-639-9675) from outside New York City.

At the end of the comment period, all comments shall be reviewed and a City response will be incorporated into the document. A summary of the comments and the City's responses will be submitted to HUD with the Action Plan. A revised Action Plan including the public comments and responses will be posted on the City's CDBG-DR website.

d. Individuals with Limited English Proficiency (LEP)

Based on LEP data within the impacted areas collected by the City, both the instructions for commenting on, and access to, the Plan will be translated into Spanish, Russian, and Chinese (simplified). Comments will be accepted through the online commenting form in English and the three previously mentioned languages. The City will make every possible effort to translate and consider comments submitted in any other language within the timeframe.

e. Persons with Disabilities

As noted above, hard copies of Action Plans will be available in large print format (18pt font size) at the location listed above. The online materials will also be accessible for the visually impaired. For more information on how people with disabilities can access and comment on the Action Plan, dial 311 or, using a TTY or Text Telephone, (212) 504-4115.

f. The Final HUD-Approved Action Plan

Following HUD approval of the Action Plan, it will be posted on the City's CDBG-DR website. Copies of the Final Action Plan will also be made available upon request.

h. Response to Citizen Complaints

The City of New York shall provide a written response to every complaint relative to the CDBG-DR grant within fifteen (15) working days of receipt if practicable.

i. Performance Review

The requirements for submission of a Performance Evaluation Report (PER) are waived for the CDBG-DR program. As an alternative, the City's Action Plan must be entered into HUD's Disaster Recovery Grant Reporting (DRGR) system. The City must submit a performance report in a form to be prescribed by HUD no later than thirty days following the end of each quarter, beginning after the first full calendar quarter after grants award and continuing until all funds have been expended. The quarterly reports shall use the DRGR system and be posted on the City's website within three days of submission.

Action Plan Amendments

In the case of amendments, the City of New York will follow two alternative citizen participation processes. In the cases of a substantial amendment, the procedures detailed above will be followed. A substantial amendment shall be defined as: a change in program benefit, beneficiary or eligibility criteria, the allocation or re-allocation of more than $1 million, or the addition or deletion of an activity. For amendments considered to be non-substantial, the City shall notify HUD, but public comment is not required. Every amendment, substantial or not, shall be numbered sequentially and posted on the website.

XIV. APPENDICES

Appendix A: Damaged City-Owned and –Leased Facilities

Public Schools and DOE Facilities

Bronx

- Bronx Leadership Academy II High School - 730 Concourse Village West
- Herbert H. Lehman High School - 3000 East Tremont Avenue
- I.S. 117 - 1865 Morris Avenue
- I.S. 241 - 1595 Bathgate Avenue
- Morris Academy for Collaborative Studies - 1110 Boston Road
- P.S. 6 - 1000 East Tremont Avenue
- P.S. 31 – 425 Grand Concourse
- P.S. 56 - 341 East 207th Street
- P.S. 75 - 984 Faile Street
- P.S. 86 - 2756 Reservoir Avenue
- Peace & Diversity Academy - 3441 Steenwick Avenue

Brooklyn

- Abraham Lincoln High School - 2800 Ocean Parkway
- I.S. 98 - 1401 Emmons Avenue
- I.S. 211 - 1001 East 100th Street
- I.S. 239 - 2401 Neptune Avenue
- I.S. 303 - 501 West Avenue
- International High School - 2630 Benson Avenue
- John Dewey High School - 50 Avenue X
- Liberation Diploma Plus High School - 2865 West 19th Street
- P.S. 15 - 71 Sullivan Street
- P.S. 90 - 2840 West 12th Street
- P.S. 134 - 4001 18th Avenue
- P.S. 188 - 3314 Neptune Avenue
- P.S. 195 - 131 Irwin Street
- P.S. 253 - 601 Oceanview Avenue
- P.S. 254 - 1801 Avenue Y
- P.S. 276 - 1070 East 83rd Street
- P.S. 279 - 1070 East 104th Street
- P.S. 288 - 2950 West 25th Street

- P.S. 329 - 2929 West 30th Street
- William E. Grady Vocational High School - 25 Brighton 4th Road

Manhattan

- Bard High School Early College - 525 East Houston Street
- P.S. 61 - 610 East 12th Street
- P.S. 112 - 535 East 119th Street

Queens

- Academy of Medical Technology - 8-21 Bay 25th Street
- Beach Channel High School - 100-00 Beach Channel Drive
- Forest Hills High School - 67-01 110th Street
- Frederick Douglass Academy VI - 8-21 Bay 25th Street
- I.S. 53 - 10-45 Nameoke Street
- J.H.S. 180 - 320 Beach 104th Street
- Math, Science, Research & Technical High School - 207-01 116th Avenue
- P.S. 40 - 109-20 Union Hall Street
- P.S. 42 - 488 Beach 66th Street
- P.S. 43 - 160 Beach 29th Street/12 Marvin Street
- P.S. 47 - 9 Power Road
- P.S. 78 - 48-09 Center Boulevard
- P.S. 104 - 26-01 Mott Avenue
- P.S. 105 - 420 Beach 51st Street
- P.S. 106 - 180 Beach 35th Street
- P.S. 114 - 134-01 Cronston Avenue
- P.S. 146 - 98-01 159th Avenue
- P.S. 153 - 60-02 60th Lane
- P.S. 171 - 14-14 29th Avenue
- P.S. 182 - 153-27 88th Avenue
- P.S. 183 - 2-45 Beach 79th Street
- P.S. 195 - 253-50 149th Avenue
- P.S. 197 - 825 Hicksville Road
- P.S. 207 - 159-15 88th Street
- P.S. 215 - 535 Briar Place
- P.S. 253 - 1307 Central Avenue
- P.S. 317 - 190 Beach 110th Street
- P.S. 333 - 3-65 Beach 56th Street
- P.S. Q256 Special Education - 445 Beach 135th Street
- Queens Vocational High School - 37-02 47th Avenue

- Bureau of Supplies - 44-36 Vernon Boulevard
- DOE Division of School Buildings - 28-11 Queens Plaza North

Staten Island

- P.S. 38 - 421 Lincoln Avenue
- Curtis High School - 105 Hamilton Avenue
- I.S. 2 - 333 Midland Avenue
- P.S. 52 - 450 Buel Avenue

Water, Wastewater, and Other DEP Facilities

Bronx

- 233rd Street Pumping Station – Southbound Bronx River Parkway
- City Water Tunnel #1 – Shaft 7
- Conner Street Pumping Station – Foot of Conner Street at Eastchester Creek
- Hillview Reservoir
- Hunts Point Wastewater Treatment Plant - 1270 Ryawa Avenue
- Kensico Reservoir
- Orchard Beach Pumping Station
- Pelham Bay Landfill - 301 Shore Road
- Zerega Avenue Pumping Station – Zerega Avenue and Castle Hill Avenue

Brooklyn

- 26th Ward Wastewater Treatment Plant - 122-26 Flatlands Avenue
- 49th Street Pumping Station - 49th Street & 57th Avenue
- Bush Terminal Pumping Station - West of 2nd Avenue between 28th & 29th Street
- Coney Island Wastewater Treatment Plant - 2591 Knapp Street
- Fountain Avenue Landfill - 950 Fountain Avenue
- Gowanus Pumping Station - 201 Douglass Street
- Nevins Street Pumping Station - Nevins Street between Sackett & Degraw Street
- Newtown Creek Wastewater Treatment Plant - 329 Greenpoint Avenue
- Owls Head Wastewater Treatment Plant - 6700 Shore Road
- Pennsylvania Avenue Landfill - 1750 Pennsylvania Avenue
- Red Hook Wastewater Treatment Plant - 63 Flushing Avenue
- Second Avenue Pumping Station - Second Avenue & 5th Street
- Van Brunt Pumping Station - Foot of Van Brunt Street near Read Street

Manhattan

- City Water Tunnel #1 - Shaft 18
- City Water Tunnel #1 - Shaft 21

- Manhattan Pumping Station - 184 Avenue D
- Marble Hill Pumping Station – 58 West 225th Street
- North River Wastewater Treatment Plant - 725 West 135th Street
- Roosevelt Island North Pumping Station – Near Coler-Goldwater Hospital
- Roosevelt Island South Pumping Station – Near Coler-Goldwater Hospital
- Wards Island Wastewater Treatment Plant - 7 Wards Island

Queens

- 49th Street Pumping Station – Corner of 57th Avenue and 49th Street
- Bayswater Pumping Station - Norton Basin
- Bowery Bay Wastewater Treatment Plant - 43-01 Berrian Boulevard
- Broad Channel Pumping Station – 20th Avenue between 98th Street & Crossbay Boulevard
- Doug Bay Pumping Station - 41st Avenue & 233rd Street
- Howard Beach Pumping Station – Southeast Corner of 155th Avenue & 100th Street
- Jamaica Wastewater Treatment Plant - 150-20 134th Street
- Little Neck Pump Station – 40th Avenue west of 248th Street
- Nameoke Avenue Pumping Station – Southeast Corner of Nameoke & Central Avenue
- New Douglaston Pumping Station – Alley Pond Park – North of Long Island Expressway
- St. Albans Pumping Station – Intersection of 177th Street & 112th Avenue
- Rockaway Wastewater Treatment Plant - 106-21 Beach Channel Drive
- Roosevelt Island South Pumping Station - Near Goldwater Hospital, Roosevelt Island
- Rosedale Pumping Station - 149th Street & Brookville Boulevard
- Seagirt Pumping Station - Seagirt Avenue & 9th Street
- Tallman Island Wastewater Treatment Plant - 127-01 Powell Cove Boulevard
- Warnerville Pumping Station – Brookville Boulevard & Broadway

Staten Island

- Cannon Pumping Station - Cannon Avenue between Prices Lane & Glen Street
- Mason Avenue Pumping Station – South of Slater Boulevard
- Melvin Avenue Pumping Station – Brookville Boulevard & Broadway
- Nautilus Court Pumping Station - Cliff Street & Nautilus Court
- Oakwood Beach Wastewater Treatment Plant - 751 Mill Road
- Port Richmond Wastewater Treatment Plant - 1801 Richmond Terrace
- Richmond Chlorination Water Reservoir
- South Beach Pumping Station - Father Capodanno & South of Sand Lane

City-Owned Day Care Centers

- Blanche Day Care Center - 44-22 Beach Channel Drive, Queens

City-Owned Senior Centers

Bronx

- BronxWorks East Concourse Senior Center - 236 East Tremont Avenue

Manhattan

- Chinese-American Planning Council Project Open Door Senior Citizens Center - 168 Grand Street

Queens

- Catholic Charities Diocese of Brooklyn & Queens CCNS Bayside Senior Center - 211-15 Horace Harding Expressway

Staten Island

- Friendship/New Dorp - 128 Cedar Grove Avenue

City-Leased Senior Centers

Brooklyn

- JCC of Greater Coney Island, Surf Solomon Service Center – 3001 West 37th Street

City University of New York Facilities

Bronx

- Hostos Community College – 475 Grand Concourse
- Bronx Community College – West 181st Street and University Avenue

Brooklyn

- Kingsborough Community College – 2001 Oriental Boulevard

Manhattan

- Borough of Manhattan Community College – 199 Chambers Street
- New Community College – 50 West 40th Street

Queens

- LaGuardia Community College – 31-10 Thompson Avenue

Department of Parks and Recreation - Parks and Playgrounds

Bronx

- Barretto Point Park
- Bicentennial Veterans Park
- Bronx Park
- Burns Playground

- Cedar Playground
- Classon Point Park
- Crotona Park: Hylan Park
- Devoe Park
- Flynn Playground
- Fort 4 Playground
- Franz Sigel Park
- Hunts Point Riverside Park
- Jerome Park
- Mullaly Park North
- Old Fort Four Park: Washington's Walk
- Pelham Bay Park
- Poe Park
- Riverdale Park
- Rosewood Playground
- Saint James Park
- Saint Mary's Park
- Seton Park
- Soundview Park
- Star and Stripes Playground
- Strong Street Playground
- Van Cortlandt Park
- Waring Playground
- Williamsbridge Oval

Brooklyn

- Asser Levy Playground
- Avenue J Playground
- Bensonhurst Park
- Brighton 2nd Playground
- Carroll Park
- Coffey Park
- Commodore Barry Field
- Coney Island Creek (Six Diamonds)
- Cypress Hills Playground
- Dyker Park
- Fresh Creek
- Gerritsen Creek Ball Fields

- Kaiser Park
- Luna Park
- Marine Park
- McCarren Park
- McGuire Fields
- Nautilus Playground
- Nehemiah Playground
- North Fifth Street Pier
- Pat Perlatto Playground
- Poseidon Playground
- Prospect Park
- Remsen Playground
- Shore Parkway
- Surf Playground
- Taaffe Playground

Manhattan

- Albert Capsuoto Park
- Baruch Playground
- Battery Park
- Carl Schurz Playground
- Colonel Charles Young Playground
- Corlears Hook Park
- Dry Dock Playground
- East River Esplanade
- East River Park
- Fort Tryon Park
- Fort Washington Park
- Frederick Douglass Playground
- Happy Warrior Playground
- Harlem Lane Playground
- High Bridge Park
- Inwood Hill Park
- Isham Park
- Jackie Robinson Park
- James J. Walker Park
- John Jay Park
- Lillian Wald Playground

- M258 East River Playground
- Manhattan Park
- Marcus Garvey Park
- Martin Tanahey Playground
- Murphy's Brother's Playground
- P.S. 156 Holcombe Rucker Playground
- Playground 103
- Riverside Park
- Saint Nicholas Park
- Sakura Park
- Sherman Creek Park
- Stanley Isaacs Park
- Sunken Playground
- Theodore Roosevelt Park
- Union Square Park
- Washington Square Park

Queens

- 587 Memorial Park
- Alley Pond Park
- Almeda Playground
- American Ballfields
- Annadale Playground
- Arverne Playground
- Astoria Heights Playground
- Astoria Park
- Baisley Pond Park
- Bayswater Park/Playground
- Bowne Park
- Brant Point Wildlife Sanctuary
- Breininger Park
- Broad Channel American Park
- Brookville Park
- Buz O'Rourke Playground
- Conch Playground
- Crocheron Park: Joe Michael's Mile
- Cunningham Park
- Dubois Point Wildlife Sanctuary

- Evergreen Park
- Father Francis McGee Playground
- Flushing Meadows Corona Park
- Forest Park
- Fort Totten Park
- Gene Gray Playground
- Grassmere Playground
- Grover Cleveland Park
- Hallet's Cove Playground
- Hallet's Point Park
- Hammel Playground
- Hellgate Field
- Highland Park
- Hinton Park
- Hoover-Manton Playground
- Idlewild Park
- John Andrews Playground
- Judge Moses Weinstein Playground
- Juniper Valley Park
- Kissena Corridor Park
- Kissena Park
- LaGuardia Landing Lights
- Lefferts Playground
- Louis Armstrong Playground
- Macneil Park
- Martins Field Playground
- McLaughlin Playground
- Montbellier Park
- One Room School House Park
- Overlook Park
- P.S. 94 Admiral Playground
- P.S. 214 Colden Playground Patricia Barkley Park
- Patricia Brackley Park
- Phil Rizzuto Park
- Powell's Cove Park
- Ralph DeMarco Park
- Real Good Park
- Redfern Playground

- Rockaway Park
- Rosemary Playground
- Roy Wilkins Park
- Sandpiper Playground
- Socrates Sculpture Park
- Springfield Park
- Sunrise Playground
- Sy Seplowe Playground
- Tribute Park
- Upper Highland Park
- Wayanda Park
- Whitey Ford Field
- Windmuller Park

Staten Island

- Alice Austin House
- Arrochar Playground
- Bayview Terrace Park
- Blissenbach Marina
- Buono Beach
- Cedar Grove Park
- Clove Lakes Park
- Conference House Park
- Davis Playground
- DeMatti Playground
- Dongan Playground
- Faber Park and Pool
- Franklin D. Roosevelt South Beach
- Great Kills Park
- Last Chance Pond Park
- Lemon Creek Park
- Lyons Pool
- Mahoney Playground
- McDonald Playground
- Midland Field
- Midland Playground
- New Dorp Playground
- Ocean Breeze Park

- Seaside Wildlife Nature Park
- Schmul Park
- Silver Lake Park
- Tappen Park
- Tottenville Shore Park
- Veterans Park
- Walker Park
- Willowbrook Park
- Wolfe's Pond Park

Department of Parks and Recreation – Facilities

Bronx

- Aqueduct Walk – 183rd Street and Kingsbridge Road
- Hammond Cove Marina – 140 Reynolds Avenue
- Mosholu Parkway

Brooklyn

- Abe Stark Recreation Center – Coney Island Boardwalk and West 19th Street
- Coney Island Steeplechase Plaza
- Diamond Point Yacht Club
- Fresh Creek Preserve
- Greenpoint Kent Street Pier
- Hudson River Yacht Club
- Midget Squadron Marina
- Ocean Parkway Malls
- Paerdegat Athletic Center – 1510 Paerdegat Avenue North
- Paerdegat Squadron – 1350 Paerdegat Avenue North
- Red Hook Recreation Center – 155 Bay Street
- Sebago Canoe Club
- Sheepshead Bay Piers – 2010 Emmons Avenue

Manhattan

- 79th Street Boat Basin
- Al Smith Recreation Center – 80 Catherine Street
- Asser Levy Recreation Center – East 23rd Street and FDR Drive
- Inwood Hill Park: Nature Center
- Pier 42
- Stuyvesant Square

- The High Line
- Tony Dapolito Recreation Center – 3 Clarkson Street
- Veterans Plaza

Queens

- Bayside Marina – 28-05 Cross Island Parkway
- Clearview Golf Course – 202-12 Willets Point Boulevard
- McKenna Triangle
- Nassau Mall South
- Olmsted Center
- Queens Boulevard Mall
- Southside Burial Ground
- World's Fair Marina – 125-00 Northern Boulevard

Staten Island

- George M. Cromwell Recreation Center
- Greenbelt Nature Center – 700 Rockland Avenue
- Lemon Creek Fishing Pier: Parking Lot
- Lemon Creek Marina
- Lyons Pool
- New Springville Storehouse
- Stapleton Esplanade and Bikeway

Department of Parks and Recreation – Beaches

Brooklyn

- Coney Island Beach
- Manhattan Beach
- Shore Front Parkway Beach

Queens

- Howard Beach
- Rockaway Beach

Staten Island

- Buono Beach
- Cedar Grove Beach
- Crescent Beach
- Franklin D. Roosevelt South Beach
- New Dorp Beach

- Oakwood Beach
- Midland Beach
- South Beach

New York City Department of Sanitation Facilities

Bronx

- Bronx Borough Office – 800 East 176th Street
- Sanitation District Garage – 850 Zerega Avenue
- Sanitation District Garage – 1635 East 233rd Street

Brooklyn

- Greenpoint Warehouse – 447 North Henry Street
- Kent Avenue Salt Dome – 652 Kent Avenue
- Sanitation District Garage – 5602 19th Avenue
- Sanitation District Garage – 10502 Avenue D
- Sanitation District Garage – 5100 First Avenue
- Sanitation District Garage – 922 Georgia Avenue
- Sanitation District Garage – 465 Hamilton Avenue
- Sanitation District Garage – 525 Johnson Avenue
- Sanitation District Garage – 2501 Knapp Street
- Sanitation District Garage – 750 Milford Street
- Sanitation District Garage – 2012 Neptune Avenue
- Sanitation District Garage – 1755 Pacific Street
- Sanitation District Garage – 127 Second Avenue
- Sanitation District Garage – 1824 Shore Parkway
- Sanitation District Garage – 93 Van Brunt Street
- Sanitation District Garage – 161 Varick Avenue
- Sanitation Lot Cleaning Garage – 803 Forbell Street
- Sanitation Marine Transfer Station – 550 Hamilton Avenue

Manhattan

- 26th Street Borough Shop – 640 West 26th Street
- 44 Beaver – 44 Beaver Street
- Sanitation District Garage – 297 West Street
- Sanitation District Garage – 2 Bloomfield Street
- Sanitation District Garage – Pier 36, South Street
- Sanitation District Garage – 606 West 30th Street
- Sanitation District Garage – 343 East 99th Street

- Sanitation District Garage – 680 East 132nd Street
- Sanitation District Garage – 110 East 131st Street
- Sanitation District Garage – 301 West 215th Street
- Sanitation Marine Transfer Station – Pier 99, West 59th Street

Queens

- Queens Borough Repair Shop – 52-07 58th Street
- Salt Dome – 80-45 Winchester Boulevard
- Sanitation Vehicle Repair Shop – 52-35 58th Street
- Sanitation Marine Transfer Station – 120-15 31st Avenue
- Sanitation District Garage – 34-28 21st Street
- Sanitation District Garage – 48-01 58th Road
- Sanitation District Garage – 130-23 150th Avenue
- Sanitation District Garage – 51-10 Almeda Avenue
- Sanitation District Garage – 30-19 122nd Street
- Sanitation District Garage – 132-05 Atlantic Avenue
- Sanitation District Garage – 75-05 Douglaston Parkway
- Sanitation District Garage – 153-67 146th Avenue
- Sanitation District Garage – 58-73 53rd Avenue

Staten Island

- Fresh Kills Plant 1 – 2 Muldoon Avenue
- Sanitation District Garage – 2500 Richmond Avenue

New York City Fire Department Facilities

Brooklyn

- EMS Station 32 – 347 Bond Street
- EMS Station 43 – 2601 Ocean Parkway
- Engine Company 201 – 5113 Fourth Avenue
- Engine Company 202 – 31 Richards Street
- Engine Company 206 – 1201 Grand Street
- Engine Company 245 – 2929 West 8th Street
- Engine Company 246 – 2732 East 11th Street
- Engine Company 279 – 252 Lorraine Street
- Engine Company 309 – 1851 East 48th Street
- Engine Company 318 – 2510 Neptune Avenue
- Fleet Spare Rigs Firehouse – 57 Paidge Avenue

- Marine Company 3 – 2001 Oriental Avenue
- Marine Company 6

Manhattan

- EMS Station 4 – Pier 36
- EMS Station 7 – 512 West 23rd Street
- EMS Station 8 – 435 East 26th Street
- EMS Station 10 – 1918 First Avenue
- Engine Company 4 – 42 South Street
- Governors Island Firehouse – Governors Island
- Marine Company 1 – West 13th Street Pier

Queens

- Engine Company 265 – 48-06 Rockaway Beach Boulevard
- Engine Company 266 – 92-20 Rockaway Beach Boulevard
- Engine Company 268 – 257 Beach 116th Street
- Engine Company 329 – 402 Beach 169th Street
- Engine Company 331 – 158-57 Cross Bay Boulevard
- Fort Totten Firehouse

Staten Island

- Engine Company 153 – 74 Broad Street
- Marine Company 8 – 180 Mansion Avenue
- Marine Company 9 – 487 Front Street

New York City Police Department Facilities

Bronx

- Rodman's Neck Bomb Squad and Outdoor Range – 1 Rodman's Neck Road

Brooklyn

- 60th Precinct Stationhouse – 2951 West 8th Street
- Brooklyn North Tow Pound at the Brooklyn Navy Yard
- Coast Guard Hangar at Floyd Bennett Field
- Erie Basin Auto Pound – 700 Columbia Street
- Front Street Property Clerk Warehouse – 11 Front Street
- Harbor Charlie Boat Dock – 140 58th Street Pier 1
- Kingsland Property Clerk Warehouse – 540 Kingsland Avenue
- Mounted Troop E Stationhouse – 2815 Brighton 3rd Street

- Police Service Area 1 Stationhouse – 2860 West 23rd Street
- Transit District 34 Stationhouse – 2869 Stillwell Avenue

Manhattan

- 130 Cedar Street Stationhouse – 130 Cedar Street
- Harbor Launch Repair Shop – Randall's Island
- Police Service Area 4 Stationhouse – 130 Avenue C
- One Police Plaza Headquarters – 1 Police Plaza
- Pier 36 Manhattan South Command Stationhouse
- Pier 76 Mounted Unit Stationhouse/Tow Pound/Service Shop 8 – West 38th Street and 12th Avenue

Queens

- 100th Precinct Stationhouse – 92-24 Rockaway Beach Boulevard
- Harbor George Boat Dock – 14th Avenue
- Pearson Place Property Clerk – 47-15 Pearson Place
- Transit District 23 Stationhouse – 222 Beach 116th Street

Staten Island

- Traffic Division Facility Stationhouse – 1893 Richmond Terrace

Buildings for the General Conduct of Government

Bronx

- Bronx Family/Criminal Courthouse – 215 East 161st Street
- Bronx County Courthouse – 851 Grand Concourse
- Bronx Hall of Justice – 265 East 161st Street
- Housing Courthouse – 1118 Grand Concourse

Brooklyn

- Brooklyn Appellate Courthouse – 45 Monroe Place
- Brooklyn Borough Hall – 209 Joralemon Street
- Brooklyn Municipal Building – 210 Joralemon Street
- Brooklyn Supreme Courthouse – 360 Adams Street
- Building 50 – 334 Furman Street
- Bush Terminal Administration Building – 1 43rd Street
- DCAS Repair Shop – 390 Kent Avenue
- DEP Building – 99 Plymouth Street

Manhattan

- City Hall – City Hall Park
- City Planning – 22 Reade Street

- Civil Courthouse – 111 Centre Street
- Court Square Building – 2 Lafayette Street
- Criminal Courthouse – 100 Centre Street
- DOT Administrative Office – 55 Water Street
- HHC Corporate Offices – 160 Water Street
- Manhattan Municipal Building – 1 Centre Street
- Youth Court – 88 Visitation Place

Queens

- DCAS Central Storehouse – 66-26 Metropolitan Avenue
- Long Island City Courthouse – 25-10 Court Street
- Queens Borough Hall – 120-55 Queens Boulevard
- Queens Civil Courthouse – 89-17 Sutphin Avenue
- Queens Criminal Courthouse – 125-01 Queens Boulevard
- Queens Supreme Courthouse – 88-11 Sutphin Boulevard

Staten Island

- Staten Island Borough Hall – 10 Richmond Terrace
- Staten Island Family Court – 100 Richmond Terrace

Public Facilities

Bronx

- 1918 Arthur Avenue
- 355 Food Center Drive – 355 Food Center Drive
- 600 Food Center Drive – 600 Hunts Point Avenue
- Concourse Plaza – 198 East 161st Street
- Fulton Fish Market – 800 Food Center Drive
- Hunts Point Food Distribution Center – 410 Halleck Street
- Kingsbridge Armory – 27 West Kingsbridge Road
- Locusts Point Civil Association – 3300 Tierney Place
- New York City Terminal Market – 37 Terminal Market Street
- St. Francis de Chantal Shelter – 190 Hollywood Avenue
- Yankee Stadium Ferry Landing

Brooklyn

- 345 Adams Street
- Brooklyn Cruise Terminal – 2 Atlantic Basin
- Bush Terminal Building C – 102 41st Avenue
- Bush Terminal Building G – 5102 First Avenue

- Bush Terminal Building 39 – 5102 First Avenue
- Bush Terminal Building 45 – 5102 First Avenue
- Bush Terminal Building 57 – 5102 First Avenue
- Bush Terminal Building 58 – 5102 First Avenue
- Coney Island Amusement Park
- Ferry Landing – 9 Water Street
- Lowes King Theater – 1027 Flatbush Avenue
- Mill Basin Waterfront Marine Facility
- Moore McCormick Building – 740 3rd Avenue
- South Brooklyn Marine Terminal
- Theater for a New Audience – 19 Lafayette Avenue

Manhattan

- 109 South Street
- 110 Williams Street
- Battery Maritime Building
- Clock Tower Building – 346 Broadway
- Downtown Manhattan Heliport
- East 34th Street Ferry Landing
- East 34th Street Heliport – 499 East 34th Street
- East 90th Street Ferry Landing – 97 East End Avenue
- East River Ferry Landing – 2850 East River Drive
- Essex Street Building C – 116 Delancey Street
- Excelsior Building – 137 Centre Street
- Harlem Community Justice Center – 170 East 121st Street
- Health Building – 125 Worth Street
- Highline – 820 Washington Street
- Home Life Building – 253 Broadway
- Manhattan Cruise Terminal
- New Market Building – 95 Marginal Street
- New York City Police Museum – 100 Old Slip
- Pier 11 Ferry Landing – Pier 11 South Street
- Pier 15 East River
- Pier 16 Museum
- Pier 35 East River Park and Marine Facility – 270 South Street
- Pier 42 East River
- Pier 79 Ferry Landing
- Sky Port Marine Terminal and Airport – 2430 FDR Drive East Service Road

- Stuyvesant Cove Park
- Sun Building – 280 Broadway
- Tin Building – 16 Fulton Street
- Water Club Restaurant – 2850 East River Drive

Staten Island

- 130 Stuyvesant Place
- Homeport Building 2 and Pier – 455 Front Street
- Pier 1 at Lighthouse Plaza – 15 Bay Street
- Staten Island Cultural Center Building 11 – 5 Bay Street
- Staten Island Minor League Stadium – 75 Richmond Terrace
- Staten Island September 11th Memorial – 75 Richmond Terrace

Homeless Shelters

Bronx

- Powers Residence – 346 Powers Avenue
- Prevention Assistance and Temporary Housing – 151 East 151st Street

Brooklyn

- Auburn Residence – 39 Auburn Place
- Barbra Kleiman Residence – 300 Skillman Avenue
- Kingsboro Homeless Shelter – 681 Clarkson Avenue
- Pamoja House – 357 Marcus Garvey Boulevard

Manhattan

- Bellevue Shelter – 500 First Avenue
- George Daly House – 269 East 4th Street
- LIFE Family Residence – 78 Catherine Street
- Regent Family Residence – 2720 Broadway
- Shwartz Residence – 1 Wards Island
- Urban Family Center – 130 Baruch Place

Queens

- Borden Avenue Veterans Residence – 2110 Borden Avenue
- Flatlands Homeless Shelter – 108-75 Avenue D
- Jamaica Family Residence – 175-10 88th Avenue

Department of Correction Facilities

Bronx

- Vernon C. Bain Center, 1 Halleck Street

Queens

- Anna M. Kross Center – 1818 Hazen Street
- Rikers Island, north shoreline

Industrial Sites

Brooklyn

- Brooklyn Army Terminal
- Brooklyn Navy Yard

Health and Hospitals Facilities

Bronx

- Jacobi Medical Center – 1401 Pelham Parkway South

Brooklyn

- Coney Island Hospital – 2602 Ocean Parkway
- Ida G. Israel Community Health Center – 2201 Neptune Avenue
- Kings County Hospital – 451 Clarkson Avenue

Manhattan

- Bellevue Hospital – 464 First Avenue
- Coler Hospital – 901 Main Street
- Gouverneur Roberto Clemente Center – 540 East 13th Street
- Harlem Hospital – 506 Lenox Avenue
- Metropolitan Hospital – 1902 First Avenue

Queens

- Elmhurst Hospital – 209 Beach 125th Street
- Queens Hospital – 82-68 164th Street

Department of Transportation Facilities

Bronx

- 3200 Conner Street

Brooklyn

- Asphalt Plant – 448 Hamilton Avenue
- Pulaski Yard – 130 Clay Street
- Warehouse – 75 South Street
- Workshop – 352 Kent Avenue
- Workshop – 372 Kent Avenue
- 140 58th Street
- 75 20th Street

Manhattan

- Sherman Yard – 301 West 203rd Street
- Whitehall Ferry Terminal – 4 South Street
- Workshop – 300 West 206th Street
- Workshop and Yard – 301 West 205th Street

Queens

- Depot North – 32-11 Harper Street

Staten Island

- St. George Ferry Terminal – 1 Bay Street
- Warehouse – 34 Wave Street
- 3551 Richmond Terrace

Department of Transportation - Bridges

Bronx

- Eastern Boulevard Bridge
- Hutchinson River Bridge
- Pelham Bay Bridge
- Third Avenue Bridge
- Unionport Bridge
- Willis Avenue Bridge

Brooklyn

- Belt Parkway Bridge
- Carroll Street Bridge
- Grand Street Bridge
- Greenpoint Avenue Bridge
- Metropolitan Avenue Bridge
- Ninth Street Bridge

- Third Street Bridge
- Union Street Bridge

Manhattan

- 145th Street Bridge
- 207th Street Bridge
- Battery and West Street Underpass
- Broadway Bridge
- Macombs Dam Bridge
- Madison Avenue Bridge

Queens

- Pulaski Bridge

Cultural Facilities

Brooklyn

- Coney Island USA - 1208 Surf Avenue
- New York Aquarium - 602 Surf Avenue
- Smack Mellon - 92 Plymouth Street

Manhattan

- Eyebeam Atelier - 540 West 21st Street
- New York City Police Museum - 100 Old Slip

Staten Island

- Snug Harbor Cultural Center and Botanical Gardens - 914 Richmond Terrace
- Staten Island Historical Society - 441 Clarke Avenue

Libraries

Brooklyn Public Library

- Brighton Beach - 16 Brighton First Road
- Coney Island - 1901 Mermaid Avenue
- Gerritsen Beach - 2808 Gerritsen Avenue
- Gravesend - 303 Avenue X
- Red Hook - 7 Wolcott Street
- Sheepshead Bay - 2636 East 14th Street

New York Public Library:

- Stapleton - 132 Canal Street, Staten Island

Queens Public Library

- Arverne - 312 Beach 54th Street
- Broad Channel - 16-26 Cross Bay Boulevard
- Far Rockaway - 1637 Central Avenue
- Howard Beach - 92-06 156th Avenue
- Peninsula - 92-25 Rockaway Beach Boulevard
- Seaside - 116-15 Rockaway Beach Boulevard

Streets and Sidewalks

Please note that the list of damaged streets and sidewalks consists of several hundred sites and is too long to include in this document. The City will provide the locations of any and street and sidewalk work performed with CDBG-DR funds in its Quarterly Performance Reports.

Appendix B: Damaged New York City Housing Authority (NYCHA) Properties

New York City Housing Authority Developments

Brooklyn

- Carey Gardens – 2946 West 23rd Street
- Coney Island – 3025 West 32nd Street
- Gowanus – 175 Hoyt Street
- Gravesend – 3225 Neptune Avenue
- Haber – 3058 West 24th Street
- Ingersoll – 102 Monument Walk
- Marlboro – 29 Avenue W
- Nostrand – 2241 Batchelder Street
- O'Dwyer Gardens – 2975 West 33rd Street
- Red Hook East – 604 Clinton Street
- Red Hook West – 6 Wolcott Street
- Surfside Gardens – 2960 West 31st Street

Manhattan

- 335 East 111th Street
- Baruch – 605 Franklin D. Roosevelt Drive
- Campos Plaza I – 635 East 12th Street
- Campos Plaza II – 643 East 13th Street
- Clinton – 1505 Park Avenue
- Dyckman – 177 Nagel Avenue
- East 120th Street
- East River – 410 East 105th Street
- Elliott – 288 10th Avenue
- Harlem River – 225 West 152nd Street
- Harlem River II – 2850 Frederick Douglass Boulevard
- Holmes Towers – 405 East 92nd Street
- Isaacs – 419 East 93rd Street
- Jefferson – 310 East 115th Street
- La Guardia – 45 Rutgers Street
- Lavanburg Homes – 126 Baruch Place
- Lincoln – 60 East 135th Street
- Lower East Side I – 175 Eldridge Street
- Lower East Side II – 637 East 5th Street
- Lower East Side III – 373 East 8th Street

- Metro North Plaza – 307 East 101st Street
- Polo Grounds Towers – 2931 Frederick Douglass Boulevard
- Rangel – 159-14 Harlem River Drive
- Riis – 152 Avenue D
- Riis II – 765 Franklin D. Roosevelt Drive
- Smith – 20 Catherine Slip
- Two Bridges – 286 South Street
- Wagner – 90 Paladino Avenue
- Wald – 10 Avenue D
- Washington – 1761 Third Avenue
- White – 2029 Second Avenue
- Wilson – 405 East 105th Street

Queens

- Astoria – 4-21 Astoria Boulevard
- Beach 41st Street – 40-20 Beach Channel Drive
- Carleton Manor – 71-15 Beach Channel Drive
- Hammel – 85-02 Rockaway Beach Boulevard
- Ocean Bay Apartments (Bayside) – 54-81 Almeda Avenue
- Ocean Bay Apartments (Oceanside) – 306 Beach 56th Street
- Queensbridge South – 41-01 12th Street
- Redfern – 14-60 Beach Channel Drive

Staten Island

- New Lane Area – 70 New Lane

New York City Housing Authority Single- and Multi-Family Houses

Bronx

- 444 Torry Avenue

Queens

- 143-03 105th Avenue
- 109-40 176th Street
- 104-06 Farmers Boulevard
- 187-24 Keeseville Avenue
- 202-06 116th Avenue
- 213-24 Nashville Boulevard
- 150-36 116th Road

- 118-03 204th Street
- 137-22 Westgate Street
- 100-40 202nd Street
- 104-33 203rd Street
- 110-26 216th Street
- 114-69 145th Street
- 148-13 Sutter Avenue
- 133-17 149th Street
- 132-33 218th Street
- 132-19 Bennett Court
- 194-17 114th Drive
- 115-21 200th Street
- 114-11 130th Street
- 138-11 Linden Boulevard
- 114-18 Inwood Street
- 130-34 147th Street
- 114-22 166th Street
- 117-22 133rd Street
- 218-34 119th Avenue
- 178-14 Baisley Boulevard
- 1502 Beach 12th Street
- 1504 Beach 12th Street
- 126-01 116th Avenue
- 110-16 207th Street
- 133-11 148th Street
- 105-11 171st Place
- 111-33 207th Street
- 113-14 196th Street
- 215-32 112th Avenue
- 171-28 111th Avenue
- 114-42 139th Street
- 223-20 Francis Lewis Boulevard
- 129-04 142nd Street
- 174-16 111th Avenue
- 217-09 110th Avenue
- 111-37 144th Street
- 119-55 177th Street
- 188-56 120th Road

- 121-28 Benton Street
- 191-18 120th Avenue
- 104-10 212th Street
- 112-22 198th Street
- 214-15 Hollis Avenue
- 131-27 135th Place
- 114-54 Inwood Street
- 114-34 146th Street
- 111-46 156th Street
- 117-17 204th Street
- 136-15 221st Street
- 145-12 229th Street
- 231 Fernside Place
- 142-21 129th Avenue
- 94-29 211th Street
- 193-10 Woodhull Avenue
- 109-16 210th Street
- 110-05 – 225th Street
- 239 Fernside Place
- 138-20 102nd Avenue
- 111-27 207th Street
- 153 Beach 59th Street

Appendix C: Borough Inundation Area Charts

Demographic and Housing Profile
Hurricane Sandy Operational Inundation Area*
Bronx, 2010 Census

	Bronx			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Population	40,992	100.0	1,385,108	100.0
Under 5 years	1,783	4.3	103,144	7.4
5 to 17 years	5,059	12.3	265,052	19.1
18 to 34 years	12,855	31.4	364,864	26.3
35 to 44 years	5,862	14.3	187,089	13.5
45 to 54 years	5,788	14.1	185,598	13.4
55 to 64 years	4,035	9.8	133,479	9.6
65 years and over	5,610	13.7	145,882	10.5
In Households	27,912	68.1	1,338,398	96.6
In Group Quarters	13,080	31.9	46,710	3.4
In Group Quarters	13,080	100.0	46,710	100.0
Institutionalized	11,190	85.6	25,437	54.5
Correctional Facilities for Adults	9,482	72.5	12,076	25.9
Juvenile Facilities	0	0.0	442	0.9
Nursing Facilities	1,038	7.9	11,734	25.1
Other Institutionalized	670	5.1	1,185	2.5
Non-institutionalized	1,890	14.4	21,273	45.5
College/University Housing	1,221	9.3	6,418	13.7
Military Quarters	0	0.0	0	0.0
Other Non-institutionalized	669	5.1	14,855	31.8
Housing Units	12,460	100.0	511,896	100.0
Occupied Housing Units	11,398	91.5	483,449	94.4
Occupied Housing Units	11,398	100.0	483,449	100.0
Renter Occupied	6,194	54.3	390,348	80.7
Owner Occupied	5,204	45.7	93,101	19.3
Average Household Size		2.45		2.77

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Ratio of Income to Poverty Level in the Past 12 Months for Persons for Whom Poverty Status is Determined
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Inundation Area in Bronx*

	Bronx			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
Persons for whom poverty status is determined	39,530	100.0	1,346,239	100.0
Under 1.00 (Below poverty threshold)	7,382	18.7	382,026	28.4
Under .50 (Extreme poverty)	3,784	9.6	170,169	12.6
.50 to .99	3,598	9.1	211,857	15.7
1.00 to 1.24 (Near poor)	1,938	4.9	90,285	6.7
1.25 to 1.49	1,818	4.6	81,624	6.1
1.50 to 1.84	2,263	5.7	102,725	7.6
1.85 to 1.99	751	1.9	40,287	3.0
2.00 and over	25,379	64.2	649,292	48.2

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Note: While population data were available for the Hurricane Operational Inundation Area, poverty data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the poverty data were applied to the population for whom poverty was determined (the poverty universe) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. It should also be noted that the poverty universe for each borough was determined by taking the ratio of the poverty universe to the overall population, according to the 2006-2010 American Community Survey, and applying it to the overall population according to the 2010 Census. For consistency of comparison, the same process was used to produce overall city and borough estimates.

	Bronx Inundation Area									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	5463	100.0%	56,801,959	100.0%	18,888,026	100.0%	23,599	100.0%	5,622	100.0%
One & Two Family Buildings	3325	60.9%	6,440,675	11.3%	6,440,675	34.1%	5,449	23.1%	4,825	85.8%
Multi - Family Walk- Up Buildings	338	6.2%	2,117,207	3.7%	2,110,217	11.2%	2,172	9.2%	531	9.4%
Multi - Family Elevator Buildings	18	0.3%	8,035,615	14.1%	7,872,262	41.7%	6,616	28.0%	52	0.9%
Mixed Residential and Commercial Buildings	98	1.8%	2,866,530	5.0%	2,419,966	12.8%	9,353	39.6%	197	3.5%
Commercial and Office Buildings	139	2.5%	6,061,173	10.7%	1,430	0.0%	-	0.0%	-	0.0%
Industrial and Manufacturing	313	5.7%	12,306,165	21.7%	4,427	0.0%	3	0.0%	5	0.1%
Transportation and Utility	191	3.5%	2,041,868	3.6%	4,750	0.0%	2	0.0%	6	0.1%
Public Facilities and Institutions	67	1.2%	12,275,301	21.6%	29,719	0.2%	1	0.0%	2	0.0%
Open Space and Outdoor Recreation	176	3.2%	1,370,426	2.4%	4,580	0.0%	2	0.0%	3	0.1%
Parking Facilities	137	2.5%	1,312,886	2.3%	-	0.0%	-	0.0%	-	0.0%
Vacant Land	473	8.7%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
No Data	188	3.4%	1,974,113	3.5%	-	0.0%	1	0.0%	1	0.0%

	Bronx Borough									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	89,808	100.0%	703,917,768	100.0%	512,464,486	100.0%	557,556	100.0%	87,891	100.0%
One & Two Family Buildings	51,556	57.4%	108,598,531	15.4%	108,597,123	21.2%	82,067	14.7%	59,604	67.8%
Multi - Family Walk- Up Buildings	17,399	19.4%	126,294,280	17.9%	126,066,279	24.6%	136,423	24.5%	20,519	23.3%
Multi - Family Elevator Buildings	2,023	2.3%	200,495,364	28.5%	197,293,123	38.5%	233,963	42.0%	2,806	3.2%
Mixed Residential and Commercial Buildings	3,720	4.1%	89,650,340	12.7%	78,618,788	15.3%	99,416	17.8%	4,624	5.3%
Commercial and Office Buildings	3,093	3.4%	38,863,971	5.5%	212,688	0.0%	161	0.0%	92	0.1%
Industrial and Manufacturing	1,393	1.6%	30,108,827	4.3%	28,434	0.0%	25	0.0%	26	0.0%
Transportation and Utility	1,093	1.2%	5,867,880	0.8%	26,704	0.0%	35	0.0%	27	0.0%
Public Facilities and Institutions	1,860	2.1%	87,681,225	12.5%	1,356,280	0.3%	5,384	1.0%	177	0.2%
Open Space and Outdoor Recreation	678	0.8%	5,800,423	0.8%	208,130	0.0%	3	0.0%	4	0.0%
Parking Facilities	2,207	2.5%	8,383,945	1.2%	41,302	0.0%	76	0.0%	7	0.0%
Vacant Land	4,153	4.6%	11,019	0.0%	11,019	0.0%	-	0.0%	-	0.0%
No Data	633	0.7%	2,161,963	0.3%	4,616	0.0%	3	0.0%	5	0.0%

*Inundation areas are derived from a surge hindcast created by FEMA MOTF using surge modeling and observed data. The hindcast uses a 3 ft. elevation model.

For this analysis, a lot is included if any part of the lot is in the inundation area, except for *Total Residential Buildings*. For *Total Residential Buildings*, all lots that were wholly in the Operational Inundation Area, or had the majority of their housing in the Operational Inundation Area, were included.

Selected Housing Characteristics
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Impact Area in Bronx*

	Bronx			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
UNITS IN STRUCTURE (PLUTO distribution applied to 2010 Census control)				
Total housing units	12,460	100.0	511,896	100.0
One & Two Family Buildings	5,493	44.1	75,346	14.7
Multi - Family Walk- Up Buildings	2,023	16.2	125,251	24.5
Multi - Family Elevator Buildings	2,381	19.1	214,803	42.0
Mixed Residential and Commercial Buildings	2,555	20.5	91,275	17.8
Other	8	0.1	5,221	1.0
YEAR STRUCTURE BUILT (PLUTO distribution applied to 2010 Census control)				
Total housing units	12,460	100.0	511,896	100.0
Built 2000 or later	1,419	11.4	31,008	6.1
Built 1990 to 1999	547	4.4	11,954	2.3
Built 1980 to 1989	743	6.0	7,699	1.5
Built 1970 to 1979	2,151	17.3	26,667	5.2
Built 1960 to 1969	2,223	17.8	67,409	13.2
Built 1950 to 1959	1,076	8.6	74,944	14.6
Built 1940 to 1949	460	3.7	41,624	8.1
Built 1930 to 1939	747	6.0	55,298	10.8
Built 1920 to 1929	2,342	18.8	137,995	27.0
Built 1910 to 1919	343	2.8	36,000	7.0
Built 1900 to 1909	227	1.8	16,238	3.2
Built Before 1900	79	0.6	2,895	0.6
Unknown	103	0.8	2,166	0.4
ROOMS (ACS distribution applied to 2010 Census control)				
Total housing units	12,460	100.0	511,896	100.0
1 room	423	3.4	21,146	4.1
2 rooms	463	3.7	17,869	3.5
3 rooms	2,333	18.7	152,849	29.9
4 rooms	3,074	24.7	151,916	29.7
5 rooms	2,691	21.6	92,684	18.1
6 rooms	1,774	14.2	42,507	8.3
7 rooms	835	6.7	13,357	2.6
8 rooms	302	2.4	7,983	1.6
9 rooms or more	565	4.5	11,584	2.3
VEHICLES AVAILABLE (ACS distribution applied to 2010 Census control)				
Occupied housing units	11,398	100.0	483,449	100.0
No vehicles available	3,776	33.1	284,422	58.8
1 vehicle available	4,497	39.5	147,423	30.5
2 vehicles available	2,356	20.7	41,503	8.6
3 or more vehicles available	769	6.7	10,102	2.1
TELEPHONE SERVICE (ACS distribution applied to 2010 Census control)				
No telephone service available (excluding cell phones)	304	2.7	28,599	5.9

	Bronx			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
HOUSE HEATING FUEL (ACS distribution applied to 2010 Census control)				
Occupied housing units	11,398	100.0	483,449	100.0
Utility gas	6,424	56.4	149,133	30.8
Bottled, tank, or LP gas	201	1.8	5,574	1.2
Electricity	1,107	9.7	35,634	7.4
Fuel oil, kerosene, etc.	3,541	31.1	283,040	58.5
Coal or coke	1	0.0	652	0.1
Wood	37	0.3	235	0.0
Solar energy	2	0.0	101	0.0
Other fuel	49	0.4	4,619	1.0
No fuel used	36	0.3	4,461	0.9
VALUE (ACS distribution applied to 2010 Census control)				
Owner-occupied units	5,204	100.0	93,101	100.0
Less than $50,000	111	2.1	7,038	7.6
$50,000 to $99,999	129	2.5	5,952	6.4
$100,000 to $149,999	150	2.9	4,982	5.4
$150,000 to $199,999	114	2.2	4,314	4.6
$200,000 to $299,999	554	10.6	9,212	9.9
$300,000 to $499,999	2,145	41.2	38,592	41.5
$500,000 to $999,999	1,782	34.2	21,445	23.0
$1,000,000 or more	220	4.2	1,566	1.7
GROSS RENT (ACS distribution applied to 2010 Census control)				
Occupied units paying rent	6,047	100.0	382,135	100.0
Less than $200	140	2.3	10,329	2.7
$200 to $299	285	4.7	25,990	6.8
$300 to $499	546	9.0	32,142	8.4
$500 to $749	778	12.9	55,576	14.5
$750 to $999	1,081	17.9	101,213	26.5
$1,000 to $1,499	2,029	33.6	124,125	32.5
$1,500 or more	1,188	19.7	32,760	8.6
No rent paid	147		8,213	
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) (ACS distribution applied to 2010 Census control)				
Occupied units paying rent (excluding units where GRAPI cannot be computed)	5,961	100.0	375,282	100.0
Less than 15.0 percent	873	14.6	42,594	11.3
15.0 to 19.9 percent	595	10.0	40,297	10.7
20.0 to 24.9 percent	752	12.6	42,898	11.4
25.0 to 29.9 percent	623	10.5	42,403	11.3
30.0 to 34.9 percent	444	7.5	33,009	8.8
35.0 percent or more	2,673	44.8	174,081	46.4
Not computed	233		15,066	

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.
Note: While general housing data were available for the Hurricane Operational Inundation Area, more detailed housing data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the detailed housing data were applied to the general housing data (housing units, occupied housing units, owner occupied housing units, and renter occupied housing units) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. For consistency of comparison, the same process was used to produce overall city and borough estimates.

Demographic and Housing Profile
Hurricane Sandy Operational Inundation Area*
Brooklyn, 2010 Census

	Brooklyn			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Population	310,227	100.0	2,504,700	100.0
Under 5 years	17,305	5.6	177,198	7.1
5 to 17 years	44,654	14.4	417,180	16.7
18 to 34 years	72,525	23.4	690,955	27.6
35 to 44 years	40,077	12.9	341,545	13.6
45 to 54 years	43,230	13.9	324,177	12.9
55 to 64 years	41,512	13.4	266,012	10.6
65 years and over	50,924	16.4	287,633	11.5
In Households	304,209	98.1	2,469,091	98.6
In Group Quarters	6,018	1.9	35,609	1.4
In Group Quarters	6,018	100.0	35,609	100.0
Institutionalized	4,720	78.4	13,297	37.3
Correctional Facilities for Adults	2,089	34.7	2,353	6.6
Juvenile Facilities	12	0.2	372	1.0
Nursing Facilities	2,611	43.4	9,461	26.6
Other Institutionalized	8	0.1	1,111	3.1
Non-institutionalized	1,298	21.6	22,312	62.7
College/University Housing	0	0.0	4,527	12.7
Military Quarters	0	0.0	13	0.0
Other Non-institutionalized	1,298	21.6	17,772	49.9
Housing Units	134,267	100.0	1,000,293	100.0
Occupied Housing Units	122,587	91.3	916,856	91.7
Occupied Housing Units	122,587	100.0	916,856	100.0
Renter Occupied	76,595	62.5	662,615	72.3
Owner Occupied	45,992	37.5	254,241	27.7
Average Household Size		2.48		2.69

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Ratio of Income to Poverty Level in the Past 12 Months for Persons for Whom Poverty Status is Determined
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Inundation Area in Brooklyn*

	Brooklyn			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
Persons for whom poverty status is determined	308,721	100.0	2,482,660	100.0
Under 1.00 (Below poverty threshold)	52,913	17.1	546,712	22.0
Under .50 (Extreme poverty)	20,329	6.6	250,025	10.1
.50 to .99	32,585	10.6	296,686	12.0
1.00 to 1.24 (Near poor)	14,223	4.6	137,586	5.5
1.25 to 1.49	16,189	5.2	138,041	5.6
1.50 to 1.84	19,088	6.2	174,877	7.0
1.85 to 1.99	8,441	2.7	69,704	2.8
2.00 and over	197,867	64.1	1,415,741	57.0

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Note: While population data were available for the Hurricane Operational Inundation Area, poverty data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the poverty data were applied to the population for whom poverty was determined (the poverty universe) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. It should also be noted that the poverty universe for each borough was determined by taking the ratio of the poverty universe to the overall population, according to the 2006-2010 American Community Survey, and applying it to the overall population according to the 2010 Census. For consistency of comparison, the same process was used to produce overall city and borough estimates.

	Brooklyn Inundation Area									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	39,440	100.0%	254,545,914	100.0%	136,607,108	100.0%	129,930	100.0%	38,123	100.0%
One & Two Family Buildings	26,229	66.5%	51,509,476	20.2%	51,507,280	37.7%	40,582	31.2%	29,001	76.1%
Multi - Family Walk- Up Buildings	5,321	13.5%	22,050,471	8.7%	21,944,484	16.1%	23,820	18.3%	6,514	17.1%
Multi - Family Elevator Buildings	342	0.9%	49,316,923	19.4%	48,925,042	35.8%	50,807	39.1%	608	1.6%
Mixed Residential and Commercial Buildings	1,466	3.7%	17,286,653	6.8%	13,560,971	9.9%	13,828	10.6%	1,859	4.9%
Commercial and Office Buildings	970	2.5%	13,409,847	5.3%	219,991	0.2%	420	0.3%	85	0.2%
Industrial and Manufacturing	1,103	2.8%	32,424,462	12.7%	48,005	0.0%	128	0.1%	37	0.1%
Transportation and Utility	392	1.0%	23,338,307	9.2%	27,999	0.0%	6	0.0%	7	0.0%
Public Facilities and Institutions	379	1.0%	39,629,874	15.6%	368,336	0.3%	330	0.3%	10	0.0%
Open Space and Outdoor Recreation	276	0.7%	3,045,129	1.2%	-	0.0%	8	0.0%	1	0.0%
Parking Facilities	713	1.8%	1,621,173	0.6%	-	0.0%	-	0.0%	-	0.0%
Vacant Land	1,805	4.6%	8,520	0.0%	-	0.0%	-	0.0%	-	0.0%
No Data	444	1.1%	905,079	0.4%	5,000	0.0%	1	0.0%	1	0.0%

	Brooklyn Borough									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	277,998	100.0%	1,417,804,978	100.0%	1,018,023,744	100.0%	992,121	100.0%	291,706	100.0%
One & Two Family Buildings	156,789	56.4%	341,275,443	24.1%	341,248,225	33.5%	252,591	25.5%	188,823	64.7%
Multi - Family Walk- Up Buildings	63,714	22.9%	309,220,223	21.8%	307,542,671	30.2%	333,512	33.6%	72,716	24.9%
Multi - Family Elevator Buildings	2,952	1.1%	255,779,519	18.0%	252,346,387	24.8%	279,757	28.2%	4,010	1.4%
Mixed Residential and Commercial Buildings	21,909	7.9%	148,097,043	10.4%	109,259,931	10.7%	117,968	11.9%	24,911	8.5%
Commercial and Office Buildings	6,927	2.5%	77,379,417	5.5%	1,346,574	0.1%	1,761	0.2%	615	0.2%
Industrial and Manufacturing	5,075	1.8%	89,963,717	6.3%	666,539	0.1%	616	0.1%	189	0.1%
Transportation and Utility	2,009	0.7%	30,105,011	2.1%	112,915	0.0%	62	0.0%	64	0.0%
Public Facilities and Institutions	4,167	1.5%	150,675,569	10.6%	4,807,329	0.5%	5,824	0.6%	372	0.1%
Open Space and Outdoor Recreation	863	0.3%	5,369,289	0.4%	569,541	0.1%	17	0.0%	2	0.0%
Parking Facilities	4,054	1.5%	8,559,711	0.6%	17,528	0.0%	11	0.0%	2	0.0%
Vacant Land	7,828	2.8%	122,316	0.0%	73,743	0.0%	-	0.0%	-	0.0%
No Data	1,711	0.6%	1,257,720	0.1%	32,361	0.0%	2	0.0%	2	0.0%

*Inundation areas are derived from a surge hindcast created by FEMA MOTF using surge modeling and observed data. The hindcast uses a 3 ft. elevation model.

For this analysis, a lot is included if any part of the lot is in the inundation area, except for *Total Residential Buildings*. For *Total Residential Buildings*, all lots that were wholly in the Operational Inundation Area, or had the majority of their housing in the Operational Inundation Area, were included.

Selected Housing Characteristics
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Impact Area in Brooklyn*

	Brooklyn			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
UNITS IN STRUCTURE (PLUTO distribution applied to 2010 Census control)				
Total housing units	134,267	100.0	1,000,293	100.0
One & Two Family Buildings	43,740	32.6	254,672	25.5
Multi - Family Walk- Up Buildings	24,998	18.6	336,259	33.6
Multi - Family Elevator Buildings	50,373	37.5	282,061	28.2
Mixed Residential and Commercial Buildings	14,318	10.7	118,940	11.9
Other	839	0.6	8,361	0.8
YEAR STRUCTURE BUILT (PLUTO distribution applied to 2010 Census control)				
Total housing units	134,267	100.0	1,000,293	100.0
Built 2000 or later	9,155	6.8	67,280	6.7
Built 1990 to 1999	1,414	1.1	17,190	1.7
Built 1980 to 1989	3,482	2.6	16,073	1.6
Built 1970 to 1979	6,635	4.9	35,494	3.5
Built 1960 to 1969	38,465	28.6	92,739	9.3
Built 1950 to 1959	23,762	17.7	78,507	7.8
Built 1940 to 1949	8,041	6.0	42,592	4.3
Built 1930 to 1939	19,716	14.7	212,324	21.2
Built 1920 to 1929	16,628	12.4	216,396	21.6
Built 1910 to 1919	2,199	1.6	93,876	9.4
Built 1900 to 1909	2,078	1.5	73,900	7.4
Built Before 1900	1,782	1.3	46,917	4.7
Unknown	910	0.7	7,006	0.7
ROOMS (ACS distribution applied to 2010 Census control)				
Total housing units	134,267	100.0	1,000,293	100.0
1 room	5,440	4.1	48,036	4.8
2 rooms	11,342	8.4	57,380	5.7
3 rooms	27,725	20.6	229,555	22.9
4 rooms	37,657	28.0	271,735	27.2
5 rooms	23,440	17.5	182,110	18.2
6 rooms	14,124	10.5	97,216	9.7
7 rooms	5,902	4.4	41,111	4.1
8 rooms	3,326	2.5	24,694	2.5
9 rooms or more	5,311	4.0	48,455	4.8
VEHICLES AVAILABLE (ACS distribution applied to 2010 Census control)				
Occupied housing units	122,587	100.0	916,856	100.0
No vehicles available	58,256	47.5	517,601	56.5
1 vehicle available	46,252	37.7	302,126	33.0
2 vehicles available	14,416	11.8	79,706	8.7
3 or more vehicles available	3,664	3.0	17,422	1.9
TELEPHONE SERVICE (ACS distribution applied to 2010 Census control)				
No telephone service available (excluding cell phones)	4,268	3.5	41,734	4.6

	Brooklyn			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
HOUSE HEATING FUEL (ACS distribution applied to 2010 Census control)				
Occupied housing units	122,587	100.0	916,856	100.0
Utility gas	90,297	73.7	643,878	70.2
Bottled, tank, or LP gas	1,717	1.4	15,249	1.7
Electricity	6,868	5.6	44,580	4.9
Fuel oil, kerosene, etc.	21,290	17.4	198,511	21.7
Coal or coke	83	0.1	649	0.1
Wood	89	0.1	789	0.1
Solar energy	97	0.1	305	0.0
Other fuel	1,163	0.9	6,601	0.7
No fuel used	982	0.8	6,294	0.7
VALUE (ACS distribution applied to 2010 Census control)				
Owner-occupied units	45,992	100.0	254,241	100.0
Less than $50,000	1,221	2.7	4,322	1.7
$50,000 to $99,999	805	1.8	5,819	2.3
$100,000 to $149,999	1,431	3.1	4,711	1.9
$150,000 to $199,999	2,243	4.9	7,169	2.8
$200,000 to $299,999	4,351	9.5	17,569	6.9
$300,000 to $499,999	12,471	27.1	64,688	25.4
$500,000 to $999,999	20,896	45.4	126,331	49.7
$1,000,000 or more	2,574	5.6	23,632	9.3
GROSS RENT (ACS distribution applied to 2010 Census control)				
Occupied units paying rent	74,292	100.0	644,974	100.0
Less than $200	1,934	2.6	12,978	2.0
$200 to $299	5,290	7.1	31,805	4.9
$300 to $499	6,877	9.3	43,692	6.8
$500 to $749	12,836	17.3	85,629	13.3
$750 to $999	13,756	18.5	136,442	21.2
$1,000 to $1,499	23,710	31.9	228,861	35.5
$1,500 or more	9,888	13.3	105,568	16.4
No rent paid	2,303		17,641	
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) (ACS distribution applied to 2010 Census control)				
Occupied units paying rent (excluding units where GRAPI cannot be computed)	72,659	100.0	629,252	100.0
Less than 15.0 percent	10,330	14.2	81,481	12.9
15.0 to 19.9 percent	7,900	10.9	70,405	11.2
20.0 to 24.9 percent	8,651	11.9	71,319	11.3
25.0 to 29.9 percent	8,559	11.8	68,884	10.9
30.0 to 34.9 percent	7,623	10.5	58,670	9.3
35.0 percent or more	29,596	40.7	278,494	44.3
Not computed	3,936		33,363	

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.
Note: While general housing data were available for the Hurricane Operational Inundation Area, more detailed housing data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the detailed housing data were applied to the general housing data (housing units, occupied housing units, owner occupied housing units, and renter occupied housing units) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. For consistency of comparison, the same process was used to produce overall city and borough estimates.

Demographic and Housing Profile
Hurricane Sandy Operational Inundation Area*
Manhattan, 2010 Census

	Manhattan			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Population	230,742	100.0	1,585,873	100.0
Under 5 years	11,924	5.2	76,579	4.8
5 to 17 years	26,868	11.6	157,856	10.0
18 to 34 years	72,397	31.4	521,950	32.9
35 to 44 years	33,229	14.4	234,144	14.8
45 to 54 years	29,787	12.9	202,969	12.8
55 to 64 years	25,451	11.0	178,222	11.2
65 years and over	31,086	13.5	214,153	13.5
In Households	220,977	95.8	1,518,500	95.8
In Group Quarters	9,765	4.2	67,373	4.2
In Group Quarters	9,765	100.0	67,373	100.0
Institutionalized	3,213	32.9	12,081	17.9
Correctional Facilities for Adults	165	1.7	2,038	3.0
Juvenile Facilities	0	0.0	743	1.1
Nursing Facilities	2,265	23.2	8,214	12.2
Other Institutionalized	783	8.0	1,086	1.6
Non-institutionalized	6,552	67.1	55,292	82.1
College/University Housing	2,264	23.2	35,333	52.4
Military Quarters	0	0.0	0	0.0
Other Non-institutionalized	4,288	43.9	19,959	29.6
Housing Units	117,455	100.0	847,090	100.0
Occupied Housing Units	105,877	90.1	763,846	90.2
Occupied Housing Units	105,877	100.0	763,846	100.0
Renter Occupied	89,632	84.7	589,885	77.2
Owner Occupied	16,245	15.3	173,961	22.8
Average Household Size		2.09		1.99

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Ratio of Income to Poverty Level in the Past 12 Months for Persons for Whom Poverty Status is Determined
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Inundation Area in Manhattan*

	Manhattan			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
Persons for whom poverty status is determined	226,087	100.0	1,543,736	100.0
Under 1.00 (Below poverty threshold)	48,878	21.6	274,138	17.8
Under .50 (Extreme poverty)	20,027	8.9	119,711	7.8
.50 to .99	28,851	12.8	154,427	10.0
1.00 to 1.24 (Near poor)	12,196	5.4	65,922	4.3
1.25 to 1.49	11,992	5.3	63,186	4.1
1.50 to 1.84	12,168	5.4	74,220	4.8
1.85 to 1.99	4,752	2.1	31,331	2.0
2.00 and over	136,101	60.2	1,034,939	67.0

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Note: While population data were available for the Hurricane Operational Inundation Area, poverty data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the poverty data were applied to the population for whom poverty was determined (the poverty universe) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. It should also be noted that the poverty universe for each borough was determined by taking the ratio of the poverty universe to the overall population, according to the 2006-2010 American Community Survey, and applying it to the overall population according to the 2010 Census. For consistency of comparison, the same process was used to produce overall city and borough estimates.

	Manhattan Inundation Area									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	4,285	100.0%	278,250,620	100.0%	134,830,038	100.0%	140,811	100.0%	3,072	100.0%
One & Two Family Buildings	166	3.9%	596,100	0.2%	596,100	0.4%	262	0.2%	171	5.6%
Multi - Family Walk- Up Buildings	945	22.1%	10,225,747	3.7%	10,045,189	7.5%	13,474	9.6%	1,058	34.4%
Multi - Family Elevator Buildings	386	9.0%	65,316,993	23.5%	62,482,493	46.3%	65,443	46.5%	644	21.0%
Mixed Residential and Commercial Buildings	839	19.6%	65,162,300	23.4%	57,068,994	42.3%	59,808	42.5%	1,067	34.7%
Commercial and Office Buildings	562	13.1%	76,546,086	27.5%	183,728	0.1%	212	0.2%	64	2.1%
Industrial and Manufacturing	237	5.5%	13,692,518	4.9%	114,907	0.1%	140	0.1%	35	1.1%
Transportation and Utility	231	5.4%	8,428,150	3.0%	-	0.0%	1	0.0%	1	0.0%
Public Facilities and Institutions	238	5.6%	33,094,264	11.9%	4,322,137	3.2%	1,277	0.9%	29	0.9%
Open Space and Outdoor Recreation	138	3.2%	1,623,910	0.6%	16,490	0.0%	-	0.0%	-	0.0%
Parking Facilities	178	4.2%	2,595,163	0.9%	-	0.0%	-	0.0%	-	0.0%
Vacant Land	284	6.6%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
No Data	81	1.9%	969,389	0.3%	-	0.0%	194	0.1%	3	0.1%

	Manhattan Borough									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	43,252	100.0%	1,743,435,572	100.0%	850,862,144	100.0%	889,785	100.0%	35,590	100.0%
One & Two Family Buildings	3,741	8.6%	15,741,408	0.9%	15,734,997	1.8%	5,545	0.6%	3,847	10.8%
Multi - Family Walk- Up Buildings	12,154	28.1%	109,780,098	6.3%	107,760,502	12.7%	154,787	17.4%	13,190	37.1%
Multi - Family Elevator Buildings	4,872	11.3%	420,865,146	24.1%	399,271,221	46.9%	376,857	42.4%	5,694	16.0%
Mixed Residential and Commercial Buildings	10,172	23.5%	393,478,570	22.6%	314,238,648	36.9%	338,097	38.0%	11,570	32.5%
Commercial and Office Buildings	5,226	12.1%	542,371,041	31.1%	2,042,682	0.2%	3,786	0.4%	649	1.8%
Industrial and Manufacturing	1,480	3.4%	59,835,402	3.4%	1,159,897	0.1%	1,285	0.1%	320	0.9%
Transportation and Utility	457	1.1%	12,221,379	0.7%	-	0.0%	1	0.0%	1	0.0%
Public Facilities and Institutions	2,478	5.7%	175,678,085	10.1%	10,620,978	1.2%	9,198	1.0%	310	0.9%
Open Space and Outdoor Recreation	375	0.9%	2,537,365	0.1%	16,490	0.0%	3	0.0%	2	0.0%
Parking Facilities	775	1.8%	9,569,813	0.5%	1,875	0.0%	-	0.0%	-	0.0%
Vacant Land	1,291	3.0%	32,903	0.0%	7,420	0.0%	14	0.0%	-	0.0%
No Data	231	0.5%	1,324,362	0.1%	7,434	0.0%	212	0.0%	7	0.0%

*Inundation areas are derived from a surge hindcast created by FEMA MOTF using surge modeling and observed data. The hindcast uses a 3 ft. elevation model.

For this analysis, a lot is included if any part of the lot is in the inundation area, except for *Total Residential Buildings*. For *Total Residential Buildings*, all lots that were wholly in the Operational Inundation Area, or had the majority of their housing in the Operational Inundation Area, were included.

Selected Housing Characteristics
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Impact Area in Manhattan*

	Manhattan			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
UNITS IN STRUCTURE (PLUTO distribution applied to 2010 Census control)				
Total housing units	117,455	100.0	847,090	100.0
One & Two Family Buildings	254	0.2	5,279	0.6
Multi - Family Walk- Up Buildings	13,346	11.4	147,360	17.4
Multi - Family Elevator Buildings	53,555	45.6	358,774	42.4
Mixed Residential and Commercial Buildings	48,759	41.5	321,874	38.0
Other	1,541	1.3	13,803	1.6
YEAR STRUCTURE BUILT (PLUTO distribution applied to 2010 Census control)				
Total housing units	117,455	100.0	847,090	100.0
Built 2000 or later	14,178	12.1	59,886	7.1
Built 1990 to 1999	5,845	5.0	19,935	2.4
Built 1980 to 1989	9,430	8.0	49,797	5.9
Built 1970 to 1979	12,154	10.3	59,603	7.0
Built 1960 to 1969	14,770	12.6	99,685	11.8
Built 1950 to 1959	15,945	13.6	64,264	7.6
Built 1940 to 1949	12,436	10.6	38,016	4.5
Built 1930 to 1939	7,287	6.2	51,732	6.1
Built 1920 to 1929	9,306	7.9	164,789	19.5
Built 1910 to 1919	6,270	5.3	118,337	14.0
Built 1900 to 1909	8,586	7.3	105,839	12.5
Built Before 1900	608	0.5	8,541	1.0
Unknown	641	0.5	6,666	0.8
ROOMS (ACS distribution applied to 2010 Census control)				
Total housing units	117,455	100.0	847,090	100.0
1 room	12,492	10.6	103,110	12.2
2 rooms	13,920	11.9	114,779	13.5
3 rooms	37,050	31.5	262,212	31.0
4 rooms	34,854	29.7	203,380	24.0
5 rooms	13,863	11.8	91,345	10.8
6 rooms	3,082	2.6	36,280	4.3
7 rooms	823	0.7	14,640	1.7
8 rooms	617	0.5	8,068	1.0
9 rooms or more	753	0.6	13,276	1.6
VEHICLES AVAILABLE (ACS distribution applied to 2010 Census control)				
Occupied housing units	105,877	100.0	763,846	100.0
No vehicles available	81,500	77.0	593,406	77.7
1 vehicle available	21,495	20.3	151,391	19.8
2 vehicles available	2,378	2.2	16,509	2.2
3 or more vehicles available	504	0.5	2,540	0.3
TELEPHONE SERVICE (ACS distribution applied to 2010 Census control)				
No telephone service available (excluding cell phones)	6,610	6.2	47,269	6.2

	Manhattan			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
HOUSE HEATING FUEL (ACS distribution applied to 2010 Census control)				
Occupied housing units	105,877	100.0	763,846	100.0
Utility gas	36,119	34.1	244,899	32.1
Bottled, tank, or LP gas	1,098	1.0	10,571	1.4
Electricity	25,574	24.2	131,451	17.2
Fuel oil, kerosene, etc.	36,086	34.1	339,895	44.5
Coal or coke	129	0.1	887	0.1
Wood	52	0.0	197	0.0
Solar energy	179	0.2	289	0.0
Other fuel	3,589	3.4	19,768	2.6
No fuel used	3,052	2.9	15,889	2.1
VALUE (ACS distribution applied to 2010 Census control)				
Owner-occupied units	16,245	100.0	173,961	100.0
Less than $50,000	984	6.1	4,600	2.6
$50,000 to $99,999	342	2.1	2,232	1.3
$100,000 to $149,999	201	1.2	1,651	0.9
$150,000 to $199,999	161	1.0	1,809	1.0
$200,000 to $299,999	677	4.2	6,289	3.6
$300,000 to $499,999	2,152	13.2	26,643	15.3
$500,000 to $999,999	5,968	36.7	61,036	35.1
$1,000,000 or more	5,762	35.5	69,701	40.1
GROSS RENT (ACS distribution applied to 2010 Census control)				
Occupied units paying rent	88,445	100.0	576,602	100.0
Less than $200	2,730	3.1	10,926	1.9
$200 to $299	7,655	8.7	29,524	5.1
$300 to $499	7,991	9.0	38,425	6.7
$500 to $749	13,569	15.3	74,899	13.0
$750 to $999	10,932	12.4	75,474	13.1
$1,000 to $1,499	13,163	14.9	111,815	19.4
$1,500 or more	32,405	36.6	235,539	40.8
No rent paid	1,187		13,283	
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) (ACS distribution applied to 2010 Census control)				
Occupied units paying rent (excluding units where GRAPI cannot be computed)	86,787	100.0	565,775	100.0
Less than 15.0 percent	17,000	19.6	111,216	19.7
15.0 to 19.9 percent	11,133	12.8	70,666	12.5
20.0 to 24.9 percent	10,876	12.5	67,375	11.9
25.0 to 29.9 percent	10,501	12.1	61,957	11.0
30.0 to 34.9 percent	8,708	10.0	49,466	8.7
35.0 percent or more	28,569	32.9	205,095	36.3
Not computed	2,845		24,110	

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.
Note: While general housing data were available for the Hurricane Operational Inundation Area, more detailed housing data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the detailed housing data were applied to the general housing data (housing units, occupied housing units, owner occupied housing units, and renter occupied housing units) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. For consistency of comparison, the same process was used to produce overall city and borough estimates.

Demographic and Housing Profile
Hurricane Sandy Operational Inundation Area*
Queens, 2010 Census

	Queens			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Population	188,444	100.0	2,230,722	100.0
Under 5 years	12,450	6.6	132,464	5.9
5 to 17 years	31,915	16.9	329,437	14.8
18 to 34 years	44,267	23.5	579,836	26.0
35 to 44 years	25,423	13.5	326,279	14.6
45 to 54 years	26,640	14.1	322,884	14.5
55 to 64 years	21,659	11.5	253,676	11.4
65 years and over	26,090	13.8	286,146	12.8
In Households	182,100	96.6	2,202,722	98.7
In Group Quarters	6,344	3.4	28,000	1.3
In Group Quarters	6,344	100.0	28,000	100.0
Institutionalized	3,873	61.0	15,364	54.9
Correctional Facilities for Adults	234	3.7	665	2.4
Juvenile Facilities	72	1.1	317	1.1
Nursing Facilities	3,567	56.2	13,402	47.9
Other Institutionalized	0	0.0	980	3.5
Non-institutionalized	2,471	39.0	12,636	45.1
College/University Housing	139	2.2	3,366	12.0
Military Quarters	0	0.0	0	0.0
Other Non-institutionalized	2,332	36.8	9,270	33.1
Housing Units	77,164	100.0	835,127	100.0
Occupied Housing Units	68,853	89.2	780,117	93.4
Occupied Housing Units	68,853	100.0	780,117	100.0
Renter Occupied	38,076	55.3	444,663	57.0
Owner Occupied	30,777	44.7	335,454	43.0
Average Household Size		2.64		2.82

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Ratio of Income to Poverty Level in the Past 12 Months for Persons for Whom Poverty Status is Determined
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Inundation Area in Queens*

	Queens			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
Persons for whom poverty status is determined	183,944	100.0	2,209,005	100.0
Under 1.00 (Below poverty threshold)	28,170	15.3	286,843	13.0
Under .50 (Extreme poverty)	13,960	7.6	117,426	5.3
.50 to .99	14,209	7.7	169,417	7.7
1.00 to 1.24 (Near poor)	7,576	4.1	103,625	4.7
1.25 to 1.49	7,041	3.8	105,983	4.8
1.50 to 1.84	9,962	5.4	151,501	6.9
1.85 to 1.99	4,036	2.2	62,274	2.8
2.00 and over	127,160	69.1	1,498,779	67.8

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Note: While population data were available for the Hurricane Operational Inundation Area, poverty data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the poverty data were applied to the population for whom poverty was determined (the poverty universe) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. It should also be noted that the poverty universe for each borough was determined by taking the ratio of the poverty universe to the overall population, according to the 2006-2010 American Community Survey, and applying it to the overall population according to the 2010 Census. For consistency of comparison, the same process was used to produce overall city and borough estimates.

	Queens Inundation Area									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	30,491	100.0%	166,139,812	100.0%	84,735,319	100.0%	79,607	100.0%	33,103	100.0%
One & Two Family Buildings	22,123	72.6%	44,759,407	26.9%	44,756,732	52.8%	34,360	43.2%	29,058	87.8%
Multi - Family Walk- Up Buildings	1,925	6.3%	9,323,492	5.6%	9,284,426	11.0%	10,528	13.2%	3,083	9.3%
Multi - Family Elevator Buildings	132	0.4%	25,535,755	15.4%	24,849,050	29.3%	28,803	36.2%	323	1.0%
Mixed Residential and Commercial Buildings	399	1.3%	6,076,749	3.7%	4,916,409	5.8%	5,730	7.2%	557	1.7%
Commercial and Office Buildings	439	1.4%	7,533,301	4.5%	101,386	0.1%	39	0.0%	33	0.1%
Industrial and Manufacturing	790	2.6%	23,847,410	14.4%	29,675	0.0%	16	0.0%	8	0.0%
Transportation and Utility	414	1.4%	18,124,754	10.9%	11,419	0.0%	13	0.0%	14	0.0%
Public Facilities and Institutions	238	0.8%	9,042,155	5.4%	760,614	0.9%	111	0.1%	16	0.0%
Open Space and Outdoor Recreation	548	1.8%	20,001,648	12.0%	13,281	0.0%	4	0.0%	6	0.0%
Parking Facilities	501	1.6%	1,514,180	0.9%	-	0.0%	-	0.0%		0.0%
Vacant Land	2,591	8.5%	4,587	0.0%	4,587	0.0%	-	0.0%		0.0%
No Data	391	1.3%	376,374	0.2%	7,740	0.0%	3	0.0%	5	0.0%

	Queens Borough									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	324,430	100.0%	1,198,626,249	100.0%	865,177,217	100.0%	813,692	100.0%	374,187	100.0%
One & Two Family Buildings	246,582	76.0%	443,988,231	37.0%	443,980,067	51.3%	340,832	41.9%	308,036	82.3%
Multi - Family Walk- Up Buildings	34,687	10.7%	169,430,869	14.1%	169,004,334	19.5%	195,030	24.0%	48,756	13.0%
Multi - Family Elevator Buildings	1,726	0.5%	195,330,407	16.3%	190,319,061	22.0%	204,558	25.1%	2,680	0.7%
Mixed Residential and Commercial Buildings	11,239	3.5%	79,540,267	6.6%	57,696,240	6.7%	69,198	8.5%	13,489	3.6%
Commercial and Office Buildings	6,910	2.1%	84,994,528	7.1%	1,152,058	0.1%	1,218	0.1%	648	0.2%
Industrial and Manufacturing	3,787	1.2%	76,255,544	6.4%	267,027	0.0%	187	0.0%	158	0.0%
Transportation and Utility	2,283	0.7%	23,668,782	2.0%	93,754	0.0%	86	0.0%	100	0.0%
Public Facilities and Institutions	2,782	0.9%	93,928,571	7.8%	2,532,563	0.3%	2,568	0.3%	299	0.1%
Open Space and Outdoor Recreation	1,101	0.3%	22,823,742	1.9%	100,866	0.0%	5	0.0%	7	0.0%
Parking Facilities	3,693	1.1%	7,869,766	0.7%	5,262	0.0%	2	0.0%	1	0.0%
Vacant Land	8,517	2.6%	181,074	0.0%	12,355	0.0%	-	0.0%		0.0%
No Data	1,123	0.3%	614,468	0.1%	13,630	0.0%	8	0.0%	13	0.0%

*Inundation areas are derived from a surge hindcast created by FEMA MOTF using surge modeling and observed data. The hindcast uses a 3 ft. elevation model.

For this analysis, a lot is included if any part of the lot is in the inundation area, except for *Total Residential Buildings*. For *Total Residential Buildings*, all lots that were wholly in the Operational Inundation Area, or had the majority of their housing in the Operational Inundation Area, were included.

	Queens			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
UNITS IN STRUCTURE (PLUTO distribution applied to 2010 Census control)				
Total housing units	77,164	100.0	835,127	100.0
One & Two Family Buildings	35,271	45.7	349,811	41.9
Multi - Family Walk- Up Buildings	10,190	13.2	200,168	24.0
Multi - Family Elevator Buildings	25,642	33.2	209,947	25.1
Mixed Residential and Commercial Buildings	5,886	7.6	71,021	8.5
Other	174	0.2	4,181	0.5
YEAR STRUCTURE BUILT (PLUTO distribution applied to 2010 Census control)				
Total housing units	77,164	100.0	835,127	100.0
Built 2000 or later	10,725	13.9	51,699	6.2
Built 1990 to 1999	1,997	2.6	13,348	1.6
Built 1980 to 1989	2,539	3.3	20,321	2.4
Built 1970 to 1979	6,593	8.5	31,955	3.8
Built 1960 to 1969	18,677	24.2	116,564	14.0
Built 1950 to 1959	13,480	17.5	151,232	18.1
Built 1940 to 1949	3,073	4.0	88,583	10.6
Built 1930 to 1939	9,068	11.8	146,061	17.5
Built 1920 to 1929	6,797	8.8	167,678	20.1
Built 1910 to 1919	2,073	2.7	33,286	4.0
Built 1900 to 1909	894	1.2	10,511	1.3
Built Before 1900	184	0.2	1,323	0.2
Unknown	1,064	1.4	2,567	0.3
ROOMS (ACS distribution applied to 2010 Census control)				
Total housing units	77,164	100.0	835,127	100.0
1 room	3,754	4.9	29,996	3.6
2 rooms	3,661	4.7	38,955	4.7
3 rooms	13,689	17.7	169,728	20.3
4 rooms	16,866	21.9	188,596	22.6
5 rooms	15,623	20.2	166,575	19.9
6 rooms	10,077	13.1	118,917	14.2
7 rooms	4,939	6.4	51,928	6.2
8 rooms	3,271	4.2	29,044	3.5
9 rooms or more	5,285	6.8	41,387	5.0
VEHICLES AVAILABLE (ACS distribution applied to 2010 Census control)				
Occupied housing units	68,853	100.0	780,117	100.0
No vehicles available	23,011	33.4	283,528	36.3
1 vehicle available	26,458	38.4	313,872	40.2
2 vehicles available	14,907	21.7	141,282	18.1
3 or more vehicles available	4,478	6.5	41,434	5.3
TELEPHONE SERVICE (ACS distribution applied to 2010 Census control)				
No telephone service available (excluding cell phones)	3,997	5.8	37,094	4.8

	Queens			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
HOUSE HEATING FUEL (ACS distribution applied to 2010 Census control)				
Occupied housing units	68,853	100.0	780,117	100.0
Utility gas	45,785	66.5	503,962	64.6
Bottled, tank, or LP gas	908	1.3	11,685	1.5
Electricity	5,323	7.7	42,215	5.4
Fuel oil, kerosene, etc.	15,402	22.4	211,386	27.1
Coal or coke	66	0.1	400	0.1
Wood	42	0.1	542	0.1
Solar energy	24	0.0	83	0.0
Other fuel	555	0.8	5,672	0.7
No fuel used	749	1.1	4,172	0.5
VALUE (ACS distribution applied to 2010 Census control)				
Owner-occupied units	30,777	100.0	335,454	100.0
Less than $50,000	1,242	4.0	6,503	1.9
$50,000 to $99,999	501	1.6	7,924	2.4
$100,000 to $149,999	596	1.9	9,864	2.9
$150,000 to $199,999	1,298	4.2	17,776	5.3
$200,000 to $299,999	2,596	8.4	36,601	10.9
$300,000 to $499,999	9,449	30.7	101,434	30.2
$500,000 to $999,999	13,684	44.5	146,144	43.6
$1,000,000 or more	1,410	4.6	9,209	2.7
GROSS RENT (ACS distribution applied to 2010 Census control)				
Occupied units paying rent	37,084	100.0	431,887	100.0
Less than $200	830	2.2	3,654	0.8
$200 to $299	2,557	6.9	8,634	2.0
$300 to $499	2,883	7.8	13,880	3.2
$500 to $749	5,192	14.0	38,802	9.0
$750 to $999	6,364	17.2	76,456	17.7
$1,000 to $1,499	9,823	26.5	188,354	43.6
$1,500 or more	9,435	25.4	102,107	23.6
No rent paid	992		12,776	
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) (ACS distribution applied to 2010 Census control)				
Occupied units paying rent (excluding units where GRAPI cannot be computed)	36,325	100.0	424,346	100.0
Less than 15.0 percent	5,549	15.3	53,037	12.5
15.0 to 19.9 percent	4,531	12.5	50,177	11.8
20.0 to 24.9 percent	3,735	10.3	50,998	12.0
25.0 to 29.9 percent	4,706	13.0	46,510	11.0
30.0 to 34.9 percent	3,763	10.4	37,689	8.9
35.0 percent or more	14,042	38.7	185,934	43.8
Not computed	1,751		20,317	

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Note: While general housing data were available for the Hurricane Operational Inundation Area, more detailed housing data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the detailed housing data were applied to the general housing data (housing units, occupied housing units, owner occupied housing units, and renter occupied housing units) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. For consistency of comparison, the same process was used to produce overall city and borough estimates.

Demographic and Housing Profile
Hurricane Sandy Operational Inundation Area*
Staten Island, 2010 Census

	Staten Island			
	Inundation Area		Total	
	Number	Percent	Number	Percent
Population	75,651	100.0	468,730	100.0
Under 5 years	4,600	6.1	28,339	6.0
5 to 17 years	12,456	16.5	80,862	17.3
18 to 34 years	17,205	22.7	104,184	22.2
35 to 44 years	11,008	14.6	65,630	14.0
45 to 54 years	12,066	15.9	71,748	15.3
55 to 64 years	9,394	12.4	58,623	12.5
65 years and over	8,922	11.8	59,344	12.7
In Households	74,051	97.9	460,892	98.3
In Group Quarters	1,600	2.1	7,838	1.7
In Group Quarters	1,600	100.0	7,838	100.0
Institutionalized	918	57.4	3,862	49.3
Correctional Facilities for Adults	918	57.4	924	11.8
Juvenile Facilities	0	0.0	233	3.0
Nursing Facilities	0	0.0	2,705	34.5
Other Institutionalized	0	0.0	0	0.0
Non-institutionalized	682	42.6	3,976	50.7
College/University Housing	0	0.0	1,457	18.6
Military Quarters	0	0.0	47	0.6
Other Non-institutionalized	682	42.6	2,472	31.5
Housing Units	28,561	100.0	176,656	100.0
Occupied Housing Units	26,612	93.2	165,516	93.7
Occupied Housing Units	26,612	100.0	165,516	100.0
Renter Occupied	9,638	36.2	59,381	35.9
Owner Occupied	16,974	63.8	106,135	64.1
Average Household Size		2.78		2.78

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Ratio of Income to Poverty Level in the Past 12 Months for Persons for Whom Poverty Status is Determined
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Inundation Area in Staten Island*

	Staten Island			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
Persons for whom poverty status is determined	74,452	100.0	459,940	100.0
Under 1.00 (Below poverty threshold)	6,693	9.0	47,570	10.3
Under .50 (Extreme poverty)	2,969	4.0	22,549	4.9
.50 to .99	3,723	5.0	25,021	5.4
1.00 to 1.24 (Near poor)	3,343	4.5	15,543	3.4
1.25 to 1.49	2,317	3.1	13,979	3.0
1.50 to 1.84	3,250	4.4	19,037	4.1
1.85 to 1.99	1,671	2.2	8,501	1.8
2.00 and over	57,178	76.8	355,309	77.3

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.

Note: While population data were available for the Hurricane Operational Inundation Area, poverty data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the poverty data were applied to the population for whom poverty was determined (the poverty universe) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. It should also be noted that the poverty universe for each borough was determined by taking the ratio of the poverty universe to the overall population, according to the 2006-2010 American Community Survey, and applying it to the overall population according to the 2010 Census. For consistency of comparison, the same process was used to produce overall city and borough estimates.

	Staten Island Inundation Area									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	23,111	100.0%	57,156,535	100.0%	35,545,559	100.0%	27,493	100.0%	21,074	100.0%
One & Two Family Buildings	17,438	75.5%	29,726,021	52.0%	29,721,433	83.6%	21,316	77.5%	19,209	91.2%
Multi - Family Walk- Up Buildings	296	1.3%	2,553,875	4.5%	2,552,235	7.2%	2,631	9.6%	1,364	6.5%
Multi - Family Elevator Buildings	15	0.1%	2,559,606	4.5%	2,559,606	7.2%	2,647	9.6%	23	0.1%
Mixed Residential and Commercial Buildings	287	1.2%	1,071,066	1.9%	628,573	1.8%	650	2.4%	385	1.8%
Commercial and Office Buildings	599	2.6%	7,058,161	12.3%	31,223	0.1%	36	0.1%	31	0.1%
Industrial and Manufacturing	242	1.0%	4,950,250	8.7%	7,170	0.0%	6	0.0%	15	0.1%
Transportation and Utility	359	1.6%	2,691,780	4.7%	7,899	0.0%	9	0.0%	14	0.1%
Public Facilities and Institutions	124	0.5%	5,133,283	9.0%	23,841	0.1%	195	0.7%	26	0.1%
Open Space and Outdoor Recreation	415	1.8%	936,507	1.6%	13,579	0.0%	3	0.0%	7	0.0%
Parking Facilities	246	1.1%	419,220	0.7%	-	0.0%	-	0.0%	-	0.0%
Vacant Land	2,896	12.5%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
No Data	194	0.8%	56,766	0.1%	-	0.0%	-	0.0%	-	0.0%

	Staten Island Borough									
	Total Lots (BBL)		Total Building Area (sq. ft.)		Total Residential Area (sq. ft.)		Total Residential Units		Total Residential Buildings	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land Use	123,480	100.0%	320,280,272	100.0%	234,905,774	100.0%	171,682	100.0%	128,542	100.0%
One & Two Family Buildings	105,120	85.1%	198,339,138	61.9%	198,326,424	84.4%	133,735	77.9%	117,007	91.0%
Multi - Family Walk- Up Buildings	1,853	1.5%	18,346,277	5.7%	18,296,850	7.8%	19,130	11.1%	8,960	7.0%
Multi - Family Elevator Buildings	85	0.1%	13,467,194	4.2%	13,425,290	5.7%	14,415	8.4%	193	0.2%
Mixed Residential and Commercial Buildings	1,439	1.2%	5,601,405	1.7%	3,551,680	1.5%	3,624	2.1%	1,955	1.5%
Commercial and Office Buildings	2,182	1.8%	19,839,928	6.2%	341,357	0.1%	196	0.1%	195	0.2%
Industrial and Manufacturing	418	0.3%	6,924,708	2.2%	17,768	0.0%	16	0.0%	27	0.0%
Transportation and Utility	775	0.6%	3,579,642	1.1%	19,306	0.0%	19	0.0%	30	0.0%
Public Facilities and Institutions	672	0.5%	51,635,422	16.1%	866,600	0.4%	529	0.3%	154	0.1%
Open Space and Outdoor Recreation	1,880	1.5%	1,476,326	0.5%	40,937	0.0%	13	0.0%	17	0.0%
Parking Facilities	770	0.6%	990,310	0.3%	2,500	0.0%	5	0.0%	4	0.0%
Vacant Land	7,839	6.3%	17,062	0.0%	17,062	0.0%	-	0.0%	-	0.0%
No Data	447	0.4%	62,860	0.0%	-	0.0%	-	0.0%	-	0.0%

*Inundation areas are derived from a surge hindcast created by FEMA MOTF using surge modeling and observed data. The hindcast uses a 3 ft. elevation model.

For this analysis, a lot is included if any part of the lot is in the inundation area, except for *Total Residential Buildings*. For *Total Residential Buildings*, all lots that were wholly in the Operational Inundation Area, or had the majority of their housing in the Operational Inundation Area, were included.

Selected Housing Characteristics
Census 2010 Summary Files and American Community Survey 2006-2010 Estimates
Hurricane Operational Impact Area in Staten Island*

	Staten Island			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
UNITS IN STRUCTURE (PLUTO distribution applied to 2010 Census control)				
Total housing units	28,561	100.0	176,656	100.0
One & Two Family Buildings	22,375	78.3	137,610	77.9
Multi - Family Walk- Up Buildings	2,516	8.8	19,684	11.1
Multi - Family Elevator Buildings	2,732	9.6	14,833	8.4
Mixed Residential and Commercial Buildings	678	2.4	3,729	2.1
Other	260	0.9	801	0.5
YEAR STRUCTURE BUILT (PLUTO distribution applied to 2010 Census control)				
Total housing units	28,561	100.0	176,656	100.0
Built 2000 or later	4,239	14.8	17,993	10.2
Built 1990 to 1999	2,987	10.5	18,682	10.6
Built 1980 to 1989	4,996	17.5	28,958	16.4
Built 1970 to 1979	3,835	13.4	31,042	17.6
Built 1960 to 1969	3,735	13.1	23,977	13.6
Built 1950 to 1959	1,282	4.5	12,915	7.3
Built 1940 to 1949	813	2.8	5,330	3.0
Built 1930 to 1939	2,288	8.0	11,317	6.4
Built 1920 to 1929	2,044	7.2	13,732	7.8
Built 1910 to 1919	938	3.3	5,758	3.3
Built 1900 to 1909	672	2.4	3,674	2.1
Built Before 1900	580	2.0	3,153	1.8
Unknown	152	0.5	126	0.1
ROOMS (ACS distribution applied to 2010 Census control)				
Total housing units	28,561	100.0	176,656	100.0
1 room	524	1.8	2,668	1.5
2 rooms	398	1.4	3,092	1.8
3 rooms	3,276	11.5	19,180	10.9
4 rooms	4,340	15.2	24,638	13.9
5 rooms	6,345	22.2	32,483	18.4
6 rooms	6,108	21.4	38,528	21.8
7 rooms	3,460	12.1	24,963	14.1
8 rooms	1,793	6.3	13,684	7.7
9 rooms or more	2,317	8.1	17,419	9.9
VEHICLES AVAILABLE (ACS distribution applied to 2010 Census control)				
Occupied housing units	26,612	100.0	165,516	100.0
No vehicles available	4,159	15.6	26,032	15.7
1 vehicle available	10,702	40.2	61,161	37.0
2 vehicles available	8,478	31.9	56,914	34.4
3 or more vehicles available	3,273	12.3	21,409	12.9
TELEPHONE SERVICE (ACS distribution applied to 2010 Census control)				
No telephone service available (excluding cell phones)	404	1.5	3,026	1.8

	Staten Island			
	Inundation Area		Total	
	Estimate	Percent	Estimate	Percent
HOUSE HEATING FUEL (ACS distribution applied to 2010 Census control)				
Occupied housing units	26,612	100.0	165,516	100.0
Utility gas	23,021	86.5	141,947	85.8
Bottled, tank, or LP gas	307	1.2	1,895	1.1
Electricity	819	3.1	5,010	3.0
Fuel oil, kerosene, etc.	2,331	8.8	15,785	9.5
Coal or coke	4	0.0	42	0.0
Wood	19	0.1	57	0.0
Solar energy	1	0.0	12	0.0
Other fuel	64	0.2	333	0.2
No fuel used	46	0.2	433	0.3
VALUE (ACS distribution applied to 2010 Census control)				
Owner-occupied units	16,974	100.0	106,135	100.0
Less than $50,000	206	1.2	1,130	1.1
$50,000 to $99,999	257	1.5	926	0.9
$100,000 to $149,999	163	1.0	977	0.9
$150,000 to $199,999	403	2.4	2,057	1.9
$200,000 to $299,999	1,437	8.5	8,244	7.8
$300,000 to $499,999	9,107	53.7	50,691	47.8
$500,000 to $999,999	5,084	30.0	38,955	36.7
$1,000,000 or more	316	1.9	3,156	3.0
GROSS RENT (ACS distribution applied to 2010 Census control)				
Occupied units paying rent	8,873	100.0	55,577	100.0
Less than $200	187	2.1	1,225	2.2
$200 to $299	289	3.3	2,794	5.0
$300 to $499	488	5.5	4,050	7.3
$500 to $749	610	6.9	5,158	9.3
$750 to $999	1,636	18.4	9,172	16.5
$1,000 to $1,499	3,459	39.0	21,687	39.0
$1,500 or more	2,204	24.8	11,491	20.7
No rent paid	765		3,804	
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI) (ACS distribution applied to 2010 Census control)				
Occupied units paying rent (excluding units where GRAPI cannot be computed)	8,771	100.0	54,297	100.0
Less than 15.0 percent	1,016	11.6	6,496	12.0
15.0 to 19.9 percent	976	11.1	6,375	11.7
20.0 to 24.9 percent	1,028	11.7	5,900	10.9
25.0 to 29.9 percent	931	10.6	5,743	10.6
30.0 to 34.9 percent	878	10.0	5,180	9.5
35.0 percent or more	3,943	45.0	24,603	45.3
Not computed	867		5,084	

*The Operational Inundation Area consists of areas in New York City that FEMA determined were inundated with flood waters.
Note: While general housing data were available for the Hurricane Operational Inundation Area, more detailed housing data were only available for a larger area that included all census tracts intersecting the Hurricane Operational Inundation Area. The percent distributions for the detailed housing data were applied to the general housing data (housing units, occupied housing units, owner occupied housing units, and renter occupied housing units) in the Operational Inundation Area for each respective census tract to produce a set of estimates. Census tract estimates were summed up to the borough level. These borough estimates were then summed to produce a set of citywide values. For consistency of comparison, the same process was used to produce overall city and borough estimates.

Appendix D: Projected Expenditures and Outcomes

Housing

The City's CDBG-DR Action Plan includes $648 million of CDBG-DR funding for housing programs.

The New York City Build it Back program will cover the rehabilitation and reconstruction of residential structures damaged by Hurricane Sandy. Build it Back consists of two pathways: (1) Single Family Rehabilitation and Reconstruction and (2) Multi-Family Rehabilitation. As stated in the Action Plan, the City has allocated $306 million for single-family homes (1-2 units) and $215 million for multi-family buildings (3 or more units).

Based on initial application intake, the Mayor's Office of Housing Recovery Operations (HRO) expects to complete work on 2,900 single-family homes and 15,900 multi-family units with the initial allocations. The projections below reflect the expected construction timeline with work beginning in the 4th quarter of 2013. The initial program allocation is projected to be expended by the second quarter of 2016.

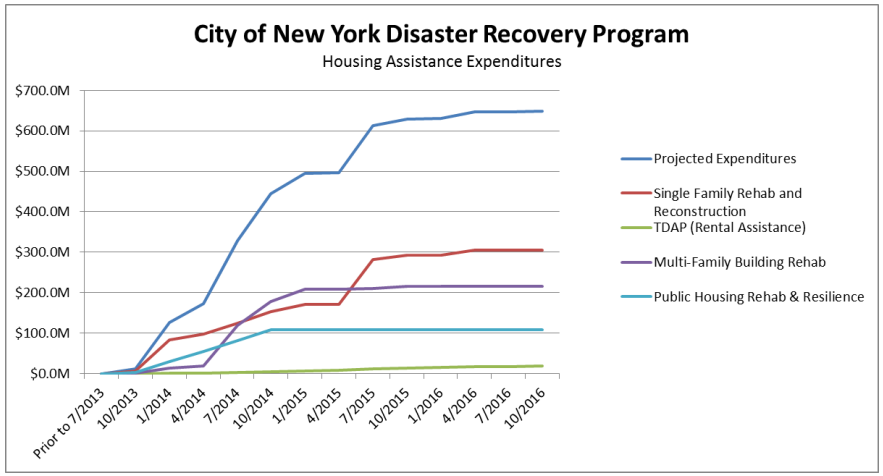
The New York City Housing Authority (NYCHA) will receive a separate allocation of $108 million for resiliency measures. With this funding, NYCHA will install permanent emergency generators in 100 buildings. As stated in the Action Plan, this project is expected to benefit 20,000 residents. The projections assume that project design and preparation will begin in the 4th quarter of 2013 and that work will be completed during the second half of 2014.

Additionally, $19 million has been allocated to a rental assistance program for low-income households. The first vouchers were handed out in the 3rd quarter of 2013. With rental assistance limited to 24 months, the projections assume that the program will wind down by mid-2016. As indicated in the Action Plan, this program is expected to serve approximately 600 households.

Housing Financial Projections

Housing	Prior to 7/2013	10/2013	1/2014	4/2014	7/2014	10/2014	1/2015	4/2015	7/2015	10/2015	1/2016	4/2016	7/2016	10/2016
Projected Expenditures	$0.0M	$11.5M	$126.2M	$173.4M	$329.1M	$445.3M	$495.3M	$497.3M	$612.3M	$628.3M	$630.3M	$646.0M	$647.3M	$648.0M
Single Family Rehab and Reconstruction	$0.0M	$7.0M	$83.0M	$97.0M	$124.0M	$153.0M	$172.0M	$172.0M	$282.0M	$292.0M	$292.0M	$306.0M	$306.0M	$306.0M
TDAP (Rental Assistance)	$0.0M	$0.3M	$0.8M	$1.8M	$3.3M	$5.3M	$7.3M	$9.3M	$11.3M	$13.3M	$15.3M	$17.0M	$18.3M	$19.0M
Multi-Family Building Rehab	$0.0M	$1.0M	$13.0M	$19.0M	$120.0M	$179.0M	$208.0M	$208.0M	$211.0M	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M
Public Housing Rehab & Resilience	$0.0M	$3.2M	$29.4M	$55.6M	$81.8M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M
Quarterly Projection	$0.0M	$11.5M	$114.7M	$47.2M	$155.7M	$116.2M	$50.0M	$2.0M	$115.0M	$16.0M	$2.0M	$15.8M	$1.2M	$0.7M
Single Family Rehab and Reconstruction	$0.0M	$7.0M	$76.0M	$14.0M	$27.0M	$29.0M	$19.0M	$0.0M	$110.0M	$10.0M	$0.0M	$14.0M		
TDAP (Rental Assistance)	$0.0M	$0.3M	$0.5M	$1.0M	$1.5M	$2.0M	$2.0M	$2.0M	$2.0M	$2.0M	$2.0M	$1.8M	$1.2M	$0.7M
Multi-Family Building Rehab	$0.0M	$1.0M	$12.0M	$6.0M	$101.0M	$59.0M	$29.0M	$0.0M	$3.0M	$4.0M				
Public Housing Rehab & Resilience	-	$3.2M	$26.2M	$26.2M	$26.2M	$26.2M								
Actual Expenditure	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Single Family Rehab and Reconstruction														
TDAP (Rental Assistance)														
Multi-Family Building Rehab														
Public Housing Rehab & Resilience														
Actual Quarterly Expend (from QPRs)	$0.0M													

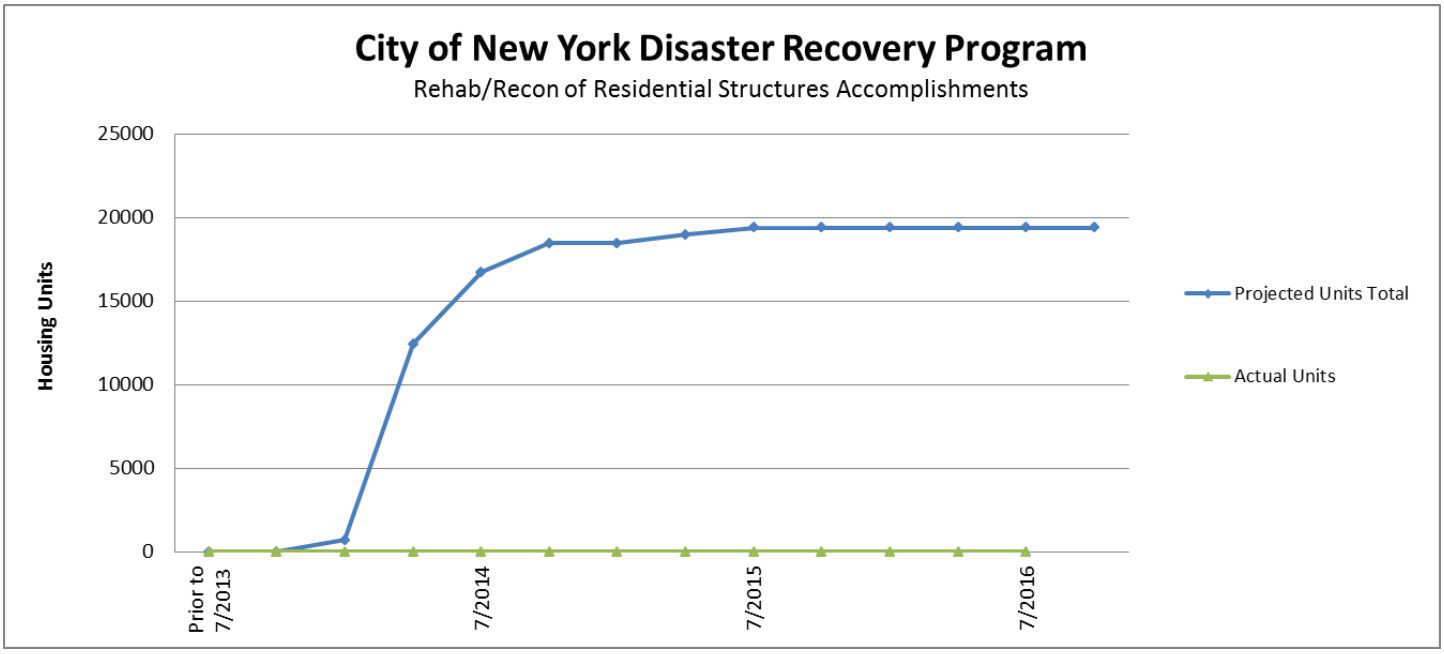
Housing	1/2017	4/2017	7/2017	10/2017	1/2018	4/2018	7/2018	10/2018	1/2019	4/2019	7/2019	10/2019	1/2020	4/2020
Projected Expenditures	$648.0M	$648.0M	$648.0M	$648.0M	$648.0M	$648.0M	$648.0M	$648.0M	$648.0M	$648.0M	$648.0M	$648.0M	$648.0M	$648.0M
Single Family Rehab and Reconstruction	$306.0M	$306.0M	$306.0M	$306.0M	$306.0M	$306.0M	$306.0M	$306.0M	$306.0M	$306.0M	$306.0M	$306.0M	$306.0M	$306.0M
TDAP (Rental Assistance)	$19.0M	$19.0M	$19.0M	$19.0M	$19.0M	$19.0M	$19.0M	$19.0M	$19.0M	$19.0M	$19.0M	$19.0M	$19.0M	$19.0M
Multi-Family Building Rehab	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M	$215.0M
Public Housing Rehab & Resilience	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M	$108.0M
Quarterly Projection	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Single Family Rehab and Reconstruction														
TDAP (Rental Assistance)														
Multi-Family Building Rehab														
Public Housing Rehab & Resilience														
Actual Expenditure	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Single Family Rehab and Reconstruction														
TDAP (Rental Assistance)														
Multi-Family Building Rehab														
Public Housing Rehab & Resilience														
Actual Quarterly Expend (from QPRs)														

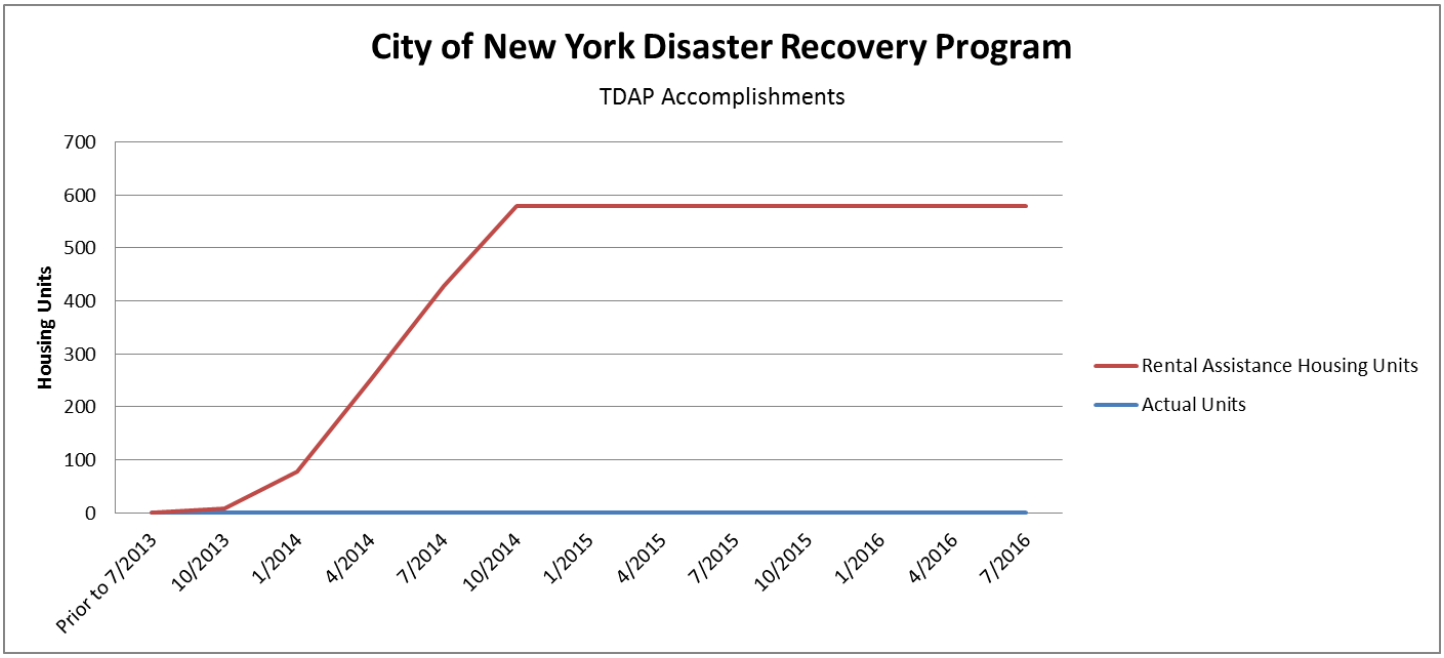


Housing Performance Projections

Housing	Prior to 7/2013	10/2013	1/2014	4/2014	7/2014	10/2014	1/2015	4/2015	7/2015	10/2015	1/2016	4/2016	7/2016	10/2016
Projected Units Total	0	0	707	12452	16727	18478	18478	18978	19378	19378	19378	19378	19378	19378
Projected Units - Rehab/Recon of Residential Structures (SF + MF + Public Housing)	0	0	630	12200	16300	17900	17900	18400	18800	18800	18800	18800	18800	18800
# of Housing Units (Quarterly Projection)	0	0	630	11,570	4,100	1,600	0	500	400	0	0	0	0	0
Actual Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Housing Units (Populated from QPR Reporting)	0													
Projected Units - Public Services (TDAP)	0	8	77	252	427	578	578	578	578	578	578	578	578	578
# of Units (Quarterly Projection)	0	8	69	175	175	151	0	0	0	0	0	0	0	0
Actual Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Units (Populated from QPR Reporting)														
Programs														
Single Family Rehab and Reconstruction (Rehab/Recon)														
# of Housing Units	0	0	400	1300	300	200	0	400	300	0	0	0	0	0
Multi-Family Building Rehabilitation(Rehab/Recon)														
# of Housing Units	0	0	230	10270	3800	1400	0	100	100	0	0	0	0	0
Public Housing Rehabilitation and Resilience(Rehab/Recon)														
# of Housing Units	0	0	1650	1650	1650	1650								
TDAP (Public Services)														
# of Housing Units	0	8	169	175	175	151								

Housing	1/2017	4/2017	7/2017	10/2017	1/2018	4/2018	7/2018	10/2018	1/2019	4/2019	7/2019
Projected Units Total	19378	19378	19378	19378	19378	19378	19378	19378	19378	19378	19378
Projected Units - Rehab/Recon of Residential Structures (SF + MF + Public Housing)	18800	18800	18800	18800	18800	18800	18800	18800	18800	18800	18800
# of Housing Units (Quarterly Projection)	0	0	0	0	0	0	0	0	0	0	0
Actual Units	0	0	0	0	0	0	0	0	0	0	0
# of Housing Units (Populated from QPR Reporting)											
Projected Units - Public Services (TDAP)	578	578	578	578	578	578	578	578	578	578	578
# of Units (Quarterly Projection)	0	0	0	0	0	0	0	0	0	0	0
Actual Units	0	0	0	0	0						
# of Units (Populated from QPR Reporting)											
Programs											
Single Family Rehab and Reconstruction (Rehab/Recon)											
# of Housing Units	0	0	0								
Multi-Family Building Rehabilitation(Rehab/Recon)											
# of Housing Units	0	0	0								
Public Housing Rehabilitation and Resilience(Rehab/Recon)											
# of Housing Units											
TDAP (Public Services)											
# of Housing Units											


City of New York Disaster Recovery Program
Rehab/Recon of Residential Structures Accomplishments
Housing Units
25000
20000
15000
10000
5000
0
Prior to 7/2013
7/2014
7/2015
7/2016
Projected Units Total
Actual Units


City of New York Disaster Recovery Program
TDAP Accomplishments
Housing Units
700
600
500
400
300
200
100
0
Prior to 7/2013
10/2013
1/2014
4/2014
7/2014
10/2014
1/2015
4/2015
7/2015
10/2015
1/2016
4/2016
7/2016
Rental Assistance Housing Units
Actual Units

Business

Pending the launch and overall design of several Business Activities, the City has worked to develop best estimates of expenses and beneficiaries given current information. To simplify assumptions about future expenditures and performance, the projected expenditures for the **Neighborhood Game Changer Investment Program**, **Business Resiliency Investment Program**, and **Infrastructure and Building Resiliency Technologies Competition** are equally distributed over the each program's estimated schedule. These estimates will be updated once overall program design is better formulated and respondents to open Requests for Proposals (RPFs) have been selected, and competition and program applications have been received.

The **Business Loan and Grant Program** has begun intake for interested businesses and has based its estimates on an earlier program that provided loans and grants to Sandy-impacted Businesses. Expenses are projected to begin in the second half of 2013, with a significant investment towards recruiting the staff needed for this program and to begin distribution of loan and grant funds through the New York Business Development Corporation LDC (NYLDC). Expenses further increase in the fourth quarter of 2013 with the addition of Community Development Financial Institutions (CDFIs) as additional lending partners. All loan and grant funds are projected to be disbursed by the fourth quarter of 2015 with additional smaller expenses for loan servicing and monitoring through the third quarter of 2019, as loans are paid back.

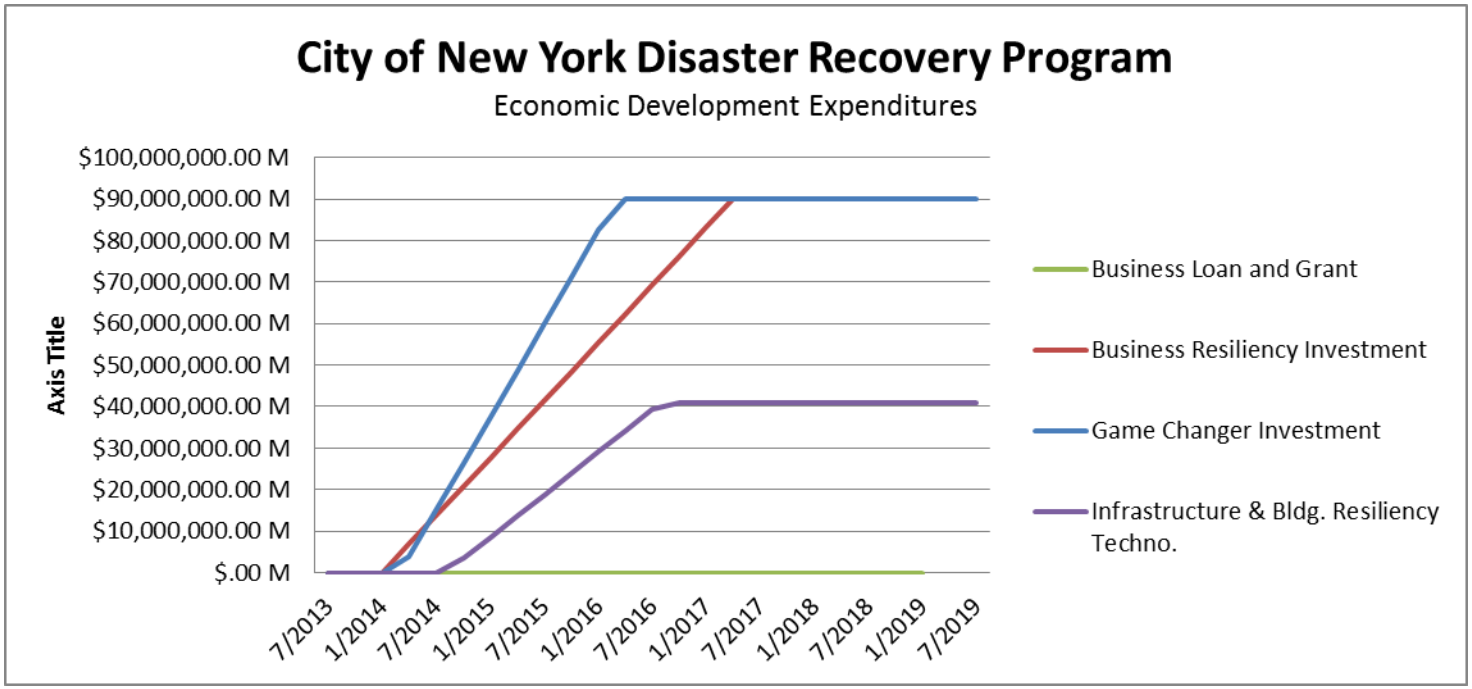
Given the nature of all Business Activities, the City's high-level, initial estimates of job creation/retention are expected to lag behind program expenditures. For their respective programs, job creation/retention estimates are based on:

- **Neighborhood Game Changer Investment Program**: performance requirements in similar programs to create and retain jobs, as well as the scale of the overall program,
- **Infrastructure and Building Resiliency Technologies Competition**: U.S. Department of Housing and Urban Development (HUD) benchmarks for similar programs, and
- **Business Loan and Grant Program**: an earlier program that provided loans and grants to Sandy-impacted Businesses.
- **Business Resiliency Investment Program**: the number of businesses measured by square feet impacted by Hurricane Sandy, and an estimate of the number of businesses that could be reached using currently available funds, based on analysis completed as part of the Mayor's Special Initiative for Rebuilding and Resiliency's (SIRR) A *Stronger, More Resilient New York* report of the estimated potential costs and benefits of targeted flood-protection measures on sites in the 100-year floodplain.

Business Financial Projections

Economic Development	7/2013	10/2013	1/2014	4/2014	7/2014	10/2014	1/2015	4/2015	7/2015	10/2015	1/2016	4/2016	7/2016
Projected Expenditures													
Business Loan and Grant	$0.0M	$0.0M	$7.84 M	$21.93 M	$38.54 M	$51.87 M	$62.21 M	$69.29 M	$69.84 M	$70.35 M	$70.46 M	$70.57 M	$70.68 M
Business Resiliency Investment	$0.0M	$0.0M	$0.0M	$6.9M	$13.8M	$20.8M	$27.7M	$34.6M	$41.5M	$48.5M	$55.4M	$62.3M	$69.2M
Game Changer Investment	$0.0M	$0.0M	$0.0M	$3.8M	$15.0M	$26.3M	$37.5M	$48.8M	$60.0M	$71.3M	$82.5M	$90.0M	$90.0M
Infrastructure & Bldg. Resiliency Techno.	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$3.4M	$8.5M	$13.7M	$18.8M	$23.9M	$29.0M	$34.2M	$39.3M
Quarterly Projection													
Business Loan and Grant	$0.0M	$.00 M	$7.84 M	$14.09 M	$16.61 M	$13.33 M	$10.34 M	$7.08 M	$.55 M	$.51 M	$.11 M	$.11 M	$.11 M
Business Resiliency Investment	$0.0M	$0.0M	$0.0M	$6.9M	$6.9M	$6.9M	$6.9M	$6.9M	$6.9M	$6.9M	$6.9M	$6.9M	$6.9M
Game Changer Investment	$0.0M	$0.0M	$0.0M	$3.8M	$11.3M	$11.3M	$11.3M	$11.3M	$11.3M	$11.3M	$11.3M	$7.5M	$0.0M
Infrastructure & Bldg. Resiliency Techno.	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$3.4M	$5.1M	$5.1M	$5.1M	$5.1M	$5.1M	$5.1M	$5.1M
Actual Expenditure													
Business Loan and Grant	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Business Resiliency Investment	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Game Changer Investment	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Infrastructure & Bldg. Resiliency Techno.	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Actual Quarterly Expend (from QPRs)													
Business Loan and Grant	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Business Resiliency Investment	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Game Changer Investment	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Infrastructure & Bldg. Resiliency Techno.	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M

Economic Development	10/2016	1/2017	4/2017	7/2017	10/2017	1/2018	4/2018	7/2018	10/2018	1/2019	4/2019	7/2019
Projected Expenditures												
Business Loan and Grant	$70.79 M	$70.89 M	$70.99 M	$71.09 M	$71.17 M	$71.24 M	$71.31 M	$71.38 M	$71.47 M	$71.66 M	$71.85 M	$72.00 M
Business Resiliency Investment	$76.2M	$83.1M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M
Game Changer Investment	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M	$90.0M
Infrastructure & Bldg. Resiliency Techno.	$41.0M	$41.0M	$41.0M	$41.0M	$41.0M	$41.0M	$41.0M	$41.0M	$41.0M	$41.0M	$41.0M	$41.0M
Quarterly Projection												
Business Loan and Grant	$.11 M	$.10 M	$.10 M	$.10 M	$.08 M	$.07 M	$.07 M	$.07 M	$.09 M	$.19 M	$.19 M	$.15 M
Business Resiliency Investment	$6.9M	$6.9M	$6.9M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Game Changer Investment	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Infrastructure & Bldg. Resiliency Techno.	$1.7M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Actual Expenditure												
Business Loan and Grant	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Business Resiliency Investment	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Game Changer Investment	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Infrastructure & Bldg. Resiliency Techno.	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Actual Quarterly Expend (from QPRs)												
Business Loan and Grant	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Business Resiliency Investment	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Game Changer Investment	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M
Infrastructure & Bldg. Resiliency Techno.	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M	$0.0M


City of New York Disaster Recovery Program
Economic Development Expenditures
Axis Title
$100,000,000.00 M
$90,000,000.00 M
$80,000,000.00 M
$70,000,000.00 M
$60,000,000.00 M
$50,000,000.00 M
$40,000,000.00 M
$30,000,000.00 M
$20,000,000.00 M
$10,000,000.00 M
$.00 M
7/2013
1/2014
7/2014
1/2015
7/2015
1/2016
7/2016
1/2017
7/2017
1/2018
7/2018
1/2019
7/2019
Business Loan and Grant
Business Resiliency Investment
Game Changer Investment
Infrastructure & Bldg. Resiliency Techno.

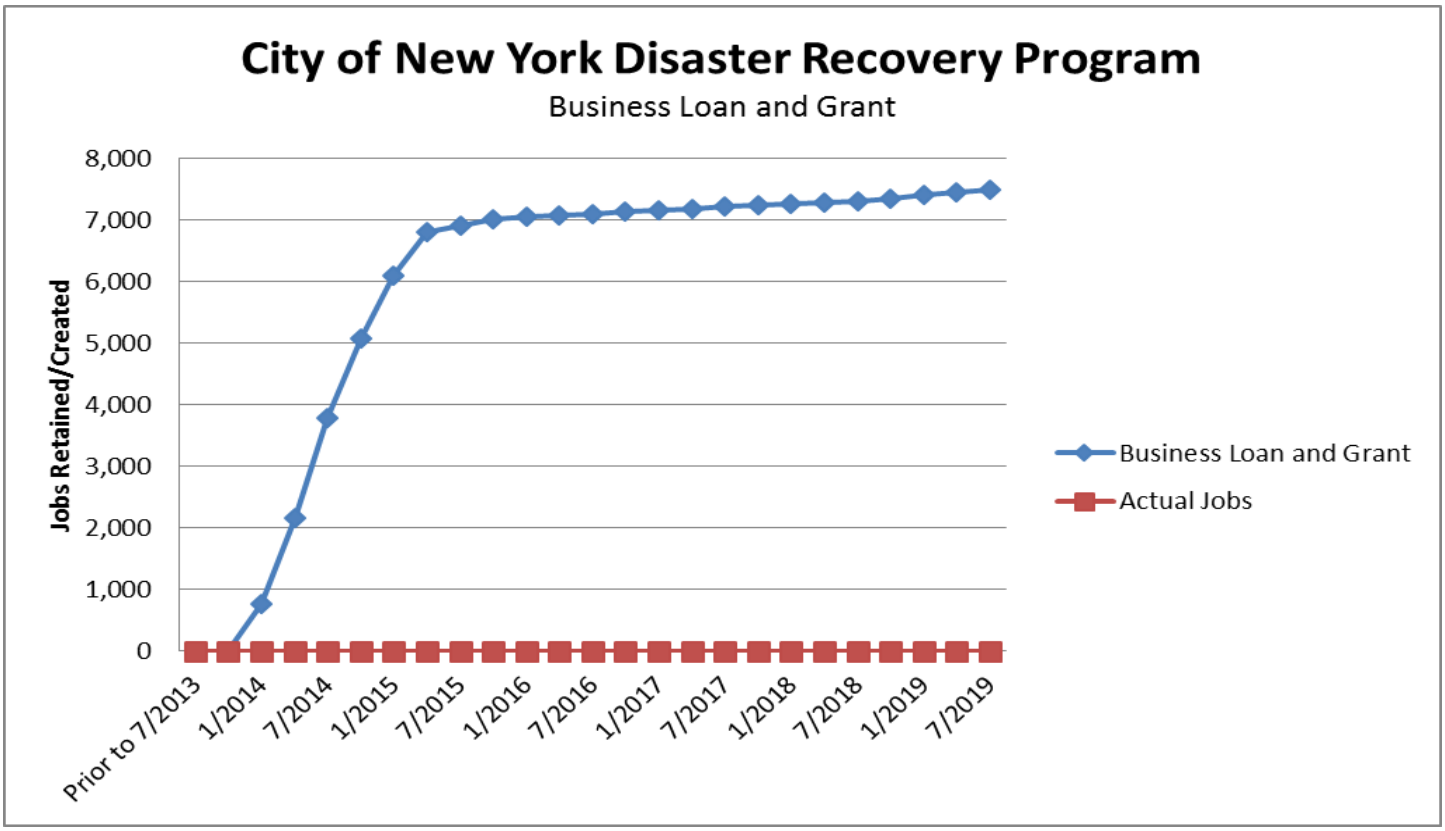
Business Performance Projections

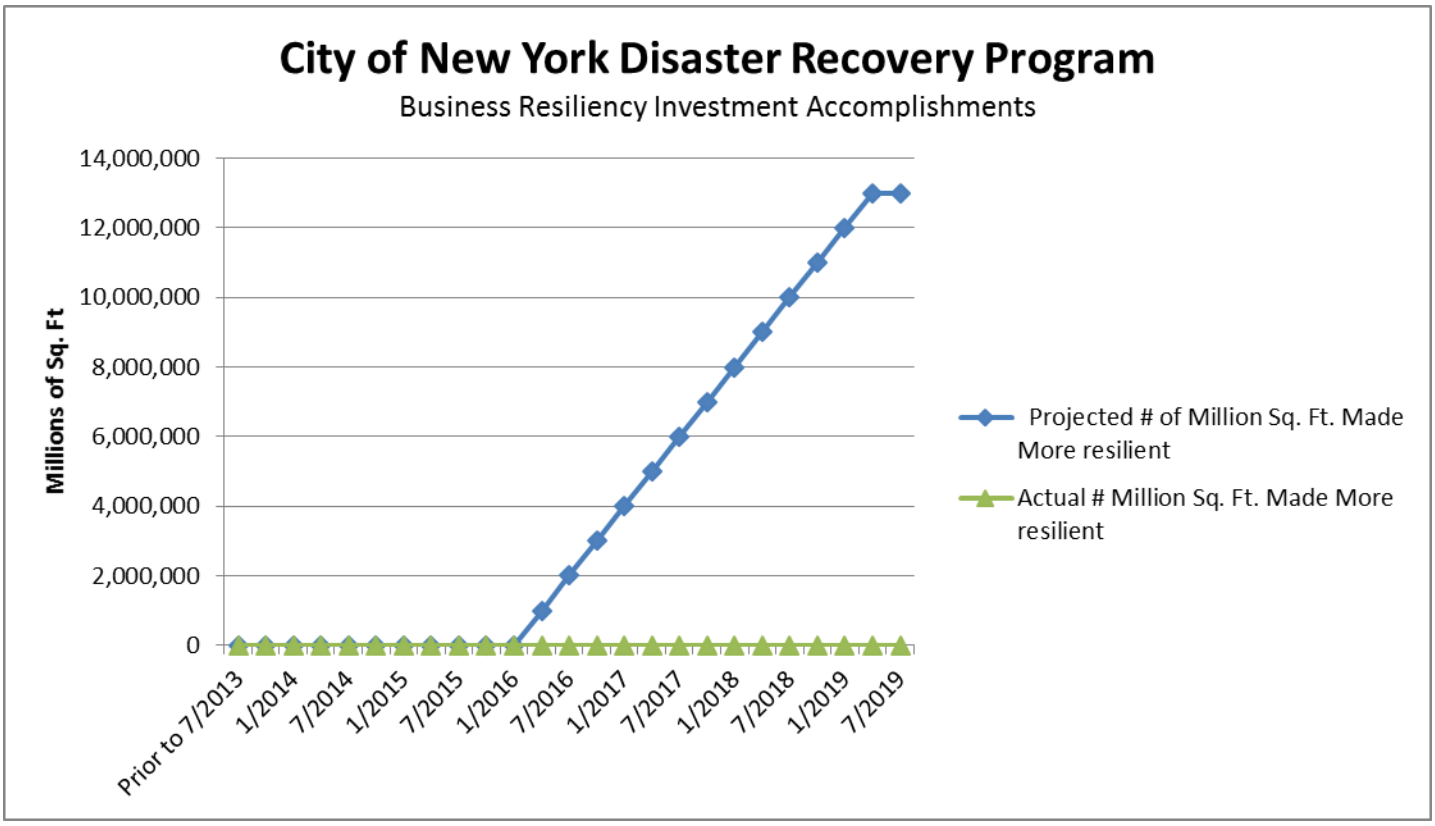
Economic Development	Prior to 7/2013	10/2013	1/2014	4/2014	7/2014	10/2014	1/2015	4/2015	7/2015	10/2015	1/2016	4/2016	7/2016
Business Loan and Grant													
Projected # of Jobs Created/Retained	0	0	765	2,166	3,777	5,082	6,100	6,813	6,914	7,015	7,047	7,076	7,106
# of Jobs Created/Retained (Quarterly Projection)	0	0	765	1,401	1611	1305	1019	713	101	101	32	29	29
Actual Jobs	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Jobs Created/Retained (Populated from QPR Reporting)	0												
Game Changer Investment Competition													
Projected # of Jobs Created/Retained	0	0	0	0	0	0	0	0	0	0	0	47	188
# of Jobs Created/Retained (Quarterly Projection)	0	0	0	0	0	0	0	0	0	0	0	47	141
Actual Jobs	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Jobs Created/Retained (Populated from QPR Reporting)	0												
Infrastructure and Building Resiliency Technologies Competition	0												
Projected # of Jobs Created/Retained	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Jobs Created/Retained (Quarterly Projection)	0	0	0	0	0	0	0	0	0	0	0	0	0
Actual Jobs	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Jobs Created/Retained (Populated from QPR Reporting)	0												
Business Resiliency Investment Program	0												
Projected # of Million Sq. Ft. Made More resilient	0	0	0	0	0	0	0	0	0	0	0	1,000,000	2,000,000
# of Million Sq. Ft. Made More resilient (Quarterly Projection)	0	0	0	0	0	0	0	0	0	0	0	1,000,000	1,000,000
Actual # Million Sq. Ft. Made More resilient	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Million Sq. Ft. Made More resilient (Populated from QPR Reporting)	0												

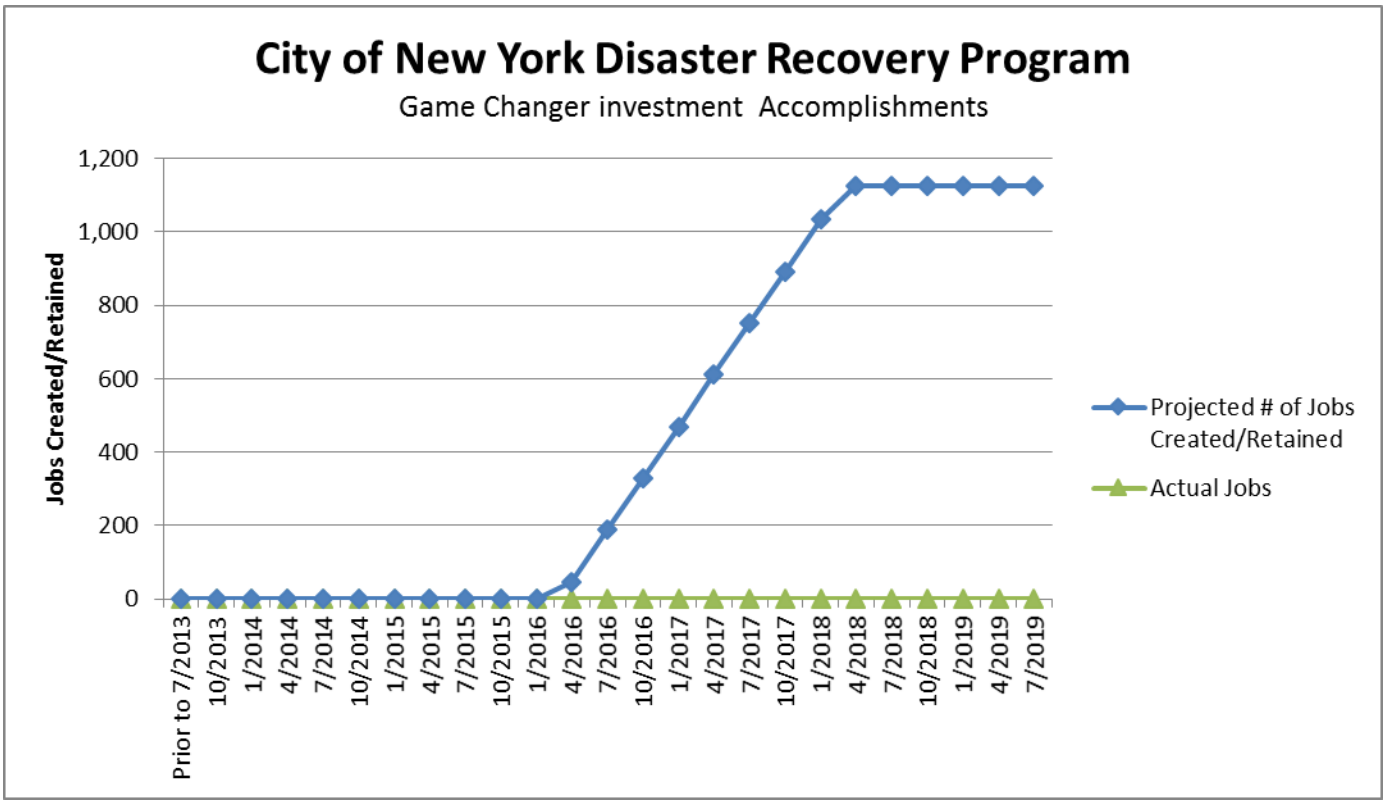
Quarterly Projections by Activity Type													
Business Loan and Grant													
# of Permanent Jobs Created	0		765	1401	1611	1305	1019	713	101	101	32	29	29
Game Changer Investment Competition													
# of Permanent Jobs Created	0	0	0	0	0	0	0	0	0	0	0	47	141
Infrastructure and Building Resiliency Technologies Competition													
# of Permanent Jobs Created	0	0	0	0	0	0	0	0	0	0	0	0	0
Business Resiliency Investment Program													
# of Million Sq. Ft. Made More resilient	0	0	0	0	0	0	0	0	0	0	0	1000	1000

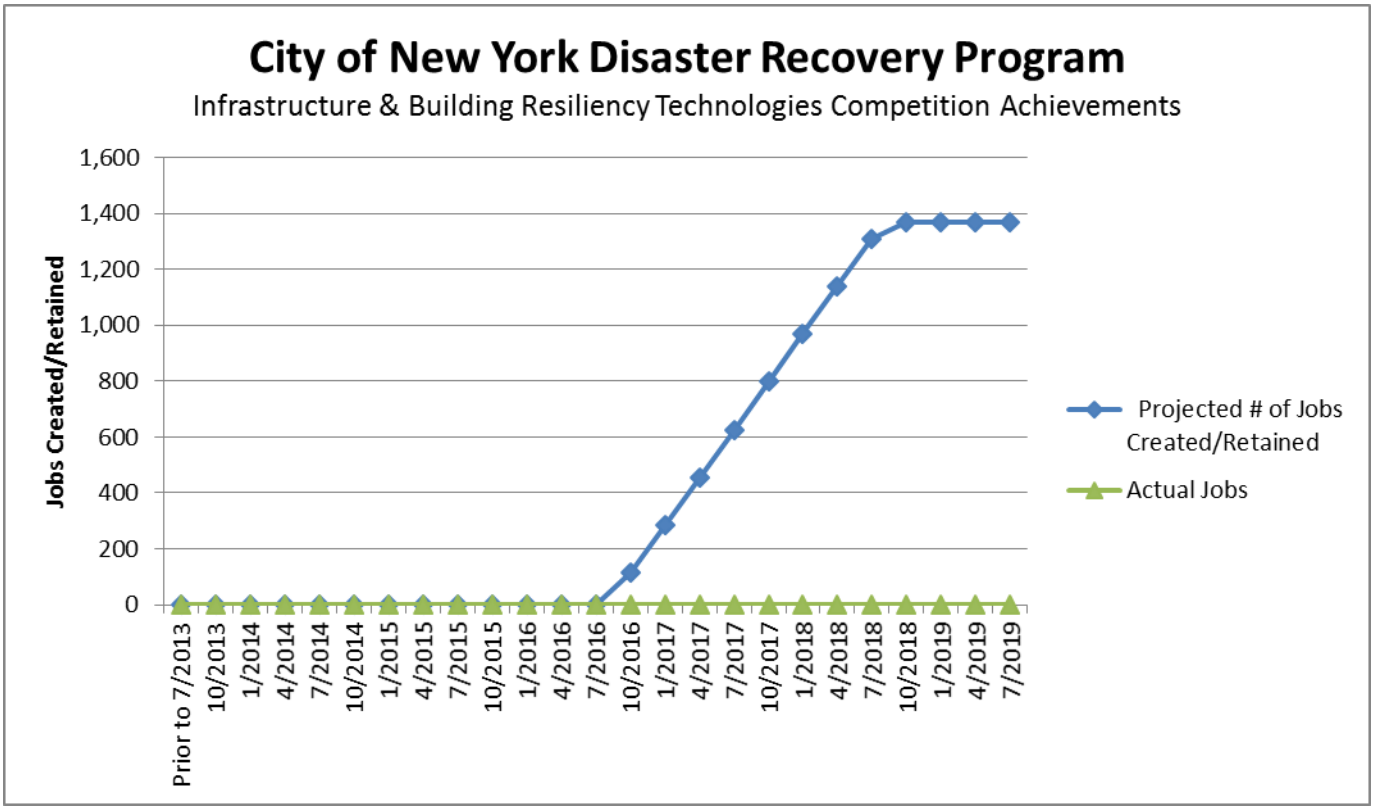
Economic Development	10/2016	1/2017	4/2017	7/2017	10/2017	1/2018	4/2018	7/2018	10/2018	1/2019	4/2019	7/2019
Business Loan and Grant												
Projected # of Jobs Created/Retained	7,135	7,163	7,191	7,220	7,248	7,269	7,291	7,313	7,351	7,400	7,449	7,498
# of Jobs Created/Retained (Quarterly Projection)	29	28	28	28	28	22	22	22	38	49	49	49
Actual Jobs	0	0	0	0	0	0	0	0	0	0	0	0
# of Jobs Created/Retained (Populated from QPR Reporting)												
Game Changer Investment Competition												
Projected # of Jobs Created/Retained	329	470	611	752	893	1,034	1,125	1,125	1,125	1,125	1,125	1,125
# of Jobs Created/Retained (Quarterly Projection)	141	141	141	141	141	141	91	0	0	0	0	0
Actual Jobs	0	0	0	0	0	0	0	0	0	0	0	0
# of Jobs Created/Retained (Populated from QPR Reporting)												
Infrastructure and Building Resiliency Technologies Competition												
Projected # of Jobs Created/Retained	114	285	456	627	798	969	1,140	1,311	1,370	1,370	1,370	1,370
# of Jobs Created/Retained (Quarterly Projection)	114	171	171	171	171	171	171	171	59	0	0	0
Actual Jobs	0	0	0	0	0	0	0	0	0	0	0	0
# of Jobs Created/Retained (Populated from QPR Reporting)												
Business Resiliency Investment Program												
Projected # of Million Sq. Ft. Made More resilient	3,000,000	4,000,000	5,000,000	6,000,000	7,000,000	8,000,000	9,000,000	10,000,000	11,000,000	12,000,000	13,000,000	13,000,000
# of Million Sq. Ft. Made More resilient (Quarterly Projection)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
Actual # Million Sq. Ft. Made More resilient	0	0	0	0	0	0	0	0	0	0	0	0
# of Million Sq. Ft. Made More resilient (Populated from QPR Reporting)												

Quarterly Projections by Activity Type												
Business Loan and Grant												
# of Permanent Jobs Created	29	28	28	28	28	22	22	22	22	33	33	33
Game Changer Investment Competition												
# of Permanent Jobs Created	141	141	141	141	141	141	91					
Infrastructure and Building Resiliency Technologies Competition												
# of Permanent Jobs Created	114	171	171	171	171	171	171	171	59			
Business Resiliency Investment Program												
# of Million Sq. Ft. Made More resilient	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	


City of New York Disaster Recovery Program
Business Loan and Grant
Jobs Retained/Created
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Prior to 7/2013
1/2014
7/2014
1/2015
7/2015
1/2016
7/2016
1/2017
7/2017
1/2018
7/2018
1/2019
7/2019
Business Loan and Grant
Actual Jobs


City of New York Disaster Recovery Program
Business Resiliency Investment Accomplishments
Millions of Sq. Ft
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Prior to 7/2013
1/2014
7/2014
1/2015
7/2015
1/2016
7/2016
1/2017
7/2017
1/2018
7/2018
1/2019
7/2019
Projected # of Million Sq. Ft. Made More resilient
Actual # Million Sq. Ft. Made More resilient


City of New York Disaster Recovery Program
Game Changer investment Accomplishments
Jobs Created/Retained
1,200
1,000
800
600
400
200
0
Prior to 7/2013
10/2013
1/2014
4/2014
7/2014
10/2014
1/2015
4/2015
7/2015
10/2015
1/2016
4/2016
7/2016
10/2016
1/2017
4/2017
7/2017
10/2017
1/2018
4/2018
7/2018
10/2018
1/2019
4/2019
7/2019
Projected # of Jobs Created/Retained
Actual Jobs


City of New York Disaster Recovery Program
Infrastructure & Building Resiliency Technologies Competition Achievements
Jobs Created/Retained
1,600
1,400
1,200
1,000
800
600
400
200
0
Prior to 7/2013
10/2013
1/2014
4/2014
7/2014
10/2014
1/2015
4/2015
7/2015
10/2015
1/2016
4/2016
7/2016
10/2016
1/2017
4/2017
7/2017
10/2017
1/2018
4/2018
7/2018
10/2018
1/2019
4/2019
7/2019
Projected # of Jobs Created/Retained
Actual Jobs

Infrastructure and Other City Services

Within the Action Plan, programs listed under Infrastructure & Other City Services include: Public Services, Debris Removal, Emergency Clearance, Code Enforcement, Rehabilitation/Reconstruction of Public Facilities, and Interim Assistance.

The program allocation is $360 million, more than half of which will be spent towards the $183 million in eligible costs incurred by the Health and Hospitals Corporation for reopening Bellevue and Coney Island Hospitals. As the process of linking CDBG-DR funding to spending and completing necessary documentation continues, the remaining allocation will be reimbursed to other agencies that incurred costs. A large portion of what is reimbursable will be Public Service and Rehabilitation/Reconstruction of Public Facilities. Public Service activities were conducted by various agencies to protect communities and provide for the health, safety, and welfare of NYC residents. Public Facilities will cover all non-residential structures that were impacted because of the storm.

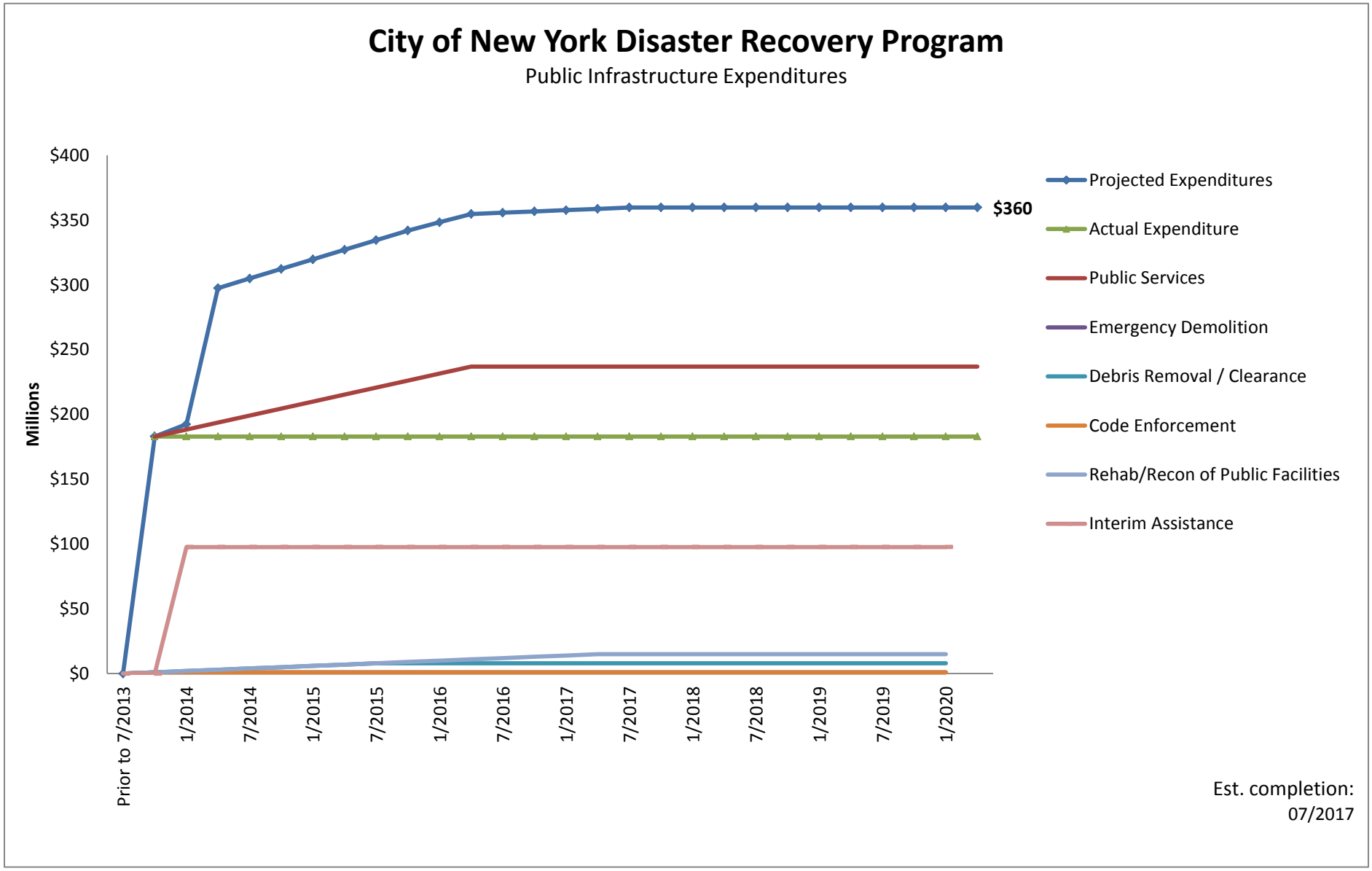
Similarly, the performance numbers come directly from the Action Plan amendment and accomplishments reference the work done immediately after the impact of the storm. Accomplishments refer to the services delivered by the City in its attempt to limit further damage by the storm and to maintain the provision of essential services to the City. Thus, in the chart, numbers are shown in the period before July 2013.

For Rehabilitation/Reconstruction of Public Facilities, the projected accomplishments are for 96 buildings to be rehabilitated or reconstructed. For Code Enforcement, 80,000 buildings have been inspected, of which 400 buildings posed a threat to surrounding communities and therefore had to be demolished. For Interim Assistance, NYC Rapid Repairs assisted over 11,500 buildings, comprising nearly 20,000 residential units, in the five boroughs. Lastly, for Public Services and Debris Removal, the working assumption is that 8.2 million NYC residents were assisted by these two citywide activities.

Infrastructure and Other City Services Financial Projections

IOCS (Infrastructure and Other City Servic	Prior to 7/2013	10/2013	1/2014	4/2014	7/2014	10/2014	1/2015	4/2015	7/2015	10/2015	1/2016	4/2016	7/2016	10/2016
Projected Expenditures	$ M	$183 M	$192 M	$298 M	$305 M	$312 M	$320 M	$327 M	$335 M	$342 M	$348 M	$355 M	$356 M	$357 M
Public Services		$183 M	$188 M	$194 M	$199 M	$205 M	$210 M	$215 M	$221 M	$226 M	$232 M	$237 M	$237 M	$237 M
Emergency Demolition		$ M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M
Debris Removal / Clearance		$ M	$1 M	$2 M	$3 M	$4 M	$5 M	$6 M	$7 M	$8 M	$8 M	$8 M	$8 M	$8 M
Code Enforcement		$ M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M
Rehab/Recon of Public Facilities		$ M	$1 M	$2 M	$3 M	$4 M	$5 M	$6 M	$7 M	$8 M	$9 M	$10 M	$11 M	$12 M
Interim Assistance		$ M	$ M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M
Quarterly Projection	$ M	$183 M	$9 M	$105 M	$7 M	$7 M	$7 M	$7 M	$7 M	$7 M	$6 M	$6 M	$1 M	$1 M
Public Services		$183 M	$5 M	$5 M	$5 M	$5 M	$5 M	$5 M	$5 M	$5 M	$5 M	$5 M		
Emergency Demolition			$1 M											
Debris Removal / Clearance			$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M				
Code Enforcement			$1 M											
Rehab/Recon of Public Facilities			$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M
Interim Assistance				$98 M										
Actual Expenditure		$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M
Public Services		$183 M												
Emergency Demolition														
Debris Removal / Clearance														
Code Enforcement														
Rehab/Recon of Public Facilities														
Interim Assistance														
Actual Quarterly Expend (from QPRs)	$ M	$183 M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M

IOCS (Infrastructure and Other City Servic	1/2017	4/2017	7/2017	10/2017	1/2018	4/2018	7/2018	10/2018	1/2019	4/2019	7/2019	10/2019	1/2020	4/2020
Projected Expenditures	$358 M	$359 M	$360 M	$360 M	$360 M	$360 M	$360 M	$360 M	$360 M	$360 M	$360 M	$360 M	$360 M	$360 M
Public Services	$237 M	$237 M	$237 M	$237 M	$237 M	$237 M	$237 M	$237 M	$237 M	$237 M	$237 M	$237 M	$237 M	$237 M
Emergency Demolition	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M
Debris Removal / Clearance	$8 M	$8 M	$8 M	$8 M	$8 M	$8 M	$8 M	$8 M	$8 M	$8 M	$8 M	$8 M	$8 M	$8 M
Code Enforcement	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M	$1 M
Rehab/Recon of Public Facilities	$13 M	$14 M	$15 M	$15 M	$15 M	$15 M	$15 M	$15 M	$15 M	$15 M	$15 M	$15 M	$15 M	$15 M
Interim Assistance	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M	$98 M
Quarterly Projection	$1 M	$1 M	$1 M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M
Public Services														
Emergency Demolition														
Debris Removal / Clearance														
Code Enforcement														
Rehab/Recon of Public Facilities	$1 M	$1 M	$1 M											
Interim Assistance														
Actual Expenditure	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M	$183 M
Public Services														
Emergency Demolition														
Debris Removal / Clearance														
Code Enforcement														
Rehab/Recon of Public Facilities														
Interim Assistance														
Actual Quarterly Expend (from QPRs)	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M

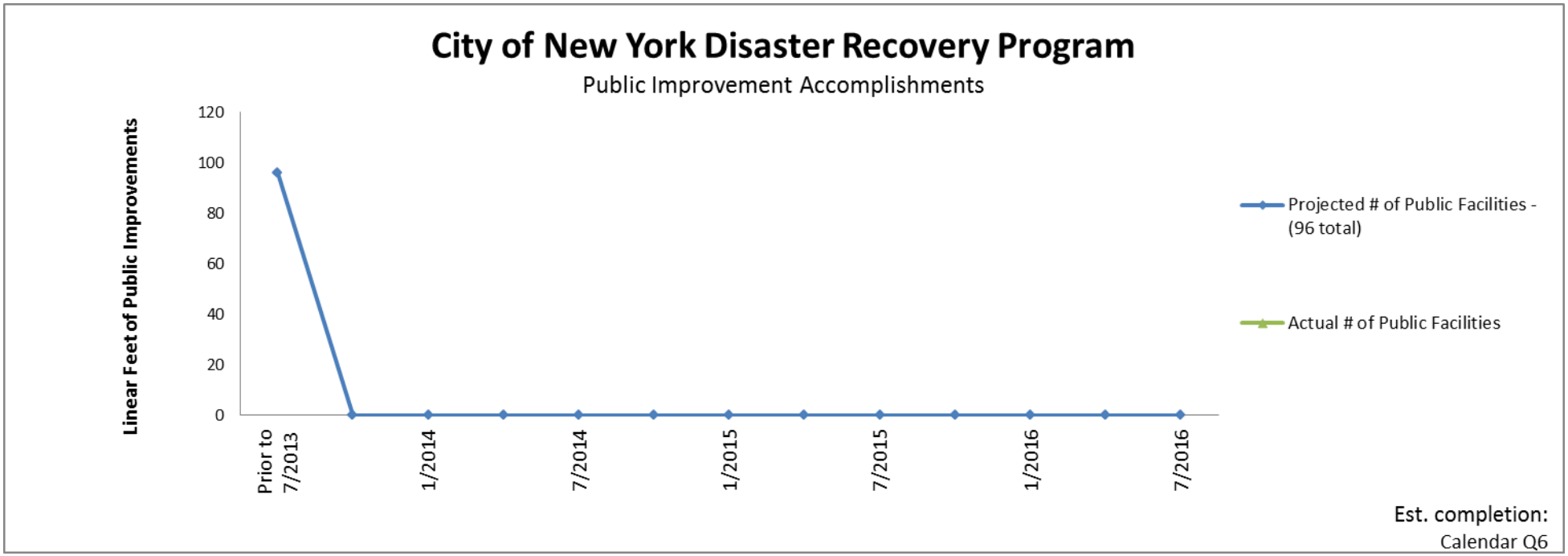

City of New York Disaster Recovery Program
Public Infrastructure Expenditures
Millions
$400
$350
$300
$250
$200
$150
$100
$50
$0
$360
Prior to 7/2013
1/2014
7/2014
1/2015
7/2015
1/2016
7/2016
1/2017
7/2017
1/2018
7/2018
1/2019
7/2019
1/2020
Projected Expenditures
Actual Expenditure
Public Services
Emergency Demolition
Debris Removal / Clearance
Code Enforcement
Rehab/Recon of Public Facilities
Interim Assistance
Est. completion:
07/2017

Infrastructure and Other City Services Performance Projections

IOCS (Infrastructure and Other City Services)	Prior to 7/2013	10/2013	1/2014	4/2014	7/2014	10/2014	1/2015	4/2015	7/2015	10/2015	1/2016	4/2016	7/2016	10/2016
Rehab/Recon of Public Improvement														
Projected # of Public Facilities -***(96 total)***	96	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Public Facilities (Quarterly Projection)	96	0	0	0	0	0	0	0	0	0	0	0	0	0
Actual # of Public Facilities														
# of Public Facilities (Populated from QPR Reporting)														
Public Services														
Projected # of People Served - HHC - ***Citywide 8.2M***	8.2M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
# of People Served (Quarterly Projection)	8.2M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Actual # of People Served	8.2M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
# of People Served (Populated from QPR Reporting)														
Code Enforcement														
Projected # Buildings Inspected ***(80,000 total)***	80,000	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Buildings Inspected (Quarterly Projection)	80,000	0	0	0	0	0	0	0	0	0	0	0	0	0
Actual # of Buildings Inspected														
# of Buildings Inspected (Populated from QPR Reporting)														
Debris Removal														
Projected # of People Served - ***Citywide 8.2M***	8.2M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
# of People Served (Quarterly Projection)	8.2M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Actual # of People Served														
# of People Served (Populated from QPR Reporting)														
Emergency Demolition														
Projected # of Properties ***(400 total)***	400	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Properties (Quarterly Projection)	400	0	0	0	0	0	0	0	0	0	0	0	0	0
Actual # of Properties														
# of Properties (Populated from QPR Reporting)														
Interim Assitance (Rapid Repairs)														
Projected # of Units - (***20,000 residential units)***	20,000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
# of People Served (Quarterly Projection)	20,000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Actual # of Units Assisted	20,000													
# of Units Assisted (Populated from QPR Reporting)														

Quarterly Projections by Activity Type	
Rehab Recon of Public Improved	
Projected # of Public Facilities	96
Public Services	
Projected # of People Served	8.2
Code Enforcement	
Projected # Buildings Inspected	80,000
Debris Removal	
Projected # of People Served	8.2
Emergency Demolition	
Projected # of Properties	400
Interim Assitance (Rapid Repairs)	
Projected # of Properties	20,000

IOCS (Infrastructure and Other City Services)	1/2017	4/2017	7/2017	10/2017	1/2018	4/2018	7/2018	10/2018	1/2019	4/2019	7/2019	10/2019	1/2020	4/2020
Rehab/Recon of Public Improvement														
Projected # of Public Facilities -***(96 total)***	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Public Facilities (Quarterly Projection)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Actual # of Public Facilities														
# of Public Facilities (Populated from QPR Reporting)														
Public Services														
Projected # of People Served - HHC - ***Citywide 8.2M***	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
# of People Served (Quarterly Projection)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Actual # of People Served	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
# of People Served (Populated from QPR Reporting)														
Code Enforcement														
Projected # Buildings Inspected ***(80,000 total)***	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Buildings Inspected (Quarterly Projection)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Actual # of Buildings Inspected														
# of Buildings Inspected (Populated from QPR Reporting)														
Debris Removal														
Projected # of People Served - ***Citywide 8.2M***	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
# of People Served (Quarterly Projection)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Actual # of People Served														
# of People Served (Populated from QPR Reporting)														
Emergency Demolition														
Projected # of Properties ***(400 total)***	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# of Properties (Quarterly Projection)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Actual # of Properties														
# of Properties (Populated from QPR Reporting)														
Interim Assitance (Rapid Repairs)														
Projected # of Units - (***20,000 residential units)***	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
# of People Served (Quarterly Projection)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Actual # of Units Assisted														
# of Units Assisted (Populated from QPR Reporting)														
Quarterly Projections by Activity Type														
Rehab Recon of Public Improved														
Projected # of Public Facilities														
Public Services														
Projected # of People Served														
Code Enforcement														
Projected # Buildings Inspected														
Debris Removal														
Projected # of People Served														
Emergency Demolition														
Projected # of Properties														
Interim Assitance (Rapid Repairs)														
Projected # of Properties														


City of New York Disaster Recovery Program
Public Improvement Accomplishments
Linear Feet of Public Improvements
120
100
80
60
40
20
0
Prior to 7/2013
1/2014
7/2014
1/2015
7/2015
1/2016
7/2016
Projected # of Public Facilities - (96 total)
Actual # of Public Facilities
Est. completion:
Calendar Q6

Resiliency

Resiliency measures have been further outlined in the first Action Plan amendment. Based on the Mayor's Special Initiative for Rebuilding and Resiliency's (SIRR) *A Stronger, More Resilient New York* report, program descriptions have been detailed for both Coastal Protection and Building Impacts projects.

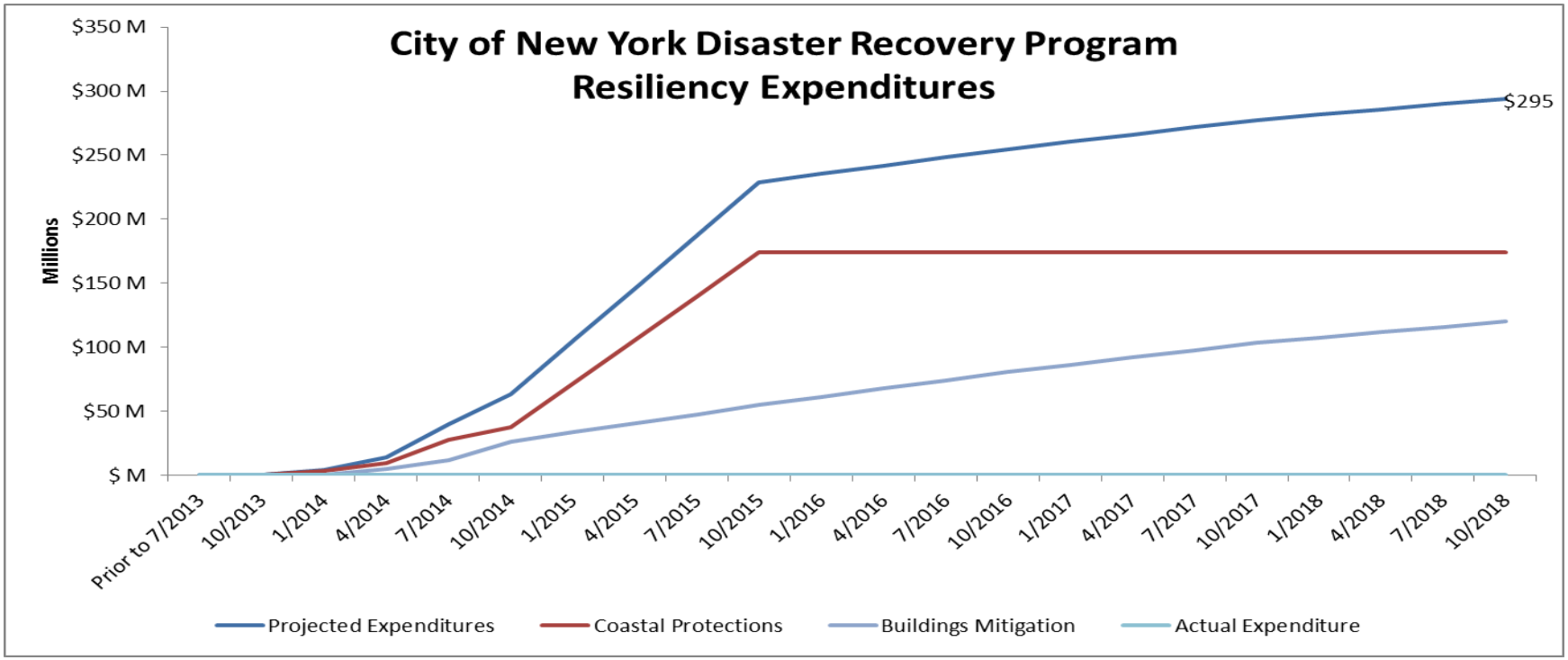
Coastal Protection program allocation is currently proposed at $174 million to be distributed among installing armor stone revetments; repairing, installing, and raising bulkheads; and designing (through a Global Design Competition) and installing an integrated Flood Protection System at Hospital Row. As stated in the first Action Plan Amendment, the Coastal Protection program is currently projected to begin during the latter half of 2013 through to 2018, and it is on this basis for which the expenditure projections are based on. Expenditures are projected to begin early 2014 and continue through to the latter half of 2015.

Likewise, the current proposed allocation towards Building Impacts is at $120 million, to be used towards the Building Mitigation Incentive Program as described in the first Action Plan Amendment. Project Management Office (PMO) for the incentive program will probably not be established until end of 2013 so it is likely the first applications for funding will not be processed until the first quarter of 2014. If the funding is tied to the submission of reimbursement receipts, then a lag will be incorporated into the timeframe to match the estimated construction period for the retrofits. One-to-three family homes were not specifically targeted in this analysis due to half the funds being allocated to the NYC Housing Preservation and Development (HPD) for affordable housing projects (assumed 50% split between low-rise and high-rise) and the rest of it allocated to NYC Economic Development Corporation (EDC), which will likely be for commercial and mixed-use high-rise projects. HPD will only be financing affordable housing with their program while EDC has the discretion to focus on any commercial or high-rise building types. Industrial low-rise buildings (1-2 stories) not assumed to take up funds due to strained economics (low rents / building values relative to resiliency retrofit costs). Projected outcomes were based off similar analysis and distributed equally through the first eight quarters (and beyond) given the range of 20-34 million sq. ft., which is consistent with the Action Plan's amendment of estimated 20 million square feet.

Resiliency Financial Projections

Resiliency	Prior to 7/2013	10/2013	1/2014	4/2014	7/2014	10/2014	1/2015	4/2015	7/2015	10/2015	1/2016
Projected Expenditures	$ M	$ M	$4 M	$14 M	$40 M	$64 M	$105 M	$146 M	$188 M	$229 M	$235 M
Coastal Protections		$ M	$4 M	$10 M	$28 M	$37 M	$71 M	$106 M	$140 M	$174 M	$174 M
Buildings Mitigation		$ M	$1 M	$5 M	$12 M	$26 M	$33 M	$41 M	$48 M	$55 M	$61 M
Quarterly Projection	$ M	$ M	$4 M	$10 M	$25 M	$24 M	$41 M	$41 M	$41 M	$41 M	$6 M
Coastal Protections		$.00 M	$3.50 M	$6.00 M	$18.30 M	$9.30 M	$34.30 M	$34.30 M	$34.30 M	$34.30 M	$.00 M
Buildings Mitigation		$.00 M	$.58 M	$4.19 M	$7.11 M	$14.56 M	$7.05 M	$7.05 M	$7.05 M	$7.05 M	$6.45 M
Actual Expenditure	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M
Actual Quarterly Expend (from QPRs)	$ M										

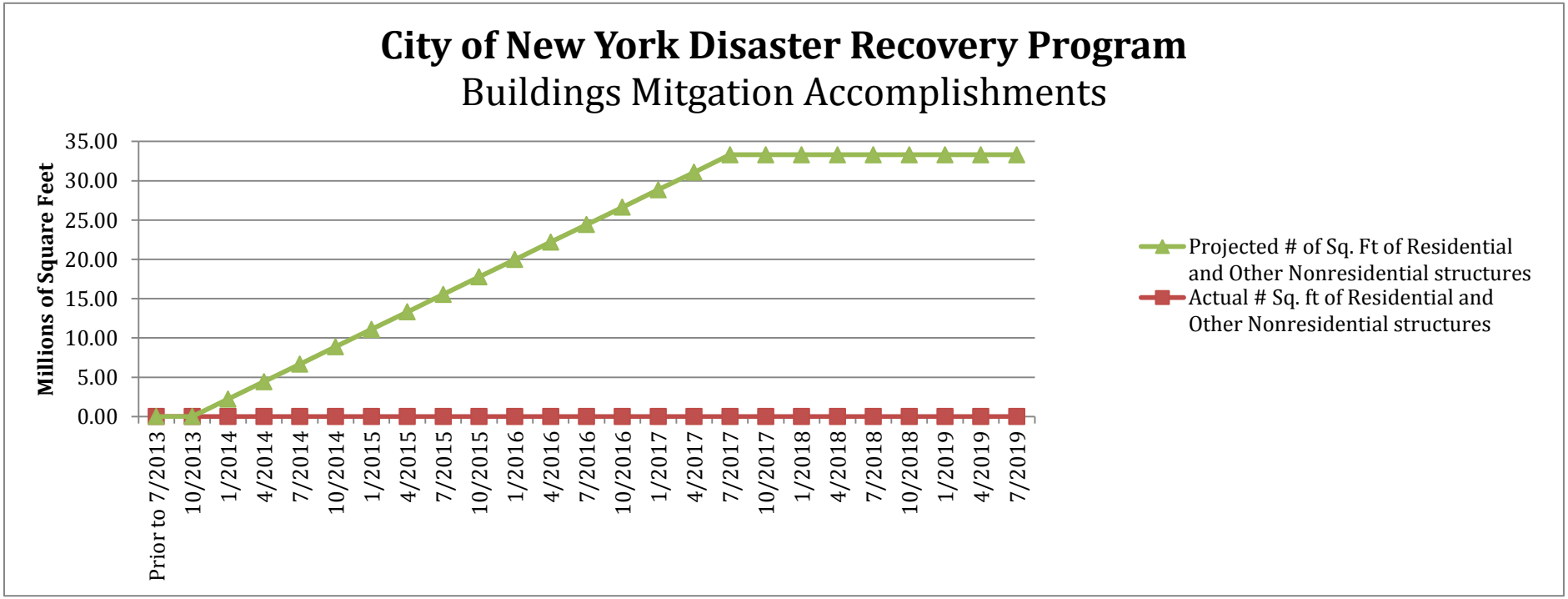
Resiliency	4/2016	7/2016	10/2016	1/2017	4/2017	7/2017	10/2017	1/2018	4/2018	7/2018	10/2018
Projected Expenditures	$242 M	$248 M	$255 M	$260 M	$266 M	$272 M	$278 M	$282 M	$286 M	$290 M	$294 M
Coastal Protections	$174 M	$174 M	$174 M	$174 M	$174 M	$174 M	$174 M	$174 M	$174 M	$174 M	$174 M
Buildings Mitigation	$68 M	$74 M	$80 M	$86 M	$92 M	$98 M	$103 M	$107 M	$112 M	$116 M	$120 M
Quarterly Projection	$6 M	$6 M	$6 M	$6 M	$6 M	$6 M	$6 M	$4 M	$4 M	$4 M	$4 M
Coastal Protections	$.00 M	$.00 M	$.00 M	$.00 M	$.00 M	$.00 M	$.00 M	$.00 M	$.00 M	$.00 M	$.00 M
Buildings Mitigation	$6.45 M	$6.45 M	$6.45 M	$5.70 M	$5.70 M	$5.70 M	$5.70 M	$4.20 M	$4.20 M	$4.20 M	$4.20 M
Actual Expenditure	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M
Actual Quarterly Expend (from QPRs)											



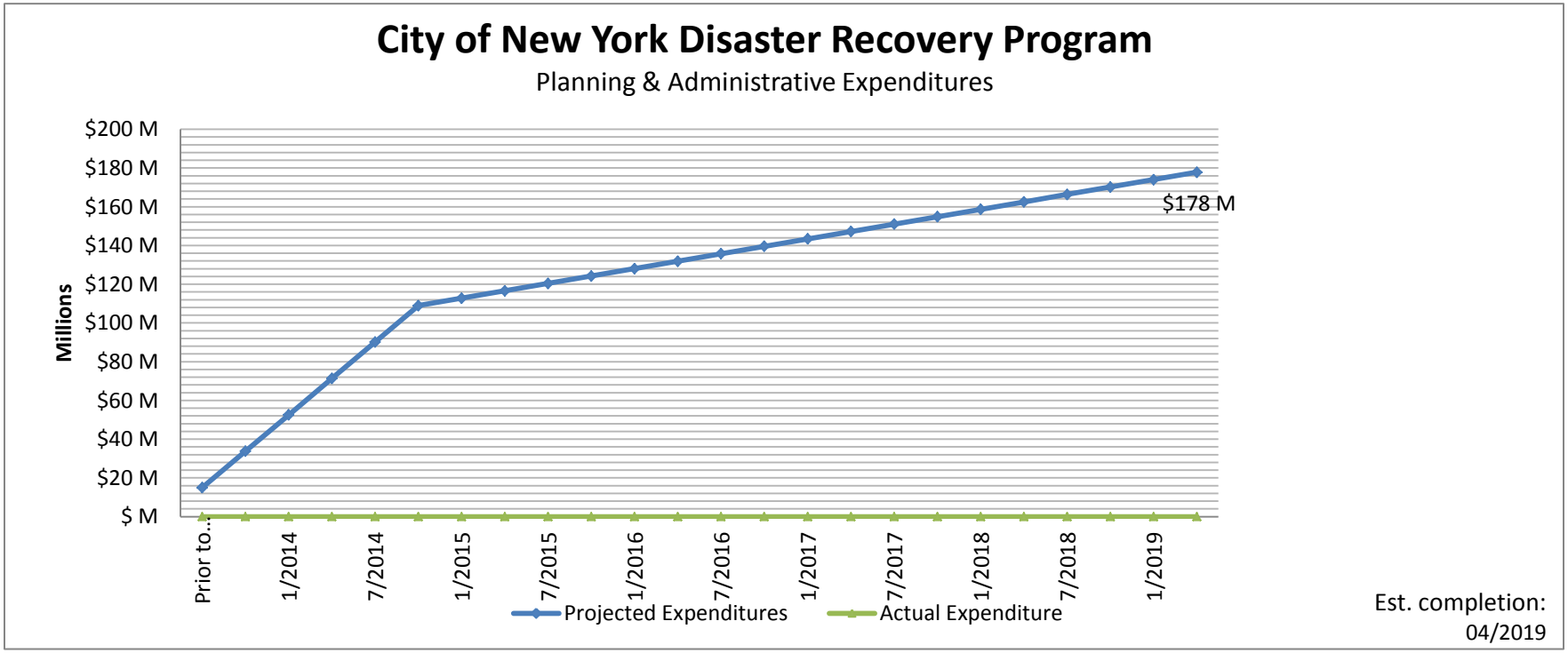
Resiliency Performance Projections

Resiliency	Prior to 7/2013	10/2013	1/2014	4/2014	7/2014	10/2014	1/2015	4/2015	7/2015	10/2015	1/2016	4/2016	7/2016	10/2016
Buildings Mitigation														
Projected # of Sq. Feet of Residential and Other Nonresidental structures (approximately ***20M square ft.)***	0.00	0.00	2.22	4.44	6.66	8.88	11.10	13.32	15.54	17.76	19.98	22.20	24.42	26.64
# of Sq. Feet of Residential and Other Nonresidential structures (Quarterly Projection)		0.00	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22
Actual # Sq. ft of Residential and Other Nonresidential structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
# of Sq. Feet of Residential and Other Nonresidential structures (Populated from QPR Reporting)	0.00													
Quarterly Projections by Activity Type														
Building Mitigation														
Projected # of Sq. Ft of Residential and Other Nonresidential structures	0	0	2.22	4.44	6.66	8.88	11.1	13.32	15.54	17.76	19.98	22.2	24.42	26.64

Resiliency	1/2017	4/2017	7/2017	10/2017	1/2018	4/2018	7/2018	10/2018	1/2019	4/2019	7/2019	10/2019	1/2020	4/2020
Buildings Mitigation														
Projected # of Sq. Feet of Residential and Other Nonresidental structures (approximately ***20M square ft.)***	28.86	31.08	33.30	33.30	33.30	33.30	33.30	33.30	33.30	33.30	33.30	33.30	33.30	33.30
# of Sq. Feet of Residential and Other Nonresidential structures (Quarterly Projection)	2.22	2.22	2.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Actual # Sq. ft of Residential and Other Nonresidential structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
# of Sq. Feet of Residential and Other Nonresidential structures (Populated from QPR Reporting)														
Quarterly Projections by Activity Type														
Building Mitigation														
Projected # of Sq. Ft of Residential and Other Nonresidential structures	28.86	31.08	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3



Citywide Administrative and Planning Financial Projections

Planning & Admin	Prior to 7/2013	10/2013	1/2014	4/2014	7/2014	10/2014	1/2015	4/2015	7/2015	10/2015	1/2016	4/2016	7/2016	10/2016
Projected Expenditures	$15 M	$34 M	$53 M	$71 M	$90 M	$109 M	$113 M	$117 M	$120 M	$124 M	$128 M	$132 M	$136 M	$140 M
Planning	$15 M	$15 M	$15 M	$15 M	$15 M	$15 M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M
Administration	$ M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M
Quarterly Projection	$15 M	$19 M	$19 M	$19 M	$19 M	$19 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M
Planning	$15 M	$15 M	$15 M	$15 M	$15 M	$15 M								
Administration		$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M
Actual Expenditure	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M
Actual Quarterly Expend (from QPRs)	$ M													

Planning & Admin	1/2017	4/2017	7/2017	10/2017	1/2018	4/2018	7/2018	10/2018	1/2019	4/2019
Projected Expenditures	$143 M	$147 M	$151 M	$155 M	$159 M	$162 M	$166 M	$170 M	$174 M	$178 M
Planning	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M
Administration	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M
Quarterly Projection	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M
Planning										
Administration	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M	$4 M
Actual Expenditure	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M	$ M
Actual Quarterly Expend (from QPRs)