



NYC Residential Resilience Technical Assistance Pilot Program

ASFPM Annual Conference – Phoenix, AZ - June 19, 2018



Agenda

- Program background
- Unique housing stock
- Program Phases
 - Program Design Phase
 - Marketing and recruiting
 - Audit Phase
 - Counseling Phase
- Desired Outcomes

Background



- Center for New York City Neighborhoods
- NY Governor's Office of Storm Recovery
- Dept. of Housing and Urban Development
 - Hurricane Sandy Disaster Supplemental Funding
 - Limited to Moderate Income NYC Residents
 - Unmet Needs

Drivers

- Superstorm Sandy
- Increasing Flood Insurance Premiums
- New Preliminary Flood Insurance Rate Maps
- Uniqueness of New York City Housing



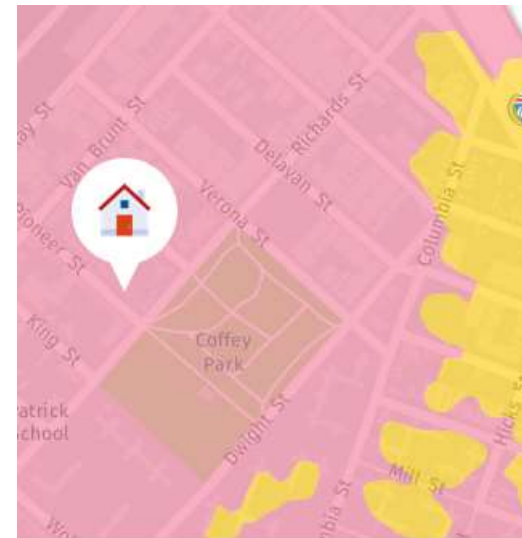
Rising flood insurance costs

Recent federal legislation is raising flood insurance costs dramatically for homeowners in older, denser cities. It's a change that could displace thousands of New York families.



More extreme weather

By 2050, New York City sea levels are expected to rise as high as two and a half feet, making floods from today's harshest storms more likely to occur.



Uniqueness of Housing Stock

- Dense development
- Single family = 1-4 family home
- Abundance of row housing
- Below street level housing
- Space is at a premium – basement apartments



Desired Outcomes



Three Levels of Resilience:

1. Elevations – Preliminary BFE +2'
2. Feasible alternatives that increase resilience, while also lowering insurance premiums (e.g. wet floodproofing)
3. Any feasible alternative to increase resilience

Range of Options

- Elevation (+2' above Prelim. BFE)
- Wet floodproofing (fill to grade and vent)
- Abandoning first floor
- Dry floodproofing
- Elevating mechanicals and utilities
- Perimeter flood walls
- Sump pumps and backwater valves



Program Design



- Enhancements to www.floodhelpNY.org
- Creation of a Flood Insurance Rate Calculator
- Salesforce driven Eligibility Platform
- Salesforce driven Audit Platform
- Counselor Training
- Initial pilot goal was 1600 homes

www.floodhelpNY.org



FloodHelpNY

by the Center for NYC Neighborhoods

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NYC's flood risk is on the rise

Irene 2011: 9

See how to keep your home and finances safe from flooding.

Today at 1:22PM 3.0k

[Discover Your Risk](#)



Are you a homeowner in NYC?

See if you're eligible for a free personalized plan to keep your home and finances flood-safe.

[Learn More](#)

www.floodhelpNY.org



- Simple lay terminology
- Walks through all the way to registration
- Collects data for eligibility determination
- Call center and counselors follow through



It looks like you're eligible for a free Home Resiliency Audit valued at over \$1,800.

Help protect your home and finances from flooding.

[Get started](#)

Flood Insurance Rate Calculator



You may be eligible for a free Home Resiliency Audit.

Select homeowners can receive audits from a professional engineer as well as financial counseling at no cost to them.

Get Started



Get a flood insurance estimate (BETA)

We'll ask you some more detailed information about your building to get a flood insurance estimate.

Get Started

⌚ 5 minutes to complete

More Resources

Dive deeper into what this means for you



Understanding Flood Insurance



Discover Programs & Benefits



Learn About Resiliency



Home Resiliency Audit

FloodHelpNY by the Center for NYC Neighborhoods








Eng

Back to Profile

Building Size

Building Type

How would you best describe your building type?

 Bungalow	 Detached	 Semi-detached	 Attached
			
Previous			Next

Marketing and Recruiting

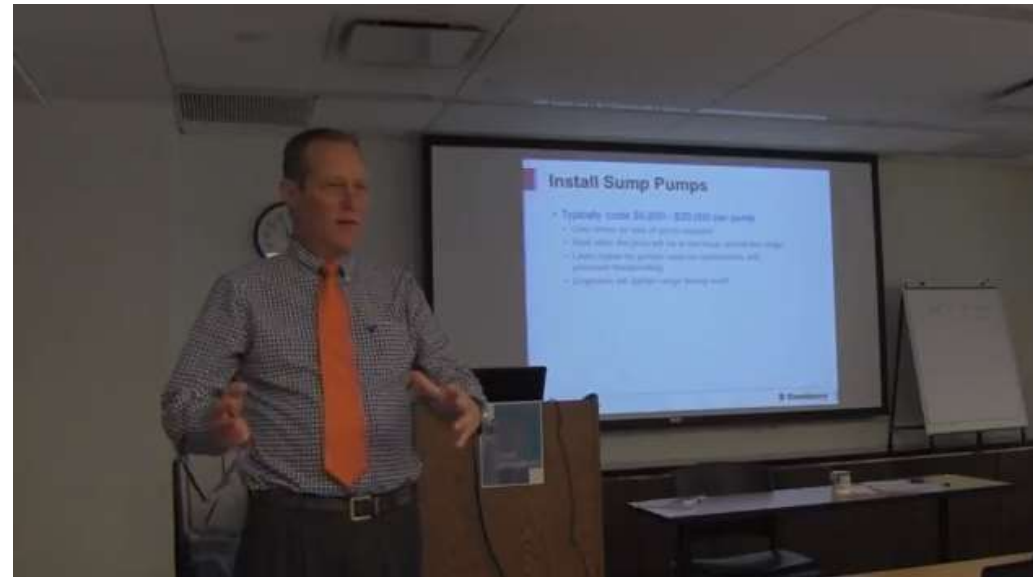


- Draws on CNYCN neighborhood specific contacts
- Community events—neighborhood socials
- Community, civic, religious and local political leaders
- Door-to-door flyers and knocking
- Word of mouth

Counselor Training



- Understanding the flood maps
- Elevation Certificates
- Rate calculator / insurance rating
- Resilience options and associated Impacts
- Available programs and support





Pre-Audit Steps

- CNYCN Hub reaches out to applicants and completes eligibility review
 - Income requirements
 - Duplication of benefits
- Audits schedule in preselected blocks of time by like location in batches
- Audit Engineers assigned 6-12 / week, online
- Automated email reminders and tracking all done in Salesforce Platform



The Audit

- Typically 4 per day – on site <45 minutes
- One Engineer (CFM), one Surveyor
- Free Elevation Certificate included
- Access all areas below BFE and first floor
- Rapid visual assessment
- Collect data to inform recommendations using the platform
- Collect data to inform cost estimation ranges

Data Collection

- Heating Equipment
- Cooling Equipment
- Elevators
- Oil Tanks
- Roof
- Drainage
- Water Treatment
- Electrical Equipment
- Laundry
- Foundation Supports
- Backwater Valves
- Lowest Plumbing
- Low Water Entry Pts.
- Lowest adjacent grade
- Highest adjacent grade
- Etc.



Data Collection



RTAPP Audit Detail

[Edit](#)[Clone](#)[Run DDP\(Community\)](#)[Run DocGen Package](#)

Project and Property Information

RTAPP Audit Name



Auditor Project Number

Property 49100


Site Visit By

RTAPP Application 1082

DEI Project Number 262

Elevation Certificate Filename 262 DeArmas Elevation Certificate.pdf

Audit Report Filename Technical Report Lisa DeArmas.pdf

Temporary Test Address  Rd, Jamaica, NY 11414, USA


Previous Flood Events (all units in feet)

Flood Event Location First Floor

Flood Event Height 0.50

Flood Event Measured From First/Lowest Floor

Attachment Type Detached

Attachment Comments  The structure is a one-story frame dwelling with a basement and outside basement entrance walkout. The electric panel in the basement is the lowest piece of equipment. The boiler and water heating tank are on the next highest floor at 13.9'. The Preliminary BFE is 11.0'.

Data Collection



Flood Zone and Certificate Information (all units in feet)

Prelim. Flood Risk Classification ? AE

Building Diagram Number ? 2B

Flood Risk Classification ? AE

Lowest Adjacent Grade (C2.f) ? 8.40

Base Flood Elevation - Prelim ? 11.00

Highest Adjacent Grade (C2.g) ? 9.00

Base Flood Elevation - Effective ? 9.00

Lowest Grade At Deck (C2.h) ? 7.10

Top of Bottom Floor (C2.a) ? 6.10

Freeboard State ? 2.00

Top of Next Floor (C2.b) ? 13.60

Freeboard City ? 2.00

Lowest Horizontal Structure (C2.c)

Existing FFE

Attached Garage (C2.d)

Effective BFE Difference -2.90

Lowest Machinery Elevation (C2.e) ? 10.40

Prelim. BFE Difference -4.90

Lowest floor has kitchen

Datum Used ? NGVD '29

Lowest floor has laundry

Data Collection



Foundation

Foundation Type ? With Basement	Foundation Flood Resistant
Foundation Material Concrete	Foundation Points of Water Entry
Contents ?	Foundation can be infilled Yes
Basement Ceiling Height 6.80	Foundation Material Conditions Fair
Height Outside to Fill 2.30	Foundation flood resistance other commen
	Foundation Area Footprint
	Foundation Resiliency Options ? Fill; Install flood vents; Wet Proof; Backflow preventers
	Foundation Comments ? The basement walls are at risk of flood damage from unequalized pressure in a flood event. There were no flood vents installed at the residence. Standing water was observed in a couple of areas in the basement.

Recommendations and Costs



Can Lowest Level Be Abandoned?

Can Basement/Crawlspace Be Filled In?

Can Basement/CS Be Filled In Notes The basement is at 6.1' at the lowest point. Outside grade is between 8.4' and 9.0'. The basement can be filled to outside grade to eliminate the possibility of structural damage from unequalized hydrostatic pressure. It should be capped with concrete and flood vents should be installed.

Basement/Crawlspace Fill-In Cost - Low

Basement/Crawlspace Fill-In Cost - High

Should First Floor Be Abandoned?

Should First Floor Be Abandoned Notes The first floor is at 13.6' which is 2.6 FT above the Preliminary BFE. There is no need to abandon this floor.

Abandoning the First Floor Cost - Low

Abandoning the First Floor Cost - High

Recommendations and Costs



Can Home Be Elevated?

Feasible to lift this structure?

Feasible to lift this structure Notes

Elevating the Home Cost - Low

Elevating the Home Cost - High

Can Utilities Be Elevated?

Can any utilities/equipment be elevated?

Can Elevate Heating System

Can Elevate Cooling System

Can Elevate AHU?

Can Elevate Condenser?

Distribution System Can Be Elevated?

Pumps Can Be Elevated?

Water Treatment System Can Be Elevated

Washer/Dryer Can Be Elevated?

Utility Sinks Can Be Elevated

Bathrooms Can Be Elevated

Can Utilities Be Elevated Notes

Elevating Mechanical Equipment Cost Low

Elevating Mechanical Equipment Cost High



Recommendations and Costs

Other Resiliency Options

Basement/Crawlspace Can Be Filled? Yes No

Home Has Flood Vents? No Yes

Are Materials Flood Damage Resistant? No Yes

Dry floodproofing Sub BFE Space? No Yes

Dry floodproofing Mechanical? N/A Yes No

Dry floodproofing Electrical? Yes No

Dry floodproofing Floor Drains? Yes No

Basement/Crawlspace Can Be Filled Notes

The basement can be filled in to grade.

Home Has Flood Vents Notes

There are no flood vents

Materials Flood Damage Resistant Notes

The materials are not considered Flood Damage Resistant.

Dry floodproofing Sub BFE Space Notes

The basement floor is 4.9 FT below the Preliminary BFE. It is generally not advised

Dry floodproofing Mechanical Notes

The mechanical units are on the first floor above the Preliminary BFE. It is not

Dry floodproofing Electrical Notes

The electric panel is 0.6 FT below the Preliminary BFE. It may be feasible to

Dry floodproofing Floor Drains Notes

Backwater valves should be installed for any plumbing located below the Preliminary BFE

Other Resiliency Options General Notes

Elevating the structure would be costly and the first floor is already above the Preliminary BFE. The basement walls are susceptible to structural damage from hydrostatic pressure in the event of a flood.



APPLICATION 1						
ELEVATION COST ESTIMATE FOR 1 to 4 FAMILY DETACHED HOME ON CONTINUOUS FOUNDATION WITHOUT BASEMENT						
Building Plan Dimensions			Elevation Data			
Width (ft):	23.00		BFE (ft):	11.00		
Length (ft):	45.60		DFE (ft):	11.30		
Estimated Building Plan Area (SF):	1,049		LAG (ft):	9.40		
Elevated Height Above Grade (ft)	1.90					
Estimated Number of Interior Footings: Long Axis						
Estimated Number of Interior Footings: Short Axis						
Estimated No. of Piers/Columns	4					
Item No.	Description	Quantity	Unit	Unit Price	Total Cost	Details/Assumptions
1 - HOUSE LIFTING						
1.1	LIFTING - BASE COST (up to 6 ft)	0	LS	\$37,965.00	\$0.00	Base cost for lifting operation
1.2	LIFTING - ADDITIONAL COST (6 to 8 ft)	0.00	FT	\$542.00	\$0.00	Additional cost for higher lift
1.3	LIFTING - ADDITIONAL COST (8 to 12 ft)	0.00	FT	\$1,627.00	\$0.00	Additional cost for higher lift
2 - SHALLOW CONTINUOUS FOOTINGS						

Quality Review



QA and QC

Auditor QA Complete

Engineer QA Complete

Estimator QA Complete

Final Licensed Engineer QA/QC Review [6/5/2018]

CNYCN QA Complete

Auditor QA Sign Off

Engineer QA Sign Off

Estimator QA Sign Off

Final Licensed Engineer QA/QC Sign Off

CNYCN QA Sign Off

Save

Save & New

Cancel

Attachments and Counseling



Notes & Attachments New Note Attach File View All

Action	Type	Title
Edit View Del	Attachment	257 Campbell Elevation Certificate.pdf

Open Activities New Task

No records to display

Activity History Log a Call Send an Email

No records to display

RTAPP Audit History

Date	User	Action
3/19/2018 11:00 AM	Sara Melomedov	Changed CNYCN QA Sign Off to Sara Melomedov.
1/30/2018 9:01 AM	Jason Lee	Changed Final Licensed Engineer QA/QC Review to 1/30/2018. Changed Final Licensed Engineer QA/QC Sign Off to Jason Lee.
1/22/2018 1:02 PM	Susan Tierney	Changed Dry floodproofing Electrical Notes to The electric panel and meter are currently a Changed Dry floodproofing Sub BFE Space Notes from Dry flood-proofing for flood depths gr below the Preliminary BFE. to Dry flood-proofing for flood depths greater than 3 FT is not r Preliminary BFE..

[Show more »](#) | [Go to list »](#)

RTAPP Counselings New RTAPP Counseling

Action	RTAPP Counseling: Rtapp Counseling Name
Edit	Marva Campbell

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
National Flood Insurance Program

ELEVATION CERTIFICATE OMB No. 1660-0008
Expiration Date: July 31, 2015

Important: Read the instructions on pages 1-9.

SECTION A - PROPERTY INFORMATION

A1. Building Owners Name: **Adam Armstrong** For Insurance Company Use: Policy Number: _____

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: **90 Pioneer Street (20)** Company NAIC Number: _____

City: **Brooklyn** State: **NY** Zip Code: **11231**

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.): **Sec., Blk. 531, Lot 36**

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): **Residential**

A5. Latitude/Longitude: Lat. **40°42'41.317" N** Long. **74°0'35.38" W** Horizontal Datum: NAD 1927 NAD 1983

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance

A7. Building Diagram Number: **2A**

A8. For a building with a crawlspace or enclosure(s):
 a) Square footage of crawlspace or enclosure(s) **N/A** sq ft
 b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0' above adjacent grade **N/A**
 c) Total net area of flood openings in A8.b **N/A** sq in
 d) Engineered flood openings? Yes No

A9. For a building with an attached garage:
 a) Square footage of attached garage **N/A** sq ft
 b) Number of permanent flood openings in the attached garage within 1.0' above adjacent grade **N/A**
 c) Total net area of flood openings in A9.b **N/A** sq in
 d) Engineered flood openings? Yes No



Counseling Phase

- Simple report is generated featuring key components of audits and client facing recommendations.
- CNYCN Counselors visit the homes, present the reports and review costs and insurance savings (if any) of all recommended options.
- Elevation Certificate, report and supporting material are left with owners.
- Available sources of financing, grants and other support are reviewed.
- Design engineers, architects, insurance professionals and others are discussed.



Questions?

