



Building a Resilient NEW YORK CITY

Toward a Resilient Land Use Strategy

COMMUNITY PREPAREDNESS
AND COMMUNITIES NEED PREPARED TOO. THE CITY IS WORKING TO MAKE SURE RESIDENTS AND BUSINESSES ARE PREPARED NOT JUST FOR THE NEXT SANDY, BUT FOR ANY EMERGENCY WE FACE.

BEING PREPARED TO EVACUATE IS IMPORTANT IN THE EVENT OF AN APPROACHING STORM.

INDUSTRIAL BUILDINGS SHOULD PRIORITIZE ELEVATING VALUABLE EQUIPMENTS ABOVE THE FLOOD LEVEL.

INFRASTRUCTURE HARDENING
HARDENING INFRASTRUCTURE SYSTEMS FROM FLOODING HELP TO PREVENT THE LOSS OF POWER, COMMUNICATIONS, AND TRANSPORTATION NETWORKS WHEN STORMS OCCUR.

ALL RESIDENTIAL BUILDINGS NEED TO ELEVATE UNITS ABOVE THE FLOOD LEVEL.

The Impacts of Hurricane Sandy

- 43 deaths in NYC
- 6,500 patients evacuated from hospitals and nursing homes
- Nearly 90,000 buildings in the inundation zone
- Close to 2 million people without power
- \$19 billion in damage

Managing Risk

Sandy reinforced that resilient building design can reduce risks to severe flood events.



Neponsit, Queens



Arverne by the Sea, Queens

The Lessons Florida Has Learned From Past Hurricanes

Strong building codes matter.

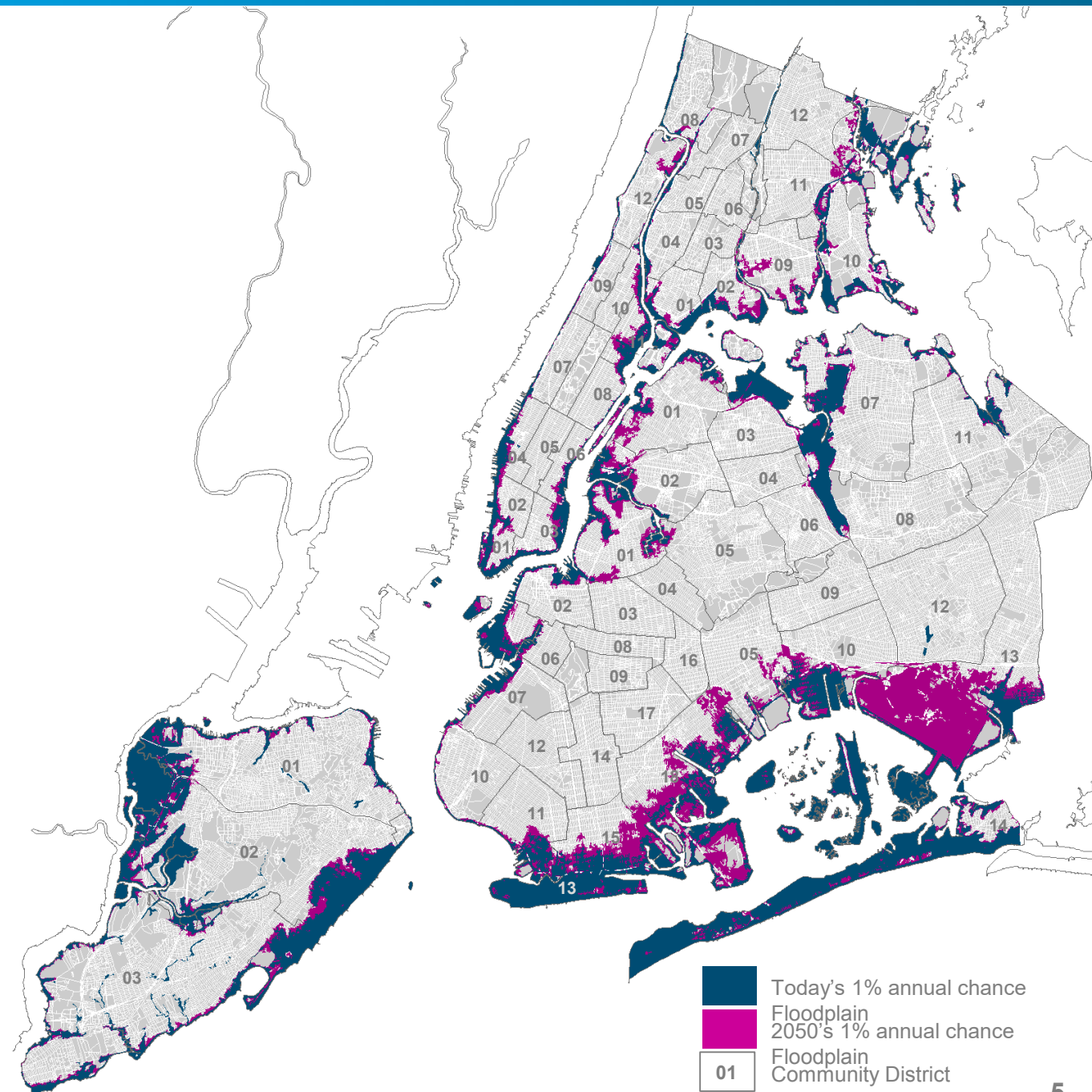
When Hurricane Michael flattened parts of the Florida Panhandle last year, it [exposed a serious weakness](#) in the state's building code: Stringent rules to make homes along the Atlantic coast resistant to fierce winds were more lenient in the Panhandle, a region historically less prone to hurricanes. Older properties in the scenic town of Mexico Beach, Fla., did not stand a chance against that storm, a Category 5 beast.



The elevated house that the owners call the Sand Palace, on 36th Street in Mexico Beach, Fla., came through Hurricane Michael almost unscathed last year. Johnny Milano for The New York Times

Coastal Flood Risk

	Current 1% annual chance Floodplain	2050's 1% annual chance Floodplain
People	400,685	794,534
Buildings	80,907	122,132

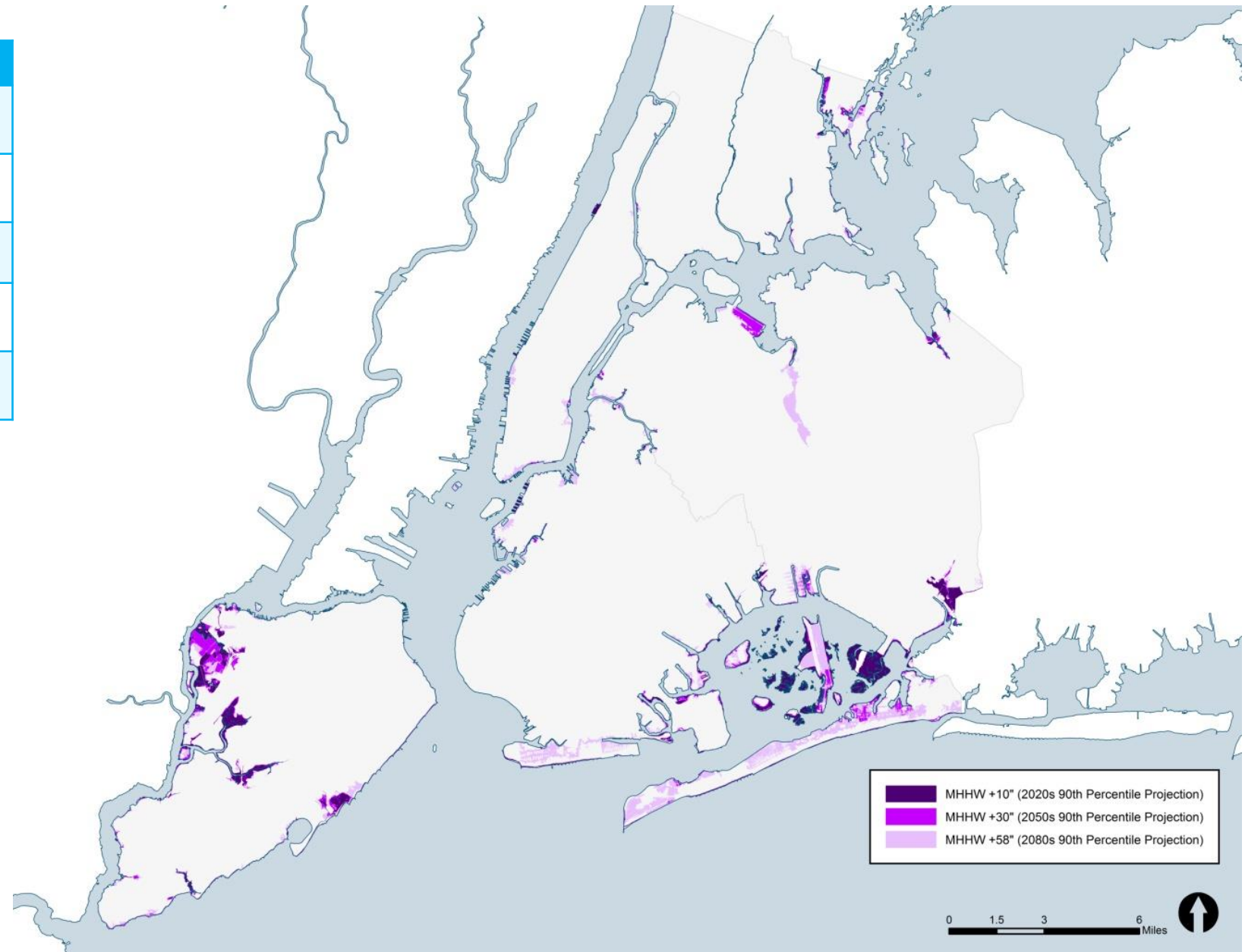


Source: The current floodplain is based on the 1% annual chance floodplain established by the FEMA 2015 Preliminary Flood Insurance Rate Maps (PFIRM). The 2050s floodplain is based on FEMA's Preliminary Flood Insurance Rate Map data and the New York City Panel on Climate Change's 90th Percentile Projections for Sea-Level Rise in the 2050s.

Coastal Flood Risk

Tidal Flooding*			
	2020s Projected	2050s Projected	2080s Projected
Residential Units	2,400	13,400	104,600
Buildings	1,600	7,000	28,000
Land Area (Acres)	5,300	7,500	13,300
Streets (Miles)	11	47	270

*Numbers rounded for clarity.





Alley Pond Creek, Queens



Upper Bay

The waterfront is large—with 520 miles—and diverse. These areas face different flood risks and issues with the current regulatory framework, and require particular strategies to make them resilient.



Rockaways, Queens



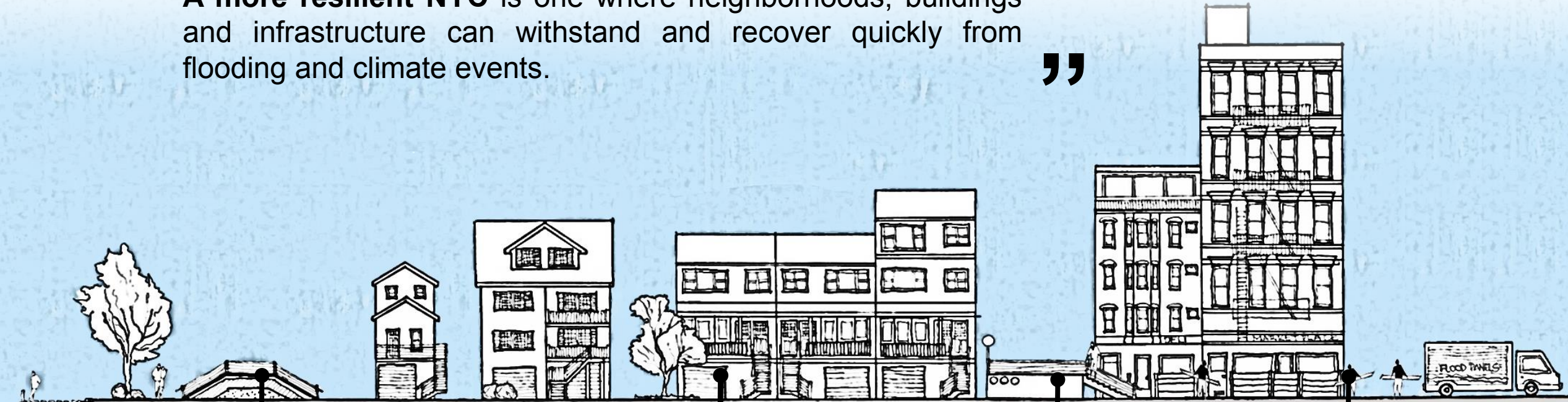
Williamsburg, Brooklyn

#ONENYC

“

A more resilient NYC is one where neighborhoods, buildings and infrastructure can withstand and recover quickly from flooding and climate events.

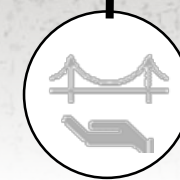
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Coastal Strategies
are strengthened as first line of defense
against flooding and sea level rise



Buildings
are designed to withstand and
recover from flooding



Infrastructure is
protected from
climate hazards

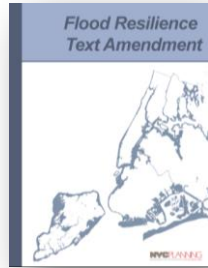


**Residents
and businesses are**
prepared

What we have done since Sandy Overview



**Executive Order
(2012)**



**Flood Text
(2013)**

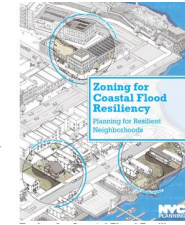


**Recovery Text
(2015)**



**Citywide & Neighborhood
Studies + Outreach
(2014-2019)**

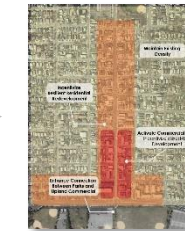
Recommended
citywide and
local zoning
changes



**Zoning for Coastal
Flood Resiliency
(2020)**



**Special Coastal Risk
Districts (2017)**



**Additional Local
Actions (2020)**

Land Use Planning in the Floodplain

Citywide vs. Local Approach

Where flood risk is exceptional, including where sea level rise will lead to future daily tidal flooding

Where risk from extreme events can be managed through infrastructure and context can support growth



Flood risk and Land Use Considerations

Limit Density

In some areas, there is a need to limit future density to decrease the exposure to damage and disruption.

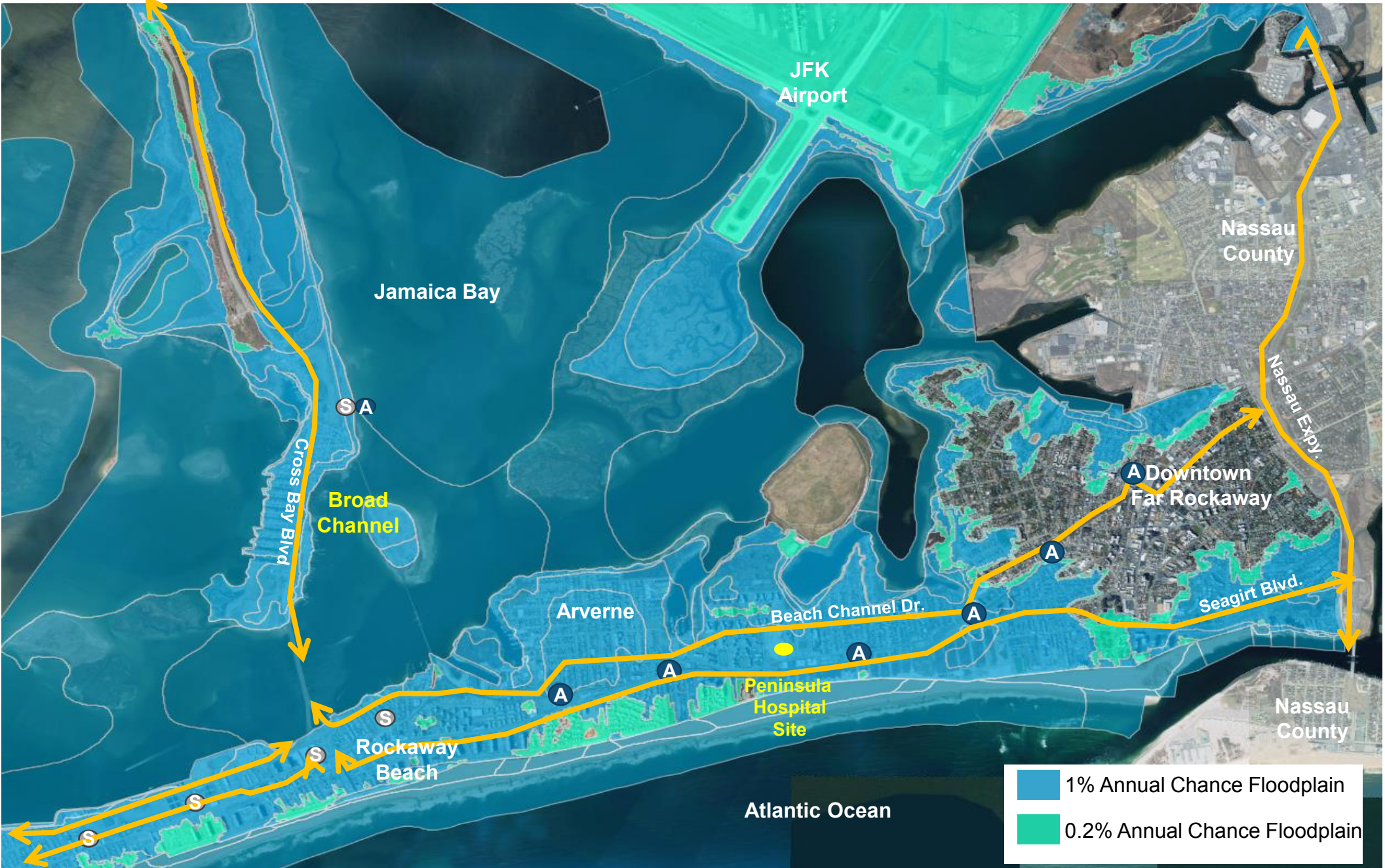
Support Planned Density

Adjust zoning to allow all buildings to meet resiliency standards, by providing flexibility and removing zoning obstacles.

Encourage Density

In other areas, the city can encourage new development, as to increase the resilient building stock.

Flood Risk and Land Use Spectrum



Flood Risk and Land Use Planning – South Queens

Broad Channel Characteristics

- Entirely within the current 1% annual chance floodplain, including areas subject to high velocity wave activity
- The area already experiences periodic tidal flooding, a condition likely to worsen with sea level rise
- Limited vehicular access to/from neighborhood
- Zoning was updated in 2017 to limit increasing the population of this highly vulnerable area
- \$48M street and bulkhead raising project

Super moon high tide flooding in Broad Channel



Flood Risk and Land Use Planning – South Queens

Peninsula Hospital Site Characteristics

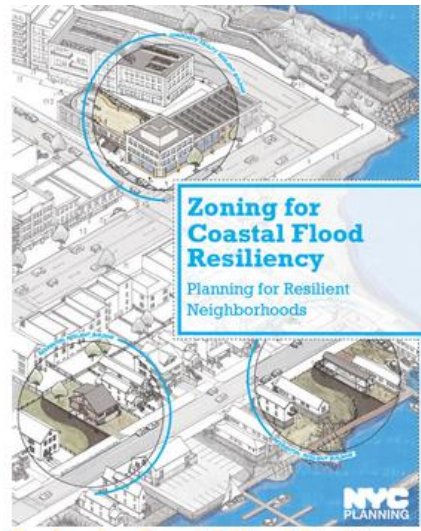
- Private rezoning adopted in Nov. 2019 to support new affordable housing (2,000 units), and commercial and community facility uses
- Entirely within the current 1% annual chance floodplain
- The center of the site will be graded up above the 1% annual chance floodplain
- All buildings will be designed to meet or exceed flood resistant construction standards
- The site is located within an established residential area and near critical infrastructure that supports the Rockway Peninsula's population

Rendering of Peninsula Hospital Redevelopment facing south



Next Steps

Citywide text amendment + local actions



2020

Zoning for Coastal Flood Resiliency

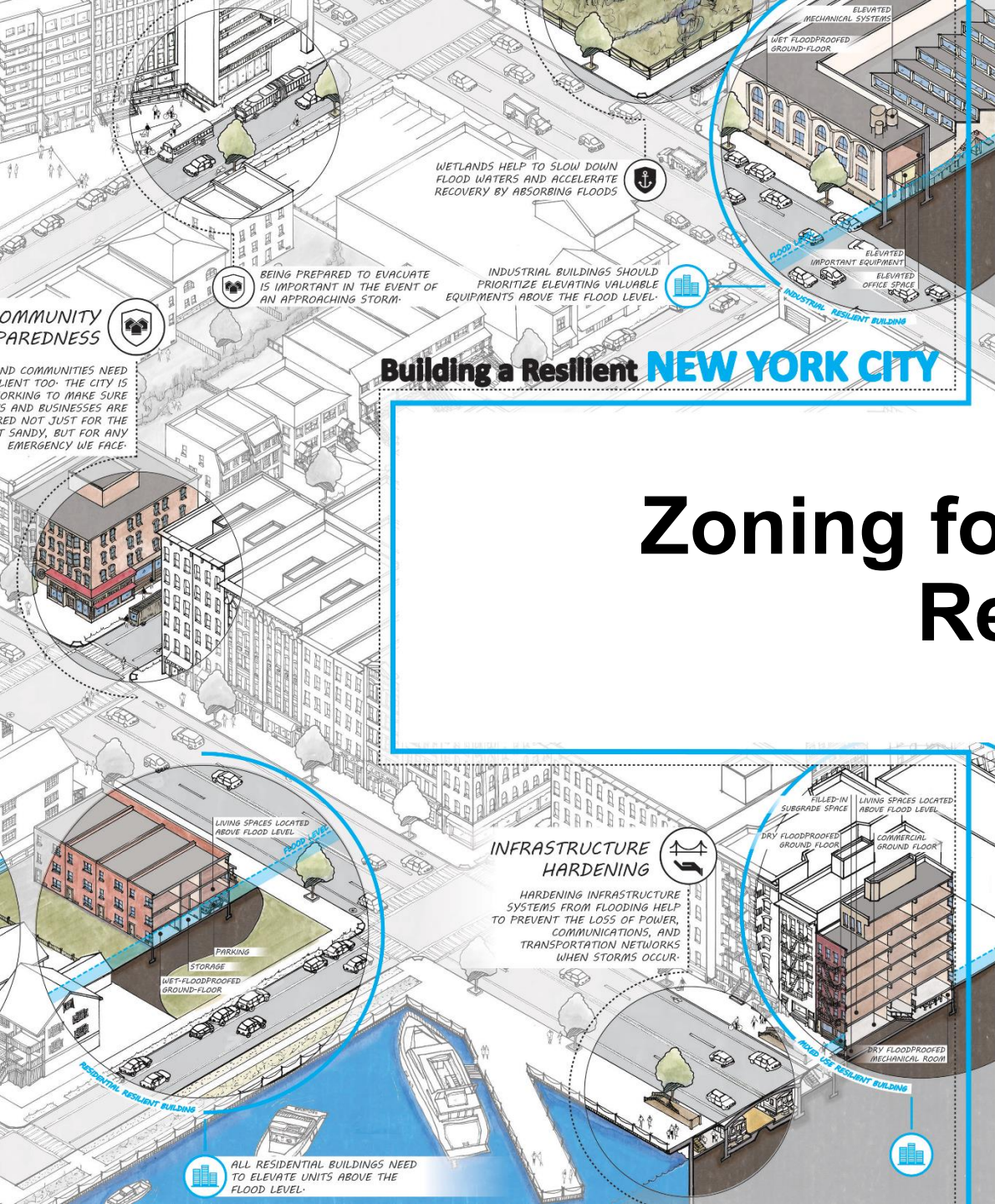
Encourage resiliency throughout the city's current and future floodplains



2020

Local Actions

Resiliency rezonings in Gerritsen Beach and Sheepshead Bay, BK, Old Howard Beach, QN



Building a Resilient NEW YORK CITY

Zoning for Coastal Flood Resiliency

Citywide Zoning Text Amendment

N210095 ZRY
October 19, 2020

Table of Contents

Introduction

Overview

Current Rules

Lessons Learned

Proposal

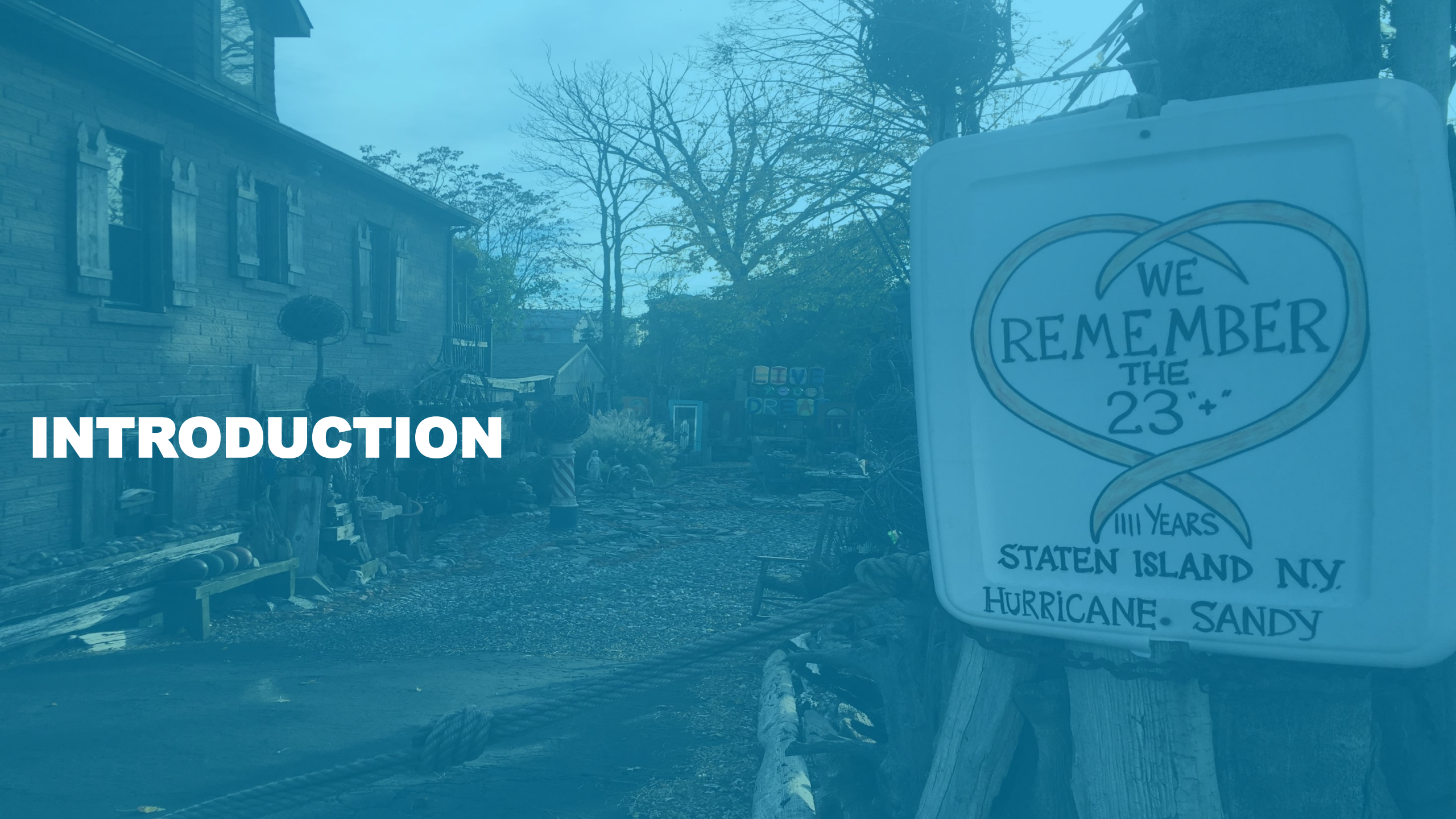
Goal 1. Encourage resiliency throughout the current and future floodplains

Goal 2. Support long-term resilient design of all building types

Goal 3. Allow for adaptation over time through incremental retrofits

Goal 4. Facilitate future recovery by reducing regulatory obstacles

INTRODUCTION



WE
REMEMBER
THE
23⁺

1111 YEARS
STATEN ISLAND N.Y.
HURRICANE SANDY

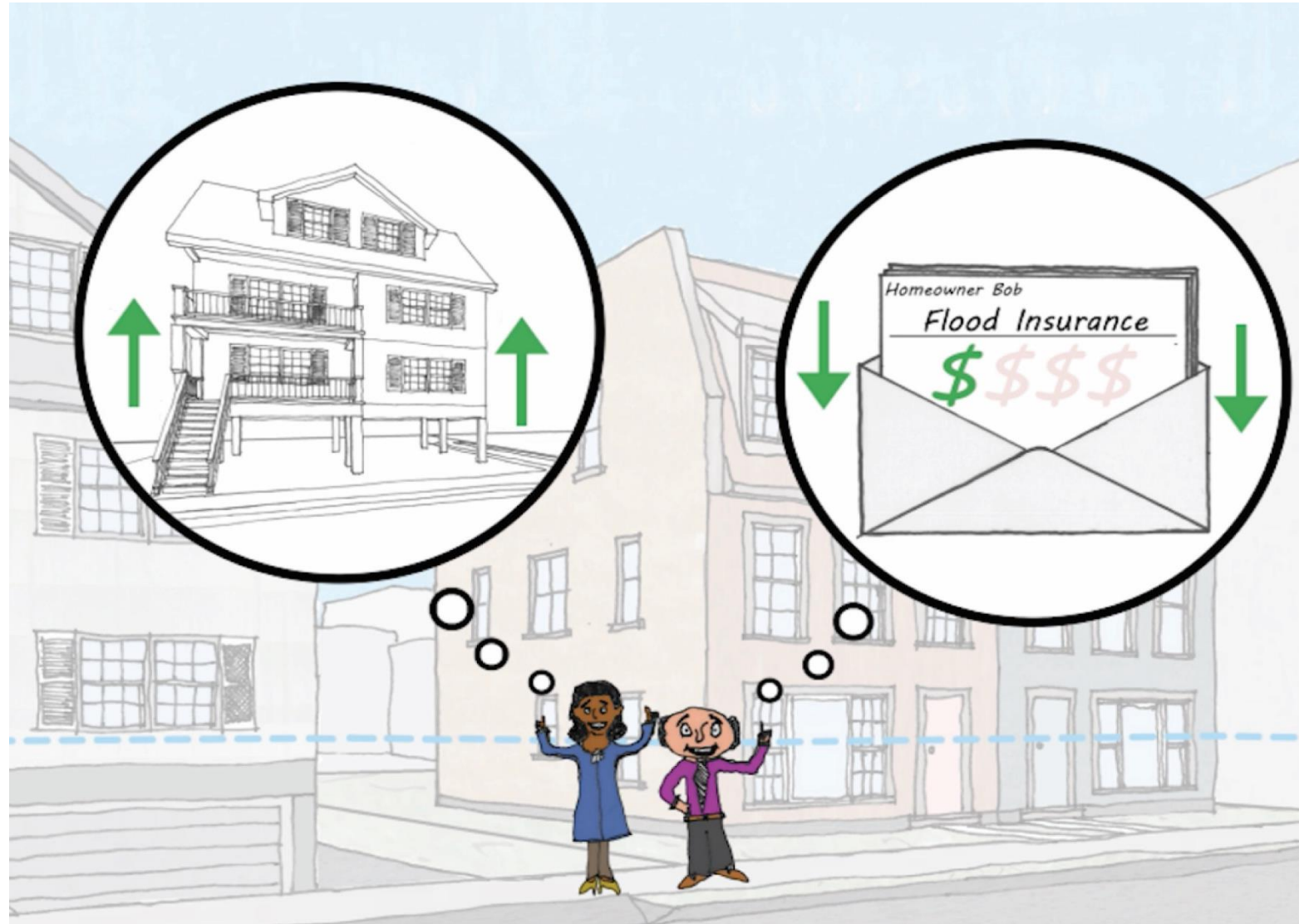
Introduction

Overview

ZCFR would provide the option to design or otherwise retrofit buildings to:

- ✓ Reduce damage from future coastal flood events
- ✓ Be resilient in the long-term by accounting for climate change
- ✓ Potentially save on long-term flood insurance costs

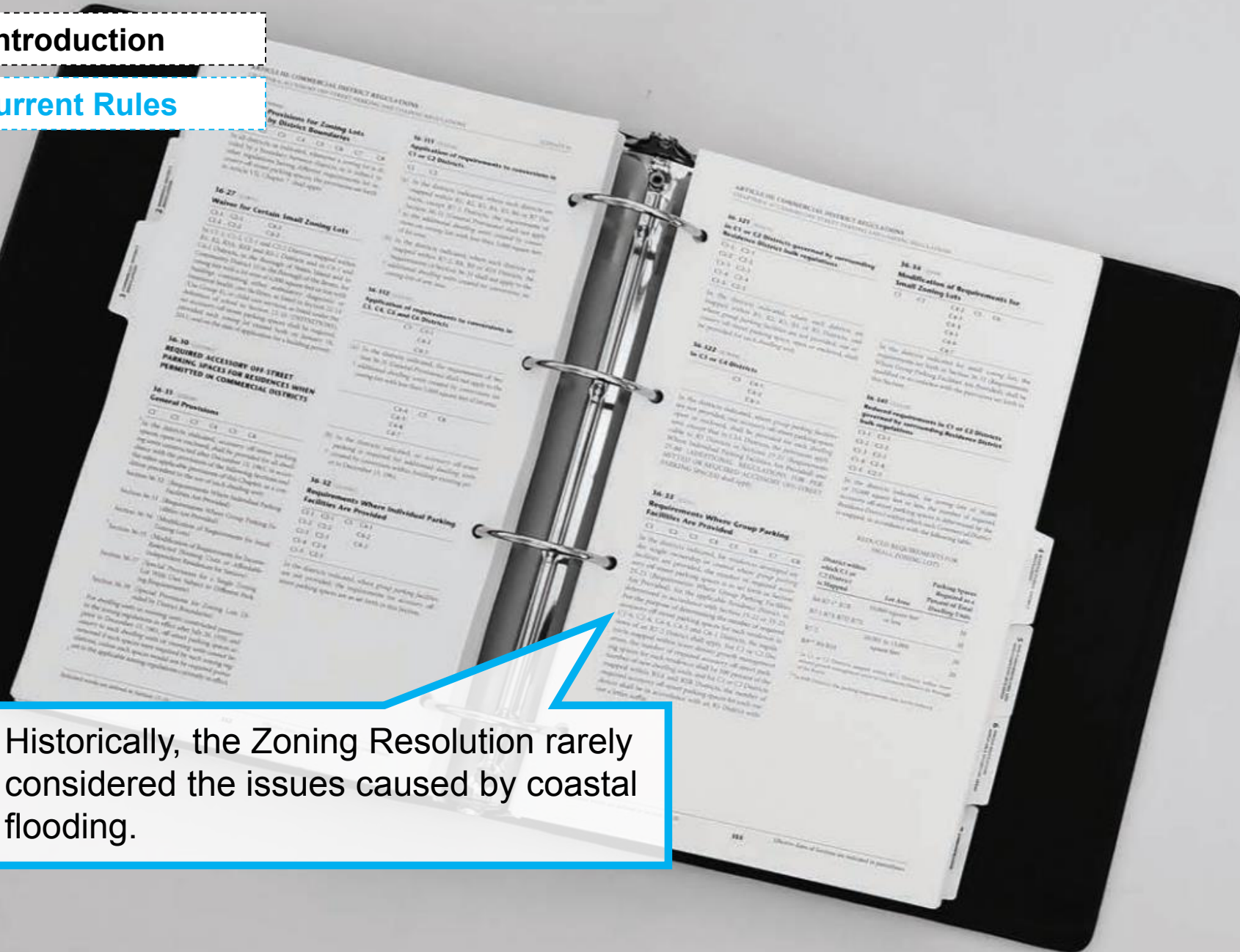
ZCFR would also set a framework for emergency situations—whether they be like Hurricane Sandy, or COVID-19.



Introduction

Current Rules

Historically, the Zoning Resolution rarely considered the issues caused by coastal flooding.



Introduction

Current Rules

After Hurricane Sandy (Oct 29, 2012), many buildings were severely damaged and had to be brought up into compliance with standards in the NYC Building Code for flood-resistant construction, uncovering many zoning impediments.



Introduction

Current Rules

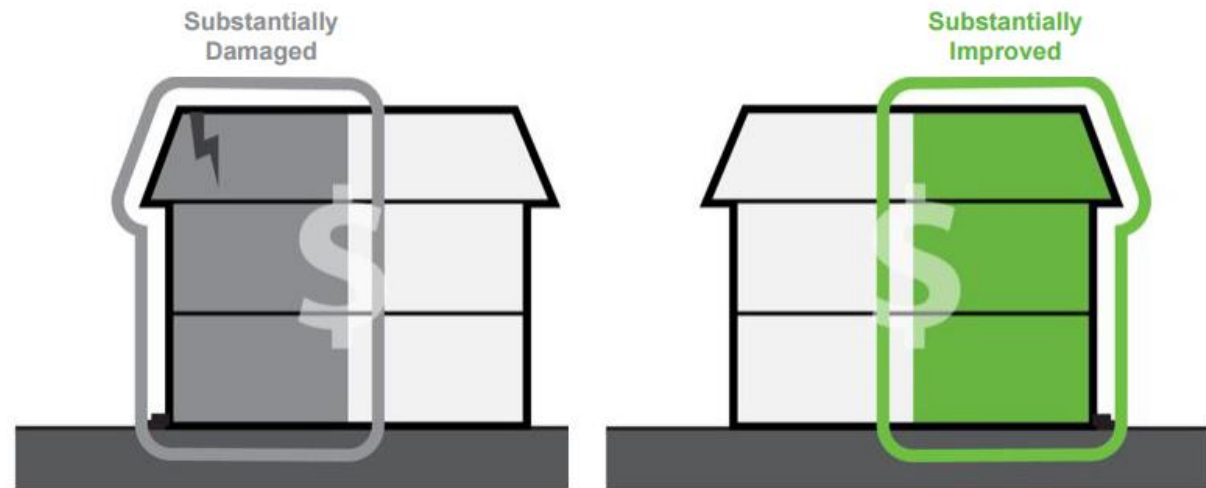
Building Code

Regulations governing flood-resistant construction are located in DOB Appendix G of the NYC Building Code. Compliance with such rules is generally required for new buildings constructed in the flood zone, and for existing buildings that are significantly modified.

Required
for all new buildings



Generally not required
for existing buildings
(unless substantially damaged or improved)



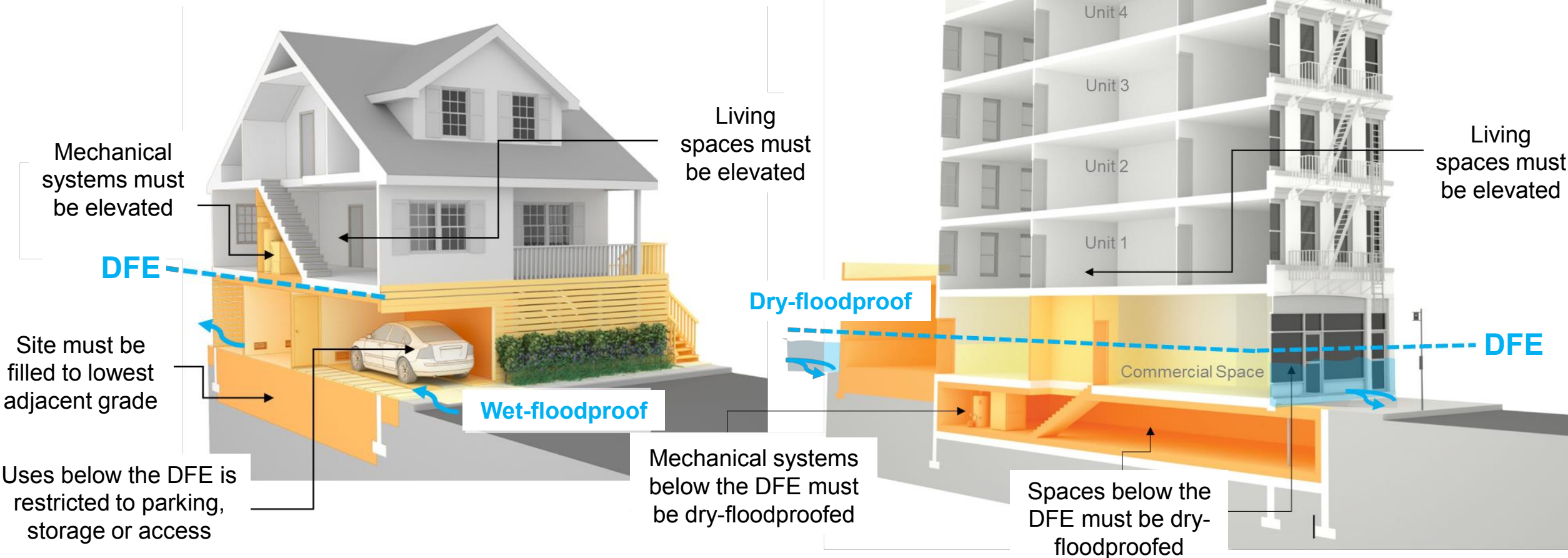
Substantially Damaged: Restoring Cost \geq 50% Market Value
Substantially Improved: Improvement Cost \geq 50% Market Value

Introduction

Current Rules

Building Code

DOB Appendix G regulations depend upon the building's location in the flood zone, the building's uses, and where these uses are situated in relation to the design flood elevation (DFE)*.



*the DFE is determined by adding freeboard (additional height for safety established in Appendix G) to the Base Flood Elevation (BFE), which is the elevation to which floodwater is anticipated to rise during a 1% annual chance storm as shown on FEMA's maps.

Introduction

Current Rules

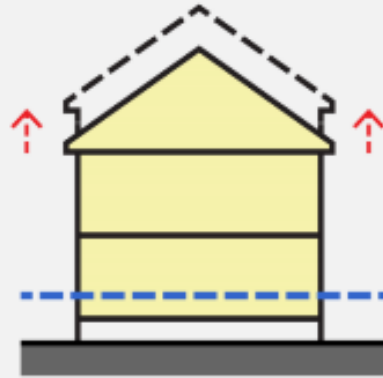
Zoning Resolution

DOB Appendix G regulations created conflicts with zoning regulations that were addressed by the 2013 Flood Text and the 2015 Recovery Text.

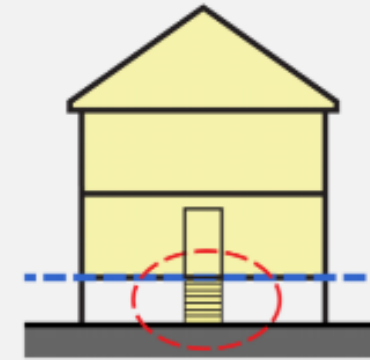
Zoning conflicts that emerged in the ZR, due to Appendix G regulations, included those that govern:

- Locations of uses
- Size and shape of buildings (bulk regulations)
- How buildings interface with the public realm

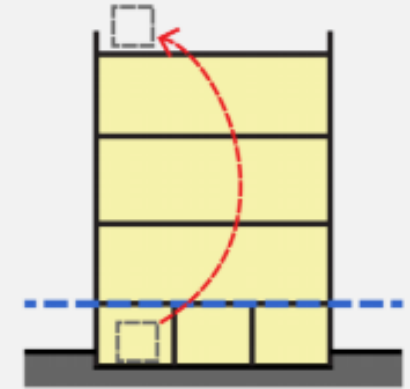
ZONING ISSUES RESULTING FROM FEMA RULES



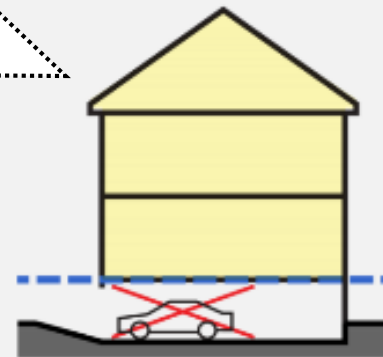
HEIGHT
must recognize elevation requirements in flood zones



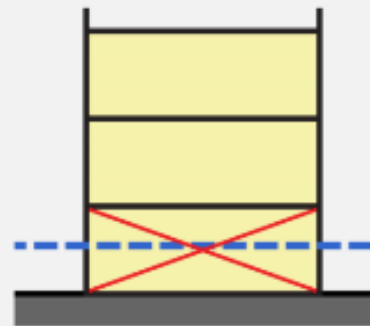
ACCESS
need for stairs or ramps requires imaginative solutions



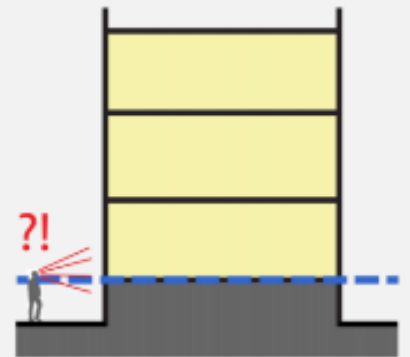
MECHANICAL SYSTEMS
must allow relocation out of flood-prone areas



PARKING
may not be possible below ground



GROUND FLOOR USE
buildings may be allowed only limited use of ground floors



STREETScape
limit negative effect of blank walls on streetscape

Introduction

Current Rules

Zoning Resolution

ZCFR builds upon the 2013 Flood Text and the 2015 Recovery Text, which were approved in the aftermath of Hurricane Sandy.

Flood Resilience Text Amendment



2013 Flood Text

*Expires 1 year after the adoption of the new PFIRMs**

2015 Recovery Text

Expired on July 23, 2020

- These temporary zoning rules were adopted on an emergency basis and removed many zoning barriers to resilient construction
- However, they are already beginning to expire
- If these rules are not made permanent, it could hinder the protection of existing vulnerable buildings and disincentivize resiliency measures in new construction

Introduction

Lessons Learned

ZCFR would make previous temporary zoning rules permanent, but would also improve upon these regulations, based on what we have heard during an extensive outreach process.



Introduction

Lessons Learned

Aside from the lessons learned through the process of adopting the 2 text amendments, DCP also conducted rigorous analyses to understand local issues that communities were facing to recover from Sandy and how different building types could be made resilient.

2012
Hurricane
Sandy

**Zoning Text
(emergency basis)**



**2013 Flood Text
2015 Recovery Text**

Research, Technical Analysis, and Initial Outreach



**Neighborhood Studies
(2014-2017)**

**Citywide Studies
(2014-2018)**

Introduction

Lessons Learned

Broader engagement on a citywide level was also conducted to understand what zoning barriers floodplain communities were still facing



Community Outreach
(Published in 2018)

We have briefed close to **3,000** stakeholders at **more than 225** events since August 2016.

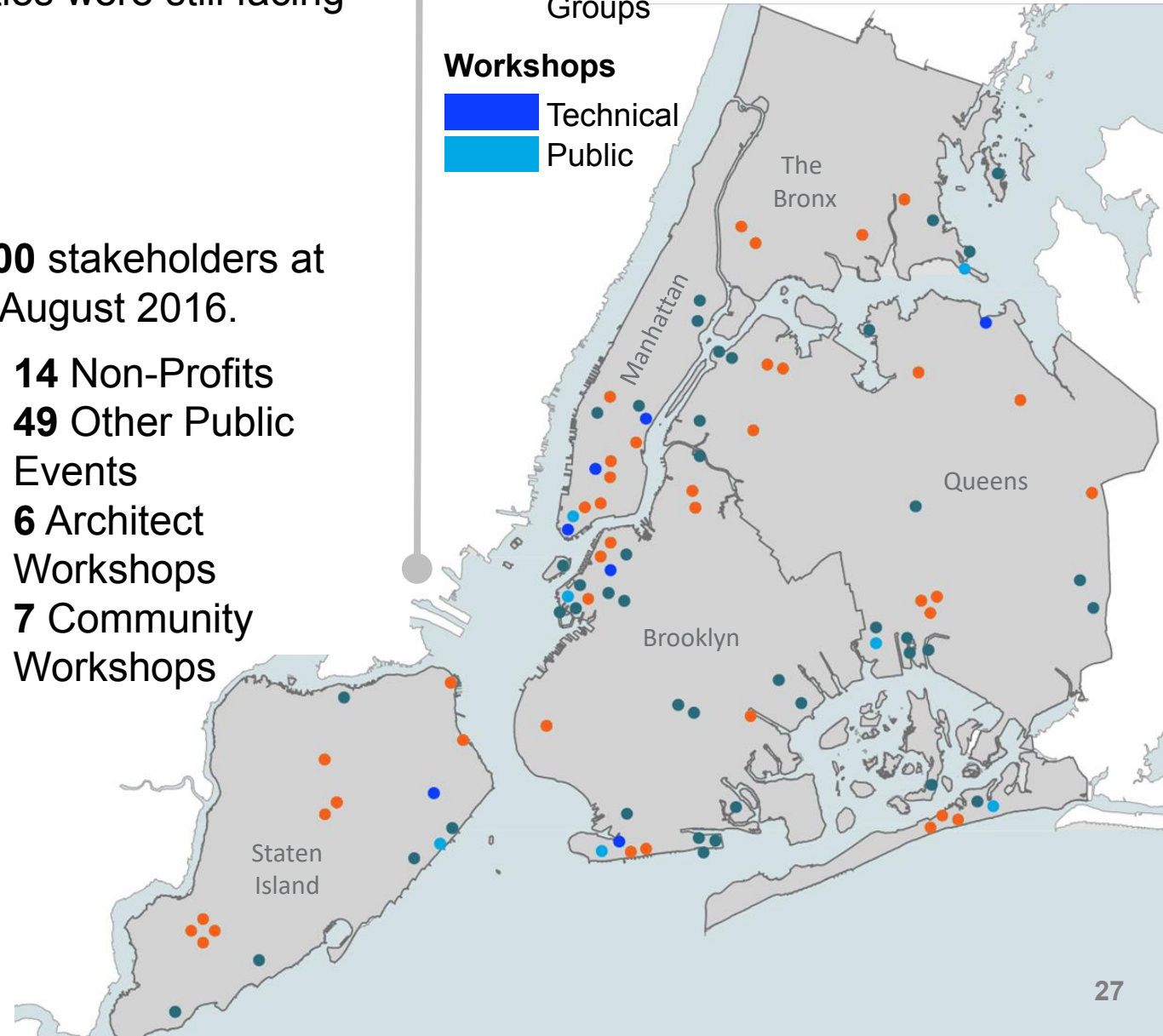
- **15** Council Members
- **5** Borough Presidents & Borough Boards
- **35** Community Boards
- **16** Civic Associations
- **14** Non-Profits
- **49** Other Public Events
- **6** Architect Workshops
- **7** Community Workshops

Public Presentations

- Borough/CBs
- Civic/Community Groups

Workshops

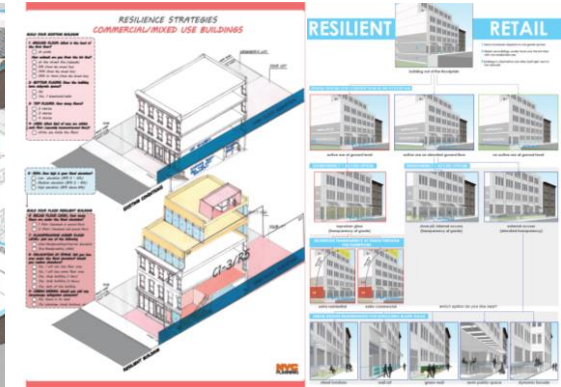
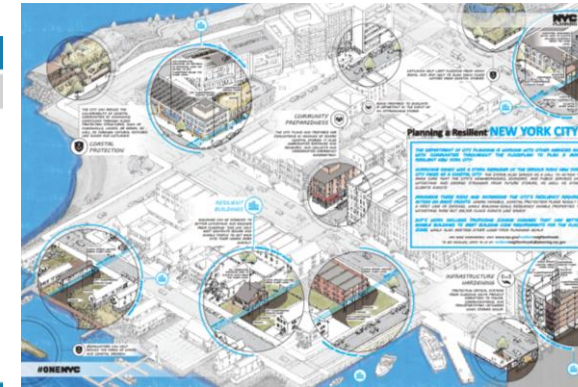
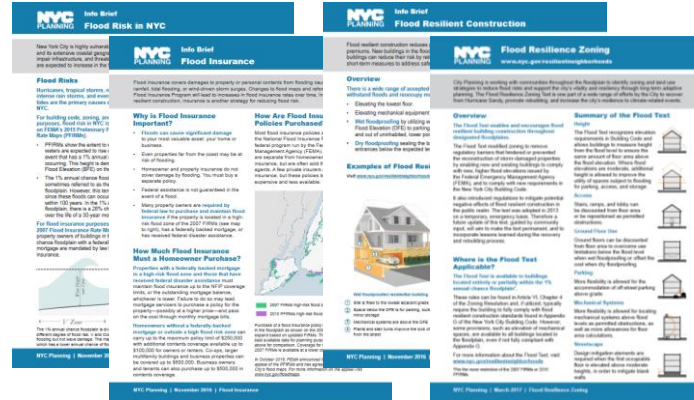
- Technical
- Public



Introduction

Lessons Learned

Several types of materials were also distributed across the floodplain, to share information about the city's flood risk, flood insurance requirements, building code, and zoning regulations.



Video

- Advertised on LinkNYC, Facebook, Bus Shelters, and 311
- Mailed announcement to 100 stakeholders

Info Briefs

- Distributed at events
- Available in 7 languages
- Cover four topics: flood risk in NYC, flood insurance, flood resilient construction, and flood resilience zoning

Poster

- Distributed at events
- Mailed to 300 stakeholders

Workshop materials

- Used in several community workshops
- Approximately 150-200 posters were collected

Introduction

Lessons Learned

Community workshops helped in identifying community and individual needs regarding making buildings safe from flooding.

The goal of the engagement was to:

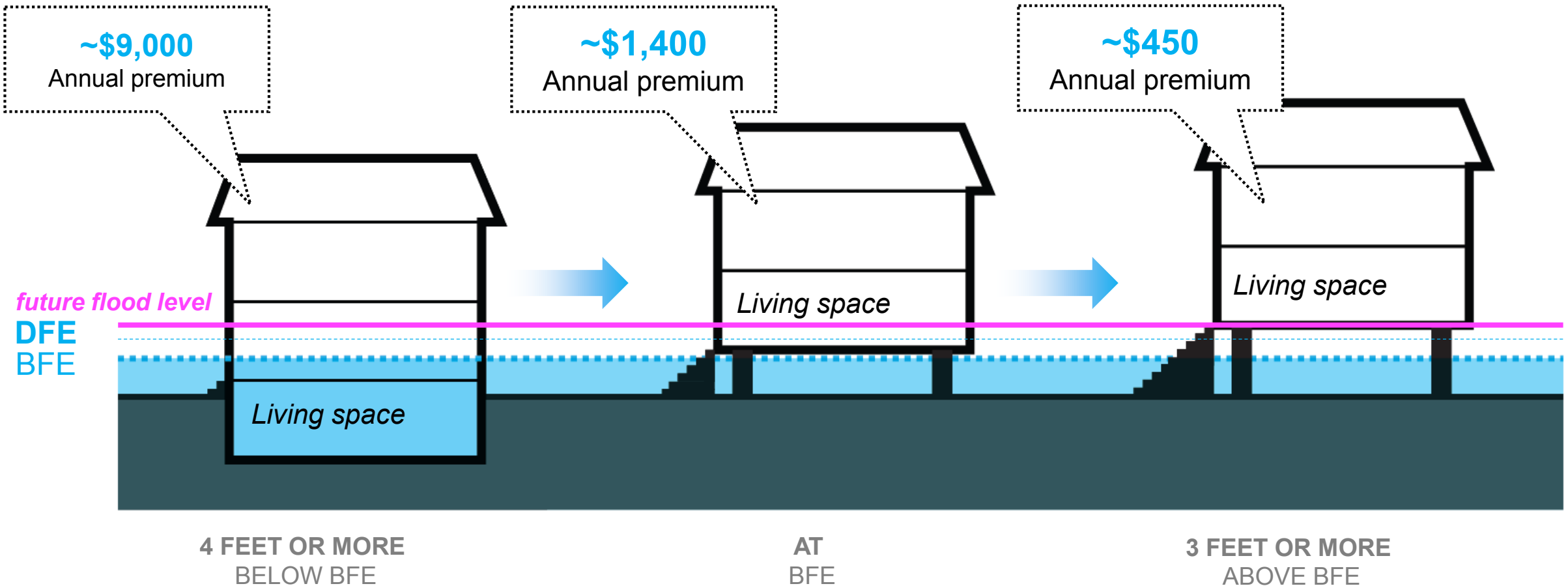
- Educate the community on flood risk and the suite of regulations that are required and available to them in the flood zone
- Learn from homeowners and the technical community how the zoning rules could be improved



Introduction

Lessons Learned

Current zoning rules, especially regarding how height is measured in the floodplain, were not enough in assisting residents relocate all living spaces above the DFE or elevate the building's lowest floor above Sandy's inundation height or above the future flood level.



Introduction

Lessons Learned

Current zoning rules are predominantly focused on low-density residential areas and they less effectively address the wider variety of conditions found in the city's floodplain, leading to inequitable outcomes.



Many regulations focused on low-density detached homes which can be more easily retrofitted (i.e., they can be elevated)

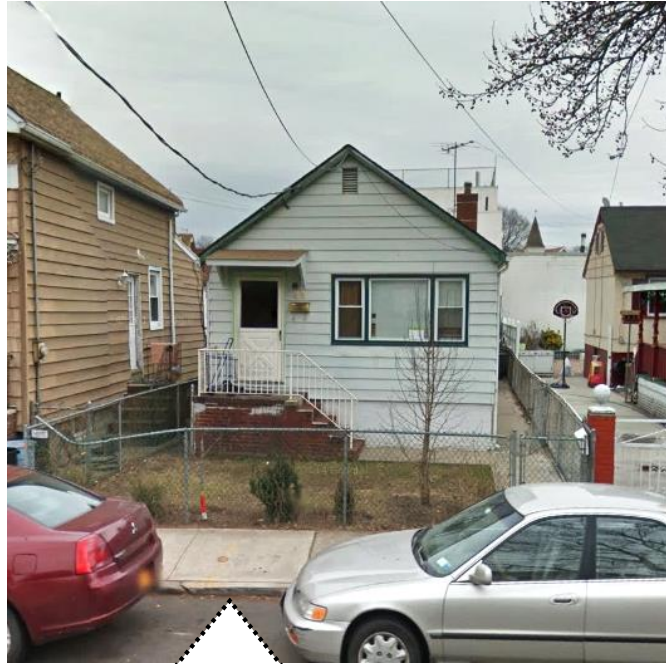
Attached homes and multi-family buildings were not adequately addressed, since they must evacuate spaces below the DFE and relocate them on top of the structure

Businesses were also not adequately addressed either, as they heavily rely on cellars for operations and need high visibility from sidewalks to be viable

Introduction

Lessons Learned

Current zoning rules are predominantly focused on low-density residential areas and they less effectively address the wider variety of conditions found in the city's floodplain, leading to inequitable outcomes.



Certain older neighborhoods and building types did not get additional relief to also have pathways towards resiliency



Additional height and floor area exemptions varied by the flood level, leading to unintended outcomes, sometimes even along the same street



Streetscape regulations had inconsistent applicability, particularly in medium- and high-density districts

Introduction

Lessons Learned

Lastly, rules need to be able to be made applicable quickly after a disaster strikes. Also, disasters may take many forms and lead to different types of damage.



Coastal storms like Hurricane Sandy can lead to damage to the physical environment



Disaster such as pandemics, could pose economic challenges to the city overall



CITYWIDE ZONING PROPOSAL

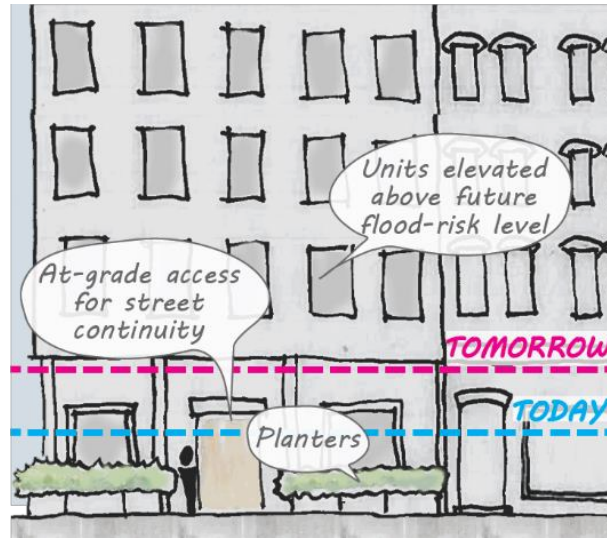
Proposal

Overview

ZCFR would provide permanent relief to floodplain properties, focusing on long-term resiliency by removing impediments for buildings to exceed minimum flood-resistant construction requirements, and by allowing neighborhoods to be adapted over time.



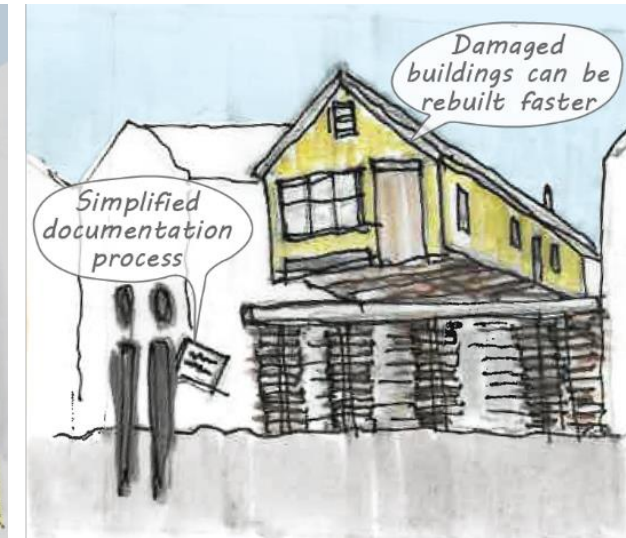
Encourage resiliency throughout the current and future floodplains



Support long-term resilient design of all building types



Allow for adaptation over time through incremental retrofits

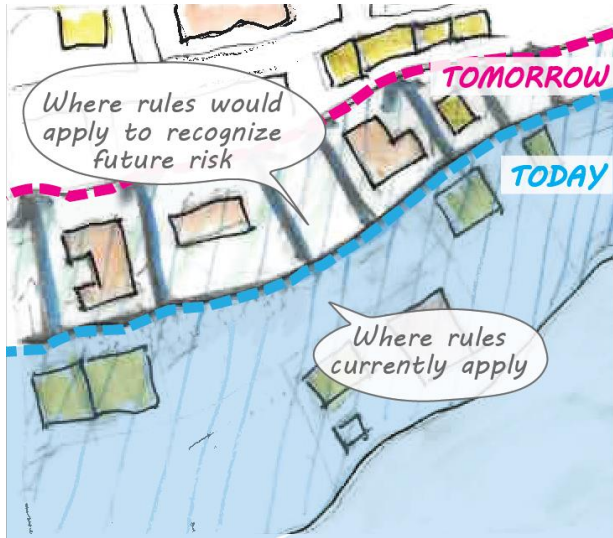


Facilitate future recovery by reducing regulatory obstacles

Proposal

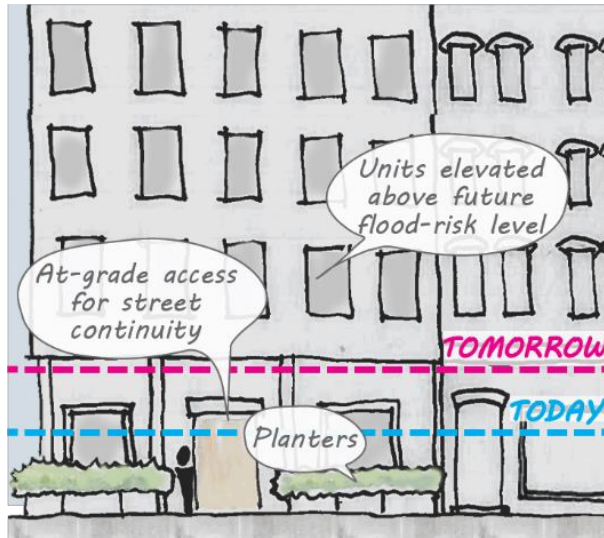
Overview

ZCFR would provide permanent relief to floodplain properties, focusing on long-term resiliency by removing impediments for buildings to exceed minimum flood-resistant construction requirements, and by allowing neighborhoods to be adapted over time.



Encourage resiliency throughout the current and future floodplains

- Applicability



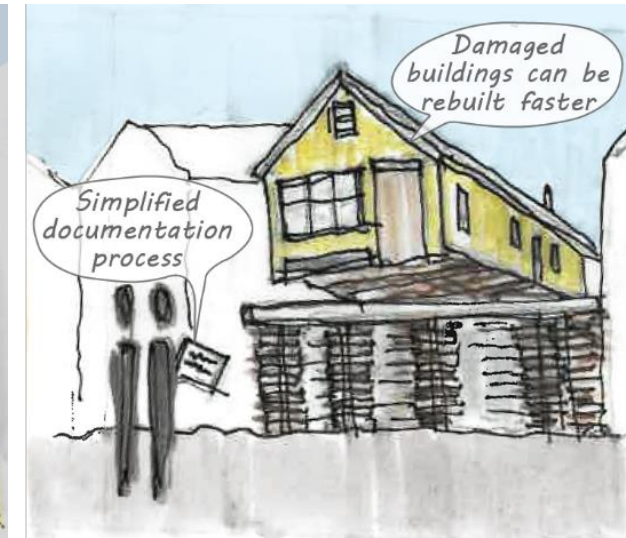
Support long-term resilient design of all building types

- Building Envelope
- Ground Floors
- Streetscapes
- Special Conditions
- Discretionary Actions



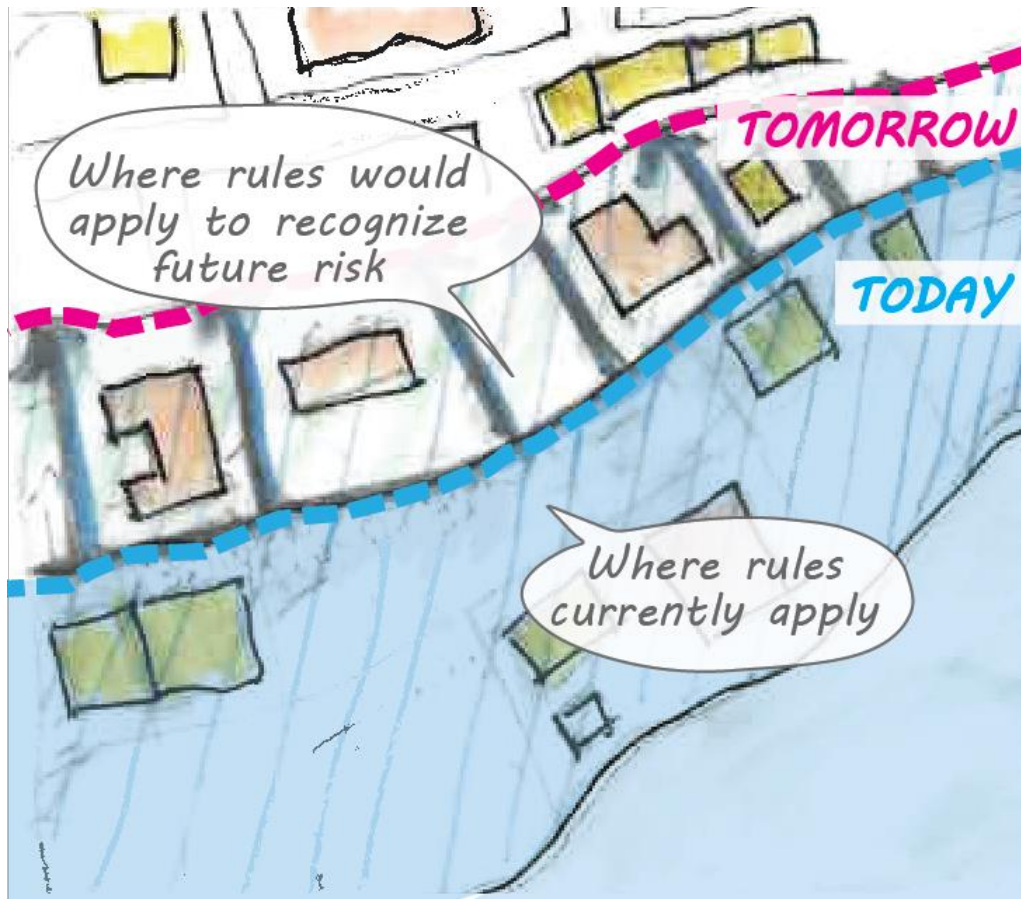
Allow for adaptation over time through incremental retrofits

- Mechanical equipment
- Support Spaces
- Flood Protection Measures
- Waterfront Sites



Facilitate future recovery by reducing regulatory obstacles

- Power Systems
- Accessibility
- Vulnerable Populations
- Disaster Recovery



Goal 1

Encourage resiliency throughout the current and future floodplains

Applicability.....

Applicability

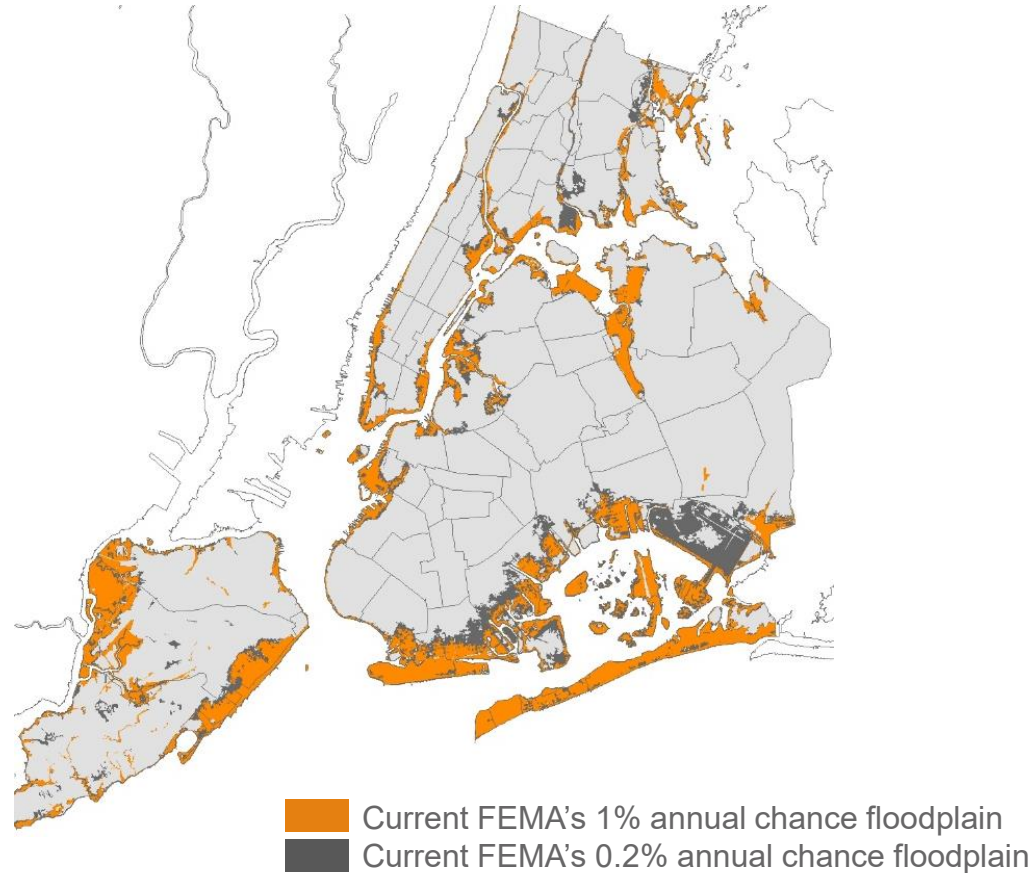
Where rules currently apply

By **expanding the applicability** of the optional rules, building owners throughout the floodplain **would be able to proactively incorporate resiliency improvements in their buildings**

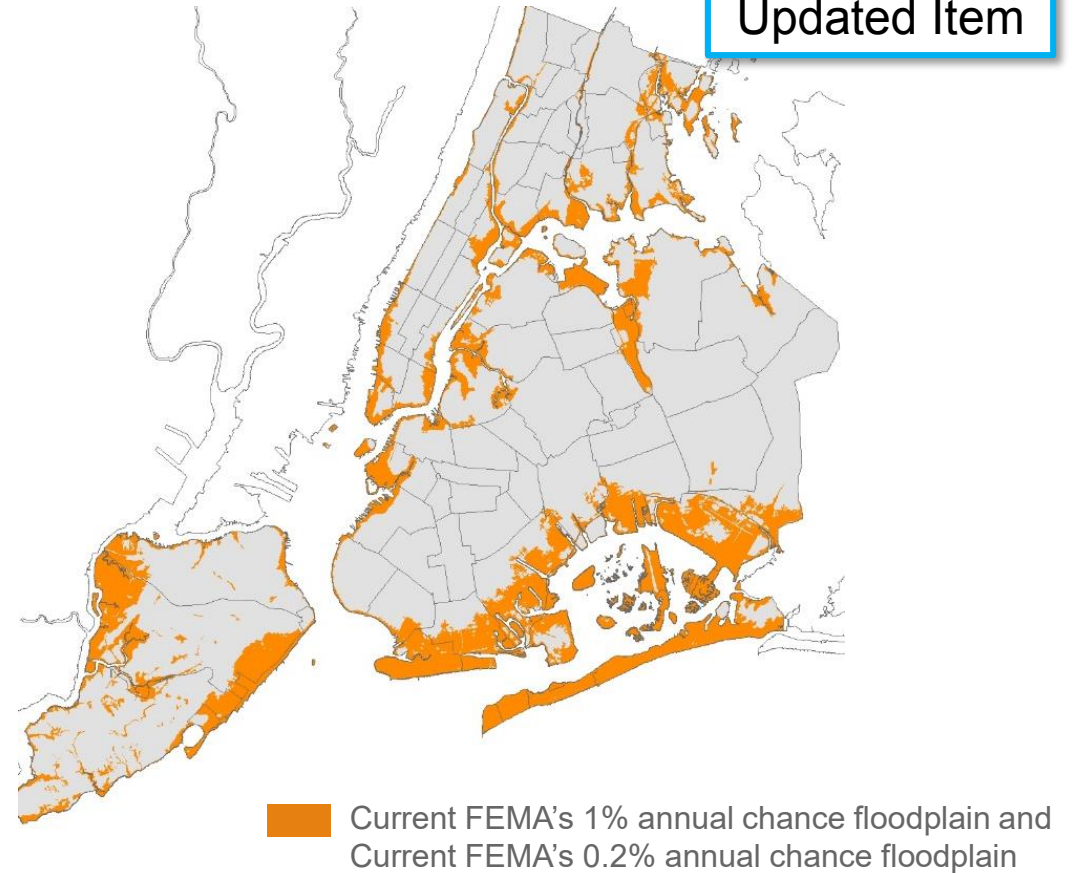
Applicability

Expanding beyond 1%

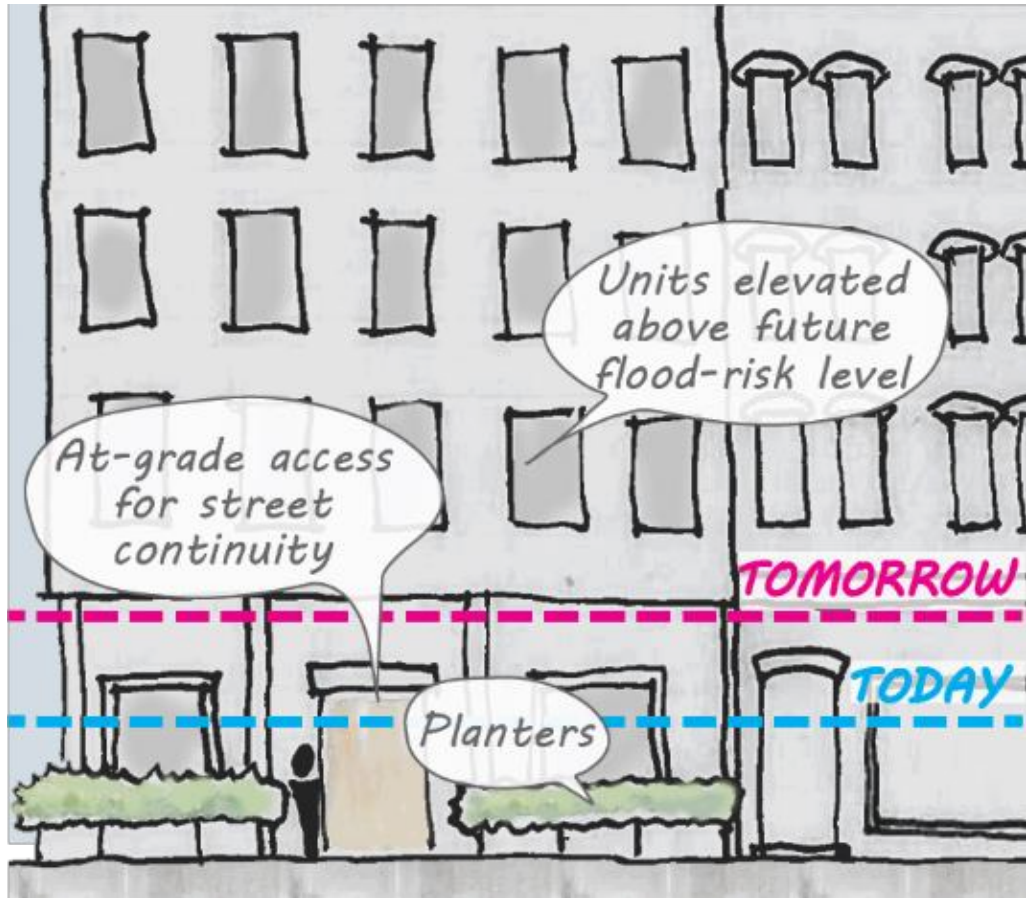
By expanding the availability of optional floodplain regulations to beyond the areas at high risk of being flooded, more building owners would be able to design or retrofit their buildings to proactively meet flood-resistant construction standards



2013 Flood Text: applies to the 1% annual chance floodplain



Proposed Rule: applies to both the 1% and 0.2% annual chance floodplains



Goal 2

Support long-term resilient design of all building types

Building Envelope.....

Ground Floors.....

Streetscapes.....

Special Conditions.....

Discretionary Actions.....

Building Envelope

Optional zoning regulations would allow building owners to **physically elevate habitable spaces and other building support features** above expected flood elevations



Habitable spaces are elevated

Flood Elevation

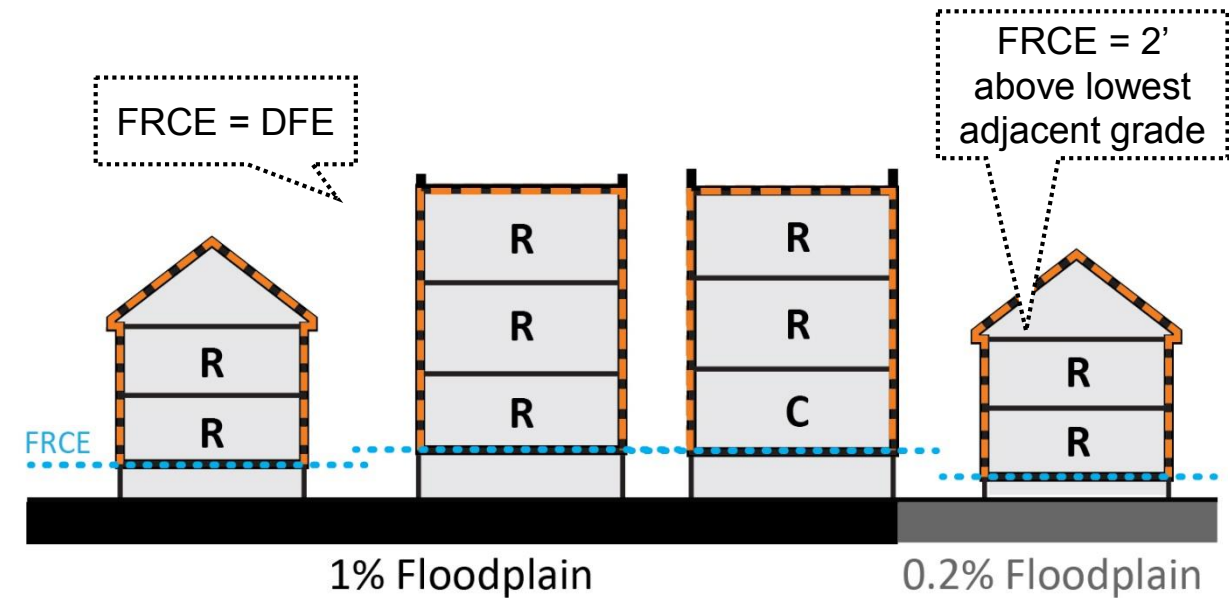
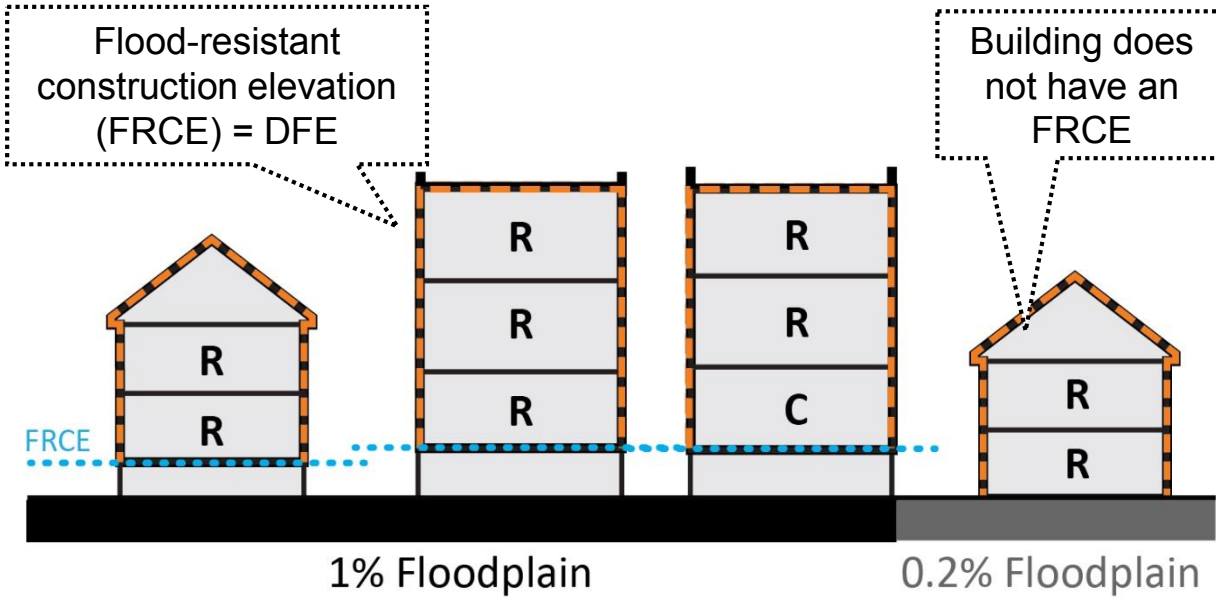


Building Envelope

FRCE

Additional height would continue to be given to allow building owners to meet the requirements set by FEMA and Appendix G of NYC's Building Code for flood-resistant construction, even when these are not required.

Updated Item



2013 Flood Text: allows building height to be measured from the FRCE

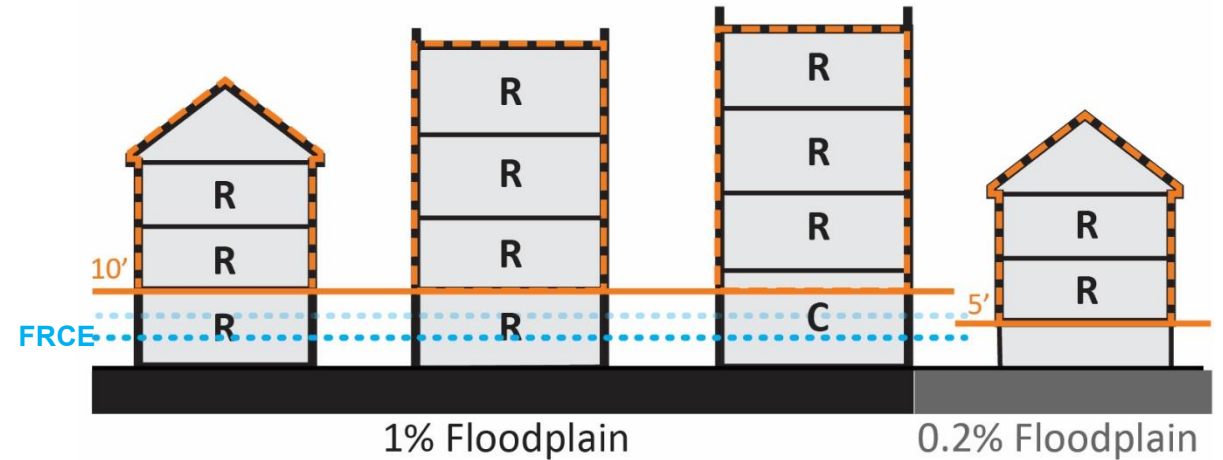
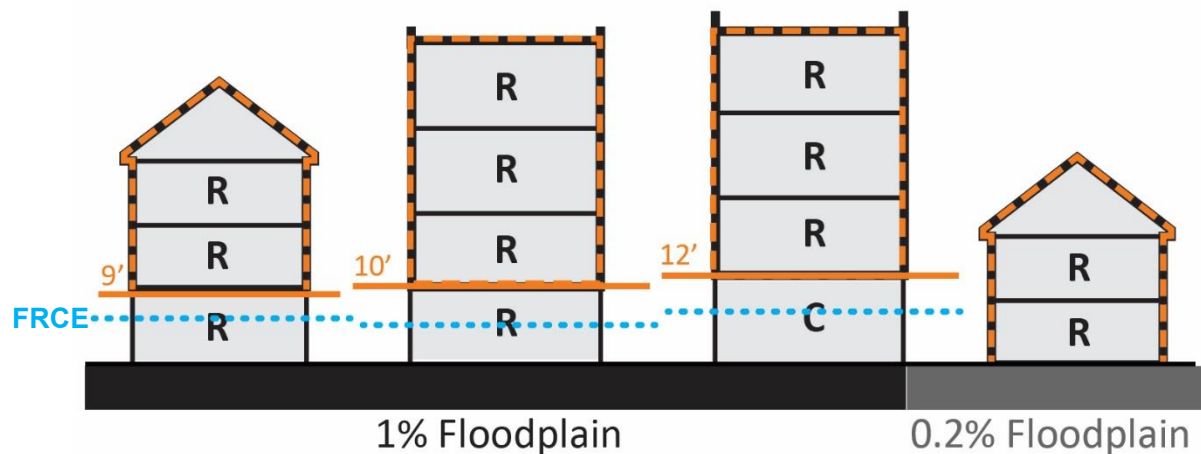
Proposed Rule: continues to allow building height to be measured from the FRCE

Building Envelope

Reference Plane

A consistent framework for additional building height would encourage building owners to address long-term climate change, and allow for lower insurance costs and usable spaces at grade.

Updated Item



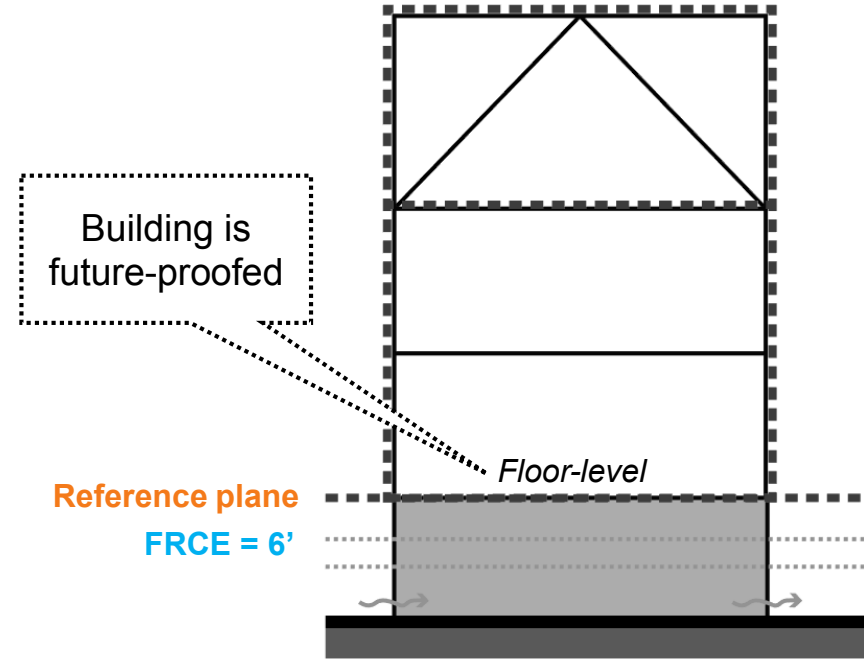
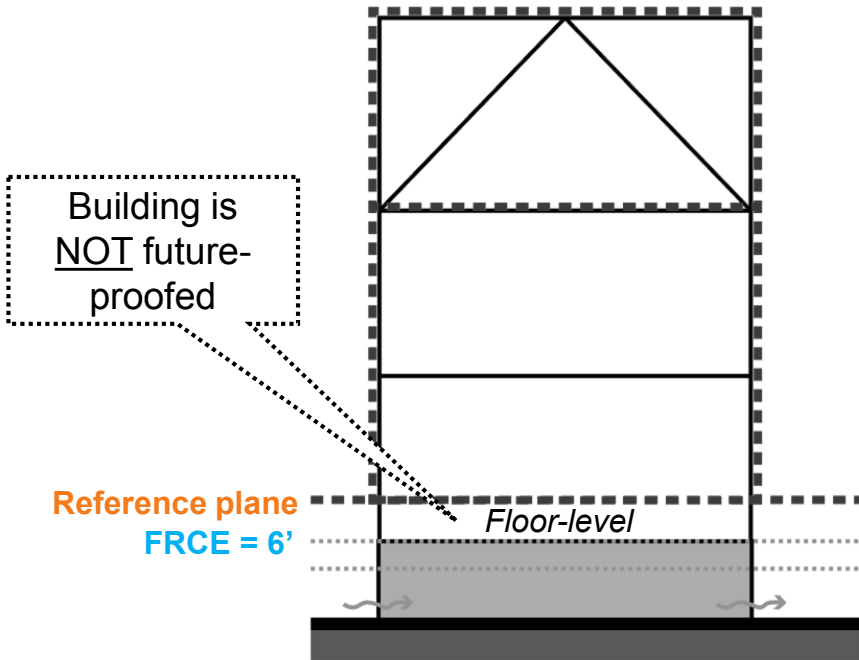
2013 Flood Text: allows building height to be measured from a reference plane located at 9', 10' or 12' depending on the building's use and zoning district

Proposed Rule: allows building height to be measured from a Reference Plane located at **max 10' or 5' above grade** (in the 1% and 0.2% floodplains, respectively)

Building Envelope

Reference Plane

To ensure that the additional height is tied to actual resiliency improvements, the building's first story above the level of protection would have to be located at or above the chosen Reference Plane.



2013 Flood Text: allows building height to be measured from a higher reference plane but does not require the first occupiable floor to be placed at or above such level

Proposed Rule: allows building height to be measured from a higher reference plane **while ensuring that the floor is placed at or above such level**

Building Envelope

Reference Plane

Illustrative Examples

Flood-resistant Construction Elevation (FRCE)

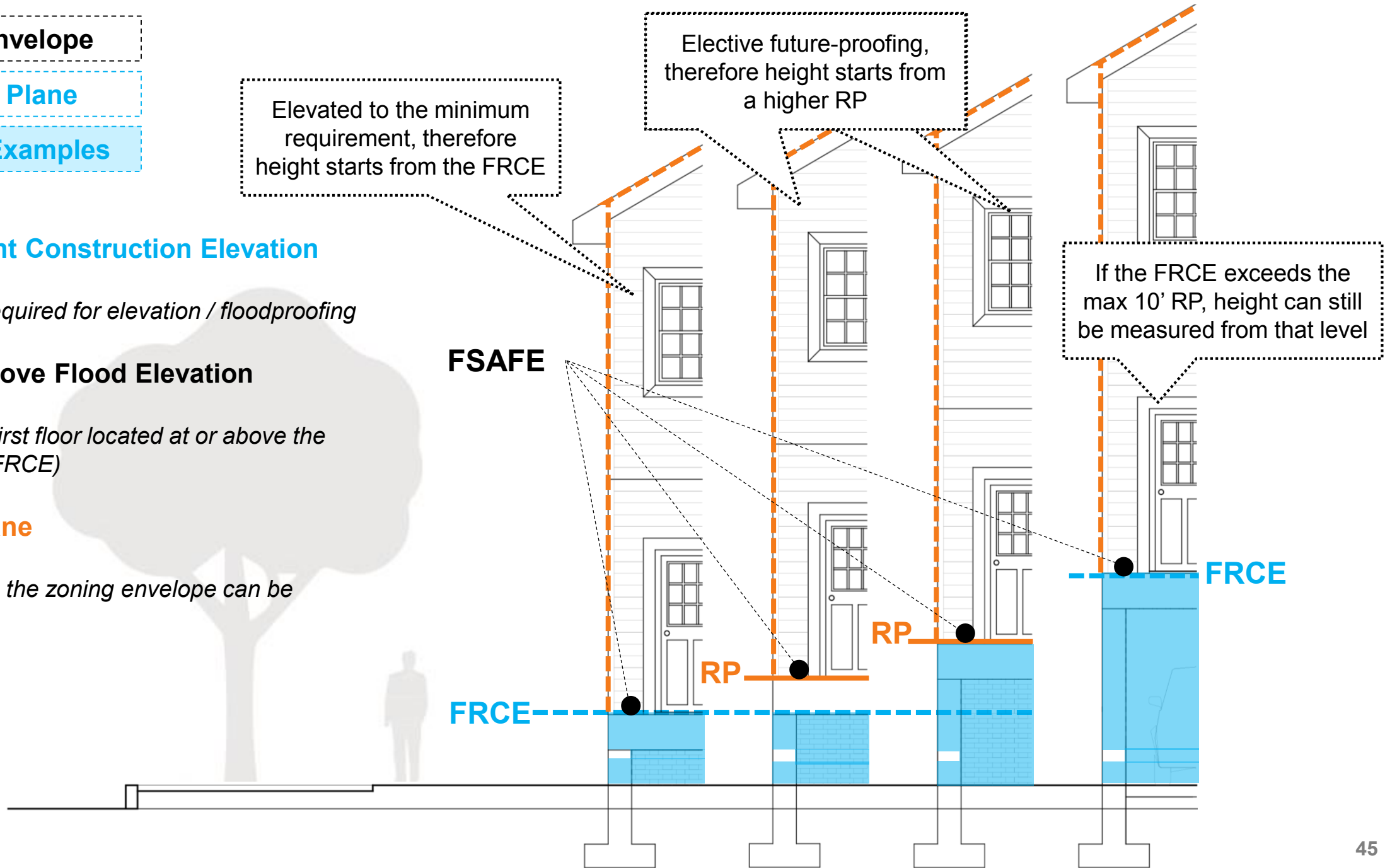
Minimum level required for elevation / floodproofing

First Story Above Flood Elevation (FSAFE)

The level of the first floor located at or above the flood elevation (FRCE)

Reference Plane (RP)

Level from which the zoning envelope can be measured



Ground Floors

Ground-floor regulations would incentivize the floodproofing of ground floors, encourage active uses to be kept at the street level and promote internal building access



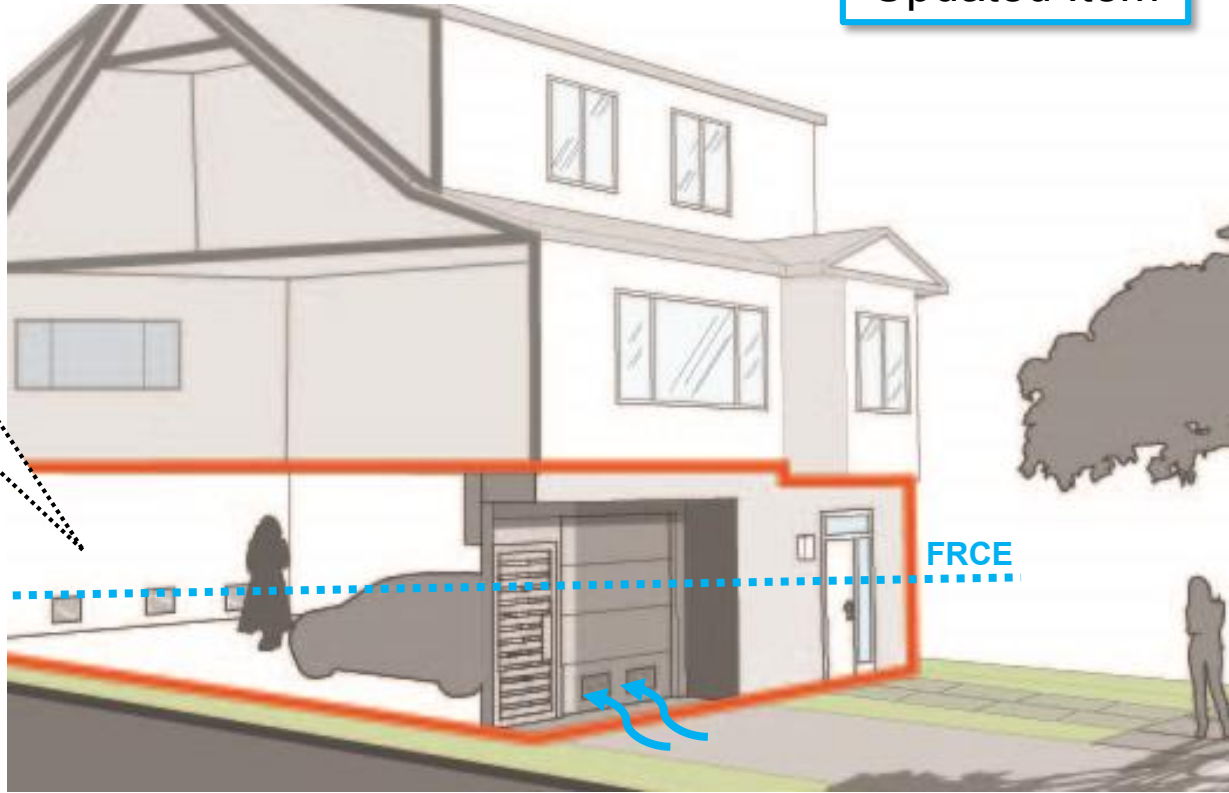
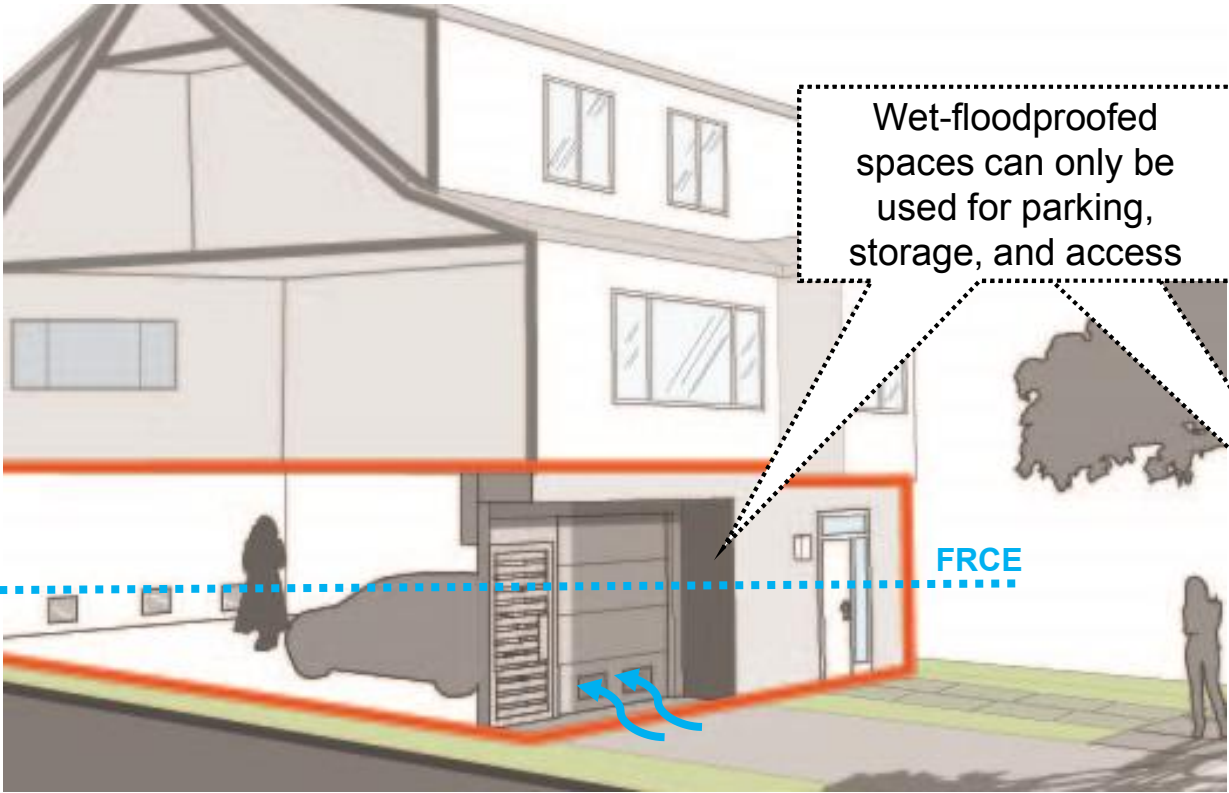
Internal access is provided & the ground-floor is floodproofed

Ground Floors

Wet-floodproofed Spaces

A more consistent floor area exemption for wet-floodproofed spaces in all buildings would help promote long-term resiliency improvements and useful ground floors.

Updated Item



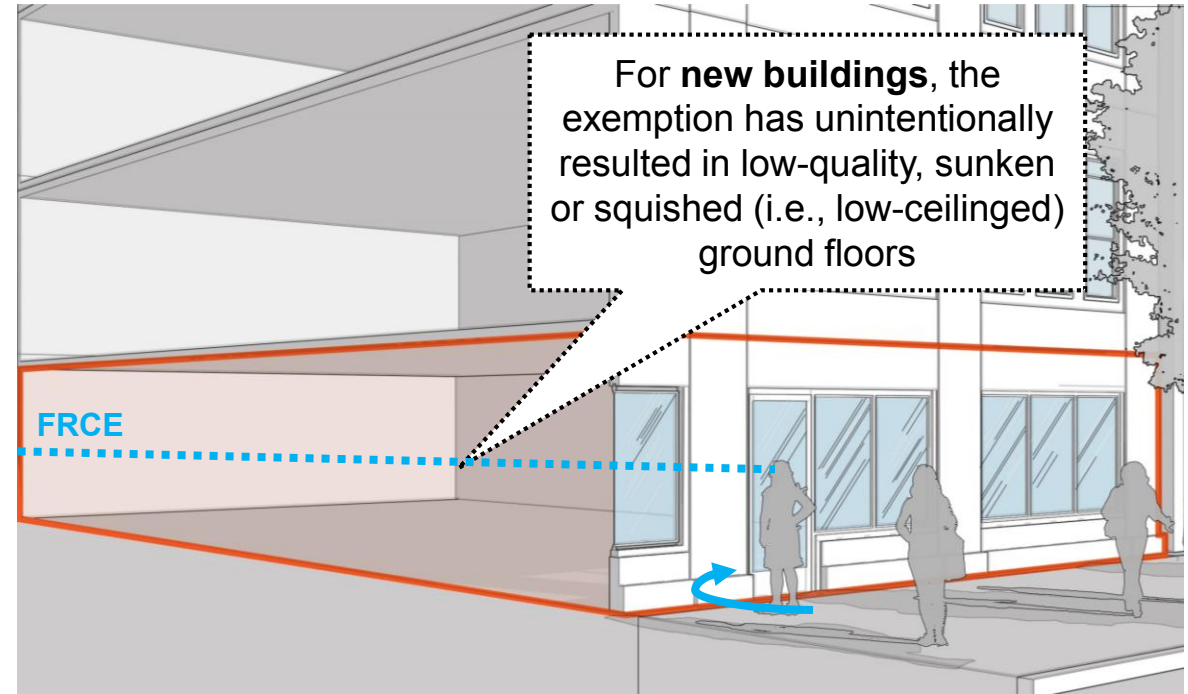
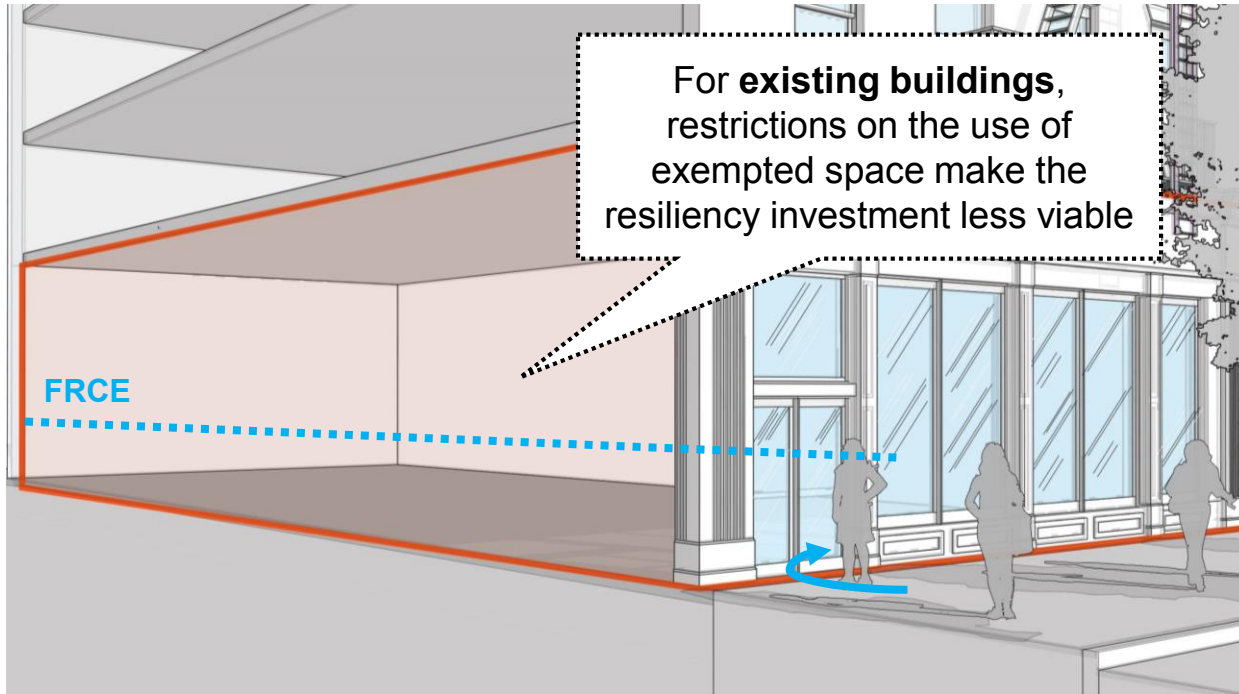
2013 Flood Text: allows existing buildings to exempt wet-floodproofed spaces from floor area

Proposed Rule: allows **new and existing** buildings to exempt wet-floodproofed spaces from floor area

Ground Floors

Dry-floodproofed Spaces

A floor area exemption for dry-floodproofed spaces along the retail corridors would encourage active uses to be kept at the street level, promoting a safe and lively pedestrian environment.



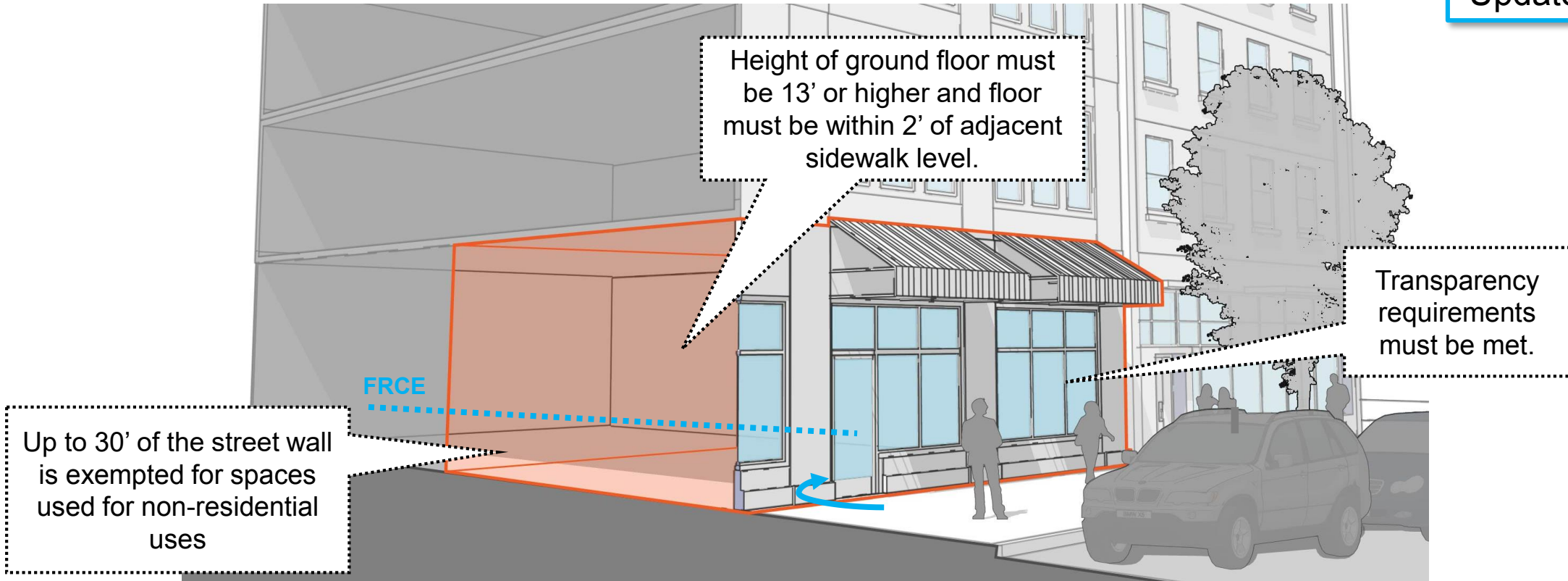
2013 Flood Text: allows the entire ground floor to be exempted in existing buildings (with certain limitations), and for new buildings, only cellar space is exempted (as measured from the FRCE, not the base plane)

Ground Floors

Dry-floodproofed Spaces

A floor area exemption for dry-floodproofed spaces along the retail corridors would encourage active uses to be kept at the street level, promoting a safe and lively pedestrian environment.

Updated Item



Proposed Rule: allows a **portion of the ground-floor** to be exempted without regard to the FRCE level for **new and existing buildings**, provided that certain design conditions are met (spaces will not be considered “cellars”)

Streetscape

When these allowances are used, **buildings would have to comply with “flood-resistant construction standards”** and a new set of streetscape requirements



The design is improved



The building is flood-resistant

Flood Elevation

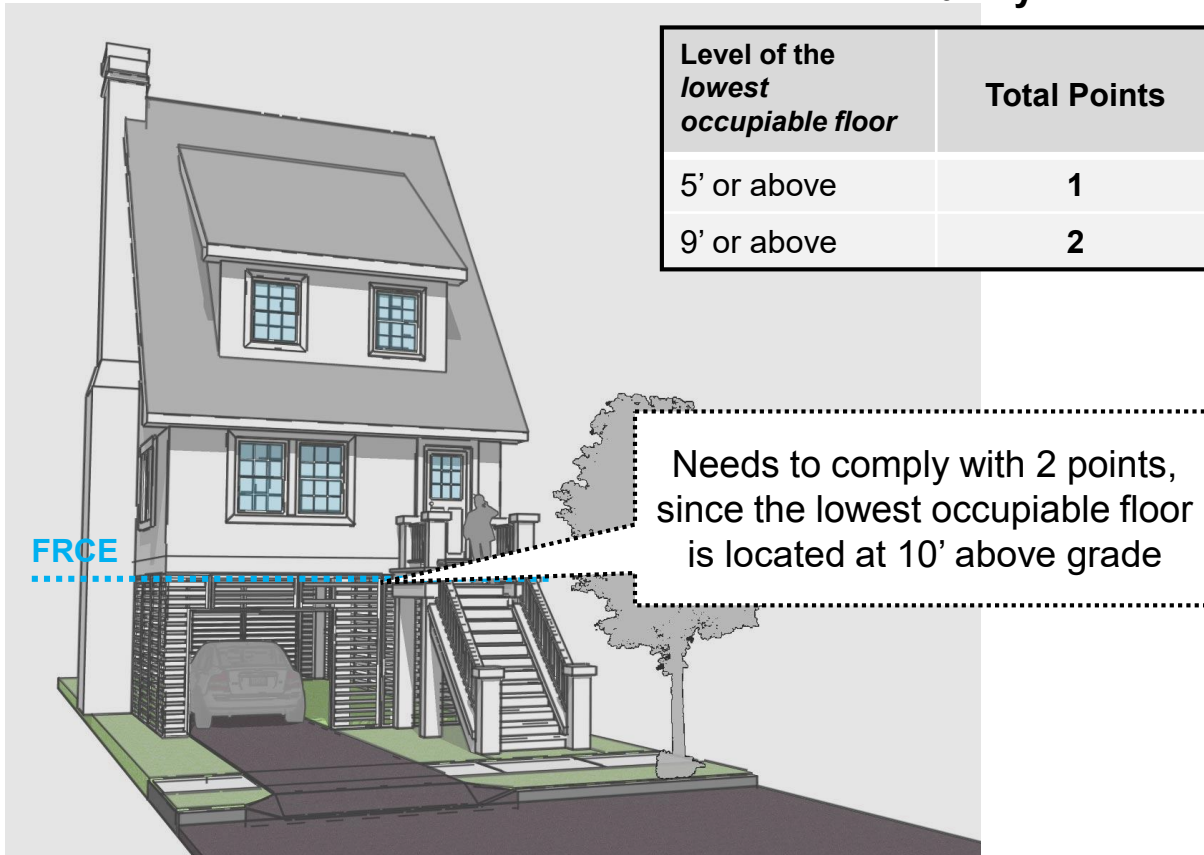
Streetscape

Point System

More consistent streetscape requirements and greater design options will ensure that buildings contribute to their surroundings while reflecting the variety of neighborhoods in the floodplain.

1+2 Family

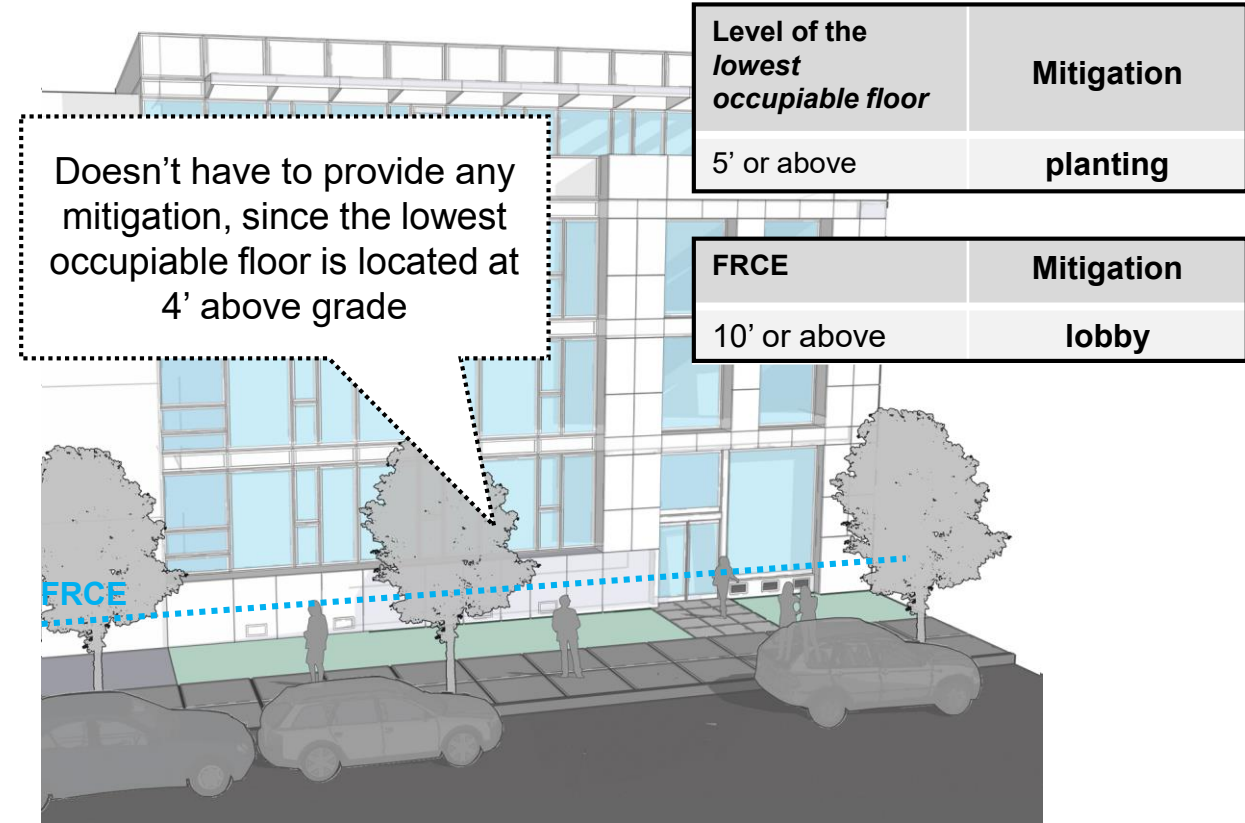
Level of the lowest occupiable floor	Total Points
5' or above	1
9' or above	2



Multifamily

Level of the lowest occupiable floor	Mitigation
5' or above	planting

FRCE	Mitigation
10' or above	lobby



2013 Flood Text: provides inconsistent thresholds for different building types and few design options to help mitigate potential blank walls

Streetscape

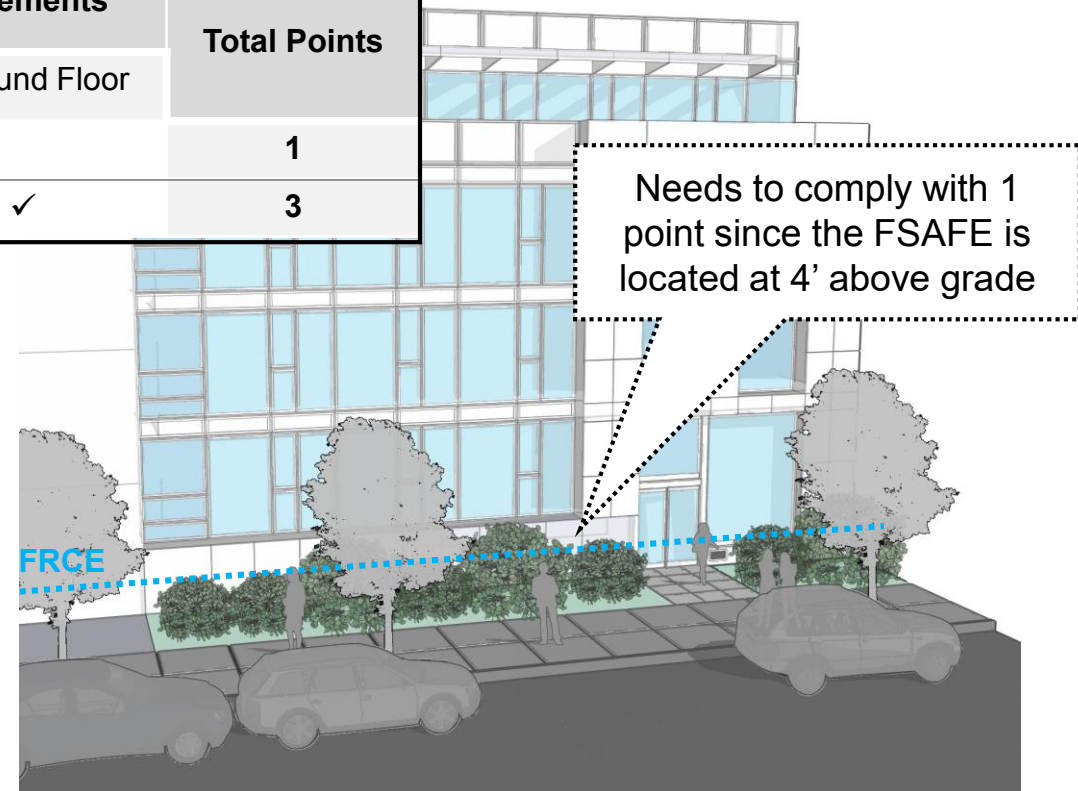
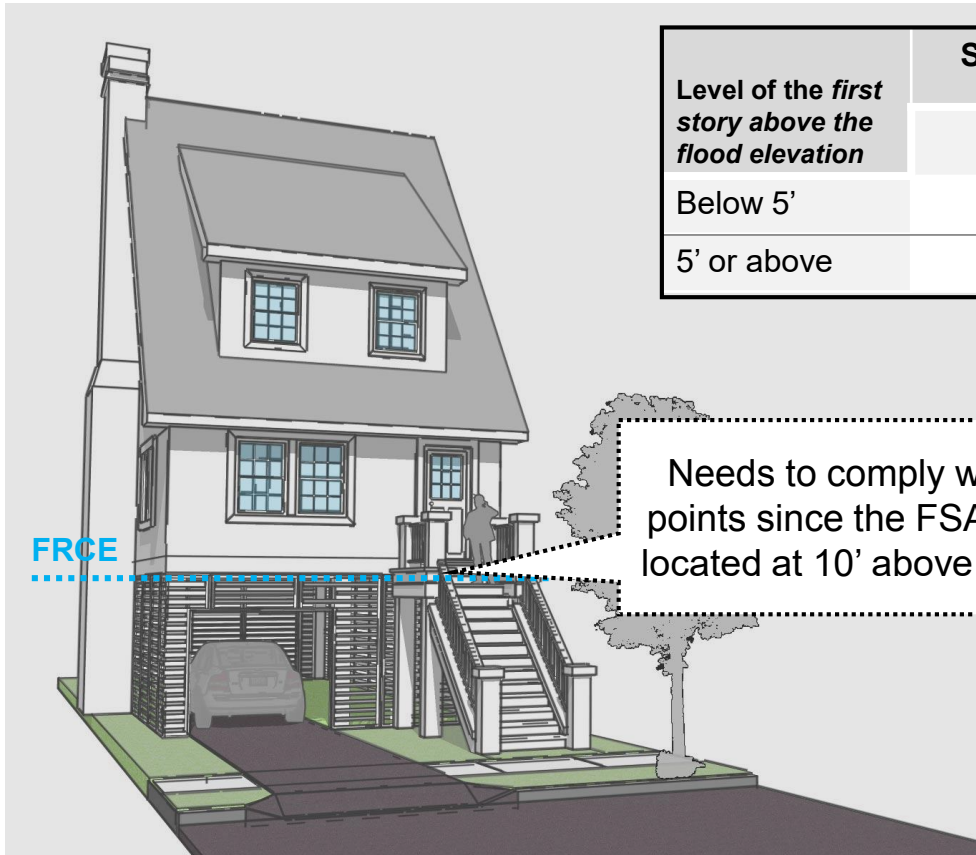
Point System

More consistent streetscape requirements and greater design options will ensure that buildings contribute to their surroundings while reflecting the variety of neighborhoods in the floodplain.

Updated Item

All Buildings

Level of the <i>first story above the flood elevation</i>	Streetscape Requirements		Total Points
	Access	Ground Floor	
Below 5'			1
5' or above	✓	✓	3

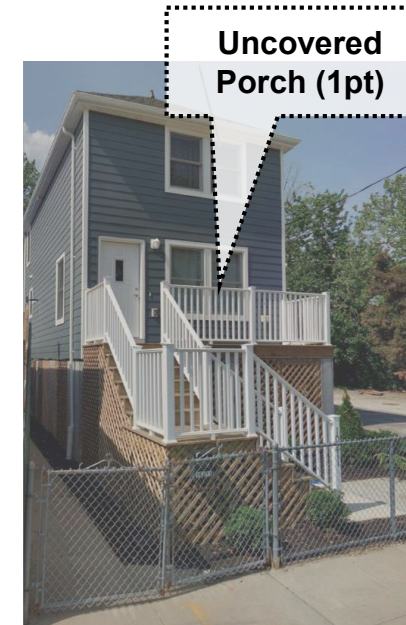
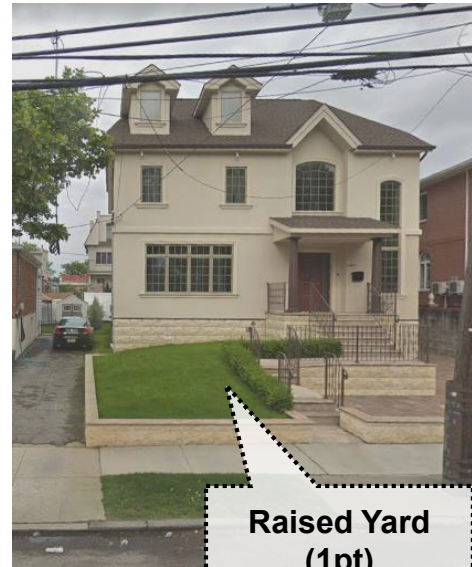


Proposed Rule: provides **consistent thresholds** for **all building types** and a wider range of design options to help mitigate potential blank walls and elevated access

Streetscape

Mitigation Options

More consistent streetscape requirements and greater design options will ensure that buildings contribute to their surroundings while reflecting the variety of neighborhoods in the floodplain.



2013 Flood Text: provides design options for 1&2 family homes and requires certain design elements for other building types

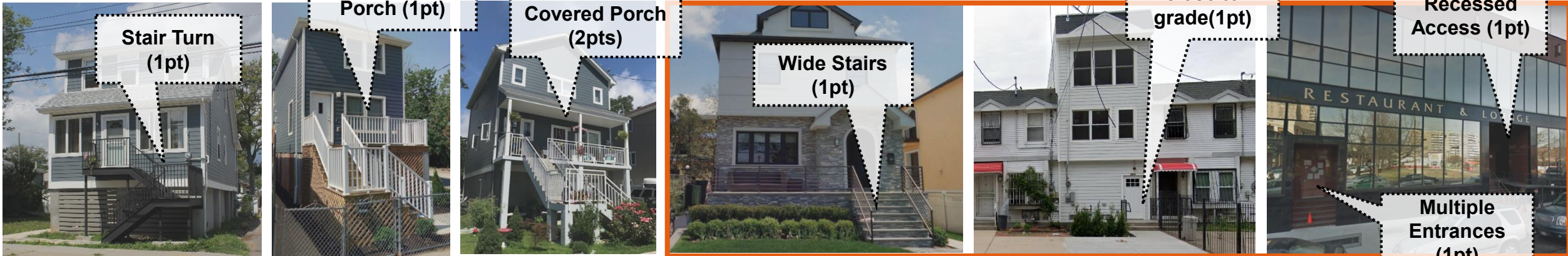
Streetscape

Mitigation Options

More consistent streetscape requirements and greater design options will ensure that buildings contribute to their surroundings while reflecting the variety of neighborhoods in the floodplain.

Updated Item

ACCESS:



GROUND FLOOR LEVEL:



Proposed Rule: provides design options for different building types

Special Conditions

Additional flexibility would be available to **special conditions common in older neighborhoods**, so that those buildings can also become resilient

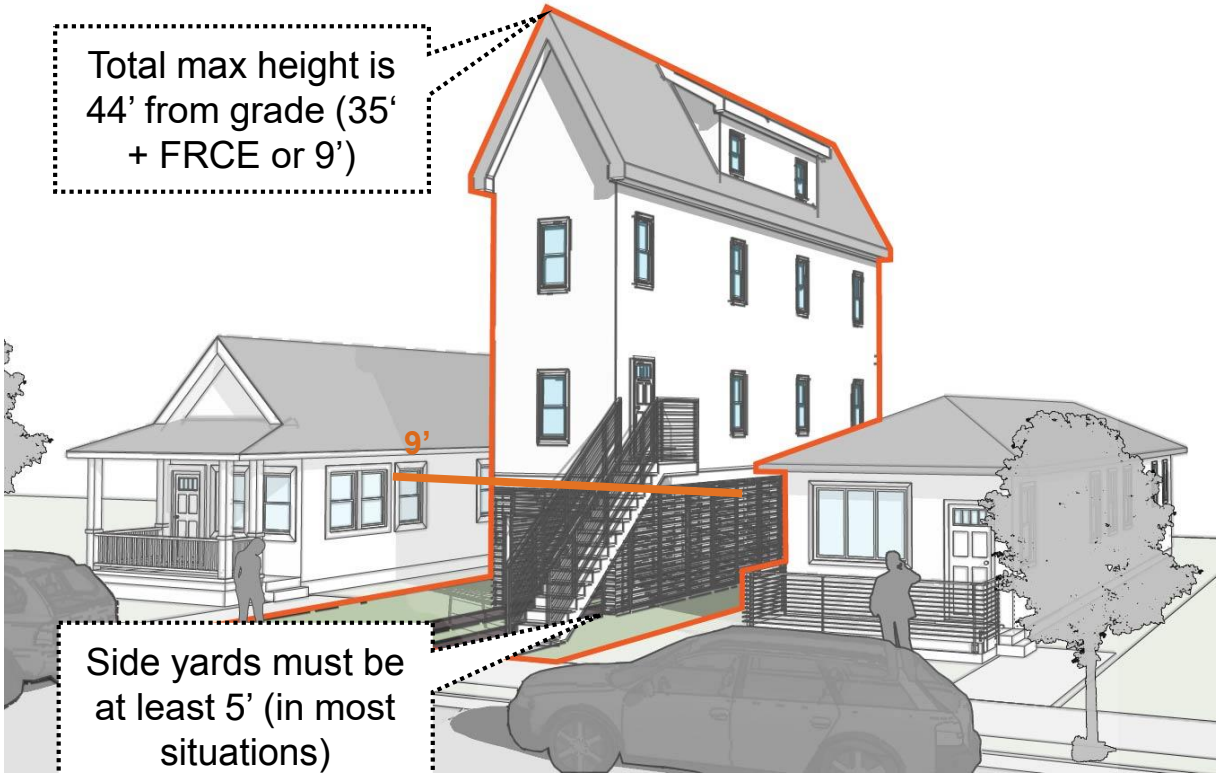
✓ Homes on small lots can be resilient

Special Conditions

Cottage Envelope

Total max height is 44' from grade (35' + FRCE or 9')

Side yards must be at least 5' (in most situations)

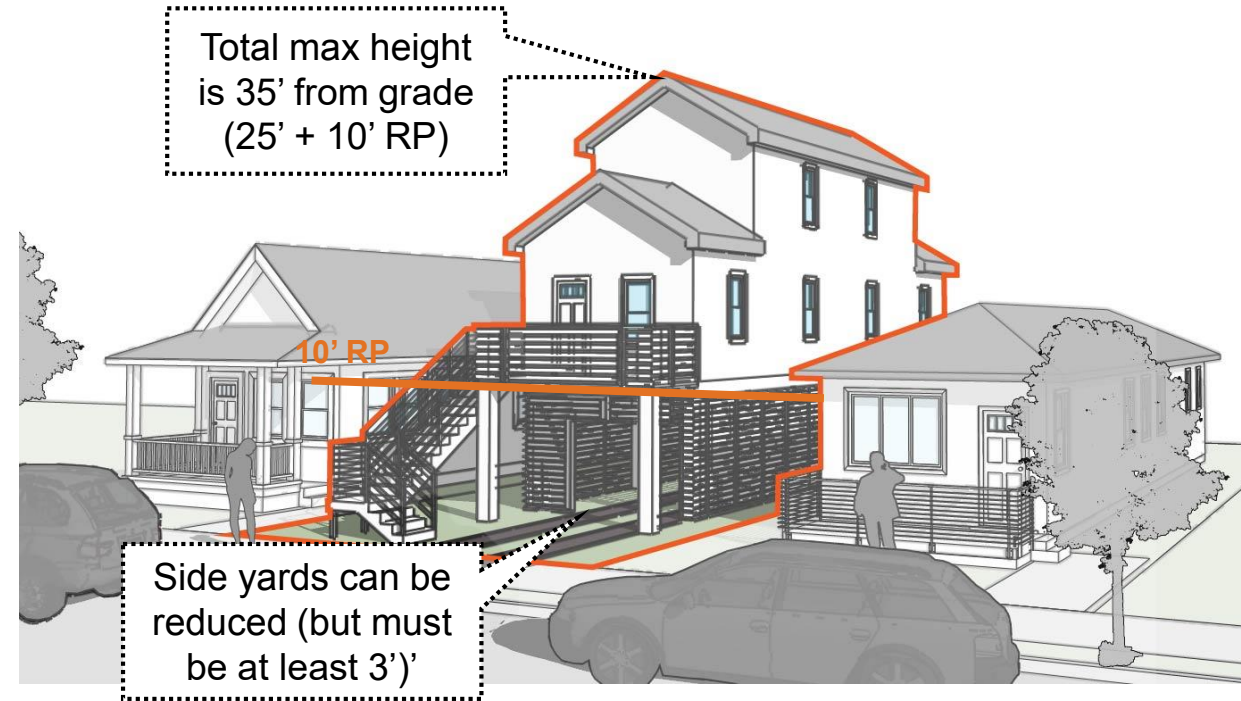


The popular set of rules for small lots known as the “cottage envelope” would continue to enable construction and retrofits of resilient homes that better match their surroundings and are able to accommodate better layouts.

Updated Item

Total max height is 35' from grade (25' + 10' RP)

Side yards can be reduced (but must be at least 3')



2013 Flood Text: does not provide additional relief for small zoning lots beyond underlying allowances

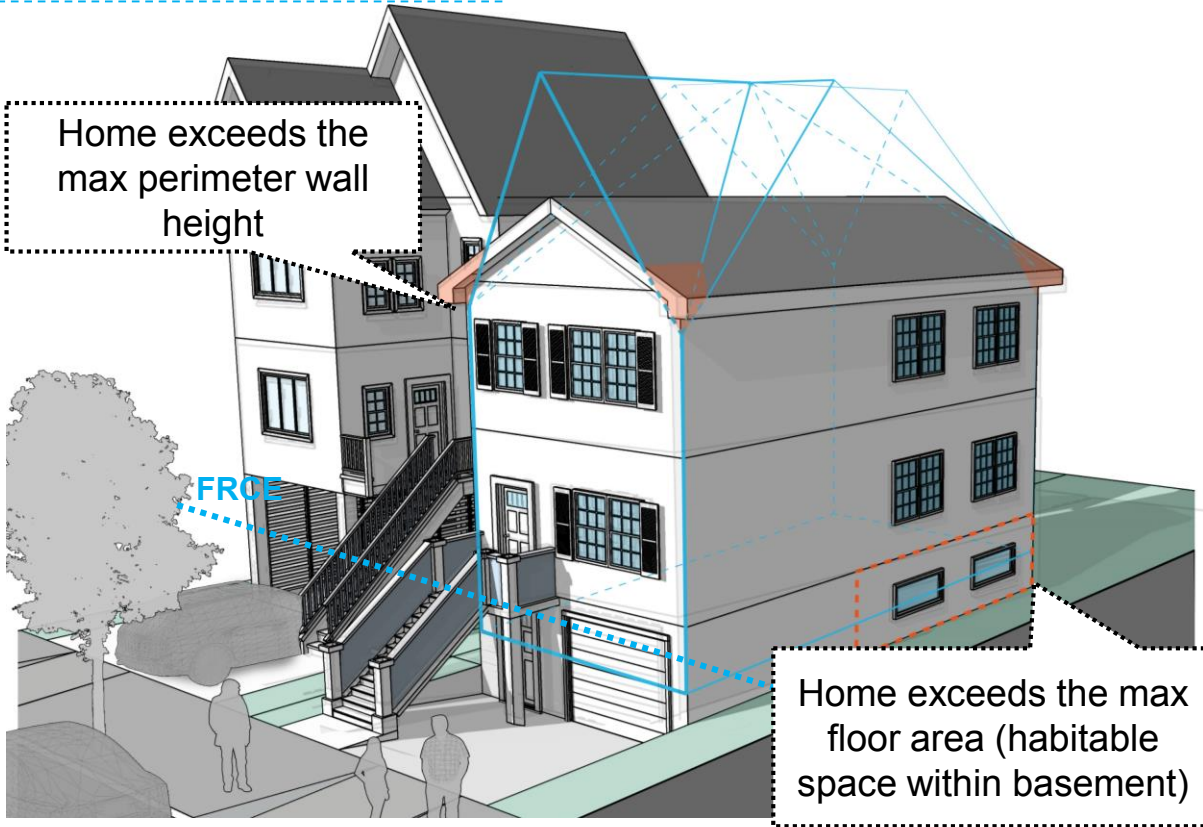
2015 Recovery Text: created the “cottage envelope”, offering broader side and rear yard reductions in exchange for a shorter height above the FRCE

Proposed Rule: continues to allow the “cottage envelope” provisions including an allowance for buildings to match their neighboring front yard, in exchange for a shorter height above the RP

Special Conditions

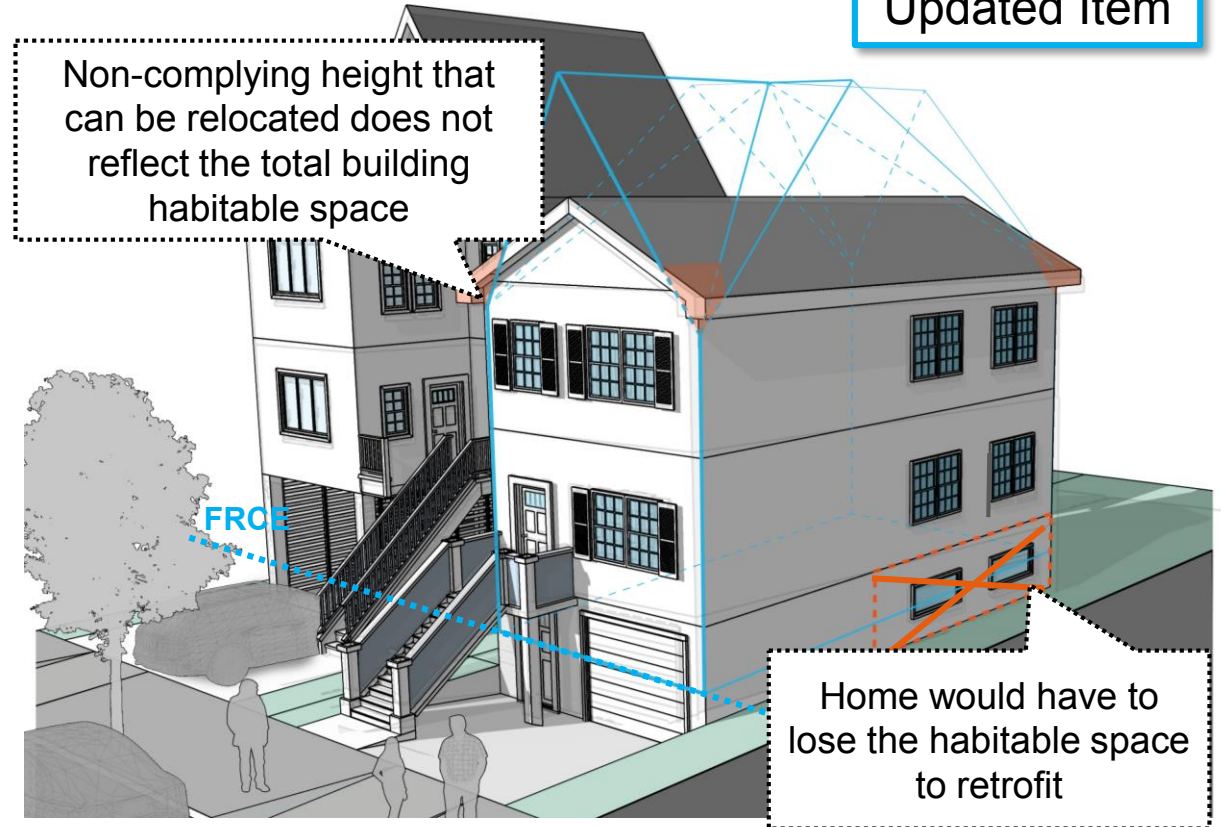
Existing Non-complying buildings

Allowances for retrofitting or reconstructing non-complying buildings will enable resiliency for the large number of buildings that do not adhere to the current rules.



Underlying Text: doesn't allow these buildings to increase the degree of non-compliance, even when they are required to be raised for resiliency purposes

Updated Item



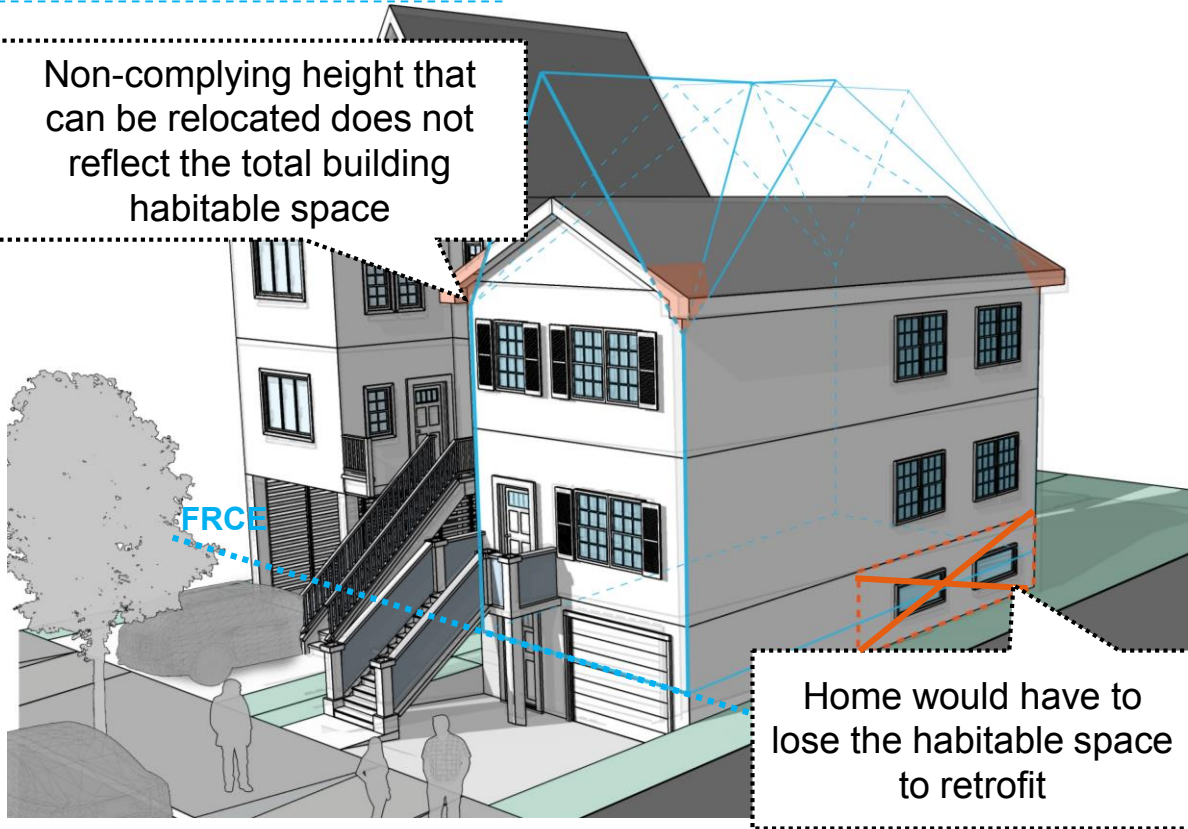
2013 Flood Text: allows these buildings to be retrofitted or reconstructed by raising the lowest habitable floor located above grade to the FRCE (and increase non-compliances)

Special Conditions

Allowances for retrofitting or reconstructing non-complying buildings will enable resiliency for the large number of buildings that do not adhere to the current rules.

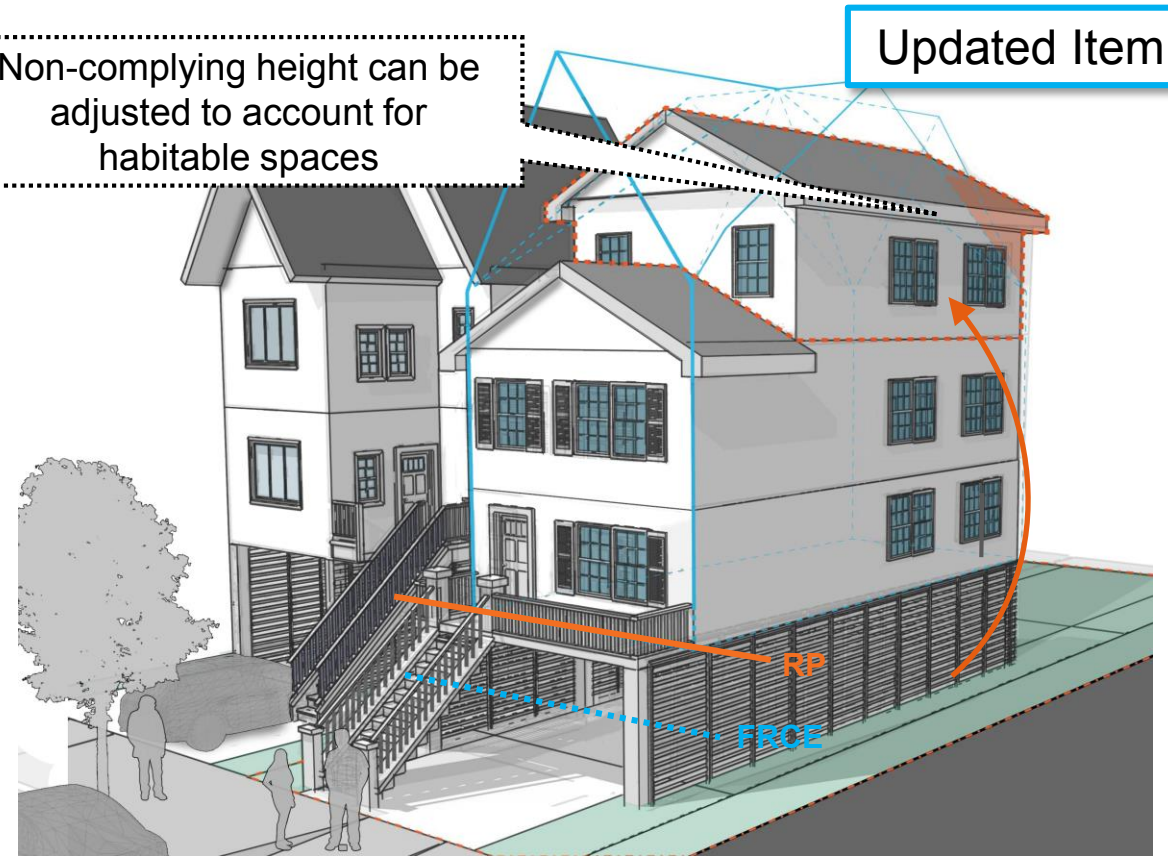
Existing Non-complying buildings

Non-complying height that can be relocated does not reflect the total building habitable space



2013 Flood Text: allows these buildings to be retrofitted or reconstructed by raising the lowest habitable floor located above grade to the FRCE (and increase non-compliances)

Non-complying height can be adjusted to account for habitable spaces

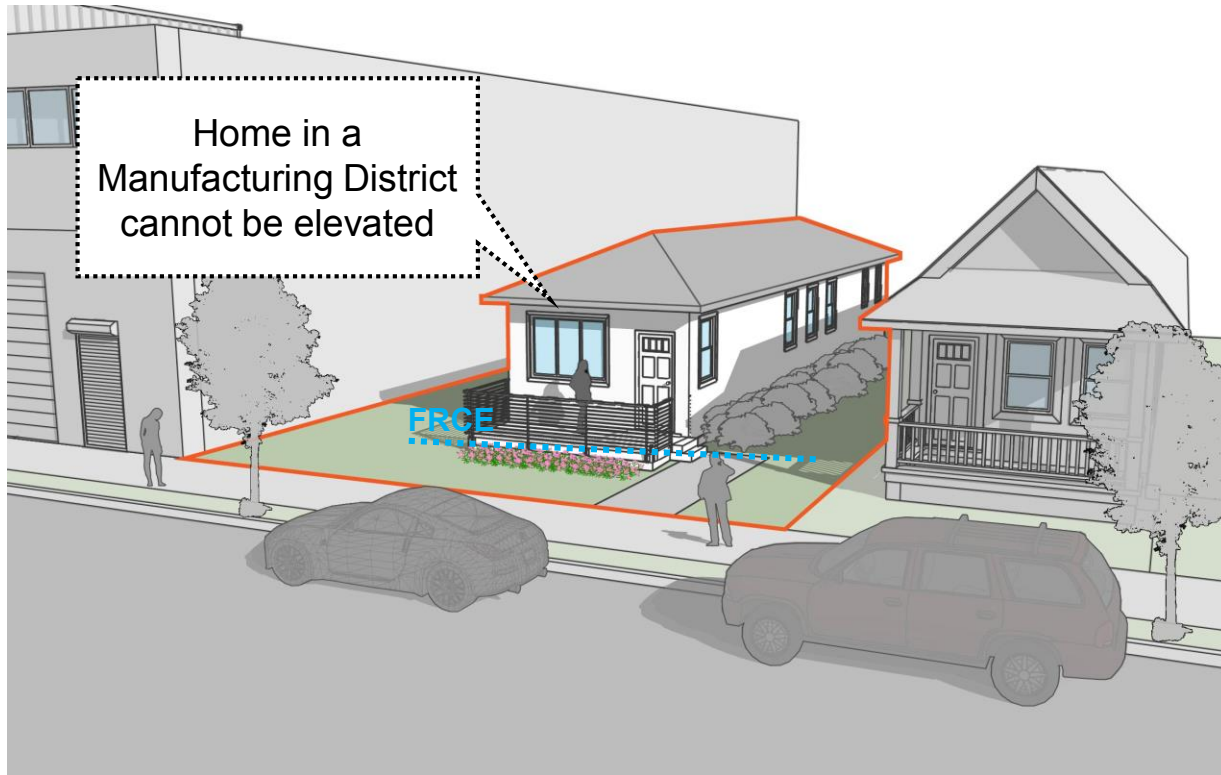


Proposed Rule: allows these buildings to be retrofitted or reconstructed by **relocating the lowest habitable floor to the FRCE or RP**, provided it complies with certain parameters that control new non-compliances

Special Conditions

Non-Conforming

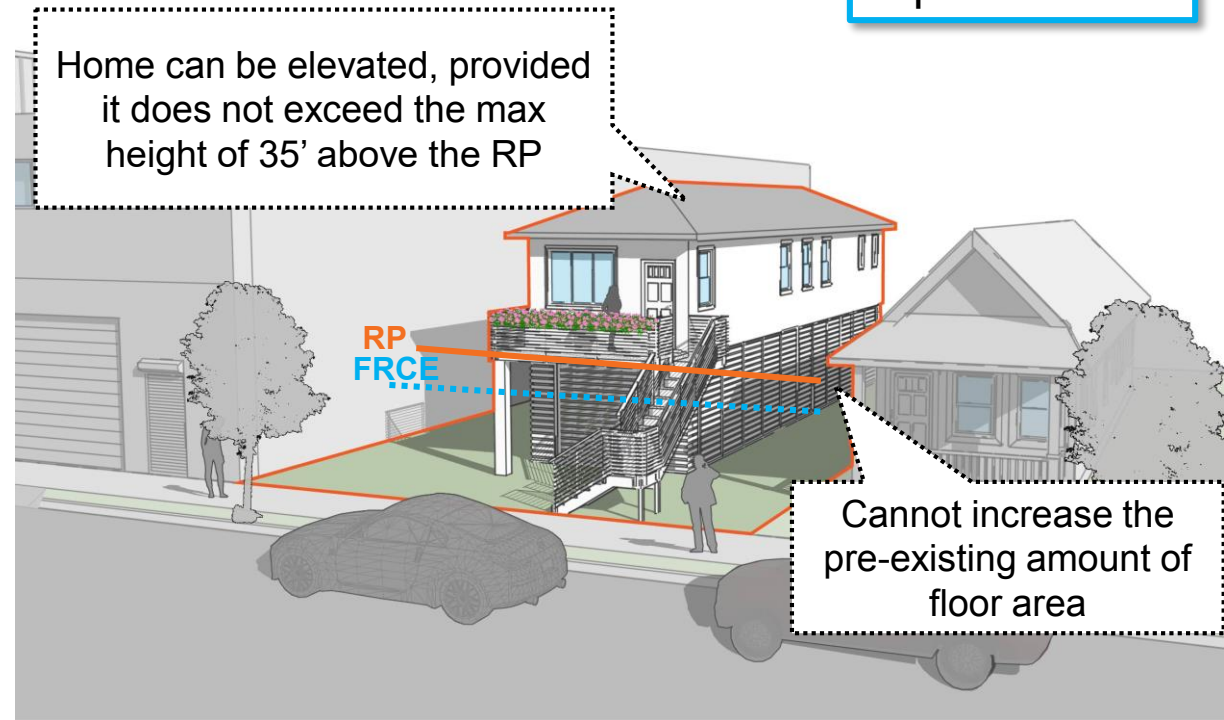
Allowances for retrofitting or reconstructing buildings with non-conforming uses would enable resiliency for the large number of buildings that do not adhere to the current rules.



2013 Flood Text: allows non-conforming 1&2 family homes (except homes in M or C8 Districts) to be reconstructed to the FRCE.

2015 Recovery Text: allows homes in M Districts to be elevated and reconstructed.

Updated Item



Proposed Rule: allows **more types of buildings** with non-conforming uses (including residences in M or C8 Districts) to be **retrofitted** or reconstructed (if within residential clusters) **to the RP**.

Discretionary Actions

Discretionary options would be available to address **unique situations to ensure that all buildings and neighborhoods can be resilient**



All neighborhoods can be resilient



Goal 3

Allow for adaptation over time through incremental retrofits


Mechanical Equipment.....

Support Spaces.....

Flood Protection Measures.....

Waterfront Sites.....

Mechanical Equipment



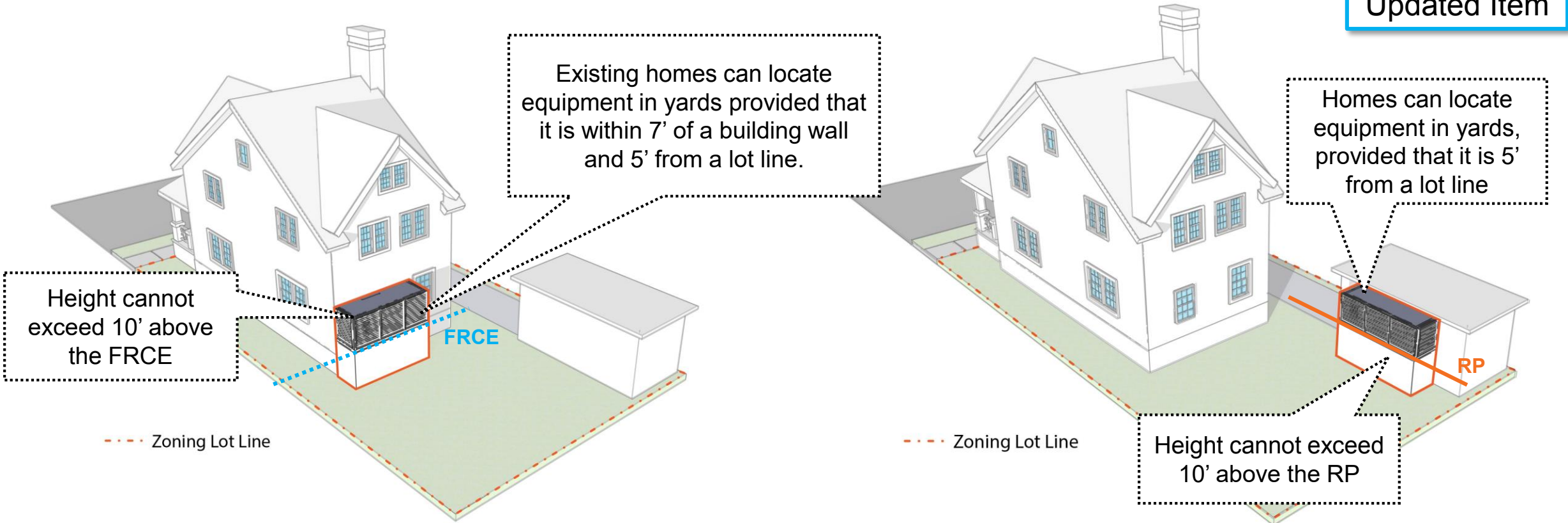
Mechanical equipment would have more options to be placed above flood levels either on open areas or on roofs in lieu of basements or cellars (which make them more vulnerable)

Building owners that face regulatory obstacles or cost constraints to make their buildings fully comply with flood-resistant construction standards would still have the option to make them more resilient

Mechanical Equipment

Open areas

Permitted obstruction allowances would enable the placement of mechanical equipment above flood levels outside of buildings to address situations where space is constrained, or when structures cannot sustain additional loads.



2013 Flood Text: allows mechanical equipment to be located within open areas, provided that it is screened, and that location and height limitations are met

Proposed Rule: allows additional flexibility for mechanical equipment to be located within open areas, provided that it is enclosed, and that coverage and height limitations are met

Support Spaces

Key spaces that are often located within basements or cellars, especially those that help support businesses such as offices or storage rooms, would be able to be located above flood levels

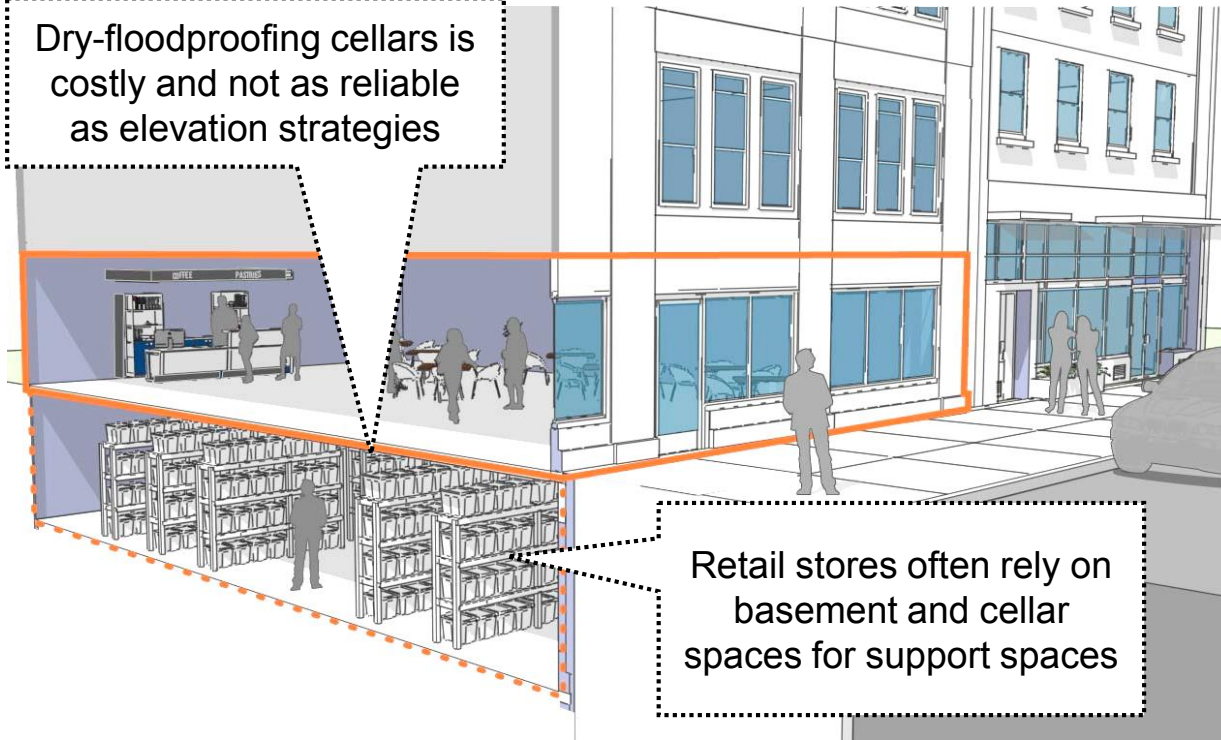


Support Spaces

Ground Floors: 2nd story commercial

Modified use regulations would give businesses the opportunity to move critical business functions, such as storage and inventory, out of basements or cellars to above the flood level, improving the long-term resiliency of commercial corridors.

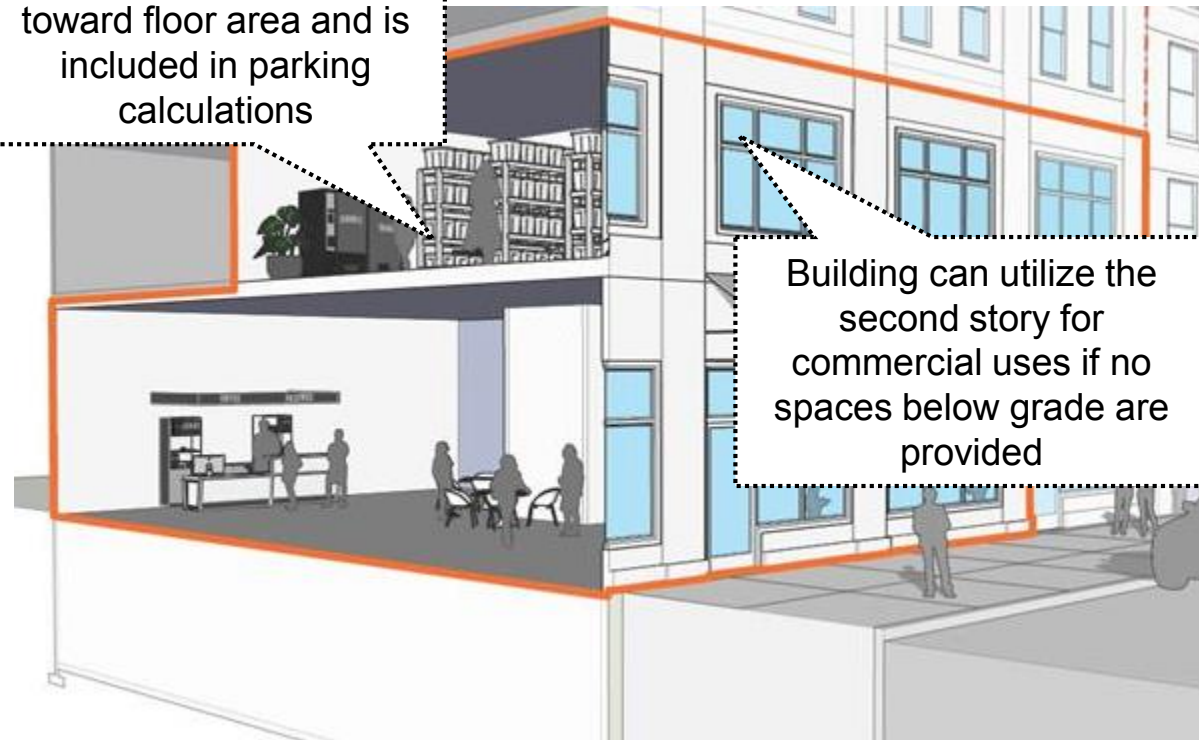
Dry-floodproofing cellars is costly and not as reliable as elevation strategies



Underlying Text: limits commercial uses to the ground-floor in mixed-use buildings located within in low- and medium-density commercial corridors

New Item

Space is still counted toward floor area and is included in parking calculations



Proposed Rule: allows commercial uses on the second story of mixed-use buildings in all commercial corridors

**Flood
Protection Measures**

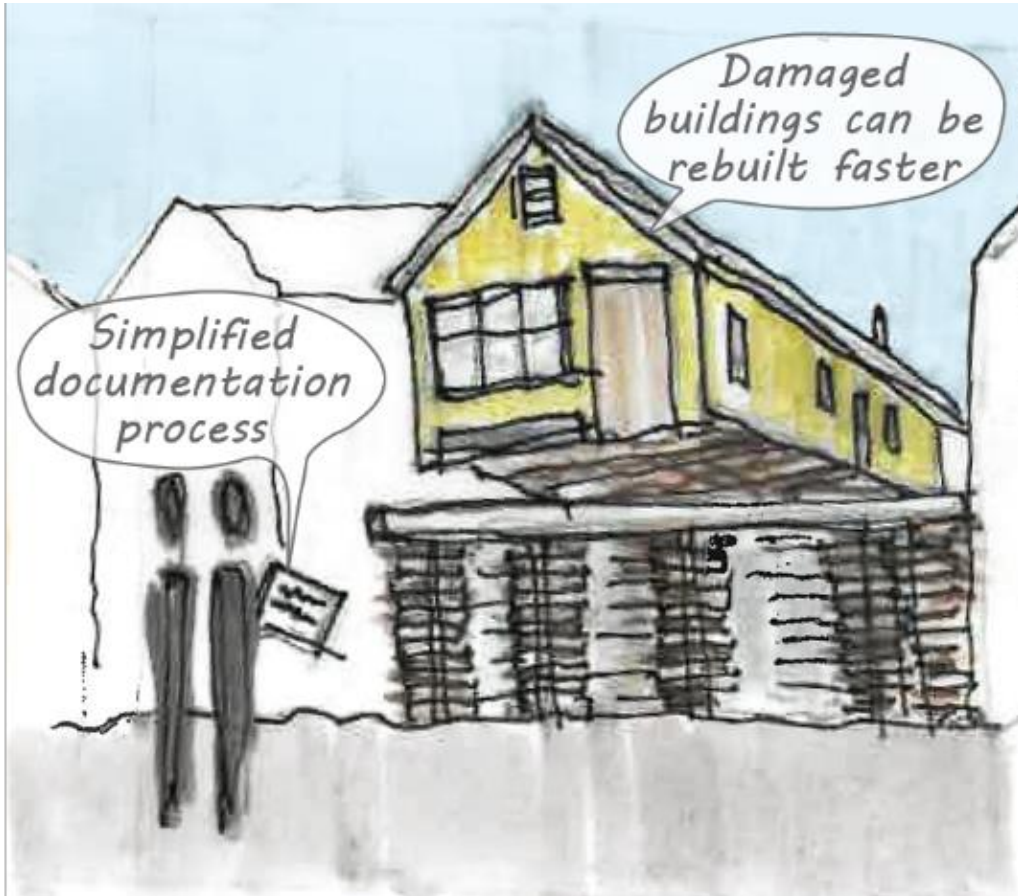


Flood protection measures would be able to be as installed either when they are required for compliance with flood-resistant construction standards or where alternate flood protection strategies may be warranted

Waterfront Sites

Waterfront sites would be able to better accommodate contemporary resiliency measures and address sea level rise





Goal 4

Facilitate future recovery by reducing regulatory obstacles

Power Systems.....

Accessibility.....

Vulnerable Populations.....

Disaster Recovery

Power Systems

Hurricane Sandy showed that areas affected by the storm went beyond the floodplain and that the regulations which would facilitate recovery would be useful for other types of disasters

More options to locate power systems on lots throughout the city would make it easier for properties to provide back-up energy, especially in the event of a disaster

Accessibility

An accessible design would be better enabled consistently throughout the city

Vulnerable Populations

Siting nursing homes would be limited in high-risk areas to lessen the health consequences and logistical challenges of evacuating the residents of these facilities

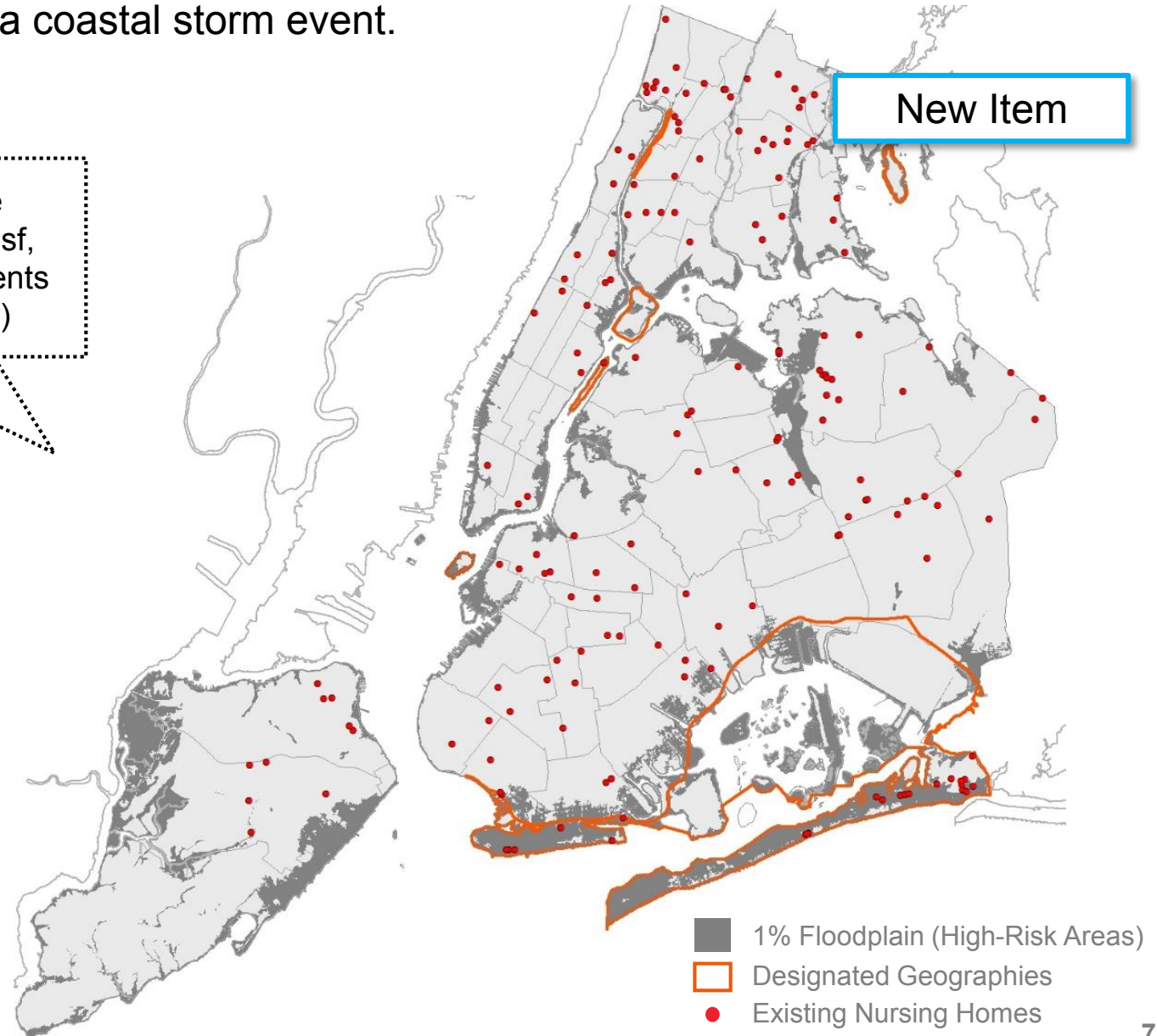


Vulnerable Populations

Use restrictions would limit the exposure of nursing home residents to areas at high risk of flooding since these populations are particularly vulnerable, whether they shelter in place or evacuate prior to a coastal storm event.

Existing facilities can create enlargements of up to 15,000 sf, allowing for modest improvements (including building resiliency)

Proposed Rule: prohibits new nursing homes and restrict the enlargement of existing facilities within the 1% annual chance floodplain and selected areas where vehicular access would likely become limited during a disaster.



Disaster Recovery

Rules that could be made available to facilitate the recovery process from future disasters would be included, some of which would be implemented now to help address the COVID-19 pandemic and its associated economic effects

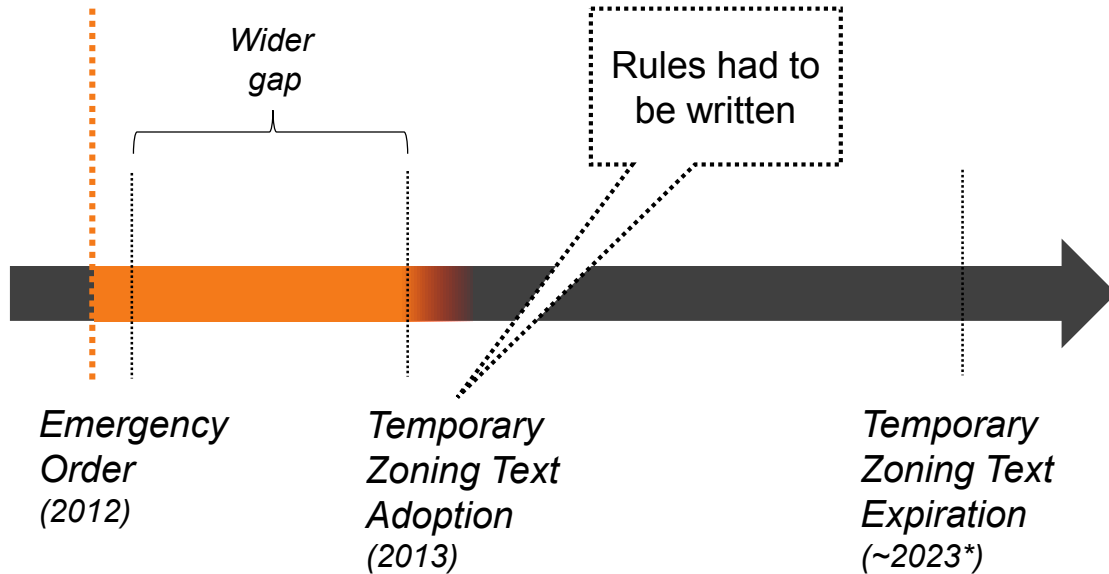
Hurricane Sandy demonstrated that a lengthy process to update zoning regulations can present obstacles to the necessarily fast-paced disaster response

Disaster Recovery

Framework

A series of disaster recovery provisions that could be made available through a text amendment when a disaster occurs would offer a roadmap for the public, planners, and decisionmakers when working to recover from a disaster.

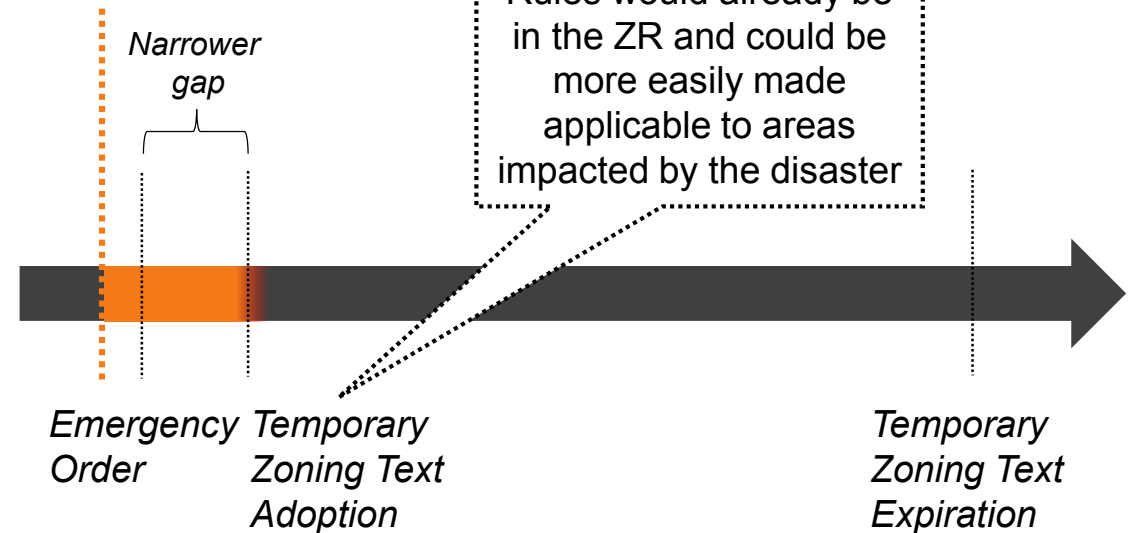
Hurricane Sandy



*original assumption: 2014

2013 Flood Text: recovery provisions had to be developed soon after Hurricane Sandy, taking certain time to be adopted

Future Disaster



Proposed Rule: recovery provisions would be placed in the Zoning Resolution today, so they can be quickly selected post-disaster based on the issues caused by such event and the necessary time period for recovery

Disaster Recovery

Types of Rules

Recovery provisions would include rules that could facilitate the recovery process from disasters which cause physical impacts (e.g., hurricanes), and a wider range of disasters that do not necessarily lead to physical damage (e.g., pandemics).

Updated Item

- Damage & Destruction Provisions
- Bulk Modifications
- Tax Lots as Zoning Lots
- Documentation Allowances

- Damage & Destruction Provisions
- Bulk Modifications
- Tax Lots as Zoning Lots
- Documentation Allowances
- Construction Timeframes
- CPC Special Permits/Authorizations Timeframes
- Discontinuance of non-conforming uses
- Temporary Uses

2013 Flood Text and 2015 Recovery Text: allowed Sandy-damaged buildings (i.e. most non-conforming and non-complying) to be rebuilt and additional relief to expedite recovery (such as documentation allowances)

Proposed Rule: builds upon this set of provisions and include additional rules such as allowing non-conforming uses to be discontinued for a longer period of time

Disaster Recovery

COVID-19

Selected rules would be triggered to provide a more predictable, long-term method to administer the pandemic relief.

New Item

These allowances will cease when the EO expires and is not renewed, or when the state of emergency ends



- Damage & Destruction Provisions
- Bulk Modifications
- Tax Lots as Zoning Lots
- Documentation Allowances
- Construction Timeframes
- CPC Special Permits/Authorizations Timeframes
- Discontinuance of certain non-conforming uses
- Temporary Uses

Mayor's Executive Order: provides short-term relief from regulations, including relief from construction timeframe rules and non-conforming use provisions

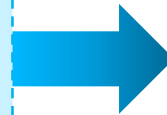
Proposed Rule: puts these two provisions into effect throughout the city for a period of two years, consistent with the general intent of the disaster recovery rules and the Executive Order

Environmental Review

EIS

A Draft Generic Environmental Impact Statement (DGEIS) was conducted with the Department of City Planning (DCP) acting on behalf of the City Planning Commission (CPC) as the Lead Agency

A Notice of Completion of a Draft Generic Environmental Impact Statement (DGEIS) was issued on October 16, 2020.



The DGEIS did not identify any significant adverse impacts

Next Steps

Public Review

The citywide text amendment is being proposed to follow the ULURP clock, in parallel with the three local actions (presentation to follow) to simplify the review process.



Zoning for Coastal Flood Resiliency
Citywide Text Amendment

+

Local Actions
Gerritsen Beach, BK
Sheepshead Bay, BK
Old Howard Beach, QN

