

# Flood Resilience Zoning Text Update

Staten Island Community Board 1

Waterfront Committee

October 24, 2017



# FEMA Flood Map

## Citywide Flood Risk

NYC's flood risk is high.

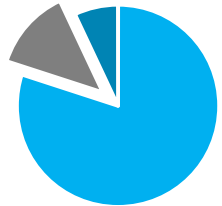
The floodplain affects a large geography and most community and council districts.

### 100 Year Floodplain

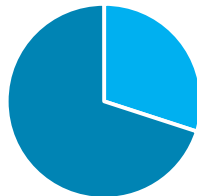
FEMA 2015 PFIRM

Population: **400,000**  
Buildings: **71,500**

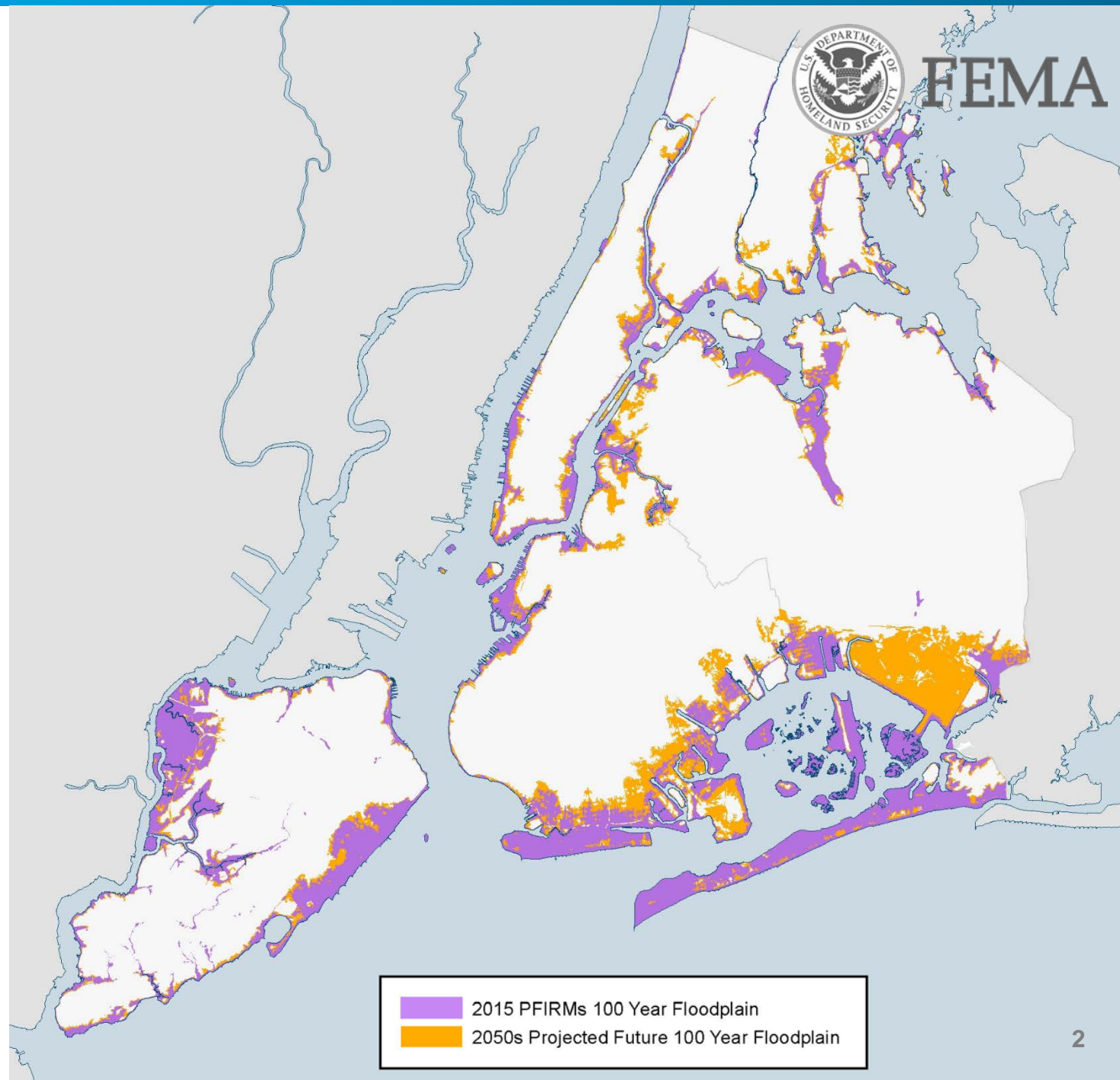
**50** of 59 Community Boards  
**45** of 51 Council Districts



Buildings:  
**80%** 1-4 units  
**7%** 5+ units  
**13%** nonresidential



Residential  
Units:  
**30%** 1-4 units  
**70%** 5+ units



 2015 PFIRMs 100 Year Floodplain  
 2050s Projected Future 100 Year Floodplain



FEMA

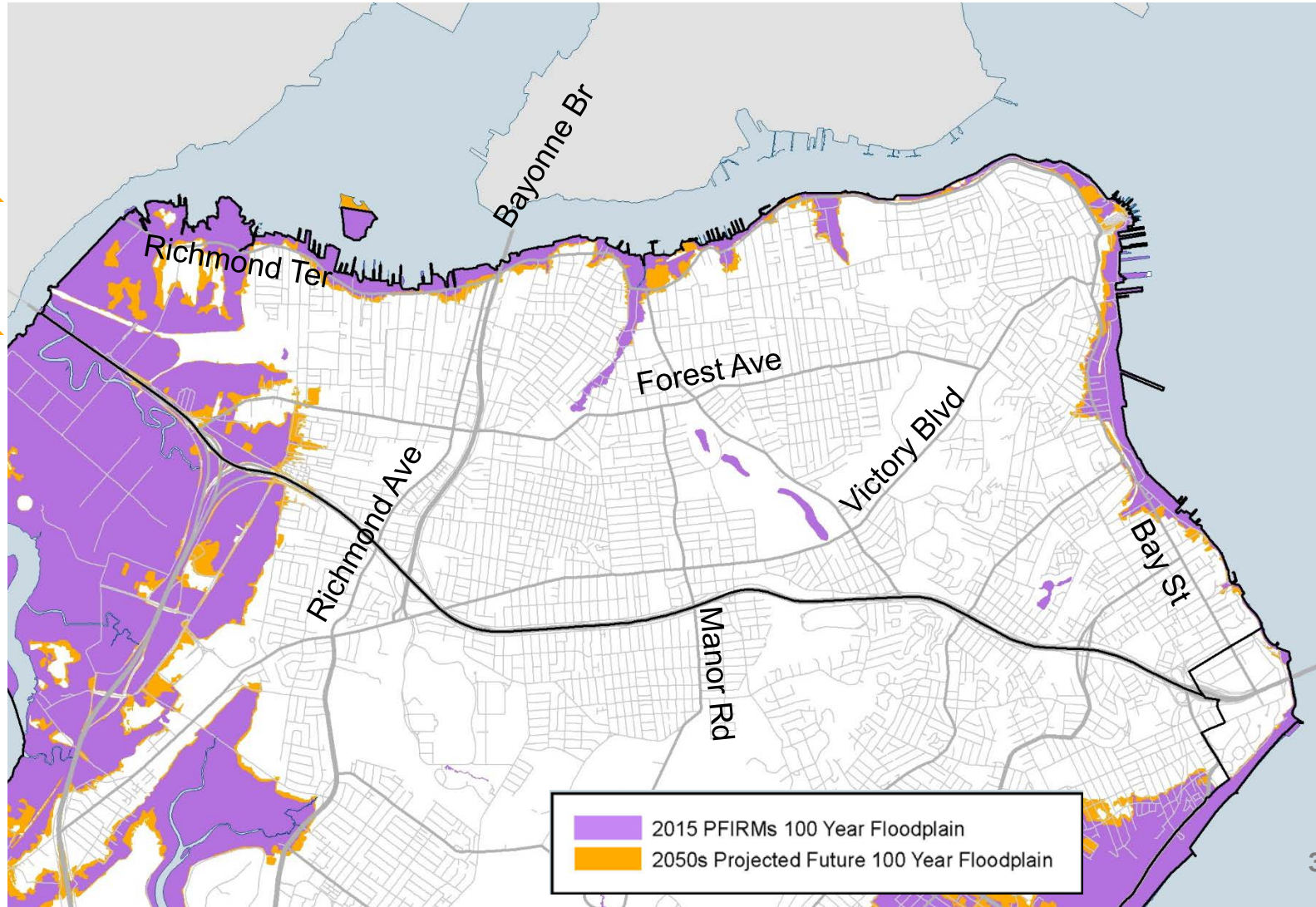
# FEMA Flood Map

## Flood Risk in Staten Island CB 1

	2015 PFIRMs	2050s Projected
Res Units in Floodplain	2,400	3,680
Buildings in Floodplain	1,150	2,200

91%

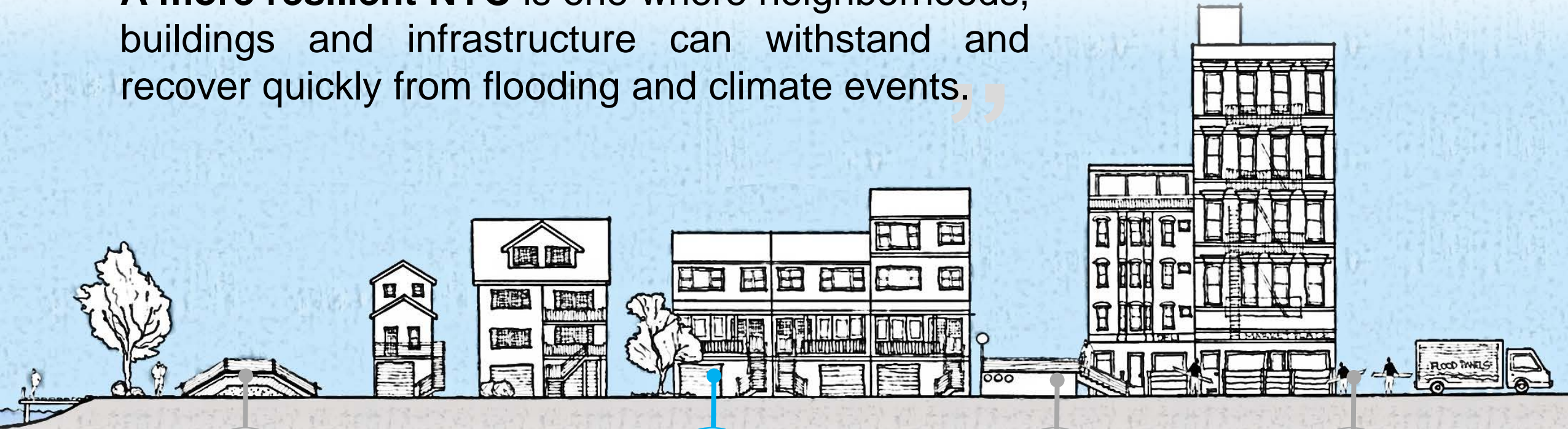
91%





# #ONENYC

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



## Coastal defenses

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

# How are buildings in the floodplain regulated?

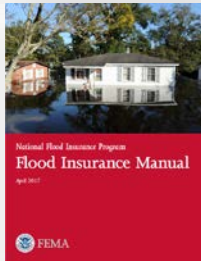


FEMA



Flood Insurance Rate Maps (FIRMs)

Determine where floodplain regulations apply



National Flood Insurance Program

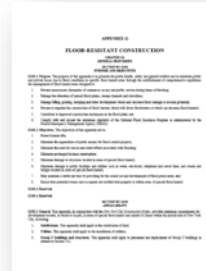
Set up Insurance Rates depending on building elevation and other requirements



Construction Standards (ASCE 24)

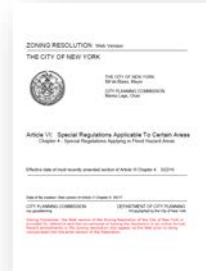
Design minimum construction requirements for flood hazard areas

NYC



Building Code (DOB)

Requires new buildings and substantial improvements to meet FEMA standards



Zoning Resolution (DCP)

Zoning accommodates these regulations and improves neighborhood character

# Flood resilient construction

## Required by DOB



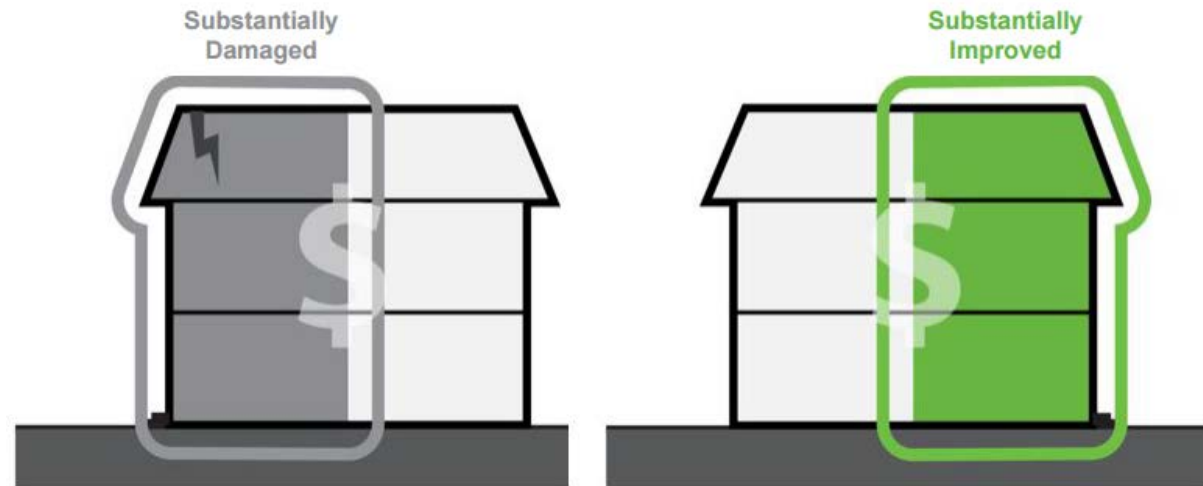
**Building Code  
(DOB)**

**Requires** new buildings and substantial improvements to meet FEMA standards

**Required**  
for all new buildings



**Not required** for existing buildings  
(unless substantially damaged or improved)

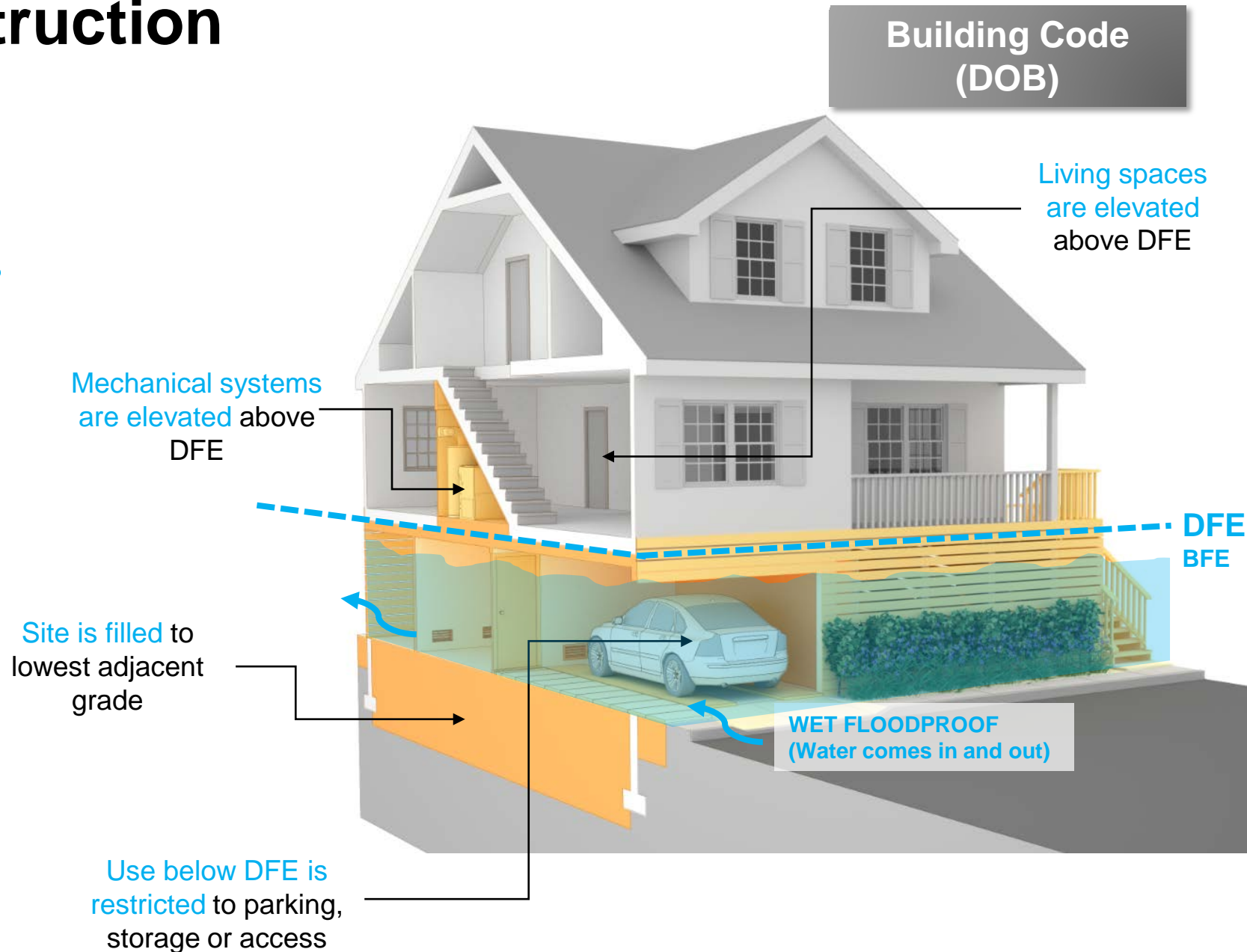


**Substantially Damaged: Restoring Cost  $\geq$  50% Market Value**  
**Substantially Improved: Improvement Cost  $\geq$  50% Market Value**



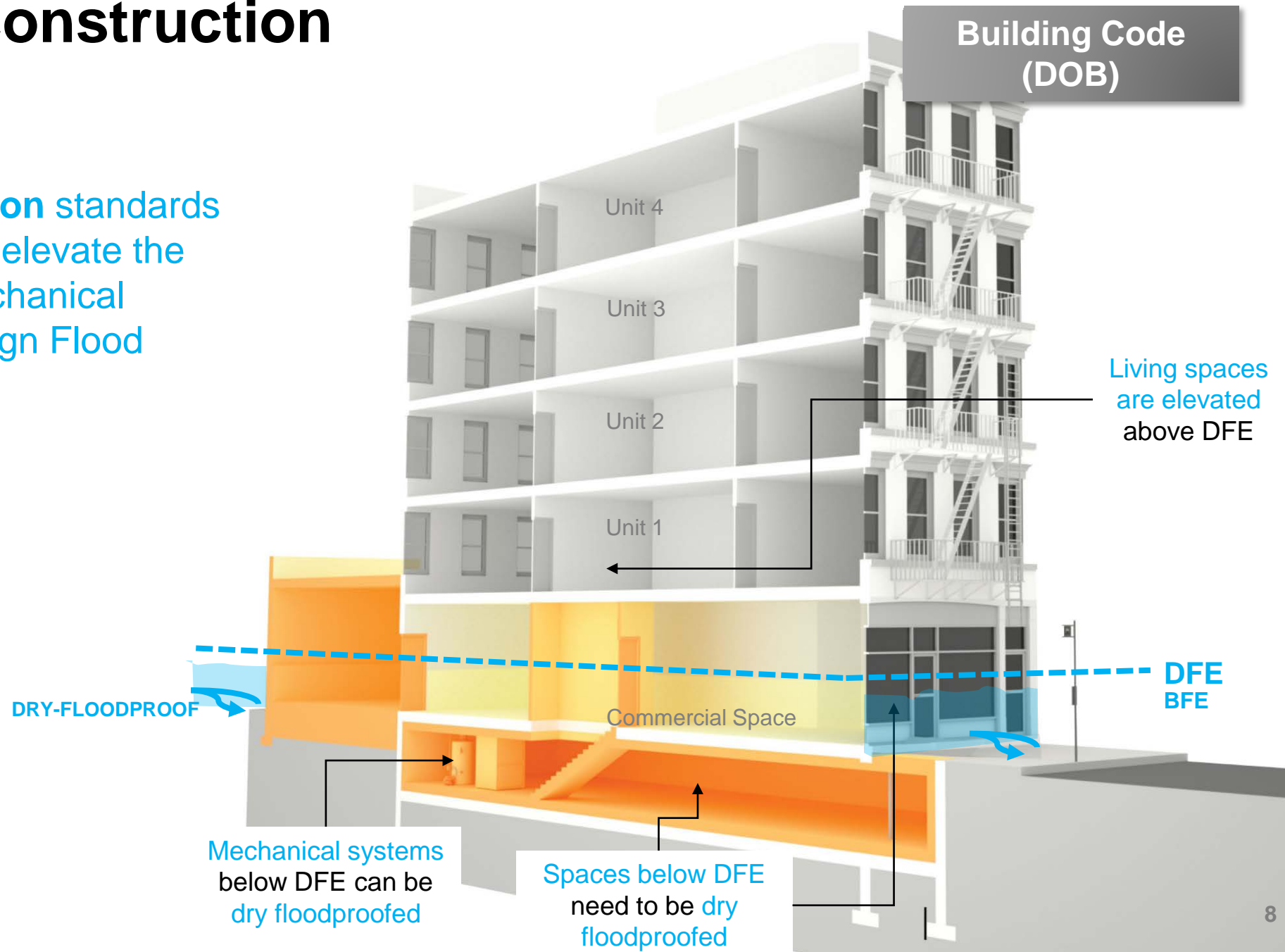
# Flood resilient construction Required by DOB

**Flood resilient construction** standards require certain buildings to elevate the lowest floor, as well as mechanical equipment, above the Design Flood Elevation (DFE).



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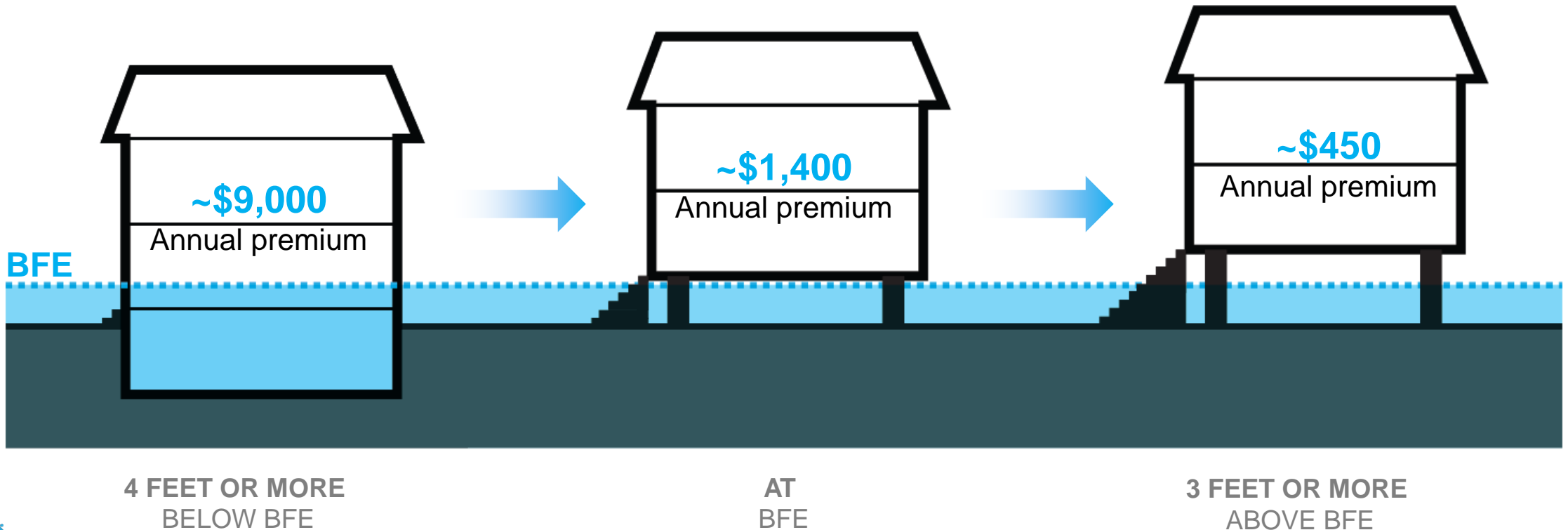
# Flood insurance rates

## Set by FEMA

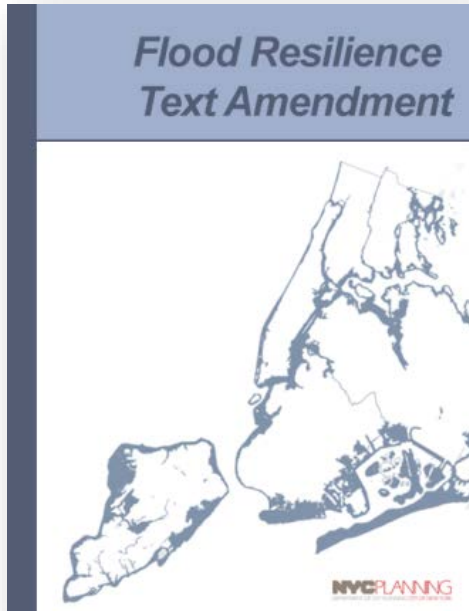


Raising or retrofitting your building or home will reduce costs

FEMA's flood insurance premiums are lowest when the lowest inhabited floor (any area not used solely for storage, access or parking) is elevated above the **Base Flood Elevation (BFE)**.



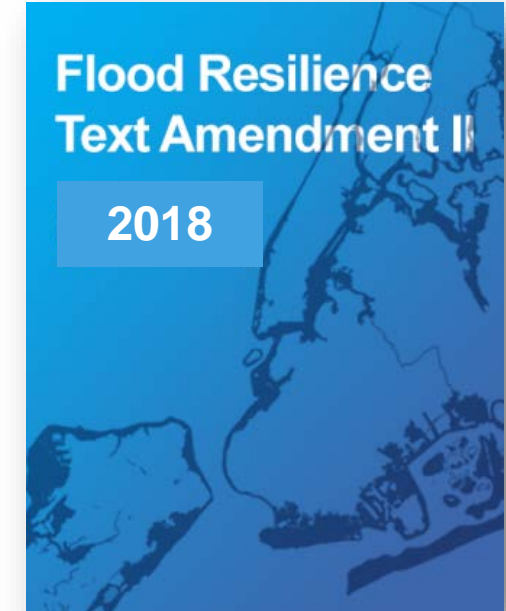
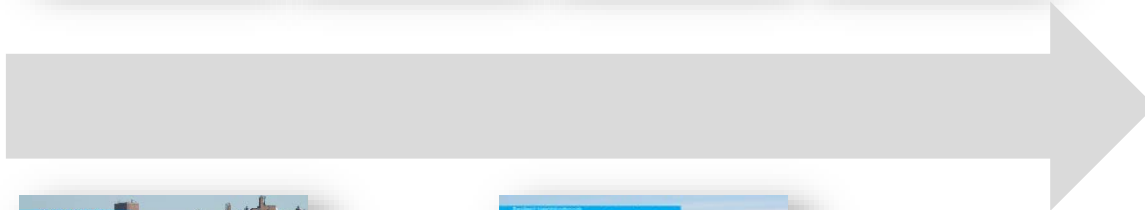
# Flood Resilience Zoning Projects at DCP



2013

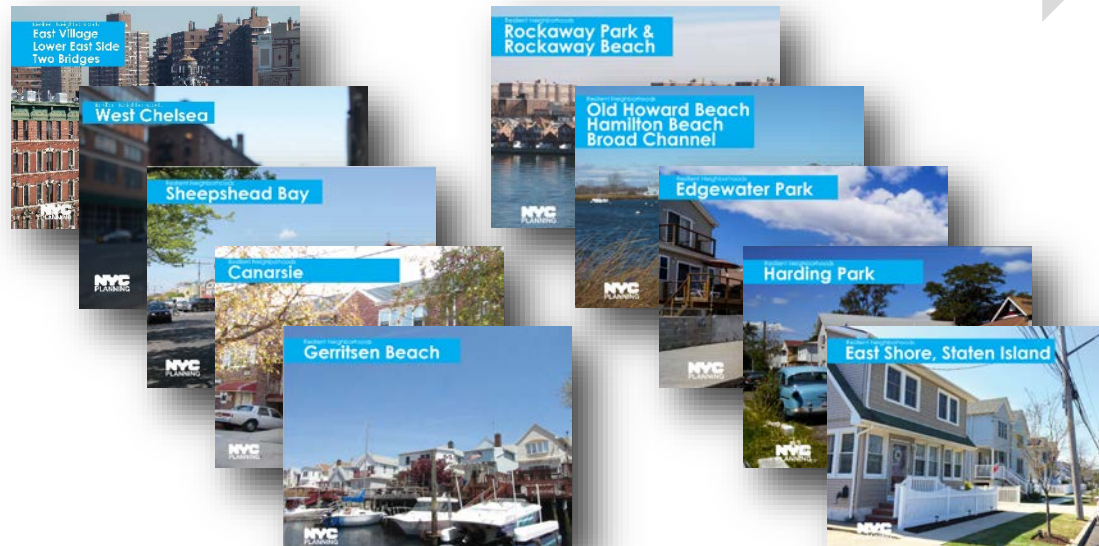
“Flood Text”

initial temporary regulations to facilitate recovery



2018

“Flood Text Update” improve upon, and make permanent, the Flood Text

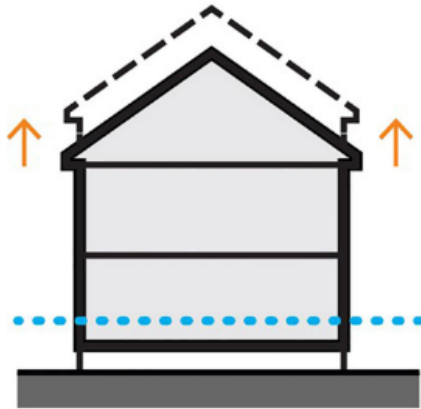


# 2013 Citywide Flood Text

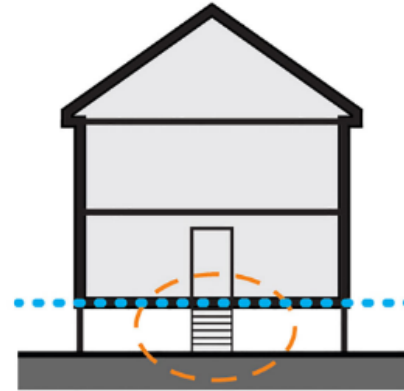
Amended zoning in six key areas

Zoning Resolution  
(DCP)

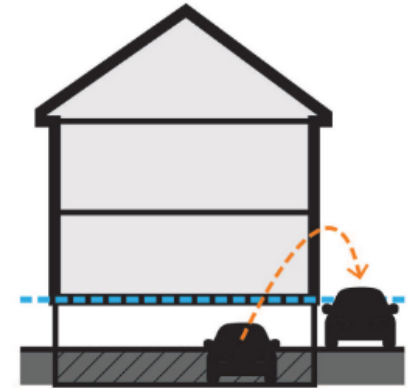
**1**  
**Height**  
Measured from  
flood elevation



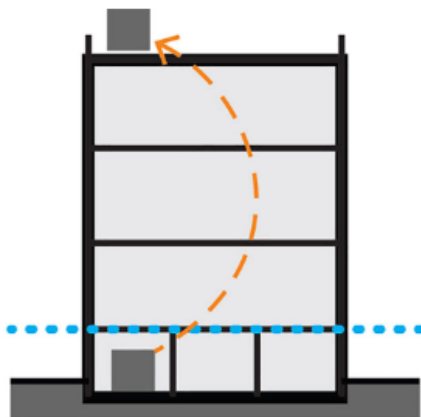
**2**  
**Access**  
Flexibility for  
stairs, ramps, lifts



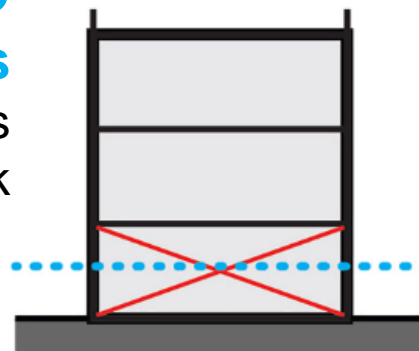
**3**  
**Parking**  
Flexibility to  
relocate parking



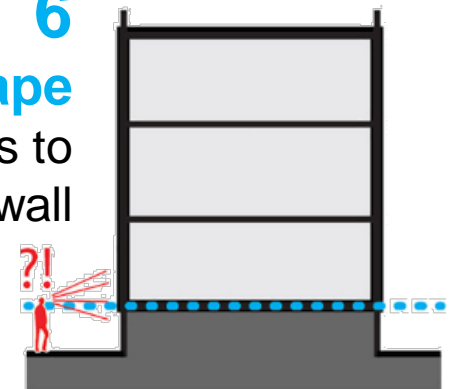
**4**  
**Systems**  
Flexibility to  
relocate/elevate



**5**  
**Ground Floors**  
Account for costs  
of new flood risk



**6**  
**Streetscape**  
Require features to  
mitigate blank wall





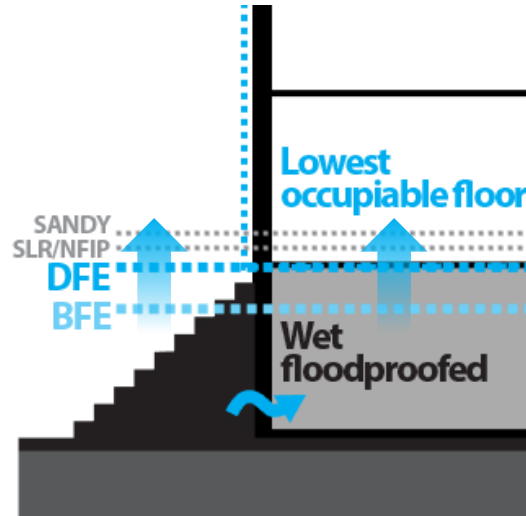
# Flood Text Update

## Need for a new citywide text amendment



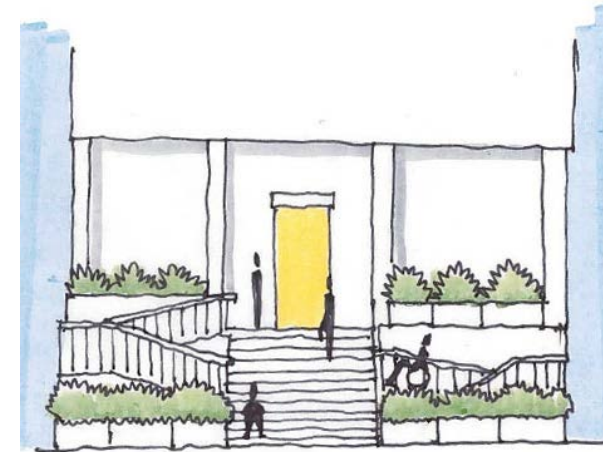
### Goal 1

**Facilitate Recovery from Future Storms**  
by making the provisions of the temporary Flood Text permanent



### Goal 2

**Promote Long-Term Resiliency**  
by encouraging proactive retrofitting and development that is **safe in the long run**



### Goal 3

**Enhance Neighborhood Character**  
By encourage good resilient design within **coastal communities**

# Flood Text Update

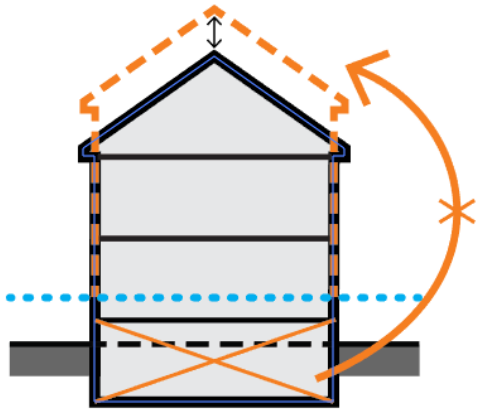
## Fix and improve provisions based on lessons learned

Zoning Resolution  
(DCP)

1

### Height

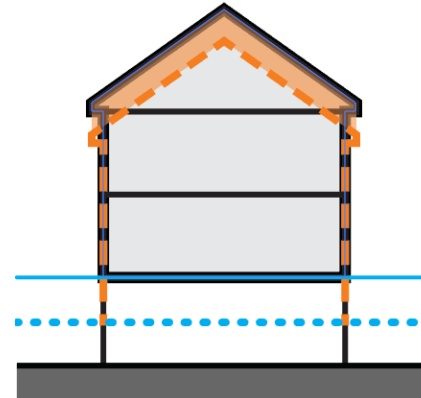
Homeowners may face the loss of subgrade spaces when retrofitting



2

### Height

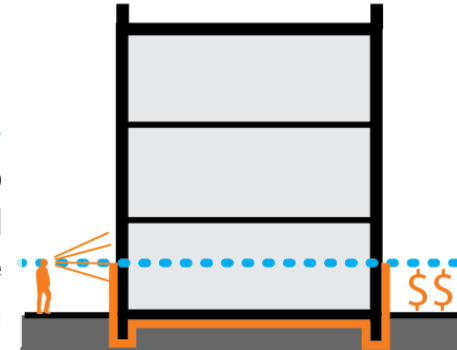
Property owners may want to address future risk by over-elevating



3

### Ground Floors

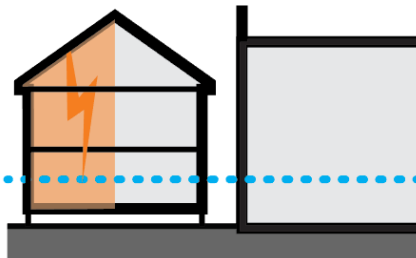
Current incentives to keep active ground floors may not be enough



4

### Homes in M Districts

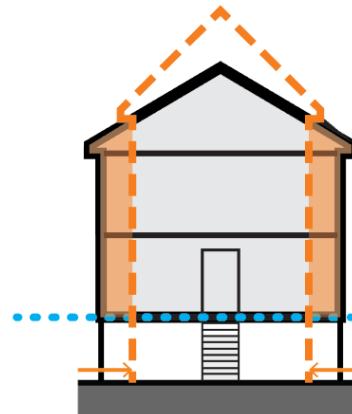
Existing homes in M. Districts, if damaged, may not be able to rebuild



5

### Old Homes on Small Lots

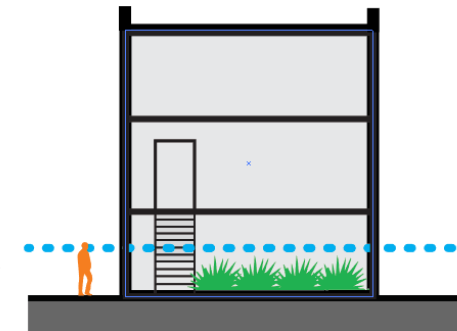
Old homes on small lots may need more flexibility to rebuild in the future



6

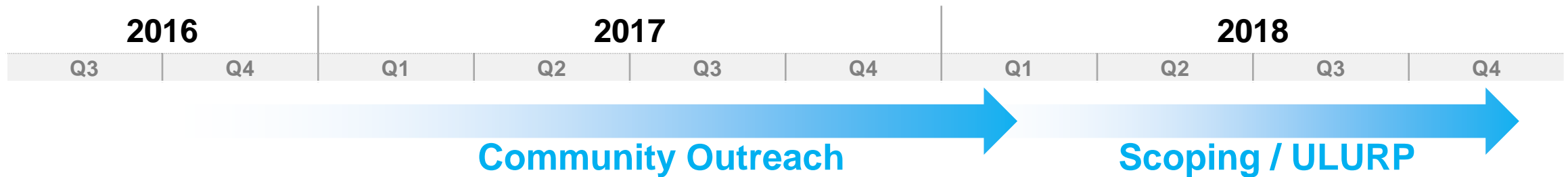
### Improve Streetscape

Mitigate the effects of elevated buildings on neighborhood character



# Flood Text Update Outreach

DCP plans a robust public engagement process:



As part of this outreach process, DCP will:

- **Partner with stakeholders** to educate and promote awareness of flood risk and resiliency issues
- **Explain how zoning tools** relate to resiliency
- **Explore unique neighborhood issues** through in-depth public presentations and workshops
- Develop a proposal through an **iterative process** that is shaped by feedback

\* Schedule is tentative and subject to change



# Outreach Resources

**FloodHelpNY.org**

NYC's flood risk is on the rise

CENTER for NYC NEIGHBORHOODS  
Governor's Office of Storm Recovery  
NYC Mayor's Office of Resilient Recovery and Resilience

## Planning a Resilient NYC video with captions in English and Spanish

Planning A Resilient New York City

**PLANNING A RESILIENT NYC**

NYC.GOV / RESILIENT NEIGHBORHOODS

## Info briefs on flood risk-related topics available in 7 languages

<p><b>NYC PLANNING</b> Info Brief <b>Flood Resilient Construction</b></p> <p>Flood resilient construction reduces potential damage from flooding and can lower flood insurance premiums. New buildings in the five boroughs are required to meet flood resilient standards. Existing buildings can also benefit from retrofits or upgrading to meet these standards. To see what program resources are available for your building, visit <a href="http://www.floodhelpny.org">www.floodhelpny.org</a>.</p> <p><b>Overview</b></p> <p>There is a wide range of assessed flood resilient construction practices for buildings to better withstand floods and minimize their costly recovery. These include:</p> <ul style="list-style-type: none"> <li>Sealing the lowest floor</li> <li>Installing mechanical equipment such as electrical, heating, and plumbing equipment</li> <li>Rise benchmarking by cutting water-resistant building materials and using one-half-inch Design Flood Elevation (DFE) to sealing, building access, and storm storage. This allows water to rise in and around unsealed, lower portions of the building with minimal damage.</li> <li>Dry benchmarking by sealing the building's exterior to flood waters and using removable barriers at all entrance levels for exterior level flooding in flood-prone and non-residential buildings.</li> </ul> <p><b>Examples of Flood Resilient Construction</b></p> <p>Visit <a href="http://www.floodhelpny.org">www.floodhelpny.org</a> for more examples in the Resilient for Flood Risk report.</p> <p>NYC PLANNING   November 2016   Flood Resilient Construction</p>	<p><b>NYC PLANNING</b> Info Brief <b>Flood Risk in NYC</b></p> <p>New York City's high vulnerability to flooding from coastal storms due to its proximity to sea level rise and its extensive harbor geography. Flooding from the coastal is a major threat to infrastructure and businesses, major infrastructure, and broader longer-term risks. Climate change and sea level rise, these risks are expected to increase in the future, but will most seriously affect low-lying neighborhoods.</p> <p><b>Flood Risks</b></p> <p>Coastal storms, tropical storms, and sea level rise can damage and even destroy high-density areas in the eastern portion of the city.</p> <p><b>Approximately who and what's affected by the 1% annual chance floodplain?</b></p> <table border="1"> <thead> <tr> <th>Category</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Buildings</td> <td>1,000,000</td> </tr> <tr> <td>Population</td> <td>1,000,000</td> </tr> <tr> <td>Businesses</td> <td>1,000,000</td> </tr> <tr> <td>Manufacturing</td> <td>1,000,000</td> </tr> <tr> <td>Government</td> <td>1,000,000</td> </tr> <tr> <td>Healthcare</td> <td>1,000,000</td> </tr> <tr> <td>Education</td> <td>1,000,000</td> </tr> <tr> <td>Religious</td> <td>1,000,000</td> </tr> <tr> <td>Arts and Entertainment</td> <td>1,000,000</td> </tr> <tr> <td>Other</td> <td>1,000,000</td> </tr> </tbody> </table> <p><b>Where is the Flood Text Available?</b></p> <p>The Flood Text is available in multiple languages for all buildings in the 1% annual chance floodplain.</p> <p>NYC PLANNING   November 2016   Flood Risk in NYC</p>	Category	Count	Buildings	1,000,000	Population	1,000,000	Businesses	1,000,000	Manufacturing	1,000,000	Government	1,000,000	Healthcare	1,000,000	Education	1,000,000	Religious	1,000,000	Arts and Entertainment	1,000,000	Other	1,000,000	<p><b>NYC PLANNING</b> Info Brief <b>Flood Resilience Zoning</b></p> <p>NYC Planning is working with communities throughout the five boroughs to identify zoning and land use changes that can reduce flood risk and support the city's ability to maintain the strength of its infrastructure. The Flood Resilience Zoning Text is a part of a wide range of efforts by the City to increase flood resilience, promote self-reliance, and increase the city's resilience to climate-related events.</p> <p><b>Overview</b></p> <p>The Flood Text recognizes and encourages flood resilient building construction through the use of flood resilient building materials, construction techniques, and building practices that can reduce flood damage to buildings and their contents. The Flood Text is intended to be used by building owners, architects, and engineers to guide the design and construction of buildings that are resilient to flooding.</p> <p><b>Summary of the Flood Text</b></p> <p>The Flood Text recognizes and encourages flood resilient building construction through the use of flood resilient building materials, construction techniques, and building practices that can reduce flood damage to buildings and their contents. The Flood Text is intended to be used by building owners, architects, and engineers to guide the design and construction of buildings that are resilient to flooding.</p> <p><b>Where is the Flood Text Available?</b></p> <p>The Flood Text is available in multiple languages for all buildings in the 1% annual chance floodplain.</p> <p>NYC PLANNING   March 2017   Flood Resilience Zoning</p>	<p><b>NYC PLANNING</b> Info Brief <b>Flood Insurance</b></p> <p>Flood insurance covers damage to property in certain areas that flooding causes to insurance policies. Use flooding or windstorm claims. Coverage for flood risk and other risks is the National Flood Insurance Program (NFIP). The NFIP is a federal program that provides flood insurance to property owners in participating communities. Flood insurance is another strategy for reducing flood risk.</p> <p><b>Why is Flood Insurance Important?</b></p> <p>Flood insurance covers damage to property in certain areas that flooding causes to insurance policies. Use flooding or windstorm claims. Coverage for flood risk and other risks is the National Flood Insurance Program (NFIP). The NFIP is a federal program that provides flood insurance to property owners in participating communities. Flood insurance is another strategy for reducing flood risk.</p> <p><b>How Are Flood Insurance Policies Purchased?</b></p> <p>Flood insurance policies are purchased through the National Flood Insurance Program (NFIP) or a private insurer. The NFIP is a federal program that provides flood insurance to property owners in participating communities. Flood insurance is another strategy for reducing flood risk.</p> <p>NYC PLANNING   November 2016   Flood Insurance</p>
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Religious	1,000,000																								
Arts and Entertainment	1,000,000																								
Other	1,000,000																								

# Thank you!

For more information, and to stay involved, email  
**resilientneighborhoods@planning.nyc.gov**

# Resources for Homeowners

#ONENYC



- FloodHelpNY.org
- Resiliency Home Audits
- Elevation Certificate (EC)
- NFIP Preferred Risk Policy (PRP)





## The Cost and Affordability of Flood Insurance in New York City

Economic Impacts of Rising Premiums and Policy Options for One- to Four-Family Homes

Lloyd Dixon, Noreen Clancy, Benjamin M. Miller, Sue Hoegberg, Michael M. Lewis, Bruce Bender, Samara Ebinger, Mel Hodges, Gayle M. Syck, Caroline Nagy, Scott R. Choquette



Ensure NFIP Affordability

Expand Mitigation Options and Premium Credits

Increase availability of mitigation funding for all building types

Improve communication to agents, real estate, property owners

# Key Takeaways for Homeowners

#ONENYC

- NYC's flood risk is rising; homeowners insurance does not cover floods
- Until the new maps are issued, flood insurance rates will continue to be based on the 2007 Effective FIRMs
- When revised maps are adopted, new flood insurance requirements will go into effect
- For those outside the high-risk floodplain, flood insurance can be as low as \$500/year
- Flood insurance policy is tied to the property