

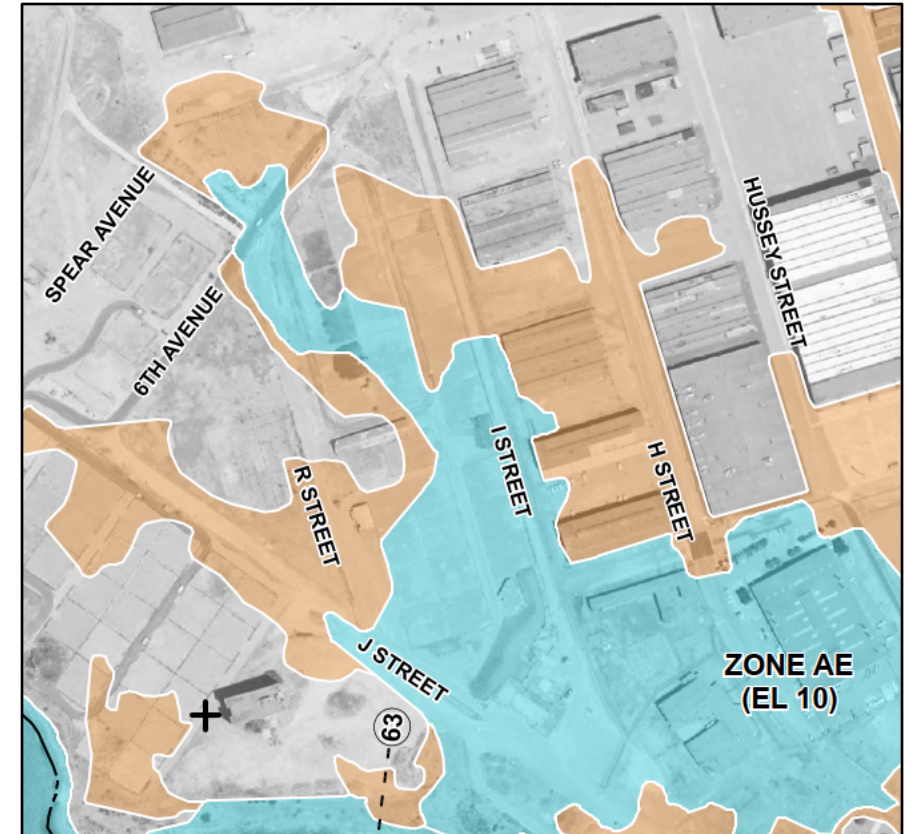
# Floodplain Management Ordinance Amendment

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City and County of San Francisco  
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# Overview

- Participation in National Flood Insurance Program (NFIP)
- FEMA is finalizing Flood Insurance Rate Map (FIRM)
- City must amend its Floodplain Management Ordinance to:
  - Adopt the new FIRM
  - Comply with NFIP requirements
- Amendment must be adopted before FIRM is effective – February 2021



*2019 preliminary FIRM for San Francisco showing flood hazards at Hunters Point*

# National Flood Insurance Program



- Nationwide program managed by FEMA
  - Reasonably priced flood insurance
  - In exchange, community must adopt a floodplain management ordinance
  - Community can adopt requirements that are more restrictive than NFIP
  - Community participation is voluntary
  
- FEMA publishes FIRMs showing flood hazards
  - Insurance companies use FIRM data for flood insurance policy ratings
  - Communities must use FIRM for floodplain management

# Past Actions Timeline

- **2007:** FEMA issues preliminary FIRM showing flood hazards; never finalized
- **2008:** City adopts Floodplain Management Ordinance and joins NFIP
- **2010:** City amends ordinance based on input from FEMA
- **2015:** FEMA completes analyses and issues new preliminary FIRM for review
- **2016:** City appeals preliminary FIRM based on analysis of waterfront piers
- **2019:** FEMA resolves appeal and issues revised preliminary FIRM
- **2020:** FEMA provides period to appeal revised preliminary FIRM; no appeals

# Schedule Moving Forward

	2020						2021		
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
FEMA to deliver Letter of Final Determination (LFD) August 2020 target			█						
Maps Become Effective 6 months after LFD February 2021 target			█	█	█	█	█	█	█



# Flood Insurance Rate Map

- Based on analyses of San Francisco Bay and Pacific Ocean
  - Shows coastal flood hazards only (does not consider SLR)
  - Does not show flood hazards from stormwater runoff (SFPUC has mapped these hazards separately)
- FIRM Shows flood hazards for the following areas:
  - Port of San Francisco
  - Redevelopment areas – Mission Bay, Hunters Point, Candlestick
  - Treasure Island
  - Ocean Beach
  - San Francisco International Airport

# Flood Insurance Rate Map



## FEMA FIRM: SPECIAL FLOOD HAZARD AREAS

COASTAL INUNDATION FROM BAY/OCEAN

>1 FOOT FLOODING  
FROM 1% CHANCE/100-YEAR STORM



GOING INTO EFFECT 2021

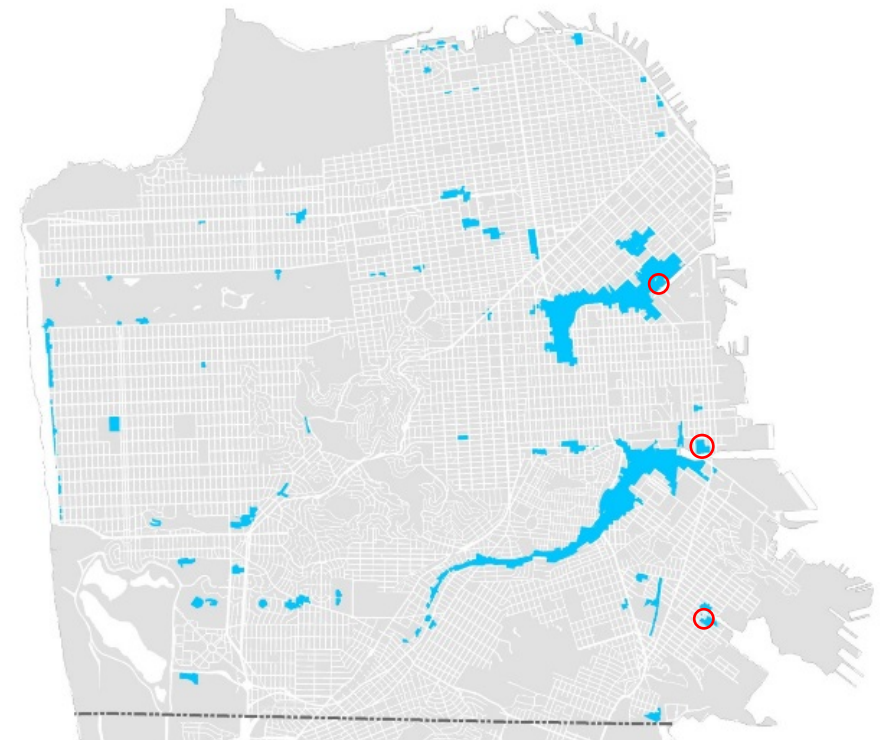
~ 200 PARCELS\*\*/400 ACRES



## SFPUC 100-YEAR STORM FLOOD RISK MAP

STORM RUNOFF ONLY

>6 INCH 'DEEP AND CONTIGUOUS' FLOODING  
FROM 100-YEAR RAIN EVENT



ADOPTED 2018

~ 2100 PARCELS/920 ACRES

○ = OVERLAPS

# Flood Hazard Zones

- Special Flood Hazard Areas (SFHAs)
  - Inundation due to 1% annual chance (i.e. “100-year”) flood
  - Represents coastal flooding with waves less than 3 feet high
  - Shown on FIRM as Zone AE
  - Shows Base Flood Elevation (BFE) – water level during 1% annual chance flood
  - Building construction/renovations in SFHAs must comply with flood provisions of building code
  - Flood insurance is only required for buildings in SFHAs that have federally backed/regulated mortgages
- Other flood hazard zones shown on the FIRM:
  - Zone VE: coastal high hazard areas with waves greater than 3 feet high; doesn’t extend inland of shoreline
  - Zone X (shaded): 0.2% annual chance (“500-year”) floodplain; informational purposes only
  - Zone X (unshaded): minimally flood prone areas
  - Insurance rates are lowest in Zone X, applies to the majority of San Francisco
  - Zone D areas:
  - Port waterfront piers only
  - Area of possible, but undetermined flood hazard
  - Floodplain management and insurance requirements do not apply
  - Insurance rates are higher than Zone X, lower than in Zone AE



# Downtown Waterfront Area

**“Shaded” Zone X**  
2% annual chance (500-year) floodplain

**Zone D**  
Possible but undetermined flood hazard  
shown on piers only

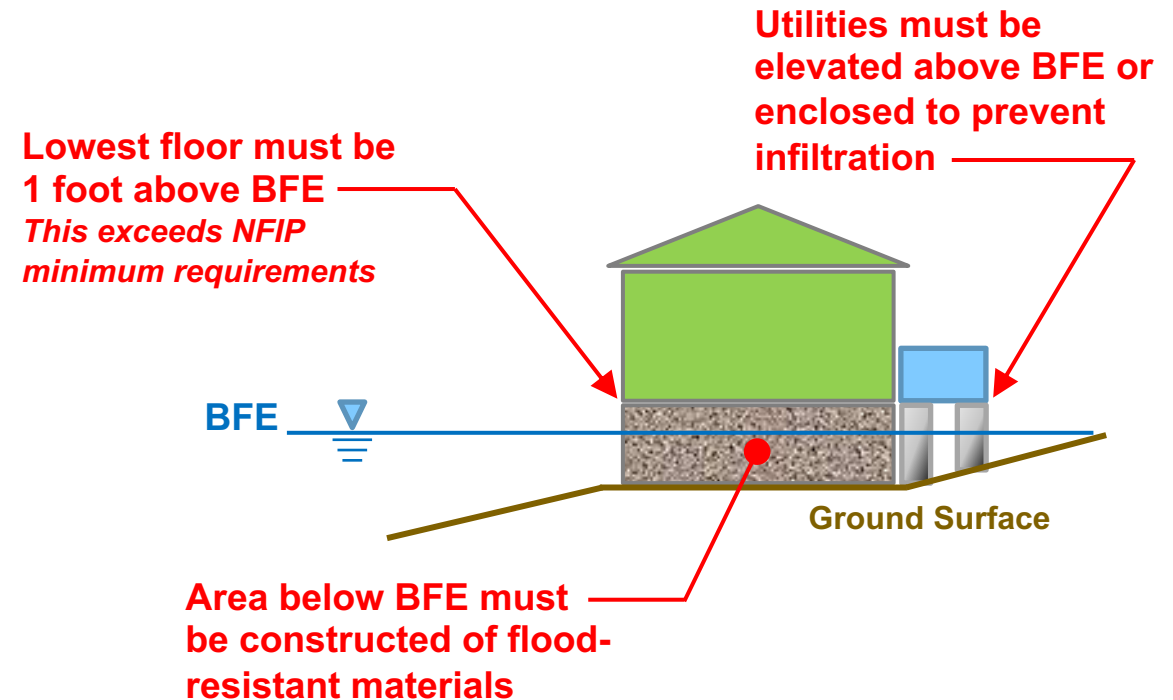
**Zone AE**  
1% annual chance floodplain  
Wave heights < 3 feet

**“Unshaded” Zone X**  
Areas of minimal flood risk



# Floodplain Management Ordinance

- Incorporates min. requirements of NFIP
- In SFHAs, requires flood-resistant construction for:
  - New buildings
  - Substantial improvements – renovation/repair for which cost exceeds 50% of market value of structure
- Incorporates San Francisco Building Code and California Building Code (CBC) by reference
- CBC includes flood-resistant construction provisions that exceed NFIP requirements
- Amendment does not change floodplain management requirements/CBC provisions



**CBC Flood-Resistant Construction Provisions**  
*(not comprehensive)*