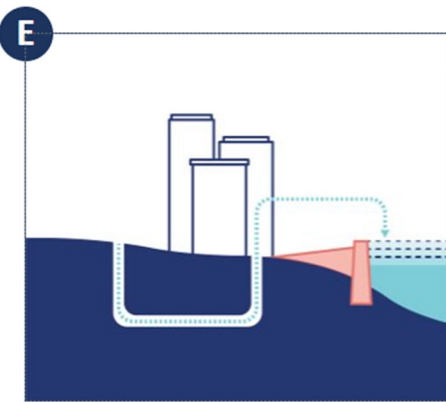


STRATEGY E - HIGHER SEA LEVEL RISE - HOLD THE LINE

Preserves a waterfront that looks and functions much as it does today by adapting the shoreline

Draft Waterfront Adaptation Strategies

The Port of San Francisco, in partnership with the U.S. Army Corps of Engineers and San Francisco city agencies, has developed seven Draft Waterfront Adaptation Strategies based on over five years of public engagement. Draft Adaptation Strategies are ready for public feedback, with a goal of reaching a Draft Waterfront Adaptation Plan (Tentatively Selected Plan) by summer 2023. Learn more at sfport.com/wrp/waterfront-adaptation.



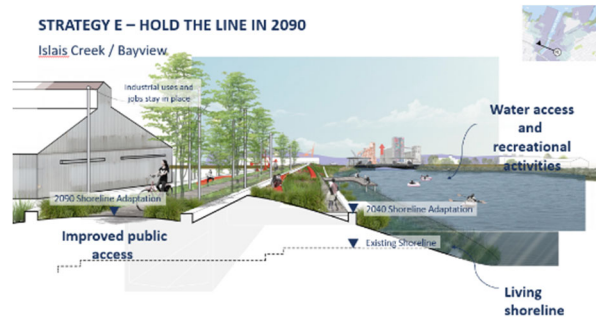
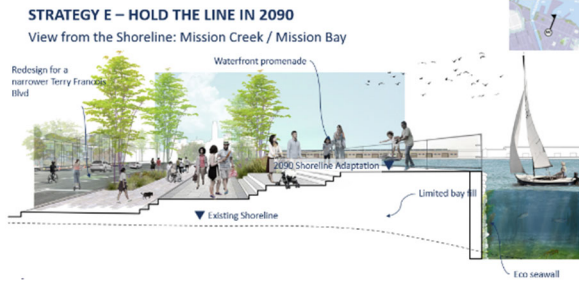
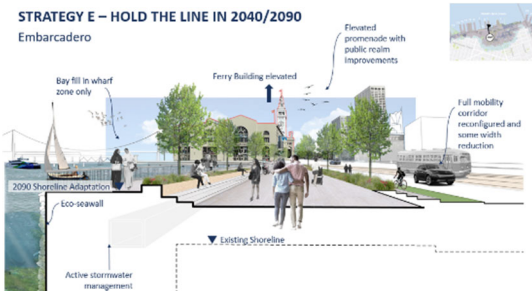
Strategy E – Higher Sea Level Rise – Hold the Line

Strategy E preserves a waterfront that looks and functions much as it does today by adapting the shoreline. This strategy addresses the flood risk associated with 3.5 feet of sea level rise in 2040 and up to 7 feet in 2090.

This strategy includes raising some roadways, bridges (e.g. Third Street), and rail lines and adding targeted areas of bay fill in constrained areas. It relies primarily on the construction of engineered shoreline flood defense structures along the current shoreline alignments. It also incorporates large and numerous stormwater pump stations to reduce the risks of inland stormwater flooding.

This strategy emphasizes the public’s feedback that the waterfront be preserved as close to how it is today, minimizing the visible changes people might see.

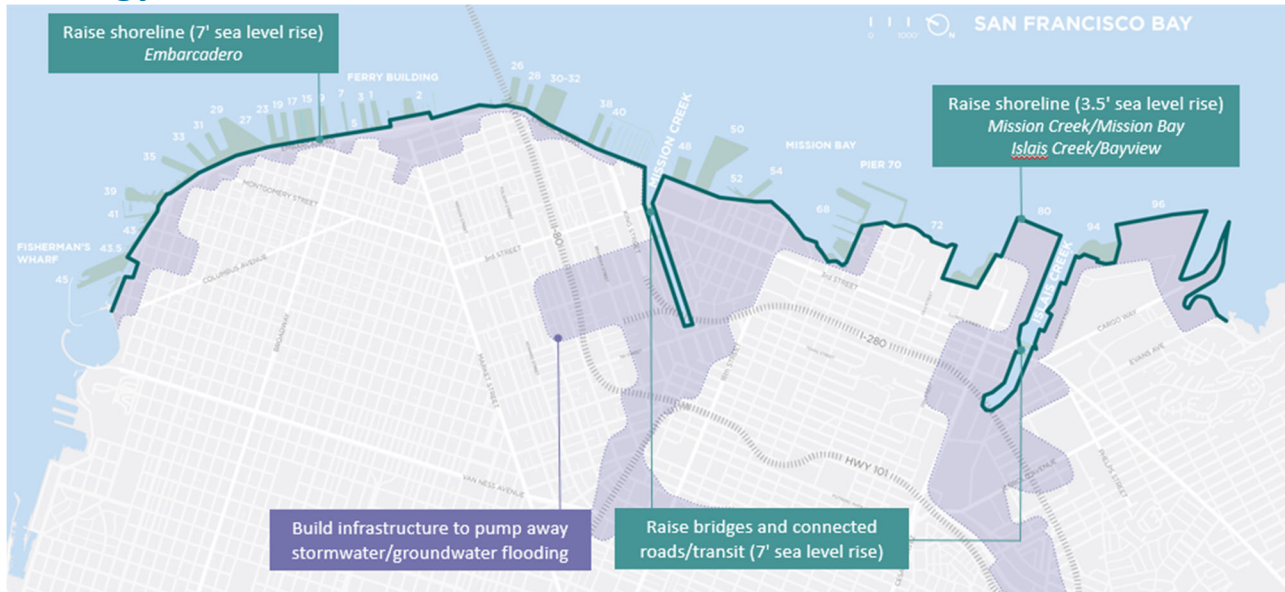
The strategy considers opportunities to enhance waterfront access and open space, including maintaining Bay views and waterfront access. Nature-based solutions and natural features would be maximized along the shoreline, including features that reduce flood risk, and features that can enhance Bay ecology and habitat.



STRATEGY E - HIGHER SEA LEVEL RISE - HOLD THE LINE

Preserves a waterfront that looks and functions much as it does today by adapting the shoreline

Strategy E Flood Defenses in 2040



Strategy E 2040 Flood Defenses Across the Waterfront

Islais Creek / Bayview

- Raise the bay and creek shorelines to defend against 3.5 feet of sea level rise.
- Enhance public access and wildlife habitat along the inner portion of Islais Creek.
- Build infrastructure to pump away stormwater and groundwater flooding.
- Raise bridges, roads, and transit connecting to Third and Illinois Streets over the creek to 7 feet of sea level rise.

Mission Creek / Mission Bay

- Elevate the bay and creek shorelines to defend against 3.5 feet of sea level rise.
- Buildings and infrastructure would be kept in place. These changes would require raising the historic bridges on Third and Fourth Streets over Mission Creek, as well as connected roads and rail lines.
- Strategy E would include construction of pump stations at the mouth of Mission Creek to manage stormwater and groundwater flooding. This new infrastructure would require ongoing maintenance.

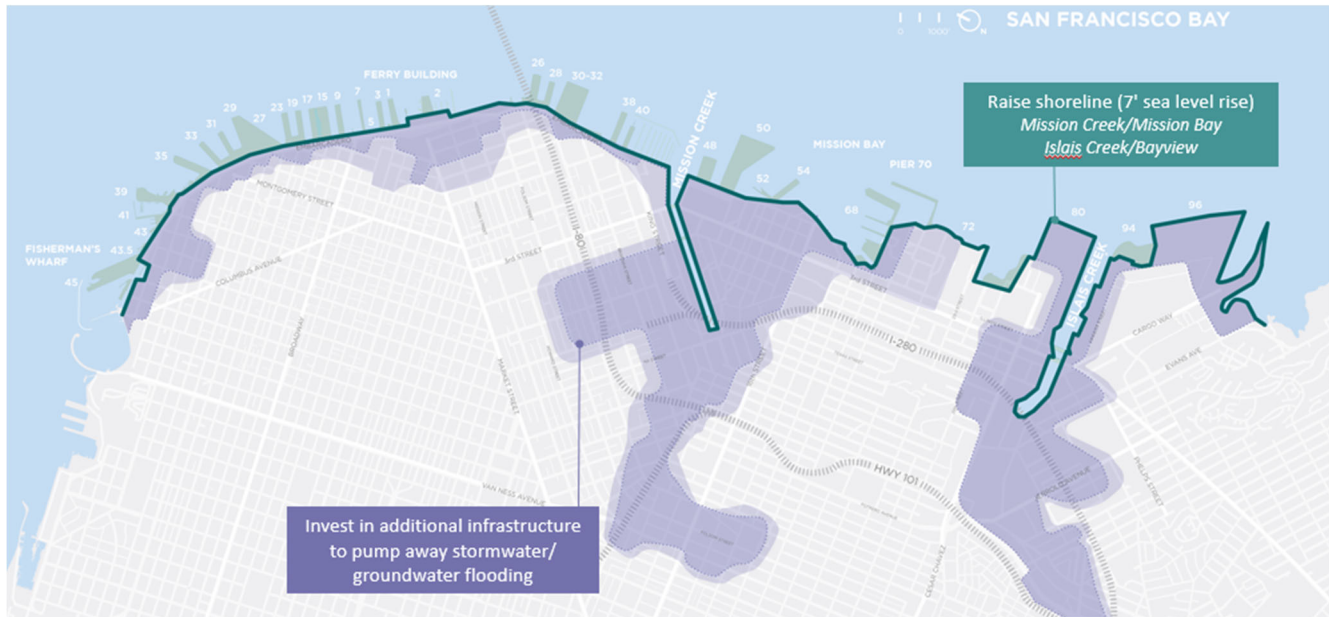
Embarcadero

- Build a coastal flood defense system to defend against 7 feet of sea level rise.
- Elevate the Ferry Building and Embarcadero promenade. Fully redesign the Embarcadero roadway to meet the elevated promenade.
- Add targeted bay fill in the wharf zone only.
- Along the Embarcadero, because of difficulty and disruption of a major construction project, shoreline adaptations would build to be adaptable to up to 7 feet of sea level rise in 2040, so it wouldn't need to be rebuilt again later. Additional adaptations could be made if needed.
- Build pump stations to manage stormwater and groundwater flooding.

STRATEGY E - HIGHER SEA LEVEL RISE - HOLD THE LINE

Preserves a waterfront that looks and functions much as it does today by adapting the shoreline

Strategy E Flood Defenses in 2090



Strategy E 2090 Flood Defenses Across the Waterfront

Islais Creek / Bayview

- Raise the shoreline protections higher to defend against up to 7 feet of sea level rise.
- Invest in additional infrastructure to pump away stormwater and groundwater flooding.
- Buildings and infrastructure would be kept in place, including Port operations and jobs. This would require building significant new infrastructure including pump stations to manage stormwater and groundwater to reduce flooding within the city. This new infrastructure would require ongoing maintenance.
- Both raising the roadway and connected transportation network and building new stormwater infrastructure would require significant cost and construction in addition to the cost of the flood defense infrastructure.

Mission Creek / Mission Bay

- In the long term, 2090 and beyond, implementation of Strategy E in Mission Creek / Mission Bay, would raise the shoreline protections to defend for up to 7 feet of sea level rise.

Embarcadero

- Shoreline adaptations would be built to defend against up to 7 feet of sea level rise in 2040, so no long-term actions would be needed.

STRATEGY E - HIGHER SEA LEVEL RISE - HOLD THE LINE

Preserves a waterfront that looks and functions much as it does today by adapting the shoreline

Overview of All Seven Draft Waterfront Adaptation Strategies

Adaptation Strategies are different ways for the City to create a resilient, sustainable, and equitable waterfront for the next 100 years. Each one is a combination of construction projects and policy changes that will guide such decisions as where, when, and how high to build flood defense and how and when to adapt key buildings and infrastructure to ensure continued operations of City services.

Draft Waterfront Adaptation Strategy Summary				
Strategies		+1.5' Sea Level Rise	+3.5' Sea Level Rise	+7' Sea Level Rise
A – No Action	No Action			
B – Nonstructural Option	Nonstructural Option	✓	✓	✓
C – Lower Sea Level Rise	Lower Projected Sea Level Rise	✓		
D – Lower Sea Level Rise – Adaptable		✓	✓	
E – Hold the Line	Higher Projected Sea Level Rise	✓	✓	✓
F – Manage the Water		✓	✓	✓
G – Align with Watersheds		✓	✓	✓

The Port Wants to Hear from You!

Public feedback on the Draft Waterfront Adaptation Strategies will inform further strategy development, with a goal of reaching a Draft Waterfront Adaptation Plan (Tentatively Selected Plan) by summer 2023.

There is no single approach to adaptation that will meet the needs of San Francisco along the entire waterfront. The different risks, topography, and historic development of the waterfront means that we will need to use a combination of approaches. The intent is not to choose one but to use the best ideas from all of them to create a Draft Waterfront Adaptation Plan.

Visit sfport.com/wrp/our-waterfront for more information about upcoming community events.