

Waterfront Resilience Program Update

Coalition for San Francisco Neighborhoods

November 21, 2023



AGENDA



- Waterfront Resilience Program
- Short and Long-Term Adaptation
- Community Engagement Summary
- Updates on the Coastal Flood Study with U.S. Army Corps of Engineers
- What's Next



LAND ACKNOWLEDGEMENT

The Port of San Francisco acknowledges that we are on the ***unceded ancestral homeland of the Ramaytush Ohlone*** who are the original inhabitants of the San Francisco Peninsula.

As the indigenous stewards of this land and in accordance with their traditions, the Ramaytush Ohlone have never ceded, lost nor forgotten their responsibilities as the ***caretakers of this place***, as well as for all peoples who reside in their traditional territory.

As guests, we recognize that we benefit from living and working on their traditional homeland.

We wish to ***pay our respects*** by acknowledging the Ancestors, Elders and Relatives of the Ramaytush Community and by ***affirming their sovereign rights as First Peoples***.

WATERFRONT RESILIENCE PROGRAM VISION STATEMENT

The Port's Waterfront Resilience Program will take actions to **reduce seismic and climate change risks** that support a safe, equitable, sustainable, and vibrant waterfront.



RIISING TO THE CHALLENGE

San Francisco Faces Urgent Seismic, Coastal, and Inland Flood Risks Today

SEISMIC RISKS



San Francisco, 1906



Marina, 1989

COASTAL FLOODING

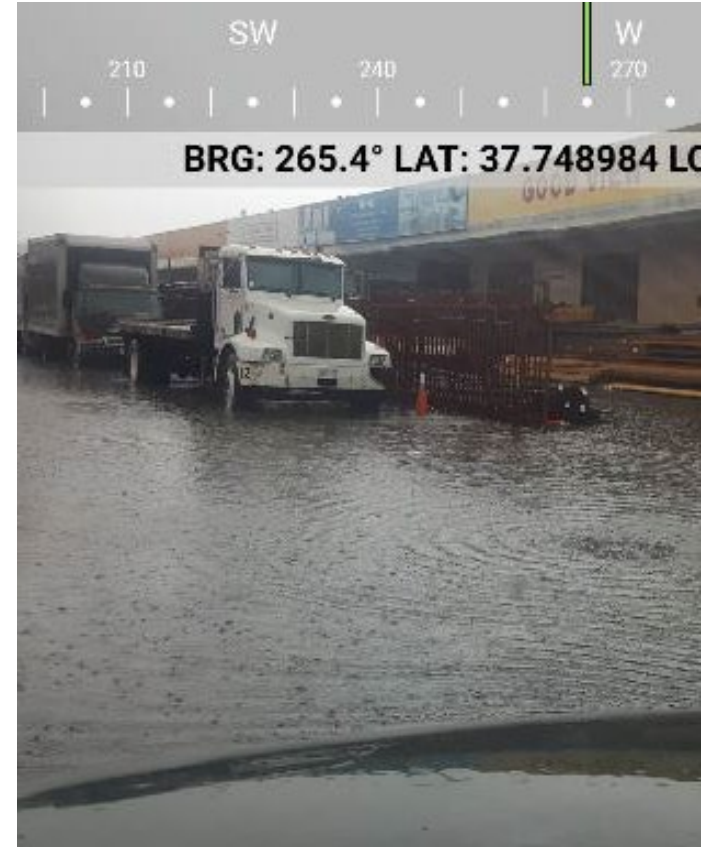


Recology



The Embarcadero

INLAND FLOODING

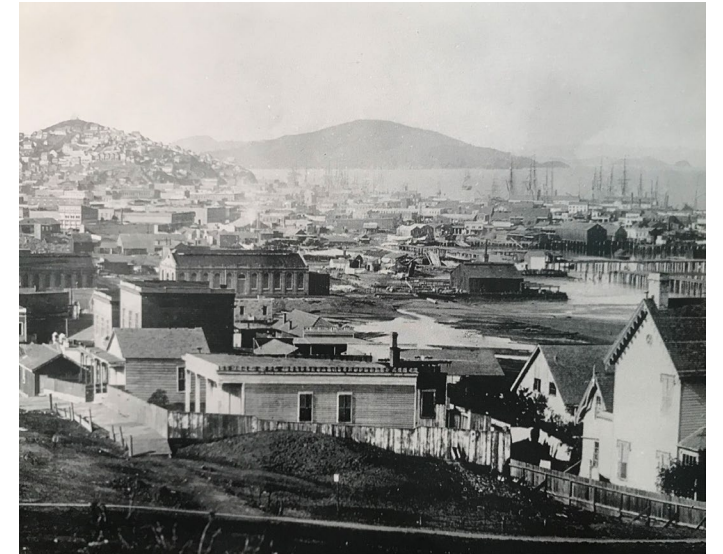


Islais Creek outfall and
Marin St.

Short and Long-Term Adaptation







SAN FRANCISCO'S BELOVED WATERFRONT HAS CHANGED OVER TIME



EMBARCADERO EARLY PROJECTS



23 Embarcadero Early Projects Identified

-  6 advanced to pre-design using Proposition A funding
-  5 advancing to pre-design through a geographic strategy for the stretch between Piers 19 and 41
-  7 advancing through coordination with long-term Port tenants, capital programs, and City agency coordination
-  2 Southern Waterfront early projects identified to advance at Pier 50 and Pier 94-96.

2 Wharf J9 Replacement and Resilient Shoreline Project

11 Pier 15 Bulkhead Wall and Wharf Earthquake Safety Retrofit

12 Pier 9 Bulkhead Wall and Wharf Earthquake Safety Retrofit

15 Ferry Building Seawall & Substructure Earthquake Reliability

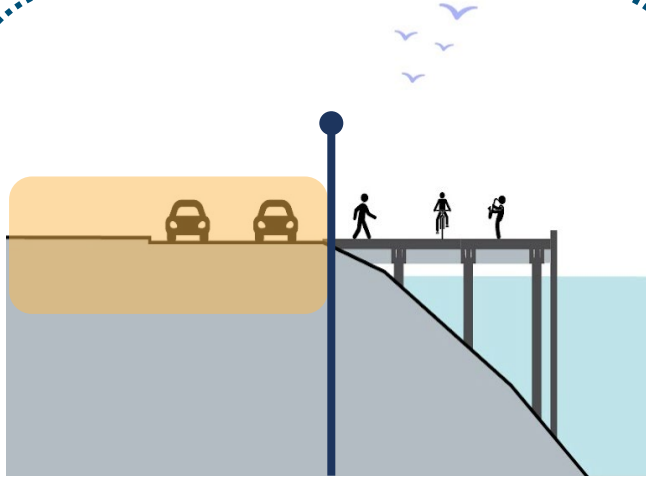
17 Downtown Coastal Resilience Project

18 Pier 24 to Pier 28-1/2 Bulkhead Wall and Wharf Earthquake Safety

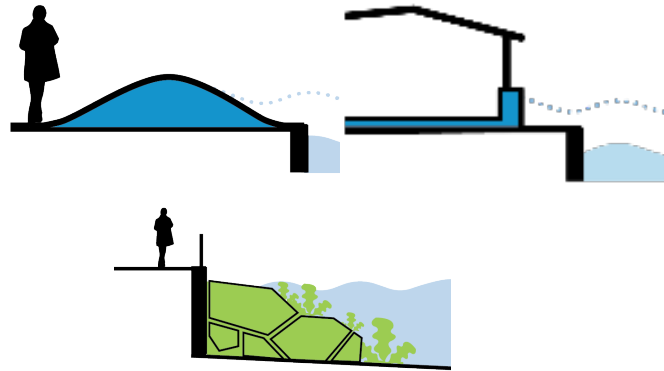
22 EFWS Fireboat Manifold Earthquake Resilience Project (P35.5)

LONGER-TERM ADAPTATION PLANNING

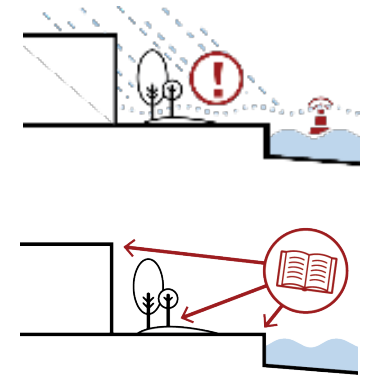
Goal: Develop plans to guide WRP long-term resilience efforts and work with USACE to complete the SF Waterfront Coastal Flood Study



**Coastal Flood Defense
Location + Height**
*And area of elevation
change*



Physical Changes
*Such as seawalls, berms,
floodproofing, and nature-
based features*



Policy Changes
*Such as resilient codes,
warning systems, and land
use changes*

COASTAL AND INLAND FLOOD RISK

Different Geographic Impacts

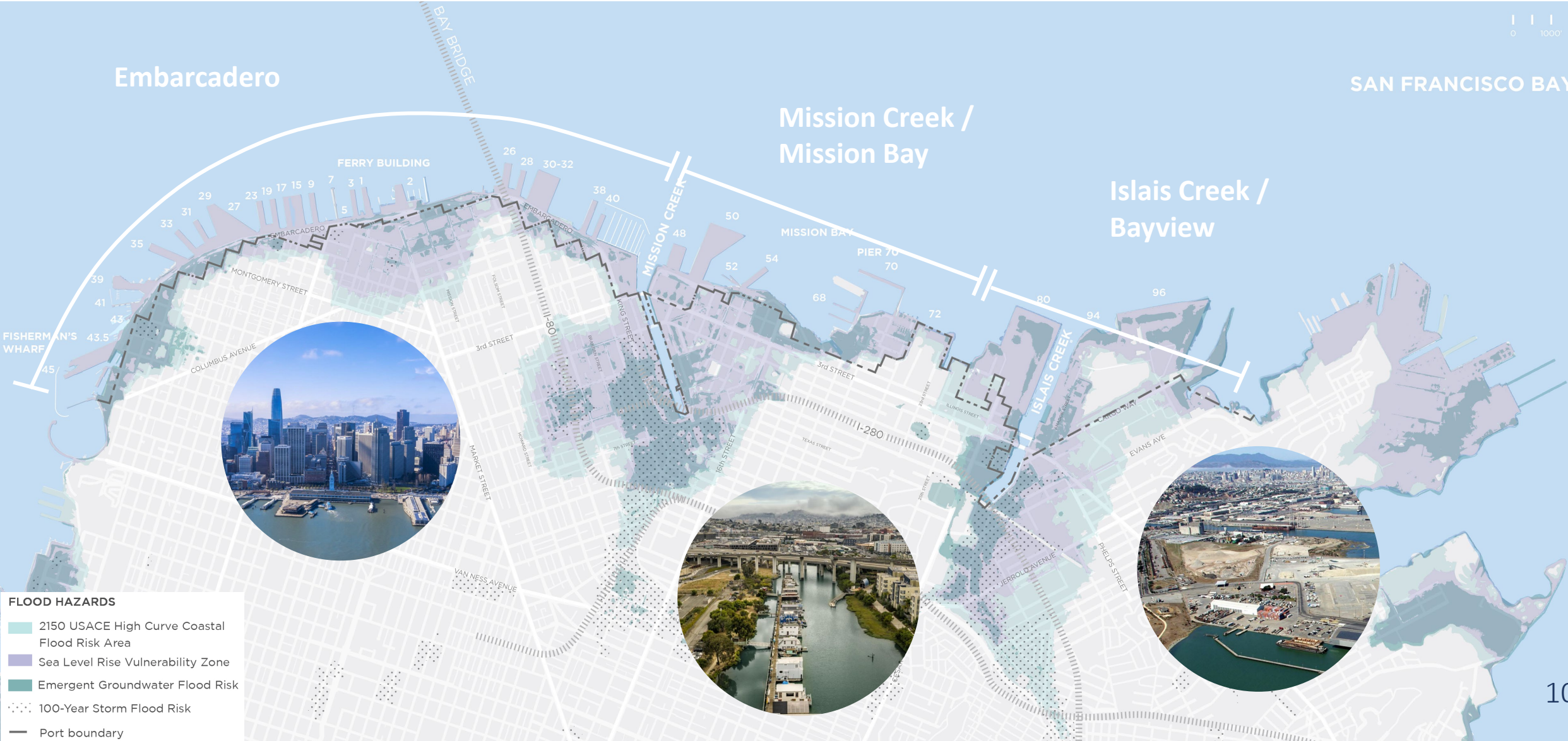


Embarcadero

SAN FRANCISCO BAY

Mission Creek /
Mission Bay

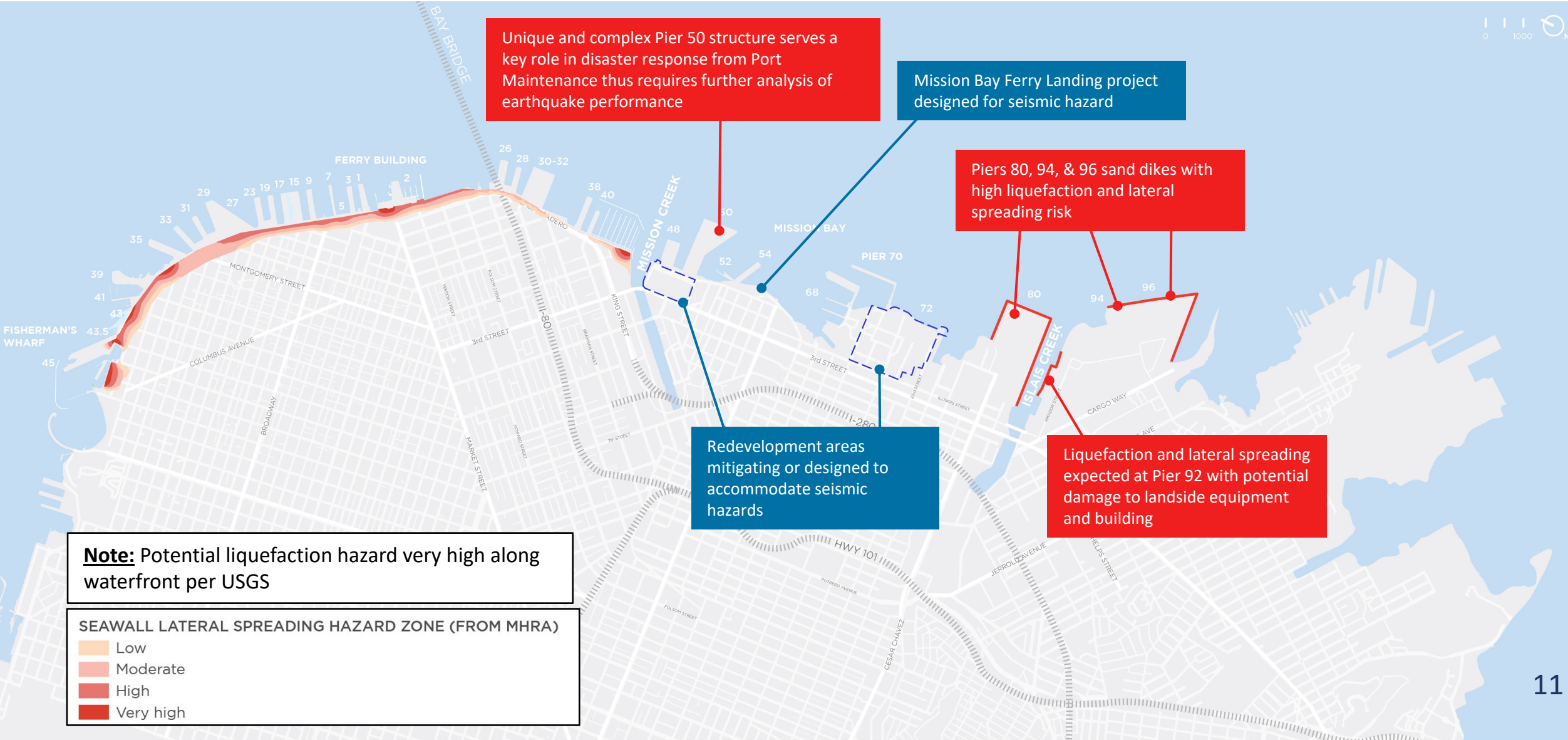
Islais Creek /
Bayview



- FLOOD HAZARDS**
- 2150 USACE High Curve Coastal Flood Risk Area
 - Sea Level Rise Vulnerability Zone
 - Emergent Groundwater Flood Risk
 - 100-Year Storm Flood Risk
 - Port boundary

WATERFRONT SEISMIC HAZARDS

Potential Lateral Spread and Liquefaction Risk



Note: Potential liquefaction hazard very high along waterfront per USGS

SEAWALL LATERAL SPREADING HAZARD ZONE (FROM MHRA)

- Low
- Moderate
- High
- Very high

ADAPTATION APPROACHES



DEFEND

Keep coastal water out,
stay in place



ACCOMMODATE

Let coastal water in,
stay in place



RETREAT

Move out of the area
over time

WRP Measures Explorer: [Measures Explorer | SF Port](#)



Community Engagement



COMMUNITY INPUT HELPED DEFINE THE WRP

Community-driven resilience

1

Focus on life safety & emergency response

2

Prioritize assets most loved by the community and most important to the city

3

Put people first

Assets and services most prioritized: housing, disaster recovery facilities, utilities, transportation and businesses



DRAFT STRATEGIES – PUBLIC ENGAGEMENT

October 2022 – February 2023



Engagement included:

- **16 events** open to the public: online community meetings, waterfront walking tours
- **Southern Waterfront** in-person open-house & in-person mixer,
- **Multiple focus groups** and presentations to Community Organizations and Community Advisory Councils
- **StoryMaps, Social Media, Emails, Video**

DRAFT STRATEGIES – PUBLIC ENGAGEMENT

502 people participated across all events



DRAFT STRATEGIES – PUBLIC ENGAGEMENT

Over 170,000 people viewed content related to draft strategies



RIISING TO THE CHALLENGE
San Francisco Faces Urgent Seismic, Coastal, and Inland Flood Risks Today

SEISMIC RISKS	COASTAL FLOODING	INLAND FLOODING

Participant list for the public engagement event:


- Kate Fratar (she/her)
- Violetta Mueller (she/her)
- Kate Fratar (she/her) | Civic
- Daniela Perera Subram | CMO
- Uzair Barakat (he/him) | Civic
- Christian Baba | Civic Edge
- Omran, Kelley (she/her)
- tim doherly - sf...
- Ellen Liu
- tim doherly - sf...



WHAT WE HEARD OVERALL

We heard the following general comments and feedback:

- Waterfront-wide, community members indicated that **flooding around where they live and work, impacts to community safety, and disruption to transportation or waterfront access** are their top sea level rise related concerns.
- **Community members support a strategy that defends against higher projected rates of sea level rise.**
- **Nature-based approaches and improved public access to the waterfront** remain high priority for community members, no matter the strategy.
- **Overall, there was no strong preference for any one strategy over another when selecting between strategies E, F, and G. Pros and Cons were identified for each.**
- Community members raised many concerns in response to the draft strategies. **Common concerns ranged from equity and environmental justice implications, to technical practicalities, to questions about cost and feasibility.**



S.F. Waterfront Coastal Flood Study with the U.S. Army Corps of Engineers

BESHA II
SAN FRANCISCO

LADY FISH
SAN FRANCISCO, CA



Waterfront Resilience Program

WATERFRONT RESILIENCE PROGRAM PARTNERS

Port team working in close coordination with key partners



**US Army Corps
of Engineers®**



**San Francisco Waterfront
Coastal Flood Study**



SAN FRANCISCO WATERFRONT COASTAL FLOOD STUDY



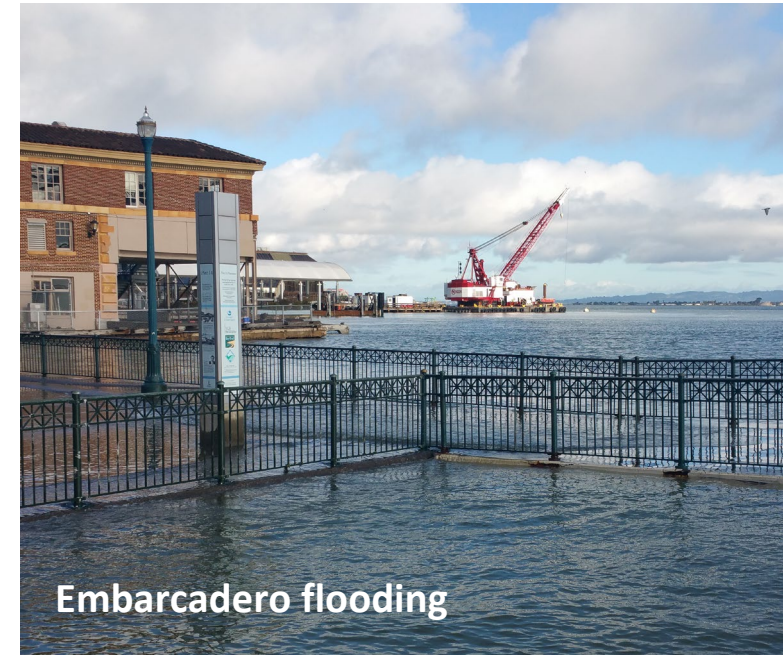
US Army Corps
of Engineers®



Southern Waterfront



Central Waterfront



Embarcadero flooding

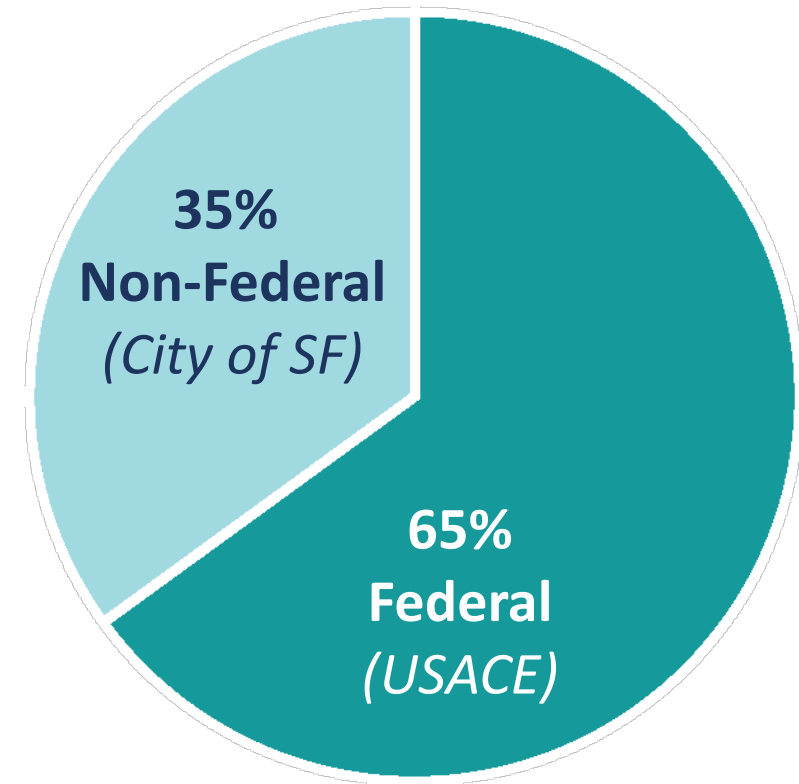
If USACE finds a Federal interest, this Study can lead to federal funding to help design and build coastal flood defenses for 7½ miles of bay waterfront.

PROJECT COSTS

To address the risks and hazards that the city faces:

Total Cost: **\$ Billions**

Project Cost Sharing



PRIORITIZING EQUITY IN BOTH...

PLANNING PROCESS

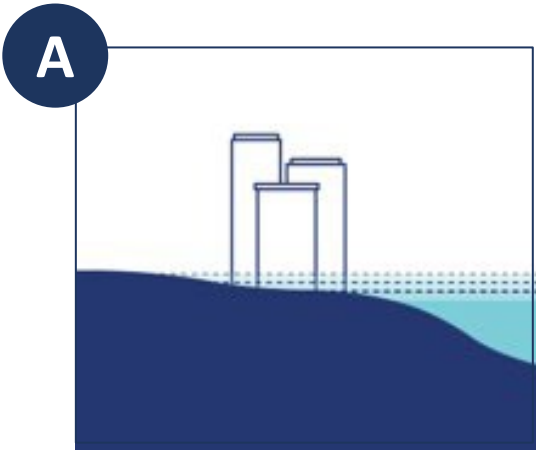
- Collaborate with equity practitioners from city agencies to draw out equity considerations of strategies
- Develop an equity framework to support evaluation of adaptation strategies
- Vet equity framework with CBO leaders to validate approach in assessing strategies

+ DISTRIBUTION OF PROJECT BENEFITS

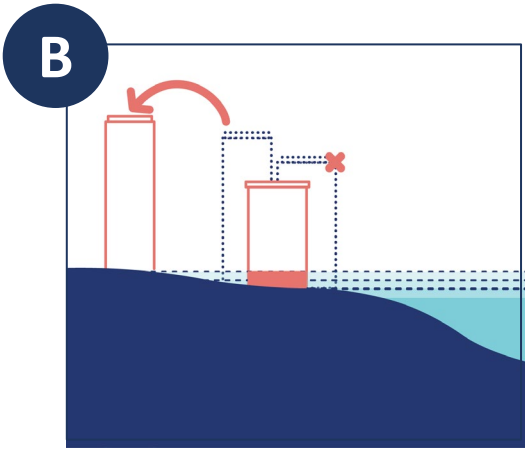
- Remedy historic lack of investment in Southeast neighborhoods
- Protect housing and jobs
- Contracting and workforce development opportunities
- Improve public access to the waterfront
- Maintain transit connectivity



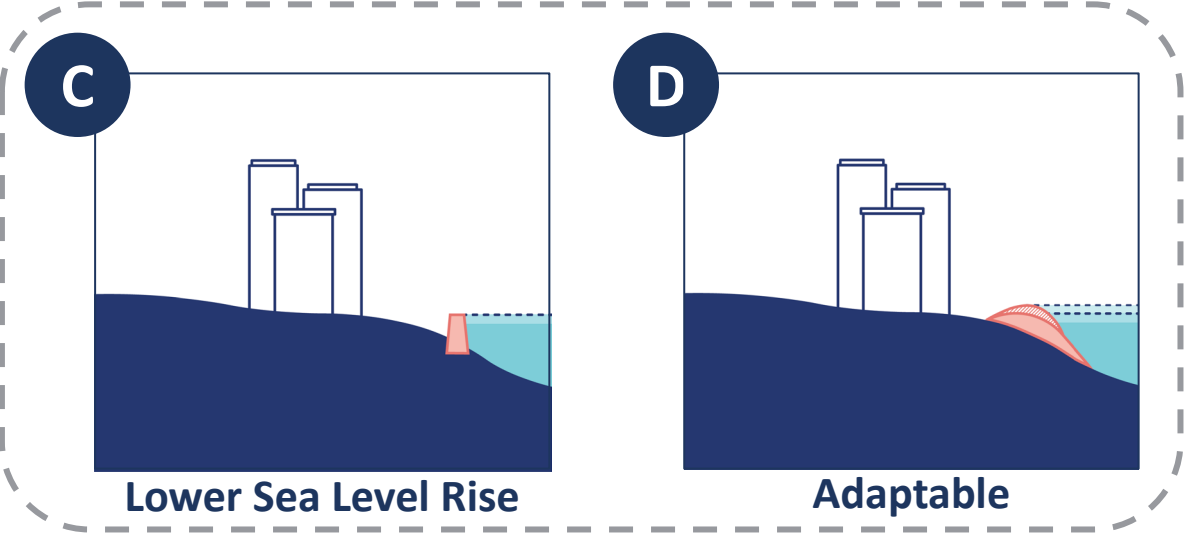
DRAFT WATERFRONT ADAPTATION STRATEGIES



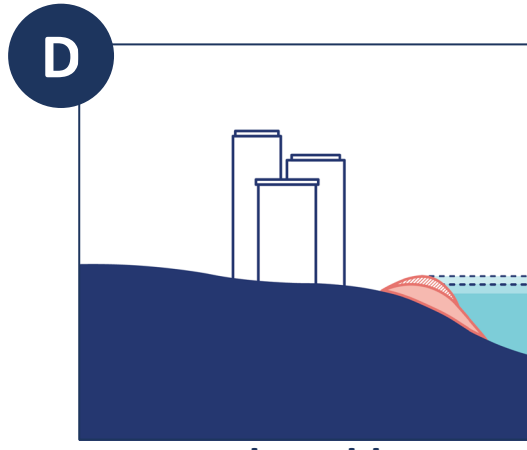
No Action



Non-Structural

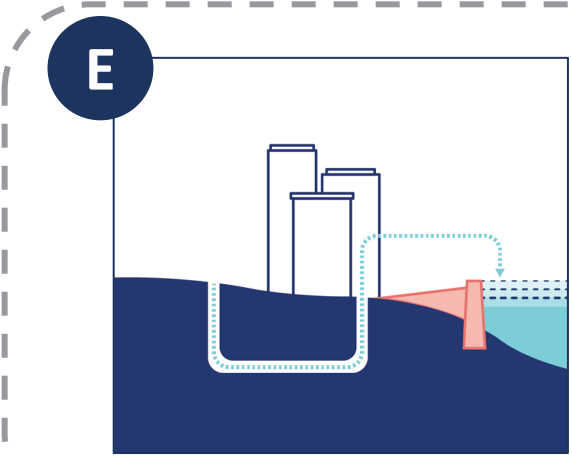


Lower Sea Level Rise

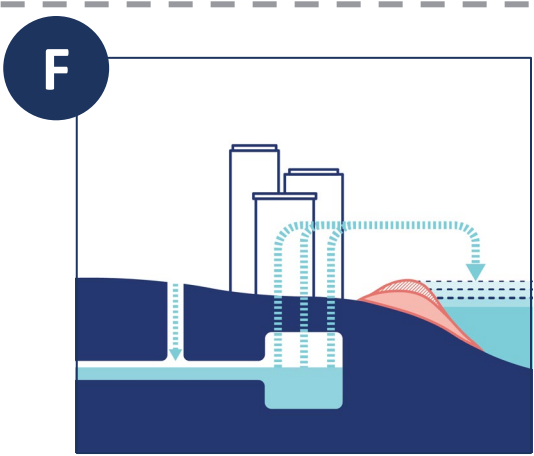


Adaptable

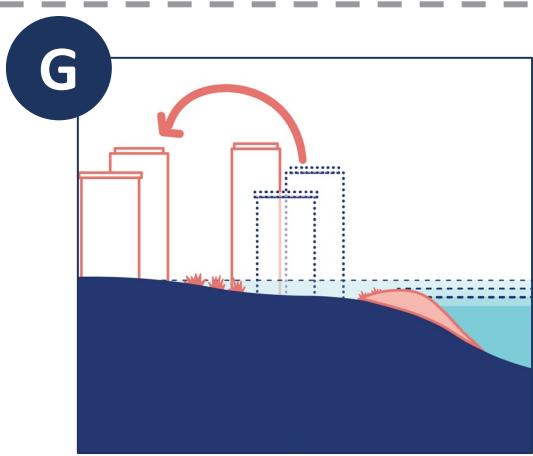
Lower Rate of Sea Level Rise



Hold The Line



Manage The Water

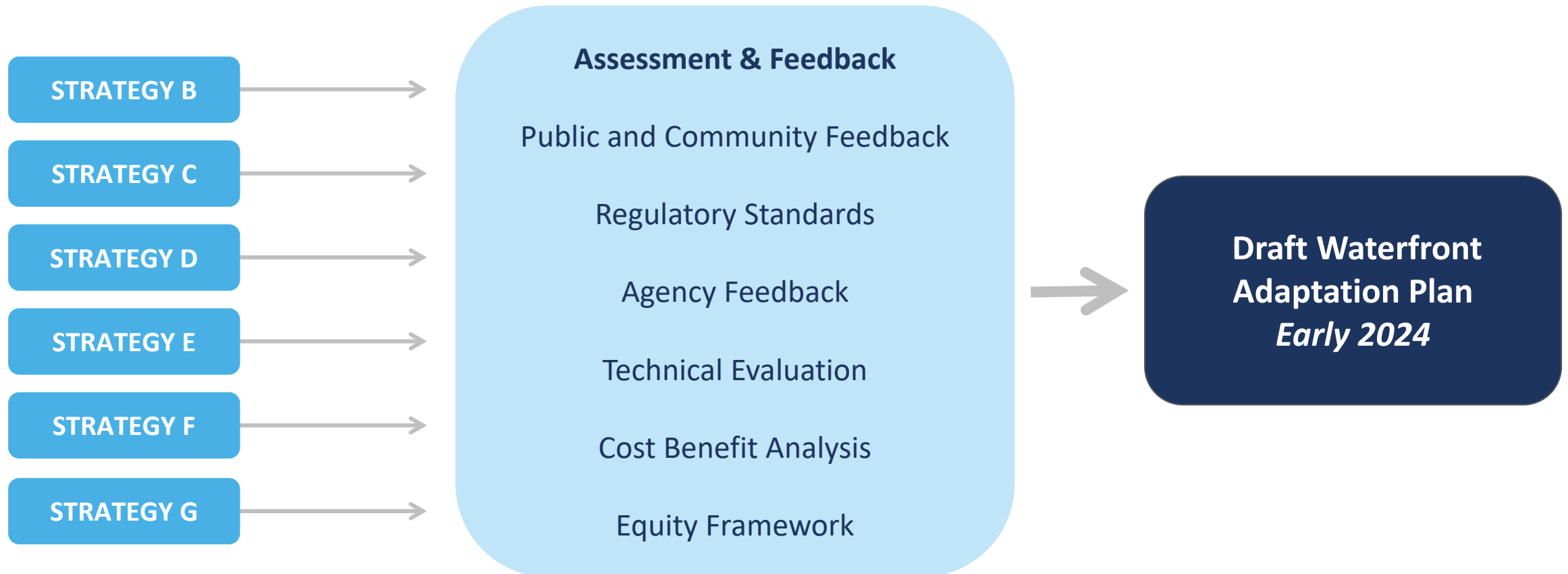


Align With Watersheds

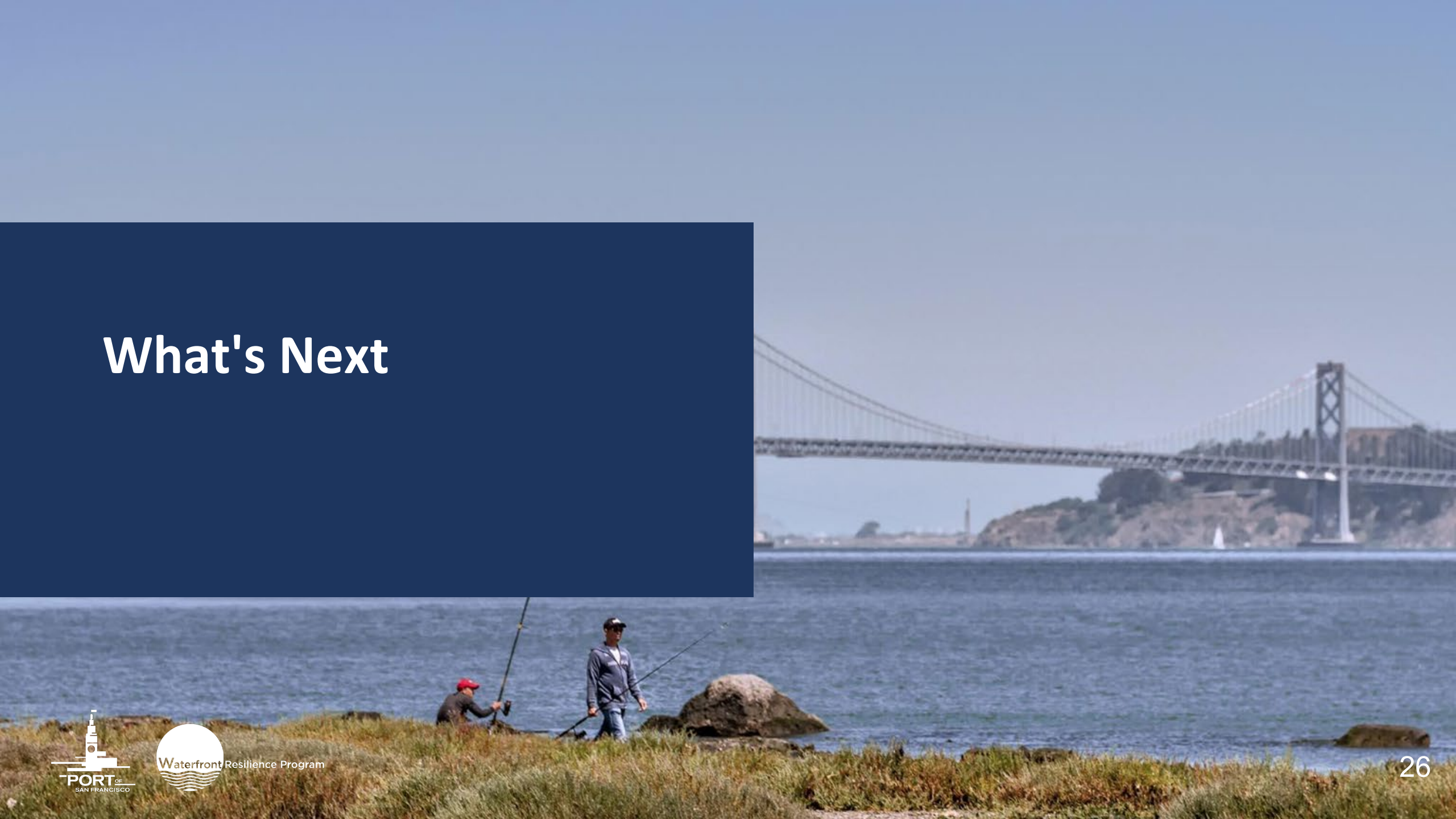
Higher Rate of Sea Level Rise

GETTING TO DRAFT WATERFRONT ADAPTATION PLANS

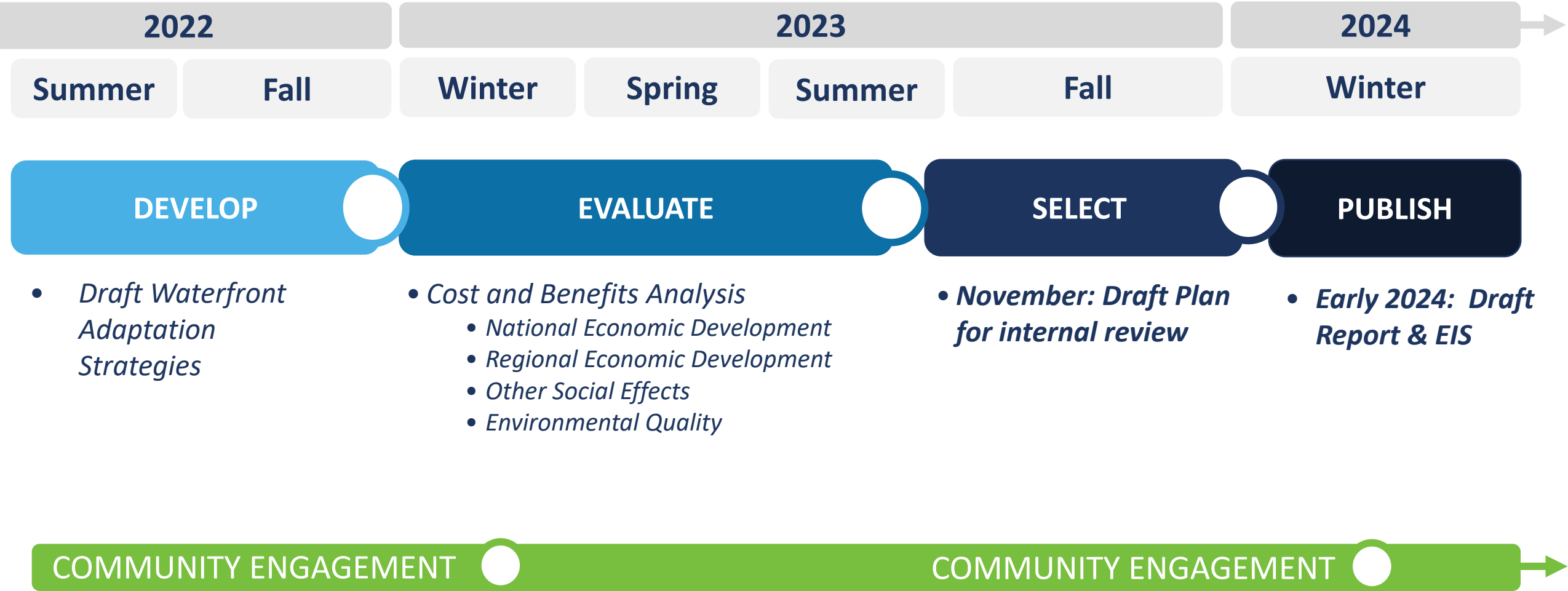
Mix and Match Best Elements of Each Strategy



What's Next



FLOOD STUDY SCHEDULE TO DRAFT REPORT



BEYOND INFRASTRUCTURE IMPROVEMENTS

A multi-benefit project, and a once-in-a-generation opportunity to...



Invest radically in the public realm for people



Integrate natural features to begin to restore natural habitats and provide ecological benefits



Protect historically disinvested areas from flooding and earthquakes through an equitable and inclusive process

Thank You!

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www.sfport.com/wrp

