WHAT IS THE FLOOD STUDY?

- The **Flood Study** analyzes **coastal flood risk** and the effects of **sea level rise** to the San Francisco waterfront along the Port’s 7.5-mile jurisdiction over the next 100 years.

- The **Draft Plan** will inform subsequent stages of funding and design in order to develop targeted construction projects.

- The proposed solutions are estimated to cost **$13.5 billion** (high-level, preliminary cost estimate) and, if approved by Congress, the Federal government may pay **65% of the cost**.

- The Flood Study is led by the **U.S. Army Corps of Engineers** (USACE) in collaboration with the **City of San Francisco**.
YOUR FEEDBACK IS IMPORTANT TO US AND THE PROCESS

USACE and the City are seeking public comment on the Draft Integrated Feasibility Report and Environmental Impact Statement through March 29, 2024.

Provide written comments:

- Email: SFWFRS@usace.army.mil
- Mail: U.S. Army Corps of Engineers, Tulsa District ATTN: RPEC-SFWS, 2488 E 81st St., Tulsa, OK 74137
- Online: sfport.com/wrp
AGENDA

1 Waterfront Risks and Hazards
2 San Francisco Waterfront Flood Study & Draft Plan
3 Developing a Local Match Strategy
4 Next Steps
1 Waterfront Risks and Hazards
San Francisco’s waterfront location makes it **vulnerable to coastal flooding** due to **sea level rise**

Without a Federal project, modeling shows:
- **By 2050**, **100 to 500 structures** and **assets** will be vulnerable to flooding
- **By 2140**, damages could amount up to **$23 billion**
San Francisco Waterfront Flood Study & Draft Plan
WHERE ARE WE IN THE FLOOD STUDY PROCESS?

We are here
Release of Draft Plan

2018 to 2025
GENERAL INVESTIGATION & FEASIBILITY STUDY

2026
SEEK CONGRESSIONAL FUNDING

2026 to ~2030
PRECONSTRUCTION ENGINEERING & DESIGN

~2030 onward
CONSTRUCTION

What to expect
Draft Plan for public engagement and technical reviews (Winter 2024), and Recommended Plan (2025)

What to expect
USACE Chief of Engineers recommends the project to Congress.
Congress will then decide whether to authorize and fund the project

What to expect
Detailed design and engineering, implementation, and phasing pending Congressional funding

What to expect
Phased construction of coastal flood defense infrastructure, related seismic stabilization, and other improvements

Note: Dates are approximate and subject to change. Projects will occur in phases which will extend over decades.
MONITORING AND ADAPTATION ACTIONS OVER TIME

The Draft Plan

Early Projects
Now until 2030
Addresses highest risk areas through Proposition A General Obligation Bond

First Actions
~2030 and beyond
Defends against 1.5 to 3.5 feet of sea level rise, actions prioritized and phased

Monitoring
(Sea Level Rise, Climate Indicators)

Subsequent Actions
Timing driven by monitoring
Defends against 3.5 to 7 feet of sea level rise

Note: Dates are approximate and subject to change. Projects will occur in phases which will extend over decades.

Federal Actions
WHAT IS IN THE DRAFT PLAN?

Where to build flood defenses

How high to build flood defenses

How much space to use

Have we located the flood defenses in the right place?

Should we invest in higher levels of flood defense first, or adapt in multiple phases?

More space provides more flexibility but is associated with more disruption. Less space means more abrupt grade changes.

...and How flood defenses can be adapted in the future
THE DRAFT PLAN

- Incorporate nature based features, such as creek enhancements
- Waterfront-wide stormwater management adaptations related to coastal flood defenses
- Raise the shoreline with seismically resilient structures
- Floodproof piers and select buildings
- Adapt historic waterfront buildings and wharves
3 Developing a 35% Local Match Strategy ~ $5B over Decades
Assumptions:

- $2-5 billion plan to replace 3½ mile Embarcadero Seawall
- $500 million 1st Phase (2015-2026)
- Up to $5 billion 2nd Phase (2026-2046)

Methodology:

- 48 local, regional, state, and federal sources analyzed over 8 months by interdisciplinary team
- **Key criteria bolded**: New source, revenue potential, cost of funds, sustainability, flexibility, time to implement, tradeoff w/other City needs, political feasibility, administrative complexity, equity/cost burden
- Heat-mapping (green, yellow, red) to develop 17 recommended sources, 10 with significant revenue potential
<table>
<thead>
<tr>
<th>Primary Recommendation</th>
<th>Follow Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Obligation Bonds</td>
<td>- Proposition A $425 Million Seawall Bond&lt;br&gt;- Proposed 2028 Resilience Bond ($250 Million)</td>
</tr>
<tr>
<td>Army Corps (USACE) General Investigation</td>
<td>SF Waterfront Coastal Flood Study (~$13 Billion recommendation; 65% federal/35% local match)</td>
</tr>
<tr>
<td>Community Facilities District</td>
<td>- Pier 70 &amp; SWL 337 Shoreline Special Taxes&lt;br&gt;- Downtown CFD – not recommended at this time</td>
</tr>
<tr>
<td>Local Share – IFD Tax Increment</td>
<td>Piers 30-32, Seawall Lot 330 Term Sheet</td>
</tr>
<tr>
<td>State Share – IFD Tax Increment</td>
<td>- AB 2578 (Chiu), 2018, not adopted&lt;br&gt;- Possible to pursue again</td>
</tr>
<tr>
<td>State Resilience Bond</td>
<td>2024 Climate Bond</td>
</tr>
</tbody>
</table>
Learn from Others

Fargo-Moorhead, North Dakota

Project Timeline
- Study Period – 2008 to 2011
- Chief’s Report – 2011
- WRDA Authorization - 2014
- Partnership Agreement – 2016, 2019
- Construction Start - 2017

Cost & Allocation
- Initial Agreement (2011) – $1.8B Total (45% Federal)
- Revised Agreement (2019) - $2.8B Total (27% Federal)

Lessons to Learn
- Messaging to support funding requests: generational investment
- Split Project Delivery
- P3 Financing (NFS share)
- High NFS share used to prioritize project at OMB

https://app.powerbi.com/view?r=eyJrIjoiYjA5Y2ZjMTktNTQyYi00YmYxLTkwYWJhNmQyMDk2RkZjU4MzMzIiwiS1wiOlwiMjIwMiJ9
# Funding Sources ( Millions )

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<tr>
<th>Source</th>
<th>Local</th>
<th>N/A</th>
<th>State</th>
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<tbody>
<tr>
<td>Sales Tax RYGO</td>
<td>631.20</td>
<td></td>
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<tr>
<td>WIFIA Loan Draws</td>
<td>569.00</td>
<td></td>
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<tr>
<td>Legacy Bonds</td>
<td>435.50</td>
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<tr>
<td>ND SWC funding</td>
<td>337.10</td>
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<tr>
<td>Subordinated sales tax bonds issuance</td>
<td>213.00</td>
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<tr>
<td>Definitive refunding bond issuance</td>
<td>150.20</td>
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<tr>
<td>Temporary refunding bond issuance</td>
<td>180.00</td>
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<tr>
<td>Wells Fargo Loan Draws</td>
<td>100.00</td>
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<tr>
<td>Other Income</td>
<td>52.40</td>
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<tr>
<td>SRF Loan Draws</td>
<td>51.00</td>
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<tr>
<td>MN funding</td>
<td>46.00</td>
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<tr>
<td>Land sales proceeds</td>
<td>35.70</td>
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</table>
Embarcadero Early Projects were identified before the USACE Draft Plan was identified, but they respond to the same risks and shoreline conditions.

Early Projects include actions that are:

- **Not part of the Draft Plan**, like Pier 9 & Pier 15 Seawall EQ Safety Retrofits, which invest in structures that will be replaced in the Plan.

- **Build a piece of the USACE 1st Action**, like Southern Embarcadero Coastal Resilience Project, which we could capitalize on through a Section 221 agreement.

- **Include components of the USACE 1st Action**, like pier floodwalls in the Downtown Coastal Resilience Project or foundational improvements to the Ferry Building, which we could explore for credit.
<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate Directors</td>
<td>Advance planning with finance staff in ClimateSF departments</td>
</tr>
<tr>
<td>Phasing Plan</td>
<td>Develop a preliminary phasing plan to show how costs can be spread out over time</td>
</tr>
<tr>
<td>City Finance Leaders</td>
<td>Meet with City Finance leaders to develop a Local Match funding strategy</td>
</tr>
<tr>
<td>Climate Bond</td>
<td>Meet with delegation to make the case for the bond and City resilience needs</td>
</tr>
</tbody>
</table>
4 Next Steps
DRAFT SCHEDULE TO COMPLETE SF FLOOD STUDY

WE ARE HERE

Public Launch
January 26

WE ARE HERE

City is only slightly involved during this final Headquarters review – mainly to respond to questions
A CATALYST FOR A MORE RESILIENT SAN FRANCISCO

This is a once-in-a-century opportunity to:

- Defend communities, assets, and infrastructure equitably against coastal flooding
- Safeguard resilient transit and utility networks
- Improve earthquake safety related to flood defense projects
- Secure funding through collaboration with the Federal government
- Invest in a great public waterfront along with flood defense projects
- Adapt historic and cultural resources to climate change
Thank you

U.S. Army Corps of Engineers | SFWFRS@usace.army.mil
Port of SF Waterfront Resilience Program | wrp@sfport.com