MEMORANDUM

November 6, 2020

TO: MEMBERS, PORT COMMISSION
Hon. Kimberly Brandon, President
Hon. Willie Adams, Vice President
Hon. John Burton
Hon. Gail Gilman
Hon. Doreen Woo Ho

FROM: Elaine Forbes
Executive Director

SUBJECT: Informational presentation regarding the Waterfront Resilience Program Alternatives Development Strategy and Proposed Decision Framework

DIRECTOR'S RECOMMENDATION: Information Only – No Action Required

EXECUTIVE SUMMARY

The Waterfront Resilience Program (WRP) team has developed a goal statement and principles for the Program to support selection of Proposition A projects and to guide strategy and actions in the WRP program longer-term. The draft goal and principles detailed in this report were developed with input from the community and stakeholders. Staff now seeks input from the Port Commission in order to finalize the goal and principles incorporation into the Port Commission's Strategic Plan in February 2021, and to guide the ongoing selection and evaluation of alternatives for seismic and flood risk reduction. Staff continues to work on more detailed objectives to guide Program development.

In consultation with Port divisions, Program staff is using the information from the Multi-Hazard Risk Assessment, presented to the Port Commission in September 2020, combined with community and stakeholder feedback to assess seismic and flood risk reduction measures to develop project alternatives. This work will culminate in the development of conceptual project alternatives for the entire 7-mile waterfront. To advance selection of Proposition A project, there will be a focus on identifying and prioritizing capital projects within the Embarcadero Seawall area. Alternatives may include targeted measures related to individual structures as well as larger interventions across a larger length of waterfront.

As the team develops these alternatives, staff is working closely with Port divisions to develop proposed alternatives and confirm that they are consistent with other Port plans, operations and

programs. Staff requests the Port Commission's input on the format and information contained in the alternatives as well as the evaluation criteria to be used to assess them.

Following selection of alternatives in early 2021, Program staff will use a set of funding guidelines to recommend Proposition A priority projects for the Embarcadero Seawall Program. We welcome Port Commission input to these guidelines to ensure they meet the core goals of the Proposition approved by voters.

Program staff will culminate the WRP planning effort with the production of the Adapt Plan. The Adapt Plan will document the work of the WRP and set the approach for advancement of the Port's resilience work in the coming years. The Adapt Plan will include the Adaptation Design Guidelines which will provide the necessary guidance to anyone undertaking development on Port property to ensure the development meets the Port's and City's resilience agenda and that all developments combine into a cohesive, equitable and inviting waterfront for all. To support these design guidelines, Program staff will seek guidance from the City on the desired level of flood risk reduction and design assumptions for reducing coastal flood risk to the City.

Program staff will continue to engage with stakeholders and the community over this period, including targeted youth engagement, and looks forward to returning to the Port Commission in December to receive feedback and input on the information and questions presented in this report.

Development of Refined Goal and Principles

When the City Administrator's Capital Planning Committee and the Board of Supervisors considered Proposition A, the Embarcadero Seawall Earthquake Safety Bond, for the November 2018 ballot, Port staff prepared a General Obligation Bond Report (Bond Report) to explain to the public and decision-makers the objectives of the bond and the Embarcadero Seawall Program. The Bond Report included the following objectives for the Seawall Program:

- Act quickly to improve disaster preparedness
- Reduce earthquake damage and disruption
- Improve flood resilience
- Enhance the City and the bay
- Preserve historic resources
- Engage the community

Since the Bond Report was published, the Port engaged the U.S. Army Corps of Engineers (USACE) on the San Francisco Waterfront Flood Resiliency Study (Flood Resiliency Study), which expanded seismic and flood risk study of the waterfront from the 3.5-mile Embarcadero geography to the entire 7.5-mile Port jurisdiction.

The Port created the Waterfront Resilience Program (WRP), improving and refining the objectives detailed in the Bond Report and adding a goal statement and principles to provide a way to engage and receive input from stakeholders and to guide the development of evaluation criteria. The goal, principles and evaluation criteria will guide the development of the Program, support selection of Proposition A projects, and provide direction for the USACE Flood Resiliency Study, and communicate the approach that the Program team is taking to build resilience into the San Francisco Waterfront. The refinement of goal, principles and objectives discussed in this report will be incorporated into the February 2021 update to the Port Commission's Strategic Plan (4th of 7 goals tailored to advance Port mission), following Port Commission guidance.

The Program team worked with Port divisions, City departments and other stakeholders including Port tenants, Community Advisory Committees, neighborhood and business associations, other organizations and the larger community to develop the draft WRP goal statement and principles. In drafting these materials, the team reviewed the Port's Strategic Plan goals which include: evolution, resiliency, engagement, equity, sustainability, productivity, and stability.

WRP Goal Statement (update to 4th of 7 goals in the Port Commission's Strategic Plan)

The proposed update to the goal statement will provide clear direction for actions in the Waterfront Resilience Program. Staff has presented a draft goal statement to the Port Commission as part of other presentations, and has also shared drafts with and received input from community and stakeholders. Staff now seeks direction to finalize the WRP goal.

Current Goal Statement in the Port's Strategic Plan – Prepare the Port for natural and human made risks and hazards

Recommended Revised Goal Statement – Take actions to reduce seismic and climate change risks that support a safe, equitable, sustainable, and vibrant waterfront.

This recommended change to the 4nd goal of the Port Commission's Strategic Plan would support the overall Port Commission vision to *Deliver vibrant and diverse experiences that enrich the City and the Bay,* and overall Port Mission that *The Port of San Francisco manages the waterfront as the gateway to a world-class city and advances environmentally and financially sustainable maritime, recreational, and economic opportunities to serve the City, Bay Area region, and California.*

Does this revised goal statement reflect Port Commission values? Are there other changes to the draft goal statement the Port Commission would like staff to incorporate?

Draft WRP Principles

Prioritize life safety and emergency response

Advance equity throughout the Waterfront Resilience Program, including community and stakeholder engagement, planning, contracting, jobs and decision-making

Enhance and sustain economic and ecological opportunities

Inspire an adaptable waterfront that:

- Improves the health of the Bay
- Ensures public access to the waterfront and historic places and an inviting waterfront for all
- Protects and preserves historic and maritime resources
- Provides opportunities for diverse families, businesses, and neighborhoods to thrive

Lead a transparent, innovative, collaborative, and adaptive Resilience Program

Input on the goal and principles has been obtained from stakeholders that include community members, City departments, resource and regulatory agencies and others. The Program team has been using the draft goal and principles to provide a frame for the work that is being

undertaken in the program and to communicate the program, guide the USACE Flood Resiliency Study in a manner that reflects Port, City and community concerns and priorities. Program staff used the draft goal statement and principles to create evaluation criteria (discussed below) that will be used to compare and refine alternatives for the Waterfront Resilient Program, with a priority on alternatives that inform Proposition A projects and guide USACE Flood Resiliency Study preferred alternatives to ensure that we are transparent, consistent and accountable.

Community Feedback on Principles

Community feedback strongly affirmed the Port's focus on life safety and emergency response. Ideas for evolving how to understand and expand what it means to "inspire an adaptable waterfront" included:

- Connecting the city with the waterfront by providing public space and an accessible waterfront
- Protecting commercial centers that support jobs
- Protecting housing, including senior housing
- Protecting schools and youth facilities
- Health and ecology of the Bay and the creeks

Do the principles above reflect the Port Commission's values and priorities for the Waterfront Resilience Program and the role that it and the Port plays in Citywide resilience? For a Program of this potential size and impact over time, are these principles "right-sized" for the Program? Are we missing any key principles that should be included to guide the Port's resilience work? Would the Port Commission like to direct staff to address other considerations in the principles?

Program staff continues to develop more refined objectives to guide the Program.

Community Feedback on WRP Goal and Principles

Community feedback strongly affirmed the Port's draft goal and principles, and the public encouraged the Port to:

- Continue to be transparent and accountable
- Continue to engage communities
- Prioritize life safety and emergency response
- Prioritize sustainable and nature-based solutions where possible
- Prioritize assets most loved by the community and most important to the city
- Prioritize projects that use tax dollars effectively and responsibly

Alternatives Development

As described in the September 22, 2020 Port Commission staff report, Program staff in consultation with Port divisions is using the information from the Multi-Hazard Risk Assessment and community and stakeholder feedback, the Program goal and principles and the USACE Problems, Opportunities, Objectives, Constraints and Considerations to identify conceptual seismic and flood risk reduction alternatives for the entire waterfront. This effort will enable Program staff to solicit preferred alternatives from the Port Commission. Subsequently, Program staff will develop Proposition A project recommendations from which the Commission can select first projects for funding.

The work has begun in the Embarcadero Seawall subareas, which include Fisherman's Wharf, Piers 1 through 35, Ferry Building subarea and South Beach. The work will continue south of Mission Creek and this will result in a range of alternatives in the southern subareas including Mission Creek, Mission Bay, Islais Creek. Program staff will work with Port leadership to develop and present alternatives from which the Port Commission will select Proposition A projects. For the entire waterfront, Program staff will work with Port leadership to develop and present alternatives that the Port Commission can advance to the Final Array in the USACE Flood Resiliency Study for continuing analysis. As alternatives progress, the team will continue to robustly engage with City departments, community members and neighborhood groups, tenants and other stakeholders to ensure that the alternatives reflect the goal and principles and receive input that allows for refinements and changes to reflect community priorities.

As the team develops these alternatives, staff is working closely with Port divisions to confirm that proposed alternatives are consistent with the Port's Strategic Plan, Port operations, the Historic Piers Rehabilitation Program and related Port planning efforts.

When Program staff present alternatives to the Port Commission in early 2021, some alternatives will prioritize recommended actions in a specific geography (e.g., Fisherman's Wharf) or a broader area (e.g., the Embarcadero).

Example Alternatives

While Program and wider Port staff still has several months of work ahead to develop alternatives for Port Commission consideration, here staff presents high level conceptual descriptions of the types of alternatives that may be forthcoming to prepare the Port Commission and public. Some of these concepts have already been presented as part of the 2016 Northern Waterfront Seismic Vulnerability Study and the more recent U.S. Army Corps of Engineers San Francisco Flood Resiliency Study Focused Array.

While the alternatives are being developed at a subarea scale and are refined to reflect the conditions and characteristics of each subarea, there are some larger scale alternatives that have been identified at a broader level of detail. It is not likely that these alternatives would be applied at a waterfront wide scale, but may be better suited for some areas over others. Below is a very abbreviated description without consideration of the conditions and characteristics of the locations along the shoreline where risks need to be reduced. These are concepts at this stage; more work is needed to develop full alternatives.

Resilient Wharves

The primary objectives for the Resilient Wharves alternative are:

1. Reduce lateral spread and ground shaking risks to wharves and buildings on top of the wharves.
2. Reduce flood risk to City and Port, elevating wharf zone.
3. Reduce bay impacts.
4. Opportunities to include utility improvements.

To address life safety risk and disaster response access and City flood risk in the near-shore area, raise and rebuild wharves in the Embarcadero Historic District. Wharves will be designed to accommodate, but not stop, lateral spreading and raised to address near and long term flood risk for the Port's wharves and City, regional and neighborhood assets and services.

Bayward Seawall

The primary objectives for the Bayward Seawall are:

1. Reduce long term risk to seismic and flood hazards to both the Port and City.
2. Modify bayside structures to increase and enhance economic resilience, reduce (but not eliminate) damages to the Roadway and provide a stable platform for long-term sea level rise adaptation.
3. Incorporate opportunities to enhance mobility, ecology and improve the public realm.
4. Opportunities to include green infrastructure and utility improvements.

The Bayward Seawall alternative would result in a new seawall and would provide seismic risk reduction associated with the lateral spread risk of the current seawall. This would significantly reduce the risks to the wharves and the buildings and would reduce flood risk and provide additional space to adapt to higher water levels. It would result in fill in the Bay and would require consideration of public access and maritime functions.

Resilient Corridor

The primary objectives for the Resilient Corridor alternative are:

1. Create a resilient corridor that reduces seismic and flood risk to Port, City, and transportation and utility infrastructure, including improvements to address lateral spreading.
2. Increases adaptation space to gain elevation and adapt to higher water levels.
3. Improves non-vehicular mobility, access, connectivity, and bike/ped safety.
4. Opportunities to include green infrastructure and utility improvements.

The Resilient Corridor is a multi-agency approach and planning effort to develop an alternative that reduces seismic risk to the roadway and the utilities within it, the promenade, the seawall, the wharves and buildings and can also serve as a foundation for flood risk reduction and mobility and community improvements. It would provide an opportunity for significant engagement with the City departments and open up an opportunity for new funding sources and projects that address infrastructure needs with risk reduction, potentially advancing multiple objectives.

Tactical Life Safety Improvements

The primary objectives for the alternative that is known as Tactical Life Safety Improvements are:

1. Prioritize site specific strategies only at high-occupancy life safety and emergency response locations.
2. Prioritize high consequence seismic risks. Consider near term or opportunistic flood risk reduction.
3. Lower cost, limited disruption.

This alternative focuses on site specific actions to reduce the highest consequence seismic life safety and disaster response risks. While this alternative is more limited than the other three and focused more on the findings from the Multi-hazard Risk Assessment. This concept also provides opportunities to address other issues such as flooding and City, Port and community priorities where the site specific actions are implemented.

As this work advances, we will continue to engage Port staff, City departments, tenants, the community and other stakeholders. This engagement will be particularly important for those alternatives that get advanced and as the team refines and includes more detail. When final alternatives are presented to the Commission, Program staff will present:

- The highest consequence risks for a given subarea and Port, City, private, community priorities and neighborhood assets and services in the area
- Combinations of measures and approaches to address seismic risks, flood risks, or combined seismic and flood risks
- Risks addressed and risks that remain
- The way that the alternative responds to the goal, principles and evaluation criteria
- The way that the alternatives respond to community input to date
- An initial assessment of desired performance standards
- Adaptability and phasing
- Design and access considerations
- Implementation pathways, including phasing
- Adaptation pathways
- High level cost estimates
- Documentation of assumptions and unknowns

The Waterfront Resilience Program will develop alternatives waterfront wide and will provide an opportunity for the Port Commission to consider these alternatives. Each of these alternatives will include an implementation pathway that describes the vulnerability, the action, the lead, the partners, potential funding sources and the recommended timing for the action. The Port and City have several current funding sources and partnerships.

The Waterfront Resilience Program will require multiple funding resources. The current funding source for this work is Proposition A which authorizes the City to issue $425 million in general obligation bonds to advance planning and initial projects for a multi-billion dollar Seawall Program. It is critical that the Port Commission, the public and other stakeholders understand that with this vital funding, the Port will only be able to undertake projects to improve life safety and disaster response in the most critical areas. It is likely that this funding can only address a small part of the Embarcadero Seawall area.

A potential subsequent funding sources is federal funding from Congress through the Port's collaboration with USACE on the San Francisco Waterfront Flood Resiliency Study. This is an approximately 5-6 year study, costing up to $20.3 million, with a focus on evaluating the flood risk to the San Francisco Waterfront with a focus on the National Economic Development interests and the identification of a Tentatively Selected Plan to reduce that flood risk. If this effort identifies a federal interest in coastal flood risk management project along the Port's Bay shoreline, this effort could generate substantial federal funding.

Does the Port Commission have any questions or concerns related to the alternatives development process? Any guidance for the staff how best to engage and inform the Port Commission as alternatives progress? Is there any other information the Port Commission would like to see to assist in selecting preferred alternatives for the waterfront?

Evaluation Criteria

Program staff has developed draft evaluation and screening criteria as shown in **Exhibit A** to:

1) enable staff to develop robust project alternatives; and

2) enable Port leadership to evaluate which project alternatives to recommend for consideration by the public and the Port Commission.

Staff will use quantitative analysis where appropriate, including cost-efficiency, construction duration, people impacted, and other factors. Staff analysis will also include qualitative analysis where appropriate. Staff is not proposing to develop a total score to compare alternatives; we are recommending a comparison of alternatives based on how each alternative performs against the criteria.

During alternatives evaluation, Program staff will work with Port leadership to develop a matrix comparing the alternatives. The evaluation criteria will provide an objective means of describing how an alternative performs across a broad range of metrics. The Port Commission will have the benefit of this analysis as it weighs the alternatives which staff will present.

Program staff has examined alternatives processes in other large programs and one example of the use of evaluation criteria we have seen is heat-mapping, as shown in Figure 1 below.

Figure 1: Evaluation Criteria Heat Map

Evaluation Criteria	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
1. Positive Environmental Outcomes					
1A. Water Quality	1	2	5	1	1
1B. Green Goal (Flow, Habitat)	3	3	1	1	3
1C. Carbon Dioxide	3	3	3	3	3
2. Social Good for the Community					
2A. Construction Impacts	3	4	4	3	5
2B. Environmental/Social Justice	4	5	3	3	3
2D. Lasting Amenities for Neighborhood	5	5	3	1	3
3. External Drivers					
3A. Relationship with Tribes	1	3	3	3	3
3B. Relationship with other governments	3	3	4	1	1
4. Technical feasibility					
4A. Performance Risk	1	3	5	3	3
4B. Flexibility/Adaptability	1	3	5	3	3
4C. Operations and Maintenance	5	5	1	3	3
5. Cost					
5A. Long-run life cycle net cost ($m2013)	$5.2	$3.3	$17.5	$27.8	$8.2

Do the evaluation criteria in Exhibit A address the right set of considerations for review and comparison of alternatives? Is the Port Commission comfortable that staff will analyze and compare alternatives but not produce total scores?

Seismic and Flood Standards

Seismic Standards

Proposed alternatives that affect buildings, including buildings on wharves and piers, will be subject to the Port's Building Code. Some alternatives developed by the Program team and Port staff may include voluntary seismic upgrades to improve life safety and disaster response.

The Port's Building Code does not address performance standards for shoreline stability; this is a unique problem not typically addressed in building codes. The Port's Chief Harbor Engineer – the Port's code official under the San Francisco Charter – issued prior guidance requiring new projects that overlap the Seawall to address lateral spreading (shoreline instability) risks. The Chief Harbor Engineer may publish **new or revised** guidance to improve life safety as our understanding of lateral spreading and shoreline instability advances.

Flood Standards

Through the USACE Flood Resiliency Study and (potentially) through Proposition A funded projects, the Port will commence an effort to build phased flood risk reduction for adjacent City neighborhoods. Program staff will undertake a process to consult with the City through the City Administrator, the City's Chief Resilience Officer and affected City departments regarding the level of flood risk reduction the City is seeking. This consultation will inform:

- The design elevation of City flood risk reduction projects (which can be achieved through adaptive management over time);
- Which sea level rise projections the City prefers to inform the design of coastal flood risk reduction projects;
- Flood risk reduction standards (the national standard is the 100-year flood, or a flooding event that has a 1% chance of occurrence each year); and
- Any freeboard (additional safety margin) that the City prefers.

Are there any issues that Program staff and Port leadership should keep in mind as we engage the City on this critical topic?

Proposition A Funding Guidelines

After the Port Commission selects a preferred alternative (or alternatives) for the Embarcadero Seawall area, staff will engage the Port Commission in a discussion regarding initial investments, including Proposition A general obligation bond funding, focused on one or more initial geographic areas.

To inform this decision-making, Program staff has developed the draft Proposition A Funding Guidelines in Table _ below. As described above, Program staff will develop project alternatives for the entire Embarcadero Seawall area. Staff proposes these funding guidelines to assist staff in making recommendation to the Port Commission in determining **geographic locations** for first investment.

Table 1: Draft Proposition A Funding Guidelines	
1	**Life Safety and Disaster Response** ➢ Which areas have the highest lateral spreading risk and expected damage that could pose a risk to life safety? ➢ Where are the highest concentrations of people? ➢ Where are there critical disaster response assets that will support response? ➢ Are there relatively **low-cost improvements** in an area that can improve life safety?
2	**Sufficient Funding/More Analysis or Planning Needed** ➢ Do we have sufficient Proposition A funding available to fund required improvements in a given area? ➢ Is further planning, stakeholder alignment and/or analysis required to undertake improvements in the area? ▪ If yes, seek other funding (grants, etc.) or dedicate a part of Proposition A funding to complete planning and studies to advance action in these areas?
3	**Partnership Opportunities** ➢ Are projects planned by other City agencies that would allow efficient delivery in partnership? ➢ Does the alternative provide an opportunity to build private for-profit or nonprofit partnerships? ➢ Have we effectively identified regional, state and federal partners? Have we identified grant opportunities?
4	**Equity** ➢ Is investment prioritized for improvements that benefit the whole city? ➢ Are risks being addressed across the Embarcadero Seawall area in an equitable way? ➢ Are resilience alternatives informed by a broad range of stakeholders who reflect SF? ➢ Are the economic benefits (e.g. jobs, local businesses, community projects) putting equity first?
5	**Proposition A Schedule & Program** ➢ Can priority projects be delivered within the timescales identified in the Proposition A bond report? ➢ Does the program of first projects allow efficient delivery?
6	**Planned Rehabilitation** ➢ Is there planned development in the area? ➢ Is there another source – private equity or infrastructure financing district/community facilities district proceeds – that can pay for required improvements? ▪ If yes, is additional subsidy needed to ensure financially-feasible historic rehabilitation?
7	**Lease Extension** ➢ Is there an existing long-term lease in the area? Is the tenant interested in a lease extension? ➢ Is there another source – private equity or infrastructure financing district/community facilities district proceeds – that can pay for required improvements? ▪ If yes, is additional subsidy needed to ensure financially-feasible historic rehabilitation?

As Program staff developed the draft Proposition A Funding Guidelines in consultation with Port leadership, we focused on:

- *Transparency – Will Port stakeholders and City leaders understand and support decision-making for first Proposition A investments based on these guidelines?*

- *Equity – Are we prioritizing equity in decision-making?*

- *Opportunity – Are we aligning with other Port strategic efforts, including finger pier rehabilitation and long-term lease extensions?*

Have we succeeded in preparing draft Proposition A Funding Guidelines that the Port Commission and the public can embrace? Are there factors that we have missed that the Port Commission wants us to incorporate?

Adapt Plan

The Program team developed the Strengthen-Adapt-Envision adaptation planning framework in recognition of the need to:

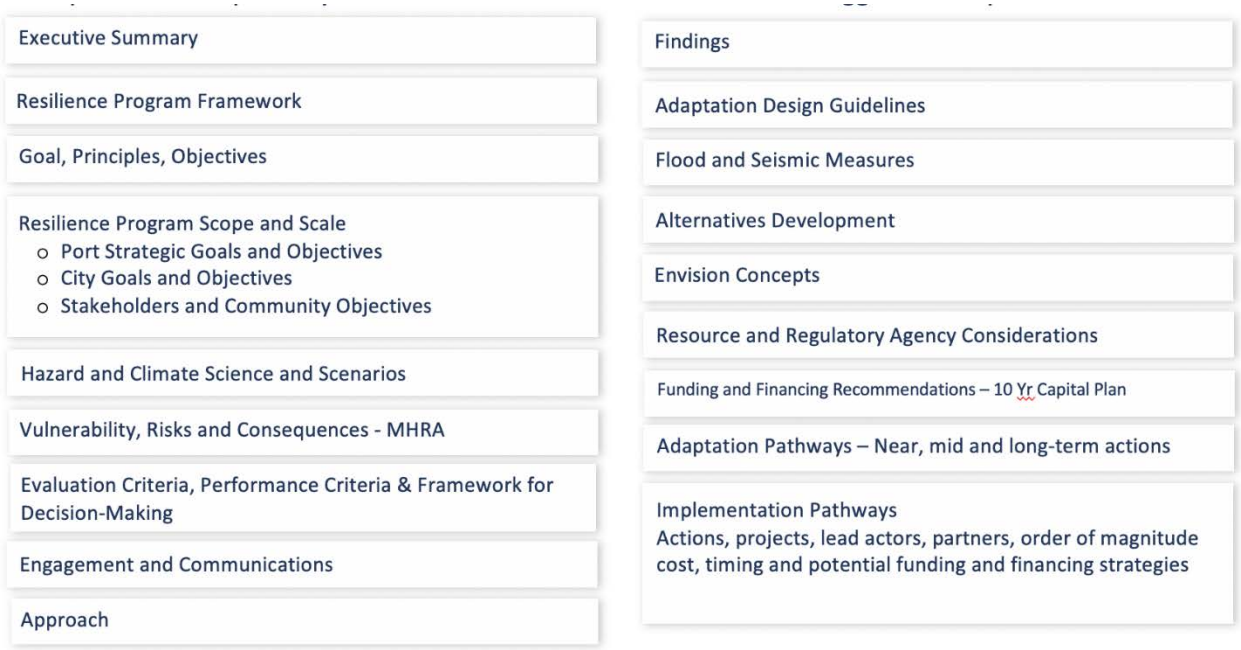
- Address multiple seismic and flood hazards in the near, mid and long-term;
- Address the highest consequence risks and vulnerabilities first;
- Adapt over time to address increasing and evolving risks such as sea level rise and remaining seismic risk;
- Respond in a way that is consistent with the Port's and the City's near-term strategic goals and objectives and is shaped by the Port's Strategic Plan core mission and vision for the waterfront; and
- Take action now in a way that is accountable to near-term objectives and a range of long-term conditions.

Program staff designed the Adapt Plan approach to allow the Port and City to be efficient with resources and focus on the most critical issues first, provide for the preservation and enhancement of existing historic and maritime resources for as long as possible, build an adaptation approach that can accommodate a range of sea level rise projections and provide a path for the Port and the City to be opportunistic and take action when priorities, funding and partnerships are available.

Adapt Plan Objectives

- Support and advance the Port's resilience work over many years.
- Allow the Port to take action now to reduce life-safety and emergency response risks by advancing the Proposition A bond project(s) while identifying future project concepts and planning efforts to build the Program for the entire waterfront.
- Provide a public narrative of how risks will be reduced over time, while documenting risk reduction and remaining risks.
- Describe adaptation and implementation pathways to funders, tenants, prospective developers and resource and regulatory agencies.
- Provide a cohesive document to integrate WRP findings and recommendations with Port near, mid and long-term strategic objectives.

Draft Adapt Plan Chapters



This will be an efficient effort: much of this work is complete or underway. We expect to prepare a draft Adapt Plan by Spring of 2021.

Does the Port Commission have questions about the Adapt Plan concept?

Adaptation Design Guidelines (a chapter in the Adapt Plan)

As we plan coastal flood risk management projects for the City in the USACE Flood Resiliency Study, and as we progress Proposition A projects that address both seismic and flood risks, we will be increasing shoreline elevations along the waterfront. This will be a phased effort, both geographically and vertically as water levels rise and as piers are rehabilitated. In some areas where there is high dollar value long-term investment, elevation gains will need to account for the design and useful life of the proposed investments.

Program staff is preparing the Adaptation Design Guidelines to provide tools to assess how best to increase shoreline elevation in a cohesive and strategic manner, honoring the underlying urban design principles that have already been established along the waterfront. In some cases, resilience improvements may offer the opportunity to significantly improve the public realm.

The area of study for the Adaptation Design Guidelines is Port Property from Aquatic Park to Heron's Head Park. The Adaptation Design Guidelines will be a chapter in the overall Adapt Plan and its purpose is to outline considerations and guidance for the waterfront to adapt over time, keeping existing successful form and function in place for as long as possible before drastic changes are necessary.

Program staff will develop the Adaptation Design Guidelines for the Adapt Plan through a collaborative effort between the Port, the Planning Department and other City departments.

The Adapt Design Guidelines will be informed by the following existing and in-progress work:

1. Work performed during the Multi-Hazard Risk Assessment, including the Public Realm Technical Memorandum, the Environmental Opportunities Technical Memorandum, the Public Life Survey, and the Historic Assets Technical Memorandum.

2. Existing Port design guidelines, including:

    - **Portwide:** Waterfront Plan, BCDC Special Area Plan: *Public access, waterfront design, Bayside History Walk, views,* Port-SFPUC Stormwater Design Guidelines;

    - **Embarcadero:** Port of San Francisco Historic Preservation Review Guidelines for Pier and Bulkhead Wharf Substructures, Embarcadero Public Realm Framework, PortWalk Design Criteria;

    - **Southern Waterfront:** Blue Greenway Planning and Design Guidelines; and

    - **Mission Bay-Pier 70/72:** Mission Rock Design Controls, Mission Bay Design for Development, Pier 70 Design for Development, Potrero Power Station Design for Development.

3. The Waterfront Plan Update.

4. Community engagement and feedback received from the public to date.

5. Ecological Seawall pilot concepts, subarea information developed for the USACE Flood Resiliency Study and the USACE nature-based measures.

6. The Envision exercise and concepts.

The Adapt Design Guidelines will include:

1. Waterfront wide standards and guidelines with elements required for the entire length of Port property (e.g., Bay Trail access, flood adaption, etc.).

2. Neighborhood specific recommendations where necessary to be consistent with existing community and waterfront character.

3. Design guidelines for 3-5 adaptation measures per focus area within the range of alternatives identified for the Embarcadero Seawall Program and the USACE Flood Resiliency Study.

4. Recommendations for amendments to existing Port design guidelines necessary to facilitate planned adaptation measures.

5. Site specific standards and guidelines for improvements to open spaces, bicycle pedestrian pathways (Embarcadero Promenade, Blue Greenway, public access) and vehicular circulation to serve Port properties, public realm, historic assets and other waterfront and shoreline features, to the extent that these standards and guidelines are not already captured by existing Port design guidelines.

6. Required elevations and other specifications when implementing seismic and flood measures along the waterfront and shoreline.

7. Recommendations for ecological improvements along the waterfront and shoreline.

Consistent with Port values, the team will apply equity principles to inform and define the Adaptation Design Guidelines. This document will facilitate design of improvements that benefit the community, including vulnerable and disadvantaged communities, create spaces that are inviting to all, and reflect community engagement and needs.

Community and Stakeholder Engagement

City Department Engagement

As Program staff has advanced the Multi-Hazard Risk Assessment (MHRA) and the USACE Flood Resiliency Study, staff has repeatedly engaged the Port's regional partners and sister City agencies. Program staff has engaged the San Francisco Municipal Transportation Agency, Bay Area Rapid Transit, San Francisco Public Works, the San Francisco Planning Department, and the San Francisco Public Utilities Commission in technical review of the MHRA reports to validate findings related to their infrastructure.

There are several main areas where Program staff will continue City department and regional agency engagement:

- MHRA results;
- Alternatives development; and
- Program development, including lessons learned from other departments regarding large capital program development.

Community Engagement

Community engagement for the remainder of 2020 will include:

- MHRA Key Findings/ Flood and Seismic Measures to Reduce Risks
    - Overview of public-facing materials, including the Waterfront Resilience Story Maps and Measures Explorer
    - Engagement approach includes: media, social media, tenant emails and engagement, emails out to community groups, roadshow requests, in-reach, etc.

- Digital Engagement
    - WRP Special Events
        - A series of digital engagements for the public to connect with WRP and the Port
    - Promotion of upcoming community meetings
    - Promotion of Waterfront Resilience Story Maps and Measures Explorer

- Community Meeting Series (all events will be digital until further notice)

- **December Islais Creek / Bayview and Mission Creek / Mission Bay Community Meetings #3:** Present potential measures and alternatives that will be needed to reduce risks identified by the assessment work and priorities identified by stakeholders. Explain how the alternatives will be evaluated and how they compared against the criteria used and input received in meeting #3 and use adaptation pathways to communicate adaptability and risk reduction over time and for different issues.

- Additional community meetings to review Program alternatives and Proposition A projects.

Tenant Engagement

As a key stakeholder group and as ambassadors for the Port, the Program team is committed to engaging Port tenants around the MHRA results and alternatives development, and certainly as the Port Commission moves toward selection of Proposition A projects. Program staff is aware that we are engaging Port tenants against the backdrop of COVID-19 business interruptions. As Program staff prepared to publish the MHRA, we met with the majority of the Port's long-term tenants with major investments in Port facilities to present the findings of that effort. Long-term tenants generally appreciated the information and engagement.

The Program team is attempting to be sensitive to tenants' needs and information overload, while balancing the importance of keeping this vital stakeholder group updated on WRP progress. The team will continue to engage tenants and is currently updating the tenant engagement plan.

Youth Engagement

The Team has engaged with youth organizations in the beginning phases of the Program. Now, targeted youth engagement activities including small group feedback activities are underway. The youth groups are citywide and many serve youth from low-income and diverse families, and other harder to reach communities. Bonner Communications is leading the youth engagement effort in coordination with Civic Edge Consulting.

Next Steps

Program staff will return to the Port Commission in December to revisit this proposed strategy and Resilience Program decision framework to seek additional feedback from the Port Commission and the public, including answers to the questions posed in this report.

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Exhibit A: Evaluation Criteria to Analyze and Compare Alternatives

			
Feasibility + Performance	Society + Equity	Economic	Environmental
Feasibility • Consistent with Port operations • Can be implemented with existing technology • Are pilot projects needed? • Consistent with existing Port policies and regulatory and resource agency requirements **Performance** • Risk reduction and residual risk not addressed • Useful life • Implementation timeline (concept, CEQA and permitting, procurement, design, construction) • Cost-benefit-ratio (avoided damages and other benefits) • Optimum size of alternative for project delivery **Construction** • Temporary disruption or permanent disruption, including tenants, waterfront users and equity considerations. • Effect on transportation along Embarcadero and Port or Port Tenant operations. Construction limitations (noise limits, seasonal work windows); limits on long shifts and night work, weekend work, or specific equipment and techniques? **Adaptability** • Adaptability for future SLR conditions, ease of implementation **Partnerships (One City approach)** • Partnerships: Encourages broad public and/or private sector partnerships • Information: Addresses adaptation information gaps and/or barriers to access	**Life Safety and Emergency Response** • Protects public health and safety, reduces direct casualties and injuries, including vulnerable community members • Enhances Port/City disaster preparedness • Improves waterfront safety for the public. **Mobility** • Maintains and enhances community, citywide and regional mobility and safety for movement of people and goods • Enhances sustainable transit **Historic** • Historic resources protected/preserved • Maintains and enhances Historic District **Utilities** • Enhances or maintains utilities in the vicinity • Addresses stormwater management if overland flow releases are eliminated **Social Cohesion** • Addresses a previously voiced community and stakeholder priority, including regulatory agencies • Does it have community and stakeholder support? • Community sustainability • Jobs impacted or protected • Protects access to housing or services • Allows for educational opportunities **Urban Design**	**Direct Physical Damage Avoided** • Risk avoided – direct physical damage to buildings, transportation infrastructure, maritime facilities, and utilities **Economic Disruption Avoided** • Risk avoided - indirect damages, business interruption, loss of transportation service, loss of utility service, loss of maritime service **Economic Opportunities** • Increased jobs, small business opportunities • Maintains or enhances taxes and Port revenues **Capital and Lifecycle Costs** • Cost of construction and ongoing maintenance • Protects infrastructure investments • Any significant risks associated with alternative	**Environmental Risks** • Addresses existing contamination? **Environmental Opportunities** • Habitat and biodiversity, including Bay ecology • Maximizing blue/green infrastructure • Carbon footprint • Maintains or improves water quality • Reduces water use • Reduces energy use • Material reuse • Makes use of local resources/materials/construction plant

			
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	• Enhances or protects waterfront open space and Bay access for all users • Consistent with adopted design guidelines • Aligns with the Waterfront Land Use Plan and the BCDC Special Area Plan *Equitable design standards being assessed for inclusion.		