

MEMORANDUM

October 18, 2019

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

FROM: Elaine Forbes
Executive Director

SUBJECT: Informational presentation on Citywide Resilience Efforts

DIRECTOR'S RECOMMENDATION: Informational Only; No Action Required

EXECUTIVE SUMMARY

Over the last five years, the City and County of San Francisco has been working on efforts to advance resilience including the adoption of the Lifelines Interdependency Study in 2014, Resilient San Francisco in 2016 and the San Francisco Sea Level Rise Action Plan in 2016. These initiatives have set the stage for further actions taken by the City collectively, as well as by individual departments. For example, initiating work to improve the seismic and flood resilience of the Embarcadero Seawall was a recommendation of both the Lifelines Interdependency Study and Resilient San Francisco.

In December of 2018, the Port Commission received an informational presentation regarding the resilience efforts being advanced by the City and County of San Francisco. Those efforts included work taking place as part of San Francisco's Sea Level Rise Action Plan and the City's update to its 2014 Local Hazard Mitigation Plan. During that presentation, the Port Commission learned about these specific efforts and how these efforts are informing the Port's resilience work, including the San Francisco Waterfront Flood Resilience Study (Flood Resiliency Study) and the Embarcadero Seawall Program. The Port Commission requested another briefing as these efforts progress.

Adam Varat from SF Planning, who leads the Sea Level Rise Vulnerability and Consequences work, will provide an update on the efforts completed to date. Brian Strong from the Office of Capital Planning and Resilience will provide an update on the Hazard and Climate Resilience Plan. The Port has been an active participant in both of these efforts.

THIS PRINT COVERS CALENDAR ITEM NO. 11A

PORT'S STRATEGIC PLAN OBJECTIVE

This project supports the goals of the Port's Strategic Plan as follows:

Resilience:

- Study and plan for Seawall and other repairs to address seismic and flood risk.
- Assess all pending and new projects for the effects of rising sea level and ensure appropriate adaptation measures can be implemented.
- Participate in local and state regulatory rule-making related to climate adaptation.
- Work with City leadership to develop resilience and adaptation strategies that support needed seismic repairs to protect the Port and City from flood risk due to climate change and rising sea levels.

BACKGROUND

The City has advanced Citywide resilience over the last five years with several broad policy documents, including the Lifelines Interdependency Study, the San Francisco Sea Level Rise Action Plan and Resilient San Francisco. The recommendations of these plans have served to guide the work of the City and the Port to reduce the risks to communities, businesses, and the environment from the effects of hazards and climate change. These broader policy documents have led to the current Citywide resilience initiatives including the Sea Level Rise Vulnerability and Consequences Assessment and the Hazard and Climate Resilience Plan, which is an update to the 2014 Local Hazard Mitigation Plan. These two efforts are intended to provide more specific analysis and recommendations for actions to increase Citywide resilience, including actions that can be taken by specific departments, partnerships and the City as a whole.

The Port, due to its shoreline location and critical Citywide and regional role in transportation, maritime and emergency response functions and services has been playing a significant role in this work. The Port leads several significant efforts including the *Embarcadero Seawall Program* and the *USACE/Port of San Francisco Flood Resilience Study*. The Port has partnered with City departments on Citywide efforts. While these projects are at different scales and have different areas of focus, the City departments are closely coordinating with each other on the planning, engagement and implementation. Port staff has contributed to Port specific content in the *Sea Level Rise Vulnerability and Consequences Assessment* and the *Hazard and Climate Resilience Plan* and has used data and analysis from these projects to advance the Port's major resilience initiatives. Port staff sits on the Sea Level Rise Coordinating Committee and is an active participant in the SLR Working Group and SLR Science Committee. The Port has also been closely engaged in the Hazard and Climate Resilience Plan, serving on the subcommittee to develop the public engagement plan for the effort, as well as participating in the planning committee.

Due to its geographic location, its management of the shoreline for seven and a half miles of San Francisco Waterfront, its critical role in emergency response, the significant vulnerability of its assets and services, and its lead role on two significant resilience efforts for the City, the Port Commission and staff need to stay closely engaged in efforts that are occurring at the Citywide and regional scales to ensure that

the Port efforts are consistent and aligned, and that the Citywide and regional efforts are taking Port issues into account.

SEA LEVEL RISE VULNERABILITY AND CONSEQUENCES ASSESSMENT

The Sea Level Rise Vulnerability and Consequences Assessment is part of the implementation of the Sea Level Rise Action Plan. The vision of the Sea Level Rise Action Plan is to “Make San Francisco a more resilient city in the face of immediate and long-term threats of sea level rise to the Bayshore and Pacific Ocean, by taking measures to protect and enhance public and private assets, natural resources and quality of life for all”. This critical element of the Action Plan is almost completed and includes vulnerability assessments of public assets and services including mobility, water, wastewater, open space, power, public safety and port. The assessment evaluated the risks and consequences to these assets from current and future flood risks, with 10 water levels representing a variety of conditions from current high tides to El Nino events to future sea level rise. In addition to assessing the risks to public assets and services, the report also includes neighborhood profiles for each waterfront neighborhood. These profiles highlight the vulnerable assets and services within these neighborhoods and the flood thresholds for each neighborhood. The SLR Assessment also included five key findings. These key findings are:

1. Combined Precipitation and Flood Risk
2. Joint Impacts of Contamination and Liquefaction in Bay Fill Areas
3. Risks and Requirements for New Development in Waterfront Neighborhoods
4. Loss of Shoreline Open Space Through Flooding and Adaptation Efforts
5. Regional Transportation Efforts

The assessment concludes with a description of the resilience actions that are taking place in the City and the recommended next steps to advance work on sea level rise adaptation and resilience. Chapter 13 is entitled “A Changing Shoreline” and describes projects such as Mission Rock, Pier 70, Potrero Power Station, India Basin and the USACE/Port Flood Resilience Study and the Embarcadero Seawall Program. The chapter describes this changing shoreline as “proposed changes to San Francisco’s waterfront that will be impacted by rising sea levels, and the steps that proposed infrastructure and development projects are taking to address SLR impacts.” Chapter 14 describes the next steps and recommended actions, which include actions identified in the Sea Level Rise Action Plan such as actions that are ongoing or completed:

- Review science and pursue SLR research priorities
- Complete Citywide Vulnerability and Risk Assessments
- Launch and complete Bay Area Resilient by Design Challenge

The next steps also include actions that will be advanced after the completion of the assessment, such as:

- Conduct Comprehensive Economic Risk Analysis
- Develop SLR-specific community education and engagement strategy

- Develop training program for capacity building
- Complete Comprehensive Citywide Sea Level Rise Adaptation Plan
- Develop near-term adaptation plans for high-risk areas and assets

HAZARD AND CLIMATE RESILIENCE PLAN

The Hazard and Climate Resilience Plan is San Francisco's update to its 2014 Hazard Mitigation Plan. The change in the Plan's title is due to an expanded scope to include climate adaptation. The other requirements that will be met by the Plan include the Disaster Management Act of 2000, the ability to maintain eligibility for FEMA funding, maintaining San Francisco's commitment to C40 Cities and meeting Senate Bill 379 requirements that require cities to incorporate climate adaptation into the Safety Element of their General Plans.

The Hazard and Climate Resilience Plan process began in the Fall of 2018 and included the assessment of both natural and human-made hazards including earthquakes, tsunamis, coastal and stormwater flooding, terrorism, hazardous material spills and a number of sector categories including people, emergency response, public and community services, business and industry and assets including maritime, shoreline protection infrastructure, municipal buildings and water transportation. The process to develop the plan has included a robust approach to engaging City departments including several subcommittees for planning, steering and engagement and active participation by City departments in drafting and reviewing the content for the hazards and the assets. The Hazard and Climate Resilience Plan also engaged a number of community organizations representing older adults and people with disabilities; children, youth and families; residential property owners, managers and other housing stakeholders; business and commercial properties and environmental, racial and social justice stakeholders.

The work on the Hazard and Climate Resilience Plan will result in a draft plan that is submitted to FEMA and serves to guide resilience actions in the City and County of San Francisco. The draft plan is currently being reviewed by City departments to ensure it includes a comprehensive and accurate assessment of the hazards, vulnerabilities and strategies that the City should take to increase resilience. The Port's draft strategies include:

- Seismically improve the Port's Department Operations Control Center, Headquarters, and Joint Operations Control facilities and services to reduce damage and disruption
- Seismic assessment of the Southern Waterfront
- Earthquake mitigation project for marine pile structures
- Port utility resilience
- Combined flood risk for San Francisco Waterfront
- Historic Piers Rehabilitation Program

COORDINATION AND NEXT STEPS

The City and the Port will continue to work closely together to advance these critical resilience initiatives and ensure consistency and coordination of findings, outcomes and recommendations. The Office of Resilience, SF Planning, the Department of the Environment and Port staff have been meeting regularly to ensure that we are working toward a comprehensive and integrated vision for how we advance the resilience of San Francisco's communities, businesses, environment and ensure the reliability and effectiveness of the City's assets and services. Port staff will schedule updates for the Port Commission as we continue to work with our City department partners to advance resilience.

Prepared by: Lindy Lowe, Resilience Officer
Waterfront Resilience Program

for

Brad Benson, Director
Waterfront Resilience Program