Subarea Profile

Pier 80

Subarea 4-1

SHORELINE TYPE:	SEISMIC RISK[1]:	FLOOD RISK[2]:	
Engineered: Filled land retained by concrete wall and pile supported concrete wharf	**Shoreline Instability:** Not Assessed - likely Moderate to High	**Tipping Point Elevation:**	19" above high tide
	Liquefaction Risk: Not Assessed – likely High	**Coastal Flood Events**	**Timing**
	Shoreline Structure Vulnerability: Not Assessed - potentially Moderate to High due to age of bulkhead wharf structures		
Subsurface Profile: Not Assessed - likely non-engineered fill with known liquefaction hazard, on top of deep bay mud.	**Unique Conditions:** Large landfill piers, liquefaction during 1989 earthquake	100-yr Flood	Today
		High tide + 36" SLR	2049 - 2067

SUBAREA DESCRIPTION

Pier 80, a 60-acre site, is San Francisco's largest cargo terminal and the City's only pier that can support the direct unloading of materials from ships to railroad cars for further transportation and distribution of goods. Piers 80 to 96 are included in the Port's Maritime Eco-Industrial Strategy, an area that combines 185 acres of maritime cargo terminals with industrial use to optimize product exchange and incorporate green design and green technology in ways that encourage economic opportunities for local residents while minimizing environmental impacts and protecting wildlife habitat. The subarea includes the northern banks of Islais Creek and is connected to the south by two bridges.

[1] Evaluation of seismic risk in areas outside of the Embarcadero Seawall Program are based on engineering judgement and will be updated once the Southern Waterfront Seismic Vulnerability Assessment is complete in Spring 2021.

[2] The timing of coastal flood events that will cause significant flooding in this subarea is provided as a range of dates based on the sea level rise projection scenarios provided by the California Ocean Protection Council (OPC) per the Likely and 1-in-200 chance of occurrence projections.

Subarea Profile

Pier 80

Subarea 4-1

The Bay facing shoreline is comprised of an embankment fortified with revetment and an engineered pier (on piles). The Islais Creek facing shoreline has a similar shoreline type except the sections with an embankment have varying degrees of fortification.

The primary pathways of flooding are from overtopping along the northern shoreline of Islais Creek near the 3rd Street Bridge and the Illinois Street Bridge. Flooding from this subarea extends into the adjacent Subarea 4-2 (Islais Creek). Flood risk reduction strategies in this subarea will also benefit Subarea 4-2 .

COMMUNITY IDENTIFIED PRIORITIES:	
Places • Recology • Pier 94 Wetlands • Bayview Hilltop Park	Since 2017, the Port has connected with tens of thousands of community members through the Waterfront Resilience Program. Public feedback collected about Piers 94 and 96 underscores the importance of increasing the availability of affordable housing in the neighborhood, preserving and enhancing the number and diversity of jobs and maintaining the waterfront bike trail. Further feedback highlights additional community priorities, including opportunities to restore wetlands and increase connectivity.

Subarea Profile

Pier 80

Subarea 4-1

FIRST FLOODING OF ASSETS

The chart below describes the vulnerability of specific assets within the Pier 80 subarea to flooding. These assets will be exposed to coastal flooding when the water level in the Bay reaches a certain height above the current high tide. The heights at which each asset is exposed to flooding is indicated with the shaded cells in the table. Over time and due to sea level rise these water levels can occur due to large storm events such as a 100 year flood of daily high tides. For example, the Bay Trail is exposed to flooding when the water rises 52 inches above current high tide, which could occur due to a 100 year flood with 3 ft. of sea level rise or as during daily high tide with 5.5 ft. of sea level rise.

● High Tide ○ 100 Year Flood ▭ Shaded cells indicate the water levels at which assets are exposed to flood

		WATER LEVEL ABOVE CURRENT HIGH TIDE										
SEA LEVEL RISE		**0”**	**12”**	**24”**	**36”**	**48”**	**52”**	**66”**	**77”**	**84”**	**96”**	**108”**
Today		●			○							
1 ft. SLR			●				○					
3 ft. SLR					●				○			
5.5 ft. SLR								●				○
Disaster Response												
	Pier 80						▭	▭	▭	▭	▭	▭
	-	-										
Open Space and Ecology												
	22nd Street Access				▭	▭	▭	▭	▭	▭	▭	▭
	Bay Trail						▭	▭	▭	▭	▭	▭
	Tulare Park						▭	▭	▭	▭	▭	▭
	Warm Water Cove Park				▭	▭	▭	▭	▭	▭	▭	▭
Maritime												
	Pier 80 Admin. Bldg.								▭	▭	▭	▭
	Pier 80 Cargo Terminal						▭	▭	▭	▭	▭	▭
Transportation												
	Muni Metro East Station											▭
	Muni Light Rail (T)							▭	▭	▭	▭	▭
	SF Bay Railroad						▭	▭	▭	▭	▭	▭
	Third Street							▭	▭	▭	▭	▭

Pier 80

Subarea 4-1

Utilities												
	South East Deepwater Outfalls	N/A (Flooding not quantified for floating overwater or in-water assets)										
	-	-										
Critical Facilities												
	Rafiki Coalition Health Center											
	-	-										

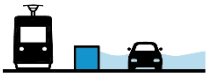
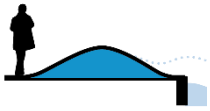
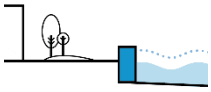
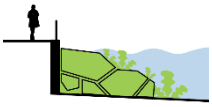
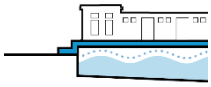
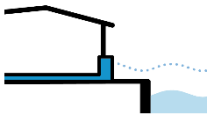
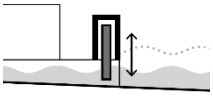
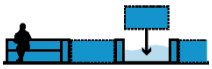
Subarea Profile

Pier 80

Subarea 4-1

FUTURE POTENTIAL MEASURES UNDER CONSIDERATION IN THIS SUBAREA:

FLOOD MEASURES:

Physical Infrastructure		Ecological Infrastructure	
 Floodwalls	 Levees	 Ecological Marine Structures	 Ecological Features
 Seawalls	 ~~Breakwaters~~	 Aquatic Habitat	 Ecological Shorelines
 Raised Marine Structures	 Building Adaptations		
 ~~Tide Gates~~	 Deployables		

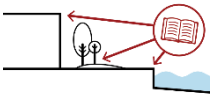
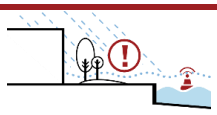
SEISMIC MEASURES:

Southern Waterfront Seismic Vulnerability Assessment

Further information about the potential seismic hazards and vulnerability of Pier 80 will be included in the Southern Waterfront Seismic Vulnerability Assessment. This assessment will not be at the same level as the recently completed Multi-Hazard Risk Assessment (MHRA) under the Embarcadero Seawall Program. It will be used as part of the Port's work to better understand the waterfront risks of the entire 7.5 miles in its jurisdiction.

FLOOD AND SEISMIC MEASURES:

Policy and Emergency Preparedness

 Policies and Zoning	 Emergency Preparedness		