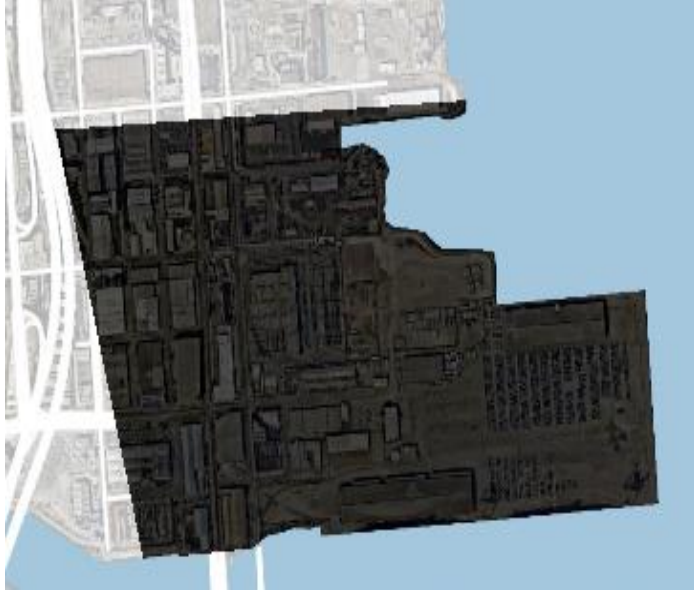


Pier 80

Subarea 4-1



Subarea Description



Subarea 4-1: Pier 80

Pier 80 (Subarea 4-1) covers Pier 80, a 60-acre working cargo pier that provides important maritime, industrial, and disaster response services. Pier 80 includes two warehouses, four deep water berths, four cranes used to offload materials from ships, and a railroad connection. Seawall Lot 356 and portions of the Potrero Hill neighborhood’s southern industrial area, including Muni Metro East and Warm Water Cove Park, are also part of the subarea.

This subarea is part of the Port of San Francisco Piers 80–96 Maritime Eco-Industrial Center (Maritime Eco-Industrial Strategy), which is generally bounded by 25th Street on the north, Illinois Street on the west, and Cargo Way on the south sides. The Maritime Eco-Industrial Center co-locates 185-acres of maritime cargo terminals with industrial uses to optimize product exchange, optimize use of resources, incorporate green design and green technologies on-site, foster resource recovery and reuse, provide economic opportunities that employ

local residents, minimize environmental impacts, and protect wildlife habitat. Pier 80 is a Port Priority Use area in the region’s Seaport Plan.

Pier 80 is a 60-acre neo-bulk cargo facility (neither containerized nor bulk) currently operated by PASHA for the export of approximately 100,000 automobiles per year, and a source of well-paid jobs. The terminal also handles occasional project cargo (g. Windmill parts). Pier 80 is primarily located on Bay fill. Only the pier edges are pile-supported. It connects to San Francisco Bay Railroad, which is used to move goods and materials from vessels to the regional railroad system. The JPB/ Caltrain line provides access to the Union Pacific Railroad; however, the Potrero Hill tunnels lack the necessary clearances for the tri-level railcars used to move vehicles by rail, limiting the terminal to export and regional distribution by truck.

Pier 80 (and Pier 96) are the City’s only piers that can unload materials from ships directly to railroad cars. Due to the importance of the Pier 80 in this role, Pier 80 is considered a significant maritime facility that is highly vulnerable to temporary and permanent flooding.

The pier is generally well maintained and its fendering and pilings are in good condition. However, issues related to subsidence (i.e., settlement of fill material) and insufficient stormwater drainage have led to ponding during and after heavy rain events. This ponding may be exacerbated by sea level rise, resulting in additional flooding. Pier 80 is included in FEMA’s emergency response plan as a location for staging and moving debris following a disaster. It also serves as an oil spill response equipment storage location.

Seawall Lot 356 is currently rented by a self-storage company, which may prove challenging to fully flood proof and inundation of stored items could occur. The self-storage company could be relocated, and plans are in development to use two acres to expand Warm Water Cove Park and use the remaining six acres to expand the Pier 80 Cargo Terminal. Warm Water Cove Park includes open space and walking paths adjacent to the shoreline. The Port and City plan to expand and rehabilitate the park to the southwest.

Muni Metro East provides transportation infrastructure maintenance and operations in this subarea. Muni also stores and maintains light rail vehicles and historic streetcars at this facility. There are plans to expand this facility eastward into

Pier 80

Subarea 4-1



additional areas that may be subject to flooding as sea levels rise. System-wide impacts to the Muni transit lines would occur if this facility is out of service for an extended period.

In general, the Blue Greenway closely follows the alignment of the San Francisco Bay Trail and Bay Area Water Trail from Mission Creek on the north to the county line on the south.

Since 2017, the Port has connected with tens of thousands of community members through the Waterfront Resilience Program. Public feedback collected about Pier 80 underscores the importance of jobs and workforce development and getting people where they need to go through increased public transit. Further feedback highlights additional community priorities, including opportunities to protect public transit and increase workforce development efforts. Community feedback related to this subarea is included in the Community-Identified section as part of the Review of Landmarks, Assets, and Services listed below and incorporated in the overall POOCC analysis.

Landmarks, Assets, and Services

Land Use

Most of this subarea is zoned as M-2 District: Heavy Industrial. These Districts are the least restricted relative to land use and are located at the eastern edge of the city, separated from residential and commercial areas. Most of the land zoned M-2 is controlled by the Port. Pier 80 is a 60-acre working cargo pier handling automobile exports with two warehouses, four deepwater berths, and two cranes used to offload materials from ships.

Community-Identified



- Rafiki Coalition Health Center
- Pier 80
- Muni T-Line (transit connections)

Maritime



- Cargo Terminal, including key automobile shipping services, four deep water berths and four cranes (Pier 80)
- Administration Building (Pier 80)
- Quonset Building (Pier 80)
- Pier 80 Shed A and Shed D (approximately 400,000 sf of covered storage)
- Seawall Lot 355
- Seawall Lot 356

Disaster Response



- Secure Maritime Facility, FEMA Unloading Area (with cranes, Pier 80)
- Oil Spill Response Equipment Storage (Pier 80)
- FEMA Staging Area (Pier 80)
- Large Vessel Berth (Pier 80)
- San Francisco Bay Railroad (Pier 80)
- Illinois Street (major arterial, heavy truck route)

Pier 80

Subarea 4-1



Utilities



Water

- Channel Force Main
- Buried water supply pipes

Wastewater

- Buried wastewater and stormwater sewer pipes
- Combined sewer discharge outfalls (3)
- Southeast Bay Outfalls

Power

- Transbay Cable (runs underground to the Potrero Hill substation in Subarea 3-5)
- Overhead and buried electric power infrastructure

Communications

- Several telecommunication cell sites (e.g. cells on top of buildings or small cell towers on streetlights) are likely distributed throughout the subarea, but specific locations are unknown

Natural Gas

- Buried natural gas buried supply line infrastructure

Transportation



- Muni Metro East Station (maintenance and operation facility)
- Muni T-Line
- San Francisco Bay Railroad Connection (Pier 80)
- Third Street (major arterial)

Open Space and Ecology



Open Space

- 22nd Street Access - also in Pier 70 (Subarea 3-5)
- Bay Trail / Blue Greenway
- Bay Water Trail
- Islais Creek northern shoreline open space
- Tulare Park
- Warm Water Cove Park

Ecology

- San Francisco Bay
- Pier 80 has been used for nesting Osprey and Falcons
- Small wetlands exist along the north and south shores of Islais Creek and Warmwater Cove
- Islais Creek

Pier 80

Subarea 4-1



Problems, Opportunities, Objectives, Constraints, and Considerations

Problems

- Bay water flooding from rising sea levels could cause extensive damage to public infrastructure and private property, industrial processes and disaster response, and adverse changes to the social and economic character of the subarea.
- Pier 80 is primarily located on Bay fill and is not pile-supported except for the pier edges, which makes the pier potentially vulnerable to liquefaction during seismic activity.
- Pier 80 provides important maritime, industrial, and disaster response services. Pier 80 can unload materials from ships directly to railroad cars, a providing valuable services that are highly vulnerable to both temporary and permanent flooding.
- Pier 80's automobile shipping (Pasha Automotive Group) is an important service for importing and exporting cars to and from the region and provides jobs for Bay Area longshore workers. Flood and seismic hazards could inhibit services and put automobiles pending export at risk.
- Rail is particularly sensitive to flooding because it cannot operate with even minimal flooding and flooding on one section of the rail results in disruption to the whole network. Rail in San Francisco is critical for connecting the City to the region and beyond, especially with respect to the construction industry and removal of material after a disaster.
- Frequent disruption to the Muni Metro East facility could have major impacts on light rail, historic rail, and cable car services in San Francisco, with cascading impacts on jobs and business interruption throughout the city.

Opportunities

- Enhance and adapt former and current industrial spaces for city and community uses, including potential maritime and disaster response abilities.
- Increase access to the waterfront and improve public views and experience connecting to the Bay.
- Improve the natural environment by using nature-based features and improve soil quality, where possible.
- Focus on social equity and environmental justice, including economic opportunities and support for the existing social character of the larger neighborhood.
- Identify co-benefits, such as more jobs and expanding work opportunities in the subarea.

Objectives

- Assess and protect area and assets from flooding and seismic risks.
- Reduce the risk to disaster response functionality and public safety (including loss of life) and public health from bay storms and rising water levels.
- Reduce the risk to critical public infrastructure and private property damage from strong seismic activity and rising bay water levels.
- Retain and improve public access when developing project features.
- Remove environmental risks and improve the natural environment (water quality/soil) and ecological value.
- Support a sustainable economy that benefits residents, workers, and industries.
- Strive to protect the 60-acre cargo terminal at Pier 80 including 4 deep water berths for neo-bulk and project cargo shipping functions.
- Prioritize maritime cargo functions
- Maintain revenue generated by Port assets to sustain Port infrastructure and public amenities.

Pier 80

Subarea 4-1



Constraints

- Must not increase the unmitigated risk of flooding from any source (bay, creek, or surface waters) outside of the subarea.
- The project must comply with applicable executive orders (EOs), including EO 11514 (Environmental Quality), EO 11593 (Protection of Cultural Environment), EO 11988 (Floodplain Management), EO 11990 (Protection of Wetlands), EO 12898 (Environmental Justice), EO 13007 (Indian Sacred Sites), EO 13045 (Environmental Health & Safety Risks to Children), EO 13122 (Invasive Species), EO 13783 (Promoting Energy Independence and Economic Growth), EO 13807 (Establishing Discipline and Accountability in the Environmental Review and Permitting Process) and EO 13834 (Efficient Federal Operations).
- Must protect disaster response functionality of Pier 80.
- Must not cause an increase in response time for emergency responders, nor cause an increase in flood risk to critical facilities, such as the only San Francisco rail-ship connection.
- Must comply with all applicable federal, state, and local laws and policies.
Some of this subarea is located within the Bay Area's Seaport Plan.

Considerations:

- **Tenants:** The Port leases land to tenants including private companies, City agencies, and the U.S. military. Coordination with all tenants will be important. While the Port owns these lands, many are operated by tenants that invest private capital for infrastructure improvements to the facilities. Management decisions related to addressing the consequences of flooding and planning for future sea level rise adaptation could complicate lease terms and will require additional coordination with tenants.
- **Stakeholder engagement:** Ongoing public outreach by the Port and other efforts, such as the Islais Creek Adaptation Strategy, has generated many location specific comments by the community. For example, a community member commented that the presence of Rafiki Health Center (located at 601 Cesar Chavez St in the subarea) provides health and wellness services for San Francisco's marginalized and underserved communities.
- **Regional impact:** Pier 80 imports / exports support project and neo bulk cargoes, important to the Region's economy and major City infrastructure projects
- **USACE Environmental Operating Principles:** Incorporate as part of the planning process.
- **Flooding or seismic events:** These events could potentially impact maritime and industrial uses that generate Port revenues used for capital repair and maintenance of Port assets and services, including piers, historic buildings and districts, shoreline flood and seismic risk reduction, open space, public assets, parks, maritime berths and other maritime infrastructure, the Embarcadero Promenade and other utilities and infrastructure.

Pier 80

Subarea 4-1



Seismic Summary

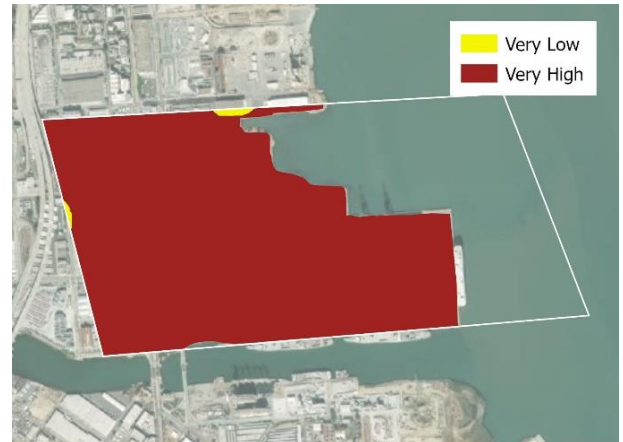
The seismic hazard and vulnerability within Pier 80 (Subarea 4-1) is currently being evaluated through the Initial Southern Waterfront Seismic Study, therefore comprehensive accounting of liquefaction and lateral spreading hazards cannot currently be provided.

From a regional perspective, USGS provides a high level rating of seismic hazard in Pier 80 (Subarea 4-1) as an VIII on the Modified Mercalli intensity (MMI) scale. The intensity scale consists of a series of certain key responses such as people awakening, movement of furniture, damage to chimneys, and finally – total destruction – on a scale of I (not felt) to X (extreme).

An MMI of VII translates to negligible damage in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys may fall, crack, or break.

Subarea 4-1 is built almost entirely on bay fill (i.e., artificial fill placed over open bay waters, wetlands, and the former Islais Creek floodplain) and has a Very High susceptibility to liquefaction. The scale considers historical liquefaction occurrences, geotechnical analyses of limited borehole data, and the estimated depth to the shallow groundwater table. The susceptibility ratings are based on existing conditions and do not consider potential increases to the groundwater table that may occur with sea level rise and climate change.

Our understanding of seismic hazard and vulnerability in this subarea will continue to be refined with the completion of the Initial Southern Waterfront Seismic Study and used to develop appropriate risk mitigation measures as part of the Waterfront Resilience Program.



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community