Mission Creek

Subarea 3-2

Subarea Description

Subarea 3-2: Mission Creek

Mission Creek (Subarea 3-2) includes the Mission Creek Channel and much of the watershed in the South of Market, Mission and Potrero Hill neighborhoods. It is bordered by Howard Street on the north side, 4th Street on the east, Mariposa Street on the south, and approximately South Van Ness Avenue on the west. The subarea includes all of Mission Creek, including its houseboats, a kayak boat launch, ferry and water taxi piers, berths and harbor services, and old and new residential housing, grocery stories, and additional community services.

A Bay Area Water Trail boat launch is located on the Mission Creek shoreline. The low-freeboard dock gives paddlers and kayakers a chance to enjoy the protected waters of Mission Creek, paddle to the nearby McCovey Cove / San Francisco Giants' ballpark, or rest and picnic in the park as they tour the San Francisco waterfront.

Two historic drawbridges, the Lefty O'Doul Third Street Bridge and Peter R. Maloney Fourth Street Bridge that cross the Mission Creek Channel, are also part of this subarea.

Both drawbridges were designed by the Strauss Company that designed the Golden Gate Bridge. In 1969, the Lefty O'Doul 3rd Street Bridge was designated a National landmark by the National Register of Historic Places (NRHP). The Peter R. Maloney 4th Street Bridge, built in 1917, is eligible for recognition by the NRHP but is not yet listed.

Muni's surface light rail T-line crosses on the 4th Street Bridge and is a key public transit connection between 3rd Street and The Embarcadero. Additional public transit in the subarea includes 137 Muni bus stops and nine regional bus stops.

Interstate-80 freeway off-ramps, Caltrain King Street Station, and Transit Hub make this subarea important for regional transportation. The San Francisco 4th and King Street Caltrain Depot is a major hub and serves the northern end of the Caltrain commuter rail line connecting San Francisco, the Peninsula, and Santa Clara Valley. The Caltrain Depot is across from a Muni Metro light rail station, offering connections to downtown San Francisco and service from BART.

Recreational facilities within Mission Creek include the SoMa (a.k.a., Gene Friend) Recreation Center and Mission Creek Harbor Association.

The SoMa Recreation Center is located on a one-acre site at the northwest corner of Folsom and 6th Street and is the only public recreation center in the neighborhood. Its programs largely serve elders and at-risk youth. The building is also used as a Red Cross emergency evacuation center, and it is currently part of a feasibility study and concept design development program to rehabilitate or rebuild the recreation center.

The Mission Creek Harbor Association, located on a portion of Mission Creek's south bank, provides recreational boats and houseboats. The association also develops and maintains a landscaped public access area along the channel shoreline.

Additional outdoor spaces include the Mission Creek Shoreline Park South, which runs parallel to the southern shore of Mission Creek. It features walking paths, picnic areas, and community gardens. The park, along with Mission Creek Shoreline Park North, provides views of and access to Mission Creek. Although the channel between the two parks has been significantly altered, it is the last remnant of the original Mission Bay formed by Mission Creek. The channel still supports habitat and wildlife. A wetland mitigation area near the kayak launch provides some ecologically important habitat.

Due to the distance and lack of designated parking, this site is primarily utilized by UCSF Outdoor Programs and as a destination site for boaters coming from other launches.

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Disaster response assets of Mission Creek include Fire Stations 1, 8, and 29, which provide coverage for the surrounding SoMa neighborhood. There are also three Emergency Fire Water System (EFWS) suction connections and 15 cisterns.

Five wastewater pump stations and six combined sewer discharge outfalls are in this subarea. Channel Pump Station is the biggest of the five pump stations, with a pumping capacity of 103 million gallons per day. It is located at 455 Berry Street near Mission Bay between 6th and 7th Streets and is directly adjacent to the Mission Bay shoreline. The Channel Pump Station operates continuously in both dry and wet weather, transporting wastewater pumped from the North Shore Pump Station and flows from the Channel drainage area. It conveys wastewater through the Channel force main to the Southeast Treatment Plant. In wet weather, combined flows are conveyed from the local drainage area to the Southeast Treatment Plant. The station's pump motor, electrical equipment, and controls are located at grade. The other four pump stations have less pumping capacity and are below grade components with potential pathways for flooding.

Since 2017, the Port has connected with tens of thousands of community members through the Waterfront Resilience Program. Public feedback collected about Mission Creek underscores the importance of providing neighborhood recreation, including areas for walking and biking, keeping connected to the rest of the city through bridges and infrastructure, preserving natural habitats, and maintaining housing.

Further feedback highlights additional community priorities, including opportunities to restore and protect habitats and wetlands as well as improve public access to the waterfront, including trails and walkability. 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

The zoning is diverse and includes production, distribution, and repair districts between the Interstate-80 and 280 freeways to neighborhood commercial transit districts along Folsom and 6th streets, and western SoMa mixed-use and office districts with residential enclaves. The areas surrounding Mission Creek are zoned as Mission Bay Redevelopment with some mixed-use residential and public spaces, including the areas along the freeway corridors.

Community-Identified

- Mission Creek Shoreline Park
- Fire Stations
- Kaiser Permanente
- Muni yard
- Improved waterfront trails and walkability
- Wetland restoration
- Bird habitat restoration

Historic and Cultural

- Peter R. Maloney Bridge (Fourth Street Bridge)
- National Carbon Company
- Baker & Hamilton Building
- Saint Joseph's Church
- Jackson Brewing Company
- Rothschild Building
- Pioneer Trunk Factory

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Maritime

- Mission Creek Harbor

Disaster Response

- Fire Station 1
- Fire Station 29
- Fire Station 8
- Emergency Fire Water System suction connections (3)
- Emergency Fire Water System cisterns (15)

Utilities

Water

- Channel Pump Station
- Shotwell Pump Station
- Merlin Morris Pump Station
- Harriet-Lucerne Pump Station
- Berry Street Pump Station
- Channel Transport / Storage Box
- Channel Force Main
- Buried water supply pipes

Wastewater

- Combined sewer discharge outfalls (6)
- Buried wastewater and stormwater sewer pipes
- 100-year stormwater overland flow at 7th street, both north and south sides of creek

Power

- 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 supply line infrastructure

Transportation

- Lefty O'Doul Bridge (3rd Street Bridge, China Basin)
- Peter R. Maloney Bridge (4th Street Bridge, China Basin)
- Caltrain King Street Station and Transit Hub
- Muni T-line (crosses the Peter R. Maloney Bridge)
- San Francisco Bay Railroad Connection
- Muni bus stops (137)
- Regional bus stops (9)

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Open Space and Ecology

Open Space

- Mission Creek Garden
- Mission Creek Shoreline Park
- Franklin Square
- Howard & Langton Mini Park
- Jackson Playground
- SoMa (a.k.a. Gene Friend) Recreation Center
- Utah & 18th Mini Park
- Victoria Manalo Draves Park
- Bay Trail
- Bay Water Trail Mission Creek Launch

Ecology

- San Francisco Bay
- Mitigation area with wetlands (next to kayak launch pad)
- Tidal interface zone with additional potential wetlands species along Mission Creek shoreline
- Potential herring habitat in Mission Creek
- Birds and aquatic life

Critical Facilities

- County Criminal Courts, Hall of Justice
- County Jails 1, 2, and 4
- San Francisco Jail Health Center
- Public Defenders Office
- Recology Golden Gate
- Fifth Street Homeless Shelter
- San Francisco City Clinic
- Women's Resource Center

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Problems, Opportunities, Objectives, Constraints, and Considerations

Problems

- Rising sea levels and continuing possibility of an earthquake put the integrity of Mission Creek, an area that was once open bay and marshlands and filled to create lands for industrial functions, and surrounding assets at risk.
- Flooding caused by rising sea levels could impact key infrastructure, including the Muni Third Street T-Line, Channel Pump Station, and the Caltrain Transit Hub, which serve the much of the entire city and region.
- Rail is particularly sensitive to flooding because it cannot operate with even minimal flooding. Flooding on one section of the rail can result in disruption to entire line or the whole network. Rail in San Francisco is critical for connecting the city to the region and beyond.
- Most of the subarea assets are built on artificial fill over areas that were once open bay water, stream channels, floodplains, and wetlands. It is unknown how many structures are anchored to bedrock on piles. In the absence of piles, these assets are highly vulnerable to strong seismic activity and potentially increasing liquefaction risks (i.e., when subsurface soils and groundwater mix and act like a fluid causing) due to rising sea levels (see Seismic Summary below).
- Existing environmental challenges could be exacerbated by flooding, and the communities of concern could be disproportionately impacted.

Opportunities

- Improvement to public safety by strengthening defenses and adapting the shoreline and low-lying areas, including all disaster response assets to rising sea levels.
- Enhancement and adaptation of former and current industrial spaces for city and community uses, including potential disaster response abilities.
- Improvement of the natural environment by using nature-based features in place of, or on top of, hard structures, and restoring soil and water quality, where possible, as well as create space for wetlands to migrate upland.
- Improvement of people's experience of public spaces by developing areas that are visually engaging and provide greater connections to the Bay and its habitats.
- Focus on social equity and environmental justice by supporting the existing social character of the larger neighborhood, such as the SoMa residential areas.

Objectives

- Reduce the risk to public infrastructure and private property damage from Bay storms, rising water levels and seismic activity.
- Ensure a reliable transportation system, including critical regional transportation connections and connections in vulnerable neighborhoods to enhance social equity. Create accessible transportation between the waterfront, the city, and the region. Adapt key transportation facilities to flooding to maintain operations, service, and connectivity.
- Improve recreation and parks with Bay access along the San Francisco waterfront when developing project features.
- Maintain and increase opportunities for women- and minority-owned businesses, community benefit organizations, worship centers, and arts and cultural organizations.
- Prioritize nature-based solutions and green infrastructure to mitigate floods, improve stormwater management, and support local ecology.

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Constraints

- The project must not increase the unmitigated risk of flooding from any source (bay, creek, or surface waters) outside of the subarea.
- Ensure no loss of existing flood protection.
- Avoid and minimize impacts to transit, economy, and the Bay ecosystem.
- Consider environmental challenges (contaminants lands managed by the Department of Toxic Substances Control and hazardous material sites managed by the Stage and Regional water boards).
- Consider vulnerable communities and communities of concern and their access to jobs, open space, community centers, schools, and other facilities.
- The project must not cause an increase in response time for emergency responders, nor cause an increase in flood risk to critical facilities, such as police stations, fire departments, hospitals, schools, or other key infrastructure structure.
- Contaminated lands are vulnerable to sea level rise and storm events that could cause flooding or groundwater intrusion. Temporary or permanent surface flooding, erosive tidal or wave energy, and elevated groundwater levels could disturb the contaminated soils. This could cause the release of hazardous substances with potentially significant consequences on public health, the environment, and the local economy.
- 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). Check universal constraints (e.g. legal and policy constraints) and study-specific constraints (e.g. location specific constraints such as not increasing shoreline erosion, no loss of existing flood protection).
- The project must comply with all applicable federal, state, and local laws and policies.

Considerations:

- **Environmental challenges:** Hazardous waste, solid waste, and impaired water are environmental concerns.
- **Equity:** Subareas within this reach include low-income communities of color and other communities of concern. Consider accessibility and community priorities when developing strategies for this subarea.
- **USACE Environmental Operating Principles:** Incorporate as part of the planning process.
- **Industrial assets:** There is special status given to this industrial area, which has several key infrastructure assets that serve the city and region.
- **Stakeholder engagement:** Ongoing public outreach by the Port and additional efforts has generated many location specific comments from the community. Feedback underscores the importance of providing neighborhood recreation, including areas for walking and biking, keeping connected to the rest of the city through bridges and infrastructure, preserving natural habitats, and maintaining housing. Additional feedback cites improved public access to the waterfront and restoration and protection of habitats and wetlands as priorities.

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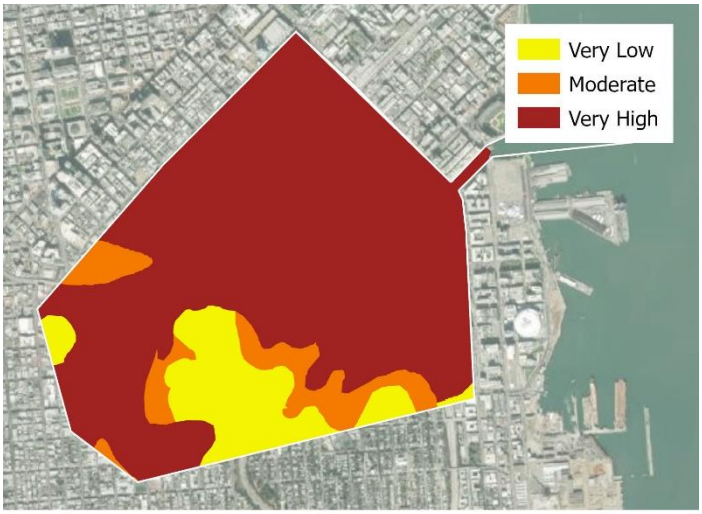
Seismic Summary

The seismic hazard and vulnerability within Mission Creek (Subarea 3-2) 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 Mission Creek (Subarea 3-2) 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 VIII (severe) could cause slight damage in specially designed structures, considerable damage in ordinary substantial buildings including partial building collapse, and major damage in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, and walls are likely, and heavy furniture may be overturned.



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

Subarea 3-2 includes areas with Very High, Moderate, and Very Low 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.