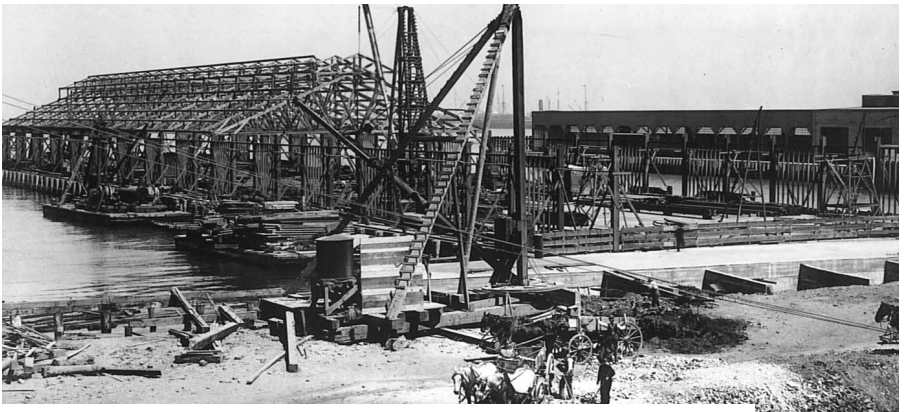
THE EMBARCADERO SEAWALL FACES URGENT SEISMIC RISKS

THE EMBARCADERO SEAWALL was built over 100 years ago by dredging a trench through Bay mud and filling that trench with rock and concrete. While a remarkable feat at the time, the Seawall was built in the heart of earthquake country without being engineered for seismic activity. Recent engineering analysis revealed that the Seawall is highly vulnerable to earthquake damage, including threats from liquefaction, lateral spreading, and settlement. Together, the Port of San Francisco and the City are working to proactively prepare for a major earthquake. One of the most important actions we can take now is to strengthen the Embarcadero Seawall.



THE UNITED STATES GEOLOGICAL SURVEY NOW ESTIMATES THAT THERE IS A 72% CHANCE OF A MAJOR EARTHQUAKE BETWEEN NOW AND 2043 WITH THE POTENTIAL TO SHAKE SAN FRANCISCO AT LEVELS NOT SEEN FOR OVER 110 YEARS.

PORT SAN FRANCISCO

Waterfront Resilience Program

IF THE EMBARCADERO SEAWALL SURVIVED 1906 AND 1989, WHY ARE WE SO WORRIED?

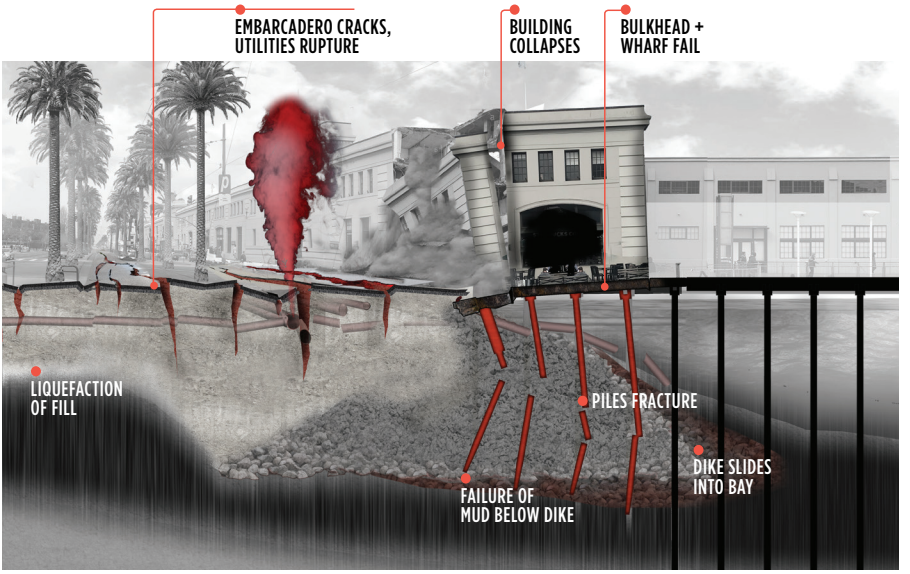
THE 1906 EARTHQUAKE was a major earthquake, with an epicenter just two miles away and nearly 60 seconds of strong ground shaking. Most of the Embarcadero Seawall and the infrastructure it protects did not exist in 1906, and of the portions that did exist, evidence indicates that the Seawall settled and moved several feet toward the Bay. An earthquake similar to 1906 poses a high risk to the Seawall and historic piers, with the potential for structure collapse and infrastructure damage.

DAMAGE FROM THE 1906 EARTHQUAKE

By comparison, the 1989 Loma Prieta Earthquake was significant but categorized as a minor event with an epicenter 60 miles away from downtown San Francisco. Even so, it damaged portions of the Seawall and caused some liquefaction along the Embarcadero roadway, but ground shaking was not strong enough to cause Seawall failure.

STRENGTHENING THE SEAWALL

THE CITY, acting through the Port, is leading the Embarcadero Seawall Program to improve seismic performance, provide near-term flood protection, and plan for long-term resilience and sea level rise adaptation along the Embarcadero Seawall. An independent seismic peer review panel comprised of notable geotechnical, seismic, and structural experts will review analysis and the development of earthquake solutions for the Seawall Program.



RENDERING OF THE EMBARCADERO SEAWALL DURING A MAJOR EARTHQUAKE