

EMBARCADERO SEAWALL EARTHQUAKE SAFETY BOND

**San Francisco Earthquake Safety and Disaster Prevention Program
Accountability Report and First Bond Sale**



www.sfseawall.com



[@portofsanfrancisco](https://www.facebook.com/portofsanfrancisco)



[@sf_port](https://www.instagram.com/sf_port)



[@sfport](https://twitter.com/sfport)







Contents

EXECUTIVE SUMMARY	06
PROGRAM SUMMARY	10
BUDGET, FUNDING, AND EXPENDITURES	18
ACCOUNTABILITY MEASURES	20
BUDGET SUMMARY TABLE	22
ESTIMATED SCHEDULE	26
APPENDIX:	
First Bond Sale Sources/Uses	30
Table 1: Estimated Costs	30
Table 2: Sources and Uses of \$425 Million	31

An aerial photograph of San Francisco's Fisherman's Wharf and the Embarcadero. The image shows the historic buildings of the wharf, the Embarcadero Center, and the San Francisco Ferry Building. A large white ferry is docked at the pier. The foreground features a large, paved plaza with a checkered pattern and a tall, ornate monument. The water of the bay is visible in the background.

EXECUTIVE SUMMARY





On November 6, 2018, the citizens of San Francisco passed Proposition A with 82.7% voter approval, authorizing a \$425 million General Obligation Bond known as the Embarcadero Seawall Earthquake Safety Bond (Seawall Bond) to support the Seawall Earthquake Safety and Disaster Prevention Program (Seawall Program).

The Seawall Program has a total estimated cost of up to \$5 billion with a 30 year implementation timeline. Phase I of the Seawall Program is budgeted at \$500 million. The \$425 million Seawall Bond will partially fund Phase I, including improvements to the earthquake safety of the Embarcadero Seawall, near-term flood protection improvements, and planning for additional long-term resilience.

The Port of San Francisco (Port) is requesting approval of a first bond sale and corresponding appropriation of \$50 million, which includes cost of issuance, accountability and General Obligation Bond Oversight Committee (GOBOC) costs. This first bond sale will support management, planning and overall program development, and partially fund preliminary design of Phase I projects of the Seawall Program. Specifics of this work include site surveys, comprehensive geotechnical investigation and laboratory testing of soils, earthquake risk assessment of the seawall and associated infrastructure, flood risk assessment including sea level rise, alternatives development and evaluation (conceptual level design, engineering, cost estimating, constructability), advancing environmental analysis (NEPA/CEQA) and permitting, advancing preliminary design of Phase I projects to approximately 10% level, and extensive stakeholder and community engagement. This work will also include identification of potential pilot projects and matching funds for the San

Francisco Waterfront Storm Risk Management Study General Investigation (Flood Study) with the United States Army Corps of Engineers (USACE). The Flood Study is cost shared 50/50 with USACE and will analyze flood risks to the Port's entire jurisdiction from Fisherman's Wharf to Heron's Head Park. The Port will appropriate non-bond funding to support Flood Study work in areas beyond the scope of the Embarcadero Seawall.

The Seawall Program contains three primary components:

- \$20 Million Planning (including investigations)
- \$66 Million Preliminary Design
- \$414 Million Final Design and Construction

The Port will use proceeds from the first bond sale to support the following activities:

- (1) Repayment of pre-bond funding in the amount of \$9.0 Million;
- (2) Execution and completion of planning and program development, including environmental review;
- (3) Design, engineering, and contracting of pilot projects; and
- (4) Advancement of preliminary design of Phase I projects to approximately 10% design.

The Port will identify and evaluate specific projects according to established criteria and subject to environmental review.



A scenic view of a waterfront park. In the foreground, a body of water with greenish-tinted waves contains several ducks. A paved walkway with a metal railing runs along the water's edge. Behind the walkway is a large, vibrant green lawn where several people are walking or sitting. A large, red, stylized sculpture resembling a flower or a fan is mounted on a tall, silver, curved pole. In the background, there are modern buildings with large windows and palm trees under a clear blue sky.

PROGRAM

SUMMARY

AND

STATUS



Background

The State of California constructed the Embarcadero Seawall a century ago to create a deep water port in San Francisco. Construction of the Seawall included landside fill that created over 500 acres of new land between San Francisco Bay and 1st Street. The Seawall sustains three miles of San Francisco waterfront, stretching from Fisherman's Wharf to Mission Creek and supports historic piers, wharves, and buildings, including the Ferry Building. It underpins the historic Embarcadero Promenade, iconic tourist destinations, recreation and park facilities, restaurants and local businesses, bringing an estimated 24 million people to the waterfront annually. The Seawall also supports key utility networks and infrastructure for the BART, Muni, and ferry transportation networks. Additionally, the Seawall serves as a critical area for emergency response and recovery and provides flood protection to downtown San Francisco. All told, the Seawall enables \$24.6 billion of economic activity and protects \$102.1 billion of property value.

In 2014, the San Francisco Lifelines Council completed an Interdependency Study that identified the Embarcadero Seawall as one of the City's five most critical lifeline safety assets. Lifelines are defined as utilities that provide essential infrastructure services to the community and include water, wastewater, power, communication and transportation. The study concluded that the Seawall would be at risk of failure in an earthquake and recommended that the Port improve Seawall seismic safety while concurrently addressing sea level rise due to the effects of climate change. The report also recommended that the Port conduct a more detailed multi-hazard risk assessment to refine analysis of the Seawall's vulnerabilities and inform project prioritization and design criteria.

In response to the Interdependency Study, the Port conducted preliminary seismic and flooding analyses in 2016. This screening-level seismic analysis found that the Seawall is highly vulnerable to widespread damage from a major earthquake. Flood mapping showed that the Seawall is also vulnerable to overtopping from storm events and high tides, with increasing flood risk as sea levels rise in the coming decades.

Seawall Program

The Port has assembled a program team of Port staff and in 2017 contracted with CH2M HILL Engineers, Inc. (now Jacobs Engineering) as the prime engineering consultant to provide planning, engineering, and environmental

services for the Seawall Program. Work to date has included developing an overall program work plan, completing data collection, conducting site surveys and extensive geotechnical investigations, and advancing a multi-hazard risk assessment to evaluate the combined risks of earthquakes and flooding to the Seawall.

Faced with an estimated investment in the Seawall of up to \$5 billion over 30 years and recognizing the different timeframes for seismic and sea level rise risks, the Port is developing a program of phased implementation. The Seawall Program will include at least three phases:

- **Phase I – Strengthen:** Near-Term Actions to address life-safety and emergency response and recovery, planning, for actions to be taken from 2017-2026
- **Phase II – Adapt:** Mid-Range Plans to advance seismic and flood projects that will provide greater reliability and stability of the waterfront, for actions to be taken from 2026-2050
- **Phase III – Envision:** Long-Term Vision, for actions to be taken from 2050-2100

Phasing the Seawall Program enables the Port to construct the most urgent safety improvements now while planning for longer range risks, opportunities, and constraints. The Port has adopted an aggressive schedule to complete repairs in the most vulnerable areas of the Embarcadero waterfront. Phase I project construction is scheduled to start in 2022 with completion by 2026. The schedule incorporates time for a robust stakeholder and public engagement process, including review and input, regulatory compliance, engineering design, and construction. Phasing the Seawall Program also will allow the City and the Port to continue to develop an array of sources to fund the full program need.

The Seawall Bond will partially fund Phase I of the Embarcadero Seawall Program including planning, development, preliminary design, environmental approvals, final design and construction to address the Seawall's immediate life-safety risks over the next eight years. Phase I will also include development of a framework for the next program phases building upon the investigation, analysis, community and stakeholder outreach and financial planning completed in Phase I.

Work to Date

Seawall planning work is well underway. The Port has nearly completed collection of available information on assets protected by the Seawall and analysis of the suitability of the data to advance risk assessment. Information collected includes land and water surveys, geotechnical borings and

investigations, record drawings, historic reports, operation and maintenance records, earthquake damage reports, flooding records, economic value, revenue, land use, occupancy, disaster response and recovery plans, capital improvement plans, and public usage. The data has been culled and recorded in a central database for access by the Seawall team and Port.

This data collection effort revealed gaps in geotechnical data, waterside survey data, and public usage data necessary to carry out the risk assessment. To fill the geotechnical gaps for both risk assessment and alternatives development the Port performed a detailed site wide geotechnical investigation. Jacobs Engineering explored over 100 locations along the Seawall using a mix of techniques ranging from specialized sonic borings to simple and inexpensive cone penetration probes. The investigation techniques were refined using a pilot program, and final locations and mix of techniques were selected through consultation with the Seawall Seismic Peer Review Panel. Borings went as deep as 300 feet, collecting samples of fill, bay mud, sands, and the underlying rock. Lab testing is now complete and the Port is using the data in advanced soil-structure models capable of more accurately predicting earthquake behavior. The project also completed a waterside survey, called bathymetry, and a laser scan of the bulkhead walls and wharves. The Seawall team is using this data to perform advanced coastal flood modeling to better incorporate current and wave impacts, significant factors in Embarcadero and nearshore flood risk. The Port also completed a public life survey to better understand how visitors are using today's public waterfront spaces. This data is being used for both risk assessment and for understanding potential opportunities as alternatives are being developed.

Work is also well underway on the Multi-Hazard Risk Assessment (MHRA) to refine the hazard assessments, catalog what is at risk, and advance the overall risk assessment methodology. Technical memorandums advanced to date include Public Realm, Historic Assets, Environmental Risks, Disaster Response and Recovery, Utilities, Transportation, Land Use, and Economic Impacts. Environmental Risks, Disaster Response and Recovery, Utilities, Transportation, Land Use, and Economic Impacts.





Potential Earthquake Safety Improvements

Several construction options are available to the Port to improve Seawall earthquake safety and reliability. These options may be implemented together, individually, or sequenced over time. Potential approaches to seismically reinforce the Seawall include:

- **Ground improvements:** Improving the soil conditions on the landside of the Seawall, or through/beneath the Seawall. Ground improvements would reduce the risk of liquefaction and earthquake induced ground failures below the Seawall.
- **Seawall Replacement:** Construction of new Seawall segments, using modern seismic design. Seawall replacement would withstand liquefaction and limit lateral spreading landside of the Seawall.
- **Structure Improvements:** Strengthening or replacing bulkhead walls and wharves to withstand seismic movement.
- **Utility Relocation or Replacement:** Relocating or replacing critical utilities that are currently protected by the Seawall.

Proposed earthquake solutions will be subject to peer review by a panel of external seismic and geotechnical experts to assess their performance and applicability. Using

a vetted set of project criteria, the Port will evaluate these methods to assess their site-specific risk reduction, cost, regulatory acceptance, adaptability to sea level rise, level of construction disruption, and co-benefits. This process will be conducted with input from the public and regulators.

Potential Flood Risk Reduction Improvements

As with earthquake safety improvements, there are a range of approaches to reduce flood risk. Flood mitigations could include both “hard solutions” such as raised seawalls, gates, deployable barriers, and “soft solutions” such as living shorelines. Modern seawall design provides an opportunity to ensure that public views and access to the waterfront are retained or enhanced.

Alternatives for historic buildings and other Port properties could include “dry-proofing” to fully protect structures at risk of flooding, and “wet-proofing” to accommodate intermittent inundation. Examples of wet-proofing include moving critical electrical and plumbing equipment to upper stories and use of water-resistant flooring.

The Port will co-design flood mitigations with seismic improvements evaluating the applicability, effectiveness, risks, and costs of the short and mid-term seismic reinforcements versus potential flood projects.

Potential Urban and Ecosystem Improvement Projects

Though Phase I projects will focus on reduction of seismic and near-term flood risks, Phase I improvements may also include opportunities to enhance both the urban landscape and the bay environment. These benefits may include enhanced open space and elevated parks and plazas, localized soft features such as stormwater gardens, opportunities for improved pedestrian and bike safety, public art, and enhanced views and access to the water.

The Port may also implement ecosystem enhancements, including projects adjacent to the Seawall and along the southern shoreline as well as collaborations with regional ecosystem enhancement projects. Examples of ecosystem enhancements near the Seawall include “living walls” which provide additional marine substrate for the establishment of habitat, hard substrate restoration to enhance oyster habitat, protected wetlands, and tidepools. Together, enhanced public access and nearshore habitat enhancements could provide bay ecosystem educational opportunities to school children and families throughout the Bay Area.

There will be opportunity for ample public input into the Port’s selection of urban and ecosystem improvements.

Project Prioritization

Future Seawall Bond Sales will fund construction of targeted improvements to enhance life-safety seismic resilience and reduce flood risk along the Embarcadero. The Port will select locations and alternatives for Phase I projects based on an engineering evaluation that will strive to reduce risk, enhance reliability and maximize available funding.

To ensure Phase I construction projects focus on the most critical life-safety and flood risk locations along the Seawall, the project will:

- 1. Analyze risks:** Perform a Multi-Hazard Risk Assessment, including analysis of potential loss of life and property damage, to inform impacts of seismic and flood scenarios, including sea level rise.
- 2. Develop design criteria:** Design criteria will incorporate life-safety, seismic, flood, and disaster preparedness factors, consider urban design standards, and ensure compliance with land use policies, environmental and other regulatory requirements.

3. Develop and evaluate alternatives: Options will be developed to reduce seismic and flood risk. The risk reduction benefits of alternatives will be evaluated, along with potential co-benefit opportunities, lifecycle cost, construction impacts, and implementation risk. A wide range of alternatives will be considered including ground improvements to strengthen poor soils and reduce liquefaction risk, reconstruction or replacement of bulkhead walls and wharves, full seawall replacement, and relocation of critical assets and functions.

4. Prioritize Phase I projects based on the evaluation: Alternatives will be evaluated based benefits, costs, and the value delivered to the Port, City, stakeholders, and the community. Phase I projects will prioritize life safety and disaster response capacity. Based on the evaluation of alternatives, projects will be recommended and prioritized. Port staff, in consultation with City, regional, regulatory, expert and community stakeholders, will recommend Phase I safety improvement projects to the Port Commission and will advance projects into design and construction after approval. The remaining projects will be incorporated into subsequent phases of the Seawall Program for future investment.

5. Design and construct Phase I projects: Based on an approved Phase I recommendation, the initial safety improvements will advance into design and construction. This bond sale will advance design to approximately 10% level and fund advancement of all activities. The Port may perform pilot projects to test the viability of certain construction techniques and determine the engineering information needed to complete design work necessary for competitive bidding by contractors. Phase I construction completion is targeted for 2026.

The Multi-Hazard Risk Assessment provides a key tool for development of the overall Seawall Program. The MHRA is designed to evaluate the vulnerabilities and consequences of earthquakes and flooding associated with performance of the Seawall. It will use the latest probabilistic scenarios for earthquakes, flooding, and sea level rise along with state-of-the-art assessment techniques to predict risk of damages to the Seawall and the infrastructure and neighborhoods that it protects. The consequences of the damages will then be measured in categories that matter to the Port, City and stakeholders and will include, among others, direct and



General Investigation Community Engagement



Embarcadero Seawall Community Meeting



Embarcadero Seawall Community Meeting



Embarcadero Seawall Community Outreach

indirect economic damage and disruption, life safety risk, disaster response and recovery capacity, transportation and mobility, historic importance, social disruption, urban fabric and open space, and environmental impacts. The MHRA will also consider the current condition of infrastructure, current capital improvement plans to other infrastructure in the Seawall hazard zone, and opportunities to improve the Embarcadero waterfront.

The Port will use the MHRA results, well-defined evaluation criteria and a wide range of project alternatives to prioritize Seawall projects for construction. Examples of criteria include whether the project meets life-safety goals, improves emergency response, can be completed in a timely fashion, avoids risk, provides community or environmental benefits and minimizes disruption to City residents, businesses and visitors. The evaluation criteria will guide the design process and project selection, steering the Embarcadero Seawall Program toward feasible, effective, and flexible solutions that achieve multiple benefits over time. The Port will continue to refine evaluation criteria as the Seawall Program progresses.

The Port may need to undertake emergency projects to address areas of high vulnerability along the Embarcadero Seawall that require immediate attention. If emergency projects are identified through the Multi-Hazard Risk Assessment, these projects would be undertaken as stand-alone projects to address life safety or emergency response.

The Port will lead a Seawall project prioritization process in collaboration with stakeholders from City departments, the community and regional partners. The City and the Port have many years of experience leading such efforts and will leverage their relationships with a broad range of stakeholders. The Port 's engagement to date has included three community meetings, participation in local community meetings and events, online engagement, and various news articles.

General Investigation (United States Army Corps of Engineers)

The federal government invests in flood protection infrastructure through the United States Army Corps of Engineers (USACE). USACE determines the likely federal interest in flood protection, measured largely by the cost of a project and likely flood damages it will avoid, and, if a potential federal interest is identified, recommends authorization of a new start for a General Investigation (GI) to Congress. Once authorized, USACE partners with the local agency to execute a Feasibility Study. A Feasibility Study is a planning study to determine the extent of coastal flood risk, investigate options to reduce coastal flood risk, determine a course of action (or plan), and complete preliminary design, approvals, and cost estimate on the plan for a project that will reduce risks to the federal interest. Once approved, USACE makes a recommendation to Congress to authorize and fund final design and construction.

The Port has been engaged with USACE for flood protection assistance since 2012, and on August 24, 2018 the Port Commission authorized Port staff to enter into the San Francisco Waterfront Storm Risk Management Study General Investigation with the USACE. The GI has been named the USACE/Port of San Francisco Flood Study (Flood Study). The Flood Study is a key strategy to bring federal funding to the Embarcadero Seawall Program and the Port's entire 7½ mile waterfront.

The agreement the Port executed with the USACE includes a 50/50 cost share to evaluate flood risk to the entire Port, from Fisherman's Wharf to Heron's Head Park, and to develop and evaluate a wide range of project alternatives.

Since its execution, USACE District staff and City staff have reached an agreement in concept – subject to subsequent approval by the Assistant Secretary of the Army – that the Flood Study should be increased from three years to four and half, with costs increasing from \$3 million to \$6 million. The Port expects to use Seawall Bond funding to cover eligible costs related the Flood Study. The Port will identify sources other than the Seawall Bond to fund that portion of the Flood Study that falls outside of the three-mile Embarcadero Seawall.

To date, the USACE and the Port have formed a project team, commenced the Flood Study, and successfully achieved the first major milestone (the Alternatives Milestone Meeting) on December 3, 2018. Provided the USACE identifies a federal interest, the Flood Study will

culminate in a recommendation to Congress to authorize and fund design and construction of a selected plan. Design and construction of the federal plan has a 65 (federal)/35 (local) cost share, with extra costs for a locally preferred plan, if different from the federal plan, paid for by the Port.

Port staff is currently developing strategies to include seismic benefits as part of any USACE project, as well as strategies for the next steps, authorization of projects and appropriating funds for design and construction.



BUDGET,

FUNDING,

AND

EXPENDITURES



Budget, Funding, and Expenditures

The budget for the Seawall Program is \$500,000,000. The following is a breakdown of the 1st Bond Sale fund allocation by categories/components:

	BOND	STATE	PORT	TOTAL
SERVICES PROVIDED	\$50,000,000	\$5,000,000	\$2,120,000	\$57,120,000
Program Management	\$5,907,000	-	-	\$5,907,000
United States Army Corps of Engineers	\$8,875,000	-	-	\$8,875,000
Communications/Public Relations	-	-	\$1,870,000	\$1,870,000
Planning/Engineering/Environmental	\$30,035,000	\$5,000,000	\$250,000	\$35,285,000
Phase 1 - Planning	\$14,965,000	\$5,000,000	\$250,000	\$20,215,000
Phase 2 - Preliminary Design	\$9,020,000	-	-	\$9,020,000
Phase 2 - Pilot Projects	\$6,050,000	-	-	\$6,050,000
City Agencies/Departments/Regulatory Agency Approvals	\$983,000	-	-	\$983,000
Bond Related Costs	\$4,200,000	-	-	\$4,200,000
Reserve for Market Uncertainty	\$2,990,000			\$2,990,000
Cost of Issuance	\$601,290			\$601,290
Underwriter's Discount	\$470,100			\$470,100
CSA Audit Fee	\$91,600			\$91,600
GOBOC Fee	\$47,010			\$47,010



ACCOUNTABILITY MEASURES



The Seawall Bond will include strict standards of accountability, fiscal responsibility, and transparency. In addition to California state bond requirements, the City will undergo a comprehensive public oversight and accountability process. As the City has not yet identified specific projects for the Embarcadero Seawall Program, it will use transparent and responsible oversight procedures for project selection and prioritization.

The following principles apply to all related programs funded through the Seawall Bond:

- **Policy Compliance:** Compliance with the City's policy to constrain property tax rates at or below 2006 levels
- **CGOBOC Audits:** The City's Citizens' General Obligation Bond Oversight Committee (CGOBOC) is responsible for auditing the implementation of the Seawall Bond per the Administrative Code (Section 5.30 to 5.36). Should CGOBOC determine that any funds were not spent in accordance with the express will of the voters, they are empowered to deny subsequent issuances of bond funds.
- **Annual Public Review:** The proposed bond funds are subject to the approval processes and rules described in the San Francisco Charter Administrative Code. The bond will be subject to annual public reviews before the Capital Planning Committee and Board of Supervisors.
- **Bond Accountability Reports:** Per the Administrative Code (Section 2.70 to 2.74), 60 days prior to the issuance of any portion of the bond authority, the Port will submit the Seawall Bond Financial Plan, in the form of a bond accountability report, to the Clerk of the Board, the Controller, the Treasurer, the Director of Public Finance, and the Budget Analyst describing the current status and description of each project and whether it conforms to the express will of the voters.
- **Seismic Peer Review:** A seismic peer review panel composed of academic and industry-leading experts in the fields of earthquake, geotechnical, and structural engineering will provide independent technical oversight of approaches and decisions.
- **Transparency:** Transparent selection criteria and rules, including objective means of prioritizing projects through use of criteria that are identified in the bond and clear rules for funding and scope.
- **Public Updates:** The Port will maintain a dedicated website, sfseawall.com, outlining and describing the Seawall Bond program, progress, activity updates and bond budget, and will include project names and estimated construction schedules once projects have been determined.



BOND

SUMMARY

TABLE

Bond Summary Table

BUDGET SUMMARY	TOTAL PROGRAM BUDGET			PROP A GENERAL OBLIGATION BONDS
	BASELINE BUDGET	CURRENT BUDGET	APPROPRIATIONS*	
Seawall Program Labor	\$18,800,000	\$18,800,000	\$1,381,711	\$18,800,000
Communicatons/Public Outreach	\$3,300,000	\$3,300,000	\$1,071,921	
United States Army Corps of Engineers (CAP103 & GI)	\$8,900,000	\$8,900,000	\$720,000	\$8,900,000
Planning/Engineering/Preliminary Design (35%)	\$38,500,000	\$38,500,000	\$12,397,282	\$37,500,000
Final Design (65%)	\$48,100,000	\$48,100,000		\$46,600,000
Other City Departments and Government Agencies	\$2,400,000	\$2,400,000	\$29,086	\$1,900,000
Design Support during Construction	\$8,400,000	\$8,400,000		\$8,400,000
Pilot Projects	\$39,000,000	\$39,000,000		\$40,000,000
Program Projects	\$332,600,000	\$332,600,000		\$262,900,000
TOTAL	\$500,000,000	\$500,000,000	\$15,600,000	\$425,000,000

*Appropriations, Expenditures, Encumbrances and Balance are based on FSP as on March 2019 and are pre-bond funded. Pre-bond funding will be partially reimbursed after the First Bond Sale.

**State fund source is from a grant that has been awarded but has not yet reimbursed Port expenditures and is not included in the balance.

***Subject to change based on program schedule and needs.

FUND SOURCES			EXPENDITURES/ENCUMBRANCES		
STATE**	CITY***	TOTAL SOURCES	EXPENDITURES*	ENCUMBRANCES*	BALANCE*
		\$18,800,000	\$1,086,062		\$295,649
	\$3,300,000	\$3,300,000	\$889,369	\$154,962	\$27,590
		\$8,900,000	\$720,000		0
\$5,000,000	\$1,000,000	\$43,500,000	\$9,282,734	\$458,392	\$2,656,156
	\$1,500,000	\$48,100,000			
	\$500,000	\$2,400,000	\$29,086		0
		\$8,400,000			
	\$3,700,000	\$43,700,000			
	\$6,000,000	\$268,900,000			
\$5,000,000	\$16,000,000	\$446,000,000	\$12,007,251	\$613,354	\$2,979,395

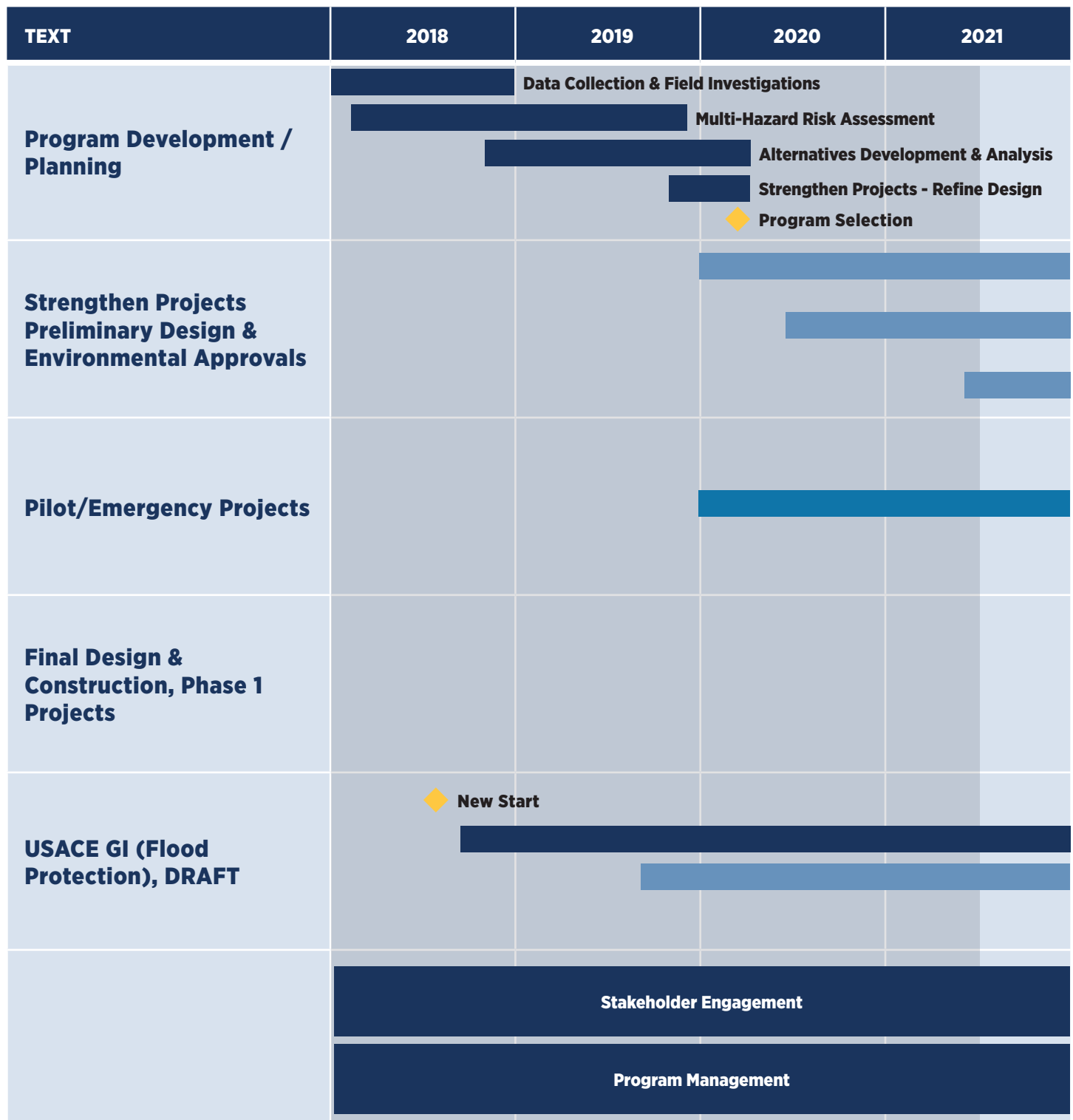
ESTIMATED

SCHEDULE

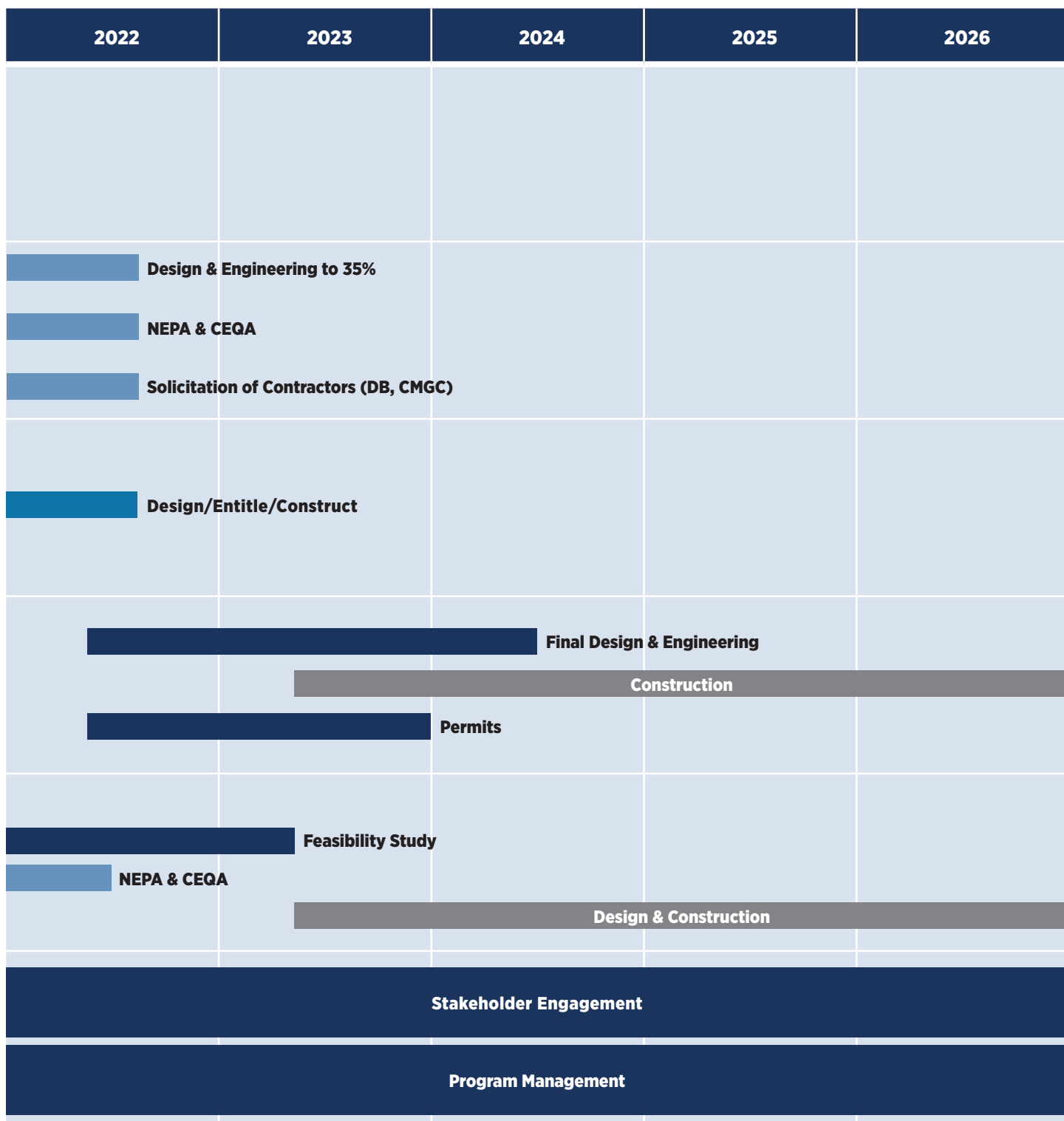




Estimated Schedule



Activities Funded by First Bond Sale



APPENDIX

FIRST BOND SALE SOURCES/USES:

Table 1: Estimated Cost

Table 2: Sources and Uses of \$425 Million





First Bond Sale Sources/Uses

TABLE 1

FIRST BOND SALE \$50,000,000 City and County of San Francisco General Obligation Bonds (Embarcadero Seawall Earthquake Safety, 2018), Series 2019B			
2019B			
Maximum Not to Exceed Amount	\$50,000,000	Estimated Sources:	
Reserve Proceeds	\$2,990,000	Par Amount	\$47,010,000
		Total Estimated Sources:	\$47,010,000
Sources:		Estimated Uses:	
Par Amount	\$47,010,000	Project Fund Deposits:	
Total Sources:	\$47,010,000	Project Fund	\$45,800,000
		CSA Audit Fee	\$91,600
		Total Project Fund Deposits:	\$45,891,600
		Delivery Expenses:	
		Costs of Issuance	\$601,290
		GOBOC Fee	\$47,010
		Underwriter's Discount	\$470,100
		Total Delivery Expenses	\$1,118,400
		Total Estimated Uses	\$47,010,000
		<i>Reserve for Market Uncertainty</i>	\$2,990,000
		Maximum Not-to-Exceed Par Amount	\$50,000,000

Total Bond Sources and Uses

TABLE 2

SOURCES AND USES OF \$425,000,000 EMBARCADERO SEAWALL EARTHQUAKE SAFETY BONDS				
Issuances	1: May 2019	2: June 2020*	3: TBD	Total
Total Sources	\$47,010,000	TBD	TBD	\$425,000,000
Uses				
Project Funds	\$45,800,000			
CSA Audit Fee	\$91,600			
Total Fund Deposit	\$45,891,600			
Cost of Issuance	\$601,290			
Underwriter's Discount	\$470,100			
CGOBOC Fee	\$47,010			
Total Uses	\$47,010,000	TBD	TBD	\$425,000,000

*Tentative second bond sale subject to change based on program schedule and needs.



PORT OF SAN FRANCISCO
Pier 1, The Embarcadero | San Francisco, CA 94111 | T: 415 274 0400