MEMORANDUM

March 7, 2025

TO: MEMBERS, PORT COMMISSION
Hon. Kimberly Brandon, President
Hon. Gail Gilman, Vice President
Hon. Willie Adams
Hon. Stephen Engblom
Hon. Steven Lee

FROM: Elaine Forbes
Executive Director

SUBJECT: Request authorization to advertise one request for proposals for two professional services contracts each with an initial term of 10 years: one contract for the Southern Waterfront, with a not-to-exceed value of $50 million, and one contract for the Northern Waterfront with a not-to-exceed value of $65 million, each contract to advance (1) preconstruction engineering and design of the Flood Study Recommended Plan for coastal flood defenses, and (2) detailed design and design during construction of early implementation actions.

DIRECTOR'S RECOMMENDATION: Approve the Attached Resolution No. 25-13

EXECUTIVE SUMMARY

This report provides an overview of staff's recommendation to advertise one request for proposals for two professional services contracts to advance preconstruction engineering and design of the plan for coastal flood defenses endorsed by the U.S. Army Corps of Engineers (USACE) through the San Francisco Waterfront Coastal Flood Study (Flood Study), collectively, the USACE Recommended Plan or Recommended Plan.

Given the scale of the work, Port staff recommends one contract for preconstruction engineering and design of the Recommended Plan in the Port's northern waterfront from Aquatic Park to China Basin (Northern Waterfront) for up to $65 million with a 10-year term (Northern Waterfront Preconstruction Engineering and Design Contract or Northern

Waterfront Contract). This contract would include detailed design and design support during construction for the Downtown Coastal Resilience Project, an early implementation action for the Recommended Plan that staff has identified with input from USACE.

Staff recommends a second contract for preconstruction engineering and design of the Recommended Plan in the Port's southern waterfront from China Basin to Heron's Head Park (Southern Waterfront) for up to $50 million with a 10-year term (Southern Waterfront Preconstruction Engineering and Design Contract or Southern Waterfront Contract). This contract would include detailed design and design support during construction for one or more early implementation actions for the Recommended Plan in the Southern Waterfront to be identified through the preconstruction engineering and design process.

The attached resolution requests Port Commission approval to advertise one request for proposals (RFP) for the two contracts described above.

Southern and Northern Waterfront Preconstruction Engineering and Design Contracts

Estimated Not-to-Exceed Amount:
Southern Waterfront: $50 million
Northern Waterfront: $65 million

Desired Start Date:
September 1, 2025

Estimated Contract Term:
Initial 10-year term through September 30, 2035, with the opportunity to amend the term and total value based on the needs of the projects subject to further approvals.

Subcontracting Requirement:
15% LBE (including up to 2% SBA LBEs), as set by the Contract Monitoring Division

Funding Sources:
Proposition A Seawall Earthquake Safety Bonds, Port Harbor Funds, Other City Funds, State and Federal Funds

STRATEGIC OBJECTIVES

The Port's Waterfront Resilience Program supports the goals of the Port's Strategic Plan as follows:

Engagement:
By leading an inclusive stakeholder process to develop a shared vision, principles, and goals for the Waterfront Resilience Program and Flood Study. The Southern and Northern Waterfront Contracts would include funds to support a robust public outreach and engagement process.

Equity:
By developing a program-wide equity strategy that is integrated into the Port's Racial Equity Action Plan, focused on centering voices of marginalized communities through robust engagement, developing resilience projects to serve these communities, and ensuring equitable hiring and contracting to support the Program.

- Centering the voices of communities of color, low-income communities, and disadvantaged and historically marginalized communities through robust, meaningful, and inclusive public outreach and engagement.
- Developing, and investing in resilience projects that reduce flood and seismic risk in and around disadvantaged and historically marginalized communities.
- Ensuring equitable hiring and contracting practices and supporting the development of a diverse workforce to design and deliver projects associated with the Waterfront Resilience Program.

The Southern and Northern Waterfront Contracts would include funds to support equity-related work through the design process, including developing equity assessments of project proposals.

Resiliency:
By leading the City's efforts to address threats from earthquakes and flood risk through research and infrastructure improvements to the Port shoreline and adjoining buildings and other infrastructure. These contracts will advance the design of the Recommended Plan, which represents a significant investment in shoreline resilience.

Evolution:
By developing adaptation options with a long-term horizon as well as near-term actions, envisioning strategies to adapt the waterfront and its uses over time, and recognizing that decisions made today influence the options available to future generations who will be addressing different environmental and social conditions. These contracts will include the development of strategies to address near-term flood risk while considering designs for longer-term adaptation.

Sustainability:
By incorporating sustainable infrastructure practices and materials and nature-based features into the Recommended Plan and Early Projects to enhance the quality of the Bay water and habitat.

Productivity and Economic Recovery:
Through the investment of Proposition A Seawall Earthquake Safety Bond funding and other Port and public funding sources, and by developing strategies to defend or floodproof Port maritime and industrial facilities, including replacement of aging Port infrastructure including seawalls and wharves.

REQUEST TO ADVERTISE FOR PRECONSTRUCTION ENGINEERING AND DESIGN SERVICES

At the November 25, 2024, Port Commission meeting, staff presented its recommended contracting strategy to advance Early Projects and the design of the USACE Recommended Plan[1].

The strategy includes Program Advisory Services for a $40 million, five-year contract, with an option to extend for up to 5 years and up to an additional $40 million, to support the Waterfront Resilience Program, including program management and technical advisory/coordination for Early Projects and design of the USACE Recommended Plan. The strategy also includes recommended contracts to advance the USACE Recommended Plan including:

1. An RFP for Planning and Design Services to advance the USACE Recommended Plan in the Southern Waterfront for up to a $50 million, 10-year contract; and

2. An RFP for Planning and Design Services to advance the USACE Recommended Plan in the Northern Waterfront including the Downtown Coastal Resilience Project for up to a $65 million, 10-year contract.

By Resolution 24-54 on November 25, 2024, the Port Commission authorized Port staff to advertise and accept proposals for professional services under a Program Advisory Services Contract for $40 million with an initial term of 5 years[2]. Staff proposes to use that contract to provide program management, environmental review, communications, workforce development, and LBE support services, independent design review, and independent cost estimating and related technical support.

Staff now requests Port Commission authorization to advertise a request for proposals (RFP) for two contracts (the Southern Waterfront Contract and Northern Waterfront Contract) to advance the preconstruction and design of the USACE Recommended Plan (together, the Preconstruction Engineering and Design Contracts).

The Southern Waterfront Preconstruction Engineering and Design Contract would be for up to $50 million with a 10-year term, including detailed design and design support during construction of one or more early implementation action(s) of the Recommended Plan in the Southern Waterfront. Further work with USACE and public engagement is required to identify the location of Southern Waterfront early implementation action(s); flood risk analysis suggests a focus on one or both creeks in this area and/or portions of the Mission Bay shoreline between Piers 50 and 54.

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[1] November 25, 2024 Staff Report: https://www.sfport.com/sites/default/files/2024-11/112524_12a_waterfront_resilience_program_next_steps_and_contracts.pdf

[2] November 25, 2024 Staff Report: https://www.sfport.com/sites/default/files/2024-11/112524_12b_authorization_to_advertise_wrp_program_advisory_contract_rfp.pdf

The Northern Waterfront Preconstruction Engineering and Design Contract would be for up to $65 million with a 10-year term. In addition to advancing the design of the Recommended Plan, the Northern Waterfront contract also includes advancing detailed design and design support during construction for the Downtown Coastal Resilience Project, an early implementation action for the Recommended Plan that is designed to prevent flooding of the underground Bay Area Rapid Transit (BART) and SF Municipal Railway (Muni) systems.

BACKGROUND

The Port has partnered with USACE on the Flood Study, a general investigation of flood risks to the Port's entire 7½ mile jurisdiction. The Flood Study is a planning-level feasibility study that analyzes coastal flood risk from 2040 through 2140, identifies and evaluates adaptation strategies, and includes robust public engagement to inform the development of the Recommended Plan.

In January 2024, the Port and USACE published the Draft Integrated Feasibility Report and Environmental Impact Statement (Draft Report)[3]. The Draft Report describes a system of coastal flood defenses, floodproofing, and water management features to adapt the Port's 7½ mile bayside waterfront to sea level rise over time, with subsequent adaptation actions to respond to higher future water levels (collectively, the Recommended Plan). The proposed solutions are estimated to cost $13.5 billion plus inflation, and, if approved by Congress, the Federal government may pay up to 65% of the construction cost. Cost estimates are preliminary, high-level, and subject to change.

The Port and USACE are working to complete the Flood Study for internal USACE review by mid-2025 and publish the Final Report and Recommended Plan by mid-2026. The Final Report will include an Implementation Strategy that will identify how the plan can be built in phases as funding becomes available over time, including identifying potential early implementation actions.

After identifying the Recommended Plan, the next step is to advance the project design. This phase in the USACE process is known as Preconstruction, Engineering, and Design (PED). During PED, the project team will refine the Implementation Strategy building on additional engineering investigation and analysis and public feedback.

The Port is proposing to begin PED prior to congressional authorization through the Preconstruction Engineering and Design Contracts described in this report.

At the December 10, 2024 hearing, the Port Commission authorized the Port to enter a Memorandum of Understanding (MOU) with the USACE that would enable the Port of San Francisco to potentially earn credit toward a future local-match funding obligation if the

[3] February 6, 2024 Staff Report: https://www.sfport.com/meetings/san-francisco-port-commission-february-6-2024

Port chooses to advance 1) design of coastal flood defenses described in the San Francisco Waterfront Coastal Flood Study including design of early implementation actions, and 2) construction of early implementation actions prior to Congressional approval. (Resolution 24-62). The Port and USACE executed this MOU on February 26, 2025.

PRECONSTRUCTION & DESIGN OF THE USACE RECOMMENDED PLAN AND DETAILED DESIGN AND DESIGN SUPPORT DURING CONSTRUCTION FOR EARLY IMPLEMENTATION ACTIONS

The Preconstruction Engineering and Design Contracts will enable Port and City staff to advance the Recommended Plan up to concept design and associated cost estimate and refine the Implementation Strategy, including phasing and construction sequencing, impacts, and mitigation. This scope builds on previous work done through the Waterfront Plan and the Waterfront Resilience Program (Early Projects and Flood Study) and proposes a set of steps to develop adaptation design principles, program requirements for infrastructure systems, a design framework, design of surface features (transportation, public realm, parks and open spaces, and other facilities), basis of design, and concept design and associated cost estimate for the Recommended Plan.

This work will be done in steps. Primary steps and deliverables for the Preconstruction Engineering and Design Contracts include:

- Step 1: Principles & Program Requirements
- Step 2: Design Framework and Implementation Plan
- Step 3: Concept Design including preliminary cost estimate

At each step, there will be a decision point or “stage gate” to determine which areas if any to progress through the next stage of design and construction. Not all areas will be carried forward to concept design and cost estimate. Some areas will be identified as early implementation actions for more detailed design.

The Preconstruction Engineering and Design Contracts will also enable Port and City staff to advance detailed design of early implementation actions in steps:

- Conceptual Engineering
    - Complete 10% level of design. Establish project baseline budget and schedule. Determine recommended delivery method. Stage gate to determine if the project will progress to Detailed Design.
- Detailed Design
    - Complete design with milestones at 35%, 65%, 95%, and 100% design. Complete full drawings and specifications. Stage gate to determine if the project will progress to construction.
- Construction
    - Design support during construction.

Together with the scale and complexity of this preconstruction engineering and design work, the need for design support during construction is the primary reason for the 10-year term for these contracts.

Since 2022, Port staff have been advancing work on the Downtown Coastal Resilience Project to address immediate flood risk and defend BART and Muni from flooding and have subsequently consulted with USACE as to how to align the scope of this project with the Recommended Plan. A high-level description of the scope of this project is included in Exhibit A.

CONTRACT FUNDING

The two secured sources of funding for the Preconstruction Engineering and Design Contracts are the 2018 Proposition A Seawall Earthquake Safety Bond funding and Port Harbor funds, each appropriated by the Port Commission.

Table 1 shows anticipated funding for the Preconstruction Engineering and Design Contracts through mid-2027:

Table 1: Preconstruction Engineering and Design Contract Funding through mid-2028	
Source	**Amount (millions)**
Proposition A Bond	$50 (1)
Harbor Fund (anticipated)	$0.2
Total	**$50.2**

(1) $30 million of this amount will be dedicated to the design of the Downtown Coastal Resilience Project.

Port staff anticipates future funding for the Preconstruction Engineering and Design Contracts through future Proposition A bond sales, Harbor Fund appropriations, and other sources not yet secured by the Port[4].

The selected firm(s) will provide expertise, standards, processes, comparative data, and systems that facilitate effective deliverables as assigned by Task Order. Table 2 below includes more information about the proposed Preconstruction Engineering and Design Contracts.

[4] When the Port Commission authorized Port staff to execute the original $40 million PEC Contract in 2017, the Port had secured $9.6 million in funding through a combination of the General Fund, Port Capital funds, and contributions from the Municipal Transportation Agency and the Planning Department.

Table 2: Preconstruction Engineering and Design Contracts Terms and Scope of Work	
Contract Name	Preconstruction Engineering and Design Contracts
Amount	Southern Waterfront – up to $50 million Northern Waterfront, including Downtown Coastal Resilience Project – up to $65 million
Duration	10 years
LBE	CMD has set an LBE goal of 15% (including up to 2% SBA LBEs) for these proposed contracts
Contract Type	Task order-based, payable either as a lump sum or per time and materials, depending on the work proposed under each task.
Item	**Scope Description**
1.	**Urban Design and Landscape Architecture.** Develop urban design principles and guidelines to guide waterfront adaptation and design, building on existing plans. Develop urban design, landscape, open space, and public realm concepts for the Recommended Plan, including consideration of the interface between the public realm and built environment and historic structures and assets. Develop design framework and concept design alternatives that serve future populations, activities, and natural systems, while enhancing the waterfront experience, connecting to adjacent neighborhoods, and increasing economic opportunity.
2.	**Seismic and geotechnical engineering.** Develop seismically reliable seawall and wharf replacement strategies, including ground improvements and structural options. Include engineering approaches to raising grades throughout the corridor that are compatible with the seawall and wharf replacement strategies, building on the engineering approaches from the Recommended Plan.
3.	**Cost Estimating.** Develop cost estimates for proposed concept designs.
4.	**Utility and interior drainage program.** Building on interior drainage study and recommendations from the Recommended Plan and system-wide analysis and strategies (work performed under the Program Advisory Services contract), design coastal flood defense and interior drainage systems to manage stormwater and groundwater. This may include identification of upstream opportunities and pilot sites for public realm improvements that reduce stormwater runoff and inland flooding risks (i.e. green infrastructure, floodable and flood-resilient streets, and parcels).
5.	**Engineering with Nature.** Continue development of living seawall, living pile wraps, and specific opportunity sites for nature-based features based on the Engineering with Nature Appendix to the Flood Study. Collaborate with the Regionally Advancing Living Shorelines Project to pilot additional living seawall and green-grey strategies. Consider green infrastructure and EWN features for stormwater management strategies.
6.	**Environmental Investigation Services and Remedial Action Planning.** Understand considerations relating to contaminated sites in the project area. Conduct an as-needed environmental investigation and, in consultation with regulatory agencies, develop alternatives for environmental remediation. Develop a plan approved by regulatory agencies to address site contamination and facilitate project implementation as required for any

Table 2: Preconstruction Engineering and Design Contracts Terms and Scope of Work	
	contaminated sites including disposal of contaminated ground improvement spoils.
7.	**Real Estate, Development, and Maritime.** Develop strategies relating to real estate, development, and maritime needs. Identify opportunities and challenges, including leases, development projects and opportunities, maritime opportunities, understanding of construction impacts and mitigation, tenant needs and relocation, and construction site activation.
8.	**Transportation.** Building on the San Francisco Municipal Transportation Agency's (SFMTA) Embarcadero Connectivity Plan, develop preferred concepts for the multi-modal transportation system that align with an overall design framework and concept plan.
9.	**Early Implementation Actions.** Develop conceptual design and detailed design (35%, 65%, 95%, and 100%) and design support during construction for early implementation actions for the USACE Recommended Plan following USACE-approved procedures and related guidance. See Exhibit A for additional information regarding the Downtown Coastal Resilience Project.
10.	**Funding and Advocacy Support**. Provide support in applying for, securing, and managing grants.
11.	**Workforce Development and Small Business Training.** Provide adult workforce development through internships to prepare participants for engineering and resilience career pathways and provide training to small businesses to prepare them to be better positioned to bid on future WRP contracts.

DESIRABLE QUALIFICATIONS

Subject to further refinement by Finance and Administration contracting staff, staff may request the following information from bidders for the Preconstruction Engineering and Design contracts:

- Experience leading the planning and design of major urban waterfront projects
- Experience working on complex infrastructure planning design projects in San Francisco
- Experience working with USACE, in the study, pre-construction engineering and design, and construction phases
- Experience in leading or supporting multi-stakeholder public outreach and engagement processes relating to the planning and design of public infrastructure projects
- Technical expertise in engineering (geotechnical, structural, civil, water, mechanical), cost estimating, urban design, landscape architecture, cultural resources, constructability, hazardous materials investigation and remedial action design, and nature-based features
- Experience producing construction documents and providing design support during the construction of major waterfront and urban infrastructure projects

Timing and Relationship to Program Advisory Services Contract

To enable teams bidding on Port contracts adequate time to fully compete for various Port contracting opportunities, staff intends to stagger the advertisement of this opportunity after evaluating and recommending a team for the Program Advisory Services Contract, expected in late March or April 2025.

This will allow contractors (primes and subcontractors) to understand the results of the Port's planned competition for the Program Advisory Services Contract and then opt to bid for one or both of the Southern Waterfront and Northern Waterfront Contracts.

Since work under the Program Advisory Services Contract will involve assisting Port staff in the development of scopes for these Preconstruction Engineering and Design Contracts and independent cost and design review of work generated through these contracts, Port will closely evaluate contracts and contractors to protect the Port against conflicts of interest. Prime contractors and subcontractors will also need to evaluate conflicts of interest that would arise by participating in both the Program Advisory Services Contract and these Preconstruction Engineering and Design Contracts.

Subject to Port Commission approval of this resolution, Port staff plan to issue a Request for Proposals in spring 2025, after identification of the highest scoring bidder on the Program Advisory Services Contract with the goal of bringing a recommendation for contract award for the Southern Waterfront Contract and the Northern Waterfront Contract to the Port Commission in summer/fall 2025.

RECOMMENDATION AND NEXT STEPS

Staff recommend approval of this resolution authorizing Port Finance and Administration contracts staff to lead a solicitation process for one 10-year, up to $50 million Southern Waterfront Preconstruction Engineering and Design Contract, and one 10-year, up to $65 million Northern Waterfront Preconstruction Engineering and Design Contract.

Prepared by:	Adam Varat, Program Manager Planning
For:	Brad Benson, Director Waterfront Resilience Program

Exhibit A – High-Level Scope, the Downtown Coastal Resilience Project

PORT COMMISSION
CITY AND COUNTY OF SAN FRANCISCO

RESOLUTION NO. 25-13

WHEREAS, The San Francisco Seawall was constructed more than a century ago and serves as the foundation for more than three miles of San Francisco waterfront (the Northern Waterfront), supporting historic piers, wharves, and buildings including the Ferry Building, and underpinning the Embarcadero Promenade which welcomes millions of people each year, serves as a critical emergency response and recovery area, and supports BART, Muni and ferry transportation and utility networks; and

WHEREAS, The Port's Southern Waterfront includes Pier 48 and 50, areas surrounding Mission Creek, streets and parks in Mission Bay, the Union Iron Works Historic District at Pier 70, the Port's active maritime industrial piers, including Pier 80 and Piers 92-96, and land adjacent to Islais Creek, including 1399 Marin Street; and

WHEREAS, Flood risk maps published by the Port, the City, and the Federal Emergency Management Agency all indicate current and future flood risk associated with King Tides, 100-Year and 500-Year Floods, and sea level rise along significant portions of Port property and areas inland of the Port; and

WHEREAS, Combined flood risk from coastal storms, sea level rise, stormwater, and groundwater rise implicate watersheds and infrastructure systems like the combined sewer system that extend well beyond Port property; and

WHEREAS, On June 7, 2018, the United States Army Corps of Engineers (USACE) awarded the City and County of San Francisco a "new start" study appropriation to commence a General Investigation (GI) feasibility study to examine the Federal interest of possible improvements to reduce flood risk along the San Francisco waterfront (the San Francisco Coastal Flood Study, or Flood Study), as elaborated in the staff memorandum accompanying Resolution 18-46 adopted by the Port Commission on August 14, 2018; and

WHEREAS, Pursuant to Resolution 18-46, the Port Commission authorized the Executive Director to enter into a Feasibility Cost Sharing Agreement (FCSA) with USACE for the Flood Study at a total cost of $3 million over three years, under which the Port as Non-Federal sponsor committed to matching federal funding for the Flood Study in equal proportion, resulting in a $1.5 million Federal funding commitment and a $1.5 million Non-Federal sponsor (Port) commitment; and

WHEREAS, At the November 2018 election, San Francisco voters approved Proposition A, the Seawall Earthquake Safety Bond, a general obligation bond, to fund improvements to the Seawall and other critical City infrastructure; and

WHEREAS, Pursuant to Resolutions 20-24**,** 21-43, and 24-61, the Port Commission authorized the Executive Director to enter a series of amendments to the FCSA with USACE, which increased the total Flood Study funding to $19.2 million with a term of 8 years and 2 months, as described in the staff reports accompanying those resolutions; and

WHEREAS, Through the FCSA, as amended, USACE staff and the Port's Waterfront Resilience Program team have developed a draft plan consisting of coastal flood defenses, floodproofing and water management features to adapt the Port's 7.5-mile bayside waterfront to sea level rise over time, with subsequent adaptation actions to respond to higher future water levels (collectively, the USACE Draft Plan or Draft Plan); and

WHEREAS, On June 28, 2024, senior leaders from USACE endorsed the Draft Plan, making it the USACE recommended plan (Recommended Plan); and

WHEREAS, On February 26, 2025, the Port and USACE entered into a Memorandum of Understanding under Section 221 of the Flood Control Act of 1970, as amended, to enable the City as non-federal sponsor to be eligible for local match credit for advancing preconstruction engineering and design of the Recommended Plan; and

WHEREAS, Port staff seeks Port Commission authorization to solicit proposals for preconstruction and design services for the Northern Waterfront and the Southern Waterfront, through which the Port would pursue (a) preconstruction engineering and design of the USACE Recommended Plan and (b) detailed design and design support during construction for early implementation actions as more fully described in the attached Memorandum to which this Resolution is attached (the Preconstruction Engineering and Design Services Contracts); and

WHEREAS, Contract Monitoring Division staff have reviewed the scopes of work and funding sources for the Preconstruction Engineering and Design Services Contracts, and established a 15% LBE subcontractor participation goal; now, therefore be it

RESOLVED, That the Port Commission hereby authorizes Port staff to advertise and accept proposals for professional services under Preconstruction Engineering and Design Services Contracts; and be it further

RESOLVED, That the Port Commission authorizes Port staff to take further actions in connection with the advertisement as necessary to achieve the purposes described in this Resolution.

I hereby certify that the foregoing resolution was adopted by the Port Commission at its meeting of March 11, 2025.

_____
Secretary

EXHIBIT A
High-Level Scope, Downtown Coastal Resilience Project

As proposed in the memorandum to which Exhibit B is attached, the Northern Waterfront Contract will include scope for the design of the Downtown Coastal Resilience Project (DCRP). The DCRP is integrally tied with the planning of flood protection, seismic upgrades, and open space improvements in the Northern Waterfront. The DCRP is advancing first due to the downtown waterfront stretch facing the most immediate flood risks. The design scope of this project is included with the Northern Waterfront Contract to ensure consistency of planning and design in this area.

Nuisance flooding occurs annually in the Downtown waterfront. A large storm currently has the potential of flooding key facilities and transit assets. In addition, many of the existing wharves, piers, seawall segments, and railings in this area require condition repairs and/or seismic retrofits. The DCRP intends to address flood and seismic risks for the length of the Downtown waterfront from Pier 7 to Pier 22 ½.

Where feasible, Port intends the DCRP to design and construct components of the USACE Recommended Plan, generally in the area south of the Ferry Building to the Bay Bridge. These USACE components consist of coastal flood protection against up to 3.5 feet of sea level rise and full seismic improvements, including ground improvements to resist liquefaction and large lateral soil displacements.

In areas along the downtown waterfront where the USACE Recommended Plan will be constructed at a later date – generally from the Ferry Building north to Pier 7 – there remains a need for near-term improvements to provide interim flood protection and increased structural and seismic reliability until the Recommended Plan for this area can be designed and constructed. Interim flood defenses at the waterfront edge would be designed for protection against up to 1.5 feet of sea level rise. At transit assets (see Item 2 in Table 3), additional protection is required to provide a higher level of flood defense to meet BART standards and to provide for redundant protection of these very valuable transportation systems.

Scope of Work

Provide conceptual design, detailed design, cost estimating, bid/award support, and construction support services for the items in Table 3 below.

Table 3: Scope of Work for the Downtown Coastal Resilience Project

Item	Scope Description
1.	**Existing Condition Analysis:** Advance coastal flood modeling, hydrologic and hydraulic (H&H) modeling (in coordination with the San Francisco Public Utilities Commission and San Francisco Public Works), and seismic evaluations for existing conditions, including additional surveys, investigations, etc.

Table 3: Scope of Work for the Downtown Coastal Resilience Project	
2.	**Deployable transit protection at BART and Muni assets.** Deployable flood protection at any locations of potential water ingress into the underground transit system, including the BART San Francisco Transition Structure (SFTS), Muni Portal at the Embarcadero and Folsom Street, Embarcadero Station entrances, ventilation openings at Market Street, and the Muni building at Don Chee Way and the Embarcadero. Work in partnership with the San Francisco Municipal Transportation Agency and BART.
3.	**Near-term flood protection and seismic upgrades.**: Near-term improvements in location not included in Item 4 below. Near-term improvements are expected to include: floodproofing of seismic joints and utility penetrations; fixed and deployable floodwalls around piers and wharves and outflanking at project ends; local structural strengthening and seismic retrofits of marine structures; promenade regrading; and passive interior drainage management, such as culverts.
4.	**Long-term adaptation components of the USACE Recommended Plan.** Long-term adaptation components based on the USACE Recommended Plan. These improvements are expected to include: bay fill, ground improvement buttress, and elevated promenade at Rincon Park; Engineering with Nature feature; repair, retrofit, and elevation of buildings, such as Agriculture Building and Fire Station 35 to 15.5'; stormwater management improvements such as consolidated storage and/or pumping; expansion of and public realm improvements at existing Rincon Park. Conduct community outreach programs, especially as related to modifications in the Rincon Park area.