SAN FRANCISCO BAY RESTORATION AUTHORITY

Staff Recommendation
October 14, 2022

Heron's Head Park Shoreline Resilience Project, Phase Two

Project No. RA-017
Project Manager: Erica Johnson

RECOMMENDED ACTION: Authorization to disburse up to $796,100 to the Port of San Francisco for Phase Two of the Heron's Head Park Shoreline Resilience Project, which consists of ten years of monitoring and reporting on project performance, in the City and County of San Francisco.

LOCATION: City and County of San Francisco; Measure AA Region: West Bay

MEASURE AA PROGRAM CATEGORY: Vital Fish, Bird and Wildlife Habitat Program.

EXHIBITS

Exhibit 1: Project Location and Site Map

Exhibit 2: July 17, 2020 Staff Recommendation

Exhibit 3: October 8, 2020 Monitoring & Adaptive Management Plan

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RESOLUTION AND FINDINGS

Staff recommends that the San Francisco Bay Restoration Authority adopt the following resolution and findings:

Resolution:

The San Francisco Bay Restoration Authority hereby authorizes the disbursement of an amount not to exceed seven hundred ninety-six thousand one hundred dollars ($796,100) to the Port of San Francisco for Phase Two of the Heron's Head Park Shoreline Resilience Project, which consists of ten years of monitoring and reporting on Shoreline Resilience Project performance as described in the Monitoring & Adaptive Management Plan attached to the accompanying staff recommendation as Exhibit 3. Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Authority the following:

1. A detailed work program, schedule, and budget.
2. Names and qualifications of any contractors to be employed in carrying out the project.
3. A plan for acknowledgement of Authority funding.
4. Evidence that all permits and approvals required to implement the project have been obtained.

Findings:

Based on the accompanying staff recommendation and attached exhibits, the San Francisco Bay Restoration Authority hereby finds that:

1. The proposed authorization is consistent with The San Francisco Bay Restoration Authority Act, Gov. Code Sections 66700-66706.
2. The proposed authorization is consistent with The San Francisco Bay Clean Water, Pollution Prevention and Habitat Restoration Measure (Measure AA).

STAFF RECOMMENDATION

PROJECT SUMMARY:

Staff recommends that the Authority authorize a grant of up to seven hundred ninety-six thousand, one hundred dollars ($796,100) to the Port of San Francisco (Port) for Phase Two of the Heron's Head Park Shoreline Resilience Project, which consists of ten years of post-construction monitoring and reporting on project performance. Heron's Head Park is in the City and County of San Francisco along the Bay shoreline (Exhibit 1).

Heron's Head Park (park) contains a mosaic of shoreline habitats including tidal marsh, mudflats, tidal ponds, rocky intertidal habitat, and various subtidal habitats that support a diversity of San Francisco Bay wildlife (see "Site Description" below). In addition, the park contains an environmental education center (EcoCenter) and a spur of Bay Trail, providing the adjacent communities a unique space for outdoor recreation along a highly industrialized shoreline. The park's shoreline is estimated to have retreated 50 feet since 1998, and one tidal pond is consistently flooded instead of tidally flushed. Tidally flushed ponds are important because they support a diversity of invertebrates, which also provide food for birds. The Heron's Head Shoreline Resilience Project (the project) as a whole will implement nature-based solutions along the Bay shoreline that are designed to prevent habitat loss due to erosion and sea level rise, enhance wetland habitat, provide ten paid internships to members of the adjacent communities, engage the adjacent communities in stewardship of the project area, and monitor and report on project performance for ten years.

Monitoring and reporting on the performance of the project is particularly important given its innovative nature-based design, which was developed in collaboration with staff of the Authority and the Bay Restoration Regulatory Integration Team (BRRIT). The design deviates from traditional shoreline armoring structures that disrupt natural processes. Instead, it implements

"nature-based solutions," which use natural and/or constructed materials to mimic natural features that stabilize and restore the ecological functions of the shoreline.

The project will place coarse sediment to create beaches at the bayward edge of the marshes, and use additional structures, such as rock groynes, large woody debris, and subtidal oyster reef balls, to protect and enhance shoreline habitat. This concept is being tested in several locations around San Francisco Bay. This project will provide information that will be useful to the Regionally Advancing Living Shorelines Project, a collaborative effort funded by the Authority in June 2022, in which the Port is one of the key landowners.

Project Phases

Staff included the Heron's Head Shoreline Resilience Project in the Staff's Recommendation on Projects to be Considered for Funding through Grant Round 2, presented at the June 7, 2019 Governing Board meeting. Staff recommended that the Port receive partial funding of $1,100,000 for habitat enhancement, community engagement, and post-construction monitoring and reporting, with the expectation that the construction of shoreline stabilization elements could be funded by other sources. Securing these additional funds from other grant programs took longer than expected, so staff worked with the Port to break the project into phases (Phase One and Phase Two) and begin Phase One to avoid any further delays.

Phase One: Habitat Enhancement, Community Engagement and Workforce Development

At its June 17, 2020 meeting, the Board authorized $297,000 to implement Phase One of the project (Exhibit 2), to enhance shoreline habitat, implement community workshops and stewardship days at the park, and provide paid environmental internships to ten young adults from the adjacent communities. To complete the work, the Port hired Literacy for Environmental Justice (LEJ), a community-based organization in the Bayview and Hunters Point communities adjacent to the park. LEJ recruited ten interns to participate in their Eco Apprentice internship program. As part of the program, Eco Apprentices are trained in native plant identification and cultivation and help LEJ staff remove invasive Algerian sea lavender and plant 13,220 out of the total 22,700 native marsh plants planned for this phase, including endangered California seablite. They are on track to complete Phase One in Spring of 2023.

By February 2022, the Port acquired all the permits and funds (see PROJECT FINANCING below) necessary to proceed with construction of the shoreline stabilization elements, which are as follows: coarse material beach with rock and cobble groynes; living shoreline elements, including large woody debris placement; and subtidal oyster reef balls. The Port completed a construction bidding process in March 2022, through which they received multiple bids within range of their construction estimate. The Port has selected a contractor from the submitted proposals and has begun construction as of September 2022. Construction is scheduled to finish in January 2023.

Phase Two: Post-Construction Monitoring and Reporting - Current Request

The current request is for Phase Two of the project, which consists of project monitoring and reporting to evaluate project performance. The Monitoring & Adaptive Management Plan

(Exhibit 3), referenced in the Port's permits, requires monitoring, reporting, and adaptive management actions in consultation with permitting agencies for ten years following project completion. This proposed authorization will fund project monitoring and reporting and does not include potential adaptive management actions, which will be implemented by the Port should the need arise. The success criteria and specific monitoring protocols were developed in consultation with the BRRIT. Protocols consist of quantitative and qualitative habitat assessments, photo documentation, and topographic surveys. The specific project performance elements specified in the permits are as follows: performance of the coarse material beach and groynes at reducing shoreline erosion and preserving the tidal marsh and tidal ponds, recruitment of native oysters on subtidal oyster reef balls, establishment of native vegetation in enhanced areas, and evaluation of the habitat created and/or preserved by project elements for bird nesting and feeding. As noted above, monitoring and reporting are valuable components of the project because they will provide insights and lessons learned that can be applied to future projects involving implementation of nature-based solutions to sea-level rise and erosion along the Bay shoreline. Phase Two is anticipated to begin in Spring 2023.

Site Description: Heron's Head Park is owned and managed by the Port. It is a 21.5-acre open space located on a peninsula extending out into the San Francisco Bay from the eastern shoreline of San Francisco. The project area includes approximately 13.5 acres of shoreline habitat, including tidal marsh, mudflats, tidal ponds, rocky intertidal habitat, and various subtidal habitats. Together these shoreline habitats support over 200 resident and migratory birds, several federally or state listed special status species (such as the North American green sturgeon, steelhead, Chinook salmon, and longfin smelt), and federally listed endangered species (Ridgway's rail and California seablite).

The project area is located along a highly urbanized waterfront, adjacent to the Bayview and Hunters Point neighborhoods. The shoreline has experienced years of heavy industrial development, such as the establishment of a shipyard and powerplant. The residents of the Bayview and Hunters Point communities have suffered from the impacts of industrial pollution and racial and class discrimination. This park provides these communities much-needed access to the San Francisco Bay Trail, an environmental education center (EcoCenter), wildlife, and one of the few wetlands in the city.

PROJECT FINANCING

San Francisco Bay Restoration Authority (Phase Two)	**$796,100**
San Francisco Bay Restoration Authority (Phase One)	$297,000
U.S. Fish and Wildlife Service National Coastal Wetlands Conservation Grant Program (via a grant to the Conservancy)	$987,000
California Ocean Protection Council	$1,667,000
California Department of Fish and Wildlife	$1,493,000
Port of San Francisco (the proposed grantee)	$541,000
Project Total	**$5,781,100**

Hanson Aggregates (Hanson) operates a sand and gravel processing facility at the Port's Pier 92, located approximately one mile from the project area. Hanson will donate sediment dredged from central San Francisco Bay to the Port for coarse beach construction. The coarse dredged material is a production byproduct of sifting for the finer, more commercially valuable sand. This is an in-kind donation with a commercial value estimated at $417,000.

CONSISTENCY WITH AUTHORITY'S ENABLING LEGISLATION, THE SAN FRANCISCO BAY RESTORATION AUTHORITY ACT:

See the staff recommendation for Phase One of the project (Exhibit 2) for this information.

CONSISTENCY WITH MEASURE AA PROGRAMS AND ACTIVITIES:

The project will help achieve the *Vital Fish, Bird and Wildlife Habitat Program's* purpose to "significantly improve wildlife habitat that will support and increase vital populations of fish, birds, and other wildlife in and around the Bay" by enhancing shoreline habitat that supports over 200 resident and migratory birds, several federally or state listed special status species (such as the North American green sturgeon, steelhead, Chinook salmon, and longfin smelt), and federally listed endangered species (Ridgway's rail and California seablite). The project will also protect the shoreline habitat for the 30-year life of the project construction elements. Phase Two will consist of monitoring and reporting on these improvements for ten years after the project is completed to evaluate the project's success and develop information and data that can inform development of similar nature-based shoreline projects.

CONSISTENCY WITH MEASURE AA PRIORITIZATION CRITERIA:

1. **Greatest positive impact.** A direct impact of sea level rise in the San Francisco Bay Area is the loss of shoreline habitat due to erosion. A conventional response to shoreline erosion is armoring structures, which disrupt the natural, dynamic processes of the shoreline. The project implements "nature-based solutions" in its design and will protect valuable habitat for wildlife over the 30-year design life of the project. In particular, the project will provide additional habitat for the Ridgway's rail and will plant and monitor California seablite, both of which are federally listed endangered species.

2. **Greatest long-term impact.** The project will enable sea level rise adaptation for the 30-year design life of the shoreline stabilization elements. The reef ball component of the project is expected to provide habitat for fish larvae recruitment and growth of oysters beyond the 30-year design life. In addition, the ten years of monitoring and reporting in Phase Two of the project will benefit the scientific community and public agencies and ensure the lessons of the project can be shared widely for years to come.

3. **Leveraging resources and partnerships.** The project leverages in-kind support and funding from the California Ocean Protection Council, Hanson Aggregates, California Department of

Fish and Wildlife, United States Fish and Wildlife Service, and the Port's own funds (see "PROJECT FINANCING" section above). In addition, the Port has partnered with LEJ and other community organizations to lead community engagement and workforce development, and San Francisco State University's Estuary and Ocean Science Center to assist with workforce development and communication with the scientific community.

4. **Economically disadvantaged communities.** The project benefits the economically disadvantaged communities of Bayview and Hunters Point which are adjacent to the park. These communities are some of the most economically disadvantaged in the City and County of San Francisco and experience environmental burden due to the history of industrial pollution in the area. The residents will be able to enjoy continued access to park amenities and wildlife while using the trails and have opportunities to learn about nature-based adaptations, wildlife, and shoreline habitats as part of the programs at the EcoCenter located in the park.

5. **Benefits to economy.** The project benefits the region's economy by providing jobs in plant propagation at LEJ's Candlestick Point Native Plant Nursery and supporting ten young adults in the Eco Apprentice program, which provides a year-long field training on bay ecology, native plant restoration, invasive plant control, and project monitoring to residents of the Bayview and Hunters Point communities. Gaining these skills and network of professionals will allow the interns to compete for professional jobs in the growing field of habitat restoration.

6. **Engage youth and young adults.** The project is occurring during a period of park and community revitalization events planned for the Bayview and Hunters Point neighborhoods through a community outreach grant authorized by the State Coastal Conservancy on September 6, 2018. The grant currently engages the community in recently enhanced areas of the shoreline at Candlestick Point, India Basin, and eventually, Heron's Head. Also, with initial funding from the Authority (Phase One), the Port and LEJ have provided paid environmental internships to ten young adults from the adjacent communities via LEJ's Eco Apprentice program. Together, they have also engaged with the surrounding communities with the intent to inform, build trust, and receive input on the desired outcomes of the project. Stakeholder groups included in outreach and engagement include the following community-based organizations and committees:
    a. Port Southern Waterfront Advisory Committee
    b. San Francisco Recreation & Parks Department's EcoCenter Advisory Committee
    c. Bayview Hunters Point Environmental Justice Taskforce
    d. India Basin Neighborhood Association
    e. Bayview Hunters Point Mobilization for Adolescent Growth in our Communities "BMAGIC" Parks Collaborative

7. **Monitoring, maintenance, and stewardship.** Phase Two will fund ten years of monitoring and reporting on the project's shoreline stabilization elements and habitat enhancement (see "Phase Two: Post-Construction Monitoring and Reporting - Current Request" above).

8. **Coastal Conservancy's San Francisco Bay Area Conservancy Program.**
    a. The project is supported by adopted local and regional plans including the following: Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (USFWS 2013), North American Waterfowl Management Plan (2012), California State Wildlife Action Plan (2015 update), San Francisco Bay Subtidal Habitat Goals Report (2010), Baylands Ecosystem Habitat Goals (2015 update), San Francisco Estuary Blueprint (2022), The San Francisco Bay Shoreline Adaptation Atlas (2019), and Sediment for Survival: A Strategy for Resilience of Bay Wetlands in the Lower San Francisco Estuary (2021).
    b. Phase Two must be implemented as soon as the construction of shoreline elements is complete, per the terms of the Port's permits. The Port will be ready to start the monitoring program in February 2023.
    c. The project serves the Bayview and Hunters Point neighborhoods in San Francisco and will also share information with the scientific community and public agencies to encourage nature-based solutions at other locations in the San Francisco Bay region.
    d. The project provides opportunities for benefits that could be lost if the project is not quickly implemented as sea level rise is an urgent threat facing San Francisco Bay.
    e. The project leverages funds and in-kind support from multiple agencies (see "PROJECT FINANCING" above).

9. **San Francisco Bay Conservation and Development Commission's Coastal Management Program.** The project is consistent with BCDC's Management Program, including multiple policies of the San Francisco Bay Plan, including the following:

    a. Tidal Marshes and Tidal Flats, Policy 6: The project design is based on analysis of localized sediment erosion and accretion, rates of vegetation colonization, potential for invasive species introduction and control, expected use of the site by fish and wildlife, and resilience to sea level rise and climate change. It includes clear and specific biological and physical goals, success criteria, a monitoring program, and an adaptive management plan.

    b. Tidal Marshes and Tidal Flats, Policy 10: The project design relies on the use of fill, which has been authorized based on scientific ecological analysis and consultation with relevant state and federal agencies.

    c. Tidal Marshes and Tidal Flats, Policy 11: The project is a demonstration project that addresses sea level rise adaptation of bay habitats. It includes appropriately detailed experimental design and monitoring to inform initial and future work.

10. **San Francisco Bay Joint Venture's Implementation Strategy.** The project advances the Habitat Goals listed by the Joint Venture by protecting and enhancing San Francisco Bay's tidal marsh and flats to benefit waterfowl, shorebirds, and other wildlife. The proposed project is listed as a Tier 1 priority project in the Joint Venture's 2019 Priority Projects List.

COMPLIANCE WITH CEQA:

The project as whole (consisting of construction as well as the Authority's Phase One and Phase Two components) is categorically exempt from environmental review under 14 California Code of Regulations Section 15333 because it consists of habitat restoration activities in an area less than five acres, including nature-based shoreline stabilization and revegetation of disturbed areas with native plants. There will be no significant adverse impact on endangered, rare, or threatened species or their habitat, there are no known hazardous materials at or around the project site and, given the scale and methodology, there is no potential for cumulatively significant effects.

Removal of invasive plants and revegetation with native plants is also exempt under Section 15304 as a minor alteration to vegetation without the removal of healthy, mature, scenic trees.

Upon approval of the project, Authority staff will file a Notice of Exemption.