California Regional Water Quality Control Board
San Francisco Bay Region

RESPONSE TO WRITTEN COMMENTS

On the September 24, 2021, Feasibility Study and Remedial Action Plan for the
the Pier 39 to 43½ Sediment Remediation Project
San Francisco

The Regional Water Board received written comments from three parties on the September 24, 2021, Feasibility Study and Remedial Action Plan (FS/RAP) for the Pier 39 to 43½ Sediment Remediation Project in San Francisco. The FS/RAP was distributed for public review and comment between October 20, 2021, and November 19, 2021. The responses were developed by staff in conjunction with representatives of the dischargers, Pacific Gas and Electric Company (PG&E) and the Port of San Francisco (Port). No changes to the FS/RAP are deemed necessary based on comment review and response.

Comments on the FS/RAP were submitted by the following parties:

- Red and White Fleet San Francisco Bay Cruises (RWF) of San Francisco
- Member of Southern Advisory Committee (SAC) of the Port of San Francisco; and
- Aquarium of the Bay at Pier 39 of San Francisco.

The comments are organized by the commenting parties, and the comments are reproduced below in ***bold italics*** *a*nd followed by the response.

RED AND WHITE FLEET SAN FRANCISCO BAY CRUISES (RWF) OF SAN FRANCISCO

Comments were submitted by Joe Burgard, Managing Director of the RWF, on November 2, 2021. The original submitted document can be found at the following link: https://documents.geotracker.waterboards.ca.gov/regulators/deliverable_documents/6496564567/20211101_RWF_Comments%20on%20FS.RAP%20for%20Pier%2045.pdf

Comment 1a: The ongoing use of impacted areas by maritime tenants is contingent on continued vessel operations. While analysis on the impacts of propeller wash and subsequent scouring has been conducted and incorporated into the FS/RAP, it is unclear where future responsibility will lie should the cap or other barriers be disturbed by vessel operations over the remediated areas. Will unforeseen future impacts be considered a failure of the FS/RAP returning the responsibility to the presently responsible party?

Response 1a: The remedy is designed to not be disturbed by vessel operations unless they are aberrational (i.e., inconsistent with the operational use limits discussed with RWF and the Port or negligent or reckless). A Risk Management and Monitoring Plan (RMMP), described in Section 11.2 of the FS/RAP, will be prepared and will describe the steps PG&E will take to monitor the integrity of the cap for a period of at least 5 years after the completion of the remedy. Integrity monitoring will primarily be based on annual bathymetric surveys of the capped areas and vicinity, with supplemental diver or remote sensing surveys, if needed, to further evaluate cap conditions and/or causes of potential cap disturbance.

If the cap is disturbed by non-aberrational vessel operations or natural events (e.g., large storms) or acts of third parties, then the vessel operator will not be responsible for any needed corrective actions. If the cap is disturbed by aberrational vessel operations, then the vessel operator will be responsible.

Comment 1b: Should maintenance dredging become necessary as a consequence of sea level rise or other unanticipated causes, does the FS/RAP include procedures for a tenant to safely conduct such dredging without becoming responsible for previously unaddressed contamination?

Response 1b: The remedy is designed to accommodate foreseeable maintenance dredge extents and elevations (operational use limits) communicated by the Port. The dredge and cap design are intended to remove sufficient sediment below the anticipated maintenance dredge elevations included in the operational use limits (including the allowable 2-foot overdredge). The finished cap surface will be at or below the lowest allowable maintenance dredge elevation by the Port, to mitigate accidental removal of cap material. In addition, the armor layer provides a noticeable demarcation of the remedy extent during future maintenance dredge events. Sea level rise is addressed in Section 5.2.6 and 5.3.5 of the FS/RAP and has been considered in the design of the remedy. The RMMP, described in Section 11.2 of the FS/RAP, will be prepared and will describe the future maintenance dredge extents and elevations within the operational use limits and cap areas. In addition to the required operational use limits dredge notifications, the process of permitting dredge episodes will have to go through the permitting agencies that have jurisdiction, including the Port and the Regional Water Board.

Comment 1c: Guide piles for landing floats have a limited usable life and are susceptible to storm damage which can require sleeving or replacement. How will future pile penetration of the proposed caps and barriers be permitted and what assurances can be provided that unintentional disturbances of contaminated sediments will not shift responsibility to the tenant.

Response 1c: During the design process and preparation of the RMMP, RWF and other Port tenants will be invited to collaborate with PG&E, Port, and Regional Water Board to further understand where the operations of the tenants will impact the remedy, and vice-versa, in order to accommodate anticipated new features, the tenants want to construct, to the extent practicable. Materials used in the cap process (such as the sand, reactive

materials, and armoring) can be moved and replaced after the placement of the cap to accommodate (1) future pile installation, if needed, and (2) adaptive management approaches to address future planned penetrations. The cap is being designed with materials that are relatively common, such that the replacement of the material in-kind will be readily achievable. Notifying, consulting with, and submitting applications to the Regional Water Board, the Port, and PG&E for projects that have the potential to impact or undermine the physical integrity or design performance of the constructed remedy will be required. The process for future communication and disturbance of the cap, once constructed, will be further described in the RMMP. In addition to the required cap disturbance notifications, the process of permitting pile installations will have to go through the permitting agencies that have jurisdiction, including the Port and the Regional Water Board.

Comment 2: ***It is unclear how the FS/RAP addresses tenant improvements requiring pile driving in the remediated areas.***

Response 2: Please see Response 1c.

Comment 3: On completion of the approved remediation, how will the California Regional Water Quality Control Board consider future disturbances of contaminated sediment which, by this plan, are intended to remain in the affected areas?

Response 3: As noted in the FS/RAP, the remedy is designed to prevent future disturbances of contaminated sediment. For example, institutional controls will include measures to (1) provide notice to tenants of the locations and depths of sediments remaining in place with PAH concentrations exceeding the Remedial Action Level, (2) explain to tenants how to prevent the cap from being disturbed, and (3) prescribe the methods PG&E will use to monitor and maintain the cap's integrity and remedy performance. The RMMP will address disturbances of the cap and the remaining impacted sediments. Elements to be covered in the RMMP are further described in Section 11.2 of the FS/RAP.

MEMBER OF SOUTHERN ADVISORY COMMITTEE (SAC) OF THE PORT OF SAN FRANCISCO

Comments were submitted by Karen Pierce, member of the SAC and resident of Bay View Hunters Point, on November 18, 2021. The original submitted document can be found at the following link:
https://documents.geotracker.waterboards.ca.gov/regulators/deliverable_documents/6145963370/20211118_Pier%2039_Pierce_Comment%20on%20Draft%20FSRAP.pdf

Comment 1: The contaminated sediment that is removed should be treated as close to the area it is removed from rather than transported to Bayview Hunters point on the other side of the City, an environmental justice community already overburdened with toxins. The area where the drying is proposed will be near a temporary safe sleeping site for unhoused people from the area, necessitated by the Covid 19 pandemic. Was drying the sediment on the barges considered and, if not, it should be considered as the safest, healthiest, most equitable and environmentally just approach.

Response 1: Regarding the location for sediment handling facility, project proponents acknowledge that the facility is near Bayview Hunters Point on the other side of the City, an environmental justice community already overburdened with toxins.

The use of Pier 96 for dredged material management is not expected to pose a risk to the community and users of the temporary shelter, which are located over a half-mile away from Pier 96. Transportation, dewatering and handling of the sediment at Pier 96 require control measures (controls) for safety and environmental protection such as provisions for regular monitoring for dust and odors, inspections of the facility, controls to reduce dust and odors, and controls to reduce spills, track out of dirt from the facility, and fugitive emissions from trucks. In evaluating health or safety impacts from the sediment transportation and placement, minimal to no impacts were found beyond the footprint of Pier 96 and the previously mentioned controls are required to prevent such impacts.

A system of barges was evaluated for processing of dredged materials over water but was considered infeasible based on logistical considerations, permitting challenges, and safety issues.

Additional background and detailed information on the facility selection and use of a barge system are provided in in the Addendum to Response 1 at the end of this document.

AQUARIUM OF THE BAY

Comments were submitted by Chris Low, Senior Director of Facilities and Life Support Systems for the Aquarium of the Bay, on November 22, 2021. The original submitted document can be found at the following link: https://documents.geotracker.waterboards.ca.gov/regulators/deliverable_documents/6963620841/20211122_Pier%2039_BayEcotarium_Comments%20on%20FSRAP.pdf

Comment 1: After reading the Draft Feasibility Study, we have concerns regarding the aquarium's seawater intake line located on the outside of the East Marina breakwater. This intake provides all makeup seawater for the aquarium's exhibit tanks. Releasing concentrated PAHs into the water during dredging could have

disastrous consequences for our animal collection as the PAHs could be introduced into our system water through our intake line. We strongly recommend Alternative 1 – No Action.

Response 1: The remedy is designed to prevent such consequences during implementation and improve the quality of the post-implementation environment. During construction, a compliance monitoring program will be implemented to guide and monitor the implementation of construction controls and to document conformance with the details provided in the plans and specifications of the remedial design as well as regulatory and permit requirements. Remedial plans currently include the following protective measures:

1. The remedy will not extend beyond the breakwater of the Pier 39 East Basin Marina.

2. A Surface Water Quality Monitoring Plan will be submitted and approved by the Regional Water Board and will describe the procedures and practices to be implemented during dredging and capping and other in-bay activities to protect Bay water quality.

3. During construction, active remediation areas will be surrounded by temporary enclosures including turbidity curtains to minimize the release of resuspended sediment outside the work area. Containment booms and sorbent booms will also be used to contain small floating debris and remove potential sheen.

4. Regular water quality monitoring will be performed to verify effectiveness of temporary enclosures at limiting the spread of visible pollutants (including turbidity and sheen) beyond the construction zone.

5. In the event of water quality observations indicating the temporary enclosures are not effective, work will stop until (a) corrective actions are taken, and (b) the situation has been corrected.

Pre-design studies and subsequent remedial design plans will take into consideration existing site utilities and infrastructure and incorporate mitigation measures as needed. As developed, final design plans for Pier 39 East Basin Marina will be reviewed with Pier 39 LLC and reviewed and approved by the Regional Water Board and Port Engineering.

ADDENDUM TO RESPONSE 1 (MATERIALS HANDLING FACILITY LOCATION)

Additional background and detailed information are provided on the following aspects: facility selection and use of a barge system.

Facility Selection

Based on research performed during the FS/RAP, Pier 96 is the closest available location with suitable space that can be safely used for berthing, offloading, processing, and removing dredged sediment for off-site landfill disposal. The waterfront of San Francisco generally lacks sufficient available space to handle the scope of operations and the volume of material to be generated for this project.

Research for potential dredged material handling properties to evaluate in the FS/RAP included looking at PG&E properties in San Francisco. PG&E Potrero is still undergoing remediation and redevelopment. PG&E Hunters Point does not have adequate water access or physical infrastructure for receiving dredged material, and operations would be closer to residential areas of the community. Both the PG&E Potrero and PG&E Hunters Point properties were excluded as neither available for this project.

Port staff reviewed the project's need for a construction staging and sediment rehandling location and performed an evaluation of potential sites within the Port's 7.5-mile jurisdiction. The Port's evaluation first looked at the possibility of using one of the older historic Northern waterfront piers closest to Pier 39-43.5 project site, such as Pier 45 East, Pier 35, Pier 33, Pier 31, and Pier 23. The Port also looked at the possibility of using Pier 30-32, Pier 48, Pier 54, Pier 68 - along the Central waterfront to South Beach/China Basin, and the Port's Maritime Eco-Industrial Center piers and upland properties between Pier 80 and Pier 96. For each location, staff compiled information from Port Engineering's Rapid Structural Assessment (RSA) Reports which document results of facility inspections, conditions, and the structural rating of marine structures, buildings, and other above grade structures. The Port's evaluation revealed each facility has numerous deficiencies when considering the criteria of a dredge materials handling operation. These deficiencies include facility integrity (deteriorated structural condition and load restrictions on historic piers not designed for high concentrated loads); lack of sufficient space; limitations on road access for hauling vehicles and distance to highways for material transport; and proximity to residential areas and limited ability to route trucks around residential areas. Port staff concluded the newer Pier 96 was the most favorable Port site for construction staging and dredge material handling for the upcoming project needs.

During the FS/RAP both the Port's Pier 96 and the Port of Oakland's Berth 10 (Berth 10) were evaluated against the following considerations for dredged material management facilities: permitting, road accessibility, San Francisco Bay accessibility, acreage, location, and facility integrity. Below are (1) a comparison of the two locations to those criteria and (2) additional considerations relating to the above comments.

- Permitting: Permitting at Pier 96 would include all agencies and stakeholders involved with the permitting requirements related to the staging and material handling activities at the facility. Both the Pier 39-43½ remediation project site and the Pier 96 material handling facility are owned and managed by the Port which allows for greater efficiencies in project permitting, site access, and regulatory oversight of operations. This reduces potential for schedule delays and increases regulatory familiarity with the facility and material being processed. While the Port of Oakland is permitted to operate its Berth 10 Dredged Material Rehandling Facility, using Berth 10 would require, at a minimum, additional permitting for repairs and operations, and coordination with the Port of Oakland and its stakeholders.

- Road Accessibility: Pier 96 is not directly accessible by a major highway but is less than 2 miles from the nearest highway and access to the highway from Pier 96 is primarily through industrially zoned areas. The Berth 10 facility is within 1 mile of both Interstates 80 and 880 and highway access from the Berth 10 facility is also primarily through industrially zoned areas.

- San Francisco Bay accessibility: The Pier 96 location, on the San Francisco side of the Bay, enables any transport vessels and dredge material barges to stay close to the shoreline and not have to cross Bay shipping channels. The Berth 10 location, across the Bay on the east end of the Oakland Outer Harbor portion of San Francisco Bay is less favorable than Pier 96 with respect to water access. While vessel transit distance is similar from Pier 39 to either Pier 96 or Berth 10, transport vessels and dredge material barges to/from Berth 10 would need to navigate through additional Bay ferry traffic, the federal navigational channel and Port of Oakland container vessel traffic, and stronger Bay currents. Transporting dredged material from Pier 39 to Berth 10 and importing clean cap material to Pier 39 from Berth 10 could be hindered by Bay vessel traffic, which may cause schedule impacts and delay completion of remedial activities.

- Acreage: Pier 96 has multiple available berths and approximately 6 acres of available terminal area for use as a material handling facility for the project duration which will reduce project delays. The Berth 10 Facility has restrictions in terms of both the availability and allocation of both berthing and material handling space. According to the Port of Oakland Berth 10 Handling Facility Plan (Regional Water Board, 2013), the total site containment surface area is approximately 4.4 acres, with half designated for multi-user dredge material handling.

- Location: Pier 96 is in an area zoned “Heavy Industrial” and the nearest residentially zoned area is 0.5 miles away. Pier 96 prior uses have included dredge material handling for landfill disposal and for maritime construction staging and materials handling, and it is easily accessible by barge and road. Berth 10 is in an area zoned “Industrial General” and is more than 0.5 miles from the nearest residential zone. Both Pier 96 and Berth 10 are in proximity and access to highways through nonresidential areas. Both locations are adjacent to Environmental Justice communities. The temporary safe sleeping location (Port Seawall Lot [SWL]-344 Temporary Shelter In Place) was established in spring of 2020 as a response to the COVID pandemic and intended to be temporary. The SWL-344 Temporary shelter is located in the Port’s Pier 94 backland area and is 0.5 miles from Pier 96. The FS/RAP incorporates control and avoidance and minimization measures (AMMs), to ensure that the rehandling of sediments will result in less than significant impacts to workers, nearby facilities and nearby communities. The contractor will implement numerous controls and AMMs, including dust and odor controls and air quality monitoring, to prevent exposure to sensitive receptors. Also, the original SWL-344 Temporary Shelter memorandum of understanding (MOU) establishing SWL-344 expiration was contingent on reaching either October 31, 2021, or termination of the San Francisco Emergency Declaration, whichever was later. Since October 31, 2021, has passed, the MOU is expected to remain in effect until the lifting of the San Francisco Emergency Declaration, which is anticipated to occur before the start of construction. Material from Pier 39 is currently estimated to be transported to Pier 96 starting in June 2023.

- Facility Integrity: In addition to providing accessible and sufficient space, Pier 96 is in better condition than the Berth 10 site which requires permitting and completion of structural repairs prior to use. While Pier 96 may require some infrastructure improvements to prepare the leased area for use as a suitable MHF, the improvements would be long-lasting and improve the quality of Pier 96 for future economic development opportunities.

Berth 10 has a total containment capacity of approximately 21,000 cubic yards of material inclusive of material from the Port of Oakland’s and other users’ projects. In addition, the weight capacity of Berth 10 is restricted as stated in the Port of Oakland Berth 10 Rehandling Facility Plan (Regional Water Board, 2013). Based on those restrictions, the amount of material stored would be limited, resulting in a reduced amount of sediment that could be dredged and processed daily.

Evaluating the two facilities against the six considerations showed Pier 96 as the more favorable alternative due to permitting, San Francisco Bay access, useable and available acreage, location in relation to the Pier 39 site, and Pier 96 structural integrity and condition.

Use of a Barge System

In response to the comment whether drying the sediment on barges was considered, a system of barges was evaluated for processing of dredged materials over water, but was considered infeasible for the following reasons:

- Logistics:
    - There would be an increased footprint and visibility in the Bay area and increases in vessel traffic to, from, and in support of an offshore dredge material handling operation.
    - A system of barges would not eliminate the need for upland staging locations for clean cap materials and to offload processed material. An upland location would still be required to offload material for transport and disposal to upland landfills.
    - There would be an increased need for locations and procurement of operational platform barges potentially exceeding Bay Area and West Coast availability.
    - With an increased number of barges, there would be an increased need for mooring locations and installation of dolphins or other anchor points.
    - There would be increased need for transport vessels and fuel consumption for laborer and operator travel to the offshore stabilization operation.
    - Scows transporting material would be filled with material for longer periods of time during stabilization efforts, necessitating even more scows to be available for removal operations and potentially exceeding local availability.
    - Power generation for an on-water treatment system may prove difficult. This may require sediment dewatering barges to be close to the transloading facility, adding to logistical challenges.
    - There would be limited availability to troubleshoot/replace equipment during unplanned operational shutdown(s).
    - Having material processing on water adds new potential for operations shutdown (e.g., rough waters).
- Permitting – Additional permitting issues may include:
    - The United States Army Corps of Engineers (USACE) has regulatory authority under Section 10 of the Rivers and Harbors Act (RHA, 33 USC §403) and must issue a USACE permit for any semi-permanent obstacle

or obstruction to navigation in any navigable water of the United States. https://www.spn.usace.army.mil/Missions/Regulatory/Permitting/. The Bay is a navigable water of the United States, and USACE may find that an on-barge MHF for this Project would constitute a semi-permanent obstacle or obstruction to navigation. If so, the permitting process would trigger additional review under the: National Environmental Policy Act (NEPA, 42 U.S.C. §4321 et seq.), which would involve additional analysis of alternatives (as required by section 102(2)(E) of NEPA), which could lead to a rejection of the barge alternative in favor of an upland alternative because of the former's impacts on navigation and other factors.

- Magnuson Stevens Fishery Conservation and Management Act (MSA, 16 USC §§1801 et seq.), requires an assessment of shading impacts on essential fish habitat, which, again, could lead to the rejection of the barge alternative in favor of an upland alternative. See Attachment A of this document: https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2018/January/Overwater/R2-2018-0009_SFB_Overwater_structures_WDRs.pdf ["Given the significant alteration of existing shoreline and shallow water habitats in some regions of San Francisco Bay, all overwater structures should be water dependent (e.g., could not be constructed over land). Proposed projects should clearly explain their water dependency and why the project is in the public's best interest."].

- The Regional Water Board has authority pursuant to California Water Code §§13260 and 13263 and requires a Waste Discharge Requirements order for the construction and maintenance of overwater structures, including floating docks. See https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2018/January/Overwater/R2-2018-0009_SFB_Overwater_structures_WDRs.pdf. The Regional Water Board may find that an on-barge MHF for this Project would constitute a floating dock. If so, the Regional Water Board would likely assess shading impacts and could require compensatory mitigation, for unavoidable loss of waters of the State. Compensatory mitigation for loss of Bay waters is difficult, if not impossible, to find. Mitigation regarding other water quality parameters could also be required. These measures would be somewhat novel as this method of material handling is not industry standard.

- The Bay Conservation and Development Commission (BCDC) administers the McAteer-Petris Act (California Government Code §§66600 et seq.), including §66632(a), which states "Any person or governmental agency wishing to place fill …within the area of the commission's jurisdiction shall secure a permit from the commission…. For purposes of this title, "fill" means structures floating at some or all times and moored for extended periods." BCDC may find that an on-barge MHF for this Project would

require additional review under this Act. The Act authorizes BCDC to issue permits “only when no alternative upland location is available” [§66605(b)]. Where an upland alternative is available, BCDC is authorized to deny the permit §66604.

- Safety:
    - Time spent working on water would be increased significantly, thus increasing risk (to personnel, equipment, and the Bay environment).
    - Distance and time to emergency services would be increased for a significant number of laborers and operators.
    - Removed contaminated sediment would be transferred from the dredge location (in water) to a processing barge over another section of water, creating a greater opportunity for spills/releases of sediment into the Bay.
    - There would be a much greater chance of introducing dewatering and drying agents into Bay.
    - There would be potential for additional navigation obstructions to commercial and private vessels due to locating a much larger footprint of barges on the water, which could be a safety concern.