



MEMORANDUM

August 5, 2022

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

FROM: Elaine Forbes 
Executive Director

SUBJECT: Informational presentation on PG&E Pier 39 to Pier 43½ Offshore
Sediment Remediation Project

DIRECTOR'S RECOMMENDATION: Information Only – No Action Required

EXECUTIVE SUMMARY

On March 26, 2019¹ and October 27, 2020², Port of San Francisco (“Port”) staff provided the Port Commission informational presentations on a Pacific Gas & Electric Company (“PG&E”) project to remediate contaminated sediments in the Bay between Pier 39 and Pier 43½ in Fisherman’s Wharf. This staff report provides a project status report to the Port Commission and public on the Remedial Action Plan (“RAP”) that PG&E is implementing in compliance with requirements of the San Francisco Bay Regional Water Quality Control Board (“Regional Water Board”) with Port cooperation and oversight (at PG&E’s cost).

PG&E and its predecessor entities formerly operated the Beach Street Manufactured Gas Plant (“MGP”) in the block bounded by Beach, Jefferson, Mason, and Powell Streets at what was historically the waterfront. The area extends into Port jurisdiction, including land and offshore areas adjacent to the former Beach Street MGP, where polycyclic aromatic hydrocarbon (“PAH”) contaminants are known to be present in the

¹ [March 26, 2019 Staff Report](#)

² [October 27, 2020 Staff Report](#)

sediment. In 2011 and 2013, elevated PAH concentrations were measured in sediment samples collected from the Pier 39 Marina. As a result, the Regional Water Board required PG&E and the Port to investigate sediment contamination.

Between 2015 and 2019, PG&E investigated contamination in sediment between Piers 39 and 45 and in upland soil and groundwater. In January 2020, PG&E submitted the *Final Remedial Investigation Report* (“RI Report”) to the Regional Water Board. The investigations found that PAH contamination is present in sediment from Pier 39 East Basin to Pier 43½, extending from the shoreline to approximately 1,000 feet offshore (see Exhibit A – Project Site Plan). The Water Board issued an Order in June 2020 and in compliance with the Order’ PG&E developed and submitted the *Draft Feasibility Study and Remedial Action Plan* (“Draft FS/RAP”) to the Water Board in October 2020.

Since we last reported to the Port Commission on October 27, 2020, PG&E, with Port cooperation and oversight, has continued to respond to the Regional Water Board Orders, and has achieved the following project milestones:

- *Final Feasibility Study/Remedial Action Plan, Pier 39 to Pier 45 Investigation*, October 2021.
- *CEQA Initial Study/ Mitigated Negative Declaration for the Pier 39 to Pier 45 Site*, October 2021.
- Regional Water Board Adopted the *CEQA Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program for the Pier 39 to Pier 45 Site*, February 2022.
- Regional Water Board issued an Order approving the Final FS/RAP and Site Cleanup Requirements, February 2022.
- Stakeholder Engagement in 2021 has included:
 - Pre-permit project application meetings with regional, State and Federal permitting agencies.
 - Informational presentation and discussion at Northern Advisory Committee (“NAC”) September 15, 2021 meeting which included Fisherman’s Wharf tenants.
 - Informational presentations and discussions at the Southern Advisory Committee (“SAC”) October 27 and December 8, 2021 meetings.
 - Project progress and review meetings in October 2021 and May 2022 with Pier 39 LC, Blue & Gold Fleet, and Red & White Fleet staff.

This staff report provides an update on the approved sediment remediation plan, stakeholder engagement and outreach, agency permitting, the construction schedule and pre-construction planning. PG&E staff are working to prepare final engineering plans and specifications for the remediation, with the goal to remediate the contamination as quickly as possible while minimizing impacts to the Port and tenant

operations and the environment. The remediation currently is anticipated to occur over a five-year period during June through November of each year from 2023 through 2027.

STRATEGIC OBJECTIVE

PG&E's Pier 39 to 43½ sediment remediation project, with coordination and oversight by the Port, support objectives of the Port's Strategic Plan as follows:

- **Productive** - Attract and retain tenants that build an economically viable Port. PG&E is the primary party legally responsible for cleaning up the project site sediment contamination that would, if not remediated, make the Port and tenant' dredging more expensive due to increased characterization and disposal costs of contaminated sediment.
- **Sustainability** - Practice environmental stewardship to protect the Bay. Remediation of contaminated sediment will reduce risk to water quality and marine life in the Pier 39-43½ area and aid in protecting the Bay and its ecosystems.
- **Engagement** – Involve and inform tenants and stakeholders to strengthen understanding and support of this complex multi-year remediation project. Collaboration and support to inform and involve regional, State and Federal agencies to establish site clean-up requirements, required environmental protection and monitoring plans, including those protecting community health.

BACKGROUND

As detailed in the March 26, 2019 and October 27, 2020 Staff Reports, PG&E and its predecessor entities formerly operated the Beach Street Manufactured Gas Plant ("MGP") in the block bounded by Beach, Jefferson, Mason, and Powell Streets, at what was historically the waterfront. In 1900, the San Francisco Coke and Gas Company acquired the property and began coke and coal gas production. In 1904 or 1905, the plant was purchased by the Standard Oil Company and converted to carbureted water and oil gas works. PG&E purchased the Beach Street MGP in November 1911 and operated it until 1931. Natural gas became available in San Francisco and gas manufacturing ceased at this location, although the gas holders and oil tanks were reportedly used to the mid-1950s, when the property was sold.

The gas holder and oil tanks were subsequently dismantled, and in 1963-1964 the former MGP site at 250 Beach Street was developed into a motel with retail and restaurant facilities. In 1997-1999, construction of a four-story hotel addition at 250 Beach Street site prompted remediation including removal of contaminated soil, installation of a vapor barrier under the new hotel to mitigate potential impacts from underlying residual contamination.

In 2010, PG&E began its voluntary MGP cleanup program, under the oversight of the California Environmental Protection Agency – Department of Toxic Substances Control

(“DTSC”), to investigate residual contaminants from MGP plants formerly located in San Francisco’s Marina and Fisherman’s Wharf Districts, including the Beach St MGP. Since 2011, PG&E has investigated soil, gas, and groundwater contamination from the former MGP plants under a Voluntary Cleanup Agreement with the DTSC.

Remedial Investigation, Pier 39 to Pier 45

In 2011 and 2013, the Pier 39 Marina tenant found elevated PAH concentrations in sediment samples collected to support Pier 39’s application for a permit to dredge the Pier 39 Marina East and West Basins. As a result, the Regional Water Board required additional studies and, in August 2017, issued an Order to PG&E (as the former operator of the nearby Beach St. MGP site suspected to be the source of the PAH contamination) and the Port (as the property owner) to investigate the nature and extent of sediment contamination in the Pier 39 East and West Basins.

From 2016 through 2019, PG&E completed site investigations and submitted the *Final Remedial Investigation Report* (“Final RI Report”) to the Regional Water Board in January 2020 describing activities completed and data collected in the offshore area. During the course of the investigation, the “Investigation Area” (**see Exhibit A**) was expanded to encompass the intertidal and subtidal areas between Pier 39 East Basin and Pier 43½, extending from the shoreline to approximately 1,000 feet offshore. The Final RI Report presents a comprehensive data set, documents the extent of PAH-impacted sediment in the investigation area, and conclusions about impact to San Francisco Bay.

In June 2020, the Regional Water Board conditionally approved the Final RI Report and ordered PG&E to study feasibility of potential remedies to address the contamination and develop a remedial action plan. PG&E submitted the *Draft Feasibility Study and Remedial Action Plan* in October 2020.

While PG&E’s January 29, 2019 notice of Chapter 11 bankruptcy case resulted in a pause in work, by March 2019, PG&E resumed work and has continued to complete project milestones as noted above. PG&E exited Chapter 11 bankruptcy on July 1, 2020, after implementing the financial restructuring plan that was previously approved in court and by state regulators.

In addition to meeting the site investigation and remedial action planning requirements under both Water Board and DTSC orders, PG&E also continues to investigate contamination and develop remedial plans on other City properties as required under the Revised Consent Decree Between the Plaintiff San Francisco Herring Association and Defendants (PG&E), Case No. 14-cv-04393 WHO (JCS), filed Sept 27, 2018.

Final Feasibility Study and Remedial Action Plan, Pier 39 to Pier 45

PG&E addressed Water Board comments on the draft and submitted the *Final Feasibility Study and Remedial Action Plan* (“Final FS/RAP or Cleanup Plan”) to the Regional Water Board on September 24, 2021. A thorough engineering evaluation

conducted as part of the FS concluded that dredging and capping is the recommend remedy. The RAP detailing the remedy was then developed in coordination with the Port, its tenants, and other regulatory agencies. The Final FS/RAP evaluated remedial alternatives to remove or manage sediment contaminated by PAHs to protect human health and the environment.

The FS recommended remedial Alternative 2, to dredge, cap, and perform post construction monitoring and institutional controls in five remedial areas located within Pier 39 to 43½ (**see Exhibit B – Remedial Response Areas A through E**). The total estimated cost for PG&E to implement Alternative 2 is \$211,853,000. This estimate is based on 2020 equipment, material, and labor unit pricing, and does not include legal fees, continued negotiations, or agency oversight.

Area A: Pier 43½ offshore area

Area B: Pier 43 offshore area which includes two subareas (B1 and B2)

Area C: Pier 41½ offshore area (C2) and the area under Pier 41½ (C1)

Area D: Pier 39 West Basin

Area E: Pier 39 East Basin

Institutional Controls (“ICs”) are administrative and legal measures that a property owner can take to minimize exposure to contaminants and protect and maintain long-term effectiveness of a remedial action. ICs at the Pier 39 to 43½ remedial areas could include restrictions on the use of anchors in select areas, creation of no-wake zones, and limits to future maintenance dredging beyond the currently anticipated remedial area dredge limits. ICs would be implemented in areas where sediment impacts are capped or sediment with PAH concentrations exceeding the remedial action limit remain in place underneath existing sediment.

The preferred remedial Alternative 2 is designed to maintain a layer of clean natural sediments or cap material, either of which serves as a protective barrier between the bay and the surface sediments that support aquatic organisms and the contaminated sediment that will remain at deeper depths. ICs and post construction cap monitoring would ensure that the constructed remedy remains protective.

California Environmental Quality Act Initial Study, Mitigated Negative Declaration

The Regional Water Board, as lead agency for the project, prepared an *Initial Study, Mitigated Negative Declaration for the Pier 39 to Pier 45 Site* (“IS or “MND”) in October 2021. The MND evaluates potential environmental impacts that could result from the remedial action and specifies measures that must be taken to mitigate those potential impacts. The Mitigation Monitoring and Reporting Program (“MMRP”) resulting from this process will ensure that mitigation measures in the approved MND are implemented.

The Regional Water Board issued a Fact Sheet inviting the public to comment on the FS/RAP and a Notice of Intent (“NOI”) inviting public comment on the environmental findings contained in the IS and MND from October 20 to November 19, 2021.

On February 9, 2022, the Regional Water Board adopted the MND and MMRP, finding that they reflect the independent judgment and analysis of the Regional Water Board and that there is no substantial evidence that the project will have significant impacts, if mitigated in compliance with the MMRP. The IS/MND, MMRP, and all supporting documentation are available at the Regional Water Board’s office and on the Water Board’s publicly accessible GeoTracker site, <https://geotracker.waterboards.ca.gov>.

Regional Water Board Order R2-2022-0008, effective February 9, 2022

On February 9, 2022, the Regional Water Board issued Site Cleanup Requirements (Order R2-2022-0008) to PG&E and the Port for the submerged land between Pier 39 to Pier 43½. The Order names PG&E a “Discharger” because of substantial evidence that it discharged pollutants to sediment, and names the Port as a Discharger because it owns property, has knowledge of the discharge or the activities that caused the discharge, and has the legal ability to control the discharge. Issuance of this Order indicates the Regional Water Board’s determination that the proposed remedial action is accepted as the preferred remedy and that the contaminated sediments pose potential hazards to fish and other marine organisms and Bay ecology, but do not pose hazards to humans.

The remedial action will maintain a layer of clean natural sediments or cap material, either of which serves as a protective barrier between the bay and the surface sediments that support aquatic organisms and the contaminated sediment that will remain at deeper depths. The proposed remedial action is designed to accommodate current and future vessel operations and enable future maintenance dredging to meet tenants’ needs. Once completed, remediation will have cleaned up the site and will not interfere with maritime operations.

The Regional Water Board will enforce PG&E’s implementation of the MMRP required under the site cleanup Order. Other mitigation measures will be required as conditions of the permits that PG&E must obtain before beginning remediation work. **Exhibit C - Mitigation Monitoring and Reporting Program** provides a copy of the required mitigation measures, the party responsible to implement each measure, and the time during which each mitigation measure must be implemented.

PG&E and the Port are also required to develop a Risk Management and Monitoring Plan (“RMMP”), subject to Water Board approval, that will specify the on-going post construction cap monitoring and IC’s that will ensure that the constructed remedy remains protective over time.

STAKEHOLDER ENGAGEMENT AND OUTREACH

Port staff are working in collaboration with PG&E and the Regional Water Board to finalize the engineering plans and specifications and environmental protection and monitoring plans, including those protecting community health. The Port is focused on ensuring that construction minimizes impacts to Port and tenant operations and community uses in the project areas. To that end, Port staff continue to work with PG&E to schedule and meet with Port tenants who will be directly impacted during construction.

Port and PG&E held project progress meetings in 2020 and 2021, and scheduling monthly meetings with Red & White Fleet, Pier 39 LC, and Blue and Gold Fleet staff to review and discuss remedial design plans, construction methods and equipment and remediation schedule, and how to minimize temporary interference with tenant and Port operations during remediation. PG&E is also working directly with the Port, Pier 39 LC, and Red & White Fleet under Cost Agreements for reimbursement of incremental costs associated with impacts due to the contamination.

As noted above, the Regional Water Board public review process included circulating and inviting the public to comment on the FS/RAP from October 20 to November 19, 2021, and on the environmental findings contained in the IS and MND in compliance with CEQA and applicable regulations.

Port staff provided public notice and coordinated informational presentations by PG&E, the Regional Water Board and Port staff to the Northern Advisory Committee in a September 2021 meeting, and to the Southern Advisory Committee in October and December 2021 meetings. As a result of SAC stakeholder feedback on concerns about potential environmental justice and public health impacts from PG&E's proposed dredge rehandling operations at Pier 96, as well as the critical path project schedule, PG&E withdrew an application to lease portions of the Pier 96 wharf and terminal areas for marine materials staging and dredge material rehandling operations. PG&E is now pursuing permitting of the construction staging and dredge rehandling operation at a site in Antioch, CA.

AGENCY ENGAGEMENT AND PERMITTING

All PG&E work on the Pier 39-43.5 project has undergone extensive review by the Regional Water Board, and other state and federal regulatory agencies (SF Bay Conservation and Development Commission, US Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Wildlife), as well as Port staff and technical consultants to the Port.

To implement the planned remediation, PG&E must obtain the following project permits:

- 1) Federal Clean Water Act Section 404 and Rivers and Harbors Act Section 10 permit from the U.S. Army Corps of Engineers;
- 2) Clean Water Act Section 401 Water Quality Certification from the Regional Water Board
- 3) California Department of Fish and Wildlife Incidental Take permit
- 4) San Francisco Bay Conservation and Development Commission (BCDC) permit pursuant to the McAteer-Petris Act

These permits will require PG&E to take measures to avoid or minimize environmental impacts and compensate for fill in the bay and disturbance to bay habitat. PG&E staff are actively engaged in discussions with these regulatory agencies to finalize plans, establish environmental protection measures that meet regulatory requirements, and obtain the required agency authorizations and project permits by early 2023.

REMEDIAL ACTION PLAN IMPLEMENTATION AND CONSTRUCTION SCHEDULE

PG&E in coordination with the Port, has developed an Updated Remediation Project Design & Construction Schedule (**see Exhibit D**). Due to the complexity of the project, including but not limited to obtaining the above project permits, pre-construction planning for contractor site access, and the need to temporarily relocate tenant vessel operations most impacted during construction, the remediation project will be conducted in stages by area.

The Regional Water Board Order requires a remediation workplan for each of the five remedial areas governing each stage. The Order also requires a workplan for the operation of the offsite materials handling facility proposed for Antioch, CA. Each workplan must be acceptable to the Regional Water Board Executive Officer and approved in writing.

As summarized below, construction would begin in 2023 and continue over a 5-year period between 2023 and 2027, during June through November (to meet seasonal restrictions on work-in-water). While PG&E's plan is to complete remediation during one year for each area, ultimately, the quantities of dredging and capping and logistical constraints for each area will dictate the construction duration for each phase/area.

Remediation Construction Schedule for the Pier 39 to Pier 43½ Offshore Sediment Remediation Project		
Year	Remedial Area	Tenant Leaseholds Temporarily Impacted During Remediation
2023	Area A: Pier 43½ offshore area	Red & White Fleet
2023	Area B: Pier 43 offshore area which includes two subareas (B1 and B2)	Red & White Fleet, Blue & Gold Fleet, Port
2024	Area C: Pier 41½ offshore area (C2) and the area under Pier 41½ (C1)	Blue & Gold Fleet, SF Bay Ferry
2025	Area D: Pier 39 West Basin	Blue & Gold Fleet, Pier 39 LC
2026-2027	Area E: Pier 39 East Basin	Pier 39 LC, East Harbor Marina

Port staff expects to return to the Port Commission in Fall 2023 with a progress report on PG&E’s remediation of Area A (Pier 43½) and Area B (Pier 43) and updated plans and construction schedule for remediation of the remaining three areas.

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ATTACHMENTS

- Exhibit A: Project Site Plan
- Exhibit B: Remedial Response Areas A through E
- Exhibit C: Mitigation, Monitoring and Reporting Program
- Exhibit D: Updated Remediation Design & Construction Schedule

Exhibit A: Project Site Plan

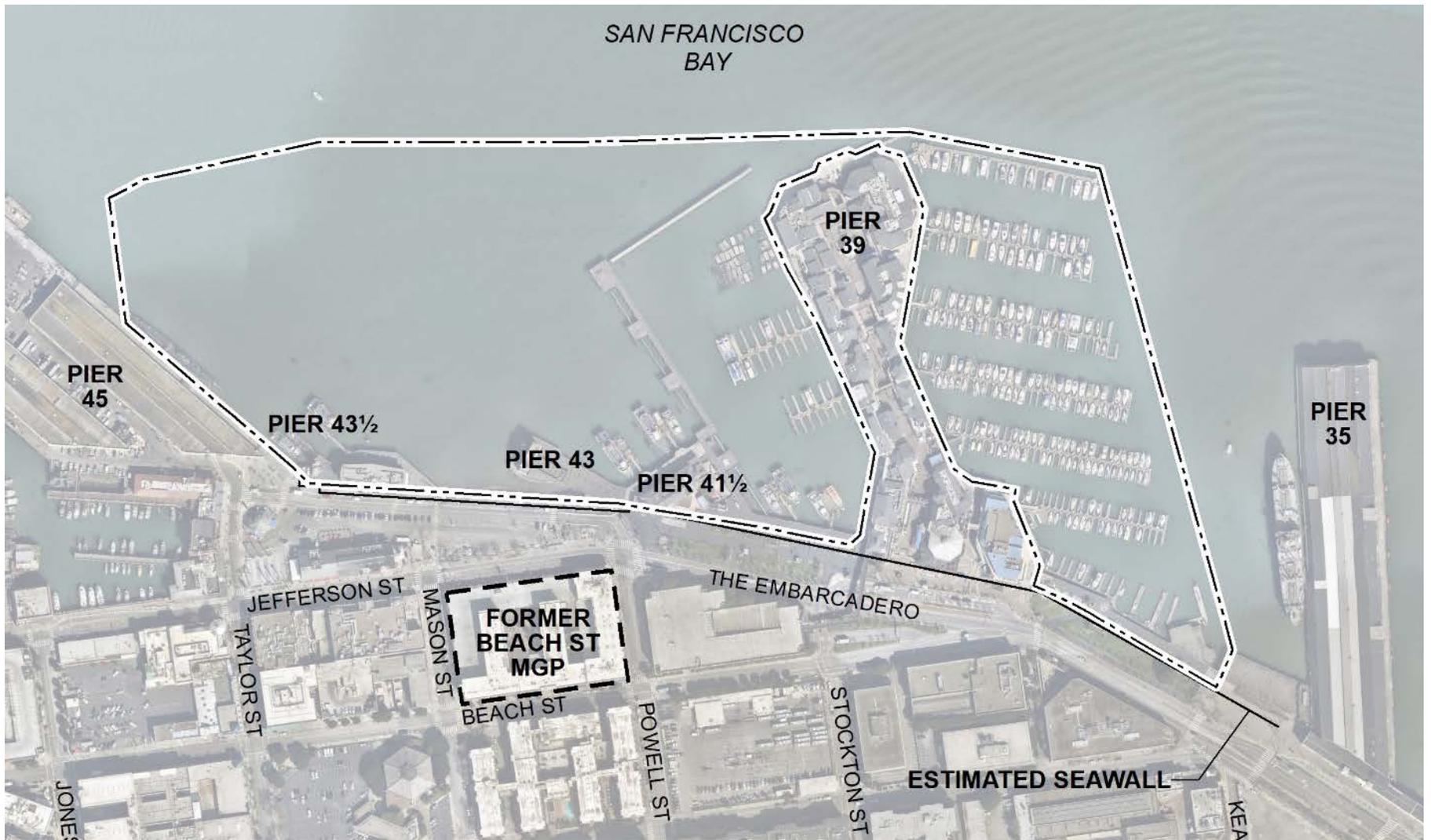


Exhibit B: Remedial Response Areas A through E



Exhibit C: Mitigation, Monitoring and Reporting Program

Table 1. Mitigation Monitoring and Reporting Program, Sediment Remediation Project, Piers 39 to 43½

Environmental Impact	Mitigation Measure	Responsible Party	Timing
<i>Biological Resources</i>			
Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	BIO-1A: In-water work activities may not be conducted during the December 1 to March 15 Pacific herring spawning season. As the spawning season approaches (month of November), a trained biologist shall monitor the waters within a specified distance of in-water Project activities for spawning event indicators (e.g., presence of milt in the water, active surface predation of herring by birds or marine mammals) and/or conduct herring egg surveys. If required, work shall be stopped if a spawning event is detected in the immediate vicinity of in-water work and shall not resume until spawning has ended and herring embryos have hatched.	PG&E	Monitoring will commence in November and will continue until December 1 when the in-water work ends.
	BIO-1B: A hydroacoustic assessment shall be completed to determine which construction activities may produce sounds levels that could result in take of listed fish species. Based on assessment findings, appropriate measures (e.g., sound attenuation or work window restrictions) shall be incorporated into project authorization requests. All avoidance measures, monitoring, reporting, timing, and work limit requirements established within the agency consultation and/or authorization shall be fully implemented. Any identified compensatory mitigation shall be completed consistent with agency consultation and authorization requirements.	PG&E	The assessment will be completed prior to the start of in-water remedial activities.
	BIO-2: Project activities that could impact nesting birds will be scheduled to greatest extent practicable to avoid the nesting season (February 1 to August 31). If it is not possible to schedule such activities to occur between September 1 and January 31, a pre-construction nesting bird survey of all suitable nesting habitat within the zone of influence shall be conducted by a qualified biologist within 7 days prior to commencement of construction activities, scheduled to occur within the nesting season. The zone of influence would include the area immediately surrounding the work location that supports suitable nesting habitat that could be affected by the Project due to visual or auditory disturbance associated with construction activities scheduled to occur during the nesting season. If no nesting birds are observed during the survey, construction activities may commence as planned. If nesting birds are observed during the survey, the qualified biologist shall review results with the Project sponsor and contractor, evaluate whether the schedule of construction activities could affect the active nests, and recommend measures to the project biologist based the Pacific Gas and Electric (PG&E) Nesting Bird Management Plan, which could include establishing a non-disturbance buffer (e.g., 50 feet for non-raptors and 250 feet for raptors). This buffer would remain in place	PG&E	A survey will be completed within 7 days prior to the onset of construction. The survey shall be re-conducted any time construction has been delayed or curtailed for more than 7 days during the nesting season.

Environmental Impact	Mitigation Measure	Responsible Party	Timing
	<p>until such a time as the young have been determined (by a qualified biologist) to have fledged. These buffers may be modified (e.g., by reducing their size or installing a blind) as deemed appropriate by the project biologist in coordination with U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW).</p> <p>A brief survey report documenting the preconstruction survey area and findings shall be prepared by the qualified biologist and submitted to the Project sponsor prior to initiation of construction during the nesting season. The report shall document presence or absence of any active nests and prescribe a suitable non-disturbance buffer if active nests are present and could be disturbed by Project-related activities. No report of findings is required if construction is initiated during the non-nesting season (September 1 to January 31) and continues uninterrupted according to the above criteria.</p> <p>If any birds begin nesting within active work areas after construction has commenced, they will be nesting in an environment with high levels of existing and ongoing disturbance and a no work exclusion buffer shall be established around the active nests. However, a qualified biologist shall monitor the nest twice a week. If the qualified biologist determines that birds are showing signs of distress associated with construction (e.g., frequent vocalization or flushing from the nest), a non-disturbance buffer shall be established as determined by the qualified biologist.</p>		
	<p>BIO-3: Prior to construction, a native oyster survey will be completed. If oysters are within or immediately adjacent to the Project Area, it shall first be determined whether avoidance of the beds is feasible. If feasible, impacts on the oyster bed shall be avoided. If complete avoidance is not feasible, the Project sponsor shall request guidance from the National Marine Fisheries Service (NMFS) regarding the need for and/or feasibility of moving affected beds. Translocation of oyster beds shall be consistent with methods and recommendations presented in Shellfish Conservation and Restoration in San Francisco Bay: Opportunities and Constraints¹.</p>	PG&E	The assessment will be completed prior to the start of in-water remedial activities

¹ Zabin, C.J., S. Attoe, E.D. Grosholz, and C. Coleman-Hulbert. 2010. Shellfish Conservation and Restoration in San Francisco Bay: Opportunities and Constraints Final. Report for the Subtidal Habitat Goals Committee (Appendix 7-1).

Environmental Impact	Mitigation Measure	Responsible Party	Timing
Cultural and Tribal Cultural Resources			
Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	<p>CUL-1: In the unlikely event that previously unidentified archaeological, cultural, tribal cultural, or historical sites, artifacts, or features are uncovered during remediation, beyond the structural remnants previously identified, recorded, and evaluated, work shall be suspended within 100 feet (30 meters) of the find and redirected to another location. A qualified professional archaeologist shall be contacted immediately to examine the discovery. Project personnel shall not collect cultural resources. If the discovery can be avoided or protected and no further impacts would occur, the resource shall be documented on California Department of Parks and Recreation 523 forms, and no further effort shall be required.</p> <p>If the resource cannot be avoided and may be subjected to further impacts, PG&E or its representative shall evaluate the significance of the discovery following federal and state laws outlined above and implement data recovery or other appropriate treatment measures if warranted. Evaluation of historical-period resources shall be done by a qualified historical archaeologist, whereas evaluation of prehistoric resources shall be done by a qualified archaeologist specializing in California prehistoric archaeology. If tribal cultural materials are present, the archaeologist shall contact and coordinate with the relevant Tribal Historic Preservation Officer(s). Evaluations may include archival research, oral interviews, and/or field excavations to determine the full depth, extent, nature, and integrity of the deposit.</p>	PG&E	Actions are triggered immediately if and when previously unidentified archaeological, cultural, tribal cultural, or historical sites, artifacts, or features are uncovered during remedial activities.
Disturb any human remains, including those interred outside of formal cemeteries?	<p>CUL-2: If human remains are encountered, all work shall stop in the immediate vicinity (within 100 feet) of the discovered remains and the County Coroner (or the City and County of San Francisco Medical Examiner) shall be notified. In addition, a qualified archaeologist shall be notified immediately so that an evaluation can be performed. If the remains are deemed to be Native American and prehistoric, the Coroner must contact the Native American Heritage Commission (NAHC) so that a "Most Likely Descendant" can be designated and further recommendations regarding treatment of the remains can be provided.</p> <p>If the remains are not Native American, the Coroner will consult with the archaeologist and the Lead Agency to develop a procedure for the proper study, documentation, and ultimate disposition of the remains. If a determination can be made as to the likely identity of the remains—either as an individual or as a member of a group—an attempt shall be made to identify and contact any living descendants or representatives of the descendant community. As interested parties, these descendants may make recommendations to the owner, or representative, for the treatment or disposition, with proper dignity, of the remains and grave goods.</p>	PG&E	Actions are triggered immediately if and when human remains are encountered during remedial activities.

Environmental Impact	Mitigation Measure	Responsible Party	Timing
Recreation			
Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	REC-1: The Project sponsor/ applicant (PG&E) and co-applicant (Port of San Francisco) shall coordinate with all relevant stakeholders (Red and White Fleet, Blue & Gold Fleet, and other recreational businesses affected by construction activities) to develop a plan to address impacts on recreational boating businesses as a result of construction activities. The plan shall discuss how stakeholders and contractors will coordinate and phase construction activities and/or find alternative options (e.g., temporary relocation of businesses, alternate berthing locations) to minimize impacts. In addition, the Project sponsor/applicant and co-applicant shall work with stakeholders to facilitate communication to the public of any changes to recreational business offerings and schedules in the Project Area well in advance of such changes.	PG&E and the Port of San Francisco	The Plan will be prepared prior to the start of remedial activities.
Transportation			
Conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	TRANS-1: The Project sponsor/ applicant (PG&E) and co-applicant (Port of San Francisco) shall coordinate with all relevant stakeholders (e.g., Blue & Gold Fleet and the Water Emergency Transportation Authority) to develop a plan to address transportation-related impacts on commuter ferry service as a result of construction activities. The plan shall address how stakeholders and contractors will coordinate and phase construction activities and/or find alternative options (e.g., temporary relocation of ferry services, alternate berthing locations) to minimize impacts on commuter ferry service. In addition, the Project sponsor/applicant and co-applicant shall work with stakeholders to facilitate notifications and communications to the public (e.g., online updates) of any ferry service schedule and berthing location changes well in advance of such changes.	PG&E and the Port of San Francisco	The Plan will be prepared prior to the start of remedial activities.

Exhibit D: Updated Remediation Design and Construction Schedule

AREA Pier	2020 to 2022				2023				2024				2025				2026				2027				
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
A Pier 43 1/2	Design & Permitting				Mob	Construction			Demob																
B Pier 43	Design & Permitting				Mob	Construction			Demob																
C Pier 41 1/2					Design & Permitting				Mob	Construction		Demob													
D Pier 39 West Basin										Design/Permitting		Mob	Construction		Demob										
E Pier 39 East Basin										Design/Permitting				Mob	Construction		Demob	Mob	Construction		Demob				