

# San Francisco Bay Conservation and Development Commission

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January 9, 2026

## **Staff Recommendation**

### **Operations and Maintenance Dredging of San Francisco Bay Federal Navigation Channels**

(For Commission consideration on January 15, 2026)

**Consistency Determination No.**     **C2025.005.00**

**Federal Agency:**                      US Army Corps of Engineers (USACE)

**Project Description:**                      Maintenance dredge between 9.43 million cubic yards, and potentially a maximum of 17.647 million cubic yards (cy) of sediment over 4 years, as follows: an average of 1.755 million cy, and potentially a maximum of 4.22 million cy, of sediment annually from six deep draft channels annually to depths ranging from minus 30 feet Mean Lower Low Water (MLLW) to minus 50 feet; one time dredging of 30,000 cy of sediment from one deep draft channel; and between of 450,000 cy, and a potential maximum of 725,000 cy of sediment from three shallow draft channels and one associated “across the flats” channel, with depths ranging from minus six feet MLLW to minus nine feet MLLW. Conduct two “sea trials” to calibrate recently repaired hopper dredges with dredging of up to 12,000 cy of sediment.

Dispose of between 1.087 and 3.627 million cy of sediment at the state and federally authorized in Bay disposal sites annually; beneficially reuse between 140,000 cy and 985,000 cy of sediment at wetland restoration sites that provide fish habitat annually, and dispose of between 750,000 and 1,225,000 cy in of sediment at the San Francisco deep ocean disposal sites in any year.

**Location:** In the Bay, at Oakland Harbor, Richmond Inner Harbor, Richmond Outer Harbor, Redwood City Harbor, Pinole Shoal, Suisun Channel, and San Bruno Shoal federal deep water navigation channels; at San Rafael Creek, Petaluma River, Petaluma River Across the Flats, and Upper and Lower Napa River shallow draft federal navigation channels in Alameda, Contra Costa, San Mateo, Marin, Sonoma, Napa, and Solano counties.

In the Bay, at the state and federally authorized Alcatraz, San Pablo, Carquinez Strait, and Suisun in-Bay disposal sites, in San Francisco, Marin, Napa, and Solano counties, and at beneficial reuse sites in Napa and Solano counties, and approximately 55 miles from the California Coast.

**Application Filed Complete:** October 10, 2025

**Deadline for Commission Action:** December 24, 2025, with extension granted through January 16, 2026.

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**Staff Recommendation:** **CONDITIONAL CONCURRENCE**

### Basis for Staff Recommendation

The staff recommends the Commission conditionally concur with the US Army Corps of Engineers (USACE) that its proposed 2026 through 2029 Operations and Maintenance Dredging Program as conditioned is consistent with BCDC's certified coastal management program under the federal Coastal Zone Management Act to the maximum extent practicable, in the recommended resolution, below. Over four years, the USACE Dredging Program would remove up to 17.647 million cubic yards of sediment from 7 deep water channels and four shallow water channels and beneficially reuse between 1.865 million cubic yards of sediment, with potentially up to 3.251 million cy of sediment at wetland restoration projects. As described, the USACE would dispose of between 2.595 million cubic yards and 13.332 million cubic yards of sediment in the Bay over four years. The remainder of the sediment would be disposed of upland or at the San Francisco Deep Ocean Disposal Site. The dredging, beneficial reuse, and in-Bay disposal would occur in the Commission's federally approved San Francisco Bay Coastal Zone Management Program area, in the counties of San Mateo, San Francisco, Marin, Contra Costa, Sonoma, Napa, Solano, and Alameda Counties. Among other things, the recommended resolution includes special conditions to:

- Require an integrated alternative disposal site analysis at the start of each year to determine the balance of beneficial reuse and in-Bay disposal based on dredge volume, funding and equipment availability,
- Required testing of proposed dredging area to protect water quality and fish and wildlife,
- Protect native and special status species by implementing minimization measures, including environmental work windows and light monitoring in areas of eelgrass beds,
- Mitigation for impacts to Bay Resources through beneficial reuse of dredged sediment at wetland restoration projects, and
- Reporting outcomes of programmatic flexibility to the Commission on an annual basis, and effectiveness of mitigation in year three of the dredging program.

The project itself will result in between 2.595 million cubic yards and 13.332 million cubic yards of Bay Fill. There is no public access associated with this project as it occurs in the water and does not have the potential to impact existing or future public access to the Bay.

## Recommended Resolutions and Findings

The staff recommends the Commission adopt the following resolution:

### I. Authorization

#### A. Authorized Project

The San Francisco Bay Conservation and Development Commission (Commission) conditionally concurs with the determination of the US Army Corps of Engineers, San Francisco District (USACE) that, as further conditioned by the Commission herein, the USACE's 2026 through 2029 Maintenance and Operations Program (Program)<sup>1</sup> is consistent to the maximum extent practicable with the Commission's certified coastal management program under the federal Coastal Zone Management Act as follows:

#### In the Bay and Certain Waterways

##### 1. Oakland Harbor Federal Channel

Dredge an average of 750,000 cy and up to 1,225,000 cy of sediment each year from Oakland Inner and Outer Harbor channels to a depth of -50 feet MLLW, plus two feet over-dredge depth allowance annually for four years (Exhibit D);

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<sup>1</sup> Program means all dredging and disposal activities proposed by the USACE for the 2026 through 2029 operations and maintenance activities. Project means individual dredging episode at a federal navigation channel and its associated disposal or beneficial use of dredged sediment.

2. **Richmond Inner Harbor Federal Channel**  
Dredge an average of 300,000 cy and up to 630,000 cy of sediment each year from Richmond Inner Harbor channel to a depth of -38 feet MLLW, plus two feet over-dredge depth allowance annually for four years (Exhibit E);
3. **Richmond Outer Harbor Federal Channel**  
Dredge an average of 210,000 cy and up to 730,000 cy of sediment each year from Richmond Outer Harbor channel to a depth of -45 feet MLLW, plus two feet over-dredge depth allowance annually for four years (Exhibit F);
4. **Pinole Shoal Federal Channel**  
Dredge an average of 150,000 cy and up to 560,000 cy of sediment each year from Pinole Shoal channel to a depth of -35 feet MLLW, plus two feet over-dredge depth allowance, annually for four years (Exhibit G);
5. **Suisun Channel and New York Slough Federal Channel**  
Dredge an average of 150,000 cy and up to 355,000 cy of sediment each year from Suisun Bay channel to a depth of -35 feet MLLW, plus two feet over-dredge depth allowance annually for four (Exhibit H);
6. **Redwood City Harbor Federal Channel**  
Dredge and average of 180,000 cy and up to 650,000 cy of sediment each year from Redwood City Harbor to a depth of -30 feet MLLW, plus two feet over-dredge depth allowance annually (Exhibit I);
7. **San Bruno Shoal Federal Channel**  
Dredge up to 30,000 cy of sediment from San Bruno Shoal to a depth of -30 feet MLLW plus two feet of over dredge depth allowance, once during four years (Exhibit I);
8. **Petaluma River and Across the Flats Federal Channel**
  - a. Dredge up to 150,000 cy of sediment from the Petaluma River to a depth of -8 feet MLLW, plus two feet over-dredge depth allowance, once during four years (Exhibit J);
  - b. Dredge up to 70,000 cy of sediment from the Petaluma Across the Flats channel to a depth of -8 feet MLLW, plus two feet over-dredge depth allowance, once during four years (Exhibit K);
9. **Upper and Lower Napa River Federal Channel**  
Dredge up to 110,000 cy of sediment from the upper and lower Napa River channel to a depth of -9 feet MLLW, plus one foot of over dredge depth allowance once during four years (Exhibit L);

#### 10. San Rafael Creek Federal Channel

Dredge up to 110,000 cy of sediment from the San Rafael Creek federal channel to a depth of -6 feet MLLW, plus two feet over-dredge depth allowance, once during four years (Exhibit M);

#### 11. Sea Trials

Conduct two “sea trials” of the federal hopper dredges, *Essayons* and/or *Yaquina*, after dry dock repairs or maintenance activities between January and March in the Pinole Shoal federal channel. The *Essayons* sea trial includes intake of 600,000 gallons of water for ship displacement calibration and dredging 3-5 loads (up to 12,000 cy of sediment) for load calibration. Sea Trials for the *Yaquina* include 1,500 gallons of water and 3-5 loads (up to 4,000 cy of sediment) for load calibration. Place the dredged sediment at the state and federally authorized San Francisco Bar (SF-8) disposal site, unless the sea state is prohibitive. If the sea state is unsafe, dispose of the dredged sediment at the San Pablo Bay (SF-10) or Alcatraz disposal site (SF-11); and

12. Beneficially reuse dredged sediment from the federal navigation channels at authorized beneficial reuse sites, or dispose of dredged sediment at the state and federally authorized Alcatraz (SF-11), San Pablo Bay (SF-10), Carquinez Strait (SF-9), and Suisun Bay (SF-16) disposal sites, or the San Francisco Deep Ocean Disposal Site (SFDODS) in accord with the approved Integrated Alternative Disposal Site Analysis (IAA) required in Special Condition II-C.

### **B. Date of Consistency Determination Request**

This authority is generally pursuant to and limited by the consistency determination concurrence request dated July 8, 2025, including all accompanying and subsequently submitted correspondence and exhibits, subject to the modifications required by the Special and Standard Conditions included herein.

### **C. Deadlines for Commencing and Completing Authorized Work**

Work authorized herein must commence prior to September 1, 2026, or this Letter of Agreement will lapse and become null and void. All work authorized herein must be completed by December 31, 2029, unless an extension of time is granted by amendment of this Letter of Agreement.

### **D. Project Summary**

Within the San Francisco Bay Coastal Zone, and within the Commission’s Bay, and certain water way jurisdictions, the USACE would maintenance dredge between a total of 9.43 and 17.647 million cubic yards of sediment over 4 years to maintain safe navigation for shipping, military, and recreation vessels. The program includes the following: dredging between a total of 1.755 and 4.22 million cubic yards (cy) of



sediment annually from Suisun Bay, Pinole Shoal, Richmond Outer Harbor, Richmond Inner Harbor, Oakland Harbor, Redwood City Harbor federally authorized deep draft channels to depths ranging from minus 30 feet Mean Lower Low Water (MLLW) to minus 50 feet MLLW; one time dredging of up to 30,000 cy of sediment from San Bruno Shoal federally authorized deep draft channel; and one time dredging of between a total of 440,000 and 725,000 cy of sediment from San Rafael Creek, Petaluma River, Petaluma River “Across the Flats,” and Napa Upper and Lower River federally authorized shallow draft channels with depths ranging from minus six feet MLLW to minus 9 feet MLLW as shown in Exhibit B.

Depending on equipment type, costs, timing, and funding availability, the USACE would beneficially reuse dredged sediment at authorized wetland restoration sites, dispose of between the dredged sediment at in-Bay disposal sites, and/or SFDODS.

The USACE’s 2026-2029 Dredging Program is different than in previous years because it seeks to include beneficial reuse as part of its “Federal Standard.” program. As described by USACE policy, the Federal Standard is the project or program which is the least costly dredged sediment alternative consistent with sound engineering practices and meeting environmental standards. To accomplish this, the USACE would increase in-Bay disposal to reduce ocean disposal while beneficially reusing sediment. The USACE would do this by using the cost savings from the change in SFDODS disposal to in-Bay disposal. The other potential alternative that the USACE would use to implement its Dredging Program would be to increase in-Bay disposal, increase the use of hydraulic hopper dredges, and decrease ocean disposal, and use the cost savings to beneficially reuse a portion of the program’s sediment. As described, the USACE would phase its approach to this new program over four years. If successful, the USACE approach would result in between 1.087 (49%) and 3.627 (73%) million cy sediment disposed at in-Bay disposal sites annually; between 140,000 cy (6%) and 985,000 million cy (20%) of beneficial reuse annually; and 750,000 (34%) to 1.225 (25%) million cy disposed at the San Francisco Deep Ocean Disposal site (SFDODS) annually from the approximately 2.237 to 4.987 million cy of sediment dredged.

Since 2015, the USACE has disposed of between 362,000 cy and 988,000 cy of sediment at in-Bay disposal sites annually. The authorized program could result in a significant increase in in-Bay disposal – up to 3.627 million cy annually, if the maximum dredging and in-Bay disposal occurred. This could occur if no additional funding was available to support beneficial reuse or dredging outside of the environmental work windows did not occur. Dredging outside of the environmental work windows requires beneficial reuse of dredged sediment as mitigation for impacts to species. If the maximum or even average in-Bay disposal scenario occurred, it would likely lead to a shortage of in-Bay disposal volume available for other dredgers, including recreational marinas, ports, and refineries. If the USACE Dredging Program execution continuously exceeds the in-Bay

disposal volume target limit set for the in the Long Term Management Strategy for Placement of Dredged Material in the Bay Region (LTMS) Management Plan the Commission would need to consider, and potentially institute in-Bay disposal volume allocations for all dredgers in accordance with the Commission's regulations.

In addition to dredging its federal channels, the USACE's federal hopper dredges need maintenance and enter dry dock for repairs. If this occurs during the next four years, the USACE may conduct two "sea trials" to calibrate its hopper dredges after dry dock maintenance repairs. The "sea trials" would include dredging of up to 20,000 cy of sediment and disposal of the sediment at the San Francisco Bar Channel outside the Commission's jurisdiction, or at the state and federally authorized San Pablo or Alcatraz in-Bay disposal sites.

### 1. Bay Fill

As authorized and conditioned herein, the USACE 2026 through 2029 Operations and Maintenance Dredging Program would result in between 1.087 million cy and 3.627 million cubic yards of Bay fill annually, and up to 13.332 million cy over four years. The fill would occur through disposal of dredged sediment from federal deep and shallow water navigation channels at four state and federally authorized in-Bay disposal sites.

## II. Special Conditions

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV. If the USACE does not agree to comply with the following conditions or fails to incorporate them into its 2026-2029 Dredge Program, the USACE shall notify the Commission immediately of its refusal to agree or to incorporate any of the conditions into the Program, which would turn this conditional consistency determination concurrence into an objection.

### A. Limits on Dredging

This Letter of Agreement authorizes maintenance dredging only within the federal channels and to the project depths and volumes described in Table 1 (Exhibit B) and within dredge footprints shown on Exhibits D through M.

The maximum volume of sediment authorized for deep draft channel dredging in 2026 through 2029 is 16.88 million cubic yards. The maximum volume authorized for shallow draft channels is 725,000 cy for 2026-2029. The total volume proposed to be dredged in individual years varies due to interannual variation in sediment deposition, funding, and infrequent dredging in shallow draft channels.

In 2026 through 2029, the USACE would dredge between an estimated 1.755 million cy and 4.22 million cy from deep draft channels annually. It would dredge an estimated 110,000 cy and 280,000 cy of sediment from San Rafael Creek shallow draft channel in 2026. In 2027 through 2029, it would dredge between 120,000 cy to 210,000 cy of sediment from one to two shallow draft channels each year. San Bruno Shoal may be dredged up to 30,000 cy in any one year, as well as the two sea trials, should they be necessary and funded. No dredging in other areas or additional volume is authorized.

## **B. Limits on In-Bay Disposal**

1. The USACE shall limit its in-Bay disposal volume to those shown in Tables 2 through 4 (Exhibit C), and work with the LTMS agencies through the Integrated Alternative Disposal Site Analysis (IAA) described in Special Condition II – C below.
2. The USACE shall limit its in-Bay disposal at individual sites (at the Alcatraz Island, San Pablo Bay, Carquinez Strait, and Suisun Bay Channel in-Bay disposal sites) to those consistent with the monthly and annual in-Bay disposal site limits included in regulation 14 C.C.R. 10602(e)(1). USACE will actively coordinate with the DMMO agencies to prevent breaches of in-Bay site limitations.

## **C. Integrated Alternative Disposal Analysis, Use of Funds, and Annual Schedule**

Beginning in 2026, and no later than March 31<sup>st</sup> of each year, the USACE shall provide to the Commission an Integrated Alternative Disposal Site Analysis (IAA) for the year reflective of items 1 and 2 below, and its dredging schedule for the upcoming dredge season. By June 30<sup>th</sup> of any year, when necessary, USACE shall update the IAA to reflect changes in the USACE programming, funding, and equipment use and provide it to the Commission for review and approval.

### **1. IAA**

The USACE shall include in its IAA all dredging projects (deep and shallow draft) for the calendar year, and as many as five years, the practicability of beneficial reuse of its dredged sediment at wetland restoration sites, levee maintenance, and other beneficial reuse opportunities, as well as disposal options, when beneficial reuse is not practicable.

- a. USACE project includes the potential to utilize Water Resources and Development Act (WRDA) 2016 Section 1122, Water Resources and Development Act (WRDA) 2020, Section 125, and State Coastal Conservancy (SCC) funds to defray the cost of beneficial use. To the extent such funds will be used, USACE will document it in the IAA including which projects and how much beneficial use will be achieved. The USACE shall maximize beneficial reuse of dredged sediment when practicable.

- b. The USACE shall evaluate the practicability of combining placement of dredged sediment from the federal navigation channels with sediment from other USACE projects implementing beneficial reuse when both projects will occur at similar times or locations or will be performed by the same contractor. Further, the USACE shall evaluate contracting mechanisms that ensure contractors include consideration of beneficial use in their bid proposals.

## 2. Dredging Schedule

The dredge schedule should include all proposed projects for the calendar year and the estimated start and finish date, any projects anticipated to dredge outside of the environmental work windows, and the contracting schedule. Should the USACE's Dredging Program change, an updated schedule shall be provided to the Commission staff by June 30<sup>th</sup> of that same year.

## D. Water Quality

### 1. Water Quality Certification and Waste Discharge Requirements

By January 31, 2026, and prior to the commencement of any dredging episode authorized herein, the USACE shall submit to the Executive Director a water quality certification, waste discharge requirements, or any other required approvals from the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board).

### 2. Hazardous Materials and Fuels

The USACE and/or its contractor shall immediately stop, repair, and clean up any fuel or hazardous waste leaks or spills from dredging or disposal activities at the time of occurrence. The USACE and/or its contractor shall properly contain hazardous products and dispose of any unused or leftover hazardous products outside of the Commission's jurisdiction.

## E. Sediment Quality

Sediment to be dredged, disposed, or beneficially reused shall be tested to ensure that it is physically, chemically and biologically suitable for the proposed disposal or beneficial reuse site. The sediment testing program shall be in accordance with the Inland Testing Manual or the Ocean Testing Manual, as modified for the San Francisco Bay Region, with Sampling and Analysis Plans and Result reports shall be submitted to the Dredged Material Management Office (DMMO) for review and approval two weeks prior to its meeting.

1. Sampling Analysis Plans (SAP)

USACE shall submit SAPs that are consistent with the protocols, advice and decisions of the DMMO and include the proposed sample locations, the most recent survey of the channel, and both the dredge reaches and sample composite areas that are clear and legible.

2. Sampling Analysis Results (SAR)

USACE shall submit SARS in report form to the Commission staff and the DMMO for review and decision on the suitability of the sediment for the proposed disposal or placement site. The USACE shall abide by the decisions of the DMMO.

**F. Dredging and Disposal Activity**

1. Episode Approval, Disposal Report and Notice

At least 30 days prior to contract award, the USACE shall submit to the Commission's Executive Director for review and approval the following information and documentation:

a. Bathymetric Survey

A signed and most recent bathymetric pre-dredge survey depicting the location of all areas authorized to be dredged, the proposed project depth including over-dredge depth based on MLLW, the actual volume of sediment proposed to be dredged based on the most recent survey, the results of sediment test analysis, and the proposed disposal or placement site, and the approximate date of project commencement.

b. Sediment Disposal and Placement

A written statement shall be submitted to the Commission's Executive Director with the following information: (1) the proposed disposal or placement site and quantity of sediment to be disposed or placed, and dates within which the disposal/placement episode is proposed; (2) if applicable, a discussion as to how the volume proposed for disposal is consistent with in-Bay disposal site limits and/or disposal site allocations; (3) the results of chemical and biological testing of sediment proposed for beneficial reuse or disposal; and (4) any changes to the IAA for the individual project, if any.

c. Updated Information

Within 15 days after the contract award, the USACE shall submit the latest bathymetric survey and written notification to the Commission that there are no changes to the project; or any revisions to the volume of sediment proposed for dredging, the disposal or placement site, and/or date of commencement from the initial submission.

## 2. Authorization of Dredging, Disposal, and Beneficial Reuse

The authorization for the proposed dredging and in-Bay disposal or beneficial reuse shall become effective only if the Commission: (1) informs the USACE in writing that the proposed episode is consistent with the authorization provided herein, beneficial reuse or alternatives to in-Bay disposal options are infeasible, the volume proposed for in-Bay disposal is consistent with the disposal site limits, and the sediment is suitable for in-Bay disposal, beneficial reuse or ocean disposal; or (2) does not respond to the USACE's episode approval request within 30 days of its receipt. If the Commission determines that: (a) beneficial reuse of the sediment, upland or ocean disposal is feasible; (b) the sediment proposed for in-Bay disposal is not suitable for the Bay; or (c) the proposed in-Bay disposal is inconsistent with in-Bay disposal site limits, the Commission's concurrence for in-Bay disposal for that episode shall be terminated. The USACE shall adhere to any special conditions contained in the episode approval letter.

## 3. Post-Dredging Requirements

- a. Within 60 days of the completion of all dredging projects funded in the same federal fiscal year, or by June 30th of the following calendar year, the USACE shall submit a signed post-bathymetric surveys to the Commission showing the actual area(s) and depths dredged including over-dredge depth based on MLLW; any dredging that occurred outside the authorized area or depths; the total volume of sediment dredged, the placement or disposal location(s), and the volume of sediment placed at each site; and the dates the dredging occurred.

## G. Environmental Work Windows

Dredging, and dredged sediment disposal have impacts to the biological resources of the Bay. Therefore, the USACE shall undertake the following avoidance, minimization, and mitigation measures:

### 1. Seasonal Limitations

- a. To reduce impacts to Bay species whose population are in decline, and specifically those that federal and state governments have listed as candidate, threatened or endangered, as well as those that use the Bay as spawning grounds, the USACE shall confine dredging and in-Bay disposal operations to the work windows consistent with Tables F-1 and F-2 of Appendix F, "In-Bay Disposal and Dredging" and Figures 3.2 and 3.3 of the Long-Term Management Strategy (LTMS) Management Plan (2001) programmatic biological opinions as amended by the U.S. Fish and Wildlife Service (USFWS) on February 7, 2025 and NOAA's National Marine Fisheries Service (NMFS) in July 2015.

If dredging is necessary outside the environmental work windows, the USACE shall comply with the notification, monitoring, and conservation measures included in the appropriate biological opinions and this Letter of Agreement.

No work inconsistent with the time and location limits contained in these figures may be conducted without the written approval of an extension of time to complete dredging and beneficial reuse and disposal by the Executive Director. Such approval may only be issued after the Executive Director has sought the advice of the appropriate resource agencies and determined that dredging and disposal outside of the work window would be consistent with the Commission's Coastal Zone Management Program.

- b. Should the USACE obtain new or amended biological opinions that would change the environmental work windows, the implementation of current biological opinions, terms and conditions, or conservation measures, the USACE shall provide them to the Commission for consideration. If the Commission determines that the new or amended biological opinion changes the USACE Dredging Program in a way that is inconsistent with the Letter of Agreement, the USACE shall work with the Commission staff to request and obtain necessary amendments to this Letter of Agreement.

## 2. Bay Tributaries

No dredging (mechanical or hydraulic) is permitted from December 1 through May 31 upstream of, or within 1000 feet bayward of the mouths of Larkspur/Corte Madera Creek, Napa River Channel/Mare Island Strait, Petaluma River, and Novato Creek without the written approval of an extension of time to complete dredging and beneficial reuse and disposal by the Executive Director. Such approval may only be issued after the Executive Director has sought the advice of the appropriate resource agencies and determined that dredging and disposal outside of the work window would be consistent with the Commission's Coastal Zone Management Program.

## 3. Mitigation for Dredging Outside of Environmental Work Windows

When circumstances necessitate that the USACE dredge before June 1<sup>st</sup> or after November 30<sup>th</sup> anywhere in the Bay, to mitigate for impacts to Bay resources the USACE shall place the sediment dredged after November 30<sup>th</sup> and before June 1<sup>st</sup> (or August 1<sup>st</sup> for the Oakland Harbor Project) of any year at a designated beneficial reuse site that will benefit fish habitat, consistent with the NMFS and USFWS amended LTMS Programmatic Biological Opinions.

- a. If a project is unable to place all sediment dredged outside the [environmental] work window at a beneficial reuse site, the LTMS Program [this Letter of Agreement's] measures [special conditions] allow for an equivalent volume of dredged sediment to be placed at a beneficial reuse site from a project conducted within the work windows during the following season. This exemption does not apply to dredge sites upstream or within 1,000 feet bayward of the mouths of Larkspur/Corte Madera Creek, Napa River Channel/Mare Island Strait, Petaluma River, and Novato Creek.
- b. Projects that incur an unplanned and unavoidable need to complete a portion of an ongoing dredging operation outside of the work window, the LTMS agencies [the Commission] may approve up to 50,000 cubic yards of dredging and disposal per year for this purpose [cumulatively for all dredging projects]. This exemption may apply to dredge sites upstream or within 1,000 feet bayward of the mouths of Larkspur/Corte Madera Creek, Napa River Channel/Mare Island Strait, Petaluma River, and Novato Creek.
- c. Special Condition II-G.3.a and b provide for dredging activities outside the NMFS environmental work window it does not necessarily include concerns that may be present from other resource agencies. Therefore, the Commission shall consider the additional species and advice and recommendations of all resource agencies when making the determination of whether or not to allow dredging outside the environmental work window.

## H. Hydraulic Dredging

### 1. Limits on Hydraulic Dredging

To protect native, state and federally listed, candidate, and species of special concern, the USACE shall limit the use of a hydraulic dredge as follows:

#### a. Suisun Channel

No hydraulic dredging shall occur in Suisun Channel and clamshell dredging shall be limited to the months of August 1<sup>st</sup> through November 30<sup>th</sup> of any year.

#### b. Pinole Shoal

Hydraulic dredging in Pinole Shoal Channel shall be limited to the work window of August 1<sup>st</sup> through November 30<sup>th</sup> of any year to protect listed species and specifically to minimize impacts to longfin smelt and migrating salmonids.

#### c. Richmond Inner and Outer, and Oakland Harbors

No hydraulic dredging shall occur at Richmond Outer Harbor from December 1<sup>st</sup> to March 15<sup>th</sup> of any year to protect spawning herring, herring eggs, and larval herring.

## 2. Overflow During Hopper Dredging

Return water overflow from hopper-type hydraulic dredges shall be limited to no longer than 15 minutes at the dredge site for each hopper load except in channels where the shoaled material contains greater than 80 percent sand. There is no overflow restriction if the dredged material is greater than 80 percent sand.

## 3. Minimization Measures

To reduce entrainment of fish and invertebrates, the USACE shall implement the following minimization measures when using a hydraulic dredge:

### a. Salinity

No dredging would occur in water with salinity ranging from 0 to 5 parts per thousand between December 1st and June 30th of any year.

### b. Worker Education Program

The USACE shall designate a qualified biologist to provide a worker education and training program regarding special status fish species that could be adversely impacted by dredging. The program would include a presentation to all workers on biology, general behavior, distribution and habitat needs, sensitivity to human activities, legal protection status, and project-specific protective measures for all special status species. The training program shall be conducted prior to the use of a hydraulic dredge in San Francisco Bay.

### c. Drag Head Operation

At the beginning and end of each hopper load, pump priming, drag head clearing, and suction of water would be conducted within three feet of the seafloor. In addition, the following measures shall be implemented:

- (1) Suction pumps shall be turned off when raising and lowering the drag arms from the seafloor;
- (2) The drag head or cutter head shall maintain contact with the seafloor during dredging; and
- (3) Opening water intake doors on the drag head shall be minimized. When necessary to alleviate clogging, the doors shall be opened incrementally, (i.e., the doors shall be opened in small increments and tested to see if the clog is removed) to ensure that doors are not fully opened unnecessarily.

## 4. Entrainment Monitoring

To better understand the entrainment rate and the impact of hydraulic dredging on native and listed species, the USACE shall:

a. Monitor Hydraulic Dredging

- (1) By March 31, 2026, USACE shall submit a four-year entrainment monitoring plan, acceptable to the Executive Director, that describes the collection and recording of entrainment of native and listed fish and macroinvertebrate species.

At a minimum, the plan shall include the following elements:

- (a) On-board monitoring during active dredging;
  - (b) Sampling during all phases of the dredging cycle;
  - (c) Sampling both drag-arms to capture a greater percentage of the pump volume during active dredging;
  - (d) Sampling associated with flood/ebb tides and spring/neaptides;
  - (e) Visual monitoring of vessel hold for fish or macro invertebrates that are not captured by sampling screens during active dredging;
  - (f) Presence/absence monitoring in the immediate vicinity of the active dredge to determine effectiveness, if feasible; and
  - (g) Procedures for evaluating the effectiveness of the avoidance, minimization, and mitigation measures.
- (2) Annual monitoring reports containing the above-described information along with any proposed updates to the monitoring plan shall be submitted to the Commission by January 31st of the year following the dredging and monitoring activities.
- (3) The USACE shall report any special status species and natural communities detected during the entrainment monitoring to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link:  
<https://wildlife.ca.gov/Data/CNDDDB/SubmittingData#44524420-pdf-field-survey-form> .

b. Alternative to Entrainment Monitoring

If the USACE identifies monitoring that is more beneficial to species of concern, it may propose it to the Water Board and Commission staff for review and approval by February 28th of the year in which its implementation is proposed.

5. Mitigation for Entrainment of Native and Listed Species

When the USACE uses a hydraulic dredge, it shall compensate for unavoidable take of native and listed species via entrainment by:

- a. purchasing longfin smelt mitigation credits at a resource agency-approved habitat conservation bank; and/or

- b. by beneficially reusing a volume of dredged sediment at a wetland restoration project that benefits fish habitat.

To calculate acreage of mitigation credits needed the USACE shall use the actual volume of water and sediment pumped by the hopper dredge in the equation below:

$$\text{Acres of mitigation req} = \frac{800 \text{ acres} \times \text{Volume (water/sediment pumped by hopper dredge)}}{3.0 \text{ million acre-feet}}$$

To calculate the volume of dredged sediment required for beneficial reuse the USACE shall use the following equation and the acres of mitigation calculated with the previous equation:

$$\text{Volume of Beneficial Reuse (cy)} = \frac{\text{acres of mitigation required} \times \$1,325,000 \text{ per acre}}{\text{Incremental cost per cy}} \times 2$$

## 6. Mitigation Effectiveness

After implementing this mitigation requirement for three dredging seasons, the USACE shall compile the amount of sediment dredged using hydraulic dredges; the amount of water pumped through the system; the amount and typed of fish and macro invertebrates entrained; the amount of sediment beneficially reused; and the amount of wetlands (acres) restored as a result of this mitigation requirement. A three-year report shall be provided to the Commission by July 31, 2029 for review and consideration in its next evaluation of any future USACE hydraulic Dredging Program.

If the determination is made by the Commission or resources agencies that the mitigation provided is not sufficient to offset the impacts of the hydraulic dredging, a more appropriate mitigation program shall be developed for consideration of future authorization of future hydraulic dredging.

## I. Species Protection

### 1. Take of Listed Species

This Letter of Agreement does not allow for the take, including incidental take, of any special status species. The USACE is required, as prescribed in the State and Federal Endangered Species Acts, to consult with or obtain appropriate take authorization from the appropriate agencies prior to undertaking dredging activities in San Francisco Bay which may affect any federally or state listed species and is not in compliance with the LTMS Programmatic Biological Opinions, or individual biological opinions currently in effect.

If the USACE initiates consultation with one or more resource agencies, it shall provide a copy of the amended or new biological opinion to the Commission staff for consideration and potential amendment to this Letter of Agreement as required by the Commission. The USACE shall use the appropriate protocols, as approved by the CDFW, NMFS, and/or USFWS, to ensure that project activities do not adversely affect rare, candidate, threatened and endangered species, as they are protected natural resources of San Francisco Bay and its tributaries.

## 2. Pacific Herring

Pacific herring is an important forage and commercial fishery species that spawns on hard surfaces, aquatic plants, and seaweed in San Francisco Bay. Should it become necessary to dredge within herring spawning habitat and outside of the herring work window (March 16<sup>th</sup> to November 30<sup>th</sup> of any year), the USACE shall implement the following measures:

- a. A CDFW qualified and trained herring observer shall be present during all dredging or in-water work (day and night) and observing shall be his/her sole duty.
- b. The herring observer shall monitor for herring spawn in 500-meter buffer zone surrounding active dredging and disposal activities. Observations may be conducted from the dredge, shore, or by a separate vessel, but must have a full view of the buffer zone around the dredging activity;
- c. When there is a lag time of eight hours or more between dredging activities and following dredging at night, the herring observer shall conduct a shoreline survey within the 500-meter buffer zone at least one hour prior to the start of dredging;
- d. If spawning Pacific herring are detected within 500 meters of the dredging site all in-water work shall stop immediately and Commission staff and CDFW shall be notified. If spawning occurs within the 500-meter buffer, work may not continue until spawning has ended and herring embryos have hatched (14-21 days). Dredging can restart with approval from CDFW and notification to the Commission staff;
- e. The observer shall keep a daily log of observations, which shall be submitted to Commission staff and the CDFW on a weekly basis by 5:00 pm on Fridays; and
- f. For Oakland and Richmond Inner Harbor dredging conducted outside the herring work window, the dredging contractor shall dredge the remaining sediment moving to the outer reaches and work towards the inner harbor to reduce disturbance to spawning activity.

## 3. Eelgrass

- a. Eelgrass is a productive aquatic plant that provides significant habitat value for certain Bay species. Due to the presence of eelgrass beds in the vicinity of the Richmond and Oakland Harbor federal navigation channels, the USACE shall

implement the USACE SF Bay Dredging Program Eelgrass Light Monitoring Plan 2024-2030 (Light Monitoring Plan), including turbidity minimization measures described in Table 1, Page 14 of the Light Monitoring Plan.

- b. With 60 days of completion of the post dredge eelgrass survey, the USACE shall provide a copy of the light monitoring report, inclusive of the pre-dredge and post dredge eelgrass surveys, and an analysis of any changes to the eelgrass beds within 250 meters of dredging activity.
- c. Should the USACE determine it is necessary to alter the Light Monitoring Plan, it shall provide proposed changes to the Commission for review and approval 30 days prior to implementing changes.

#### **J. Management and Monitoring of In-Bay Disposal Sites**

The USACE shall maintain administrative controls on disposal volumes at the in-Bay disposal sites to ensure that LTMS in-Bay disposal volume and the in-Bay disposal sites specific volumes are not exceeded. The USACE shall manage overall disposal volumes and disposal locations within each site in coordination with the LTMS agencies to prevent build-up of dredged materials at each of the sites.

1. The USACE shall continue bathymetric monitoring of the in-Bay disposal sites, monthly at SF-11, quarterly at SF-9, SF-10, and SF-16. The USACE shall provide these condition surveys within 60 days of their completion to the Commission staff.
2. Upon request of the LTMS agencies, the USACE shall provide analysis of the condition of the in-Bay disposal sites.

#### **K. Reporting to the Commission**

Beginning in 2027, and by March 31<sup>st</sup> of each year, the USACE shall brief the Commission at one of its regularly scheduled meetings on the outcome of the implementation of the Dredging Program for the previous year. The briefing shall include information and documentation on the amount of sediment dredged and beneficially reused, the volume of sediment disposed of, where the sediment was beneficially reused or disposed, the work completed in and out of the work window, the amount of mitigation required and implemented, the acres of habitat created through mitigation, and the funding that was available and was used for beneficial reuse of the USACE dredged sediment.

#### **L. Observation of Dredging and Disposal Operations**

The USACE shall allow the Commission staff and representatives of other relevant state or federal agencies to come aboard the dredge or barge associated with any dredging or disposal episode and observe the operation(s) to ensure that these activities are consistent with the terms and conditions of this Letter of Agreement. Further, the Commission reserves the right to have post-dredging reports inspected by a reliable third-

party with expertise in bathymetric mapping to verify the contents of the USACE pre and post dredge reports.

### **M. Changes to Commission Laws, Policies, and Regulations**

If, at any time during the effective life of this Letter of Agreement, the Commission's laws, Bay Plan policies, or regulations are changed and are in effect as enforceable policies of the Commission's certified coastal management program under the federal Coastal Zone Management Act regarding dredging, dredged sediment disposal, and beneficial reuse, this Letter of Agreement shall become null and void unless the USACE agrees to amend its consistency determination, and agrees to new conditions to meet the new laws, policies, or regulations in a manner specified by or on behalf of the Commission, if appropriate.

## **III. Findings**

Section 307 of the federal Coastal Zone Management Act (CZMA) states: "Each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs." (16 USC § 1456(c)(1)(A).) Section 930 states: "consistent to the maximum extent practicable" means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the Federal agency (15 CFR § 930.32(a)(1)).

This authorization is given on the basis of the Commission's findings and declarations that the work authorized as conditioned herein, is consistent to the maximum extent practicable with the Commission's federally-approved Amended Coastal Zone Management Program for San Francisco Bay, including the McAteer-Petris Act, the Suisun Marsh Preservation Act, and the *San Francisco Bay Plan (Bay Plan)*, and *Suisun Marsh Protection Plan*, and the Commission's regulations, all as amended, for the following reasons:

### **A. Bay Fill**

Government Code Section 66605 of the McAteer-Petris Act provides that further filling of the Bay should be authorized only when public benefits from fill clearly exceed public detriment from the loss of the water areas and should be limited to water-oriented uses or minor fill for improving shoreline appearance or public access to the Bay; (b) That fill in the Bay and certain waterways for any purpose should be authorized only when no alternative upland location is available for such purpose; (c) That the water area authorized to be filled should be the minimum necessary to achieve the purpose of the fill; (d) That the nature, location and extent of any fill should be such that it will minimize harmful effects to the Bay Area, such as, the reduction or impairment of the volume surface area or circulation of water, water quality, fertility of marshes or fish or wildlife resources; (e) That public health, safety and welfare require that fill be

constructed in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters; (f) That fill should be authorized when the filling would, to the maximum extent feasible, establish a permanent shoreline; and (g) That fill should be authorized when the applicant has such valid title to the properties in question that he may fill them in the manner and for the uses to be approved.

The federal navigation channels provide safe navigation and supports transport of commerce borne by deep and shallow draft vessels, including container and bulk cargo ships bringing goods into and out of ports and other shipping terminals. In addition, dredging provides navigation safety for military, transportation and recreation vessels. The Bay Area Ports and oil terminals are vital to the economic health of the region; the military terminals provide for national security; ferries provide mass transport, and the smaller channels provide recreational opportunities on the Bay and its tributaries. The disposal of the dredged sediment at in-Bay disposal sites, i.e., fill in the Bay, as part of the federal Dredging Program provides public benefits that clearly exceed public detriment because the use of these sites are necessary to provide safe navigation in the Bay.

The disposal of up to 13.332 million cy of sediment, Bay fill, authorized herein results from the dredging of federal navigation channels. While this is the total volume of in-Bay disposal proposed in its request for concurrence, through discussions, the USACE stated that it would not be feasible to dredge the maximum volumes proposed for each channel in any year because the program is limited by equipment availability, funding, time, and other environmental requirements. USACE notes that between 2000-2022 the most it dredged in one year was 2.6 million cy. During the same timeframe, the most it disposed of in-Bay in one year was 1.5 million cy. However, the USACE is currently proposing to increase in-Bay disposal beyond its historic volumes to divert sediment from the deep ocean disposal site and include beneficial reuse while ensuring the full program achieves the least cost alternative.

The use of in-Bay disposal sites will help balance the cost of maintaining these channels with the beneficial reuse of the sediment at restoration sites. Because the in-Bay disposal sites are limited in approvable volume, location and acreage in the Commission's regulations and are closely managed by the state and federal regulator agencies, the impacts from disposal are limited to those four areas within the Bay.

Section 66605, Part (b) states that fill in the Bay and certain waterways for any purpose should be authorized only when no alternative upland location is available for such purpose, and Part (c) states that the fill should be the minimum necessary to achieve the purpose of the fill. In developing its Regional Dredged Material Management Plan 2025 (RDMMP), the USACE has examined its disposal needs for the next 20 years,

consistent with its “Federal Standard”<sup>2</sup> regulation, and identified available beneficial reuse sites, in bay disposal sites, upland and ocean disposal sites. The RDMMP includes dredging, disposal, and beneficial reuse projects both within and outside the Commission’s jurisdiction. The consistency determination submitted included the Main Ship Channel, the Ocean Beach Restoration Project, and two ocean disposal sites are with the Coastal Commission’s jurisdiction, and therefore are not included herein.

Alternatives to in-Bay disposal include beneficial reuse at wetlands or other sites, ocean disposal, and upland disposal. Beneficial reuse sites, including wetland restoration sites are often located in diked baylands (within the Commission’s shoreline band jurisdiction), provide an opportunity to use the dredged sediment as a resource, improve wetland habitat, and avoid Bay fill, but is often more expensive than in-Bay disposal of the sediment. The currently available sites are Montezuma Wetlands Restoration Project with approximately 13 million cubic yards of capacity remaining and Cullinan Ranch Restoration Project with approximately 1 million cubic yard capacity remaining. Montezuma and Cullinan Ranch both require a “tipping fee” for bringing sediment to the site that helps cover the costs of managing the sediment and restoration activities. The tipping fee and the distance to the beneficial reuse sites affect feasibility of these sites as alternatives to in-Bay disposal.

Disposal of the sediment at the deep ocean disposal site is more expensive than in-Bay disposal, requires ocean going scows, and 24 hours round trip to the site 55 miles out to sea. A closer ocean disposal site, the San Francisco Bar Channel, is approximately 3 miles outside of the Bay, but is limited to sandy sediment. Upland disposal sites are most often used for disposal of sediment from shallow draft channels. USACE has fiscal agreements with the local project sponsor for dredging of these channels which require the local government to provide an upland disposal site.

In developing the RDMMP, the USACE examined its full Dredging Program and the options for disposal or beneficial reuse available in 2025. In evaluating the current status, it established the Federal Standard sites and cost, approximately \$1.434 billion, or approximately \$72 million per year for the program. It also sought to maximize beneficial reuse of the dredged sediment in support of Congress’ yet unfunded directive to beneficially reuse 70% of its sediment by 2030<sup>3</sup>. To maximize the beneficial reuse of sediment consistent with its Federal Standard policy, the USACE developed four alternatives to the current program (the no action alternative). The first alternative includes diverting sediment from the deep ocean disposal site and balancing the cost of the program by increasing in-Bay disposal and beneficially reusing a portion of the

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<sup>2</sup> The USACE Federal Standard is defined as the least costly dredged material placement or disposal alternative or alternatives consistent with sound engineering practices that meets the environmental standards established by the 404(b)(1) evaluation process or ocean dumping criteria (33 CFR §335.7).

<sup>3</sup> Water Resources Development Act 2024, Section 1130.

sediment. The second alternative includes increasing the use of hydraulic hopper dredges in the Bay, increasing in-Bay disposal, and reducing ocean disposal. These two options are considered consistent with the Federal Standard and are the basis of this USACE consistency determination request.

The USACE included two additional alternatives in its RDMMP program, one with a cost-sharing partner as allowed by the 2020 Water Resources Development Act, and one that maximizes beneficial reuse of sediment, which both increase the cost of the program, and therefore do not meet the Federal Standard requirements. The two alternatives not proposed would result in less Bay fill but require additional funding beyond the Federal Standard. If additional funding is provided, the USACE would reduce in-Bay disposal in favor of beneficial reuse. Special Condition II-C requires the submittal of an integrated alternative disposal site analysis (IAA) on an annual basis that will include available funding, more specific volumes of beneficial reuse, in-Bay, and ocean disposal volumes, and a discussion of how the proposal for the upcoming year would maximize beneficial reuse and minimize in-Bay disposal. The requirement provides the opportunity for the Commission to work more closely with the USACE with real-time information rather than the projections included herein without specific knowledge of needs, funding, and equipment availability for the upcoming dredge season. The submittal of the IAA will provide more information on an annual basis about feasible alternatives to in-Bay disposal and available funding for beneficial reuse.

Section 66605(d) states in part “That the nature, location and extent of any fill should be such that it will minimize harmful effects to the Bay Area, such as, the reduction or impairment of the volume surface area or circulation of water, water quality, fertility of marshes or fish or wildlife resources;...” The fill associated with this program is dredged sediment that has been tested, reviewed by the Commission, and shown to be suitable for aquatic disposal. The disposal sites are authorized for multiple entities to use by the state and federal governments and have been in use for decades. The USACE in conjunction with the U.S. Environmental Protection Agency, Water Board, and Commission staff monitor them for mounding that would create navigation hazards. Special Condition II-J requires the USACE to continue monitoring the disposal sites to ensure safe navigation is not impacted consistent with the Bay Plan’s Navigation Safety and Oil Spill Policy 1. The inclusion of Special Condition II-G, H, and I include minimization measures that further reduce impacts to Bay Resources, specifically fish and wildlife, and are discussed further in the Natural Resources section below.

Impacts to water quality from disposal of sediment at in-Bay disposal sites are considered limited and temporary and will be discussed further in the Dredging and Water Quality Section below. Impacts to wildlife from their use are also considered limited due to the already-disturbed nature of the sites. These sites are in use for approximately 6 months of the year and likely have minimal recovery of habitat and

species when not in use. Because these sites are specially authorized for disposal of sediment, other areas of the Bay are not disturbed by disposal activities, thus localizing and minimizing effects to the Bay Area.

Sections 66605 (e) and (f) are not applicable as the fill authorized herein would not be used in a construction project that would result in unsafe conditions, nor is it being used to construct a permanent shoreline. Regarding whether the USACE has valid title to the property (Section 66605(g)), the State Lands Commission (SLC) owns the submerged tidelands where the dredged sediment is disposed. The USACE does not obtain a lease for the dredging or disposal activities, but rather claimed federal navigational servitude<sup>4</sup>, which SLC has accepted.

Based on the foregoing and as conditioned herein, the Commission concurs that 2026-2029 Operations and Maintenance Dredging Program is consistent to the maximum extent practicable with the McAteer-Petris Act Section 66605.

## **B. Natural Resource Protection**

The Bay Plan includes policies to protect the Bay's natural resources. They include the Fish, Other Aquatic Organisms, and Wildlife (Fish and Wildlife) and Subtidal Areas Policies. Fish and Wildlife Policies 1 and 2 and Subtidal Areas Policy 2 direct the Commission to ensure the benefits of native and special status fish and wildlife, and the habitats needed to support them, including that tidal marshes, flats, and subtidal areas are conserved, restored, increased, and protected for current and future generations. Subtidal Areas Policies 1 and 2 direct the Commission to fully analyze dredging and filling projects to determine the local and Bay-wide effects on the spread of invasive species; tidal hydrology and sediment movement, fish and wildlife; aquatic plants; and the Bay's bathymetry. Together they require that projects within Subtidal Areas are designed to minimize and/or avoid any harmful effects and be only allowed if there is no feasible alternative; and if it provides substantial public benefits.

Modern cargo ships that call at Bay ports and terminals have grown larger, requiring depths of thirty to fifty feet to navigate safely. Because the Bay is shallow, particularly near the shoreline where refineries and ports offload cargo, and where recreational marinas and docks are located, there is no alternative to dredging navigation channels. In fact, Government Code Section 66663 of the McAteer-Petris Act states that because of the shallowness and high sedimentation rate of the Bay, dredging is essential to maintain navigational channels, and goes on to note the important public benefits of navigation dredging to the Bay Area. While there is no dispute that dredging is essential to the region, how the USACE implements the Dredging Program can minimize impacts of the dredging through various means. The Long Term Management Strategy for the

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<sup>4</sup> The Commerce Clause: [United States Constitution \(Article I, Section 8, Clause 3\)](#).

Placement of Dredged Material in the Bay Region (LTMS) Management Plan implements a number of minimization measures, including reduction of in-Bay disposal, environmental work windows, testing requirements, and alternative disposal site analysis requirements, among others. The LTMS Program and its minimization measures have been used as the basis for programmatic biological assessments and biological opinions of the resources agencies, including NOAA's National Marine Fisheries Service (NMFS), the US Fish and Wildlife Service (USFWS), and California Department of Fish and Wildlife (CDFW). The USACE states that it will adhere to the LTMS Program

Dredging and dredged sediment disposal directly affects the natural resources of the Bay through water quality impacts (increased turbidity, chemistry), sediment removal (loss of habitat), wildlife impacts (removal through incidental capture and entrainment, burial, noise, loss of prey, respiration, etc.). As described, the proposed Dredging Program would impact native and listed species, particularly fish and invertebrates, that other species rely on, as well as habitat.

Dredging by its very nature disturbs habitat and removes species, particularly those that live in or on the sediment, and have little ability to move from the area. The type of dredge used can impact fish and wildlife differently and to a greater or lesser degree. Clamshell dredging entrains less fish because it creates a pressure wave while descending through the water, pushing them away from the head. It still removes animals on and within the sediment. Hydraulic dredges, using suction, entrain fish, plankton, and larvae from the water column as well as from the sediment. From the *Essays* monitoring reports the Commission can find a subset of fish that have been entrained, including state and federally listed salmonids, longfin and Delta smelt; managed fisheries species including anchovies, halibut, sturgeon, rockfish, a variety of flatfish, small sharks (spiny dogfish), and commercially important herring and Dungeness crab. Most invertebrates are not included in the monitoring program and therefore the rate of entrainment of these species is unknown. The USACE has not monitored entrainment by the small cutterhead dredges used in the shallow draft river channels. However, one small study by NMFS of a cutterhead dredge in Port Sonoma found that even while the cutterhead is inserted more deeply in the sediment, it still entrained small shrimp and crabs, and bottom dwelling fish including gobies, young flat fish, and some pelagic fish. Beyond the direct impacts to fish and wildlife that occurs from dredging, the indirect impacts to other species includes loss of prey within the dredged area until the invertebrate and fish community recover.

Once the sediment is dredged, it along with the animals it removes, is placed in a scow, the hull of a hopper dredge, or pumped through a pipeline to a disposal or beneficial reuse site. In the process many perish and those that survive may not be able to adapt to the new habitat or become easy prey. In addition, fish and wildlife living at the disposal or beneficial reuse site are buried or move away from the site to avoid

temporarily reduced levels of oxygen, increases of suspended sediment, and other changes that result in respiratory issues.

The primary measures included in the consistency determination and this Letter of Agreement focus on reducing impacts to listed species and species of special concern. They include the reduction of in-Bay disposal to 1.25 million cubic yards, averaged on a three-year basis to account for interannual variation in dredging needs and sedimentation rates. The USACE states “Noting that in-bay placement volumes [proposed] suggest potential to exceed LTMS agency goals, the RDDMP acknowledges that at the triennial LTMS review, if the average in-bay disposal volume from the prior three years exceeds the in-bay targets plus the 250,000-cy contingency, the LTMS agencies will initiate consideration of allocations.” In addition, through email communication, the USACE stated [T]hat it is infeasible that the individual channel maximums would all be dredged simultaneously in any given year because the program is limited by equipment availability, cost, time, and other environmental requirements that would make this unachievable. For example, the maximum total volume the USACE has dredged across the entire program in any single year between 2000-2022 was only 2.6 million CY (excluding Main Ship Channel). The maximum total volume placed in-bay in any single year during that timeframe was only 1.5 million CY.”

The USACE 2026-2029 Dredging Program is much like it has been in years past, the same channels are proposed to be dredged to the same depths, but it differs in other ways. For the 2026-2029 Dredging Program, the USACE proposes to increase hydraulic hopper dredging from 1 federal channel per year to potentially 7 channels, though the actual number of channels that would use a hydraulic dredge is dependent on equipment availability, contracting, and schedule. In an effort to include beneficial reuse in its Federal Standard Program, and keep programmatic costs similar to the prior Federal Standard, USACE would also increase in-Bay disposal, potentially to 3.627million cy annually, but more likely 1.5 million cy. The increased in-Bay disposal would potentially increase impacts fish and wildlife at and near the in-Bay disposal sites by increasing suspended sediment load and changes to water quality more frequently or for longer periods of time.

The second primary measure of the LTMS Program to reduce impacts to species is the use of environmental work windows to reduce dredging and dredged sediment disposal to months of the year that species are less likely to be present in large numbers or at vulnerable life stages, such as migration, breeding, and spawning (including bird nesting season). The environmental work windows were established through programmatic consultations with the resources agencies in 1998 through consultation on the LTMS Program. The resources agencies have reconfirmed the environmental work windows through multiple amendments to their respective biological opinions. The majority of dredging projects within the Bay are subject to an environmental work window of June

1<sup>st</sup> through November 30<sup>th</sup>. Oakland Harbor and the areas east of Carquinez Strait are subject to an environmental work window of August 1<sup>st</sup> to November 30<sup>th</sup>. USACE states in its consistency determination that “The projects will comply with the terms and conditions of the NMFS’ and USFWS’ biological opinions and conservation recommendations.” Most notably, NMFS and USFWS amended their programmatic opinions in 2015 and 2025 respectively. In these amendments, they provided a provision to dredge outside the work window with beneficial reuse of the dredged sediment at a wetland restoration site that provides fish habitat benefits, with a focus on sediment being placed in the same year unless infeasible. However, recognizing there are sometimes circumstances in which it is infeasible to complete the dredging activity in the work window, NMFS and USFWS have allowed, in these circumstances, that an equivalent volume of sediment not previously included in the regulatory agencies’ integrated alternative disposal site analysis to be beneficially reused the following year. The USFWS 2025 biological opinion references the NMFS 2025 biological opinion regarding dredging outside the environmental work window.

USACE, while agreeing to work in compliance with the biological opinions, appears to be proposing to use its hydraulic dredge to dredge fully outside the work window and dispose of the dredged sediment at in-Bay disposal sites due to the inability of the *Essayons* to pump sediment out of its hull and place it at a restoration site and the inefficiency of taking it to the ocean disposal site. To allow for in-Bay disposal outside of the environmental work windows (June 1 – November 30 and August 1 to November 30), USACE mitigates for impacts by beneficially reusing sediment from another USACE project in accord with the calculations included in Special Condition II-H.4.

Because this was a new proposal and did not appear covered by the NMFS and USFWS programmatic biological opinions (NMFS 2015 and USFWS 2025), Commission staff met with USACE and NMFS staff to further discuss this issue. NMFS clarified that the intent of its biological opinion was to allow work outside the work window with majority of the volume being beneficially reused. NMFS staff stated that the biological opinion did not analyze large volumes in-Bay disposal during the restricted period and directed the USACE and Commission staff to the analysis:

**“Since most disposal events will not occur during the migration season of listed anadromous salmonids [per the LTMS Program], this measure is expected to significantly reduce this source of potential injury and mortality for listed salmonids. However, on an annual basis up to 50,000 cubic yards of material (i.e., 3 to 5% of the annual in-bay disposal volume) may be placed at an aquatic in-bay disposal site and some larger projects also can utilize in-bay disposal sites outside the work window if they mitigate in the future by placement of a like volume of material at beneficial reuse site during the work window. This in-water disposal of dredged material during the period**

**from December 1 through May 31 at the four in-bay sites is anticipated to result in the loss of a likely very small number of listed adult and smolt anadromous salmonids.** Because of the restrictions on in-bay disposal, NMFS anticipates **that in some years no salmonids will be injured or killed** and those that are in other years will constitute a very, very small fraction of the number of these fish that migrate through the Bay, given the very small size (a few hundred square feet) and short duration (minutes) of high levels of suspended sediment in the disposal release compared to the size of the migration corridor (miles) and duration of migration period (months) in the bay."

-Emphasis added by NMFS

In the discussions with USACE and NMFS, USACE requested that the Commission modify the special condition regarding work outside to the work window to mirror NMFS terms and conditions. Thus, Special Condition II-G.3. has been modified as requested consistent with the NMFS letter to USACE dated in its letter to USACE clarifying that the NMFS Amendment to the LTMS Programmatic Biological Opinion included the USACE projects. NMFS included an additional term and condition directed to the USACE in that letter. Special Condition II-G.3. has been modified consistent with that request with a few minor edits for clarity.

As described, increase in hydraulic dredging would entrain more fish and invertebrates of various life stages living in the water column and on or near the bottom. Increases in hydraulic dredging during the restricted period has potential to entrain more listed species during sensitive life stages due to their increased presence in the Bay. Special Condition II-G is included to reduce that impact. During the conversations regarding impacts to special status fish from dredging outside the environmental work window, USACE noted that it may reinitiate consultation with the resources agencies.

In reviewing the Bay Plan Subtidal Areas Policy 1, the potential to introduce or spread invasive species is likely limited. Much of the dredge equipment is regularly used in the Bay, but equipment brought from other locations are subject to the State Lands Commission's Marine Invasive Species Program. There is potential for sediment dredged from Suisun Bay and disposed of at the Carquinez Strait disposal site to spread invasive Asian clams, but this has not been observed to date. In considering potential impacts to tidal hydrology and sediment movement, continually removing sediment from one part of the Bay and disposing it in another part of the Bay does impact sediment movement and bathymetry, but it is unclear whether it impacts tidal hydrology. The most recent study by USGS on changes to Bay bathymetry, identified the Oakland federal channel as one of the most "erosive" sites in the Bay (Fregoso et.al, 2025)<sup>5</sup>. Furthermore, the study

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<sup>5</sup> Contributions of Erosion, Deposition, and Human Activities to a Change in Sand Storage in the Bed of San Francisco Bay,

concluded that the Bay keeps losing sediment and Bay floor continues lowering over time. From a physical perspective, when sediment is removed from an area, thereby creating a deeper area than naturally occurs, the water slows, allowing sediment to settle into the deeper area. Since the deepening of Oakland federal navigation channel to minus 50 feet MLLW, sediment continually deposits at significant rates, requiring significantly more dredging than when it was dredged to a shallower depth. Since its completion in 2010, there have been multiple episodes in which over 1 million cy of sediment were dredged, making it the highest removal rate of any dredging activity in the Bay.

Regarding potential impacts to aquatic plants, eelgrass is located near but not in the Oakland and Richmond Inner harbors federal channels. The USACE has conducted light monitoring for several years. Light monitoring determines whether the additional suspended sediment from dredging results in increased turbidity, thus, reducing light transmission through the water and impacting eelgrass photosynthesis. The other potential effect is whether enough sediment is removed adjacent to the eelgrass bed to cause erosion and reduce the ability of eelgrass to exist or expand its range. To date, the monitoring reports have not found significant reduction of light transmission. The potential to erode the adjacent substrate has not been evaluated. Special Condition II-1.3 is included so the Commission can continue to assess potential impacts to eelgrass beds from increased turbidity from dredging activities.

Together Subtidal Areas Policies 1 and 2 require projects to minimize and/or avoid any harmful effects. It directs the Commission to only authorize harmful projects if there is no feasible alternative and it would provide substantial public benefits. The review of the Dredging Program has determined there are no feasible alternatives and it provides substantial public benefits. As proposed, and if performed with the maximum use of hydraulic dredges or in-Bay disposal, the program would not minimize or avoid harmful effects. Because the full extent of the Dredging Program implementation is unknown, it is difficult to determine if the effects can be minimized. One available minimization measure is to minimize the impact of hydraulic dredging in favor of clamshell dredging to reduce entrainment. The USACE has argued that hydraulic dredging is faster than clamshell dredging, but USACE has provided no comparative analysis between the two when it comes to the primary difference in harmful effects, specifically entrainment of fish and wildlife.

As explained in the USACE/Water Board Environmental Assessment and Environmental Impact Report:

“Fish are believed to be more susceptible to entrainment from hydraulic (i.e., hopper and cutterhead-pipeline) dredging than mechanical (i.e., clamshell) dredging (USACE and USEPA 2024). Under mechanical dredging, pressure waves caused as the dredge is dropped and lifted help push the fish away from the dredge, whereas hydraulic dredges pull the fish towards the dredge. Additionally, less water is removed during mechanical dredging. Demersal fish and crustaceans that live on the bottom are at higher risk of entrainment from both methods. Entrained fish likely would suffer direct injuries that may result in mortality. Green and white sturgeon are also at risk of entrainment, though research into how sturgeon are affected by dredging operations is limited (Balazik and Clarke 2024). Entrained crustaceans that may survive would be transported and released with dredged material, which could be in upland locations, or habitats that are less suitable to support the species.”

The USACE has offered minimization measures for hydraulic dredging, which are required in Special Condition II – H.3. In its consistency determination USACE also states that dredging would occur within the environmental work windows set forth in the NOAA and USFWS amended LTMS Programmatic Biological Opinions (2015 and 2025 respectively). “The USACE will dispose of dredged material according to the LTMS work windows, which were established in coordination with the USFWS, NMFS, and CDFW. At times, unforeseen circumstances have required USACE to dredge outside of the work windows. During these times, USACE consults with the appropriate federal agency.” It is important to note that the USACE regularly and consistently dredges outside of the work windows. When it does this, it takes the sediment dredged outside of the work windows to beneficial reuse as mitigation for this impact, consistent with NMFS’s amended LTMS Programmatic Biological Opinion (2015) within the same year or the following year.

Special Condition II – G is included to require the mitigation through beneficial reuse but allows for the USACE to complete the mitigation before dredging outside the work window, and/or provide the mitigation in the following dredge season. Because of the sensitive life stages, specifically spawning and larval fish development, and likely high entrainment, Special Condition II – H.1, limits hydraulic dredging in channels within spawning areas to times of the year that spawning is not occurring. Herring primarily spawn in Central Bay. Richmond Harbor and Oakland Harbor federal channels are within the herring spawning grounds.

The Commission staff met with the USACE and the California Department of Fish and Wildlife (CDFW) to further understand the potential impacts of hydraulic dredging in Richmond Inner and Outer Channels as well as the Oakland Channel outside the environmental work window and during herring spawning season. The USACE is requesting flexibility to take advantage of potential availability of the *Essayons* dredge outside of the environmental work window. CDFW staff raised significant concerns regarding entrainment of fish, eggs, and larval fish by hydraulic dredges working within the spawning area during the spawning season. CDFW noted that it manages critical fish species within this important commercial fishery and has 40 years of data documenting herring spawning and its population decline in San Francisco Bay. The Pacific Herring Fishery Management Plan describes the life cycle and ecology of this species, as well as the fishery, its management actions, and the population levels through 2019. As described, herring migrate vertically in the water column each day, migrating to the lower water column during the day where dredging would be taking place, and to the top of the water column at night. In addition, herring eggs and larval fish would not have the ability to withstand the suction forces of the dredge head. Therefore, the Commission has included Special Condition II-H.1. restrict hydraulic dredging during the herring spawning season in Richmond and Oakland federal navigation channels.

Based on the foregoing and as conditioned herein, the Commission concurs that 2026-2029 Operations and Maintenance Dredging Program is consistent to the maximum extent practicable with Bay Plan's Fish, Other Aquatic Organisms, and Wildlife and its Subtidal Areas policies.

### C. **Dredging and Water Quality**

The McAteer Petris Act and the Bay Plan include policies to protect water quality, provide for, and minimize impacts from dredging in support of safe navigation. Section [66663.1](#) in summary, directs the Commission to: promote using dredged sediment as a resource, such as creating new wetlands and maintaining existing levees; protect Bay resources; and manage and assure monitoring of dredging and disposal activities. Bay Plan Dredging and Water Quality Policies further define how to implement dredging and dredged sediment disposal per the McAteer-Petris Act. Dredging Policy 1 states that dredgers shall collectively reduce disposal in the Bay and certain waterways over time to a maximum of one million cubic yards per year as described in the LTMS program, and if this cannot be accomplished, the Commission should consider and potentially impose allocations. Dredging Policy 2 directs the Commission to authorize projects that serve water-oriented uses, (as described above in the fill policy discussion), meets the water quality requirements of the Water Board, protects fisheries and Bay natural resources, and would dredge the minimum amount necessary for the project. Water Quality Policies 1 directs the Commission to protect water quality such that beneficial uses of

the Bay, particularly fish and wildlife, are maintained and, where possible, conserve and restore tidal marshes to protect water quality.

Dredging Policy 3 states in summary that dredged sediment should not be disposed in the Bay and certain waterways unless disposal outside these areas is infeasible, and the Commission finds: the volume to be disposed of is consistent with applicable dredger disposal allocations and disposal site limits adopted by the Commission; disposal would be at a site designated by the Commission; the sediment quality is consistent with the advice of the Water Board and the Dredged Material Management Office (DMMO); and the timing of disposal is consistent with the advice of state and federal resources agencies. Water Quality Policy 2 directs the Commission to protect the Bay from harmful discharges of pollutants, consistent with the Water Board's decisions and recommendations, and similar requirements of Dredging Policy 3.

In the USACE's consistency determination, it describes the amount of sediment dredged for each channel since 2006 and provides the average and the maximum volume dredged during this period to "bookend" the proposed project. For most of the projects within its program, the likely dredging scenario is near the average volume. However, if trends continue for Oakland Harbor, its volume may be better represented by the maximum volume dredged. The authorization section includes the range of potential dredge volumes for each project to allow for interannual variability associated with sedimentation rates, funding availability, and equipment availability. Similarly, the disposal of dredged sediment or its beneficial reuse would depend on many of the same factors.

The program, if implemented as currently described would substantially increase in-Bay disposal beyond the 1 million cubic yards described in Dredging Policy 1, especially if any other dredger required in-Bay disposal in the same year. In the past ten years, non-USACE dredgers disposed of between 230,000 and 635,000 cy per year. If the full program was implemented with in-Bay disposal volumes as described, the Commission would need to consider implementation of an allocations system would be warranted (given the success or lack thereof of voluntary efforts to meet the 1 million cubic yards target set by Dredging Policy 1). The USACE proposes to dispose of up to 3.627 million cubic yards of sediment at in-Bay disposal site in its maximum Dredging Program, with approximately twenty-percent beneficial reuse, or 985,000 cy. Its average programming would provide between 140,000 and 575,000 cy of beneficial reuse of sediment and between 1.087 and 1.402 million cy of in-Bay disposal. Both scenarios include only the federally funded program with no additional funds provided from other sources.

However, the question of whether the USACE would implement the program as proposed, and whether feasible alternatives to in-Bay disposal exist on an annual basis has not yet been determined. The USACE has provided assurances to the Commission

within its consistency determination request that “Sediment will be dredged using mechanical and hydraulic methods and is proposed for placement at various sites, in compliance with the Long-Term Management Strategy (LTMS) and other applicable regional sediment management goals.” (July 2025). It is also important to note that the USACE has recently been directed by Congress through the Water Resources Development Act 2024 to beneficially reuse seventy percent of its dredged sediment nationally. In the past three years, when additional funding was available, the USACE used that funding to increase beneficial reuse.

Special Condition II – C requires the USACE to provide an annual integrated alternative disposal site analysis to the Commission by March 31<sup>st</sup> of each year for review and approval. This document would include the proposed dredging, disposal, and beneficial reuse volumes for each year, with an analysis of why the proposal is feasible. Because this document would be prepared and provided in the same federal fiscal year as the dredging, the USACE will better understand the amount of allocated funds at that time. In addition, USACE would know whether there are additional funds available from other sources including funding from the State Coastal Conservancy or the Section 1122 program. Lastly, it would also have an idea of equipment availability and how to balance the equipment type and potential mitigation requirements. Special Condition II – K requires the USACE to provide an annual briefing to the Commission regarding how it is meeting the goals of maximally beneficially reusing sediment and includes specific criteria for this report. This report creates an accountability mechanism that will help the Commission analyze whether the USACE is complying with its Letter of Agreement and commitment to beneficial reuse.

Water quality concerns often arise regarding dredging and dredged sediment disposal or its beneficial reuse in wetland restoration projects. The USACE provides sampling and analysis plans and test results for each project proposed for dredging to the Dredged Material Management Office (DMMO) for review and determination of sediment suitability for in-Bay, ocean, and beneficial reuse in wetland restoration projects. The majority of the sediment is determined to be suitable for reuse and in-Bay disposal. When the DMMO determines that sediment is not suitable for beneficial reuse, then an alternative disposal site is used. This process, along with the testing program, and the Water Boards water quality certification/waste discharge requirements issued in December 2025, assure that the water quality of the Bay is protected and supports natural resources within the Bay. Special Conditions II – E and F require information regarding the sediment quality be submitted to the Commission for review and approval prior to each dredging episode to ensure that water quality and habitat quality is protected.

Regarding protection of Bay species and adherence to the recommendations of the resource agencies, the USACE has stated that it will conduct dredging and dredged sediment disposal within the environmental work windows described in the LTMS Management Plan and the requirements of the LTMS Programmatic Biological Opinions issued by NMFS and USFWS in 2015 and 2025, respectively. At the same time, it commits to taking dredged sediment to beneficial reuse sites that provide fish habitat as mitigation for work outside of the work windows, either in the same year or the following dredge season. This practice is consistent with NMFS and USFWS's biological opinions because building wetlands improves the overall health of the Bay and provides both habitat and food to support native and listed species. Special Condition II – G requires the dredging within the work window and a process for evaluating time extensions to the windows, consistent with the resources agencies decisions. Special Condition II – H limits the timing and location of hydraulic dredging in areas of the Bay that are important spawning habitat for Pacific herring, longfin and Delta smelt. With these conditions in place, dredging and dredged sediment disposal is consistent with the advice and recommendations of the resources agencies.

Based on the foregoing and as conditioned herein, the Commission concurs that 2026-2029 Operations and Maintenance Dredging Program is consistent to the maximum extent practicable with Bay Plan's Dredging and Water Quality policies.

#### **D. Mitigation**

According to the Bay Plan Mitigation policies, projects should be designed to avoid adverse environmental impacts to Bay natural resources including water quantity and quality, circulation, wildlife, and habitats. When adverse impacts cannot be avoided, they should be minimized, and unavoidable adverse impacts to natural resources should be required. Mitigation Policy 5 states that amount and type of compensatory mitigation should be determined for each mitigation project based on a clearly identified rationale that includes an analysis of the probability of success; the expected time delay between the impact and the functioning of the mitigation site; and the type and quality of the ecological functions provided by the mitigation site as compared to the area impacted. Mitigation Policy 7 states that the mitigation should be provided prior to, or at the same time as the project causing the adverse impacts to the extent practicable.

The Mitigation Policies require avoidance of impacts first, minimization second, and mitigation to compensate for impacts that cannot be avoided. While dredging impacts cannot be avoided, the choice of dredge can minimize impacts due to entrainment in hydraulic dredges. As discussed in the Natural Resources section, the increase in hydraulic dredging proposed in the Regional Optimization Alternative would increase loss of native and listed species through entrainment compared to entrainment that

would occur if a clamshell dredge was used. At this time, it is unknown whether the USACE will be able to contract with additional hydraulic dredges, or whether the *Essayons* or *Joaquina* will be available to dredge additional channels. Because the USACE has proposed this scenario and it is being authorized herein, the Commission must consider and determine necessary and appropriate minimization and mitigation measures for the full proposed Dredging Program.

USACE proposes to mitigate for impacts of hydraulic dredging by beneficially reusing sediment from another USACE project the same year at a wetland restoration site that provides fish habitat. Special Condition II – H.5 requires the use of an equation to calculate the amount of mitigation credits that would be provided if an appropriate mitigation bank is available. It also includes an equation to calculate the amount of dredged sediment to be beneficially reused if a mitigation bank is not available. Purchase of credit from a mitigation bank would satisfy the mitigation policies more fully as mitigation banks have restored the habitat in advance of the purchase of the credit, providing the benefits of the mitigation at the same time as the impact occurs.

However, if a mitigation bank is not available, the USACE commits to an alternate mitigation plan - beneficial reuse of dredged sediment. While the Commission agrees that beneficial reuse of dredged sediment at a restoration site will provide fish habitat, the mitigation included does not fully meet Mitigation Policy 7 because the benefits would likely be delayed by a few to several years. It is likely that the mitigation would be dependent on other non-USACE projects, or work outside the work windows by USACE to provide enough sediment to a site to raise the elevation sufficiently to breach the site. Special Condition II – H.6 requires an analysis of the effectiveness of the mitigation strategy be provided to the Commission after 3 years of program implementation to assist in determining whether the strategy is working or should be revised in future hydraulic Dredging Programming.

The USACE has also agreed to mitigate for dredging outside of environmental work windows by beneficially reusing sediment, or an equivalent volume of sediment in the following dredging season. This mitigation was originally included in NMFS 2015 amended LTMS Programmatic Biological Opinion. This mitigation program provides a one-to-one ratio of sediment removed and beneficially reused. At this rate, significant volumes of sediment have been used to restore wetlands, with likely breaching of one project in the near future. While dredging within the work windows would avoid additional impacts, due low populations of listed salmonids during that period, the required mitigation may provide additional wetland and fish habitat in the near future.

Also of note, the USACE has committed to re-initiating formal consultation with NMFS and USFWS for the Regional Dredged Material Management Plan and its identified Regional Optimization alternative. Should either of these agencies require additional mitigation, the USACE shall comply with those requirements.

Based on the foregoing, the Commission concurs that as the 2026-2029 Operations and Maintenance Dredging Program as conditioned herein is consistent to the maximum extent practicable with Bay Plan's Mitigation policies.

## **E. Environmental Justice and Social Equity**

The Commission's Environmental Justice and Social Equity Policy 3 states, in part that "Equitable, culturally-relevant community outreach and engagement should be conducted by project applicants to meaningfully involve potentially impacted communities for major projects in underrepresented and/or identified vulnerable and/or disadvantaged communities, and such outreach and engagement should continue throughout the Commission review and permitting processes. Evidence of how community concerns were addressed should be provided. If such previous outreach and engagement did not occur, further outreach and engagement should be conducted prior to Commission action.

The USACE's 2026 - 2029 Dredging Program identified several disadvantaged and vulnerable communities located within 1.5 miles of Richmond, Oakland, Pinole and Suisun Channels. West Oakland, southeast Richmond, Pittsburg, and Antioch were identified as the most socially vulnerable. According to the USACE, the preliminary concerns include air and water quality impacts, water contact recreation, and fishing. In addition, the USACE initiated tribal consultation, met with representatives from the Federated Indians of Graton Rancheria, and received comments from Confederated Villages of Lisjan and the Amah Mutsun Tribal Band. In response to these comments the consultation process is still active, with an additional 60 Tribes evaluating the potential presence of cultural resources and ways to avoid impacts on these resources.

In conducting its environmental and social justice outreach, the USACE describes in its NEPA document inviting approximately 110 community and faith-based organizations to a virtual public meeting on October 15, 2024 to provide information about the maintenance Dredging Program and the upcoming NEPA/CEQA process. Thirteen entities registered for the meeting, but only San Francisco Baykeeper, Acterra, San Francisco Bay Conservation and Development Commission, and Contra Costa Resource Conservation District representatives attended.

According to the USACE, during the summer of 2024, these 13 organizations were contacted and invited to meet with the outreach team individually to learn more about the RDMMP and to assist in identifying any future opportunities for placement sites that could benefit their community. The team held at least 10 such meetings.

Based on the foregoing, the Commission concurs that as conditioned herein, the 2026-2029 Operations and Maintenance Dredging Program is fully consistent with Bay Plan's Social Equity and Environmental Justice policies.

#### **F. Public Trust Uses**

The dredging and disposal of dredged sediment authorized herein is occurring on and in tidelands of the State subject to the public trust. Dredging inherently is considered public trust use because it ensures navigability of shallow Bay waters. In-Bay disposal is a direct result of dredging, and in some cases is the only feasible option due to equipment, site availability, and funding availability. It does impact other public trust uses of the Bay and public trust needs because it impacts water quality, fish and wildlife habitat, and fisheries by entraining native and listed species, thus reducing fish and wildlife resources of the Bay. The project is consistent with public trust needs for safe navigation for ship transporting goods and recreational opportunities to the Bay for marinas and homeowners. Even so, the USACE has made a determination of federal navigational servitude for the federal channels and use of State tidelands, and the State Lands Commission, which maintains the Public Trust, has agreed with the determination.

Based on the foregoing, the Commission concurs that as conditioned herein, the 2026-2029 Operations and Maintenance Dredging Program is fully consistent with Bay Plan's enforceable policies regarding the public trust.

#### **G. Coastal Zone Management Act**

As described and conditioned herein, the San Francisco Bay Conservation and Development Commission finds the USACE 2026-2029 consistency determination consistent to the maximum extent practicable with the federal certified Coastal Zone Management Program for San Francisco Bay.

#### **H. Environmental Review**

The Coastal Zone Management Act does not require the USACE to conduct a National Environmental Policy Act (NEPA) review to submit a consistency determination under the CZMA. However, due to its own regulations and the regulations of the Water Board who is subject to the California Environmental Quality Act (CEQA), an integrated Environmental Assessment (EA) and Environmental Impact Report (EIR) was prepared for the USACE's 2026-2029 Operations and Maintenance Dredging Program entitled "San Francisco Bay Federal Channels Operation and Maintenance Dredging and Sediment Placement Activities, Dredging Years 2025 – 2034." The NEPA process found that the impacts were less than significant, and the CEQA process found that there were impacts that required mitigation, primarily impacts to listed species, and required mitigation for hydraulic dredging, thus reducing the impacts to less than significant.

## **IV. Standard Conditions**

### **A. Letter of Agreement Execution**

This Letter of Agreement shall not take effect unless the USACE executes the original of this Letter of Agreement and returns it to the Commission within ten days after the date of the issuance of the Letter of Agreement. No work shall be done until the acknowledgment is duly executed and returned to the Commission.

### **B. Other Government Approvals**

All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U. S. Army Corps of Engineers, the Regional Water Quality Control Board, and the city or county in which the work is to be performed, whenever any of these may be required. This Letter of Agreement does not relieve USACE of any obligations imposed by State or Federal law, either statutory or otherwise.

### **C. Performed Work Must be Consistent with Application**

Work must be performed in the precise manner and at the precise locations indicated in USACE's consistency determination request, as may have been modified by the terms of the Letter of Agreement and any plans approved in writing by or on behalf of the Commission.

### **D. Life of Authorization**

Unless otherwise provided in this Letter of Agreement, all the terms and conditions of this Letter of Agreement shall remain effective for so long as the Letter of Agreement remains in effect.

### **E. Permission to Conduct Site Visit**

The USACE shall grant permission to any member of the Commission's staff to conduct a site visit at the subject properties during and after performance of work to verify that the project is being and has been performed in compliance with the authorization and conditions contained herein. Site visits may occur during business hours without prior notice and after business hours with 24-hour notice.

### **F. Best Management Practices**

#### **1. Debris Removal**

All debris shall be removed to an authorized location outside the jurisdiction of the Commission. In the event that any such material is placed in any area within the Commission's jurisdiction, the USACE or their contractors shall remove such

material, at their expense, within ten days after they have been notified by the Executive Director of such placement.

## 2. Construction Operations

All construction operations shall be performed to prevent construction materials from falling, washing or blowing into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, USACE or its contractors shall immediately retrieve and remove such material at their expense.