DREDGING AT LAGOON INTAKE STRUCTURE
INITIAL STUDY

City of Foster City

September 16, 2016

URBAN PLANNING PARTNERS INC.

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Appendix 1: Air Quality

PROJECT DESCRIPTION

1. **Project Title:** Dredging at the Lagoon Intake Structure (CIP 301-629)

2. **Lead Agency Name and Address:**
   City of Foster City
   Community Development Department
   610 Foster City Boulevard
   Foster City, CA 94404

3. **Contact Person and Phone Number:**
   Kohar Kojayan
   Planning Manager
   kkojayan@fostercity.org
   650-286-3237

4. **Project Location:**
   The project site is located within Angelo Slough (also referred to as the West Intake Channel), west of Sea Cloud Park in Foster City, San Mateo County, and west of Angelo Slough adjacent to Sea Cloud Park (APNs 097-080-050 and 097-080-030).

   Project Sponsor's Name and Address:

   City of Foster City
   Community Development Department/Public Works Department
   610 Foster City Boulevard
   Foster City, CA 94404

5. **General Plan Designation:**
   The land portion of the dredging and staging sites as well as two of the potential disposal sites (Sea Cloud Phase II sedimentation basin and Sea Cloud Park upland disposal) are designated Parks and Recreation or Open Space. The staging area is designated Parks and the paved bike and pedestrian path, which connects Sea Cloud Park to the Levee Pedway and Wheel House Lane, is designated Open Space. The area

along the levee immediately adjacent to Angelo Slough, including the Levee Pedway, is designated Open Space. The in-water portion is designated Water.

6. **Zoning:**

   The land portion of the dredging and staging sites as well as two of the potential disposal sites (Sea Cloud Phase II sedimentation basin and Sea Cloud Park upland disposal) are zoned Open Space and Conservation (OSC). The levee and water areas, including the Levee Pedway, are zoned Open Space and Conservation with Aquatic (OSC/W).

7. **Description of Project:**

   The following project description details the location of the project site, surrounding land uses, project components, and background about the regulatory requirements to complete the project as proposed.

Project Site

The Dredging at the Lagoon Intake Structure project (proposed project) would involve construction activity at the following two locations:

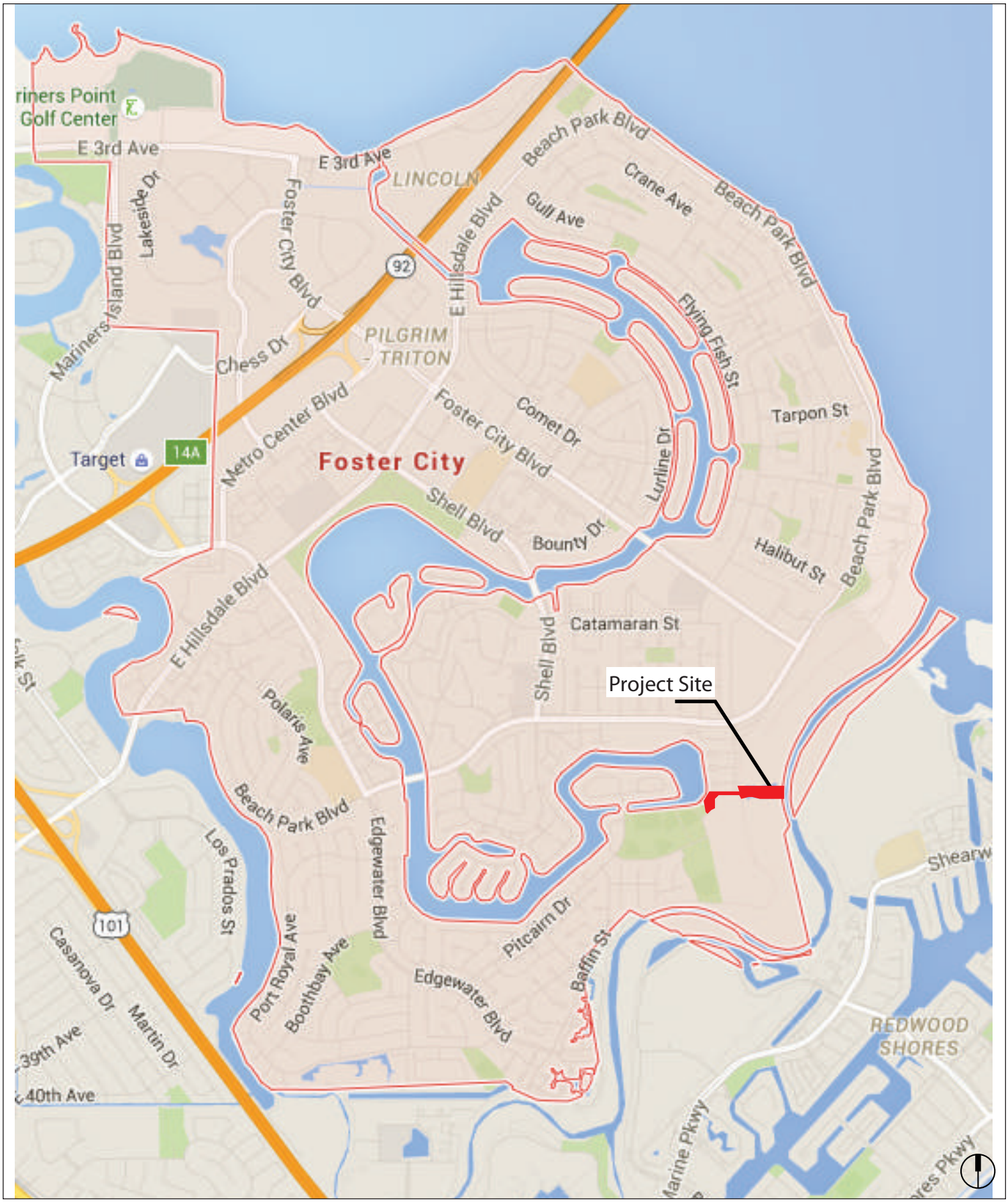
(1) Construction staging area (*staging site*)

(2) Dredging area at Angelo Slough (*dredging site*)

The staging and dredging sites combined include 4.3 acres on the southeast side of Foster City, oriented east-west between Belmont Slough and Sea Cloud Park, near the West Intake Structure within Angelo Slough. Figure 1 shows the regional location and Figure 2 presents the site plan and location within Foster City. The staging area and dredging site are collectively referred to as the "project site."

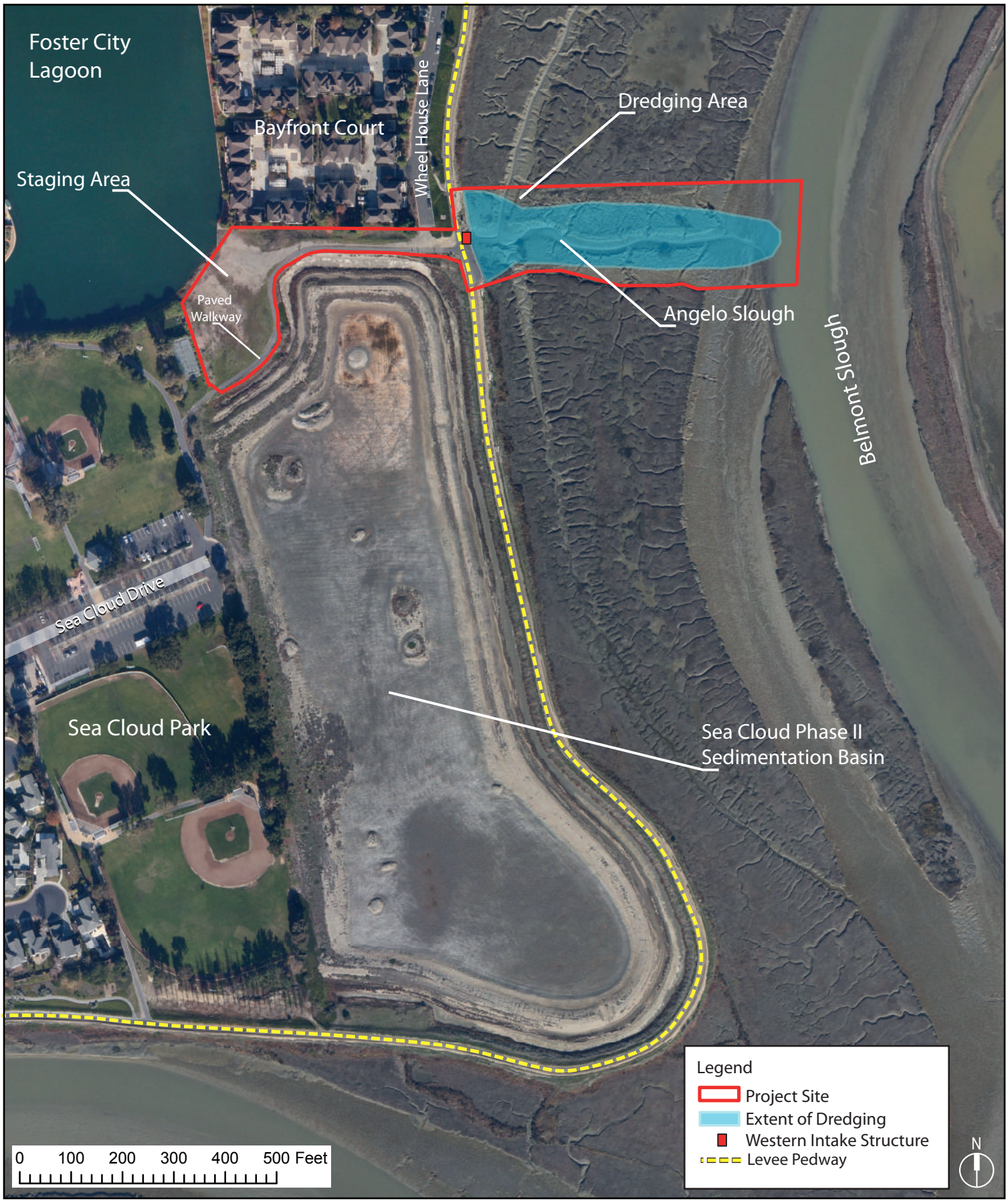
Dredge Disposal Options

The City of Foster City has identified five potential sites for the disposal of dredged material (referred to as "Dredge Disposal Options"), as follows:



Source: Huffman-Broadway Group, 2015, Google, 2016

Figure 1
Project Vicinity



Source: Huffman-Broadway Group, 2015

Figure 2
Project Site

Foster City Dredging at the Lagoon Intake Structure IS-MND

(1) **Dredge Disposal Option 1**: Sea Cloud Phase II sedimentation basin site (also known as the Foster City Lagoon dredge disposal site), adjacent to the staging and dredging sites.

(2) **Dredge Disposal Option 2**: Cullinan Ranch Wetland Restoration Project site.

(3) **Dredge Disposal Option 3**: Montezuma Wetland Restoration Project site.

(4) **Dredge Disposal Option 4**: Sea Cloud Park upland disposal site, along the western levee immediately west of the Sea Cloud Phase II site.

(5) **Dredge Disposal Option 5**: SF-11 Alcatraz disposal site, in San Francisco Bay.

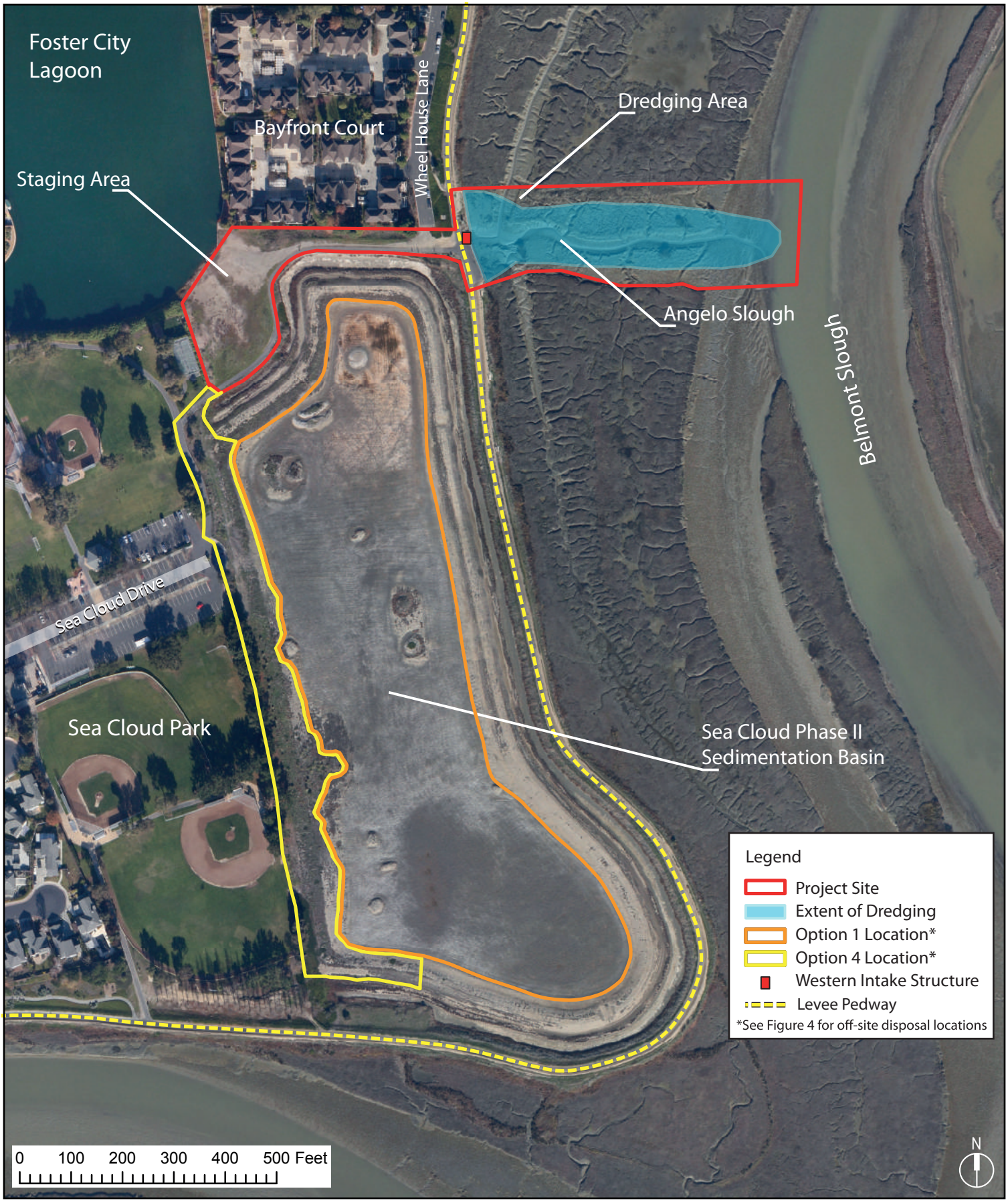
Two of the dredge disposal sites (**Options 1 and 4**) are immediately adjacent to the dredging and staging sites as shown in Figure 3, whereas the other three (**Options 2, 3** and **5**) are located off-site outside Foster City. Figure 4 shows the regional location of all disposal sites including the three off-site disposal locations. Each site is described in more detail below.

Staging and Dredging Sites

The 4.3-acre project site encompasses the staging and dredging sites and is accessible from Sea Cloud Park from the west via Sea Cloud Drive, off Pitcairn Drive and Edgewater Boulevard, or from the north from Wheel House Lane via Beach Park Boulevard.

The 2.78-acre dredging site is located outside the Foster City Levee near Sea Cloud Park within Angelo Slough. Angelo Slough hydrologically connects the Foster City Lagoon (Lagoon) to Belmont Slough and ultimately to San Francisco Bay. Within Angelo Slough is the Lagoon western intake structure, which is located at the western terminus of Angelo Slough immediately east of the Levee Pedway[1], and the Bay Level Transducer, which is hangs from the top of the intake structure. The western intake structure runs underneath the dredging site from west to east and has openings in both Angelo Slough and the Lagoon, allowing tidal waters to flow from Angelo Slough into the

[1] The Bay Trail and Belmont Slough Trail are along the same alignment as the Levee Pedway. For clarity, these trails are collectively referred to as the Levee Pedway throughout this document.



Source: Huffman-Broadway Group, 2015

Figure 3
Disposal Options 1 and 4

Source: SF Gate Maps, 2016

Figure 4
Disposal Locations Map

Lagoon. The top of the western intake structure is at grade with and immediately east of the Levee Pedway; it is fenced off with metal wire fencing to prevent public access from the Levee Pedway to the structure.

The dredging would take place below the high tide line and mean high water line within Angelo Slough. The entire 2.78-acre dredging site is composed of jurisdictional waters of the United States (U.S.) and State lands (submerged lands) and is a mostly unvegetated intertidal area surrounded by salt marsh vegetation. Dredging activity would occur within approximately 1.73 acres of the 2.78-acre dredging site, mostly in the unvegetated intertidal area. Figure 2 shows the 1.73-acre area in which the dredging would take place.

The 1.52-acre staging site is located immediately west of the dredging site. The Levee Pedway forms the eastern boundary of the staging site. The southern boundary of the project site abuts the edge of a paved multi-use path. This path runs east to west, connecting the Levee Pedway and the residential areas north of the dredging and staging sites to Sea Cloud Park. The Sea Cloud Phase II Basin is located south of the multi-use path. To the north, the staging site abuts the terminus of Wheelhouse Lane and the rear property lines of the residences located south of Rudder Lane. The western edge of the staging site abuts the Lagoon and Sea Cloud Park. Aside from the path leading to Sea Cloud Park and the Levee Pedway, the staging site is composed of undeveloped open space and recreation area that has some sparse non-native upland vegetation. The staging site does not include jurisdictional waters of the U.S.

The Levee Pedway, which runs along the edge of Belmont Slough from north to south, provides views of the Angelo and Belmont Slough and pedestrian and bicyclist access to the project vicinity from the north and south, as shown in Figure 2. The Levee Pedway trailhead is located within the staging site, and can be accessed from the west by the multi-use path that connects the trail to Sea Cloud Park and from the north. The Levee Pedway is paved in the project vicinity and a metal fence runs along the eastern edge of the trail, separating it from the sloughs.

There are no existing buildings, existing trees, or significant vegetation within the project site.

Disposal Sites

Five possible sites are being considered for disposal of the dredge material: two adjacent to the dredging and staging sites and three off-site. The off-site locations have been cleared and permitted for disposal of dredge material independent of the proposed project. The five potential disposal sites are briefly described below.

- **Disposal Option 1 Site: Sea Cloud Phase II sedimentation basin site (also known as the Foster City Lagoon dredge disposal site)** is located immediately south of the project site. The site is approximately 19 acres and consists of a basin, islands within the basin, and uplands along the perimeter levee, as shown in Figure 3. Public access is not permitted within the Sea Cloud Phase II basin, but access is available along the Levee Pedway and levee along the eastern border and along the western levee from Sea Cloud Park. The majority of the basin is open water during the winter and spring and is typically dry during the summer. A vegetated wetland fringe has developed around the edges of the basin. The upland areas on the perimeter and western levees are separated from Sea Cloud Park by a chain link fence, and the site slopes from this fence to the basin.

  Similar to Foster City as a whole, the basin was intentionally constructed on fill material discharged under U.S. Army Corps of Engineers (USACE) Permit No. 9318-49, issued February 20, 1976. The Sea Cloud Phase II dredge disposal site was used to discharge dredge material and decant water during the construction of Foster City Lagoon, as shown on the plans from 1978. The Small Dredger Programmatic Alternatives Analysis[2] lists Sea Cloud Phase II as a dredge disposal site. In addition to being used to discharge dredge material, this basin was a mitigation site as part of the Foster City Lagoon Dredging project in 2004 and supports vegetated wetlands within linear ditches around the edge of the basin (see discussion in Background below).

[2] USACE, EPA, BCDC, and Regional Water Board, 2004.

- **Disposal Option 2 Site: Cullinan Ranch Wetland Restoration Project site** is west of the City of Vallejo in the Napa River delta. The site is on the north side of State Route (SR) 37 (Sears Point Road), as shown in Figure 5. It is approximately 50 miles from the project site, and accessible to the dredging site via barge. Although Cullinan Ranch is not listed in the *Small Dredger Programmatic Alternatives Analysis*,[3] an informal conversation with USACE staff indicated that the Dredge Material Maintenance Office (DMMO) may approve its use as a beneficial reuse disposal site. Cullinan Ranch is planned to restore over 1,500 acres of tidal wetlands in San Pablo Bay National Wildlife Refuge.
  Depending on Angelo Slough soil sampling analysis results and current needs at Cullinan Ranch, dredge material could be used to raise bottom elevations for wetland restoration and/or levee construction.

- **Disposal Option 3 Site: Montezuma Wetland Restoration Project site** is adjacent to Montezuma Slough in Solano County, east of the Grizzly Island Wildlife Area and south of SR 12, as shown in Figure 6. This site is approximately 72 miles from the project site. The Montezuma Wetland Restoration Project is listed in the *Small Dredger Programmatic Alternatives Analysis,* as a multi-user upland/wetland reuse disposal site. The disposal site is privately owned.

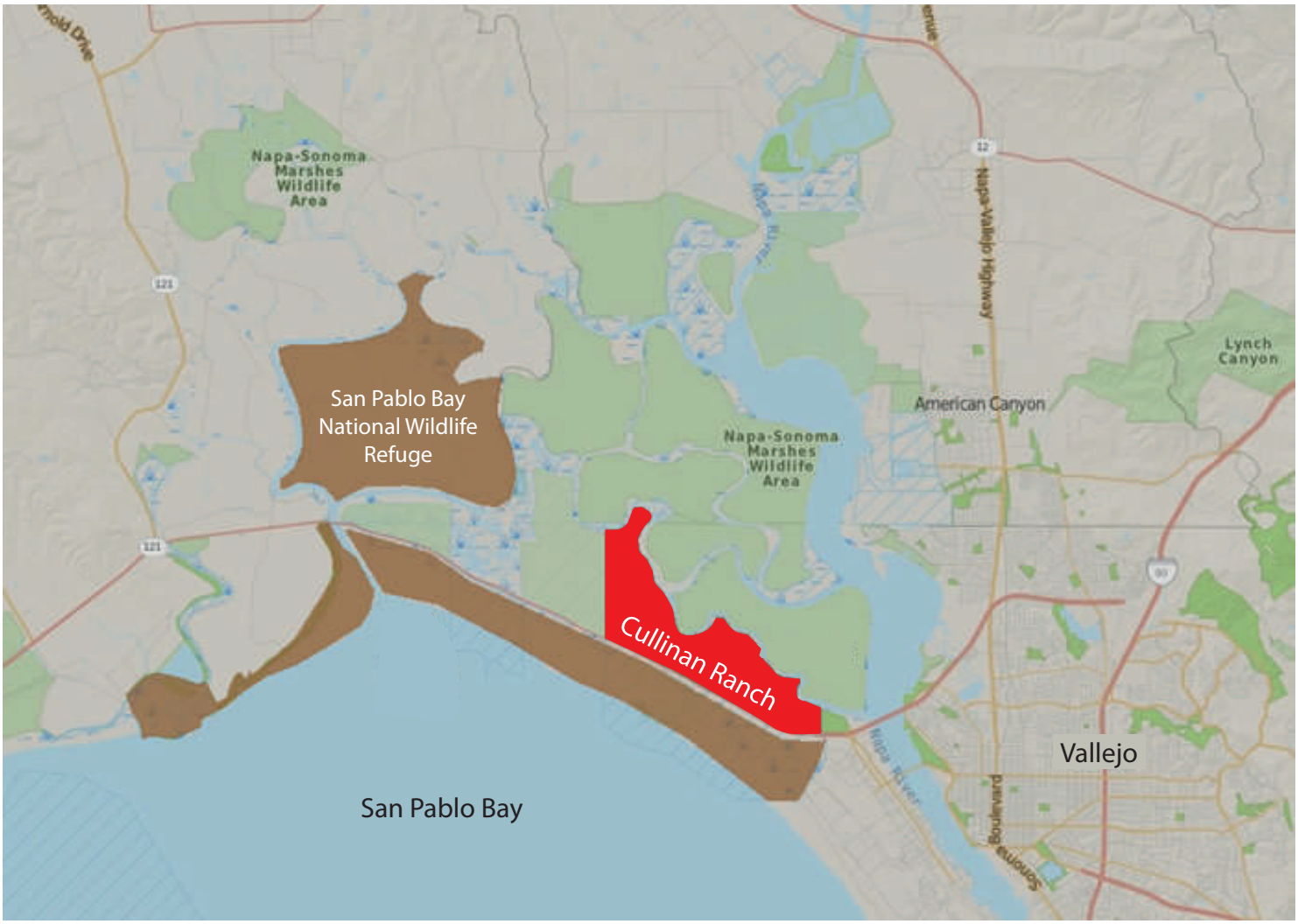
  This wetland restoration project began in 2001 and will restore approximately 2,000 acres of tidal wetlands from agricultural land to tidal and seasonal wetlands.[4] The restoration is being completed by Montezuma Wetlands, LLC, and is a combined effort between the USACE, the San Francisco Estuary Institute, and the Port of Oakland.[5] Completing the restoration work will require approximately 17 million cubic yards of sediment added to the site, sourced from dredge material removed from the San Francisco Bay-Delta.[6]

[3] Ibid.

[4] San Francisco Estuary Institute, 2016.

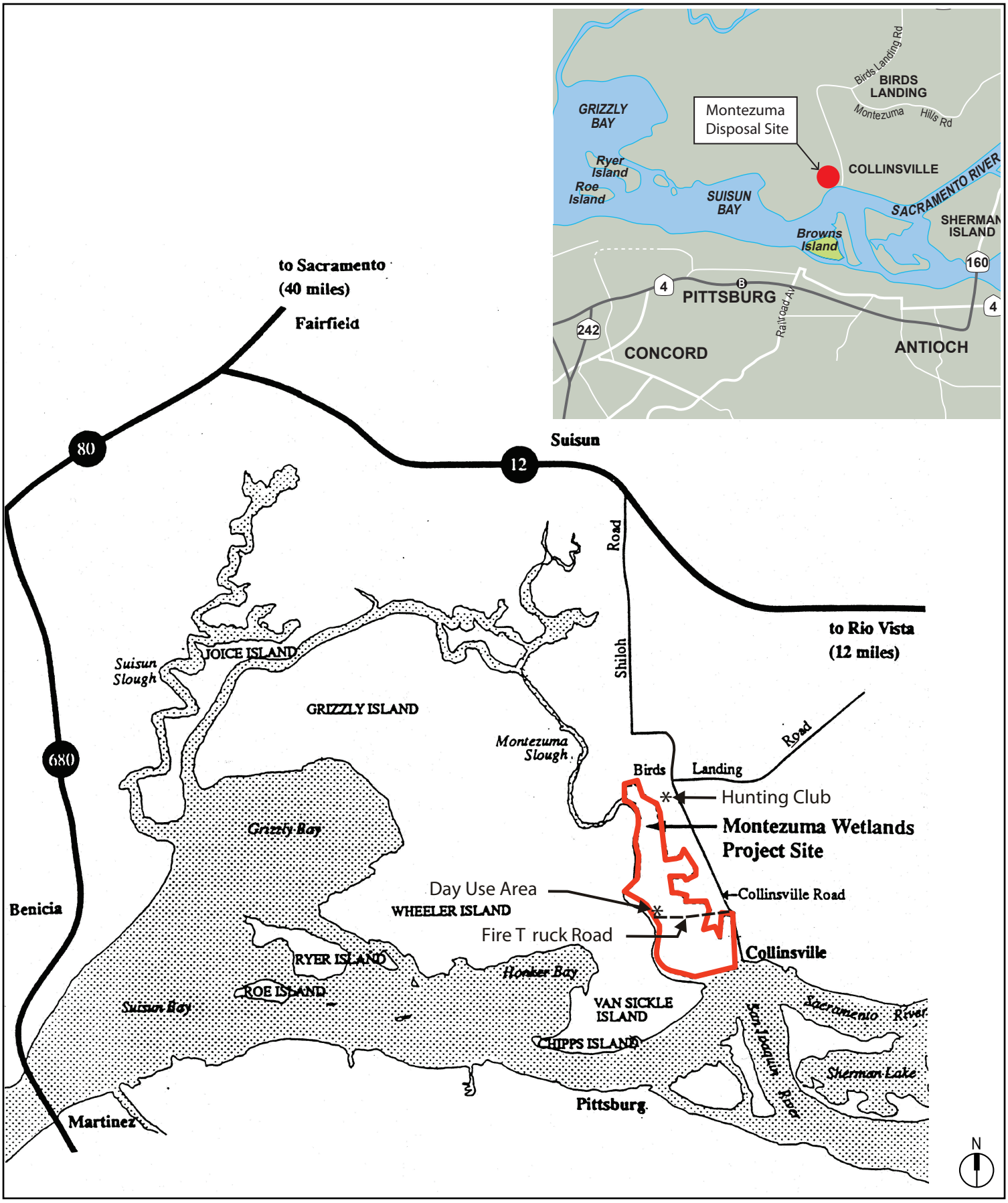
[5] San Francisco Estuary Institute, 2016; Regional Water Board, 2012.

[6] San Francisco Estuary Institute, 2016.



Source: SF Gate Maps, 2016, Cullinan Ranch Tidal Restoration Project, 2016

Figure 5
Cullinan Ranch Disposal Site Location



Source: SF Gate Maps, 2016, Amec Foster Wheeler, 2015,

Figure 6
Montezuma Disposal Site Location

Depending on Angelo Slough soil sampling analysis results and current needs at Montezuma, dredge material could be used for wetland restoration and/or for placement in upland areas as part of the overall restoration plan.

- **Disposal Option 4 Site: Sea Cloud Park Upland Disposal site** is between Sea Cloud Park and the Sea Cloud Phase II site along the upland area on the perimeter levee, which is separated from Sea Cloud Park by a chain link fence. The site slopes from this fence to the basin and extends for approximately 1,100 linear feet from the southern end of Sea Cloud Phase II basin to the north end of the basin, adjacent to the staging site. It is approximately 60 feet wide. The portion of the levee proposed as the Sea Cloud Park upland disposal site does not abut San Francisco Bay. It is a portion of an upland area with non-native vegetation between Sea Cloud Park and the Sea Cloud Phase II sedimentation basin, as shown in Figure 3. No structures, paths, or wetlands exist on the site.

- **Disposal Option 5 Site: Alcatraz Disposal site** is in San Francisco Bay, 0.3 mile south of Alcatraz Island, as shown in Figure 7. The disposal site is a circular area with a 1,000-foot radius. This location is designed and operated specifically for the deposition of dredge material. Alcatraz is listed in the *Small Dredger Programmatic Alternatives Analysis*, as a dedicated in-bay disposal site.

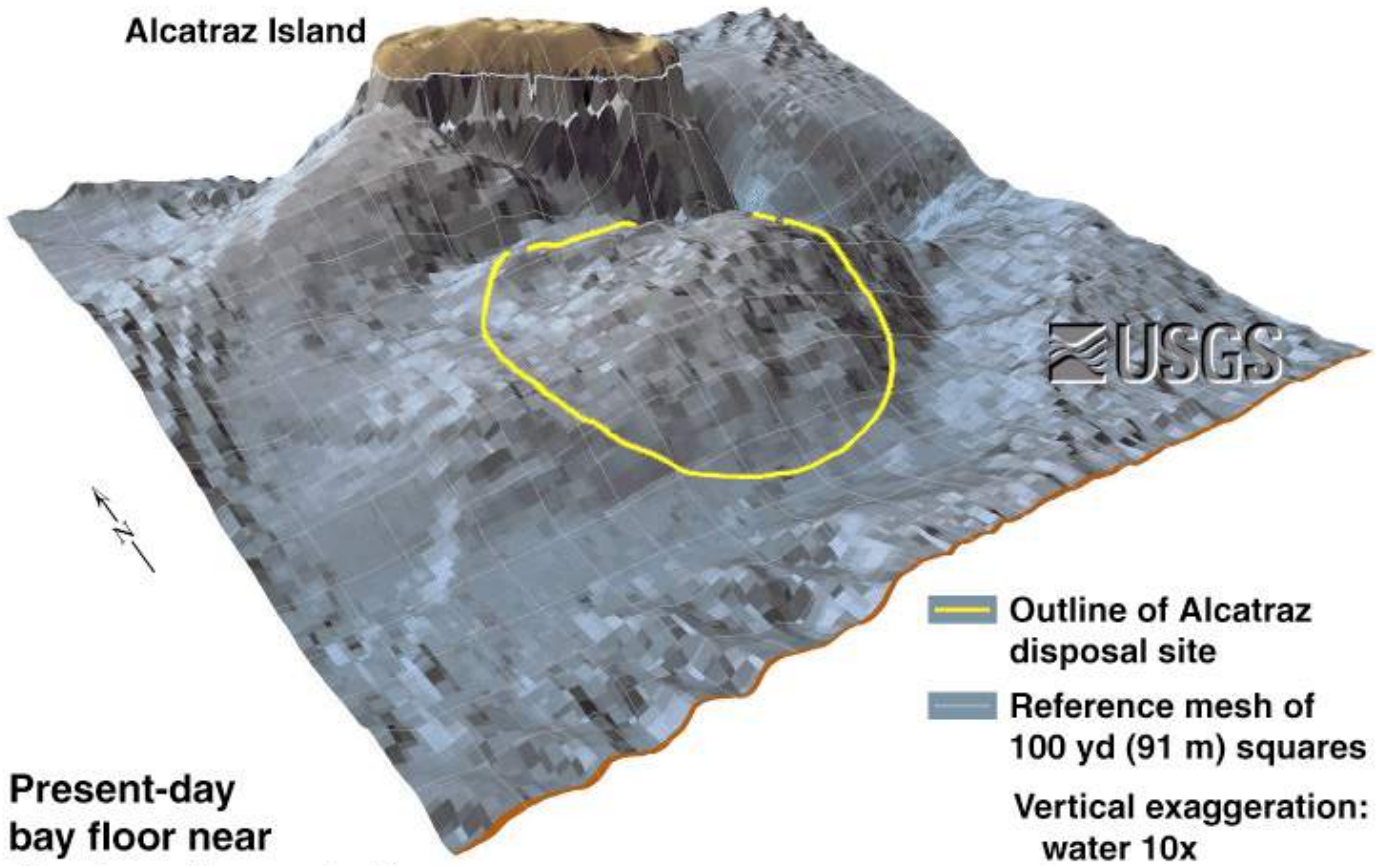
Surrounding land uses

The project site is surrounded by the following land uses and zoning designations[7] in parentheses:

- North (R-T/PD): Developed land consisting of residential uses, including the Bayfront Court residential development immediately north of the project site;

- East (OSC/W): Open space consisting of Belmont Slough;

[7] Zoning designations:
R-T/PD: Townhouse Residence District/Planned Development Combining District
OSC: Open Space and Conservation District
OSC/W: Open Space and Conservation District/Aquatic Development Combining District



N

Not to Scale

Source: U.S. Geological Survey, 2008.

Figure 7
Alcatraz Disposal Site Location

- South (OSC): Developed land consisting of the Sea Cloud Phase II sedimentation basin immediately south of the project site; and
- West (OSC/OSC/W): Open space consisting of Sea Cloud Park and the Lagoon.

Background

Foster City Lagoon Maintenance Dredging and Disposal

The Lagoon was originally developed in the 1960s as a part of the original development of Foster City. Over time, sediment accumulated in the Lagoon, raising the bottom elevation. In July 1998, the City of Foster City issued a Notice of Exemption for maintenance dredging of the Foster City Lagoon. In February 2001, the City of Foster City certified the Sea Cloud Phase II Final Environmental Impact Report (EIR) for disposal of dredge material from the Foster City Lagoon dredging into the Sea Cloud Phase II sedimentation basin. Before the dredging disposal, the site consisted of a low-lying basin area that had been used as a brine pond. The maintenance dredging was completed in 2004, restoring the bottom elevation to its original design condition. The dredge material was disposed of at the Sea Cloud Phase II site, cleared under the Sea Cloud Phase II EIR as discussed below.

Many of the analysis and findings of the Sea Cloud Phase II EIR are applicable and relevant to the proposed project, as site conditions have largely remained unchanged (or not significantly changed) since the EIR was certified. As mentioned above, the Sea Cloud Phase II site is being considered as a disposal option for the proposed project (**Disposal Option 1**).

A portion of the 19-acre Foster City Lagoon dredge disposal site (**Disposal Option 1**) was used as a wetland mitigation site for the Foster City Lagoon Dredging Project in 2004. Mitigation wetlands were created around the edges of the basin and have been successful. These mitigation wetlands are adjacent to the proposed **Disposal Option 4** site, and consist of palustrine emergent vegetation (1.89 acres dominated by pickleweed [*Salicornia virginica*] and 0.97 acre dominated by the obligate submerged aquatic plant widgeongrass [*Ruppia maritima*]). The boundaries of the proposed Sea Cloud Park upland disposal site

(Option 4) were specifically drawn to avoid all mitigation wetlands created as part of the Foster City Lagoon Dredging Project.

Proposed Project

The water level in the Foster City Lagoon is regulated by allowing water in through the intake structure by Sea Cloud Park and pumping water out into San Francisco Bay, by the City's corporation yard. Over the years, sedimentation has built up on the Belmont Slough side of the intake structure, resulting in limited water flow into the Lagoon. The sedimentation in front of the Lagoon intake structure impedes water from flowing into the Lagoon except during periods of high tides. In addition, sediment also blocks the Bay Level Transducer at times, producing inaccurate water level readings.

The key objectives of the proposed project include the following:

- Restoring the west intake structure to its original, intended function of transmitting water from Belmont Slough into the Lagoon; and
- Safely and efficiently removing and disposing of sediment material currently obstructing the west intake structure.

The dredging and disposal of dredge material elements of the project are described below.

Dredging

The proposed project would involve dredging within Angelo Slough to an elevation of -6.062 feet Mean Lower Low Water (MLLW) along the centerline of the channel. The maintenance dredging would require the removal of approximately 11,250 cubic yards of accumulated sediment (dredge material) below the high tide line and below the mean high water line within Angelo Slough. With a 1-foot over dredge depth allowance, the total amount of material to be dredged could reach 13,300 cubic yards. The area to be dredged is approximately 1.73 acres. After dredging, the restored invert of the channel connecting the slough to the Lagoon would be approximately 10 feet wide with a slope of 4:1 up to the adjacent mud flats. The channel is submerged under normal tidal conditions, making the completed grading work not generally visible.

The proposed project includes maintenance of the existing western intake structure's intake gate through in-kind replacement. The existing gate would be removed and a new gate installed in its place. This maintenance work, combined with the dredging, would ensure that the intake structure is able to convey water from Belmont Slough into the Lagoon.

A variety of dredging equipment may be used, depending on the disposal option selected and the characteristics of the site, which will be better known once dredging has begun. Potential types of dredging equipment and methods are described below. An example of a typical dredging plant and dredging equipment is shown in Figure 8.

- **For Options 1 and 4:** The dredging would be accomplished through the use of a suction pump system placed on a barge (dredging plant). The suction pump system would operate by lowering the suction pipe through water for dredging the muds in the channel area and placing the dredged material into a "scow" or "receiving plant." The scow pumping system would be connected by flexible hoses to the temporary fixed piping system on ground, which would enable the dredged material to be pumped into the Sea Cloud Phase II sedimentation basin site (Disposal Option 1) or the Sea Cloud Park upland disposal site (Disposal Option 4).

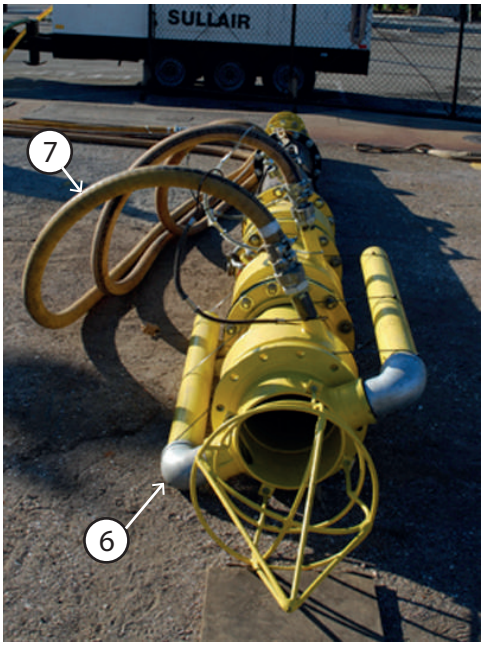
- **For Disposal Options 2, 3, and 5:** The dredge material would be removed through a suction hose lowered into the water as described above, and dredge material placed into a barge for transport to the disposal site.

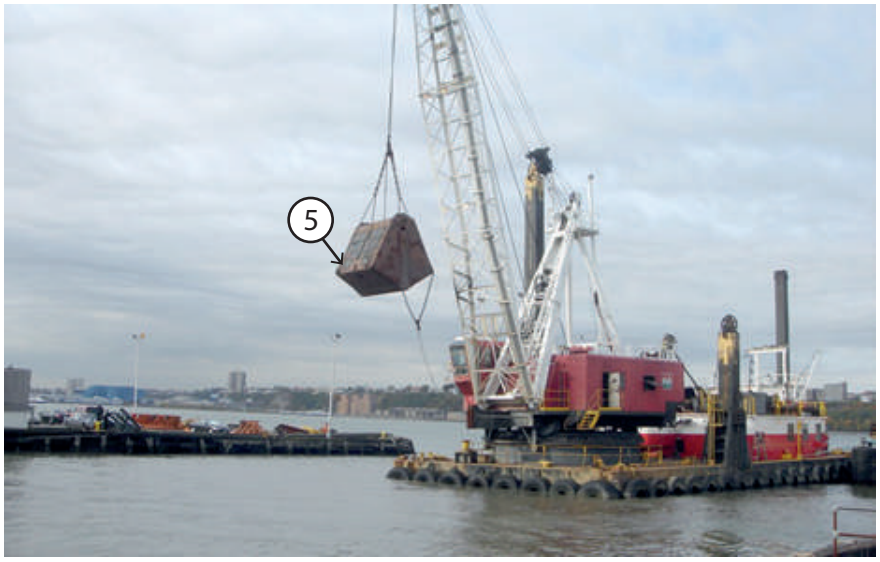
- **All Options:** Some portions of the dredging site (the channel banks) could require a backhoe bucket and/or clamshell type of dredging equipment to remove dredge material. The backhoe bucket or clamshell would be mounted on the dredging plant and would place dredge material onto the barge. Details of the dredging plant barge and dredging equipment are provided below.

A tug boat or push boat would be used to bring the dredging plant barge to the site and to maneuver the barge within Angelo Slough. This would be necessary to complete the dredging work throughout the dredging area. The tug boat or push boat would have a

Legend

1. Dredging Plant and Barge
2. Dredging Plant Barge
3. Push Boat
4. Backhoe Bucket
5. Clamshell
6. Cyclonic Dredging Attachment
7. Suction Hose





Source: Maritime Journal, 2016, ConEdison 2009, South Sea Inc., 2015, St James Marine, 2016

Figure 8
Typical Dredge Equipment

United States Environmental Protection Agency (EPA)-certified, Tier 3 engine or higher. Additionally, small gasoline-powered motor boats would be used during the dredging to transport workers and miscellaneous equipment from the shoreline to the dredging plant barge and back as needed.

Dredge Disposal

The City is considering a total of five disposal options for dredge material removed from Angelo Slough. Three of the options involve off-site disposal of the dredge material, and two include disposal adjacent to the project site. The potential disposal sites are shown on Figure 4, and the final disposal option will be determined by the City in consultation with the DMMO.

Disposal Options 1 and **4** involve disposal at a location immediately south of the project site. **Disposal Options 2**, **3**, and **5** involve off-site disposal, using a tug boat or push boat with an EPA-certified, Tier 3 engine (or higher) to transport the dredging plant barge back and forth from the project site to the disposal site. The maximum horsepower (HP) of the tug boat or push boat would not exceed 1,275 HP.

Disposal Option 1: Disposal at the adjacent and agency-approved Sea Cloud Phase II site (also known as the Foster City Lagoon Dredge Disposal site). Under this option, dredge material would be pumped directly from Angelo Slough through the dredging plant barge and into the adjacent Sea Cloud Phase II sedimentation basin. A temporary fixed piping system used to transport the dredge material would connect the dredging plant barge to the disposal site.

The temporary transfer piping system would consist of removable sections of pipe approximately 12 inches in diameter. It would cross the perimeter levee, Levee Pedway, the Sea Cloud Phase II levee, and the stability berm to reach the disposal site. To maintain safe public access a ramp will be placed over the pipe where it crosses the public trail. Where required, stakes, straps or other devices would be used to secure the pipe in place. During dredging water would be allowed to passively decant into the Lagoon as necessary. A coffer dam constructed of sandbags or water filled bladder would be placed near the northern end of the basin. An approximately 6 inch diameter hose secured to the coffer

dam would allow water to passively flow out of the basin and into a filter bag before discharging into the Lagoon. Once dredging is completed, any excess water would remain in the sedimentation basin and be allowed to evaporate over time.

Disposal Option 2: Cullinan Ranch Wetland Restoration Project site. Under this option, dredge material would be placed into the temporary storage area on the dredging plant barge until filled to capacity. Dredge material would then be transported on the dredging plant barge from the project site to the Cullinan Ranch disposal site, where the full dredging plant barge would be exchanged for an empty dredging plant barge. This empty dredging plant barge would then return to the project site to continue the dredging work. The dredging plant barge would make up to 14 trips to the disposal site, and a tug boat or push boat would be used to move the dredging plant barge to and from the disposal site. The tug boat or push boat would have a Tier 3 engine or higher, as described above.

The Cullinan Ranch disposal site is located adjacent to the Napa River, which would allow for a direct route from the project site to the disposal site. The dredging plant barge would navigate through Belmont Slough, into San Francisco Bay, and then into San Pablo Bay to access the Napa River and the disposal site.

Disposal Option 3: Montezuma Wetland Restoration Project site. Under this option, dredge material would be placed into the temporary storage area on the dredging plant barge until filled to capacity. Dredge material would then be transported on the dredging plant barge from the project site to the Montezuma disposal site, where the full dredging plant barge would be exchanged for an empty dredging plant barge. This empty dredging plant barge would then return to the project site to continue the dredging work. The dredging plant barge would make up to 14 trips to the disposal site, and a tug boat or push boat would be used to move the dredging plant barge to and from the disposal site. The tug boat or push boat would have a Tier 3 engine or higher, as described above.

The Montezuma disposal site has deep water access which would allow for a direct route from the project site to disposal site. The dredging plant barge would navigate through Belmont Slough into San Francisco Bay, and then through San Pablo Bay and Suisun Bay into the Sacramento River to access the disposal site.

Disposal Option 4: Sea Cloud Park upland disposal site. This disposal option would require the construction of an upland collection basin. The basin would consist of earthen berms constructed to form a series of collection cells. Construction of the upland collection basin would require earthwork, which would require the use of heavy construction equipment not required under other disposal options. This option would not require the removal of any existing trees. Additionally, this option would create a longer project schedule as the construction of the upland collection basin could take several weeks.

Under this option, dredge material would be pumped directly from Angelo Slough through the dredging plant barge and into the adjacent upland disposal site. A temporary fixed piping system used to transport the dredge material would connect the dredging plant barge to the upland collection basin. The dredge material would be pumped into the first collection cell of the basin, then flow into the next cell, filling the collection cells until dredging is complete. The fixed piping system would cross the perimeter levee, the Levee Pedway, the Sea Cloud Phase II levee, and the stability berm to reach the disposal site.

After dredging is completed, excess water pumped into the upland collection basin during the dredging would be pumped into the Sea Cloud Phase II sedimentation basin, if necessary. Once the dredge material is dry, the upland disposal site would be graded and sloped to provide upland transitional habitat.

Disposal Option 5: SF-11 Alcatraz disposal site in San Francisco Bay. Under this option, dredge material would be placed into the temporary storage area on the dredging plant barge until filled to capacity. Dredge material would then be transported on the dredging plant barge from the project site to the SF-11 Alcatraz disposal site, where the full dredging plant barge would be exchanged for an empty dredging plant barge. This empty dredging plant barge would then return to the project site to continue the dredging work. The dredging plant barge would make up to 14 trips to the disposal site, and a tug boat or push boat would be used to move the dredging plant barge to and from the disposal site. The tug boat or push boat would have a Tier 3 engine or higher, as described above.

To access the disposal site, the dredging plant barge would navigate through Belmont Slough into San Francisco Bay to access the disposal site. Dredge material would be

pumped from the dredging plant barge into San Francisco Bay at the Alcatraz disposal site.

Construction Schedule

The project would be completed in a single phase, and could take up to three months to complete. **Disposal Option 4**, Sea Cloud Park upland disposal, would require the full three months for construction of the site, which would take place prior to dredging. It is anticipated that dredging activities would take up to six weeks under all options, and construction of the Sea Cloud Park upland disposal site under **Disposal Option 4** would take approximately five weeks. Dredging periods would be limited to high tides that occur during daylight work hours (8:00 a.m. to 5:00 p.m.) on week days. Taking into consideration the length of an incoming tide, the average duration of each work day would be 6–7 hours. It is anticipated that the project would start in fall 2016 and be completed by winter 2017.

8. Project Approvals:

Lead Agency	Permit/Approval
City of Foster City	Adoption of Mitigated Negative Declaration
City of Foster City	Construction contract approval
City of Foster City	Construction permits, grading permit, and building permit
Responsible Agencies	
San Francisco Bay Regional Water Quality Control Board (Regional Water Board)	National Pollutant Discharge Elimination System, Section 401
DMMO	Consolidated Dredge Material/Disposal
USACE	Section 404
U.S. Fish and Wildlife Service (USFWS)	Biological Opinion
San Francisco Bay Conservation and Development Commission (BCDC)	Shoreline Improvements Permit
CSLC	Lease of State Lands

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

❒ Aesthetics	❒ Agriculture and Forestry Resources	❒Air Quality
❒ Biological Resources	❒ Cultural Resources	❒ Geology/Soils
❒ Greenhouse Gas Emissions	❒ Hazards & Hazardous Materials	❒ Hydrology/Water Quality
❒ Land Use/Planning	❒ Mineral Resources	❒ Noise
❒ Population/Housing	❒ Public Services	❒ Recreation
❒ Transportation/Traffic	❒ Utilities/Service Systems	❒ Mandatory Findings of Significance

Determination (To be completed by the Lead Agency.)

On the basis of this initial evaluation:

❒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed upon by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

❒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

❒ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

❒ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed

adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____
Signature Date

ENVIRONMENTAL CHECKLIST

This section considers the potential effects of the proposed project for each environmental topic considered under the California Environmental Quality Act (CEQA). As described above, the project site encompasses the sites that will be used for staging, and dredging. The disposal site will be separate from the project site.

Some of the Environmental Checklist findings apply to *all* of the disposal options, while others apply only to some or one of the options. For any question to which the response varies according to disposal option, two boxes are checked, and the relevant disposal option(s) is/are listed directly below. If only one box is checked and disposal options are not listed directly below, the response to that question applies to all options.

Throughout the discussions in this Environmental Checklist section, the disposal options are referred to by number (e.g., **Disposal Option 1**, **Disposal Option 3**). Within the mitigation measures, abbreviations (e.g., DO 2, DO 4) are used to indicate the applicable disposal options; if a mitigation measure applies to all disposal options, it is indicated as such (i.e., "all options").

I. AESTHETICS

	Potentially Significant Impact	Less thanLess than Significant With Mitigation Incorporated	Less thanLess than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	❒	■ DO 4	■ DO 1, 2, 3 & 5	❒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	❒	❒	❒	■
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	❒	■ DO 4	■ DO 1, 2, 3 & 5	❒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	❒	❒	❒	■

Affected Environment

The project site consists of both in-water and land areas, including a portion of Angelo Slough. The project site is situated near Sea Cloud Park, as shown in Figure 2. Figure 10 shows the project site from the vantage point of the Levee Pedway, and Figure 11 provides a detailed view of the western intake structure from the Levee Pedway. For a guide to photo locations, please see Figure 9. The project site is bordered by the Bayfront Court residential area to the north (shown in Figure 2 and Figure 10), open space consisting of Belmont Slough to the east, developed land consisting of the Sea Cloud Phase II sedimentation basin site to the south, and open space consisting of Sea Cloud Park and the Lagoon to the west.

Metal fencing encircles the Sea Cloud Phase II site, separating it from the project site, Sea Cloud Park, and the trails, and partially obstructing views of the basin. Figure 12 shows the Sea Cloud Phase II site as viewed from the project site, and Figure 13 presents views across the Sea Cloud Phase II site from Sea Cloud Park.

Source: Huffman-Broadway Group, 2015

Figure 9
Photo Locations

Several baseball fields and a parking lot associated with Sea Cloud Park are located to the west of the project site, and residences are located southwest of Sea Cloud Park. The Oracle Corporation office complex is visible to the south, across Belmont Slough in Redwood City. Beyond Belmont Slough to the east, a complex of multi-family housing in Redwood City is also visible.

Views of the dredging portion of the project site from the immediate vicinity include the following:

- *Levee Pedway.* The in-water portion of the site can be clearly seen from the Levee Pedway. *Bayfront Court*. Although somewhat obstructed by existing trees and fences, the site can be seen from some townhomes along the southern portion of Wheel House Lane. The in-water portion of the project site is not visible from other streets within this residential area.

- *Sea Cloud Park*. Although somewhat obstructed by batting cages, trees, and other vegetation, the in-water portion of the site is somewhat visible from Sea Cloud Park and the parking lot associated with the park, located along Sea Cloud Drive. The site can most clearly be seen from the paved walkway that runs along the western edge of Sea Cloud Park, as shown in Figure 2; however, the Sea Cloud Phase II site that lies between the park and both Belmont and Angelo Sloughs further obstructs the view, as shown in Figure 13.

Views of the land portion of the project site, including the staging site, from the immediate vicinity include the following:

- *Levee Pedway.* The land portion of the project site can be partially seen from the Levee Pedway in close proximity to the project site and within the portion of the trails that cross the project site. This view is partially obstructed by the Sea Cloud Phase II site, as shown in Figure 10.

- *Bayfront Court*. Although somewhat obstructed by existing trees and fences, the land portion of the site can be seen from the townhomes that abut the project site to the north.

Photo 1 - View of project site from Levee Pedway, looking west

Photo 2 - View of project site from Levee Pedway, looking east

Source: Urban Planning Partners, 2015, Google Earth, 2015

Figure 10
Site Photos - Western and Eastern Views

Photo 3 - View of western intake structure from Levee Pedway, looking north

Source: Urban Planning Partners, 2015

Figure 11
Site Photo - Western Intake Structure

Photo 4 - View of Sea Cloud Phase II site from paved walkway, looking southeast

Photo 5 - View of Sea Cloud Phase II site from paved walkway, looking southwest

Source: Urban Planning Partners, 2015

Figure 12
Site Photos - Views of Sea Cloud Phase II site

Photo 6 - View of Sea Cloud Phase II site from Sea Cloud Park (Sea Cloud Drive), looking north

Photo 7 - View of Sea Cloud Phase II site from Sea Cloud Park (Sea Cloud Drive), looking east

Source: Google Earth, 2015

Figure 13
Site Photos - Sea Cloud Phase II site from Sea Cloud Park

- *Sea Cloud Park*. Although somewhat obstructed by batting cages, trees, and other vegetation, the site can be seen from Sea Cloud Park and the parking lot associated with the park located along Sea Cloud Drive. The site can be most clearly seen from the paved walkway that runs along the western edge of Sea Cloud Park, as shown in Figure 2.

General Plan

The Foster City General Plan describes the project site and surrounding areas, in the Parks and Open Space Element under the Waterways Open Space Resources section. The Parks and Open Space Element identifies eight open space needs for the City, one of which is to "protect views of and views from open space areas."[8]

In particular, the General Plan calls out Belmont Slough as contributing three important functions to the City – two related to the regulation of water levels in the Lagoon and marina, and one related to its quality of bird habitat and use as a natural wildlife refuge. The General Plan describes how the Pedway along Belmont Slough (including the Levee Pedway) provide opportunities for users to view the many bird species that frequent Belmont Slough.

The Parks and Open Space Element also describes the Sea Cloud Phase II site (**Option 1**) and recommends site improvements, under the Future Potential Open Space and Improvements to Existing Open Space section. The General Plan describes the site as barren, vacant lands which serve as a seasonal pond, collecting stormwater runoff during the rainy season. Additionally, it highlights the views of wildlife, which can be enjoyed from the unpaved pathway that is located along the top of the southern portion of Sea Cloud Phase II basin levee. The primary views considered by the General Plan to be of high quality include the views of the San Mateo hills, looking west from the site and shown in Figure 14, and to a lesser degree the views of Belmont Slough to the east.

[8] Foster City, City of. Adopted September 2009. *General Plan Chapter 5 Parks and Open Space Element*.

Photo 8 - View of San Mateo hills from southern end of Sea Cloud Phase II site, looking west

Photo 9 - View of Belmont Slough from southern end of Sea Cloud Phase II site, looking east

Source: Google Earth, 2015

Figure 14
Scenic Views from Sea Cloud Phase II site

Suggested improvements to the Sea Cloud Phase II site include the following:

1. Develop open space in accordance with the San Francisco Bay Plan.[9]
2. Improve passive recreation opportunities by installing benches, landscaping, and observation areas within the shoreline band.
3. Install paved pathways with handrails to improve the accessibility of the shoreline band.
4. Determine if any portions of the site qualify as wetland areas as designated by the state and federal agencies, and improve or enhance any such areas in accordance with state and federal guidelines.

Additionally, General Plan policies relating to aesthetics include the following:

- **PC-9 Pedway and Bikeway System Maintenance and Improvement.** Continue to maintain, expand and improve the existing walkway and pedway system.
- **PC-10 Improvements in Open Space.** Design any improvements in open space areas to minimize adverse impacts to habitats, including provision of a buffer to minimize human disturbances, views or other open space resources.
- **PC-11 Lagoons and Waterways: Recreational Opportunities.** Continue to promote a wide variety of recreational opportunities on the City of Foster City Lagoon system.
- **PC-12 Lagoons and Waterways: Open Space.** Preserve and maintain the existing lagoon and waterways.

These policies apply to the maintenance of existing views from the project site, which are considered to be a component of the recreational activities and opportunities provided by the Levee Pedway, as well as Sea Cloud Park. Angelo Slough falls under PC-12, and

[9] BCDC, 1969.

preservation would include avoiding or minimizing visual changes that could detract from its current views.

Discussion

a) *Have a substantial adverse effect on a scenic vista?*

Less than Significant (DO 1, 2, 3 & 5); Less than Significant with Mitigation Incorporated (DO 4). The project is located in an open space portion of Foster City, and the in-water portion is visible from the scenic vista location of the Levee Pedway within and adjacent to the project site. The project would be visible from some private viewpoints within the Bayfront Court residential community located to the north (and shown in Figure 2), from the Levee Pedway and from Sea Cloud Park.

The proposed dredging would not result in any permanent significant visual change to the project site, as described below. Disposal of the dredge material at one of the adjacent disposal sites (**Option 1** or **4**) would not result in a visual change to the project site, but could result in changes to views of the disposal site from the project site and surrounding areas. This could include changes in views of a scenic vista, depending on the disposal option selected. The Sea Cloud Park upland disposal option (**Option 4**) would result in the most noticeable aesthetic change, and disposal at the existing Sea Cloud Phase II sedimentation basin (**Option 1**) would result in minor visual changes. No aesthetic changes to the project site or surrounding scenic vistas would result from any of the off-site disposal options. Aesthetic changes associated with dredge disposal at the off-site locations would not be considered significant because each disposal site has been separately designated and permitted for dredge disposal prior to the proposed project.

Construction Activity

Construction of the project would result in temporary visual impacts due to staging of equipment on the project site and the presence of dredging equipment in Angelo Slough. Permanent visual changes to the project site vicinity would result if **Disposal Option 4** is selected, which would include construction of a berm system along the western edge of the Sea Cloud Phase II site, and minor permanent visual changes would result if **Disposal**

Option 1 is selected, which would place additional dredge material in the Sea Cloud Phase II sedimentation basin.

Staging

A staging site is proposed at the western end of the project site, as shown in Figure 2. Equipment staged on the project site could include passenger vehicles such as pickup trucks, backhoes, excavators, and other construction equipment. Site preparation for the staging site would be minor and would include the placement of erosion control materials and spill prevention materials such as silt fence and straw wattles, as required by the Stormwater Pollution Prevention Plan (SWPPP).

During construction, equipment within the staging site could obscure and/or clutter existing views of Sea Cloud Park from the Levee Pedway, views of Belmont Slough from Sea Cloud Park, and views of the Sea Cloud Phase II sedimentation basin from the Bayfront Court residences. This would create a temporary visual impact that would extend throughout the duration of the project.

General Plan:

The staging of construction equipment would not interrupt or disturb views of Angelo or Belmont Sloughs from the Levee Pedway, and would not interfere with viewing of wildlife from that location. Additionally, the staging would not impact views of the San Mateo hills or Belmont Slough from the vantage point of the unpaved pathway along the southern edge of the Sea Cloud Phase II site. Use of the staging site would not have any lasting impact on the site and would not interfere with General Plan recommendations for future improvements to the Sea Cloud Phase II site. Staging would have a temporary impact on views that are considered to be a component of the recreational aspects of Sea Cloud Park.

Dredging

The visual quality of the basin itself as experienced by recreational users of the Levee Pedway and Sea Cloud Park and adjacent residents would be temporarily altered during the dredging phase of the project.

Dredging would be completed using a backhoe bucket or clamshell dredge mounted to a dredging plant barge, and could involve the use of a suction dredge, as shown in Figure 8. This equipment would be positioned within Angelo Slough during dredging and, depending on the disposal option selected, would either remain in Angelo Slough throughout the entire project (for **Options 1** and **4**) or would be brought to and from the site up to 14 times during the project (under **Options 2**, **3**, and **5**).

The most visually prominent pieces of dredging equipment would include the dredging plant barge and the backhoe bucket or clamshell. This equipment would be visible from Sea Cloud Park, the Levee Pedway, and the nearby Bayfront Court residences. Users and residents looking out onto Angelo Slough would see the dredging plant barge and the arm of the backhoe bucket or clamshell. However, these impacts would be temporary and would cease at the conclusion of the dredging.

If **Option 1** or **Option 4** is selected, in addition to the dredging equipment, a flexible hose system would be temporarily installed to move dredge material from the dredging plant barge to either the Sea Cloud Phase II sedimentation basin (**Option 1**) or the upland disposal site (**Option 4**). This system of hoses would be visible to users of the Levee Pedway, residents within the Bayfront Court community, and Sea Cloud Park users when using the paved bicycle and pedestrian path that connects the park to the trails. This impact would also be temporary, as the flexible hose system would be removed after dredging is completed.

Visual impacts that are limited to the construction phase or active phase of a project are not typically considered to be significant under CEQA or the City's standard practices. The impacts described above would be temporary, short-term impacts that would not exist once the project is complete. As a result, the visual quality impacts associated with the dredging phase of the project would be considered less than significant.

General Plan:

The placement of dredging construction equipment in Angelo Slough would temporarily interrupt or disturb views of Belmont Slough from the Levee Pedway. Dredging equipment would not interfere with viewing of wildlife from the trails, as dredging activities would

occur only within a portion of Angelo Slough. Wildlife (birds in particular) could continue to use Belmont Slough's natural habitat during dredging, and views of the slough would not be obstructed. Additionally, the dredging equipment would not impact views of the San Mateo hills or Belmont Slough from the vantage point of the unpaved pathway along the southern edge of the Sea Cloud Phase II site. Dredging of Angelo Slough would not interfere with General Plan recommendations for future improvements to the Sea Cloud Phase II site, but would have a temporary impact on views that are considered to be a component of the recreational aspects of Sea Cloud Park and the trails.

Disposal

Disposal Options 1 and **4** would result in a permanent visual change to the project site vicinity. With mitigation, these changes would result in a less-than-significant impact for the reasons discussed below.

Disposal Options 2, **3**, and **5** include off-site disposal sites that are already permitted and utilized for dredge disposal. The addition of dredge materials at each of these locations was previously considered independent of this project and as part of the permitting and approval of each of the off-site disposal facilities. The amount of dredge material proposed to be disposed of is consistent with the amount previously permitted for each off-site disposal option. As a result, the disposal of the project dredge material at **Options 2**, **3**, and **5** would not result in any visual change to the project site or vicinity. Under these disposal options, completion of the dredging and disposal would end all temporary visual impacts and conclude the project.

Disposal Option 1

Under **Option 1**, disposal at Sea Cloud Phase II site, dredge material would be pumped directly from the dredging plant to the adjacent disposal site while the dredging is conducted, making the dredging and disposal phases concurrent. The current condition of the Sea Cloud Phase II site is shown in Figure 13. No site preparation would be required for this disposal option. During construction, the dredge material would be dispersed to cover existing layers of dredge material placed in the basin under previous dredging projects completed by the City. This work would be completed through the placement of the flexible hose system that would pump dredge material into the basin. If needed, a

backhoe or similar piece of heavy equipment would be used to disperse the dredge material as is it pumped into the basin. The flexible hose system and construction equipment would be visible to users of Sea Cloud Park, the trails, and Bayfront Court residents.

After the dredge material had settled and dried, minor grading could be required to evenly disperse the sediment. Grading would be completed using a backhoe or similar heavy equipment, which would be visible to users of Sea Cloud Park, the trails, and Bayfront Court residents.

The visual impacts described above would be temporary and would conclude after dredging is completed. The dredge material placed in the basin under this option would remain in place, as discussed under Post-Construction Conditions below.

General Plan:
The placement of a temporary fixed piping system in Angelo Slough and across the trails would temporarily interrupt or disturb views of Belmont Slough from the trails, but would not interfere with viewing of wildlife from the trails; wildlife (birds in particular) could continue to use Belmont Slough's wildlife habitat during dredging, and views of the slough would not be obstructed. Additionally, the fixed piping system and placement of dredge material would not impact views of the San Mateo hills or Belmont Slough from the vantage point of the unpaved pathway along the southern edge of the Sea Cloud Phase II site. Placement of dredge material at the site would not interfere with General Plan recommendations for future improvements to the Sea Cloud Phase II site, but would have a minor temporary impact on views that are considered to be a component of the recreational aspects of the trails through placement of the fixed piping system.

Disposal Option 4

Option 4 includes construction of an upland disposal site that would be composed of a berm system running the length of the Sea Cloud Phase II site from north to south along the site's western edge, on top of the western levee. The berm system would be up to 7 feet tall (measured from existing grade) and approximately 1,100 feet long. This berm system would create disposal cells for placement of dredge material. The berm system

would be constructed using excavators and backhoes, and could include the use of other similar construction equipment. The equipment and construction work would be visible from Sea Cloud Park, the trails, and the Bayfront Court residential area.

The construction work would include grading and the placement of fill on the site. During construction, erosion control devices such as fiber rolls and silt fencing would be present on the site and visible from the locations mentioned above.

Trees and other vegetation grow along the top of the western levee between Sea Cloud Park and the basin, and a band of vegetation lies within the basin along the inside toe of the perimeter levees. The berm system would partially obstruct views from Sea Cloud Park across the Sea Cloud Phase II site to Belmont Slough. Existing public views of Belmont Slough would still be visible from the Levee Pedway and from the bicycle and pedestrian path that connects Sea Cloud Park to the Levee Pedway. Views of Sea Cloud Park from the Levee Pedway within the vicinity of the Sea Cloud Phase II site would be partially obstructed by the berm system as well, altering the visual environment and resulting in a potentially significant impact. **Mitigation Measure AES-1-DO 4** would reduce potential impacts to scenic vistas to less-than-significant levels.

Implementation of **Mitigation Measure AES-1-DO 4** would also reduce the potential impact to the visual character or quality of the project site and surrounding areas to a less-than-significant level.

General Plan:
Construction of the upland disposal site would permanently alter views of Belmont Slough from Sea Cloud Park, limiting visibility of Belmont Slough from the southwest edge of the park. This view, although obstructed by existing trees, fencing, and the topography of the site, is considered to be one of the recreational aspects of the park, and the partial obstruction of this view is potentially significant. Implementation of **Mitigation Measure AES-1-DO 4** would reduce this impact to a less-than-significant level. Placement of the temporary fixed piping system would have a minor temporary impact on views of Belmont Slough that are considered to be a component of the recreational aspects of the trails.

The placement of a temporary fixed piping system in Angelo Slough, across the trails, and across the Sea Cloud Phase II basin to the upland disposal site would temporarily interrupt or disturb views of Belmont Slough from the trails, but would not interfere with viewing of wildlife from the trails, as wildlife, birds in particular, could continue to utilize Belmont Slough's natural habitat during dredging and views of the slough would not be obstructed. Additionally, the fixed piping system and placement of dredge material would not impact views of the San Mateo hills or Belmont Slough from the vantage point of the unpaved pathway along the southern edge of the Sea Cloud Phase II site. Similarly, the construction of the upland disposal site would not obstruct these views.

Construction of the upland disposal site and placement of dredge material at the site would not interfere with General Plan recommendations for future improvements to the Sea Cloud Phase II site.

> Mitigation Measure AES-1-DO 4: - Landscaped Berm System: If **Disposal Option 4** is selected, the berm system constructed for disposal of dredge material would be graded to create a regular slope of approximately 1:1. After grading, the berm would be landscaped on the exterior slope facing Sea Cloud Park. Vegetation selected for this landscaping work would include drought-tolerant plantings compatible with the Foster City Climate Zone that are suitable for the disposal site and consistent with the aesthetic characteristic of the surrounding area and reflective of existing plantings in the surrounding area. The landscaping would enhance the visual quality of the berm system, maximizing its visual appeal and ensuring that it has a minimal visual impact on the surrounding area.

Post-Construction Conditions

The following Disposal Options would not cause permanent visual changes to the project site or its vicinity: Disposal Options 2, 3, and 5.

Disposal Options 1 and 4 would result in permanent visual changes to their respective disposal site. Under **Options 1** and **4**, there would not be any direct visual changes to the project site; however views from the project site looking towards the disposal site would be altered. Both disposal sites are visible from the project site and the vicinity, including

from Sea Cloud Park and the Levee Pedway, and views from these locations would also be permanently altered.

Dredging

Dredging would not result in any major visual changes to the project site. At the conclusion of the dredging, the bank area of Angelo Slough (intake channel) would be graded to a 1:4 slope. This grading would be visible from adjacent areas of the Levee Pedway during low tide; however, the visual change created by the grading would be minor and temporary, as the motion of the tides and circulation of sediment would gradually soften the slope and return it to a more natural appearance.

Visual impacts that are limited to the construction phase or active phase of a project are not typically considered to be significant under CEQA or the City's standard practices. The impacts described above would be temporary short-term impacts that would not exist once the project is complete. As a result, the visual quality impacts associated with the dredging phase of the project would be considered less than significant.

Disposal

Disposal Options 2, **3**, and **5** include off-site disposal sites that are already permitted and utilized for dredge disposal. The existing visual conditions of each off-site disposal location are described below.

Option 2, Cullinan Ranch: The disposal location is a low-lying tidal wetland in the process of being restored. Some vegetation is present on the site, and overall the site is composed of tidal waters and sediment.[10] The addition of sediment fill is necessary to complete restoration of the site.

Option 3, Montezuma: Similar to Cullinan Ranch, the Montezuma site is a tidal wetland that is being restored. Full restoration of this site would require up to 17.5 million cubic

[10] Cullinan Ranch Tidal Restoration Project, 2016.

yards of sediment fill to be placed on the site. The site is somewhat vegetated with ruderal grasses and included some seasonal wetland habitat.[11]

Option 5, Alcatraz: This is an in-water disposal site. Dredge material would be pumped into the waters of San Francisco Bay approximately 0.3 mile south of Alcatraz Island. The disposal site is not visible from above water.

The addition of dredge materials at each of these locations was previously considered independent of this project and as part of the permitting and approval of each of the off-site disposal facilities. As a result, the disposal of the project dredge material at **Disposal Options 2, 3, and 5** would not result in any visual change to the project site or vicinity. Under these disposal options, completion of the dredging and disposal would end all temporary visual impacts and conclude the project.

Disposal Option 1

The placement of the dredge material would result in a net change of approximately 1 foot over the current conditions of the basin. The basin would still collect seasonally ponding water, which reflects an unobstructed view of the sky and clouds. Recreational users would continue to enjoy this seasonal view of the basin.

The resulting visual condition would be nearly identical to the current site conditions, as the existing Sea Cloud Phase II site is composed of dredge material. The visual conditions would change in only a minor way, with the disposal site possibly appearing slightly shallower, and the disposal of new dredge material would not alter the existing aesthetic of the disposal site.

General Plan:
The placement of dredge material in the Sea Cloud Phase II basin would not interrupt or disturb views of Belmont Slough from the trails and would not interfere with viewing of wildlife from the trails, as the trails are eastward of the site and views from the trails to Belmont Slough do not include the basin. Additionally, the placement of dredge material would not impact views of the San Mateo hills or Belmont Slough from the vantage point

[11] Regional Water Board, 2012.

of the unpaved pathway along the southern edge of the Sea Cloud Phase II site; the minor change in the bottom elevation of the basin would in no way alter these views. Placement of dredge material at the site would not interfere with General Plan recommendations for future improvements to the Sea Cloud Phase II site and would not have an impact on views that are considered to be a component of the recreational aspects of the trails or park, as these views would be largely unchanged.

As the visual change to the Sea Cloud Phase II site would be minor and would not impact any views identified as a priority or highly scenic, this impact would be less than significant.

Disposal Option 4

After construction of the upland disposal site and placement of the dredge material, **Mitigation Measure AES-1-DO 4** would be implemented. The resulting condition would be a landscaped berm with a slope of 1:1. As described above, this resulting condition would be a less-than-significant impact on a scenic vista and the existing visual character of the site and surrounding areas.

Summary

The visual changes resulting from the project and **Disposal Options 1**, **2**, **3**, and **5** would not significantly alter views from public viewpoints, nor would they degrade public views of any scenic vistas or other visual resources identified in the General Plan. Therefore, these changes would have a less-than-significant impact on scenic vistas. If the project requires **Option 4**, implementation of **Mitigation Measure AES-1-DO 4** would reduce the potential impact to a scenic vista to a less-than-significant level.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway?*

No Impact (all options). California's Scenic Highway Program serves to protect and enhance California's natural scenic beauty and to protect the social and economic values provided by the State's scenic resources. U.S. Highway (US) 101 and SR 92 are the closest highways to the project site, although the site is not visible from US 101 or SR 92. Additionally, US 101 and SR 92 are not designated as Scenic Highways according to the

California Scenic Highway mapping system.[12] As a result, the project would not substantially damage scenic resources within a State Scenic Highway and no impact would occur.

c) *Substantially degrade the existing visual character or quality of the site and its surroundings?*

Less than Significant (DO 1, 2, 3 & 5); Less than Significant with Mitigation Incorporated (DO 4). The proposed project would result in temporary aesthetic changes to the project site while dredging is conducted, and could result in permanent visual changes to the project site vicinity under **Disposal Options 1** and **4**. **Disposal Options 2**, **3**, and **5** present no potential for visual impacts as they include off-site disposal of dredge material at disposal sites that have been separately evaluated and permitted for disposal of dredge material, as discussed under checklist question "a", above. Visual impacts associated with the dredging phase and **Option 1** were determined to be less than significant for the reasons described above. Visual impacts under **Option 4** could be significant; however, **Mitigation Measure AES-1-DO 4** would reduce this potential impact to a less-than-significant level.

Construction

Please see discussion under checklist question "a", above.

Post-Construction

Please see discussion under checklist question "a", above.

Summary

The proposed project and **Disposal Options 1**, **2**, **3**, and **5** would not have a demonstrable negative aesthetic effect nor result in significant impacts to visual quality or aesthetics. If the project requires **Disposal Option 4**, implementation of **Mitigation Measure AES-1-DO 4** would reduce the potential impact to the visual character or quality of the project site and surrounding areas to a less-than-significant level.

[12] Caltrans, 2014.

d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

No Impact (all options). The site is currently vacant with no on-site lighting. The project includes only maintenance dredging and disposal activities, and therefore would not add lighting to the site or create a new source of glare.

II. AGRICULTURE AND FOREST RESOURCES

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California agricultural land evaluation and site assessment model (1997) prepared by the California Dept. of conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significantly environmental effects, lead agencies may refer to information compiled by the California department of forestry and fire protection regarding the state's inventory of forest land, including the forest and range assessment project and the forest legacy assessment project; and forest carbon measurement methodology provided in forest protocols adopted by the California air resources board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to a non-agricultural use?	❒	❒	❒	■
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	❒	❒	❒	■
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Governmental Code section 51104(g))?	❒	❒	❒	■
d) Result in the loss of forest land or conversion of forest land to non-forest use?	❒	❒	❒	■

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	❒	❒	❒	■

No Impact (all options). The project site and the two uplands disposal sites adjacent to Sea Cloud park (**Options 1** and **4**) are composed of undeveloped land, shore areas, intertidal waters, and estuaries, and do not include agriculture or forest resources. Additionally, the other three off-site disposal sites (**Options 2**, **3** & **5**) do not include any agriculture or forest resources, as they are already approved as disposal sites. As a result, the project would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use, nor would the project result in the loss of forest land or convert forest land to non-forest use. Therefore, the project would not result in impacts related to agriculture and forest resources.

III. AIR QUALITY

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	❒	❒	■	❒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	❒	■ DO 1, 3 & 4	■ DO 2 & 5	❒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	❒	■ DO 3	■ DO 1,2,4 & 5	❒
d) Expose sensitive receptors to substantial pollutant concentrations?	❒	❒	■	❒
e) Create objectionable odors affecting a substantial number of people?	❒	■ DO 1& 4	❒	■ DO 2, 3 & 5

Affected Environment

Regulatory Framework

The EPA is responsible for implementing the programs established under the federal Clean Air Act, such as establishing and reviewing the National Ambient Air Quality Standards (NAAQSs) and judging the adequacy of State Implementation Plans. The California Air Resources Board (CARB) is responsible for establishing and reviewing the California Ambient Air Quality Standards (CAAQSs), developing and managing the California State Implementation Plan, identifying toxic air contaminants (TACs), and

overseeing the activities of regional air quality management districts. In California, mobile emissions sources (e.g., construction equipment, trucks, and automobiles) are regulated by CARB and stationary emissions sources (e.g., industrial facilities) are regulated by the air quality management districts. The project is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD).

Criteria Air Pollutants

The EPA and CARB currently focus on the following air pollutants as indicators of ambient air quality: ozone, particulate matter (PM), nitrogen dioxide, carbon monoxide (CO), sulfur dioxide, and lead. Because these are the most prevalent air pollutants known to be deleterious to human health and about which extensive health-effects criteria documents are available, they are commonly referred to as "criteria air pollutants."

Criteria air pollutants are emitted directly into the atmosphere and/or are formed in the atmosphere. For example, ozone is formed in the atmosphere through a series of photochemical reactions involving reactive organic gases (ROGs) and nitrogen oxides (NOx). ROG and NOx are known as precursor compounds for ozone. There are two fractions of PM emissions that are regulated based on aerodynamic resistance diameters: those equal to or less than 10 microns (PM_{10}) and those equal to or less than 2.5 microns ($PM_{2.5}$). These PM fractions are a concern because they are small enough to be inhaled into the air passages and lungs, which can cause adverse health effects. Larger dust particles with aerodynamic resistance diameters greater than 10 microns settle out rapidly and are easily filtered by human breathing passages. The finer $PM_{2.5}$ fraction, which includes diesel exhaust particles, poses a more significant threat to human health because these smaller particles can penetrate deeper into the lungs.

To achieve ambient air quality standards, criteria air pollutant emissions in California are managed through control measures described in regional air quality plans and emission limitations placed on permitted stationary sources. The CAAQSs and NAAQSs are intended to incorporate an adequate margin of safety to protect the public health and welfare. They are designed to protect places where people are most susceptible to air pollutants, known as "sensitive receptors." Sensitive receptors include schools, convalescent homes, and

hospitals because the very young, the old, and the infirm are more susceptible to air-quality-related health problems than the general population. Residential areas are also considered sensitive to poor air quality because people are often at home for extended periods, thereby increasing the duration of exposure to potential air contaminants.

In accordance with the federal Clean Air Act and California Clean Air Act, areas in California are classified as either in "attainment," "maintenance," or "non-attainment" of the NAAQSs or CAAQSs for each criteria air pollutant. The San Francisco, Oakland, and San Jose Area,[13] which was formerly designated a non-attainment area with a "moderate" classification for the federal 8-hour CO standard, is currently designated a maintenance area for CO and is expected to be redesignated as an attainment area in 2018.[14] The SFBAAB is currently designated as a non-attainment area for the following criteria pollutant standards:

- State 1-hour and 8-hour ozone standards;
- Federal 8-hour ozone standard;
- State standards for PM_{10} and $PM_{2.5}$; and
- Federal 24-hour $PM_{2.5}$ standard.[15]

The SFBAAB is designated an attainment area (or is unclassified) with respect to the other ambient air quality standards. [16,17]

[13] Includes urbanized parts of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.

[14] CARB, 2004.

[15] On January 9, 2013, the EPA issued a final rule to determine that the Bay Area attains the 24-hour $PM_{2.5}$ national standard. This EPA rule suspends key State Implementation Plan requirements as long as monitoring data continues to show that the Bay Area attains the standard. Despite this EPA action, the Bay Area will continue to be designated as "non-attainment" for the national 24-hour $PM_{2.5}$ standard until such time as the BAAQMD submits a "redesignation request" and a "maintenance plan" to EPA, and EPA approves the proposed redesignation.

[16] BAAQMD, 2015.

Toxic Air Contaminants

TACs are airborne substances that are capable of causing adverse human health effects (i.e., injury or illness). Common sources of TAC emissions include stationary sources such as gasoline stations and dry cleaners, and mobile sources such as vehicle exhaust from construction equipment. Unlike criteria pollutants, which are regionally regulated based on the CAAQSs, TAC emissions are evaluated based on estimations of localized concentrations and risk assessments. For risk assessment purposes, TACs are separated into carcinogens and non-carcinogens. Carcinogens are assumed to have no safe threshold below which health impacts would not occur and cancer risk is expressed as excess cancer cases per 1 million exposed individuals over a lifetime of exposure. Non-carcinogenic substances are generally assumed to have a safe threshold below which health impacts would not occur. Acute and chronic exposure to non-carcinogens is expressed as a hazard index, which is the sum of expected exposure levels divided by the corresponding acceptable exposure levels. In the San Francisco Bay Area, adverse air quality impacts to public health from TACs are predominantly from diesel particulate matter.[18]

Air Quality Plans

In accordance with the federal Clean Air Act and California Clean Air Act, the BAAQMD is required to prepare and update an air quality plan that outlines measures by which both stationary and mobile sources of pollutants can be controlled to achieve NAAQSs and CAAQSs in designated non-attainment areas. In September 2010, the BAAQMD adopted the *Bay Area 2010 Clean Air Plan* (CAP),[19] which serves as an update to the previous *Bay Area 2005 Ozone Strategy*.[20] The 2010 CAP includes 55 control measures to reduce ozone precursors, PM, TACs, and greenhouse gases (GHGs). The 2010 CAP was developed based on computer modeling and analysis of existing air quality monitoring data and emissions inventories, and incorporated traffic and population growth projections prepared by the

[17] EPA, 2015a.

[18] BAAQMD, 2010a.

[19] Ibid.

[20] BAAQMD, 2006.

Metropolitan Transportation Commission and the Association of Bay Area Government, respectively.

BAAQMD CEQA Air Quality Guidelines

In accordance with the 2010 CAP, the BAAQMD developed and adopted thresholds of significance (Thresholds) that were incorporated into the 2010 *CEQA Air Quality Guidelines*.[21] The purpose of the *CEQA Air Quality Guidelines* is to assist lead agencies in the evaluation and mitigation of air quality impacts generated from new developments during the construction and operational phases of a project. The 2010 Thresholds established levels at which air pollution emissions would cause significant environmental impacts. The 2010 Thresholds include emission values for ozone precursors (ROG and NOx), $PM_{2.5}$, PM_{10}, local CO, TACs, and GHGs.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA before adopting the Thresholds, because the Thresholds are considered a "project" subject to CEQA review. The court issued a writ of mandate ordering BAAQMD to set aside and cease dissemination of the adopted Thresholds until approved under CEQA. In view of the court order, the BAAQMD updated the *CEQA Air Quality Guidelines* in 2012 to exclude the recommended use of the Thresholds for CEQA analysis.

On August 13, 2013, the California First Appellate District Court of Appeal reversed the trial court's decision by finding that the adoption of the BAAQMD's Thresholds was not itself a "project" requiring CEQA review. The Court of Appeal's decision was appealed to the California Supreme Court, where the issue of using the BAAQMD's Thresholds to evaluate the impact of existing environmental conditions on future project users was challenged as a "reverse application" of the intended CEQA process. More specifically, the Supreme Court's review was limited to the following: "Under what circumstances, if any, does the California Environmental Quality Act require an analysis of how existing environmental conditions will impact future residents or users (receptors) of a proposed project?"

[21] BAAQMD, 2010b.

On December 17, 2015, the California Supreme Court ruled that, with a few exceptions, CEQA analysis should be limited to the project's impacts on the environment, but not the environment's impact on the project. Because the adoption process and scientific soundness of the 2010 Thresholds have not been challenged, the BAAQMD's Thresholds that relate to the analysis of the project's impacts on the environment are used in this Initial Study in conjunction with the 2012 *CEQA Air Quality Guidelines*.[22]

Discussion

a) *Conflict with or obstruct implementation of the applicable air quality plan?*

Less than Significant (all options). The current and applicable air quality plan is the 2010 CAP. Based on the current 2012 *CEQA Air Quality Guidelines*, the following criteria should be considered to determine if a project would conflict with or obstruct implementation of the 2010 CAP:

- Does the project include applicable control measures from the air quality plan?
- Does the project disrupt or hinder implementation of any air quality plan control measures?
- Does the project support the primary goals of the air quality plan?

The 2010 CAP includes 55 control measures that aim to reduce air pollution from stationary, area, and mobile sources. The control measures are organized into five categories: stationary source measures, mobile source measures, transportation control measures, land use and local impact measures, and energy and climate measures. The project's consistency with each control measure group is described below.

- **Stationary source measures** are enforced by BAAQMD pursuant to its authority to control emissions from permitted facilities. The project would not generate any point-source pollutant emissions subject to BAAQMD permit restrictions. Because the project

[22] BAAQMD, 2012.

would not be a permitted BAAQMD facility, the stationary source measures are not applicable to the project.

- **Mobile source measures** are generally statewide programs implemented by CARB that aim to reduce vehicle emissions by accelerating the replacement of older vehicles and equipment. Consistent with the mobile source measures, heavy-duty diesel vehicles used during project construction would be required to comply with the CARB's In-Use Off-Road Diesel Vehicle Regulation found in Title 13 of the California Code of Regulations (13 CCR), Section 2449.

- **Transportation control measures** are strategies to reduce vehicle trips, use, miles traveled, idling, or traffic congestion for the purpose of reducing vehicle emissions. Project-specific measures include developing land use patterns that facilitate alternative commutes, such as walking, bicycling, and group transit (e.g., carpool, buses, and commuter rail). Because the project would not increase vehicle trips, the transportation control measures are not applicable to the project.

- **Land use and local impact measures** are designed to: 1) promote mixed-use compact development to reduce motor vehicle travel and emissions; and 2) ensure that growth is planned in a way that protects people from exposure to air pollution from stationary and mobile sources of emissions. Because the project would not result in a population increase, the land use and local impact measures are not applicable to the project.

- **Energy and climate measures** are designed to reduce ambient concentrations of criteria pollutants, reduce emissions of carbon dioxide, and protect our climate by promoting energy conservation, renewable energy production, reductions in "urban heat island" effects, and plantings of trees with low emissions of volatile organic compounds. Because the project's pollutant emissions would be temporary, the energy and climate measure are not applicable to the project.

As described above, the dredging and disposal under all the options would comply with applicable control measures. Because no traffic or population growth would be associated with the project, the project dredging and disposal activities would not be expected to hinder or disrupt implementation of the CAP.

The goals of the 2010 CAP are to reduce the emissions and ambient concentrations of ozone precursors, PM, TACs, and GHGs, and to reduce public exposure to harmful pollutants. Because the project would not result in any significant and unavoidable air quality impact-related emissions, ambient concentrations, or public exposures (see Sections b-d, below), the project supports the primary goals of the 2010 CAP. According to the 2012 CEQA Air Quality Guidelines, the dredging and disposal under all of the options would have a less-than-significant impact on the implementation of the applicable air quality plan.

b) *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

Less than Significant with Mitigation Incorporated (for DO 1, 3, and 4); Less than Significant (DO 2, and 5). The primary pollutant emissions of concern during project construction activities are fugitive dust (PM_{10} and $PM_{2.5}$) from earth-moving activities and ROG, NOx, PM_{10}, and $PM_{2.5}$ from the exhaust of construction equipment, vehicles, and marine vessels.

Construction equipment, vehicles, and marine vessels used for dredging and disposal during construction under any of the options would generate emissions of ROG, NOx, and exhaust PM_{10} and $PM_{2.5}$. Unmitigated emissions from dredging and each disposal option were compared to the BAAQMD's Thresholds. Emissions of ozone precursors and exhaust PM_{10} and $PM_{2.5}$ above the BAAQMD's Thresholds could substantially contribute to existing violations of CAAQSs and/or NAAQSs in the SFBAAB. The unmitigated emissions estimated from dredging and disposal under **Options 1**, **2**, **4**, and **5** were below the BAAMQD's Thresholds; therefore, the air quality impact would be less than significant. The unmitigated emissions estimated from dredging and disposal under **Option 3** exceed the BAAQMD's Thresholds due to the locations distance from the project site; however, implementation of **Mitigation Measure AQ-1-DO 3** below would reduce this potential impact to a less-than-significant level.

> Mitigation Measure AQ-1-DO 3: - U.S. EPA's Tier 3 Emission Standards: All diesel marine vessels used during dredging and disposal under **Option 3** shall meet the U.S. EPA's Tier 3 emissions standards.

Dredging and **Disposal Options 2**, **3**, and **5** are not expected to generate fugitive dust emissions on the project site. Earth-moving equipment that would be used for **Disposal Options 1** and **4** could create fugitive dust emissions that could result in a significant impact; however, implementation of Foster City's Standard Construction Practices under **Mitigation Measure AQ-2-DO 1 & 4** as listed below would reduce this potential impact to a less-than-significant level.

Methodology for Estimating Emissions

Project emissions of ROG, NOx, PM_{10}, and $PM_{2.5}$ during dredging and disposal were estimated from the following three sources: off-road equipment, on-road vehicles, and marine vessels. The type of equipment, vehicles, and marine vessels that would be used during project dredging and disposal activities are summarized in Table 1, below, and additional details are included in Appendix 1. To estimate project emissions, dredging and disposal under each option was assumed to begin in 2016.

Emissions from off-road diesel equipment were estimated in accordance with methodologies presented in the CARB's (2010) *Off-road Simulation Model and Summary of Off-Road Emissions Inventory Update* and using data derived from the CARB's *Off-Road Emissions Inventory Model* (OFFROAD2011) and *California Emissions Estimator Model* (CalEEMod). The total ROG, NOx, and exhaust PM_{10} and $PM_{2.5}$ emissions from each type of off-road equipment were calculated using the following equation:

$$\text{Emissions in pounds} = (Pop)(HP_{Ave})(LF)(Hr)(EF)\left(\frac{1\ pound}{454\ grams}\right)$$

Where:

Pop = Population of equipment

HP_{Ave} = Maximum-rated average HP

LF = Load factor

Hr = total operating hours (per equipment)

EF = Emissions factor (grams/HP-hour)

The input parameters and assumptions used for estimated emissions from off-road equipment are included in Appendix 1.

Emissions from on-road vehicles were estimated using data derived the CARB's *EMission FACtors Model* (EMFAC2014) and CalEEMod. The total ROG, NOx, and exhaust PM_{10} and $PM_{2.5}$ emissions from each type of on-road vehicle were calculated using the following equation:

$$\text{Emissions in pounds } = (Pop)(VMT)(EF)\left(\frac{1\ pound}{454\ grams}\right)$$

Where:

Pop = Population of equipment

VMT = Vehicle miles traveled (per equipment)

EF = Emissions factor (grams/VMT)

The input parameters and assumptions used for estimated emissions from on-road vehicles are included in Appendix 1.

Emissions from diesel marine vessels were estimated using data and methodologies presented in CARB's (2007) *Emissions Estimation Methodology for Commercial Harbor Craft*. Available information about the average HP of harbor craft engines were derived from CARB's (2004b) *Statewide Commercial Harbor Craft Survey*. The total ROG, NOx, and exhaust PM_{10} and $PM_{2.5}$ emissions from marine vessels were calculated using the following equation:

$$\text{Emissions in pounds} = (EF_0)(F)\left(1 + DF\left(\frac{A}{UL}\right)\right)(HP)(LF)(Hr)\left(\frac{1\ pound}{454\ grams}\right)$$

Where:

EF_0 = Zero-hour emissions factor (grams/hp-hour)

F = Fuel correction factor

DF = Deterioration factor of engine

A = Age of engine

UL = Useful life of engine

HP = Horsepower

LF = Load factor

Hr = Total operating hours

The input parameters and assumptions used for estimated emissions from marine vessels are included in Appendix 1.

TABLE 1 SUMMARY OF PROPOSED CONSTRUCTION EQUIPMENT

Equipment	Engine Type	Quantity
Dredging		
Barge Backhoe/Clamshell	Off-Road Diesel Equipment	1
Worker Vehicle	On-Road Vehicle	10
Tugboat/Pushboat	Diesel Marine Vessel	1
Disposal Option 1		
Scow Pump System	Off-Road Diesel Equipment	1
Backhoe	Off-Road Diesel Equipment	1
Pump	Off-Road Diesel Equipment	1
Worker Vehicle	On-Road Vehicle	2
Disposal Option 2		
Tugboat/Pushboat	Diesel Marine Vessel	1
Disposal Option 3		
Tugboat/Pushboat	Diesel Marine Vessel	1
Disposal Option 4		
Excavator	Off-Road Diesel Equipment	2
Rubber Tired Dozer	Off-Road Diesel Equipment	2
Rubber Tired Loader	Off-Road Diesel Equipment	2
Scow Pump System	Off-Road Diesel Equipment	1
Backhoe	Off-Road Diesel Equipment	1
Pump	Off-Road Diesel Equipment	1
Water Truck	On-Road Vehicle	1
Worker Vehicles	On-Road Vehicle	12
Disposal Option 5		

Tugboat/Pushboat	Diesel Marine Vessel	1

Source: Huffman-Broadway Group, 2016.

Dredging and Disposal Options 1 and 4

The construction period for dredging and disposal for the two upland disposal options adjacent to the dredging site, **Options 1** and **4**, were assumed to be 38 and 57 days (including weekends), respectively. As show in in Table 2, the estimated unmitigated emissions of NOx, ROG, and exhaust PM_{10} and $PM_{2.5}$ from dredging and disposal under **Options 1** and **4** did not exceed the BAAQMD's Thresholds; therefore, project construction under these disposal options would have a less-than-significant impact related to the exceedance of ambient air quality standards.

TABLE 2 SUMMARY OF AVERAGE DAILY CRITERIA POLLUTANT EMISSIONS DURING DREDGING AND DISPOSAL OPTIONS 1AND 4

Emission Source	ROG (lbs/day)	NOx (lbs/day)	Exhaust PM10 (lbs/day)	Exhaust $PM_{2.5}$ (lbs/day)
BAAQMD's Thresholds	**54**	**54**	**82**	**54**
Dredging and Disposal Option 1				
Off-Road Equipment	0.59	5.5	0.36	0.34
On-Road Vehicles	0.01	0.04	<0.01	<0.01
Marine Vessels	0.41	2.7	0.11	0.11
Total Unmitigated Emissions	1.0	8.2	0.47	0.45
Dredging and Disposal Option 4				
Off-Road Equipment	2.6	30	1.4	1.3
On-Road Vehicles	0.02	0.09	<0.01	<0.01
Marine Vessels	0.28	1.8	0.07	0.07
Total Unmitigated Emissions	2.9	32	1.5	1.4

Source: BASELINE Environmental Consulting, 2016.

Notes: lbs/day = pounds per day
Calculations of emissions are summarized in Appendix 1.

The BAAQMD does not have any quantitative Threshold values for fugitive dust $PM_{2.5}$ and PM_{10} from earth-moving activities, such as grading of disposal **Options 1** and **4**; however, the BAAQMD considers implementation of best management practices (BMPs) sufficient to reduce related air quality impacts from fugitive dust PM to a less-than-significant level.

The BAAQMD recommends implementing its *Basic Construction Mitigation Measures*[23] as BMPs for all construction projects to reduce emissions of fugitive dust PM. These practices have been incorporated in Foster City for general construction practices.

Implementation of **Mitigation Measure AQ-2-DO 1 & 4** would reduce potential impacts to existing air quality standards from fugitive dust PM emissions during the project's proposed disposal activities under Options 1 and 4 to a less-than-significant level.

Mitigation Measure AQ-2-DO 1 & 4: - Foster City Construction Practices: The project's earth-moving activities under disposal Options 1 and 4 shall comply with the following Foster City general construction practices (as applicable) to control dust production and fugitive dust:

- Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing sensitive land uses shall be kept damp at all times, or shall be treated with non-toxic stabilizers to control dust.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

[23] BAAQMD, 2012. op. cit.

- Blowing dust shall be reduced by timing construction activities so that paving and building construction begin as soon as possible after completion of grading, and by landscaping disturbed soils as soon as possible.
- Water trucks shall be present and in use at the construction site.
- All portions of the site subject to blowing dust shall be watered as often as deemed necessary by the City to ensure proper control of blowing dust for the duration of the project.
- Watering on public streets shall not occur.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure found in Title13 CCR, Section 2485). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Streets will be cleaned by street sweepers or by hand as often as deemed necessary by the City Engineer.
- Watering associated with on-site construction activity shall take place between the hours of 8:00 a.m. and 7:00 p.m. and shall include at least one late-afternoon watering to minimize the effects of blowing dust.

- All public streets and medians soiled or littered due to this construction activity shall be cleaned and swept on a daily basis during the workweek to the satisfaction of the City.

- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Implementation of **Mitigation Measure AQ-2-DO 1 & 4**: – Foster City construction practices would reduce potential impacts to existing air quality standards from fugitive dust PM emissions during the project's proposed disposal activities under **Options 1** and **4** to a less-than-significant level.

Dredging and Disposal Options 2 and 5

The construction period for dredging and disposal was assumed to be 38 days (including weekends) under **Options 2** and **5**. Because dredge materials would be transported off site for disposal, construction would not be expected to generate fugitive dust emissions on the project site. As show in Table 3, the estimated unmitigated emissions of NOx, ROG, and exhaust PM10 and $PM_{2.5}$ from dredging and disposal under **Options 2** and **5** did not exceed the BAAQMD's Thresholds; therefore, project construction under **Options 2** and **5** would have a less-than-significant impact related to the exceedance of ambient air quality standards.

TABLE 3 SUMMARY OF AVERAGE DAILY CRITERIA POLLUTANT EMISSIONS DURING DREDGING AND DISPOSAL OPTIONS 2 AND 5

Emission Source	ROG (lbs/day)	NOx (lbs/day)	Exhaust PM_{10} (lbs/day)	Exhaust $PM_{2.5}$ (lbs/day)
BAAQMD's Thresholds	**54**	**54**	**82**	**54**
Dredging and Disposal Option 2				
Off-Road Equipment	0.10	0.95	0.07	0.07

On-Road Vehicles	0.01	0.04	<0.01	<0.01
Marine Vessels	6.1	40	1.6	1.6
Total Unmitigated Emissions	6.2	41	1.7	1.7
Dredging and Disposal Option 5				
Off-Road Equipment	0.10	0.95	0.07	0.07
On-Road Vehicles	0.01	0.04	<0.01	<0.01
Marine Vessels	3.2	21	0.82	0.82
Total Unmitigated Emissions	3.3	22	0.90	0.89

Source: BASELINE Environmental Consulting, 2016.

Notes: lbs/day = pounds per day
Calculations of emissions are summarized in Appendix 1.

Dredging and Disposal Option 3

The construction period for dredging and disposal under **Option 3** was assumed to be 38 days (including weekends). Because dredge materials would be transported off site for disposal, construction would not be expected to generate fugitive dust emissions on the project site. As show in in Table 4, the estimated unmitigated emissions of NOx from dredging and disposal under **Option 3** exceeded the BAAQMD's Thresholds and could substantially contribute to existing violations of CAAQSs and/or NAAQSs for ozone. Unmitigated emissions of ROG and exhaust PM_{10} and $PM_{2.5}$ did not exceed the BAAQMD's Thresholds.

The primary source of NOx emissions are from tugboats or push boats that would be used to transport barges to and from the off-site disposal sites.

As shown in Table 4, implementation of **Mitigation Measure AQ-1-DO 3** would result in approximate 20% and 50% reductions in NOx and PM emissions from marine vessels, respectively, and reduce emissions of NOx below the BAAQMD's Threshold. Therefore, implementation of **Mitigation Measure AQ-1-DO 3** would reduce potential impacts related to the exceedance of ambient air quality standards during the project's proposed disposal activities under **Option 3** to a less-than-significant level.

TABLE 4 SUMMARY OF AVERAGE DAILY CRITERIA POLLUTANT EMISSIONS DURING DREDGING AND DISPOSAL OPTION 3

Emission Source	ROG (lbs/day)	NOx (lbs/day)	Exhaust PM_{10} (lbs/day)	Exhaust $PM_{2.5}$ (lbs/day)
BAAQMD's Thresholds	**54**	**54**	**82**	**54**
Dredging and Disposal Option 3				
Off-Road Equipment	0.10	0.95	0.07	0.07
On-Road Vehicles	0.01	0.04	<0.01	<0.01
Marine Vessels	8.2	53	2.1	2.1
Total Unmitigated Emissions	8.3	**54.3**	2.2	2.2
Total Mitigated Emissions	8.3	43	1.1	1.1

Source: BASELINE Environmental Consulting, 2016.

Notes: lbs/day = pounds per day
Total emissions shown in **bold and shaded font** exceed the BAAQMD's Threshold.
Mitigated emissions based on the use of Tier 3 engines for diesel marine vessels.
Calculations of emissions are summarized in Appendix 1.

c) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?*

Less than Significant (DO 1, 2, 4 & 5); Less than Significant with Mitigation Incorporated (DO 3). Air pollution in the SFBAAB is generally a cumulative impact; therefore, future development projects contribute to the region's adverse air quality impacts on a cumulative basis. In developing the Thresholds, the BAAQMD considered the emission levels for which an individual project's emissions would be cumulatively considerable, including the emissions of criteria pollutants already exceeding CAAQSs. The SFBAAB is currently designated a nonattainment area for ozone and PM.

As discussed under Section III(b), above, emissions of ozone precursors and PM from dredging and disposal under **Options 1**, **2**, **4**, and **5** did not exceed the BAAQMD's

Thresholds; therefore, the cumulative impact of ozone precursors and PM would be less than significant. Under **Disposal Option 3**, implementation of **Mitigation Measure AQ-1-DO 3** would reduce the emissions of NOx below the BAAQMD's Thresholds; therefore, the cumulative impact of NOx emissions would be less than significant with mitigation incorporated.

d) *Expose sensitive receptors to substantial pollutant concentrations?*

Less than Significant (DO 2, 3 & 5) Less than Significant with Mitigation (DO 1& 4). The BAAQMD recommends evaluating potential impacts of project TAC emissions to sensitive receptors (e.g., a place where people live, play, or convalesce) located within 1,000 feet of a project.[24] Sensitive receptors within 1,000 feet of the project area would include the residents of the Bayfront Court development and could include users of the Levee Pedway and Sea Cloud Park. Based on the BAAQMD's Thresholds, significant impacts to sensitive receptors would include an incremental increase of 10 cancer cases per 1 million people, an acute or chronic non-cancer hazard index greater than 1.0, or ambient $PM_{2.5}$ concentration greater than an annual average of 0.3 micrograms per cubic meter.[25]

The project's TAC emissions would primarily be diesel particulate matter from heavy-duty diesel equipment, vehicles, and vessels. However, due to the uncertainty in assessing cancer risk from very short-term exposures, the Office of Environmental Health Hazard Assessment does not recommend assessing cancer risk for construction projects lasting less than two months. This is because cancer risk modeling methodologies are associated with long-term exposure periods of 9, 30, and 70 years, which do not correlate well with short-term construction activities. The actual work days for project construction, which ranges from about 16 to 46 days, is less than two months; therefore, the temporary emissions of diesel particulate matter from project construction equipment would not be expected to result in significant health risks to nearby receptors. Furthermore, **Mitigation Measure AQ-2-DO 1 & 4** requires that construction exhaust emissions be reduced by limiting idle times for equipment when not in use and that construction equipment be

[24] BAAQMD, 2012. op cit.

[25] BAAQMD, 2010b. op cit.

maintained and properly tuned in accordance with manufacturer's specifications. Therefore, the project's TAC emissions during dredging and disposal would have a less-than-significant impact on nearby sensitive receptors.

e) *Create objectionable odors affecting a substantial number of people?*

No Impact (Options 2, 3, and 5); Less than Significant with Mitigation (Options 1 and 4). According to an odor evaluation performed for the Sea Cloud Phase II EIR in 2000, the dewatering (i.e., drying) of dredge materials removed from the Foster City Lagoon can result in the release of odorous emissions. Dredging and disposal under **Options 2**, **3**, and **5** would not be expected to generate odors on the project site associated with the dewatering of dredge materials; therefore, no odor impacts would be associated with these construction scenarios. Disposal under **Options 1** and **4** would generate odors from the dewatering of dredge materials; however, the impact is considered to be less than significant, as described below.

Disposal Options 1 and 4

Sensitive receptors located near the Sea Cloud Phase II basin (**Option 1**) and Sea Cloud Park upland disposal area (**Option 4**) include residential and recreational areas located west, northwest, and north of the project site. Based on BAAQMD meteorological data collected from the San Mateo STP station, the predominant wind direction in the project vicinity is to the southeast, east, and northeast (Appendix 1), away from the nearby sensitive receptors.

In 2004, dredge materials from the Foster City Lagoon were placed in the Sea Cloud Phase II sedimentation basin adjacent to the project site. During this time period, the BAAQMD did not receive any complaints regarding odors from dredge materials placed and dewatered in the Sea Cloud Phase II basin.[26] The project's proposed placement of dredge materials in the Sea Cloud Phase II basin and Sea Cloud Park upland disposal site under **Options 1** and **4**, respectively, would likely result in similar odor conditions that previously occurred during the disposal of dredge materials into the Sea Cloud Phase II basin.

[26] BAAQMD, 2015b.

However, since the Sea Cloud dredging project occurred approximately 12 years ago and conditions could change, the potential impact related to odor from dewatering dredge materials under **Options 1** and **4** is conservatively considered significant, requiring mitigation.

Implementation of **Mitigation Measure AQ-3-DO 1 & 4** would reduce potential impacts related to odor from dewatering dredge materials under Options 1 and 4 to a less-than-significant level.

Mitigation Measure AQ-3-DO 1& 4: If either Option 1 or 4 are implemented the following shall be completed to mitigate potential odors related to dewatering dredge materials:

1) A designated City project liaison shall be responsible for responding to odor complaints during and after dredge spoils placement. The name and phone number of the liaison shall be conspicuously posted at construction areas and on notifications to the nearby residents and businesses.

2) If an odor complaint is received, the City shall, within 24 hours, send a monitor to the site to confirm the complaint and meet with the person making the complaint. If the complaint is confirmed, corrective action shall be implemented within 48 hours of receiving the complaint.

3) Corrective action may include, but would not be limited to, slowing or stopping placement of dredge material; keeping most of the dredge material wet (since drying and mortality of organisms within the dredge material is likely the primary cause of odor) and allowing only limited areas to dry; applying an odor-suppressing foam or liquid to absorb and/or contain the odors; covering dredge material areas with plastic sheeting; and/or offering to temporarily relocated particularly affected nearby residents.

IV. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?	❒	■	❒	❒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?	❒	■ DO 4	■ DO 1, 2, 3, & 5	❒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	❒	■	❒	❒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	❒	■	❒	❒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	❒	❒	❒	■
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan?	❒	❒	❒	■

Affected Environment

The project would take place below the high tide line and mean high water line within Angelo Slough, which is connected to the larger Belmont Slough. The 2.78-acre dredging site within Angelo Slough is a mostly unvegetated intertidal area surrounded by salt marsh vegetation. The dredging activities would occur within approximately 1.73 acres of that site, mostly in the unvegetated intertidal area.

Immediately south of the project site is the approximately 19-acre Sea Cloud Phase II site, which consists of a basin, islands within the basin, and uplands along the perimeter levee. The western edge of the basin includes the western levee. Public access is not permitted within Sea Cloud Phase II, but access is available along the Levee Pedway and levee along the eastern border and along the western levee from Sea Cloud Park. The majority of the basin is open water during the winter and spring that typically dries up during the summer. A vegetated wetland fringe has developed around the edges of the basin. The upland area on the western levee is separated from Sea Cloud Park by a chain link fence, and the site slopes from this fence to the basin. Two of the dredge disposal options, **Options 1** and **4**, involve use of the Sea Cloud Phase II site and upland area along the western levee, respectively.

The staging site for the dredging operations is proposed on the western side of the project site, adjacent to the northwestern corner of the Sea Cloud Phase II site.

Plant Communities

Project Site

Vegetation communities and habitats at the project site were identified based on the currently accepted List of Vegetation Alliances and Associations (or Natural Communities List).[27] The list is based on A Manual of California Vegetation, Second Edition,[28] which is the National Vegetation Classification applied to California. Huffman-Broadway Group (HBG) biologists conducted field surveys of the site in May and June 2013 and again in

[27] CDFW, 2010.

[28] Sawyer and Keeler-Wolf, 2009.

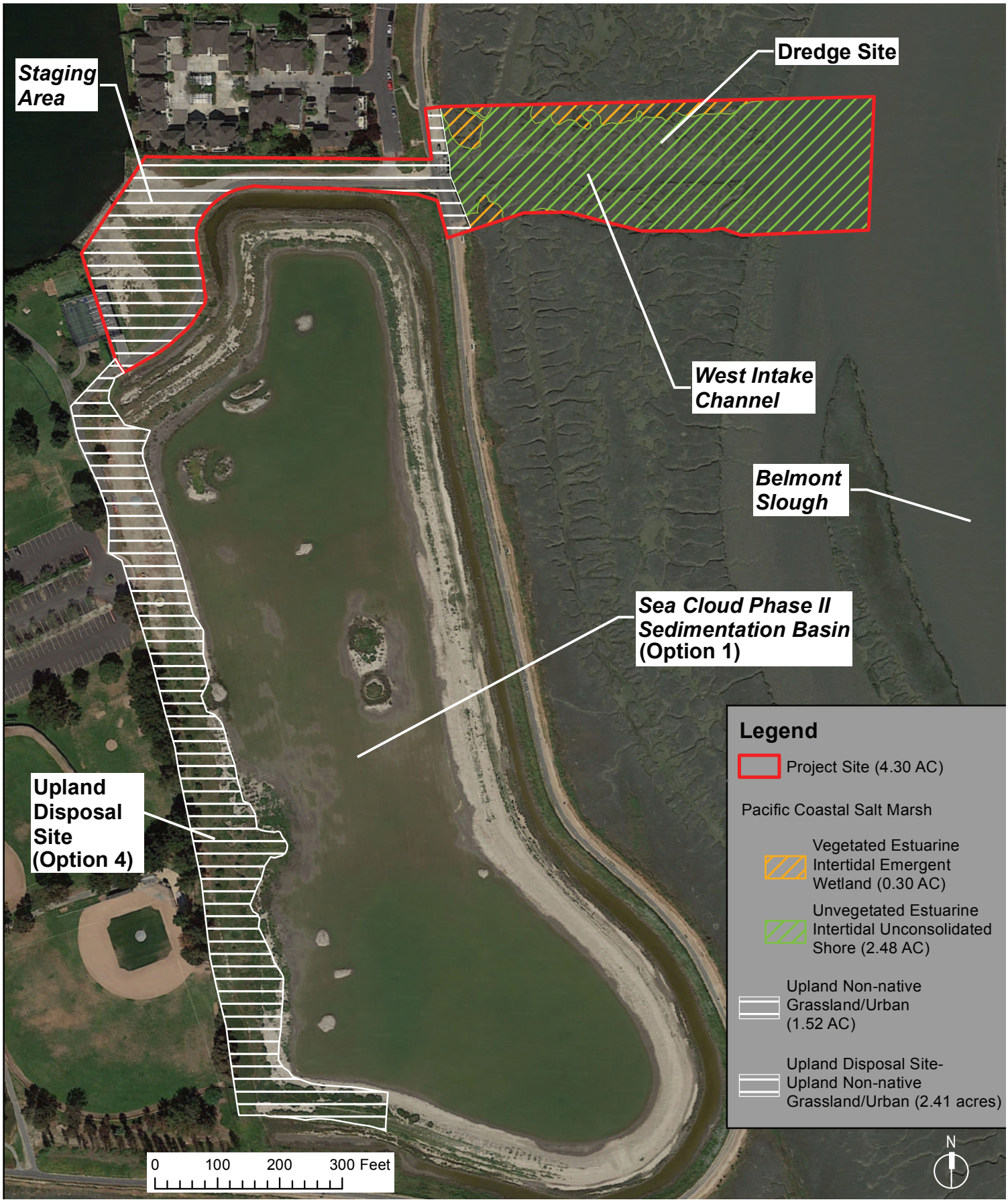
May and June 2015. Qualitative information on the composition and distribution of plant species on the site was obtained during the site visits. Plant communities were identified on aerial photographs of the site. The locations of vegetative communities throughout the project site are shown in Figure 15.

The 4.3-acre project site for staging and dredging contains one habitat type according to this classification system: Pacific Coastal Salt Marsh (2.78 acres). The Pacific Coastal Salt Marsh occurs beyond the outward toe of the perimeter levee within Belmont Slough and consists of areas potentially subject to agency jurisdiction as wetlands or waters of the U.S. The Pacific Coastal Salt Marsh habitat within Belmont Slough includes the unvegetated main slough channel of the smaller Angelo Slough and vegetated salt marsh on either side of it. Wetland vegetation in the salt marsh beyond the toe of the perimeter levee in Belmont Slough is entirely pickleweed (*Salicornia virginica*) and cordgrass (*Spartina foliosa*).

The wetland habitat was further classified using the USFWS' Service's Classification System for Wetland and Deepwater Habitats.[29] According to Cowardin et al. criteria, the vegetated salt marsh within Belmont Slough is classified as estuarine intertidal emergent wetland, and the unvegetated deeper portion of Angelo Slough is classified as estuarine intertidal unconsolidated shore habitat. Within the 2.78-acre portion of the project site, the vegetated estuarine intertidal emergent marsh occupies 0.30 acre and the unvegetated estuarine intertidal unconsolidated shore makes up 2.48 acres (see Figure 15). The proposed dredge is to be conducted within 1.73 acres out of the 2.48 within the Pacific Coastal Salt Marsh, mostly within the estuarine intertidal unconsolidated shore habitat.

The habitat type within the staging area is Non-native Grassland (also referred to as ruderal vegetation or an Urban Habitat). Vegetation within the Non-Native Grassland (uplands) within the staging area is sparse, consisting of mostly non-native herbaceous plants and grasses. The paved pedestrian path between the Levee Pedway and Sea Cloud

[29] Cowardin, et al., 1979.



Source: Huffman-Broadway Group, 2016

Figure 15
Vegetated Communities

Park traverses this area, and a portion of the area is bare ground. Dominant non-native species of vegetation include sweet fennel (*Foeniculum vulgare*), ice plant (*Carpobrotus* sp.), rip-gut brome *(Bromus diandrus*), wild oats (*Avena fatua*), fescue (*Festuca* sp.), foxtail barley (*Hordeum murinum spp. leporinum*), redstem filaree (*Erodium cicutarium*), bull mallow (*Malva nicaeensis*), sweet clover (*Melilotus indica*), and scarlet pimpernel (*Anagalus arvensis*), among others. Saltgrass (*Distichlis spicata*) is found along the edge of the Foster City Lagoon at the west end of the staging area.

Disposal Options

Option 1 proposes dredge disposal in the Sea Cloud Phase II sedimentation basin. Several small islands within the Sea Cloud Phase II basin are vegetated with species such as ice plant (*Carpobrotus* sp.), pickleweed (*Salicornia virginica*), and Italian thistle (*Carduus pycnocephalus*), and a fringe of wetland vegetation around the perimeter includes pickleweed and alkali heath (*Frankenia grandifolia*), as well as ice plant and other species.

Non-native grassland (also referred to as ruderal vegetation or an urban habitat) occurs at the proposed Option 4 location (Sea Cloud Park upland disposal site) on the perimeter levee for the Sea Cloud Phase II site. Vegetation includes species found in the staging area such as ice plant, sweet fennel, rip-gut brome, fescue, wild oats, foxtail barley, sweet clover, and bull mallow. Other mostly non-native grasses and herbaceous plants in this alternative disposal site include chicory (*Cichorium intybus),* velvet grass (*Holcus lanatus*), wild radish (*Raphanus sativa*), bristly ox-tongue (*Helminthotheca echioides*), bird's foot trefoil (*Lotus corniculatus*), bull thistle (*Cirsium vulgare*), sow thistle (*Sonchus oleraceus),* Italian thistle (*Carduus pycnocephalus*), batis (*Batis maritima*), and plantain (*Plantago* sp.). Scattered coyote brush (*Baccharis pilularis)*, a native species, is also present, along with some non-native pampas grass (*Cortaderia selloana*). Non-native planted trees, including Monterey pine (*Pinus radiata*), eucalyptus (*Eucalyptus* sp.), and Acacia (*Acacia* sp.), line the western edge of the proposed upland disposal site in the area between the Sea Cloud Phase II site and Sea Cloud Park.

A portion of the 19-acre Sea Cloud Phase II site was used as a wetland mitigation site as part of the Foster City Lagoon Dredging Project in 2004. Mitigation wetlands were created

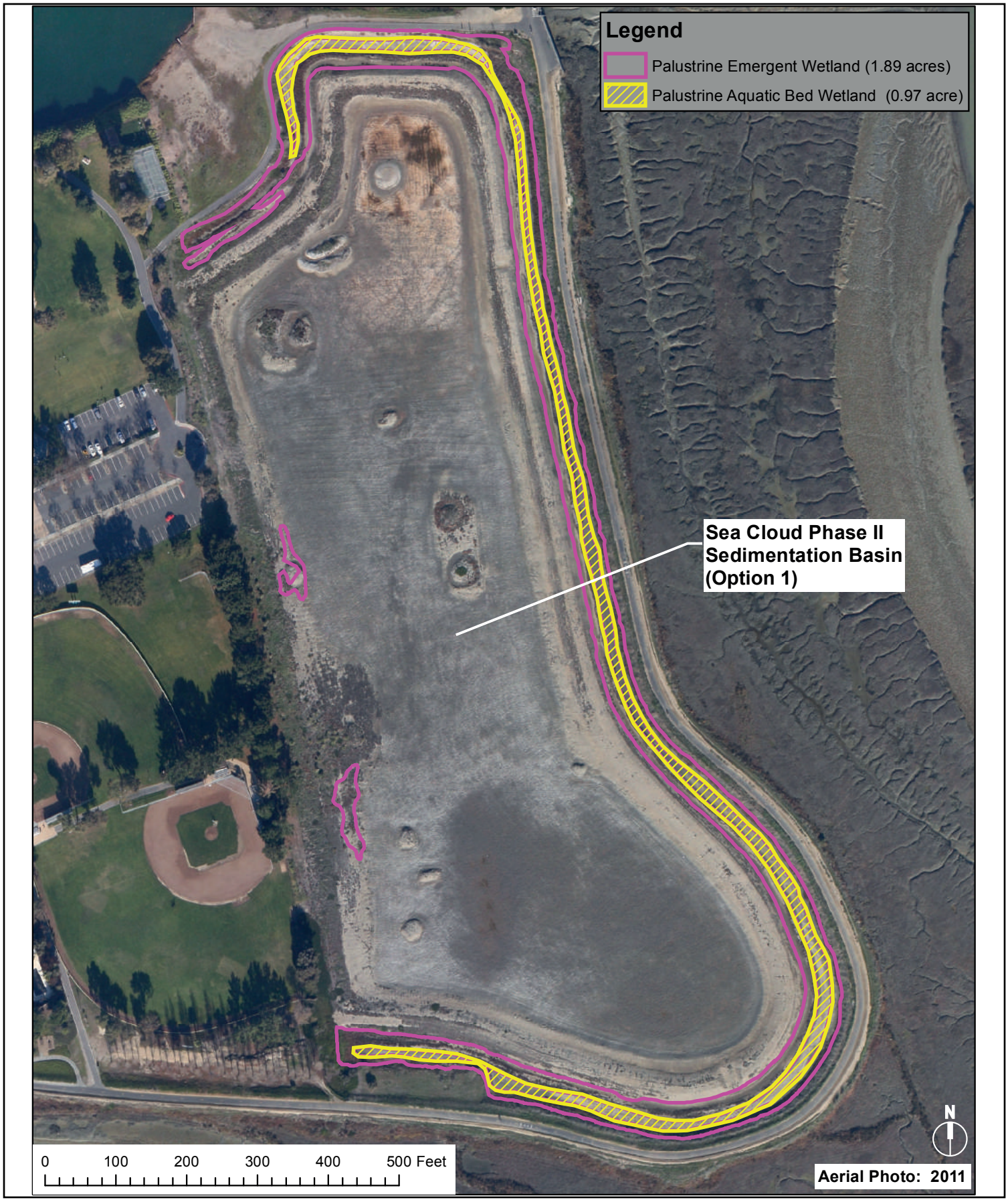
around the edges of the basin, as shown in Figure 16 (obtained from the final monitoring report for the Foster City Lagoon Dredging Project). The successful mitigation wetlands are adjacent to the proposed **Option 4** (Sea Cloud Park upland disposal site) for the proposed dredging project, and consist of palustrine emergent vegetation (1.89 acres dominated by pickleweed(*Salicornia virginica*), and 0.97 acres dominated by the obligate submerged aquatic plant widgeongrass (Ruppia maritima). The boundaries of the proposed **Option 4** for the intake structure dredging project were specifically drawn to avoid all mitigation wetlands created as part of the 2004 Foster City Lagoon Dredging Project.

Animal Populations

Project Site

The wetland habitats and the disturbed urban habitats on the project site and vicinity support a variety of wildlife species. The complex of habitats includes the presence of tidal regimes that can accommodate wildlife adapted to aquatic areas, and vegetation that provides potential nesting and roosting sites for birds, in addition to foraging areas for species of mammals, reptiles, amphibians, and birds. Table 5 lists all wildlife species observed or expected on the project site and in the vicinity, and includes the scientific names of all species mentioned in the text.

Much of the wildlife along the levees within the project site vicinity are species of birds that are adapted to urban areas and disturbed areas and that were either observed during field reviews or are expected or in the area given the site conditions. Bird species expected to be found in the combination of disturbed habitats at the perimeter levee and inland locations include Rock Pigeon, Mourning Dove, Eurasian Collared-dove, Black Phoebe, Anna's Hummingbird, American Crow, Common Raven, European Starling, Northern Mockingbird, American Robin, California Towhee, Yellow-rumped Warbler (winter), White-crowned, Golden-crowned and Song Sparrows, Brewer's And Red-winged Blackbirds, American Goldfinch, House Finch, And House Sparrow. Other species may include Canada Goose and Killdeer. Raptors such as Red-tailed Hawk, Red-shouldered Hawk, American Kestrel, and occasionally Peregrine Falcons can be found in the area.



Source: Huffman-Broadway Group, 2015

Figure 16

Wetlands - 2004 Foster City Dredge DIsposal Mitigation Site

TABLE 5 SCIENTIFIC NAMES OF ALL COMMON ANIMAL SPECIES MENTIONED IN THE TEXT

Common Name	Scientific Name
Amphibians and Reptiles	
Pacific Tree Frog	*Hyla regilla*
Western Fence Lizard	*Sceloporus occidentalis*
Gopher Snake	*Pituophis melanoleucus*
Common Garter Snake	*Thamnophis sirtalis*
Birds	
Red-throated Loon	*Gavia stellata*
Common Loon	*Gavia immer*
Eared Grebe	*Podiceps nigricollis*
Horned Grebe	*Podiceps auritus*
Western Grebe	*Aechmophorus occidentalis*
Clark's Grebe	*Aechmophorus clarkii*
Brown Pelican	*Pelecanus occidentalis*
Double-crested Cormorant	*Phalacrocorax auritus*
Great Blue Heron	*Ardea herodias*
Great Egret	*Ardea alba*
Snowy Egret	*Egretta thula*
Canada Goose	*Branta Canadensis*
Gadwall	*Anas strepera*
American Wigeon	*Anas americana*
Mallard	*Anas platyrhynchos*
Cinnamon Teal	*Anas cyanoptera*
Northern Shoveler	*Anas clypeata*
Northern Pintail	*Anas acuta*
Green-winged Teal	*Anas crecca*
Tufted Duck	*Aythya fuligula*
Lesser Scaup	*Aythya affinis*
Surf Scoter	*Melanitta perspicillata*
Common Goldeneye	*Bucephala clangula*
Canvasback	*Aythya valisineria*
Ruddy Duck	*Oxyura jamaicensis*
Bufflehead	*Bucephala albeola*
Harlequin Duck	*Histrionicus histrionicus*
Long-tailed Duck	*Clangula hyemalis*
Red-shouldered Hawk	*Buteo lineatus*

TABLE 5 SCIENTIFIC NAMES OF ALL COMMON ANIMAL SPECIES MENTIONED IN THE TEXT

Common Name	Scientific Name
Red-tailed Hawk	*Buteo jamaicensis*
American Kestrel	*Falco sparverius*
Peregrine Falcon	*Falco peregrinus*
American Avocet	*Recurvirostra americana*
Black-necked Stilt	*Himantopus mexicanus*
Black-bellied Plover	*Pluvialis squatarola*
Killdeer	*Charadrius vociferus*
Willet	*Catoptrophorus semipalmatus*
Long-billed Curlew	*Numenius americanus*
Marbled Godwit	*Limosa fedoa*
Ruddy Turnstone	*Arenaria interpes*
Black Turnstone	*Arenaria melanocephala*
Red Knot	*Calidris canutus*
Western Sandpiper	*Calidris mauri*
Least Sandpiper	*Calidris minutilla*
Dunlin	*Calidris alpina*
Short-billed Dowitcher	*Limnodromus griseus*
Long-billed Dowitcher	*Limnodromus scolopaceus*
Ring-billed Gull	*Larus delawarensis*
California Gull	*Larus californicus*
Western Gull	*Larus occidentalis*
Caspian Tern	*Sterna caspia*
Forster's Tern	*Sterna forsteri*
Rock Pigeon	*Columba livia*
Mourning Dove	*Zenaida macroura*
Eurasian collared-dove	*Streptopelia decaocto*
Anna's Hummingbird	*Calypte anna*
Black Phoebe	*Sayornis nigricans*
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*
American Robin	*Turdus migratorius*
Northern Mockingbird	*Mimus polyglottos*
European Starling	*Sturnus vulgaris*
Yellow-rumped Warbler	*Dendroica coronata*
Common Yellowthroat	*Geothlypis trichas*
California Towhee	*Pipilo crissalis*

TABLE 5 SCIENTIFIC NAMES OF ALL COMMON ANIMAL SPECIES MENTIONED IN THE TEXT

Common Name	Scientific Name
Savannah Sparrow	*Passerculus sandwichensis*
Song Sparrow	*Melospiza melodia*
Golden-crowned Sparrow	*Zonotrichia atricapilla*
White-crowned Sparrow	*Zonotrichia leucophrys*
Red-winged Blackbird	*Agelaius phoeniceus*
Brewer's Blackbird	*Euphagus cyanocephalus*
House Finch	*Carpodacus mexicanus*
American Goldfinch	*Carduelis tristis*
House Sparrow	*Passer domesticus*
Mammals	
Opossum	*Didelphis virginiana*
California Ground Squirrel	*Spermophilus beecheyi*
Botta's Pocket Gopher	*Thomomys bottae*
Norway Rat	*Rattus norvegicus*
House Mouse	*Mus musculus*
Deer Mouse	*Peromyscus maniculatus*
Black-tailed Jackrabbit	*Lepus californicus*
Raccoon	*Procyon lotor*
Striped Skunk	*Mephitis mephitis*

Source: Reid (2006), Sibley (2014), Stebbins (2003)

The shoreline along Beach Park Boulevard is an often-visited locale for birders to observe shorebirds and other species throughout the winter along the Bay frontage that include Black-bellied Plover, Long-billed Curlew, Willet, Marbled Godwit, Ruddy and Black Turnstones, Red Knot, Western and Least Sandpipers, Dunlin, both Short-billed and Long-billed Dowitchers, Forster's and Caspian Terns, Black Skimmer and Gulls such as California, Western, and Ring-billed. Other birds along the shoreline may include Great Blue Heron, Great and Snowy Egret and Brown Pelican. Expected species just offshore in the Bay or in Belmont Slough include Double-crested Cormorant, Grebes (Horned, Eared, Western, and Clark's), Loons (Common and Red-throated), and waterfowl (diving ducks such as Bufflehead, Lesser Scaup, Common Goldeneye, and Surf Scoter). Many of these waterfowl, waterbirds, and shorebirds are seasonally found within the central basin of the Sea Cloud Phase II site as well, especially during the winter months.

Salt marsh habitats at the project site provide habitat for songbirds such as Black Phoebe, Song Sparrow, Savannah Sparrow and Common Yellowthroat, and foraging habitats for a variety of herons and egrets and shorebirds. The mudflats within Belmont Slough at lower tides provides excellent shorebird foraging habitat for species found mentioned as occurring along the Bay frontage, but others such as American Avocet and Black-necked Stilt. Also using Belmont Slough are a variety of dabbling ducks such as Mallard, Northern Shoveler, Northern Pintail, American Wigeon, Green-winged Teal, Cinnamon Teal and Gadwall and additional diving ducks like Ruddy Duck and Canvasback.

Disposal Options

Mammals commonly seen at the **Option 4** site include California ground squirrel and black-tailed jackrabbit. Other mammals that are likely to be present include those adapted to the urban environments such as Virginia opossum, Botta's pocket gopher, deer mouse, house mouse, Norway rat, striped skunk, and raccoon. Despite attempts at searching under boards and rocks, no amphibians or reptiles were observed during the field visits, but species could include amphibians such as Pacific treefrog and reptiles such as common garter snake, gopher snake, and Western fence lizard.

Wetland and Other Waters of the U.S. Delineation

Background

The Department of the Army, acting through the USACE, has the authority to permit the discharge of dredged or fill material in waters of the U.S. under Section 404 of the federal Clean Water Act (CWA), and permit work and placement of structures in navigable waters of the U.S. under Section 10 of the Rivers and Harbors Act of 1899. The EPA and USACE define wetlands as: "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (EPA regulations at 40 Code of Federal Regulations [CFR] Section 230.3(t); USACE regulations at 33 CFR Section 328.3(b)).

Under Section 10 of the Rivers and Harbors Act of 1899, the USACE also regulates the construction of structures in, over, or under; excavation of material from; or deposition of material into navigable waters. As described by USACE regulation 33 CFR Section 329.4, the general definition of "navigable waters" includes those waters subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or might be susceptible for use to transport interstate or foreign commerce.

HBG conducted field studies for a preliminary wetland delineation in May and June 2013 and again in May and June 2015, in accordance with CFR definitions of jurisdictional waters, the USACE 1987 *Wetlands Delineation Manual* (1987 Manual),[30] the USACE 2008 *Regional Supplement to Corps of Engineers Wetland Delineation Manual: Arid Wes, Version 2.0* (Arid West Regional Supplement)[31] and supporting guidance documents. Pursuant to the 1987 Manual, key criteria for determining the presence of wetlands are: (a) the presence of inundated or saturated soil conditions resulting from permanent or periodic inundation by groundwater or surface water; and (b) a prevalence of vegetation typically adapted for life in saturated soil conditions (i.e., hydrophytic vegetation). Explicit in the definition is the consideration of three environmental parameters: hydrology, soil, and vegetation. The Arid West Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region.

Prior to initiating detailed field survey work, it was determined that areas within the **Disposal Option 1** and **4** sites likely contained potential waters of the U.S., including wetlands. These waters were identified by reviewing: (1) United States Geological Survey (USGS) topographic mapping; (2) an orthorectified digital aerial photograph; (3) Natural Resources Conservation Service soils mapping; and (4) CAD contour data. The orthorectified digital aerial photograph was brought into GIS software and CAD contour data were overlaid on the aerial photo. A hand-held Trimble GPS unit and contour data were used to locate the extent of potential waters of the U.S. subject to USACE jurisdiction. Once field data collection was completed, HBG mapped the locations of potential wetlands and other waters of the U.S. on the aerial photograph.

[30] USACE, 1987.

[31] USACE, 2008.

Project Site

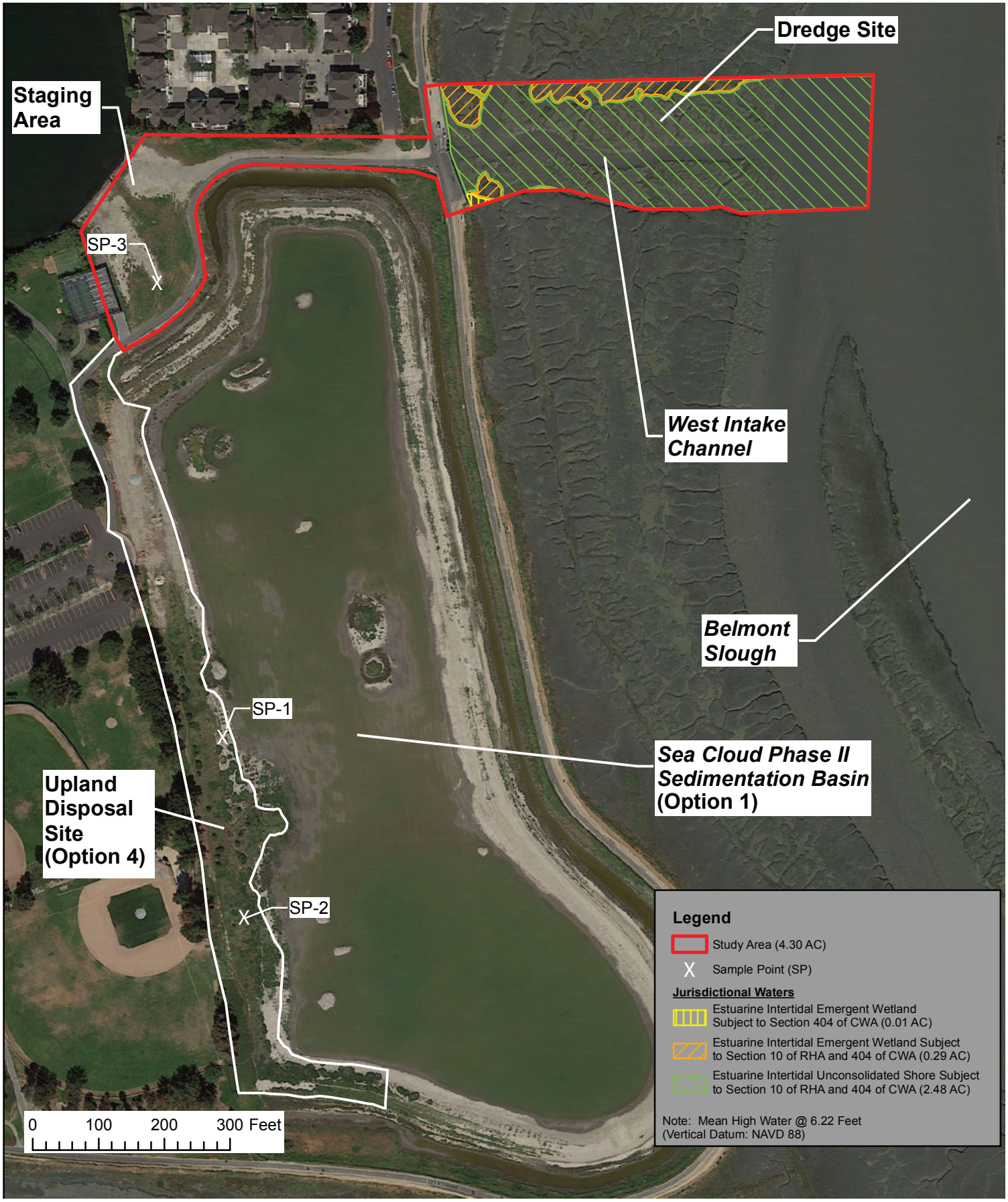
A total of 2.78 acres of wetlands and waters of the U.S. were found within the project site and occur outward of the perimeter levee within Angelo Slough and Belmont Slough, as shown in Figure 17. This finding is based on the collective presence of hydric soil, wetland hydrology, and wetland vegetation indicators. According to Cowardin et al. criteria, the vegetated salt marsh within Belmont Slough is classified as estuarine intertidal emergent wetland and the unvegetated deeper portion of Angelo Slough is classified as estuarine intertidal unconsolidated shore habitat. This area consists of 0.30 acre of estuarine intertidal emergent wetland and 2.48 acres of estuarine intertidal unconsolidated shore

habitat within unvegetated areas of Angelo Slough according to Cowardin et al., 1979 criteria.

The 2.78 acres of jurisdictional waters within the project site include 0.01 acre of estuarine intertidal emergent wetland subject to Section 404 of the CWA, 0.29 acre of estuarine intertidal emergent wetland subject to Section 10 of the Rivers and Harbors Act and Section 404 of the CWA, and 2.48 acres of estuarine intertidal unconsolidated shore subject to Section 10 of the Rivers and Harbors Act and Section 404 of the CWA. The 2.78 acres of jurisdictional waters of the U.S. serve the functions of flood flow alteration, groundwater recharge, sediment reconstruction, sediment/toxicant retention, nutrient removal/transformation, production export, wildlife habitat, and habitat for endangered species.

Disposal Options

No wetlands were found within the **Option 4** site on the perimeter levee of the Sea Cloud Phase II site. The boundaries of the upland disposal site were specifically drawn to avoid all mitigation wetlands created as part of the Foster City Lagoon Dredging Project. Some mitigation wetlands for the Foster City Lagoon Dredging Project occur immediately adjacent to the upland disposal site (see Figure 16).



Source: Huffman-Broadway Group, 2016

Figure 17
Wetlands and Waters of the U.S.

Case Law Review

Aquatic resources within the project site and vicinity were examined with respect to the *Solid Waste Agency of Northern Cook County* (*SWANCC) v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) exclusion from CWA regulation. No areas were found that could either potentially be exempted or excluded from regulation in accordance with SWANCC. HBG has also reviewed the wetlands with respect to the *Rapanos v. United States* and *Carabell v. United States* 547 U.S. 715 (2006) and found the areas in question to be jurisdictional pursuant to the USACE criteria.

Special-Status Species

Sensitive species include those listed by the federal and state governments as endangered, threatened, or rare or candidate species for these lists. Endangered or threatened species are protected by the federal Endangered Species Act of 1973 as amended, the California Native Plant Protection Act of 1977, and the California Endangered Species Act of 1970. CEQA provides additional protection for unlisted species that meet the "rare" or "endangered" criteria defined in 14 CCR Section 15380.

The CDFW maintains records for the distribution and known occurrences of sensitive species and habitats in the California Natural Diversity Database (CNDDB). The CNDDB is organized into map areas based on 7.5-minute topographic maps produced by the USGS. All known occurrences of sensitive species and important natural communities are mapped onto the quadrangle map.

A search of the CNDDB records of occurrence for special-status animals and plants and natural communities within these quadrangles indicated that none of the special-status species or natural communities is known to occur on the project site itself, but several are known to occur in the project site.

Special-Status Plant Species

Special status plant species include: (i) species that are listed or proposed for listing as threatened or endangered under the federal Endangered Species Act; (ii) species that are listed, or proposed for listing by the state of California as threatened or endangered under

the California Endangered Species Act; (iii) plants considered by the California Native Plant Society to be rare, threatened, or endangered in California and elsewhere; and (iv) plant species that meet the definition of rare or endangered under CEQA.

Most of the special-status species of plants found in this part of San Mateo County are species adapted to serpentine soils. These soils occur in areas near I-280 such as Pulgas Ridge near Hillsborough, the area around Crystal Springs Reservoir, and Edgewood County Park.

Serpentine soils do not occur anywhere near the project site, and none of these species would be found in the project site. Habitat conditions in the project site are potentially suitable for only one species, Point Reyes bird's beak (*Cordylanthus maritimus palustris*), but this species is known only from collections made approximately 100 years ago at the mouth of Redwood Creek and Belmont Slough. No special-status plant species were observed at the property during floristic surveys conducted at the site, and none are expected to occur in the project site.

Special-Status Animal Species

Key species are either known to occur in the vicinity of the property or with a potential to occur at the site, or that require specific study to determine presence/absence, are discussed below.

Salt Marsh Harvest Mouse:

The salt marsh harvest mouse is state and federally-listed as endangered and is a California Fully Protected Species. Although the CNDDB contains no San Mateo County reports of salt marsh harvest mouse anywhere north of the San Mateo Bridge, there are some records of the species south of the Bridge in Foster City. The nearest known reported occurrence of salt marsh harvest mouse to the project site is located within Foster City in a tidal marsh adjacent to US 101 within O'Neill Slough. O'Neill Slough flows toward San Francisco Bay and becomes Belmont Slough. This location is just over 1 mile from the proposed dredging site. Salt marsh harvest mouse was collected from this site in 1960, and there has been no documentation of the species at this location since that time. The salt marsh habitat outboard of the perimeter levee within Belmont Slough would

be considered potentially suitable habitat for salt marsh harvest mouse. It is possible that salt marsh harvest mouse could occur on the project site and adjacent areas.

Ridgway's Rail (formerly California Clapper Rail):

Ridgway's Rail is state and federally-listed as endangered and is a California Fully Protected Species. Based on information contained in the CNDDB, the nearest known population of Ridgway's Rail is known to occur within the salt marshes along Belmont Slough. Specific CNDDB records report Ridgway's Rail breeding populations at Belmont Slough as recently as 1975. Additional reports of Ridgway's Rail are known from northwest of the San Mateo Bridge at and east of the mouth of Seal Slough. Pickleweed and cordgrass vegetation occurs within the portion of the project site outboard of the perimeter levee within Belmont Slough. Vegetation characteristics within this portion of the project site and marshes on the adjacent property are suitable for Ridgway's Rail. It is entirely possible that Ridgway's Rail could nest in the salt marsh habitats found within the project site and adjacent areas.

Western Snowy Plover:

Western Snowy Plover is a federally-listed threatened species and designated as a species of special concern in California. The CNDDB shows that the Western Snowy Plover has occurred within salt evaporation ponds in the vicinity of Belmont Slough. Adult birds were noted in 1972 and 1978 and nesting was documented in 1975 and 1976. Western Snowy Plover has also been known to occur at Bair Island where they occurred in salt evaporation ponds on Middle Bair Island and at Outer Bair Island. It was not ascertained whether the individuals observed were nesting. Appropriate nesting habitat is not present on site. Occasional foraging by the species within the Sea Cloud Phase II site could be possible when this area is not completely inundated.

Steelhead Trout – Central California Coast DPS:

Steelhead (federally-listed as threatened) have been known to migrate through San Francisco Bay to various creeks, but distribution studies that would allow a forecast of the number of individuals of steelhead that could wander to the area in the vicinity of the project site during the migration has not been conducted. Nevertheless, the number of

individuals of this species of fish actually passing in the vicinity of the project site is projected to be small. The proposed project is unlikely to directly or indirectly affect the Central California Coast Steelhead Distinct Population Segment (DPS) or designated critical habitat.

Green Sturgeon – Southern DPS:

Green sturgeon is a federally-listed threatened species. Little is known about the movements and habits of green sturgeon. Adults migrate upstream into rivers between late February and late July, and spawn between March and July, when the water temperature is 46-57°F. Peak spawning occurs from mid-April to mid-June. They are present in the Delta year-round, but their abundance, at least in the south Delta, is low.

Because of the lack of study of green sturgeon in the southern San Francisco Bay, it is hard to determine whether they would be present in the project site and vicinity. If they are present, they would be in small numbers.

Longfin Smelt:

Longfin smelt is a state-listed threatened species and a candidate for federal listing. Although longfin smelt spawn primarily in the lower reaches of the Sacramento and San Joaquin Rivers and spend their first year in the area of Suisun Bay, longfin smelt could occur in small numbers within San Francisco Bay in the vicinity of Belmont Slough near the project site, especially in deeper water habitats and especially during wet years.

Discussion

a) *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?*

Less than Significant With Mitigation Incorporated (all options). The proposed project would not result in any significant adverse impacts on special-status plant species as special-status plants are not expected to occur within the project site or the project site vicinity.

The proposed project could result in significant impacts on special-status animal species. Two species that occur in salt marsh habitats along the San Francisco Bay shoreline in San Mateo County are the salt marsh harvest mouse and the Ridgway's rail. Pickleweed and cordgrass vegetation occurs on the project site and adjacent areas, and habitats in these areas are potentially suitable for salt marsh harvest mouse and Ridgway's Rail. Salt marsh habitat on the project site is continuous with tidal marsh habitat where salt marsh harvest mouse and Ridgway's Rail has been known to occur.

Ridgway's Rail

As suitable Ridgway's Rail breeding or nesting habitat occurs in the project site and within 700 feet of the proposed dredging, there is the potential for nesting disturbance. Such disturbance could result from the activities of dredging or from construction crews involved in activities associated with disposal under **Options 1** and **4**, at the Sea Cloud Phase II sedimentation basin site or the Sea Cloud Park upland disposal site, respectively. Noise and other disturbances could disrupt nesting and breeding activity, as well as other behaviors associated with foraging, reproduction, and other essential activities engaged in by individuals of the species.

Impacts to Ridgway's Rail, especially during dredging activity, are possible. Use of dredging equipment within the area outward of the perimeter levee within Belmont Slough has the potential to result in disturbances to nests within 700 feet of the dredging activity. The fact that nearly all of the dredging would occur within the estuarine intertidal unconsolidated shore habitat (1.64 acres) rather than the estuarine intertidal emergent wetland (0.09 acre) reduces the chance for direct impacts on Ridgway's Rail, as the rails are secretive and most often found within the marsh vegetation. Nevertheless, the dredging has the potential to result in nesting disturbance if the dredging activity occurs within 700 feet of a nesting Ridgway's Rail. Compliance with USFWS requirements would require either performing the dredging activity at a time during the year when the Ridgway's Rails would not be expected to be nesting or conducting a breeding survey for Ridgway's Rail before performing any dredging or construction work during the nesting season. If nesting surveys are conducted, the results of the surveys would be provided to

the USFWS to determine if the activity should be rescheduled to prevent disturbance to nesting Ridgway's Rails.

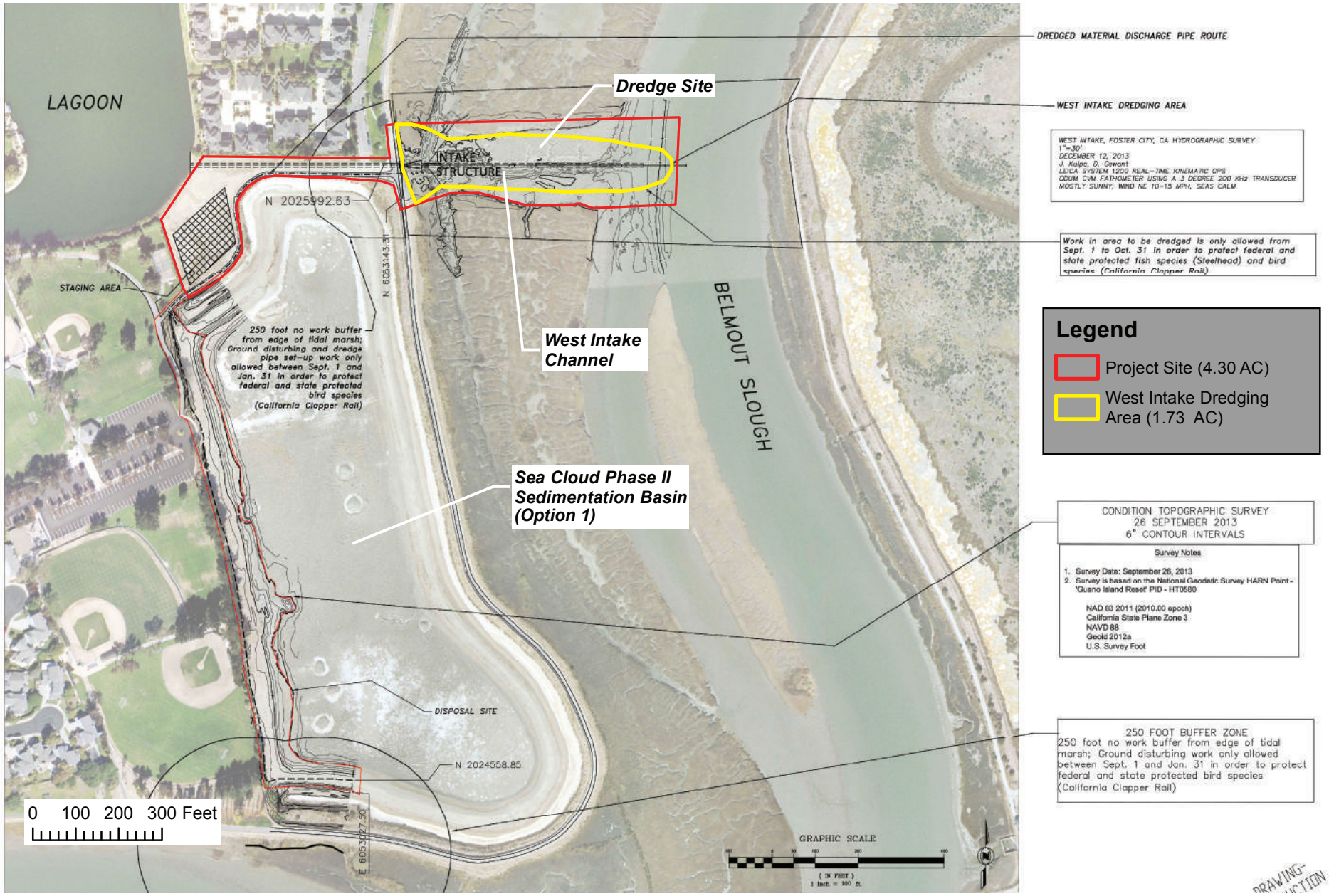
Onshore work within uplands would occur at any time of year as long as the work is separated from suitable habitat for Ridgway's Rail by at least 250 feet. Therefore, the City intends to conduct all work related to the staging site, establishment of the dredge pipeline to the **Option 4** site, or work related to implementation of **Disposal Option 1** within the Sea Cloud Phase II sedimentation basin site that is within 250 feet of Belmont Slough during the period between September 1 and January 31. Work areas within the 250-foot buffer zone of Belmont Slough are shown in Figure 18. All other work associated with the **Option 4** upland disposal site that is proposed at locations greater than 250 feet from Belmont Slough is proposed to occur at any time of year. In addition to the City's intent to comply with work windows to avoid impacts to nesting Ridgway's Rail, other conservation measures are recommended to protect the Ridgway's Rail during the active and/or construction phase of the project – e.g., environmental awareness training of all construction personnel, preconstruction surveys, and use of biological monitors during construction activities near the marsh.

Implementation of **Mitigation Measure BIO-1** would reduce impacts to Ridgway's Rail to less-than-significant levels.

Salt Marsh Harvest Mouse

Impacts to salt marsh harvest mouse or suitable habitat during dredging would be possible if areas of pickleweed and saltgrass would be affected. The City proposes that nearly all dredging take place within the slough channel of Angelo Slough, which is entirely devoid of vegetation and consists of estuarine intertidal unconsolidated shore habitat rather than estuarine intertidal emergent marsh habitat.

Conducting the dredging within the estuarine intertidal unconsolidated shore habitat rather than the estuarine intertidal emergent wetland reduces the chance for direct impacts on salt marsh harvest mouse as the mouse is generally found in the marsh vegetation.



Source: Huffman-Broadway Group, 2016

Foster City Dredging at the Lagoon Intake Structure IS-MND

Figure 18
Proposed Maintenance Dredging

Dredging within 0.09 acre of salt marsh vegetation on either side of the intake structure could result in impacts to salt marsh harvest mouse. Conservation measures are incorporated into the **Mitigation Measure BIO-1** and include hand removal of pickleweed and cordgrass from vegetated wetland areas prior to dredging to ensure that mice are not present, with subsequent use of exclusion fencing to ensure mice do not migrate back into the area during dredging activity. Conservation measures are also recommended to protect the salt marsh harvest mouse during the implementation phase of the project including pre-construction surveys, environmental awareness training of all construction personnel and use of biological monitors during dredging operations near the marsh.

Dredging could result in displacement of habitat for either the Ridgway's Rail or salt marsh harvest mouse or harm to individuals. However, implementation of **Mitigation Measure BIO-1** would reduce potential impacts to Ridgeway's Rail and salt marsh harvest mouse to less-than-significant levels.

Mitigation Measure BIO-1 (all options): - Avoidance and Mitigation Measures: To minimize potential effects to salt marsh harvest mouse and Ridgway's rail Rail and their habitats, the applicant proposes the following avoidance and minimization measures:

- Dredging shall be conducted between September 1 and January 31 to avoid the nesting season of the Ridgway'sRail. If construction work is proposed after January 31 or prior to September 1, protocol surveys for Ridgway's Rail shall be conducted to determine the extent and location of nesting Ridgway's Rail. Results of protocol breeding surveys shall be submitted to the USFWS for a determination of whether work proposed within 700 feet of a Ridgway's Rail nest (or the activity center of vocalizing Ridgway's Rails) discovered during such surveys shall be rescheduled to occur during the period from September 1 to January 31.

All construction work associated with the staging site, establishment of the dredge pipeline to the Option 4 (Sea Cloud Park upload disposal) site, or work within the upland disposal site that is within 250 feet of Belmont Slough shall be conducted

during the period between September 1 and January 31.

- A qualified biological monitor(s) shall be present during all construction work taking place adjacent to salt marsh habitats. The monitors are to have demonstrated experience in monitoring sensitive resource issues on construction projects and knowledge of the biology of both salt marsh harvest mouse and Ridgway's Rail. Prior to the initiation of construction, qualifications of the prospective biological monitor(s) shall be submitted to the USFWS for review and approval. The monitor(s) shall have the authority to halt construction, if necessary, when noncompliance actions occur. The biological monitor(s) shall be the contact person for any employee or contractor who might inadvertently kill or injure a listed species or anyone who finds a dead, injured, or entrapped listed species.
- Before dredging activity begins, efforts should be made to ensure that salt marsh harvest mice are not present in wetland areas subject to potential impact. Such areas include the 0.09 acre of salt marsh vegetation on either side of the intake structure. Pickleweed and cordgrass shall be removed from potentially impacted wetland areas using hand tools. Prior to vegetation removal, a biologist shall survey the work zone to ensure no harvest mice or harvest mice nests are present. Once vegetation removal is compete, temporary exclusion fencing shall be placed around the defined work area prior to the start of dredging activities to prevent salt marsh harvest mice from moving into affected areas. The fence shall be made of a material that does not allow harvest mice to pass through, and the bottom should be buried so that mice cannot crawl under the fence. All support for the exclusion fencing shall be placed on the inside of the project site.
- The biological monitor shall provide an endangered species training program to all personnel involved in project construction. At a minimum, the employee education program will consist of a brief presentation by persons knowledgeable about Ridgway's Rail and salt marsh harvest mouse biology and legislative protection to explain concerns to contractors, their employees, and agency personnel involved with implementation of the project. The program

shall include the following: a description of the two species and their habitat needs; any reports of occurrences in the action area; an explanation of the status of the Ridgway's Rail and salt marsh harvest mouse and their protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to these species during the work. Fact sheets containing this information shall be distributed to all involved in the training.

- If a Ridgway's Rail or any mouse species is observed at any time during construction, work shall not be initiated or shall be stopped immediately by the biological monitor until the rail or mouse leaves the vicinity of the work area on its own volition and the USFWS is notified. If the rail or mouse does not leave the work area, work shall not be reinitiated until the USFWS is contacted and has made a decision on how to proceed with work activities. The biological monitor shall direct the contractor on how to proceed accordingly. The biological monitor or any other persons at the site shall not pursue, capture, handle or harass any rail or mouse observed.
- All personnel and any equipment shall be required to stay within the designated work sites and access corridors to perform job-related tasks, and shall not be allowed to enter adjacent salt marsh wetlands, drainages, and habitat of listed species. Pets shall not be allowed in or near the work site. Firearms shall not be allowed in or near the work sites. No intentional killing, harassment, or injury of wildlife shall be permitted. The work sites shall be maintained in a clean condition. All trash (e.g., food scraps, cans, bottles, containers, wrappers, cigarette butts, and other discarded items) shall be placed in closed containers and properly disposed of off-site on a daily basis. Trash cans shall be "bear proof" to reduce the amount of waste available to vermin and other predators. No fires shall be permitted in any of the work sites.
- Use of the trail system along the shoreline shall be limited to pedestrian and/or bicycles only. Public users shall be prohibited from using all-terrain vehicles or other motorized equipment on the trail system. Battery-operated

wheelchairs or other similar mechanisms associated with access for disabled individuals shall be allowed.

- Any night lighting shall be motion-sensing and for security purposes. Light fixtures shall be selected to avoid glare and light spill into adjacent habitat areas.
- Appropriate erosion control materials such as silt fence and straw rolls shall be installed as needed during construction activities within the project site.
- Hazardous materials used during the work period (e.g., fuels, lubricants, solvents) shall be controlled, cleaned up, and properly disposed of outside the tidal marsh areas. Refueling areas for any equipment shall be located at upland sites outside of wetlands.
- After construction, a final clean-up shall include removal of all refuse generated by the work. Vegetation shall not be removed or disturbed in the clean-up process.
- If requested, before, during, or upon completion of construction, the City shall allow access by USFWS personnel to the work areas to inspect effects, if any, of the actions on the salt marsh harvest mouse or Ridgway's Rail.
- Subsequent to construction, the project proponent shall submit a compliance report, prepared by the biological monitor, to the USFWS within 60 days after completion of the work. This report shall detail the dates the work occurred; information concerning the success of the actions in meeting the recommended avoidance and minimization measures; any effects on the salt marsh harvest mouse and Ridgway's Rail; documentation of the worker environmental awareness training; and any other pertinent information.

Special-Status Fish Species

Proposed dredging within Angelo Slough could result in minor impacts to fish migration habitat and minor impacts to either the Steelhead Trout-Central California Coast DPS, Green Sturgeon-Southern DPS, or longfin smelt. The primary impacts of any dredging operation could include direct mortality due to entrainment or burial of eggs, removal of

spawning habitat, changes in water quality due to increased suspended sediment, and indirect effects resulting from habitat alteration. None of the special-status fish species mentioned above (steelhead trout, green sturgeon, or longfin smelt) spawn in the portion of San Francisco Bay proposed for the dredging operations, including Belmont Slough or Angelo Slough.

The proposed dredging could result in an increase in turbidity and siltation that in the worst case could stress respiratory function in fish. Green sturgeon and longfin smelt would not be likely to suffer adverse impacts from increased turbidity as both are species that occur in deeper portions of the water column and are adapted to higher levels of turbidity. Species like longfin smelt actually seek refuge from predators by seeking turbid waters. Minor turbidity impacts to steelhead could be addressed with BMPs (including use of silt fence or straw wattles along the shoreline to control sedimentation in runoff, if necessary).

Entrainment of fish during hydraulic dredging operations would not be likely for larger species like steelhead or green sturgeon. The potential for such impacts on longfin smelt within San Francisco Bay have been studied by a number of investigators.[32,33, 34] The findings of these studies suggest very low entrainment rates for adult or juvenile longfin smelt due to hydraulic dredging. Entrainment of longfin smelt during hydraulic dredging proposed within Angelo Slough is very unlikely given the results of this research, and especially if dredging is limited to months when fish are least likely to be present.

Simple conservation measures are included in **Mitigation Measure BIO-2** to reduce potential impacts to fish species to less-than-significant levels. These include conducting the work when fish are least likely to be present (i.e., during a work window from June 1 to October 31 or extended to November 30 as may be allowed by permitting agencies), and exercising proper precautions when working on the bank slope adjacent to San Francisco Bay.

[32] Swedberg and Zentner, 2009.

[33] Gold, 2009.

[34] McGowan, 2010.

Dredging could result in a minor impact to fish migration habitat and minor impacts to either the Steelhead Trout-Central California Coast DPS, Green Sturgeon Southern DPS, or longfin smelt. However, implementation of **Mitigation Measure BIO-2** would reduce potential impacts to these species to less-than-significant levels.

> Mitigation Measure BIO-2 (all options): - Work Schedule and Precautions: Conduct all dredging work when special-status fish are least likely to be present (i.e., during a work window from June 1 to October 31 or extended to November 30 as may be allowed by permitting agencies). When combined with the work window required under Mitigation Measure BIO-1, this results in a work window of September 1 through October 31 or possibly November 30. Also exercise proper precautions when working on the bank slope adjacent to San Francisco Bay to decrease any effects on fish habitat.

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?*

Less than Significant (DO 1, 2, 3, and 5); Less than Significant With Mitigation Incorporated (DO 4). Dredging is proposed within a 1.73-acre area within immediately beyond the toe of the slope of the perimeter levee along Belmont Slough. The Pacific Coastal Salt Marsh habitat in this area consists of areas of vegetated salt marsh (estuarine intertidal emergent wetland habitat) and also the unvegetated channel of Angelo Slough (estuarine intertidal unconsolidated shore habitat), which is a smaller slough beyond the intake structure connected to main channel of Belmont Slough. Most of the proposed dredging would be limited to the unvegetated area of Angelo Slough, and only a small area of salt marsh vegetation located on either side of the intake structure would be affected by dredging. The dredging would occur within areas that are subject to agency jurisdiction as wetlands or waters of the U.S. and would require permits from agencies as discussed below.

Disposal Options 1 and **4** both involve use of the area in or around the Sea Cloud Phase II site. **Option 1** proposes dredge disposal within the Sea Cloud Phase II sedimentation basin, the central basin of the Sea Cloud Phase II site that is an open water habitat during

the wet season and is mostly without vegetation (except for several small islands of wetland vegetation) during the dry season. This is an agency-approved dredge disposal site; the Small Dredger Programmatic Alternatives Analysis[35] lists Sea Cloud Phase II as a site intended for this purpose. Therefore, no significant biological impacts would result from use of this site for disposal of dredged material.

The upland portion of the site along the western levee of the Sea Cloud Phase II site is included in **Option 4** (Sea Cloud Park upland disposal site), and the northern portion of this area is used as a staging site for the dredging and all other construction activities. Activities within the staging site and the upland disposal site would impact up to a maximum of 3.93 acres of non-native grassland habitat. This area is vegetated with primarily non-native herbaceous plants and grasses (ruderal vegetation) within an area also considered an urban habitat. The removal of this upland of mostly non-native vegetation would not be considered a significant impact, and no mitigation for this impact is warranted.

Under **Disposal Option 4**, material dredged from the dredging site within Angelo Slough is proposed to be piped within a temporary pipeline for the short distance from the slough to the Sea Cloud Park upland disposal site. The pipeline alignment is proposed in uplands adjacent to wetlands that were part of the wetland mitigation for the Foster City Lagoon Dredging Project, as shown in Figure 18.

Invasive, exotic weeds compete with native vegetation and can degrade the quality of wildlife habitats. Project landscaping and construction activity can introduce invasive, exotic, non-native vegetation, some of which may not now exist in the area. Also, construction projects provide a pathway for dispersal of invasive plants. Invasive plant species include those designated as noxious weeds by the U.S. Department of Agriculture, problem species listed by the California Department of Food and Agriculture, and other invasive plants designated by the California Invasive Plant Council. Where appropriate, vegetation removed as a result of project activities should be replaced with native species,

[35] USACE, EPA, BCDC, and Regional Water Board, 2004.

which are of value to local wildlife. Native plants generally are more valuable as wildlife food sources and require less irrigation, fertilizers, and pesticides than exotic species.

Landscaping under **Option 4** is expected to introduce exotic, non-native vegetation, some of which may not exist in the area. However, implementation of **Mitigation Measure BIO-3-DO 4** would reduce potential impacts from the introduction of exotic or non-native species of vegetation to a less-than-significant level.

> Mitigation Measure BIO-3-DO 4: - Landscaping for Non-native Vegetation:
> Landscaping should be designed to enhance the wildlife value and aesthetic quality of undeveloped portions of the project site. Where appropriate, vegetation removed as a result of project activities should be replaced with native species, which are of value to local wildlife, and native vegetation should be retained. Vegetation removed shall not be replaced with invasive species. Weed management practices could be warranted, including identification and removal of infestations of noxious weeds prior to construction, use of construction equipment and materials such as fill and erosion control devices that are known to be weed-free, and removal of invasive species from areas within the project boundary set aside for conservation purposes as part of project mitigation.

c) *Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Less than Significant With Mitigation Incorporated (all options). Wetlands and waters of the U.S. are regulated by state and federal agencies and would be considered sensitive natural communities as defined by CEQA. Wetlands and waters of the U.S. are found within the 2.78 acres of Pacific Coastal Salt Marsh habitat found within the project site (as shown in Figure 15). Wetlands also occur in adjacent off-site areas within the created mitigation wetlands for the Foster City Lagoon Dredging Project, as shown in Figure 16.

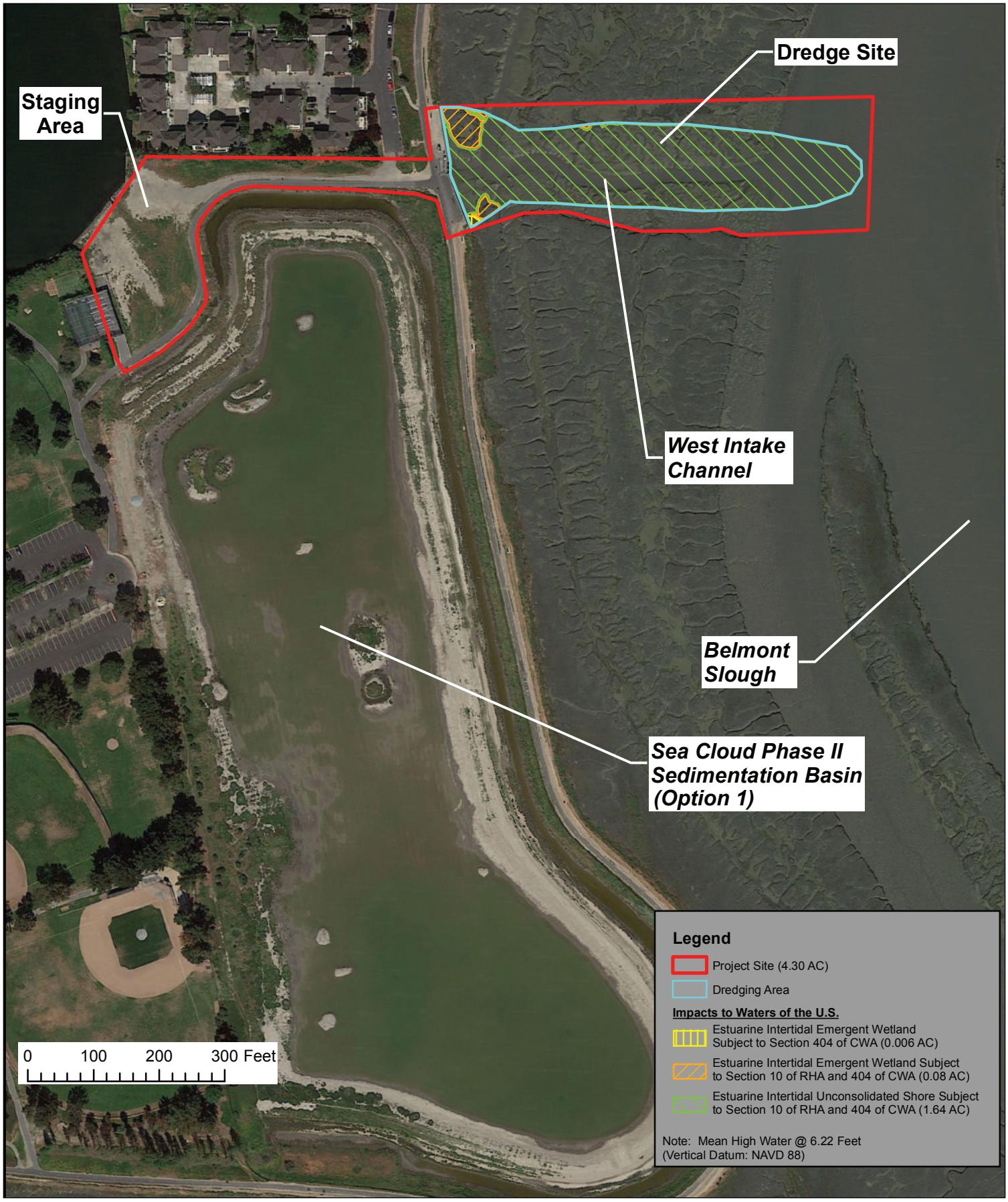
The City of Foster City has identified five options for disposal of dredged material, as outlined in the Project Description. Pending review by the DMMO, sampling analysis

results, environmental impacts, logistics, technology, and costs, the City of Foster City will make a determination on which option it considers the least environmentally damaging practicable alternative. This disposal option will be approved by permitting agencies as part of the authorization of the proposed dredging project.

The Pacific Coastal Salt Marsh habitat outward of the perimeter levee in Belmont Slough consists of two habitat types according to Cowardin criteria: approximately 0.30 acre of vegetated salt marsh (estuarine intertidal emergent wetland habitat) and 2.48 acres of unvegetated habitat (estuarine intertidal unconsolidated shore habitat) occurring within Angelo Slough, which connects with the main channel of Belmont Slough. Nearly all dredging would occur within the unvegetated Angelo Slough. Only a small area of dredging (0.09 acre on either side of the intake structure) would occur within the vegetated salt marsh habitat, which is primary habitat for the federally-listed Ridgway's Rail, as discussed above.

The dredging would impact approximately 1.73 acres of habitat subject to USACE jurisdiction under either Section 404 of the CWA or Section 10 of the Rivers and Harbors Act. These 1.73 impacted acres consist of 1.64 acres of estuarine intertidal unconsolidated shore habitat and 0.09 acre of estuarine intertidal emergent wetland habitat (see Figure 19). All of the 1.73 impacted acres is subject to both Rivers and Harbors Act Section 10 and CWA Section 404 jurisdiction, with the exception of 0.006 acre of estuarine intertidal emergent wetland near the shore subject only to Section 404 jurisdiction. The wetlands in Belmont Slough are also subject to jurisdiction of the Regional Water Board and BCDC.

The dredging would occur within areas that are habitat subject to the CWA/Rivers and Harbors Act of 1899 jurisdiction of the USACE as well as Regional Water Board jurisdiction under the Porter-Cologne Water Quality Control Act and BCDC jurisdiction under the McAteer-Petris Act. HBG submitted a Consolidated Dredged Material Reuse/Disposal Application for authorization for the proposed Dredging at the Lagoon Intake Structure (CIP 301-629) Project pursuant to Nationwide Permit 3-Maintenance to the DMMO in October 2015. The Pre-Construction Notification serves as a request for USACE verification of a Preliminary Jurisdictional Determination of the project site. The Pre-



Source: Huffman-Broadway Group, 2015

Figure 19
Impacts to Waters of the U.S.

Construction Notification will satisfy the reporting requirements in accordance with 33 CFR General Condition 31 "Pre-Construction Notification" in accordance with DMMO standard procedures and all requirements of the USACE, Regional Water Board, and BCDC.

Dredging would occur within 1.73 acres subject to permit jurisdiction of the USACE, Regional Water Board, and BCDC. This 1.73 impacted acreage consist of 1.64 acres of estuarine intertidal unconsolidated shore habitat and 0.09 acre of estuarine intertidal emergent wetland habitat. However, implementation of **Mitigation Measure BIO-4** would reduce potential impacts to wetlands to a less-than-significant level.

> Mitigation Measure BIO-4 (all options): - Authorization of Proposed Project: The City of Foster City will have relevant agencies process the Consolidated Dredged Material Reuse/Disposal Application for authorization to proceed with the proposed Dredging at the Lagoon Intake Structure (CIP 301-629) Project pursuant to Nationwide Permit 3 – Maintenance that was filed with the DMMO in October 2015.

d) *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Less than Significant With Mitigation Incorporated (all options). The project site is a vacant and undeveloped parcel with both urban and salt marsh habitat types. Loss of vegetation associated with the habitats on site would result in disruption of existing wildlife. Some bird roosting, nesting, and foraging areas would be eliminated. Reptiles, amphibians, and small mammals that utilize these areas would be displaced to remaining undisturbed areas. Open space areas near the project site should be capable of accommodating these species. Animal species that have adapted to living in close association with human disturbance can be expected to increase after the proposed project. These species include mammals such as raccoon, California ground squirrel, deer mouse, and house mouse, and birds such as Rock Pigeon, Mourning Dove, American Robin, European Starling, House Sparrow, Brewer's Blackbird, and Brown-headed Cowbird.

Nesting Birds

Nesting bird species protected by the federal Migratory Bird Treaty Act could be impacted during the project. Although work related to the staging site and work related to the implementation of **Disposal Option 1** or **4** that is within 250 feet of Belmont Slough would occur during the period between September 1 and January 31, which is outside the nesting season for migratory birds; all other work associated with the staging area or **Disposal Option 1** or **4** that is proposed at locations greater than 250 feet from Belmont Slough would be proposed to occur at any time of year.

The removal of vegetation during the February 1 to August 1 breeding season for work within the staging area or under **Option 4** could result in mortality of nesting avian species if they are present. However, implementation of **Mitigation Measure BIO-5** would reduce potential impacts related to mortality of nesting birds to a less-than-significant level.

> Mitigation Measure BIO-5 (all options): - Construction to Avoid Nesting Season: Construction work should take place between September 1 and January 31 to avoid migratory bird nesting season. If construction is to be conducted during the breeding season, a qualified biologist shall conduct a pre-construction breeding bird survey in areas of suitable habitat within 30 days prior to the onset of construction activity. If bird nests are found, appropriate buffer zones should be established around all active nests to protect nesting adults and their young from construction disturbance. Size of buffer zones should be determined in consultation with wildlife agency staff based on site conditions and species involved.

Water Quality

Activities conducted within the staging site as well as disturbances related to establishment and operation of the temporary pipeline for transporting dredge material from the dredging site to the Sea Cloud Park upland disposal site under **Option 4** (see alignment in Figure 18) could result in soil disturbance and potential increases in erosion and sedimentation that could affect adjacent wetlands.

In the absence of water quality controls, indirect impacts to adjacent wetlands and resident animal populations could result from the dredging project and **Disposal Options 1** and **4** due to elevated contaminants in stormwater runoff. The requirement for the implementation of a SWPPP, with identification of proper construction techniques and BMPs would minimize adverse effects associated with these activities.

If **Option 4** is selected for disposal, activities related to construction and operation of the Sea Cloud Park upland disposal site are proposed to occur immediately adjacent to wetlands created as mitigation for the Foster City Lagoon Dredging Project. Grading, placement of fill material, and other ground-disturbing activities associated with construction and operation of the collection cells could promote erosion and allow elevated levels of sediment to wash into adjacent wetlands and into aquatic areas downstream, resulting in indirect impacts to wetlands and potential impacts to fish and wildlife resources.

Disturbances related to work in the staging site, construction and operation of the Sea Cloud Park upland disposal site under **Option 4**, and placement of temporary dredge pipeline in areas immediately adjacent to wetlands created as mitigation for the Foster City Lagoon Dredging Project under **Option 4** could promote erosion and allow elevated levels of sediment to wash into adjacent wetlands and downstream aquatic areas. However, implementation of **Mitigation Measure BIO-6** would reduce potential impacts to water quality including elevated levels of sediment in adjacent wetlands to a less-than-significant level.

> Mitigation Measure BIO-6 (all options): - Best Management Practices: BMPs and all requirements as detailed in the SWPPP shall be implemented to control erosion and migration of sediments off of the project site.
>
> If **Option 4** is selected, during construction of the upland disposal site, vegetation should only be cleared from the permitted construction footprint. Areas cleared of vegetation, pavement, or other substrates should be stabilized as quickly as possible to prevent erosion and runoff. Under **Option 4**, silt fence in combination with straw wattles should be installed along the south edge of the temporary pipeline and along

the eastern edge of the upland disposal site to protect adjacent wetlands from increased sedimentation. Under **Option 4**, silt fence/straw wattles should be installed on the north edge of the temporary pipeline and the west edge of the upland disposal site to protect the adjacent recreational trail and facilities associated with Sea Cloud Park.

Dredging of bottom sediments has the potential to decrease water quality and have a resulting effect on fish and wildlife populations. The dredging can result in resuspension of contaminants from sediments into Belmont Slough. Dredged material to be reused for purposes of wetland restoration must meet water quality standards set by the State Water Resources Control Board (State Water Board). Use of dredged material from the proposed project for purposes of wetland restoration under **Disposal Options 2** or **3** would require satisfying these standards. Sediment sampling of dredged material would therefore be required, and a Sampling and Analysis Plan for testing of sediments in Belmont Slough has been prepared by Kinnetic Laboratories[36] and HBG on behalf of the City of Foster City. Sample results would provide the physical, chemical, and biological data necessary to evaluate environmental effects of dredging and of reuse or placement options. The Sampling and Analysis Plan fulfills requirements of the Inland Testing Manual,[37] Section 404 of the CWA, and the DMMO.

Dredging of sediments with a high degree of contamination can result in water quality impacts that could affect fish and wildlife populations. Such water quality impacts can result from resuspension of contaminants from the dredging or return of decanted water to the Lagoon or slough. Additionally, contaminants could leach into groundwaters or surface waters when placed at wetland restoration sites. Implementation of **Mitigation Measure BIO-7** would reduce potential water quality impacts related to resuspension of contaminants to a less-than-significant level.

Mitigation Measure BIO-7 (all options): - Sampling and Analysis Plan: Implement the Sampling and Analysis Plan to provide the physical, chemical, and biological data

[36] Kinnetic Laboratories, Inc. and Huffman-Broadway Group, Inc., 2015.

[37] EPA and USACE, 1998.

necessary to evaluate water quality impacts of dredging and of reuse or placement options including the potential effects on fish and wildlife populations.

Essential Fish Habitat

The project site is within an area identified as Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act for various life stages of fish species managed with the following Fisheries Management Plans (FMPs) under the Act: the Pacific Groundfish FMP (various rockfishes, sole, and sharks), the Pacific Salmon FMP (Chinook salmon, Coho salmon), and the Coastal Pelagic FMP (northern anchovy, Pacific sardine). Dredging work conducted within the 1.73 acres of tidal waters would be in areas considered EFH. In addition, the project occurs within an area designated as Habitat Areas of Particular Concern (HAPC) for various federally managed fish species within the Pacific Groundfish FMP. HAPC are described in the regulations as subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. Designated HAPC are not afforded any additional regulatory protection under MSA; however, federal projects with potential adverse impacts to HAPC are more carefully scrutinized during the consultation process. As defined in the Pacific Groundfish FMP, San Francisco Bay, including the project site, is within estuary HAPC.

Species that could be near the project site are, among other species, starry flounder (*Platichthys stellatus*), northern anchovy (*Engraulis mordax*), and Chinook salmon (*Oncorhynchus tshawytscha*). Proposed dredging could result in short-term degradation to EFH through increased turbidity from disturbed sediments. It is anticipated that fish would move out of the area during dredging operations. With implementation of **Mitigation Measure BIO-2**, dredging work would be conducted when fish are least likely to be present (i.e., during a work window from June 1 to October 31 or extended to November 30 as may be allowed by permitting agencies); therefore, dredging is not expected to significantly impact EFH or any of the above mentioned species.

e) *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

No Impact (all options). The project would not conflict with local policies or ordinances of the City of Foster City relevant to tree preservation or other biological resource issues.

f) *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan?*

No Impact (all options). There are no adopted or approved Habitat Conservation Plans or Natural Community Conservation Plans relevant to the project site.

V. CULTURAL RESOURCES

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	❒	❒	❒	■
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	❒	■	❒	❒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	❒	■	❒	❒
d) Disturb any human remains, including those interred outside of formal cemeteries?	❒	■	❒	❒

Affected Environment

The analysis considers the project's impact to historic architectural, archeological resources and human remains, and paleontological resources on the project site.

Discussion

a) *Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?*

No Impact (all options). A cultural resources study was completed for the project in October of 2015 [38] found that no historic resources are present in the project site. The study included review of base maps and records, survey reports, and other materials on file at the Northwest Information Center, Sonoma State University, Rohnert Park (File No. 15-0495). Sources of information included but were not limited to the current listings of properties on the National Register of Historic Places (National Register),

[38] Origer, Janine M. and Rachel Hennessy. 2015.

California Historical Landmarks, California Register of Historical Resources (California Register), and California Points of Historical Interest as listed in the Office of Historic Preservation's Historic Property Directory.[39]

The study concluded that there is no suggestion of historic resources within the project site; therefore, the project would have no impact on historical resources.

b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

Less than Significant with Mitigation Incorporated (all options). The likelihood of encountering archaeological resources on the staging or dredging sites or either the **Option 1** or **Option 4** disposal site is extremely low; however, the mitigation measures below would reduce this potential impact to a less-than-significant level. No excavation would occur at the off-site disposal options. As a result, no impact would result.

There is the virtually no possibility that buried archaeological deposits could be present or that accidental discovery could occur. Archival research found one previous cultural resources survey that contains a portion of the project site, but that did not identify any cultural resources.[40] There has been one cultural resource survey within a ¼-mile radius from the project staging and dredging sites, with no cultural resources found.[41] No cultural resources have been identified within a 1-mile radius of the project site and vicinity.

Should archaeological resources be uncovered during earth disturbing activities, **Mitigation Measure CULT-1** shall be followed. If human remains are uncovered, **Mitigation Measure CULT-2** shall be followed. Implementation of these mitigation measures would reduce impacts to archaeological resources to a less-than-significant level.

Mitigation Measure CULT-1 (all options): – Archaeological Deposits: In keeping with the CEQA guidelines, if archaeological ~~remains~~ resources are uncovered, work at the

[39] California Office of Historic Preservation (OHP), 2012.

[40] Holman, 2000.

[41] Costello, J., and P. Mikkelsen, P. Kaikankoski, and B, Byrd ., 2011.

place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds (Section 15064.5 [f]).

If archaeological resources or any cultural resources are uncovered on State lands during the project, the California State Lands Commission (CSLC) shall be notified within 72 hours. The point of contact shall be Assistant Chief Counsel Pam Griggs. Title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or within the tidal and submerged lands of California are under the jurisdiction of the CSLC. Therefore, the final disposition of archaeological or historical resources recovered on State lands under the jurisdiction of the CSLC shall be approved by the CSLC.

Mitigation Measure CULT-2 (all options): – Human Remains: The following actions are promulgated in Public Resources Code 5097.98 and Health and Human Safety Code 7050.5, and pertain to the discovery of human remains. If human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission. The Native American Heritage Commission will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

Should any human remains be discovered on State lands during the project, the CSLC shall be notified within 24 hours. The point of contact shall be Assistant Chief Counsel Pam Griggs.

The proposed project would not result in any cumulative impacts to cultural resources as no cultural resources are expected to be present and impacted by the project.

c) *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Less than Significant with Mitigation Incorporated (all options). The project site is situated on fill material and no paleontological sites, unique resources, or unique geological features have been recorded on or adjacent to the project site or disposal sites proposed under **Options 1** and **4.**[42] Although unlikely, the potential to encounter unknown paleontological resources on the project site during grading and construction still exists. Therefore, to reduce potential impacts to paleontological resources, **Mitigation Measure CULT-3** shall be implemented.

> Mitigation Measure CULT-3 (all options): – Paleontological Resources: If paleontological resources are encountered during project construction activities, all soil-disturbing activity within 100 feet of the find shall be temporarily halted until a qualified paleontologist can assess the significance of the find and provide proper management recommendations. The City shall review and incorporate the management recommendations into the project as feasible. Additionally, if paleontological resources are uncovered on State lands during the project, the CSLC shall be notified within 72 hours. The point of contact shall be Assistant Chief Counsel Pam Griggs. The final disposition of paleontological resources recovered on State lands under the jurisdiction of the CSLC shall be approved by the CSLC.

Implementation of **Mitigation Measure CULT-3** would reduce potential impacts on paleontological deposits to a less-than-significant level.

d) *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Less than Significant with Mitigation Incorporated (all options). Although no human remains are recorded at the staging, dredging and **Disposal Option 1** and **4** sites, there remains a potential for discovering unknown human remains during excavation and site

[42] Kashiwagi, J., and L. Hokolt, 1991

preparation. Implementation of **Mitigation Measure CULT-2** would reduce potential impacts on archaeological deposits and human remains to less-than-significant levels.

VI. HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	❒	■	❒	❒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	❒	❒	❒	■
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site?	❒	■	❒	❒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?	❒	❒	■	❒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	❒	❒	■	❒
f) Otherwise substantially degrade water quality?	❒	❒	■	❒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	❒	❒	❒	■
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	❒	❒	❒	■

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding of as a result of the failure of a levee or dam?	❒	■ DO 1 & 4	■DO 2, 3 & 5	❒
j) Inundation by seiche, tsunami, or mudflow?	❒	❒	■	❒

Affected Environment

The affected environment for hydrology and water quality is based on information provided as part of the project application and other published materials.

Climate

The climate of the project site is characterized as dry-summer subtropical (often referred to as Mediterranean), with cool wet winters and relatively warmer dry summers. The approximate annualized average high temperature is 71°F; the average low is 47°F.[43] The mean annual rainfall in the vicinity of the project site, for the period between 1906 and 2012, was approximately 19 inches, and primarily occurred from November through April.[44]

Water Quality

The State Water Board and the nine Regional Water Boards regulate water quality of surface water and groundwater bodies throughout California. In the Bay Area, including the project site, the San Francisco Bay Regional Water Board is responsible for implementing the Water Quality Control Plan (Basin Plan).[45] The Basin Plan establishes beneficial water uses for waterways and water bodies within the region and is a master

[43] WRCC, 2015.

[44] Ibid.

[45] Regional Water Board, 2015.

policy document for managing water quality in the region. At its closest, San Francisco Bay is located approximately 4,000 feet northeast of the project site and is listed as providing the beneficial uses of industrial service supply, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, preservation of rare and endangered species, fish spawning, wildlife habitat, water contact and noncontact recreation, and navigation. [46]

Under the Basin Plan, the Foster City Lagoon is listed as providing the beneficial uses of estuarine habitat, wildlife habitat, and water contact and noncontact recreation; and Belmont Slough is listed as providing the beneficial uses of estuarine habitat, wildlife habitat, preservation of rare and endangered species, fish spawning, and water contact and noncontact recreation.[47] Angelo Slough is not listed in the Basin Plan.

The project site is located in the Santa Clara Valley Groundwater Basin, San Mateo Plain Subbasin. The San Mateo Plain Subbasin is listed in the Basin Plan as providing the beneficial uses of municipal and domestic water supply, industrial process water supply, industrial service water supply, and agricultural water supply.[48] Groundwater in the project vicinity is typically encountered within the top 10 feet below ground surface.[49] Groundwater quality in the project site is characterized as slightly alkaline (mean pH of 7.3) with a hardness of 471 milligrams per liter of calcium carbonate, classifying it as "very hard." In some areas, water quality could be impaired due to high concentrations of sodium, due to tidal influence.[50]

Runoff and Drainage

Lower surface elevations (down to approximately 2 feet referenced to the National Geodetic Vertical Datum of 1929 [NGVD]) occur in the northwest corner and northeast portion of the project site, and higher surface elevations (up to 10 feet NGVD) are found along the perimeter levee located in the northeast portion of the project site.[51,52] The

[46] Ibid.

[47] Ibid.

[48] Ibid.

[49] State Water Board, 2015b.

[50] DWR, 2004.

[51] LSA Associates, Inc., 2000.

upland area included in **Disposal Option 4** is relatively flat with surface elevations generally ranging from approximately 6-8 feet NGVD. The surface of the project site consists almost entirely of pervious surfaces with the exception of the pedestrian and bicycle path which runs across the project site from east to west. Stormwater that does not infiltrate the surface of the project site runs off directly into the Foster City Lagoon, the Sea Cloud Phase II sedimentation basin, Angelo Slough, or Belmont Slough, depending on the location within the project site. There are no existing stormwater drainage systems at the project site. The Foster City Lagoon, Angelo Slough, and Belmont Slough discharge to San Francisco Bay.

The Sea Cloud Phase II sedimentation basin is a part of a former salt pond and is not hydrologically connected (directly) to San Francisco Bay; however, a spillway located along the northwest portion of the sedimentation basin allows any overflow from the sedimentation basin to enter the Foster City Lagoon.[53] The majority of the basin is open water during the winter and spring due to rain accumulation, and it typically dries up during the summer. The Foster City Public Works Department maintains the Lagoon and the perimeter levee system, discussed in more detail below under Flooding, for both storm drainage detention and flood control purposes.

Stormwater Quality

Stormwater quality is regulated by the National Pollutant Discharge Elimination System (NPDES) program, established through the federal CWA. The NPDES program objective is to control and reduce pollutant discharges to surface water bodies. Compliance with NPDES permits is mandated by state and federal statutes and regulations. Pursuant to Section 402 of the CWA and the Porter-Cologne Water Quality Control Act, municipal stormwater discharges in the City of Foster City (the City is part of the San Mateo Countywide Stormwater Pollution Prevention Program) are regulated under the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-

[52] The NGVD 1929 is a vertical control datum established to measure vertical positions or elevations based on mean sea level measurements circa 1929.

[53] LSA Associates, Inc., 2000.

0074, NPDES Permit No. CAS612008, adopted October 14, 2009. The permit is overseen by the Regional Water Board.

In addition, projects disturbing more than 1 acre of land during construction are required to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ as amended by Order No. 2012-0006-DWQ, NPDES No. CAS000002 (Construction General Permit).

To obtain coverage under the Construction General Permit (CGP), the project applicant must provide via electronic submittal, a Notice of Intent, a SWPPP, and other documents required by Attachment B of the CGP. Activities subject to the CGP include clearing, grading, and disturbances to the ground, such as grubbing or excavation. The CGP also covers linear underground and overhead projects such as pipeline installations. CGP activities are regulated at a local level by the Regional Water Board.

The CGP uses a risk-based permitting approach and mandates certain requirements based on the project risk level (i.e., Level 1, Level 2, or Level 3). The project risk level is based on the risk of sediment discharge and the receiving water risk. The sediment discharge risk depends on the project location and timing (i.e., wet season versus dry season activities). The receiving water risk depends on whether the project would discharge to a sediment-sensitive receiving water. The determination of the project risk level would be made by the City when the Notice of Intent is filed (and more details of the timing of the construction activity are known).

The performance standard in the CGP is that dischargers shall minimize or prevent pollutants in stormwater discharges and authorized non-stormwater discharges through the use of controls, structures, and BMPs that achieve Best Available Technology for treatment of toxic and non-conventional pollutants and Best Conventional Technology for treatment of conventional pollutants. A SWPPP must be prepared by a Qualified SWPPP Developer that meets the certification requirements in the CGP. The purpose of the SWPPP is to: (1) help identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges; and (2) describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-

stormwater discharges resulting from construction activity. Operation of BMPs must be overseen by a Qualified SWPPP Practitioner that meets the requirements outlined in the permit.

The SWPPP must also include a construction site monitoring program. Depending on the project risk level, the monitoring program could include visual observations of site discharges, water quality monitoring of site discharges (pH, turbidity, and non-visible pollutants, if applicable), and receiving water monitoring (pH, turbidity, suspended sediment concentration, and bioassessment).

Flooding

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, the portion of the project site located west of the perimeter levee (see Figure 18) is indicated as "Other Flood Area" Zone X, which is protected from a 100-year flood by the levee system, and the portion of the project site located east of the perimeter levee is indicated as "Special Flood Hazard Area" subject to a 100-year flood, with Angelo Slough portion of the project site designated as Zone AE – Base Flood Elevations determined, and the Belmont Slough portion of the project site designated as Zone VE – coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.[54] The Foster City Lagoon is part of the Foster City stormwater management system and is used by the City as a retention basin and to buffer the flooding effects of large storms. The San Mateo pumping station at the northern end of the Lagoon is capable of moving 600,000 gallons per minute of water out of the Lagoon and into San Francisco Bay.[55] Foster City adjusts the water levels in the Lagoon seasonally to provide reserve storage capacity in the event of a storm.[56]

Coastal Hazards, Levees, and Dams

The location of the project site (near San Francisco Bay) and the elevation of the site (approximately 2-10 feet NGVD) have the potential to expose the site to coastal hazards,

[54] FEMA, 2015.

[55] City of Foster City, 1995.

[56] City of Foster City, 2015a.

such as sea level rise, seiche, tsunami, or extreme high tides. The City completed a Levee Improvement Program during 1993 and raised the City's San Francisco Bay-facing levees to a crest height of approximately 10 feet NGVD.[57] In a letter dated July 23, 2007, FEMA notified the City of Foster City that it had certified the Foster City Levee, identified as levee P771, as meeting the criteria outlined in Title 44 CFR Section 65.10.[58] As such, the area protected by the levee was classified as Zone X, protected by a levee from a 100-year flood.

Following a recent coastal flood hazard study, FEMA has found that 85% of Foster City's levee system does not meet current FEMA requirements. To restore accreditation status of the levee and to prevent city property owners from paying the excessive costs of flood insurance, the City is embarking on a $75 million project to improve its levee system. [59] This project is expected to be completed in 2020.

The Lower Crystal Springs Dam (LCSD) is located approximately 6 miles west of the project site. The LCSD is owned by the City and County of San Francisco and has a capacity of 57,910 acre-feet.[60] If LCSD should fail, water would flow through San Mateo Creek, spread out over portions of the City of San Mateo, and flow into the Lagoon without reaching Foster City. The Foster City Public Works Department estimates that a failure of LCSD would result in a maximum flood height of about 2 feet at the county fairgrounds in the city of San Mateo, located approximately 1 mile west of the Foster City. This flood height is below the crest height (6 feet) of a levee along the Lagoon in Foster City, and therefore it is highly improbable that failure of the LCSD would cause inundation of Foster City.[61]

Permitting

The proposed project could be subject to multiple permits and approvals from resource agencies associated with the protection of water quality and San Francisco Bay, including

[57] Ray Towne, personal communication, 2012.

[58] DHS, 2007.

[59] City of Foster City, 2015b.

[60] DWR, 2015.

[61] City of Foster City, 1995.

permits from the USACE, the Regional Water Board, and the BCDC. It is likely BCDC would issue an Administrative Permit for the proposed project. Additional permits and approvals associated with the protection of water quality and San Francisco Bay are discussed further below.

The USACE is the responsible agency for regulating actions under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act of 1899 (RHA). The USACE has the discretion to issue permits for work which could affect wetlands or other waters under federal jurisdiction, including San Francisco Bay. The dredging activities and potential in-water disposal of dredged materials (under **Disposal Option 5**) or reuse of dredged materials as wetland fill (under **Disposal Option 2** or disposal **Option 3**) would be subject to Sections 404 of the CWA and Section 10 of the RHA. Sections 404 of the CWA and Section 10 of the RHA permit coverage could be obtained through compliance with an existing Nationwide Permit (NWP), or by obtaining an individual permit specific to the proposed project, pending USACE review of the proposed project. NWP coverage is offered by the USACE as a method of streamlining the permitting process, where each NWP addresses a category of impacts, and a project must meet certain general conditions to achieve NWP coverage. It is likely that permit coverage under NWP 3, which applies to maintenance dredging for intake structures and associated canals, would be approved by the USACE for the proposed project. The NWPs include General Conditions to ensure protection of navigation, aquatic life, water supply, and water quality. General Conditions of the NWPs related to hydrology and water quality include the following:[62]

- *General Condition No.11, Equipment:* Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
- *General Condition No. 12, Soil Erosion and Sediment Controls:* Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently

[62] USACE, 2012.

stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

- *General Condition No. 25, Water Quality*: Where states and authorized tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification (WQC) must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or state or tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

The proposed project would also require a 401 WQC from the Regional Water Board RWQCB pursuant to the Section 401 of the CWA and Porter-Cologne Water Quality Control Act. Because San Francisco Bay is included on the list of impaired waters identified on the CWA Section 303(d) list, the Regional Water Board must establish permitting requirements aimed to protect or improve the quality of San Francisco Bay when permitting the proposed project through issuance of a 401 WQC or certification.

The DMMO is a joint program of the USACE, BCDC, Regional Water Board, California State Lands Commission, and USEPA. The purpose of the DMMO is to cooperatively review sediment quality sampling plans, analyze the results of sediment quality sampling, and make suitability determinations for material proposed for disposal in San Francisco Bay. This interagency group is intended to increase efficiency and coordination between the member agencies and to foster a comprehensive approach to handling dredged material management issues. The reuse or disposal location option selected for dredged materials generated by the proposed project would ultimately require approval from DMMO to ensure that the dredged material meets the appropriate DMMO standards for sediment quality based on the proposed reuse or disposal location.

Discussion

a) *Violate any water quality standards or waste discharge requirements?*

Less than Significant With Mitigation Incorporated (All Options). The proposed project has the potential to affect stormwater runoff and surface water quality during construction

activities because dredging and handling of dredge material has the potential to release sediments (and potentially contaminants which could be entrained in the sediments) into stormwater runoff or directly into surface water. As with most construction sites, there would also be the potential for chemical releases during construction activities due to the storage and use of hazardous substances (e.g., fuels and oils for construction equipment) at the project site. Once released, substances such as fuels and oils could directly enter the nearby surface waterways or be transported to nearby surface waterways and/or groundwater in stormwater runoff, wash water, dust control water, and dredge material, potentially reducing the quality of the receiving waters.

Project Site

Dredging has the potential to release sediments (and potentially contaminants that could be entrained in the sediments) directly into surface water, which could result in degradation of water quality. There would also be the potential for chemical releases into surface water during dredging activities due to the storage and use of hazardous substances (e.g., fuels and oils) for dredging equipment. **Mitigation Measure HYD-1** reduces this potential impact to a less-than-significant level.

> Mitigation Measure HYD-1 (all options): – Agency Permits and Approvals: The Contractor(s) shall obtain applicable resource agency permits and approvals and comply with permit requirements to prevent impacts to water quality and demonstrate that water quality standards and/or waste discharge requirements are not violated. Permit requirements and avoidance measures that may be required by the USACE and/or the Regional Water Board may include, but not be limited to the following:
>
> - Installation of physical barriers (e.g., silt curtains) to prevent potential localized impacts to water quality (e.g., increase in turbidity) from spreading to surrounding surface waters.
>
> - Performing water quality monitoring, including sampling and analysis for total suspended solids as well as measurements of pH, temperature, and conductivity.

- Comparing the results of water quality monitoring to performance standards established by the Regional Water Board in the CWA Section 401 certification. If water quality monitoring indicates that performance standards are not being achieved, additional avoidance measures (e.g., installation of additional silt curtains) shall be implemented until water quality monitoring indicates that performance standards are being achieved, which would mitigate potential impacts to water quality to a less-than-significant level.

Disposal Options

Disposal of dredge materials could potentially impact water quality if the dredge material contains contaminants at levels that exceed the appropriate regulatory guidelines for the proposed disposal method as contaminants could be released directly into surface water under **Option 5**, or contaminants could leach into surface water or groundwater, or could be transported to surface water in stormwater runoff under **Options 1** through **4**.

Because the DMMO and other resource agencies have determined appropriate limits for contaminant concentrations related to dredge sediment disposal/reuse for various types of sites, proper characterization of the sediments (as required by **Mitigation Measure HYD-2**) and the permit-approved disposal of project sediments, would ensure that this potential impact is reduced to a less-than-significant level.

Mitigation Measure HYD-2 (all options): - Sediment Sampling for Disposal: Sampling and analysis of the sediments to be dredged from Angelo Slough shall be performed prior to dredging activities to evaluate contaminant concentrations in sediments and potential disposal options for the dredge materials. The sampling and analysis shall be performed in accordance with the Sampling and Analysis Plan prepared for the proposed project to fulfill the requirements of the USACE Inland Testing Manual, Section 404 of the CWA, and the DMMO.[63] The results of the sampling and analysis activities and the proposed disposal option shall be presented to DMMO for review. DMMO approval of the proposed disposal option shall be obtained prior to performing disposal activities.

[63] Kinnetic Laboratories Inc. and Huffman-Broadway Group Inc., 2015.

Pumping of dredge material and grading associated with implementation of **Option 1** or **Option 4** could result in result in degradation of receiving water quality.

If either **Option 1** or **Option 4** of the proposed project is implemented, dredge material would be pumped through a temporary fixed piping system across the project site, and a leak in the temporary piping system could result in a release of dredge materials into nearby surface waters, degrading surface water quality. If **Option 1** of the proposed project is implemented, excess water from dredge material collected in Sea Cloud Phase II basin could be filtered and decanted into the Foster City Lagoon, which could affect water quality in the Foster City Lagoon. If **Option 4** of the proposed project is implemented, water from dredge material collected in the upland area would be decanted into Sea Cloud Phase II basin, which could affect water quality in Sea Cloud Phase II basin.

If **Option 4** of the proposed project is implemented, grading and placement of dredge materials in the upland area of the project site would be performed which could potentially contribute sediments and contaminants to stormwater runoff. Grading and placement of dredge materials in the Sea Cloud Phase II basin would be performed if **Option 1** of the proposed project is implemented.

If either **Option 1** or **Option 4** of the proposed project is implemented, there would also be the potential for chemical releases which could impact water quality during placement of the temporary fixed piping system and grading activities due to the storage and use of hazardous substances (e.g., fuels and oils) for construction equipment.

Pumping of dredge material and grading associated with implementation of **Option 1** or **Option 4** could result in result in degradation of receiving water quality. However, implementation of **Mitigation Measures HYD-3-DO 1 & 4** and **HYD-4-DO 1 & 4** would reduce this impact to a less-than-significant level.

> Mitigation Measure HYD-3-DO 1 & 4: ~~-~~ Implement Mitigation Measure HAZ-5~~4-DO 1 & 4~~: Mitigation Measure HAZ-5~~4-DO 1 & 4~~ (which addresses potential on-shore chemical releases) shall be implemented.

Mitigation Measure HYD-4-DO 1 & 4: - Construction General Permit and SWPPP: If **Option 4** is implemented (or **Option 1** is implemented and would result in disturbance of more than 1 acre of soil) the proposed project shall comply with the CGP and implement a SWPPP to reduce the risk of on-shore spill/releases and disturbed soils from being transported in stormwater runoff and impacting nearby surface waters during construction activities, and post-construction erosion controls, which could include but would not be limited to hydroseeding, planting of vegetation, installation of jute/burlap netting, and installation of swales, shall be implemented in graded areas to mitigate potential erosion of exposed soil.

If **Option 1** or **Option 4** of the proposed project is implemented, regular monitoring of the temporary fixed piping system shall be performed to ensure there are no leaks in the pipeline, and any leaks that are identified shall be promptly repaired.

If **Option 1** or **Option 4** of the proposed project is implemented, applicable resource agency permits shall be obtained and the proposed project shall comply with permit requirements to prevent impacts to water quality, including potential impacts related to decanting water into Sea Cloud Phase II basin or Foster City Lagoon, and demonstrate that water quality standards and/or waste discharge requirements are not violated. Permit requirements and avoidance measures that could be required by the USACE and/or the Regional Water Board could include, but not be limited to:

- Installation of physical barriers (e.g., silt curtains) to aid the settlement of sediments in dredge material prior to decanting of excess water.
- Filtering and testing water prior to decanting into the Sea Cloud Phase II sedimentation basin or Foster City Lagoon to ensure that water meets water quality standards.
- Performing water quality monitoring including, but not limited to (as determined by the Regional Water Board), sampling and analysis for total suspended solids as well as measurements of pH, temperature, and conductivity.

The results of water quality monitoring shall be compared to performance standards established by the Regional Water Board in the CWA Section 401 certification. If water quality monitoring indicates that performance standards are not being achieved, additional avoidance measures (e.g., installation of additional silt curtains or filtration systems) shall be implemented.

Implementation of **Mitigation Measures HYD-1, HYD-2, HYD-3-DO 1 & 4,** and **HYD-4-DO 1 & 4** would mitigate potential water quality impacts to a less-than-significant level.

b) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

No Impact (all options). The proposed project does not involve the extraction or use of groundwater and would not alter the mount of impervious surface at the project site or at any of the disposal option locations; therefore, the recharge of groundwater beneath the project site through infiltration of rain would not be affected by the proposed project.

c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site?*

Less than Significant With Mitigation Incorporated (all options). The proposed project would involve dredging which would temporarily disturb sediments within Angelo Slough. If **Option 4** is implemented, dredge material would be contained in the upland area of the project site and graded into a berm after the dredge material has consolidated. If the accumulation of dredge material in Sea Cloud Phase II basin under **Option 4** affects the ability of water to pond in Sea Cloud Phase II basin, the dredge material would be graded and could be placed in the upland area of the project site to restore the ponding conditions. Implementation of **Mitigation Measure HYD-5** and **HYD-6-DO 1 & 4** would mitigate potential impacts related to erosion and siltation to a less-than-significant level.

Project Site

Dredging and disturbing of sediments in Angelo Slough could cause siltation off site through transportation of disturbed sediments in tidal flows or flood flows. However, implementation of **Mitigation Measure HYD-5** would reduce this impact to a less-than-significant level.

> Mitigation Measure HYD-5 (all options): - Implement Mitigation Measure HYD-1: Mitigation Measures HYD-1 shall be implemented.

Implementation of **Mitigation Measures HYD-1** would ensure that the temporary disturbing of sediments in Angelo Slough during dredging activities would not cause sedimentation off site.

Disposal Options

Disposal of dredge materials under **Options 2**, **3**, or **5** of the proposed project would not alter drainage patterns or result in erosion or siltation on or off site as all dredge material would be disposed of at an appropriate off-site location, and handling of dredge material at the off-site disposal location is not part of the proposed project.

Under **Option 1** or **Option 4**, grading activities in the upland portion of the project site could result in erosion of exposed soil and cause siltation on or off site. Implementation of **Mitigation Measure HYD-6-DO 1 & 4**, which implements **Mitigation Measure HAZ-4-DO 1 & 4**, would ensure that the post-construction erosion controls are implemented to mitigate potential erosion and siltation from the upland area of the project site, reducing this potential impact to a less-than-significant level.

> Mitigation Measure HYD-6-DO 1 & 4: - Implement Mitigation Measure ~~HAZ~~HYD-4-DO 1 & 4: Mitigation Measures ~~HAZ~~HYD-4-DO 1 & 4 shall be implemented.

d) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?*

Less than Significant (all options). As noted under section b) above, the proposed project would not alter the amount of impervious surface at the project site; therefore, the rate of

surface runoff would not be increased. Proposed dredging activities would not increase the risk of flooding on or off site. Disposal of dredge materials under **Options 2**, **3**, or **5** of the proposed project would not alter drainage patterns or result in flooding on or off site as all dredge material would be disposed of at an appropriate off-site location. Under **Option 1** or **Option 4**, drainage patterns could be slightly altered by grading activities in the upland portion of the project sight; however, the change in drainage patterns would not be substantial or increase the risk of flooding on or off site. Therefore, potential impacts related to flooding from changes in drainage patterns would be less than significant.

e) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Less than Significant (all options). As noted under the Affected Environment section, above, there are no existing stormwater drainage systems at the project site. As noted under section d) above, the proposed project would not alter the mount of impervious surface at the project site or any of the disposal option locations and the rate of surface runoff would not be increased; therefore, the proposed project would not exceed the existing overland flow capacity for stormwater runoff.

As noted under section a), above, the proposed project has the potential to affect the quality of stormwater runoff under **Options 1** and **4** because grading activities have the potential to release sediments into stormwater runoff, and there would also be the potential for chemical releases during construction activities due to the storage and use of hazardous substances (e.g., fuels and oils for construction equipment) at the project site. Implementation of **Mitigation Measures HYD-1** and **HYD-3-DO 1 & 4** would mitigate the potential pollution of runoff that could result from implementing **Options 1** and **4**, and no substantial additional sources of polluted runoff would result from implementation of the proposed project; therefore, this potential impact would be less than significant.

f) *Otherwise substantially degrade water quality*

Less than Significant. Other than potential water quality impacts discussed above, no other potential water quality impacts would be anticipated to result from the project.

g) *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

No Impact (all options). The proposed project does not include the construction of housing.

h) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows?*

No Impact (all options). The only portion of the project site within a 100-year flood zone is the marshy area located east of the perimeter levee, which includes Angelo Slough and a portion of Belmont Slough.[64] The proposed project does not include the construction of any structures within the 100-year flood zone portion of the project site; therefore, no impact would occur.

i) *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding of as a result of the failure of a levee or dam?*

Less thanSignificant With Mitigation Incorporated (DO 1 & 4), Less than Significant (DO 2, 3 & 5). As discussed in the Affected Environment section, above, if LCSD should fail, water would flow through San Mateo Creek, spread out over portions of the City of San Mateo, and flow into the Lagoon without reaching Foster City; therefore, flooding associated with dam failure is a less-than-significant impact. However, if either **Option 1** or **Option 4** is chosen, dredge material would pumped through a temporary fixed piping system installed across the perimeter levee and would be placed in a series of collection cells and/or Sea Cloud Phase II basin. This activity could result in a release of dredge material from the collection cells or damage to levees and increase the risk of flooding locally.

[64] FEMA, 2015.

Project Site

Proposed dredging activities would not expose people or structures to flooding risks.

Disposal Options

Disposal of dredge materials under **Options 2**, **3**, or **5** of the proposed project would not expose people or structures to flooding risks as all dredge material would be disposed of at an appropriate off-site location, and handling of dredge material at the off-site disposal location is not part of the proposed project.

Implementation of **Option 1** or **Option 4** could result in a decrease in the stability of the project site levees, which could increase flood hazards. If either **Option 1** or **Option 4** is implemented, placement of a temporary fixed piping system across the perimeter levee could potentially damage the integrity of the levee, depending on the construction methods used, which could expose nearby areas to the risk of flooding as a result of failure of the perimeter levee. If either **Option 1** or **Option 4** is implemented, a leak in the temporary pipeline could result in flooding on or off site through the release of dredge material, which could consist largely of water.

If either **Option 1** or **Option 4** is implemented, placement of dredge material or decant water within Sea Cloud Phase II basin could potentially result in flooding of the wetland mitigation area constructed around the basin if the western levee were to fail, which could impact the integrity of the adjacent perimeter levee.

If **Option 4** is implemented, failure of a dredge material collection cell sidewall could potentially result in flooding on or off site. The placement of dredge materials in the Sea Cloud Phase II basin under **Option 1** or decant water in Sea Cloud Phase II basin under **Option 4** could potentially cause subsurface settlement in the vicinity of Sea Cloud Phase II basin which could result in settlement of the interior and perimeter levees and expose nearby areas to greater risk of flooding from overtopping of the perimeter levee.

Implementation of **Mitigation Measure HYD-7-DO 1 & 4** would mitigate potential flooding risks to people and structures, including flooding as a result levee failure, to a less-than-significant level.

Mitigation Measure HYD-7 DO 1 & 4: - Implement Mitigation Measure ~~HAZ~~HYD-4-DO 1 & 4 and HYD-1: Mitigation Measures ~~HAZ~~HYD-4-DO 1 & 4 and HYD-1 shall be implemented. Additionally, the temporary fixed piping system for moving dredge material shall be placed over the perimeter levee and its construction shall not involve excavation into the perimeter levee.

j) *Inundation by seiche, tsunami, or mudflow?*

Less thanSignificant (all options). A seiche is the oscillation of a body of water. Seiches occur most frequently in enclosed or semi-enclosed basins such as lakes, bays or harbors. They can be triggered in an otherwise still body of water by strong winds, changes in atmospheric pressure, earthquakes, tsunami, or tides. Triggering forces that set off a seiche are most effective if they operate at specific frequencies relative to the size of an enclosed basin. Coastal measurements of sea level often show seiches with amplitudes of a few centimeters and periods of a few minutes due to oscillations of the local harbor, estuary, or bay, superimposed on the normal tidal changes. To produce significant seiche in a body of water, the forcing periods must be close to the natural period of the bay or one of the overtones. Seiches are not considered a hazard in San Francisco Bay because of the long periods and overtones of San Francisco Bay; however the Upper and Lower Crystal Springs Reservoirs are believed to be large enough to pose significant seiche potential.[65] Inundation from a seiche that overtops the LCSD would not reach Foster City, as flood waters originating from the LCSD would first enter the Lagoon.[66] Therefore, the potential for inundation of the project site by seiche would be less than significant.

Tsunamis are long period water waves caused by underwater seismic events, volcanic eruptions, or undersea landslides. Tsunamis affecting the San Francisco Bay region would originate west of San Francisco Bay, in the Pacific Ocean. Tsunamis entering San Francisco Bay through the relatively narrow Golden Gate would tend to dissipate as the energy of the wave spreads out as San Francisco Bay becomes wider and shallower. Areas that are

[65] Borrero, et al., 2006.

[66] City of Foster City, 1995.

highly susceptible to tsunami inundation tend to be low-lying coastal areas, such as tidal flats, marshlands, and former bay margins that have been artificially filled.[67] The portion of the project site located east of the perimeter levee is mapped within a tsunami inundation area.[68] The predicted maximum credible tsunami amplitude at the Potrero District of San Francisco (located approximately 16 miles north of the project site) is estimated to be 5.9 feet.[69] San Francisco Bay becomes much wider and shallower over the distance between the Potrero District of San Francisco and the project site, which would dissipate the energy of the tsunami wave significantly, and the wave would have to make a 90-degree bend to enter Belmont Slough, which dissipates the energy of the wave even further; therefore, the tsunami amplitude at the project site would likely be significantly lower than at the Potrero District of San Francisco. Although a tsunami could potentially result in inundation of the northeast portion of the project site, the proposed project would not increase the susceptibility of the northeast portion of the project site to flooding from a tsunami. Therefore, the potential for inundation of the project site by tsunami is less than significant.

Mudflows are a type of landslide. Based on the level topography of the project site and vicinity, mudflows would not affect the project site. Therefore, the potential for inundation of the project site by mudflow would be less than significant.

[67] Borrero, et al., 2006.

[68] Cal OES, 2009.

[69] Borrero, et al., 2006.

VII. HAZARDS

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	❒	■	❒	❒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	❒	■	❒	❒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	❒	❒	❒	■
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	❒	❒	❒	■
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	❒	❒	■	❒
f) For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	❒	❒	❒	■
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	❒	❒	■	❒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	❒	❒	■	❒

Affected Environment

The description of the affected environment for hazardous materials is based on information provided as part of the project application, the Sea Cloud Phase II EIR[70] prepared for the previous disposal of dredge material at the Sea Cloud Phase II site, and information available on electronic databases of regulatory agencies.

The northeast portion of the project site is located east of the City's perimeter levee and is marshy undeveloped land. The **Option 1** disposal site, located west of the perimeter levee, is within the Sea Cloud Phase II site. The Sea Cloud Phase II site was historically a wetland area of Belmont Slough, and was transformed into a brine pond around the turn of the century by filling and diking the area during the time that this portion of San Francisco Bay was used for salt production.[71] The Sea Cloud Phase II site, like Foster City as a whole, was constructed on fill material. The Sea Cloud Phase II site was also used to discharge dredge material and decant water during the dredging of the Foster City Lagoon performed in 2003. Construction of western containment levees and wetland mitigation areas around the perimeter of the Sea Cloud Phase II basin was also performed during the 2003 dredging project.

Review of the State Water Board's GeoTracker database revealed that the former Westport Landfill is located immediately south of the project site, across Belmont Slough. No other hazardous materials release sites within ¼ mile of the project site are listed in GeoTracker.[72] A recent groundwater monitoring report for the former Westport Landfill site indicates that the barrier and leachate collection system around the landfill appear to be functioning properly and preventing the leachate beneath the landfill from reaching San Francisco Bay at levels of concern.[73] Based on these findings, it is unlikely that

[70] LSA Associates, Inc., 2000.

[71] Ibid.

[72] State Water Board, 2015a.

[73] Arcadis, 2015.

leaching of contaminants from the former Westport Landfill would impact sediments at the project site.

Review of the Department of Toxic Substances Control's EnviroStor database identified no hazardous materials release sites within ¼ mile of the project site. The nearest hazardous materials release site to the project site identified on EnviroStor is a school investigation for Area H elementary school, located approximately 1,500 feet east of the project site across Belmont Slough.[74] A Preliminary Environmental Assessment conducted at this school site did not identify any contaminants of concern.[75] Based on these findings, this school site should not pose an environmental concern for the project site.

Based on the information discussed above, it is unlikely that sediments in Angelo Slough have been affected by off-site sources of contamination at concentrations that could pose a potential health risk for construction workers or the surrounding public.

Contaminants could also be present in fill soils in the upland area of the project site as the source and quality of the fill materials used during construction of the Sea Cloud Phase II site are unknown.

Discussion

a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less than Significant with Mitigation Incorporated (all options). Hazardous materials (e.g., oils, grease, and fuels) would be transported and used on site for proposed project activities and disposal of dredge material. The routine transport, use, or disposal of these hazardous materials could pose a potential hazard to construction workers as they would be handling the hazardous materials closely and could therefore be exposed through inhalation of vapors, direct contact with skin, or accidental ingestion. The routine transport, use, or disposal of these hazardous materials would not pose a significant

[74] DTSC, 2015a.

[75] DTSC, 2015b.

hazard to the public or environment unless the hazardous materials were accidentally spilled or released into the environment, as discussed in section b) below.

Worker health and safety is regulated at the federal level by the US Department of Labor, Occupational Safety and Health Administration (OSHA). The federal Occupational Safety and Health Act of 1970 authorizes states to establish their own safety and health programs with OSHA approval. Worker health and safety protections in California are regulated by the California Division of Occupational Safety and Health (Cal/OSHA), which acts to protect workers from safety hazards and provides consultant assistance to employers. California standards for workers dealing with hazardous materials are contained in Title 8 of the CCR and include practices for all industries (General Industrial Safety Orders), and specific practices for construction, and other industries. **Mitigation Measure HAZ-1** ensures the reduction of potential health hazards for construction workers from the routine transport, use, or disposal of hazardous materials to a less-than-significant level.

> Mitigation Measure HAZ-1 (all options): – Health and Safety Plan: The routine transport, use, and disposal of hazardous materials at the project site would be performed in accordance with a project Health and Safety Plan prepared in accordance with Title 8 of the CCR.

b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? Project construction activities would include the use of hazardous materials such as motor fuels, oils, solvents, and lubricants. An accidental release of hazardous materials during fueling, maintenance, or improper operation of construction equipment could potentially occur and pose a risk to construction workers, the public, and the environment.*

Less than Significant With Mitigation Incorporated (all options). On-site construction vehicles, equipment, and routine hazardous materials handling operations could accidentally release hazardous materials, such as oils, grease, or fuels. Additionally, potential contaminants in sediments and soil could be released into the environment during dredging and disposal activities if not properly handled.

Project Site

Accidental releases of hazardous materials during dredging activities could impact surface water and sediments which could result in adverse effects to the environment. If contaminated sediment is dredged and not properly managed, contaminants could be released into surface water. A release of hazardous materials could also impact the public as people in the vicinity of the project site could be exposed to vapors from hazardous materials or dust impacted with hazardous materials, or come into direct contact with soil impacted by a release of hazardous materials. Public beneficial uses of receiving waters (e.g., recreational uses and fishing) could also be impacted by a release of hazardous materials to surface water. **Mitigation Measure HAZ-2** would reduce the risk of accidental release of hazardous materials to a less-than-significant level.

> Mitigation Measure HAZ-2 (all options)*:* - Implement Mitigation Measure HYD-1*:* Mitigation Measure HYD-1 (which addresses potential releases of chemicals from dredging equipment and contaminants in sediments during dredging) shall be implemented.

Disposal Options

Disposal of dredge materials under all disposal options could potentially result in adverse effects to the environment if the dredge material contains contaminants at levels that exceed the appropriate regulatory guidelines for the disposal method. Contaminants could be released directly into surface water under proposed **Disposal Option 5**, or contaminants could leach into surface water or be transported to surface water in stormwater runoff under proposed **Disposal Options 1 through 4**, which could result in adverse effects to the environment. **Mitigation Measure HAZ-3** reduces this potential impact to a less-than-significant level.

> Mitigation Measure HAZ-3 (all options): - Implement Mitigation Measure HYD-2: Mitigation Measure HYD-2 (which addresses sampling and analysis of sediments prior to dredging and disposing of dredge materials in an appropriate location based the comparison of sampling results to ecological risk based regulatory guidelines) shall be conducted.

The public could potentially be exposed to contaminants in dredge material if it is disposed of in a location that is accessible to the public or adjacent to the public, as people could come into direct contact with soil impacted by hazardous materials or be exposed to dust impacted with hazardous materials. Under **Option 1** or **Option 4** of the proposed project, dredge material would be disposed of in the upland disposal area and/or in Sea Cloud Phase II basin, which are located in close proximity to public areas including Sea Cloud Park, residential properties to the north, and walking paths surrounding Sea Cloud Phase II basin. **Mitigation Measure HAZ-4-DO 1 & 4** reduces this potential impact to a less-than-significant level.

> Mitigation Measure HAZ-4-DO 1 & 4: - Sediment Sampling: If either **Option 1** or **Option 4** is implemented, the analytical results of sediment sampling shall be compared to appropriate regulatory agency screening levels for protection of human health (e.g., the Regional Water Board's Environmental Screening Levels for residential land use) and naturally occurring/background levels of contaminants in the vicinity of the project site. Dredge material shall not be disposed of under **Option 1** or **Option 4** if contaminant concentrations in the dredge material exceed appropriate regulatory agency screening levels for protection of human health and naturally occurring/background levels of contaminants, unless a site-specific human health risk assessment determines that disposal of dredge material under **Option 1** or **Option 4** would not pose a significant risk to human health.

If either **Option 1** or **Option 4** of the proposed project is implemented, on-shore accidental releases of hazardous materials (e.g., fuels and oils) could affect soil, surface water, and/or groundwater quality, and could result in exposure of the public to adverse health effects. If contaminated soil is encountered while performing grading activities in the upland portion of the project site and the soil is not properly managed, exposure to contaminants in soil could pose a health hazard to construction workers, the public, and the environment. Exposure to contaminants in soil could occur through inhalation of fugitive dust, incidental ingestion, or dermal contact. Implementation of **Mitigation Measure HAZ-5** would reduce this potential impact to a less-than-significant level.

Mitigation Measure HAZ-5 (all options): - Foster City Construction Practices: The following requirements shall be included in the project specifications, and shall be implemented during proposed construction and dredging activities:

- The contractor(s) shall designate storage areas suitable for material delivery, storage, and waste collection. These locations must be as far away from catch basins, gutters, drainage courses, and water bodies as possible. All hazardous materials and wastes used or generated during project site development activities shall be labeled and stored in accordance with applicable local, state, and federal regulations. In addition, an accurate up-to-date inventory, including Material Safety Data Sheets, shall be maintained on-site to assist emergency response personnel in the event of a hazardous materials incident.
- All maintenance and fueling of vehicles and equipment shall be performed in a designated, bermed area, or over a drip pan that would not allow run-off of spills. Vehicles and equipment shall be regularly checked and have leaks repaired promptly at an off-site location. Secondary containment shall be used to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured.
- Emergency Preparedness and Response Procedures shall be developed by the contractor(s) for emergency notification in the event of an accidental spill or other hazardous materials emergency during project site preparation and development activities. These Procedures shall include evacuation procedures, spill containment procedures, required personal protective equipment, as appropriate, in responding to the emergency. The contractor(s) shall submit these procedures to the City prior to construction activities.
- If the presence of hazardous materials is found on site, site remediation could be required by the applicable state or local regulatory agencies. Specific remedies would depend on the extent and magnitude of contamination and requirements of the regulatory agency(ies). Under the direction of the regulatory agency(ies) and the City, a Site Remediation Plan shall be prepared, as required, by the applicant. The plan shall: 1) specify measures to be taken to protect workers and the public

from exposure to the potential hazards; and 2) certify that the proposed remediation would protect the public health in accordance with local, state, and federal requirements, considering the land use proposed. Excavation and earthworking activities associated with the proposed project shall not proceed until the Site Remediation Plan has been reviewed and approved by the regulatory oversight agency and is on file with the City.

Implementation of **Mitigation Measures HAZ-2, HAZ-3, HAZ-4-DO 1 & 4,** and **HAZ-5** would mitigate potential impacts from accidental spills or releases of hazardous materials to a less-than-significant level.

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?*

No Impact (all options). The nearest school, Redwood Shores Elementary School at 225 Shearwater Parkway in Redwood City, is located over ¼ mile east of the project site. No schools were identified within ¼ mile of the project site.[76] Therefore, no impact would occur.

d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact (all options). The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, also known as the Cortese List. Additionally there are no known releases of hazardous materials at the project site. If previously unknown contamination from hazardous materials is encountered at the project site, compliance with applicable regulations would ensure that the proposed project would not create a significant hazard to the public or the environment.

[76] California Department of Education, 2015.

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?*

Less than Significant (all options). The project site is located approximately 1.8 miles north of the San Carlos Airport and approximately 7 miles southeast of the San Francisco International Airport (SFO). The project site is located within Area A of the Airport Influence Area (AIA) boundary of the San Carlos airport, where requirements for real estate disclosure are mandatory due to potential noise issues. Formal review of proposed projects for potential obstruction issues is limited to Area B of the AIA, within a 9,000-foot radius of San Carlos Airport.[77] The project site is not located within the AIA of SFO.[78] Because the proposed project is not located within AIA B of the San Carlos Airport and no structures would be constructed at the project site which could be considered a potential obstruction hazard for aircraft using the San Carlos Airport, potential aviation hazards for the proposed project would be considered less than significant.

f) *For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

No Impact (all options). The project site is not located near any private use airports or airstrips. Therefore, no impact would occur.

g) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Less than Significant (all options). The proposed project would not be expected to impair implementation of or interfere with any emergency response or evacuation plans in the vicinity of the project site. The proposed project would involve limited short-term uses of City streets for delivery of construction equipment and supplies, and commuting workers. During construction and dredging activities, all construction equipment would be stored on-site. If off-site disposal of dredge material would be performed under **Options 2**, **3**, or **5** of the proposed project, transportation of dredge materials would be performed using

[77] CCAG, 2004.

[78] CCAG, 2012b.

barges or scows on open waters. Therefore, potential impacts to emergency evacuation routes or emergency response plans from the proposed project would be considered less than significant.

h) *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Less than Significant (all options). Foster City has not been identified as having a significant potential for wildland fires.[79] The project site is surrounded by Sea Cloud Park to the west, residential properties to the north, marshy areas to the south and Belmont Slough to the east. The project site itself consists largely of non-vegetated soil, wetlands, intertidal areas, and some areas of low-lying ruderal vegetation. These types of environments are not prone to wildland fires; therefore, this would be a less-than-significant impact.

[79] City of Foster City, 1995.

VIII. GEOLOGY AND SOILS

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	❒	❒	■	❒
ii. Strong seismic ground shaking?	❒	❒	■	❒
iii. Seismic-related ground failure, including liquefaction?	❒	❒	■	❒
iv. Landslides?	❒	❒	❒	■
b) Result in substantial soil erosion or the loss of topsoil?	❒	■	❒	❒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	❒	■ DO 1 & 4	■ DO 2, 3, & 5	❒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	❒	■ DO 1 & 4	■ DO 2, 3, & 5	❒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	❒	❒	❒	■

Affected Environment

The affected environment for geology and soils is based on information provided as part of the project application, the Sea Cloud Phase II EIR,[80] a geotechnical investigation[81] prepared for the previous disposal of dredge material at the Sea Cloud Phase II site, and regional geologic documents and mapping prepared by the California Geologic Survey and other public agencies.

Faults and Ground Shaking

The project site is not located within an Alquist-Priolo Earthquake Fault Zone.[82] The nearest active faults are the San Andreas and Hayward faults, located 5 miles southwest and 13 miles northeast, respectively. Ground shaking is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. Seismic events are a potential concern throughout the San Francisco Bay Area. The Working Group on California Earthquake Probabilities has estimated that there is a 72% probability that one or more large earthquakes (magnitude 6.7 or greater) will occur in the San Francisco region during the 30-year period starting from 2014.[83]

Geology and Soils

The native geologic materials underlying the project site are related to the local tidally influenced marsh ecology, and consist primarily of soft Bay Mud. Overlying the Bay Mud is fill material related to upland creation, diking, and salt production. The existing levee materials also consist primarily of Bay Mud.[84] The Bay Mud extends to depths of approximately 30-40 feet and is weak and highly compressible.[85] The base of the Sea Cloud Phase II basin, included in **Disposal Option 1**, is covered by material that was dredged from the Foster City Lagoon in 2003.

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[80] LSA Associates, Inc., 2000.

[81] Hultgren – Tillis Engineers, 2002.

[82] CGS, 2015.

[83] USGS, 2015.

[84] LSA Associates, Inc., 2000.

[85] Hultgren – Tillis Engineers, 2002.

Liquefaction

Liquefaction is the temporary transformation of loose, saturated granular sediments from a solid state to a liquefied state as a result of seismic ground shaking. In the process, the soil undergoes a temporary loss of strength, which commonly causes ground displacement or ground failure to occur. Based on regional hazard mapping, the project site has a moderate susceptibility to liquefaction hazards.[86] A site-specific study concluded that the risk of liquefaction-induced movement at the project site is low.[87]

Lateral Spreading and Slope Stability

Although the area of the project site and surrounding vicinity are relatively flat, sloped soil surfaces are present at the project site along the perimeter levee. The geotechnical investigation for the previous disposal of dredge material in the Sea Cloud Phase II basin indicated that a large earthquake could cause slumping and lateral deformation of western levees within the project site and vicinity, particularly when the contained dredge material/water levels would be highest within the Sea Cloud Phase II Basin, and that risk of slumping and lateral deformation of the western levees would be low for the long-term condition after the western levees and dredge material are consolidated.[88]

Unstable Soils

The geotechnical investigation for the previous disposal of dredge material in the Sea Cloud Phase II basin indicated that the weak and highly compressible Bay Mud that underlies the project site would undergo settlement due to the load of the western levees and contained dredge material.[89]

[86] ABAG, 2015a.

[87] Hultgren – Tillis Engineers, 2002.

[88] Ibid.

[89] Ibid.

Discussion

a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less than Significant (all options). The project site is not traversed by any active faults as defined on the Alquist-Priolo Earthquake Fault Zoning Map.[90] Therefore, the project site would not be expected to be subject to fault rupture and this impact is less than significant.

ii. Strong seismic ground shaking?

Less than Significant (all options). Where underlying geologic materials at a site consist of unconsolidated artificial fill, and/or Bay Mud, ground shaking during an earthquake can be amplified, resulting in greater damage to structures. Shaking amplification maps provided by the Association of Bay Area Governments indicate that ground shaking at the project site would be violent during a major earthquake on the San Andreas Fault and very strong during a major earthquake on the Hayward fault.[91] The proposed project does not involve the construction of structures or introduction of people to the project site (other than temporary construction workers) that could be affected by seismic ground shaking; therefore, this potential impact is less than significant.

[90] CGS, 2015.

[91] ABAG, 2015b.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant (all options). The site-specific geotechnical study for the area concluded that the risk of liquefaction-induced movement at the project site is low.[92] Therefore, potential impacts from liquefaction would be less than significant.

iv. Landslides?

No Impact (all options). Slope failure can occur as either rapid movement of large masses of soil (landslide) or slow continuous movement (creep). The project site and vicinity are generally flat with localized areas that are gently sloped, and thus not subject to landslides or other larger slope stability hazards (the potential for lateral spreading and instability to occur along the levees is discussed under subsection c) below. Therefore, there would be no impact.

b) *Result in substantial soil erosion or the loss of topsoil?*

Less than Significant With Mitigation Incorporated (all options). Potential impacts from loss of topsoil and soil erosion are discussed in Section IX, Hydrology and Water Quality, of this Initial Study. As noted in that section, the proposed project would remove and disturb sediments within Angelo Slough. If either **Option 1** or **Option 4** of the proposed project were implemented, a temporary fixed piping system would be installed across the project site to move dredge material, which would then be contained within either the Sea Cloud Phase II basin under **Option 1** or in a series of collection cells in the upland area of the project site under **Option 4**. Under either **Option 1** or **Option 4**, grading activities at the project site could expose disturbed soil to erosion.

Project Site

Disturbance of sediments in Angelo Slough could cause erosion through transportation of disturbed sediments in tidal flows or flood flows. However, with implementation of **Mitigation Measure GEO-1**, there would be a less-than-significant impact.

[92] Hultgren – Tillis Engineers, 2002.

Mitigation Measure GEO-1 (all options): - Implement Mitigation Measure HYD-1: Mitigation Measure HYD-1 shall be implemented.

Disposal Options

Disposal of dredge materials under **Options 2**, **3**, and **5** of the proposed project would not result in erosion or loss of topsoil at the project site, as all dredge material would be placed directly on barges and disposed of at an appropriate off-site location, and handling of dredge material at the off-site disposal location is not part of the proposed project. Implementation of either **Option 1** or **Option 4** could result in erosion in upland areas of the project site, in Sea Cloud Park, or in Sea Cloud Phase II basin.

Under either **Option 1** or **Option 4** of the proposed project, a leak in the temporary dredge material pipeline could result in erosion on or off site through the release of dredge material (which could consist largely of water) to unintended areas, and grading of upland areas of the project site could result in erosion of disturbed soil by wind and/or stormwater runoff. If **Option 4** were implemented, failure of a dredge material collection cell sidewall could cause erosion as dredge material and soil could flow to unintended areas including Sea Cloud Park and the Sea Cloud Phase II basin. If either **Option 1** or **Option 4** were implemented, failure of the western levee of the Sea Cloud Phase II basin could cause erosion as dredge material or decant water and soil could flow into the wetlands mitigation area surrounding Sea Cloud Phase II basin. However, with implementation of **Mitigation Measure GEO-2-DO 1 & 4**, there would be a less-than-significant impact.

Mitigation Measure GEO-2-DO 1 & 4: - Implement Mitigation Measure HYD-~~3~~4-DO 1 & 4: Mitigation Measure HYD-~~3~~4-DO 1 & 4, which specifies that the project prepare and implement a SWPPP (and includes typically required BMPs), shall be implemented.

If **Option 4** is implemented, the design of the dredge material collection cells and specifications for placement of dredge material within the collection cells shall be prepared by a licensed professional geotechnical engineer to ensure that the collection cells would not fail during project implementation. The geotechnical engineer shall also perform an evaluation of the western levees within Sea Cloud Phase II basin and

shall provide project specifications on the maximum allowable level of dredge material or decant water that can be placed in Sea Cloud Phase II basin, and shall provide recommendations for repairs/modification of the western levees, if necessary, to allow for implementation of **Option 1** or **Option 4**. The geotechnical evaluation shall account for potential hazards related to unstable and expansive soil. A licensed professional geotechnical engineer, or a qualified person under their direct supervision, shall perform oversight and inspection during construction of the collection cells and/or repairs/modifications to the western levees (if necessary) to ensure that the geotechnical design recommendations are followed. The placement of dredge materials within the collection cells or Sea Cloud Phase II basin shall be monitored to ensure that the geotechnical specifications are followed.

Implementation of **Mitigation Measures GEO-1 and GEO-2-DO 1 & 4** would mitigate potential impacts related to erosion and loss of top soil to a less-than-significant level.

c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Less than Significant (DO 2, 3, 5); Less than Significant With Mitigation Incorporated (DO 1, 4). The proposed dredging activities in Angelo Slough would create new slopes along the sides of the intake channel. If **Option 4** of the proposed project were implemented, soil would be graded into steeply sloped berms for construction of dredge material collection cells in the upland area of the project site. If either **Option 1** or **Option 4** of the proposed project were implemented, the sloped soil surfaces of the western levees surrounding the edge of Sea Cloud Phase II basin would be in contact with dredge material/decant water. As discussed in the Affected Environment Section, above, there could be a potential for lateral spreading and slope instability in areas where sloped soil surfaces make contact with dredge material and/or water. Placement of dredge materials and/or decant water in Sea Cloud Phase II basin could also result in settlement of the western levees due to the load of dredge material and/or decant water on the underlying Bay Mud. The geotechnical investigation indicated that, as future settlement occurred

following construction of the western levee, additional placement of fill could be needed to maintain the desired crest elevation and stability of the western levee.[93]

Project Site

Dredging activities would create newly exposed sloped surfaces with proposed 4:1 (horizontal to vertical) slopes along the sides of the intake channel which could potentially be susceptible to lateral spreading as the intake channel would be in contact with water. If unexpected lateral spreading of the intake channel sidewalls did occur, it would not impact the public or environment; therefore, potential impacts related to unstable soils associated with dredging activities would be less than significant.

Disposal Options

Disposal of dredge materials under **Options 2**, **3**, or **5** of the proposed project would not result in potential impacts related to unstable soil, as all dredge material would be disposed of at an appropriate off-site location which has been previously analyzed and is currently approved for disposal of dredge material. Therefore, handling of dredge material at the off-site disposal location is not part of the proposed project.

Implementation of **Option 1** or **Option 4** of the proposed project could increase the susceptibility of the western levees in the Sea Cloud Phase II basin to lateral spreading, slope instability, and/or settlement related failure, and failure of the western levee system would impact the adjacent wetlands mitigation area and could potentially impact the integrity of the perimeter levee system. If **Option 4** of the proposed project were implemented, lateral spreading and/or slope instability related failure of the sidewalls of dredge material containment cells could result in soil and dredge materials flowing to unintended areas. Implementation of **Option 1** or **Option 4** could result in impacts associated with instability of dredge material containment cells in upland areas of the project site and/or instability of western levees in Sea Cloud Phase II basin. However, **Mitigation Measure GEO-3-DO 1 & 4** would reduce this to a less-than-significant effect.

[93] Ibid.

Mitigation Measure GEO-3-DO 1 & 4: – Implement Mitigation Measure ~~HYD-3~~GEO-2-DO 1 & 4: Mitigation Measure ~~HYD-3~~GEO-2-DO 1 & 4 shall be implemented.

Implementation of **Mitigation Measure GEO-3-DO 1 & 4** would mitigate potential impacts related to unstable soil to a less-than-significant level.

d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

Less than Significant (DO 2, 3, & 5); Less than Significant With Mitigation Incorporated (DO 1& 4). The Bay Mud underlying the project site is subject to shrink-swell expansive behavior in response to change in water content. Placement of dredge materials or decant water into Sea Cloud Phase II basin could create a potential for expansion and shrinkage in the Bay Mud within/beneath the western levees of Sea Cloud Phase II basin.

Project Site

Dredging activities would not result in potential impacts related to expansive soils.

Disposal Options

Disposal of dredge materials under **Options 2**, **3**, or **5** of the proposed project would not result in potential impacts related to expansive soil, as all dredge material would be disposed of at an appropriate off-site location, and handling of dredge material at the off-site disposal location is not part of the proposed project.

If either **Option 1** or **Option 4** of the proposed project is implemented, the placement of dredge materials or decant water in Sea Cloud Phase II basin could potentially cause expansion and shrinkage in the Bay Mud within/beneath the western levees of Sea Cloud Phase II basin, which could result in degradation of the western levees and could result in similar potential impacts on the integrity of the perimeter levee system. Implementation of **Option 1** or **Option 4** could result in levee instability and/or settlement in Sea Cloud Phase II basin; however, implementation of **Mitigation Measure GEO-4-DO 1 & 4** would reduce this to a less-than-significant effect.

Mitigation Measure GEO-4-DO 1 & 4: – Implement Mitigation Measure ~~HYD-3~~GEO-2-DO 1 & 4: Mitigation Measures ~~HYD-3~~GEO-2-DO 1 & 4 shall be implemented.

Implementation of **Mitigation Measure GEO-4-DO 1 & 4** would mitigate potential impacts related to expansive soils to a less-than-significant level.

e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

No impact (all options). The project does not include septic tanks or alternative wastewater disposal systems.

IX. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	❒	❒	■	❒
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	❒	❒	❒	■

Affected Environment

Climate change refers to change in the Earth's weather patterns including the rise in the Earth's temperature due to an increase in heat-trapping GHGs in the atmosphere. According to the BAAQMD CAP,[94] some of the potential effects of increased GHG emissions and the associated climate change may include loss in snow pack (affecting water supply), sea level rise, more frequent extreme weather events, more large forest fires, and more drought years. In addition, climate change may increase electricity demand for cooling, decrease the availability of hydroelectric power, and affect regional air quality and public health.

In 2006, the California Assembly passed the California Global Warming Solutions Act (AB 32), which requires the CARB to develop and implement regulatory and market mechanisms that will reduce GHG emissions to 1990 levels by 2020 and 80% below 1990

[94] BAAQMD, 2010a.

levels by 2050. On February 1, 2016, Foster City adopted a Climate Action Plan that aims to satisfy the AB 32 GHG emission reduction goals.[95]

The primary GHG emissions of concern are CO_2, methane, and nitrous oxide. Other GHGs of concern include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, but their contribution to climate change is less than 1% of the total by well-mixed[96] GHGs.[97] Each GHG has a different global warming potential. For instance, methane traps about 21 times more heat per molecule than CO_2. As a result, emissions of GHGs are reported in metric tons of "carbon dioxide equivalents" (CO_2e), where each GHG is weighted by its global warming potential relative to CO_2. CO_2 emissions dominate the GHG inventory in the SFBAAB, accounting for more than 90% of the total CO_2e emissions reported.[98]

In 2010, the BAAQMD developed and adopted GHG thresholds of significance (Thresholds) that were incorporated into the 2010 *CEQA Air Quality Guidelines*.[99] The GHG Thresholds are designed to help lead agencies in the SFBAAB assess impacts from GHG emissions for new projects and meet GHG emission reduction goals, such as those contained in AB 32. As discussed in Section III: Air Quality, above, the use of the BAAQMD's Thresholds must be limited to the analysis of a project's impact on the environment, but not the environment's impact on the project. Because the BAAQMD's Thresholds for GHGs relate to the analysis of the project's impacts on the environment, the Thresholds are used in this initial study.

Discussion

a) *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

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[95] Foster City, 2015c.

[96] GHGs that have atmospheric lifetimes long enough to be relatively homogeneously mixed in the troposphere.

[97] IPCC, 2013.

[98] BAAQMD, 2010a. op cit.

[99] BAAQMD, 2010b.

Less than Significant (all options). Potential impacts related to emissions of GHGs from the project dredging and disposal under any option would have a less-than-significant impact, as describe below.

The BAAQMD recommends calculating the GHG emissions to disclose the emissions levels that would occur during construction. Project emissions of GHGs during dredging and disposal under each option were estimated from the following three sources: off-road equipment, on-road vehicles, and marine vessels. The type of equipment, vehicles, and marine vessels that would be used during project dredging and disposal activities are summarized in Section III: Air Quality (Table 1) and additional details are included in Appendix 1.

The total emissions of GHGs from dredging and each disposal option are summarized in Table 6. The BAAQMD's Threshold for evaluating GHG emissions during the operational phase of a project is 1,100 metric tons per year of CO_2e; however, the BAAQMD has not developed a Threshold for evaluating GHG emissions from construction because these emissions represent a relatively small portion (less than 2%) of the overall GHG emissions inventory in the Bay Area.[100] Other California air districts (e.g., South Coast and Sacramento) recommend amortizing the total emissions of GHGs during construction over the expected operational life of a project and then combining with the operational analysis of GHG emissions. While no emissions would be associated with the operational phase of the project, emissions of GHGs during dredging and each disposal option were amortized over 30 years[101] and compared to the BAAQMD's operational Threshold of 1,100 metric tons per year of CO_2e. The amortized GHG emissions during dredging and disposal for each option are substantially less than the BAAQMD's operational Threshold; therefore, the project's construction GHG emissions would have a less-than-significant impact on global climate change.

[100] BAAQMD, 2009.

[101] The BAAQMD considered a 30-year operational lifetime for projects when designing the Thresholds.

TABLE 6 SUMMARY OF GHG EMISSIONS DURING PROJECT CONSTRUCTION

Emission Source	Construction Emissions ($MT CO_2e/yr$)	Amortized Construction Emissions ($MT CO_2e/yr$)
BAAQMD's Operational Threshold	---	1,100
Dredging and Disposal Option 1		
Off-Road Equipment	10	0.3
On-Road Vehicles	1	<0.1
Marine Vessels	5	0.2
Total Emissions	16	0.5
Dredging and Disposal Option 2		
Off-Road Equipment	2	<0.1
On-Road Vehicles	1	<0.1
Marine Vessels	69	2.3
Total Emissions	71	2.4
Dredging and Disposal Option 3		
Off-Road Equipment	2	<0.1
On-Road Vehicles	1	<0.1
Marine Vessels	92	3.1
Total Emissions	95	3.2
Dredging and Disposal Option 4		
Off-Road Equipment	70	2.3
On-Road Vehicles	4	0.1
Marine Vessels	5	0.2
Total Emissions	78	2.6
Dredging and Disposal Option 5		
Off-Road Equipment	2	<0.1
On-Road Vehicles	1	<0.1
Marine Vessels	35	1.2
Total Emissions	38	1.3

Source: BASELINE Environmental Consulting, 2016.

Notes: Calculations of emissions are summarized in Appendix 1.

b) *Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

No Impact (all options). The temporary emissions of GHGs during project dredging and disposal under any option are not subject to any policies or regulations related to GHG emission reductions in the SFBAAB; therefore, the project would have no impact.

X. LAND USE AND PLANNING

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	❒	❒	❒	■
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	❒	❒	■	❒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	❒	❒	❒	■

Affected Environment

The project site is 4.3 acres located in a section of undeveloped land that includes shore areas, intertidal waters, and estuaries. The zoning for the project site is Open Space and Conservation – Aquatic Development Combining District (OSC/W) and the General Plan designation is Parks, Open Space. The surrounding parcels are developed with a mix of single-family and multi-family residential, recreation, and open space.

Discussion

a) *Would the project physically divide an established community?*

No Impact (all options). The division of an established community usually refers to the construction of a physical boundary or element (such as a freeway) that hampers movement between or within existing communities. The proposed dredging project would restore the western intake structure to its original, intended function of transmitting water from Belmont Slough into Foster City Lagoon, which would not hamper movement

between or within existing communities; therefore, the project would not physically divide an existing community.

Similarly, disposal of dredge material would not hamper movement between or within existing communities. The off-site disposal options (**Option 2**, **3** and **5**) would disperse dredge material in a wetland setting, and **Disposal Option 1** would place dredge material in the Sea Cloud Phase II basin, which was constructed specifically to hold dredge material from Foster City dredging projects. **Disposal Option 4** would include the construction of a berm system along the western edge of the Sea Cloud Phase II basin, within an area that is currently not accessible to the public. The creation of the berm would therefore not change access or patterns of movement in or around Sea Cloud Park or the project site.

b) *Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

Less than Significant (all options). Upon completion, the proposed dredging and disposal project would not result in any significant land use impacts. The project would not introduce new land uses or elements that would conflict with established and/or proposed uses within the project site or vicinity.

Disposal of dredge material off-site under **Options 2**, **3**, or **5** would not conflict with current or future land uses within the project area or its vicinity, and would be consistent with the intended use of the disposal sites. Disposal of dredge material under **Option 1** would be consistent with the intended use of the Sea Cloud Phase II site, and would not inhibit the basin's ability to attract birds and other wildlife. Disposal under **Option 4** in the upland disposal site would not conflict with the site's designation as Parks under the General Plan. The upland disposal site area, as a part of the western edge of the Sea Cloud Phase II interior levee, is not currently accessible to the public, and would remain so under this disposal option.

The project is consistent with the relevant policies of the Foster City General Plan and with the existing zoning designations. The project is also consistent with the applicable policies of the San Francisco Bay Plan.

Foster City General Plan

The project site is designated as Parks, Open Space, and Water under the General Plan. The project is consistent with these designations as it would maintain the staging area as park space and open space, the dredging portions of the site as water, and would not introduce any new uses.

General Plan Land Use policies applicable to the proposed project are listed below.[102] Following each set of policies is a summary of how the proposed project is consistent.

Land Use and Circulation Element, Amended and Adopted February, 1, 2016

The Land Use and Circulation Element is part of Foster City's General Plan which includes plans for the city through the year 2025. This element of the General Plan covers policies and programs affecting development of land in Foster City.

> LUC-A – Preserve the Quality of the City's Residential Neighborhoods. Preserve and strengthen the identity and qualities of Foster City's residential neighborhoods and assure that: (1) all new development, renovation or remodeling are harmoniously designed and operated to integrate with the existing neighborhood; (2) noise, traffic and other conflicts between residential and non-residential land uses are eliminated to the extent possible; (3) each residential neighborhood has access to a developed park or park-like recreational area within walking distance to most residents, and that park facilities are well maintained, diverse and adequate to meet the needs of residents; and (4) maintain availability of commercial and retail services.
>
> LUC-L – Provide Adequate Services and Facilities. Ensure that new and existing developments can be adequately served by municipal services and facilities.
>
> LUC-L-1 – Capital Improvement Program (CIP). The City will continue to maintain a five-year Capital Improvement Program (CIP) which supports policies in the General Plan to maintain, improve, or expand City-wide facilities and infrastructure.

[102] City of Foster City, 1999.

LUC-L-5 – Adequate Parks, Pedestrian Pathways and Waterfront Recreation Areas. The City shall maintain and improve its system of parks, pedestrian pathways, and waterfront areas so that they remain accessible and attractive to residents of the City.

LUC-C-9 – Vacant Parcels Adjacent to Waterways. Development or redevelopment of parcels adjacent to waterways shall incorporate public open space or water-oriented design features into any development on these sites.

LUC-C-11 – Permitted Land Uses on Vacant Sites. Permitted land uses on vacant sites should be compatible with the existing uses of land surrounding the vacant parcel, environmental characteristics of the site, the capacity of public facilities, streets and infrastructure serving the site, and the need to maintain a balance between residential, commercial and public land uses.

The project includes dredging the Angelo Slough, which would restore the western intake structure to its original function, ultimately preserving open space lands and recreation areas. The project reinforces local General Plan Parks and Open Space policies and programs of preserving residential neighborhoods and nearby parks and open space by maintaining the Foster City Lagoon.[103]

Parks and Open Space Element, Adopted September 2009

This element of the City's General Plan addresses preservation of parks and open space and conservation of natural resources in the City.

PC-B – Maintain Existing Recreation Facilities. Maintain current park amenities and infrastructure in a safe, attractive and functional recreation environment.

PC-10 – Improvements in Open Space. Design any improvements in open space areas to minimize adverse impacts to habitats, including provision of a buffer to minimize human disturbances, views or other open space resources.

PC-11 – Lagoons and Waterways: recreational Opportunities. Continue to promote a wide variety of recreational opportunities on the City of Foster City Lagoon System.

PC-12 – Lagoons and Waterways: Open Space. Preserve and maintain the existing lagoon and waterways.

[103] City of Foster City, 2009.

PC-12 – Bayfront Open Space System. Provide a continuous open space system along San Francisco Bay and the Belmont Slough.

PC-13 – Wetlands Protection. Protect the health and safety of the community by excluding development in environmentally sensitive areas which would result in a net loss of significant wetlands.

The project reinforces local General Plan policies and programs which emphasize conservation of open space. The project would maintain the City's quality of life for its residents by maintaining the water level in the Foster City Lagoon.

Foster City Zoning Ordinance and Zoning Designation

The current zoning for the project site is OSC/W. The purpose of the "W" or aquatic development combining district is to accommodate various types of development and use relating to recreational and other types of activity involving and using water resources and waterfront areas of the City in a manner consistent with the General Plan. A conditional use includes any modification of the shoreline configuration, fill or dredging of areas included within the W combining district. The project would be consistent with Foster City's zoning designation because it would maintain the existing West Intake Channel. Approval for the project was granted in the City's 2015 Capital Improvements Program.

Regional Land Use Plans, Policies, and Regulation

In addition to General Plan and Zoning Code regulations, the proposed project would be subject to the requirements and guidelines of the San Francisco Bay Plan.

San Francisco Bay Plan

The San Francisco Bay Plan addresses the long-term use of San Francisco Bay and is the adopted land use plan of the BCDC.[104] The Commission has planning and permitting authority over areas 100 feet landward of the line of highest tidal action of San Francisco Bay.

[104] BCDC, 1969.

The San Francisco Bay Plan includes Belmont Slough in its definition of this shoreline band. Development within BCDC jurisdiction must be found consistent with the San Francisco Bay Plan's general policies related to views, public access, recreation, dredge materials disposal, and the use of marshlands, wetlands, and diked historic baylands. The San Francisco Bay Plan states that the BCDC's goals for the Foster City shoreline band include providing "continuous public access to San Francisco Bay and Belmont Slough, including paths, beaches and small parks."

The project is consistent with the San Francisco Bay Plan as it would not permanently interfere with public access to San Francisco Bay or Belmont Slough and would maintain public access to the Levee Pedway during the project.

c) *Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?*

No Impact (all options). The site is not within an area that is subject to a habitat or natural community conservation plan. Therefore, the project would not result in an impact.

XI. MINERAL RESOURCES

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	❒	❒	❒	■
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	❒	❒	❒	■

No Impact (all options). No mineral resources have been identified at the project site or the two upland disposal sites (**Option 1** and **4**). Additionally the three off-site disposal sites (**Options 2**, **3** & **5**) do not include any mineral resources as they are already approved as disposal sites. The project would therefore have no impact in relation to these criteria. The project site is not designated by the General Plan or other land use plan as a locally important mineral recovery site. Therefore, implementation of the proposed project would not have an impact on mineral resources.

XII. NOISE

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	❒	❒	■	❒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	❒	■ DO 1 & 4	■ DO 2, 3 & 5	❒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	❒	❒	❒	■
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	❒	■	❒	❒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	❒	❒	■	❒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	❒	❒	❒	■

Affected Environment

Noise is commonly defined as unwanted sound that annoys or disturbs people and can have an adverse psychological or physiological effect on human health. Sound is measured in decibels (dB), which is a logarithmic scale. Decibels describe the purely physical intensity of sound based on changes in air pressure, but they cannot accurately describe sound as perceived by the human ear because the human ear is only capable of hearing sound within a limited frequency range. For this reason, a frequency-dependent weighting system is used and monitoring results are reported in A-weighted decibels (dBA). Technical terms used to describe noise are defined in Table 7.

It should be noted that because decibels are based on a logarithmic scale, they cannot be added or subtracted in the usual arithmetical way. For instance, if one noise source emits a sound level of 90 dBA, and a second source is placed beside the first and also emits a sound level of 90 dBA, the combined sound level is 93 dBA, not 180 dBA. When the

TABLE 7 DEFINITION OF ACOUSTICAL TERMS

Term	Definition
Decibel (dB)	A unit describing the amplitude of sound on a logarithmic scale. Sound described in decibels is usually referred to as sound or noise "level." This unit is not used in this analysis because it includes frequencies that the human ear cannot detect.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
Equivalent Noise Level (Leq)	The average A-weighted noise level during the measurement period. For this CEQA evaluation, Leq refers to a 1-hour period unless otherwise stated.
Community Noise Equivalent Level	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 dB in the evening from 7:00 to 10:00 p.m. and after addition of 10 decibels to sound levels during the night between 10:00 p.m. and 7:00 a.m.

(CNEL)	
Day/Night Noise Level (Ldn)	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 dB to levels measured during the night between 10:00 p.m. and 7:00 a.m.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Vibration Decibel (VdB)	A unit describing the amplitude of vibration on a logarithmic scale.
Peak Particle Velocity (PPV)	The maximum instantaneous peak of a vibration signal.
Root Mean Square (RMS) Velocity	The average of the squared amplitude of a vibration signal.

Source: Baseline Environmental Consulting, 2015

difference between two collocated sources of noise is 10 dBA or more, the higher noise source dominates and the lower noise source makes no perceptible difference in what people can hear or measure. For example, if the noise level is 95 dBA and another noise source is added that produces 80 dBA noise, the noise level would still be 95 dBA. In an unconfined space, such as outdoors, noise attenuates with distance according to the inverse square law. Noise levels at a known distance from point sources are reduced by at least 6 dBA for every doubling of that distance over hard surfaces, such as asphalt, and 7.5 dBA for every doubling of that distance over soft surfaces, such as undeveloped land. Noise levels at a known distance from line sources, such as the noise from high-volume roadways, decrease at a rate of at least 3 dBA for every doubling of the distance over hard surfaces and 4.5 dBA over soft surfaces. A greater decrease in noise levels can result from the presence of intervening structures or buffers.

An important method for determining a person's subjective reaction to a new noise is by comparing it to existing conditions. The following describes the general effects of noise on people:[105]

- A change of 1 dBA cannot typically be perceived, except in carefully controlled laboratory experiments;
- A 3-dBA change is considered a just-perceivable difference;
- A minimum of a 5-dBA change is required before any noticeable change in community response is expected; and
- A 10-dBA change is subjectively perceived as approximately a 2 magnitude increase or decrease in loudness.

General Information on Vibration

Vibration is an oscillatory motion through a solid medium (versus noise which is an oscillatory motion through air) in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Several different methods are used to quantify vibration. Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal. PPV is appropriate for evaluating potential damage to buildings, but it is not suitable for evaluating human response to vibration because it takes the human body time to respond to vibration signals. The response of the human body to vibration is dependent on the average amplitude of a vibration. The RMS of a signal is the average of the squared amplitude of the signal and is more appropriate for evaluating human response to vibration. PPV and RMS are normally described in units of inches per second (in/sec), and RMS is also often described in VdB.

Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors to vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment.

[105] Salter, 1998.

Regulatory Framework

Noise standards applicable to this project are promulgated by the State of California, by the Foster City General Plan, and by the City's General Performance Standards for noise, found in the Foster City Municipal Code. The State of California provides guidance for the preparation of noise elements in general plans. In California, noise is primarily regulated at the local level, through the implementation of General Plan policies and local noise regulations. The purpose of local General Plans is to identify the general principles intended to guide land use and development, and the purpose of the regulations is to specify the standards and requirements for implementing the principles of the General Plan.

State

Sections 46000 to 46080 of the California Health and Safety Code codify the California Noise Control Act of 1973. This act established the Office of Noise Control under the California Department of Health Services. The California Noise Control Act requires that the Office of Noise Control adopt, in coordination with the Office of Planning and Research, guidelines for the preparation and content of noise elements for general plans. The most recent guidelines are contained in General Plan Guidelines, published by the California Office of Planning and Research in 2003.[106] The document provides guidelines for cities and counties to use in their general plans to reduce conflicts between land use and noise.

Foster City General Plan

The Noise Element of the Foster City General Plan[107] establishes goals, policies, and programs intended to protect the community from excessive noise. The policies applicable to the project are presented below:

> Policy N-5 — Mitigating Impacts on Surrounding Uses. Policy N-5 enumerates various measures to mitigate noise impacts on surrounding uses that could result from a proposed project. These measures include:

[106] OPR, 2003.

[107] City of Foster City, 1993.

- Screen and control noise sources such as parking, outdoor activities and mechanical equipment.
- Increase setbacks for noise sources from adjacent dwellings.
- Wherever possible do not remove fences, walls, or landscaping that serve as noise buffers, although design, safety, and other impacts must be addressed.
- Control hours of operation, including deliveries and trash pickup to minimize noise impacts.

Policy N-13 — Noise Ordinance. Policy N-13 ensures that the quantitative noise ordinance standards are applied throughout the City.

Foster City Municipal Code

The City of Foster City has established regulations in the Noise section (17.68.030) of the Municipal Code. The following sections would be applicable to the proposed project:

17.68.030(E). Prohibited Acts

4. Permitting the operation of any tools, or equipment used in construction, repair, alteration, demolition or landscape maintenance prior to 7:30 a.m. or after 8:00 p.m. on weekdays and before 9:00 a.m. or after 8:00 p.m. on weekends and legal holidays, in a residential district or within 100 yards of a residential district, or during other hours such that the noise level from a single or multiple sources exceeds 100 dBA at the producer's property plane 108 unless prior City authorization is obtained, pursuant to Section 17.68.030(F)(7).

17.68.030(F). Exemptions

7. The operation of any tools or equipment used in construction, repair, alteration, demolition, or landscape maintenance between the hours of 7:30 a.m. and 8:00 p.m. on weekdays and between the hours of 9:00 a.m. and 8:00 p.m. on weekends and legal holidays in a residential district or within one hundred yards of a residential district is allowed, subject to the following: The noise level from a single or multiple

[108] "Property plane" means an imaginary vertical plane, including the property line, that determines the property boundaries in space.

source shall not exceed 100 dBA at the producer's property plane, unless prior authorization is obtained for such activities by the director of planning and development services. Such approvals could require special mitigation measures as determined by the director of planning and development services.

17.68.040. Vibration

No vibration shall be permitted so as to cause a noticeable tremor, measurable without instruments at the lot line.

Ambient Noise and Vibration Environment

The project site is located within an Open Space and Conservation zoning district.[109] Bayfront Court, A residential area containing 154 townhouses, is located north of the project site. The Sea Cloud Phase II sedimentation basin is located south of the project site. Sea Cloud Park is located west of the project site, and Belmont Slough is located east of the project site. The project site crosses a portion of the Levee Pedway and includes part of a paved bicycle and pedestrian path connecting the Levee Pedway and residential area to Sea Cloud Park. The western end of the project site is composed of undeveloped land which abuts the edge of Sea Cloud Park and the Sea Cloud Phase II sedimentation basin.

The primary noise sources in the vicinity of the project site are: (1) traffic on Beach Park Boulevard, which runs east to west approximately 900 feet north of the project site; and (2) aircraft noise from SFO and San Carlos Municipal Airport. There are no sources of ambient vibration at the project site or its vicinity.

The General Plan indicates[110] that traffic noise along Beach Park Boulevard between Foster City Boulevard and Shell Boulevard was 62 dBA Ldn at 50 feet from the center line in 1990. Traffic noise on this section of Beach Park Boulevard was predicted to increase to 63 dBA Ldn by 2005. Because land use in the vicinity of the project site has not changed significantly since 2005, and because the additive properties of noise traffic volumes would be required to nearly double to substantially increase noise levels, these noise

[109] City of Foster City, 2014.

[110] City of Foster City, 1993.

estimates are still considered reasonable. Based on its distance from the project site, traffic along Beach Park Boulevard generates noise levels of approximately 32 dBA Ldn at the project site.[111]

Aircraft operations associated with SFO (located approximately 8.6 miles northwest of the project site) and San Carlos Airport (located 1.6 miles south of the project site) also contribute to the noise environment at the project site. The project site is located outside of Area B of both airports.[112,113] The Area B boundary of SFO includes all land exposed to aircraft noise above 65 dB CNEL or higher.[114] The Area B boundary of San Carlos Airport includes all land exposed to aircraft noise above 55 dB CNEL or higher.[115] Therefore, aircraft noise at the project site from the SFO is below 65 dB CNEL and from the San Carlos Airport is below 55 dB CNEL.

Discussion

a) *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Less than Significant (all options). Temporary increases in noise levels would be generated by dredging activities and at all five of the disposal options. Noise impacts associated with

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[111] Based on reference noise levels of 63 dBA Ldn at 50 feet, the following propagation adjustment was applied to estimate noise levels at 900 feet.

$dBA_2 = dBA_1 + 10\ Log_{10}(D_1/D_2)^{1.5}$

Where:

dBA_1 is the reference noise level at a specified distance.

dBA_2 is the calculated noise level.

D_1 is the reference distance.

D_2 is the distance from the equipment to the receiver.

(Caltrans Technical Noise Supplement, October 1998)

[112] CCAG, 2012a.

[113] CCAG, 2015.

[114] CCAG, 2012b. Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport, October.

[115] Ibid.

dredging activities and the various disposal options would be less than significant for the reasons described below. There is no potential for post-construction noise impacts because the project would not result in the addition of new permanent sources of noise at the project site (or at any of the disposal option locations).

Noise Generated During Dredging and Disposal

The proposed project would include dredging of Angelo Slough to remove up to 13,300 cubic yards of accumulated sediment (dredge material) and disposal of the dredge material. The project would also include the maintenance of the existing intake gate through in-kind replacement; the existing gate would be removed and a new gate would be installed in its place.

Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the time of day or night, the duration of noise generating activities, and the distance between construction noise sources and sensitive receptors. The construction equipment used in this project would include marine equipment for conducting dredging, and on-land equipment for conducting disposal under **Options 1 and 4**. As specified in the project description, dredging activities would be conducted between September 1 and October 31. Activities associated with the various disposal options would be conducted between September 1 and January 31. Furthermore, dredging would be limited to periods of high tide occurring during daylight work hours (between 8:00 a.m. and 5:00 p.m.) on weekdays. Taking into consideration the length of an incoming tide, the average number of working hours each day would be 6-7 hours.

The nearest sensitive receptor to the proposed project is the residential area located to the north. The shortest distance between the residential area and on-land and marine work areas are approximately 25 feet and 100 feet, respectively. Sea Cloud Park is located approximately 25 feet west of the on-land work area and 700 feet west of the marine work area. Sea Cloud Park is considered a noise receptor, but not a "sensitive" receptor because noise generally does not interfere with the ability of people to play sports, and sports activities themselves generate substantial noise (e.g., yelling and cheering).

Project Site

Only marine equipment would be used in the dredging activities. Table 8 shows the reference noise levels associated with various types of construction equipment that would be used during dredging. In addition, noise levels at 100 feet are also calculated to estimate the potential impact of the project construction activities to the nearest sensitive receptors.

TABLE 8 NOISE LEVELS FROM CONSTRUCTION EQUIPMENT USED DURING DREDGING

Equipment	Number of Unit	Reference Sound Level per Unit (dBA)	Reference Distance (feet)	Calculated Sound Level per Unit at 100 feet (dBA)
Barge pump system[1]	1	94	3	56
Backhoe[2]	1	80	50	72
Skiff[1]	2	72	50	64
Tugboat[1]	1	87	50	79

Sources: Epsilon Associates, Inc., 2006; FTA, 2006.

Note:

Assumptions
The barge pump system is similar to the high solids pump data for dredging and barging operation in Source 1.
The skiff is similar to the work boat in Source 1.
Calculation
Based on reference noise levels at 3 feet or 50 feet, the following propagation adjustment was applied to estimate noise levels at 100 feet.

$dBA_2 = dBA_1 + 10\ Log_{10}(D_1/D_2)^{2.5}$

Where:
dBA_1 is the reference noise level at a specified distance.
dBA_2 is the calculated noise level.
D_1 is the reference distance (25 feet for on-land equipment and 100 feet for in-marine equipment).
D_2 is the distance from the equipment to the receiver.
(Caltrans 1998)

Table 8 indicates that equipment used during dredging could generate noise levels of up to approximately 79 dBA at 100 feet. Based on the additive properties of noise, the

combined noise levels of the two noisiest pieces of equipment could reach approximately 80 dBA at 100 feet.[116]

As discussed above, the ambient noise levels in the vicinity of the project site are below 65 dB CNEL. Therefore, dredging activities would have the potential to temporarily increase the ambient noise levels at the nearest residential receptors. However, a typical building façade generally attenuates outdoor noise by approximately 25 dBA.[117] Therefore, indoor noise levels at the nearest residential receptors would be approximately 55 dBA. Furthermore, because dredging activities would be conducted between the weekday hours of 8:00 a.m. and 5:00 p.m., and because the noise generated by dredging activities would not exceed 100 dBA at the producer's property plane, these activities would not conflict with the City of Foster City Municipal Code. Therefore, the potential of dredging activities to expose nearby receptors to noise levels in excess of standards is less than significant.

Disposal Options

Only marine equipment would be used under **Disposal Options 2**, **3**, and **5**. Table 9 shows the noise generated by the tugboat that would be used during disposal. In addition, noise levels at 100 feet (for the residential area) are also calculated to estimate the impact of the construction activities to the nearest receptors.

TABLE 9 NOISE LEVELS FROM CONSTRUCTION EQUIPMENT USED IN DISPOSAL OPTIONS 2, 3, AND 5

Equipment	Number of Unit	Reference Sound Level per Unit (dBA)	Reference Distance (feet)	Calculated Sound Level per Unit at 100 feet (dBA)
Tugboat[1]	1	87	50	79

Source: Epsilon Associates, Inc., 2006.

Note:

[116] A general assessment of construction noise should include the two noisiest pieces of equipment expected to be used in each construction phase (Source: FTA, 2006).

[117] Salter, 1998.

Calculation

Based on reference noise levels at 50 feet, the following propagation adjustment was applied to estimate noise levels at 100 feet.

$dBA_2 = dBA_1 + 10\ Log_{10}(D_1/D_2)^{2.5}$

Where:

dBA_1 is the reference noise level at a specified distance.

dBA_2 is the calculated noise level.

D_1 is the reference distance (25 feet for on-land equipment and 100 feet for in-marine equipment).

D_2 is the distance from the equipment to the receiver.

(Caltrans, 1998)

Under **Options 2**, **3**, and **5**, the tugboat would generate a noise level of up to approximately 79 dBA at 100 feet according to Table 9. However, because the noise generated during disposal would consist of the tug boat leaving the site and heading out to San Francisco Bay, the noise exposure of the nearby receptors to tugboat generated noise would be limited in duration. Furthermore, the noise generated by the tugboat would be limited to between the weekday hours of 8:00 a.m. and 5:00 p.m., and would not exceed 100 dBA at the producer's property plane, and therefore would not conflict with the Foster City Municipal Code. Consequently, the potential of **Disposal Options 2**, **3**, and **5** to expose nearby receptors to noise levels in excess of standards is less than significant.

Both on-land and marine equipment would be used in **Disposal Option 1**. Table 10 shows the reference noise levels associated with various types of construction equipment that would be used under this option. In addition, noise levels at 25 feet (for both the residential area and Sea Cloud Park) are presented for on-land equipment, and noise levels at 100 feet (for the residential area) are presented for marine equipment to estimate the impact of the construction activities to the nearest receptors.

TABLE 10 NOISE LEVELS FROM CONSTRUCTION EQUIPMENT USED IN DISPOSAL OPTION 1

Equipment	Number of Unit	Reference Sound Level per Unit (dBA)	Reference Distance (feet)	Calculated Sound Level per Unit at 25 feet (dBA)	Calculated Sound Level per Unit at 100 feet (dBA)
Scow pump system[1]	1	76	50	NA marine	68
Backhoe[1]	1	80	50	88	NA land
Pump[1]	1	76	50	84	NA land

Source: FTA, 2006.

Notes:

NA marine – reference distance does not apply to marine equipment.

NA land – reference distance does not apply to on-land equipment.

Calculation

Based on reference noise levels at 50 feet, the following propagation adjustment was applied to estimate noise levels at 25 feet and 100 feet.

$dBA_2 = dBA_1 + 10\ Log_{10}(D_1/D_2)^{2.5}$

Where:

dBA_1 is the reference noise level at a specified distance.

dBA_2 is the calculated noise level.

D_1 is the reference distance (25 feet for on-land equipment and 100 feet for in-marine equipment).

D_2 is the distance from the equipment to the receiver.

(Caltrans, 1998)

Table 10 indicates that on-land equipment used under **Disposal Option 1** could generate a noise level of up to 88 dBA at 25 feet. Based on the additive properties of noise,[116] the combined noise levels of the two noisiest on-land pieces of equipment could reach 90 dBA at 25 feet. The scow pump systems would generate noise levels of 68 dBA at the residential receptors and 47 dBA at Sea Cloud Park.

The typical noise levels presented in Table 9 do not include noise generated by backup alarms on the heavy equipment, which would be an intermittent source of noise. Cal/OSHA requires backup warning alarms that activate immediately upon reverse movement on all vehicles that have a haulage capacity of 2.5 cubic yards or more (8 CCR). The backup alarms must be audible above the surrounding ambient noise level at a distance of 200 feet. To meet this requirement, backup alarms are often designed to emit a sound as loud as 82 to 107 dBA Lmax at 4 feet.[118] Therefore, a backup alarm of 107 dBA Lmax at 4 feet would generate a noise level of 87 dBA Lmax at the nearest receptor 25 feet from the project site.[119]

Noise generated by both on-land and marine equipment (including noise generated by backup alarms) under **Disposal Option 1** would be limited to between the weekday hours of 8:00 a.m. and 5:00 p.m., and would not exceed 100 dBA at the producer's property plane, and therefore would not conflict with the Foster City Municipal Code. Therefore, the potential of **Disposal Option 1** to expose nearby receptors to noise levels in excess of standards is less than significant.

Both on-land and marine equipment would be used under **Disposal Option 4**. Table 11 shows the reference noise levels associated with various types of construction equipment that would be used under this disposal option. In addition, noise levels at 25 feet (for both the residential area and Sea Cloud Park) are presented for on-land equipment, and noise

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[118] NCHRP, 1999.

[119] Based on reference noise levels at 4 feet, the following propagation adjustment was applied to estimate noise levels at 25 feet.

$dBA_2 = dBA_1 + 10\ Log_{10}(D_1/D_2)^{2.5}$

Where:

dBA_1 is the reference noise level at a specified distance.

dBA_2 is the calculated noise level.

D_1 is the reference distance (25 feet for on-land equipment and 100 feet for in-marine equipment).

D_2 is the distance from the equipment to the receiver.

(P.27 of Caltrans Technical Noise Supplement, October 1998)

levels at 100 feet (for the residential area) are presented for marine equipment to estimate the impact of the construction activities to the nearest receptors.

TABLE 11 NOISE LEVELS FROM CONSTRUCTION EQUIPMENT USED IN DISPOSAL OPTION 4

Equipment	Number of Unit	Reference Sound Level per Unit (dBA)	Reference Distance (feet)	Calculated Sound Level per Unit at 25 feet (dBA)	Calculated Sound Level per Unit at 100 feet (dBA)
Scow pump system[1]	1	76	50	NA marine	68
Backhoe[1]	1	80	50	NA marine	72
Excavator[2]	2	85	50	93	NA land
Rubber Tired Dozer[1]	2	85	50	93	NA land
Rubber Tired Loader[1]	2	85	50	93	NA land
Water Truck[1]	1	88	50	96	NA land
Pump[1]	1	76	50	84	NA land

Sources: FTA, 2006; FHWA, 2006.

Notes:

NA marine – reference distance does not apply to marine equipment.

NA land – reference distance does not apply to on-land equipment

Calculation

Based on reference noise levels at 50 feet, the following propagation adjustment was applied to estimate noise levels at 25 feet and 100 feet.

$dBA_2 = dBA_1 + 10\ Log_{10}(D_1/D_2)^{2.5}$

Where:

dBA_1 is the reference noise level at a specified distance.

dBA_2 is the calculated noise level.

D_1 is the reference distance (25 feet for on-land equipment and 100 feet for in-marine equipment).

D_2 is the distance from the equipment to the receiver. (Caltrans, 1998)

Table 11 indicates equipment used in this option could generate a noise level of up to 96 dBA at 25 feet. Based on the additive properties of noise,[116] the combined noise levels of the two noisiest pieces of equipment could reach 98 dBA at 25 feet. However, based on the project description, work under this option would occur along the upland collection basin adjacent to the Sea Cloud Phase II sedimentation basin, which is not included in the project site. Additionally, the north end of the upland collection basin is located 350 feet south of the residential area. Therefore, the 96 dBA estimate is conservative because it assumes the two noisiest pieces of equipment operating in the staging site adjacent to the residential receptors, whereas work would actually be occurring at least 350 feet south of the staging site. The backhoe would generate noise levels of 72 dBA at the residential receptors. In addition, a backup alarm of 107 dBA Lmax at 4 feet would generate a noise level of 87 dBA Lmax at the nearest receptor 25 feet away from the site.

Noise generated by both on-land and marine equipment (including noise generated by backup alarms) under **Disposal Option 4** would be limited to between the weekday hours of 8:00 a.m. and 5:00 p.m., and would not exceed 100 dBA at the producer's property plane, and therefore would not conflict with the City of Foster City Municipal Code. Therefore, the potential of **Disposal Option 4** to expose nearby receptors to noise levels in excess of standards is less than significant.

b) *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

Less than Significant (DO 2, 3 & 5); Less than Significant With Mitigation Incorporated (DO 1 & 4). Activities associated with **Options 2**, **3**, and **5** present no potential to generate groundborne vibration or groundborne noise. However, **Options 1** and **4** would have the potential to generate excessive groundborne vibration. Mitigation measures detailed below would reduce this potential impact to a less-than-significant level. There is no potential for post-construction vibration impacts because the project would not result in the addition of new permanent sources of vibration to the project site (or any of the disposal option locations).

Vibration Generated During Dredging and Disposal

Staging and Dredging Site

Dredging activities would involve the use of barges and scows, and dredging equipment operating off the barges and scows. Suction dredging and/or excavation equipment would be used to remove the accumulated sediment. This is not vibratory or pneumatic-type impact equipment, and therefore would not be expected to generate perceptible vibration, particularly as the dredging and excavation would occur in soft sediments. Therefore, dredging activities would not have the potential to generate groundborne vibration or noise.

Disposal Options

A tugboat would be used under **Disposal Options 2**, **3**, and **5**. This is a piece of marine equipment, and therefore it would not have the potential to generate groundborne vibration or noise.

The vibration levels generated by construction equipment that would be used under **Disposal Option 4** are summarized in Table 12. Although the table provides one vibration level for each piece of equipment, it should be noted that there is considerable variation in reported ground vibration levels from construction activities, primarily due to variation in soil characteristics. Tables 13 and 14 summarize the vibration criteria to prevent disturbance of occupants and to prevent damage to structures, respectively. In this analysis, the "Infrequent Events" criterion is applied to construction equipment because under **Disposal Option 4** the construction equipment would be primarily used within the upland collection basin adjacent to the Sea Cloud Phase II sedimentation basin. The equipment would only be moved close to the residential area when it is returned to the staging site. Therefore, it is unlikely that construction equipment would pass the residential area more than 30 times during one day.

TABLE 12 VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV at 25 Ft (in/sec)	RMS at 25 Ft (VdB)
Large bulldozer	0.089	87

Loaded trucks	0.076	86
Small bulldozer	0.003	58

Source: FTA, 2006.

TABLE 13 VIBRATION CRITERIA TO PREVENT DISTURBANCE – RMS (VDB)

Land Use Category	Frequent Events [1]	Occasional Events [2]	Infrequent Events [3]
Residences and buildings where people normally sleep	72	75	80

Source: FTA, 2006.

Notes:

1 = More than 70 vibration events of the same kind per day or vibration generated by a long freight train.

2 = Between 30 and 70 vibration events of the same kind per day.

3 = Fewer than 30 vibration events of the same kind per day.

TABLE 14 VIBRATION CRITERIA TO PREVENT DAMAGE TO STRUCTURES

Building Category	PPV (in/sec)	RMS (VdB)
Reinforced-concrete, steel or timber (no plaster)	0.5	102
Engineered concrete and masonry (no plaster)	0.3	98
Non-engineered timber and masonry buildings	0.2	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: FTA, 2006.

The nearest sensitive receptor to the proposed construction activities is the residential area located 25 feet north of the staging site. The other receptor is Sea Cloud Park, located 25 feet west of the staging site. Sea Cloud Park is not considered a receptor in the vibration analysis because construction-generated vibration does not have the potential to interfere with the ability of people to play sports.

Based on the estimated construction equipment-generated vibration levels in Table 12, vibration levels would not exceed the 0.3 PPV in/sec threshold that could result in damage to engineered concrete and masonry structures at the residential buildings closest to construction activities. However, construction-generated vibration levels could be as high as 87 RMS VdB at the residential area located within 25 feet of construction activities (Table 12), which could exceed the 80 RMS VdB Infrequent Events threshold (Table 13). To maintain vibration levels from the use of construction equipment within the staging site below the 80 RMS VdB disturbance threshold, construction equipment would need to be located approximately 44 feet from the nearest receptors. This would be feasible for the proposed project because, while the north end of the staging site is located within 25 feet of the residential receptors, the south end of the staging site is located 280 feet south of the residential receptors. Therefore, the majority of the staging site is located more than 44 feet from the residential receptors. The implementation of **Mitigation Measure NS-1-DO 1 & 4** below would require the contractor to maintain a distance of at least 44 feet between heavy construction equipment within the staging site and the residential receptors, thereby minimizing the frequency and duration of events during which residential receptors would be exposed to vibration levels above 80 RMS Vdb. Furthermore, the implementation of **Mitigation Measure NS-2-DO 1 & 4** would require the

designation of a Noise and Vibration Disturbance Coordinator to whom residents could address any complaints. Through communication with the Noise and Vibration Disturbance Coordinate, residents would be able to have any potential vibration impacts they are experiencing to be promptly addressed and/or eliminated. Therefore, the implementation of **Mitigation Measures NS-1-DO 1 & 4 and NS-2-DO 1 & 4** would reduce the potential of the proposed project to expose the nearby residential receptors to excessive vibration to a less-than-significant level.

> Mitigation Measure NS-1-DO 1 & 4*:* - Distance to Residential: To the extent feasible, the contractor will maintain a separation distance of at least 44 feet between heavy construction equipment (e.g., large trucks, large bulldozers) and the existing occupied residential units.
>
> Mitigation Measure NS-2-DO 1 & 4: - Noise and Vibration Disturbance Coordinator: The construction contractor shall designate a Noise and Vibration Disturbance Coordinator who shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of noise and vibration complaints (e.g., beginning work too early, bad muffler) and institute reasonable measures warranted to correct problems. The Noise and Vibration Disturbance Coordinator shall record all noise and vibration complaints received and actions taken in response, and submit this record to the City. A telephone number and email address for the disturbance coordinator shall be conspicuously posted at the construction site.

The vibration levels for construction equipment that could be used in **Disposal Option 1** are summarized in Table 15. Because the highest vibration levels in **Disposal Option 1** are the same as described under **Disposal Option 4** above, the vibration generated under **Disposal Option 1** would not have the potential to result in damage to structures, but could exceed the 80 RMS VdB Infrequent Events threshold at the closest residential receptors when construction equipment is operating within the northern portion of the staging site. The implementation of **Mitigation Measures NS-1 DO 1 & 4** and **NS-2-DO 1 & 4** above would reduce the potential of construction-generated vibration under **Disposal Option 1** to disturb residents to a less-than-significant level.

TABLE 15 VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV at 25 Ft (in/sec)	RMS at 25 Ft (VdB)
Large bulldozer	0.089	87
Small bulldozer	0.003	58

Source: FTA, 2006.

c) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

No Impact (all options). During the active phase of the proposed project, additional noise would be created at the site due to the equipment used in dredging and disposal of the dredged materials under **Options 1** and **4**. However, the proposed project would be completed within a limited time period and would not generate noise after the active phase is complete. Consequently, noise conditions at the site would return to existing conditions after construction. Therefore, the proposed project would not have the potential to result in a permanent increase in ambient noise levels.

d) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Less than Significant with Mitigation (all options). The use of heavy construction equipment could result in a substantial temporary and periodic increase in the ambient noise level in the vicinity of the project site. As discussed above, noise generated by project work would be limited to between the weekday hours of 8:00 a.m. and 5:00 p.m., and would not exceed 100 dBA at the producer's property plane, and therefore would not conflict with the Foster City Municipal Code. However, noise levels in the vicinity of the project site are below 65 dBA CNEL, and, under all disposal options, noise levels at the nearest residential receptors could temporarily exceed 75 dBA. A 10-dBA increase is subjectively perceived as approximately a 2 magnitude increase in loudness and is therefore potentially substantial. However, implementation of **Mitigation Measure NS-2-DO 1 & 4** above and **Mitigation Measures NS-3** below would ensure that potential noise impacts to nearby receptors are be promptly addressed and/or eliminated and would minimize construction-generated noise, and thereby reduce this potential impact to a less-than-significant level.

Mitigation Measure NS-3 (all options): - Foster City Construction Practices: The project shall comply with the following augmented Foster City Construction Practices:

- Construction activities shall be limited to the hours of 8:00 a.m. to 5:00 p.m. on weekdays unless deviations from this schedule are approved in advance by the City. Non-construction activities could take place between the hours of 7:00 a.m. and 8:00 a.m. on weekdays and 9:00 a.m. and 4:00 p.m. on Saturdays but must be limited to quiet activities and shall not include the use of engine-driven machinery.

- Signs shall be conspicuously posted at the construction site that include permitted construction days and hours, and the name and telephone number of the Noise and Vibration Disturbance Coordinator. The Noise and Vibration Disturbance Coordinator shall be trained to use a sound level meter and shall be available during all construction hours to respond to complaints.

- All internal combustion engine-driven equipment shall be fitted with intake and exhaust mufflers that are in good condition. Good mufflers shall result in non-impact equipment generating a maximum noise level of 80 dBA when measured at a distance of 50 feet.

- Construction equipment idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.

- All engine-driven construction vehicles, equipment, and pneumatic tools shall be properly adjusted and maintained.

- The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.

- The construction contractor shall locate equipment staging in areas that will create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

Less than Significant (all options). The proposed project would not introduce new residents to the site. Therefore, the proposed project would not have the potential to expose people in the project site to excessive aircraft noise.

f) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

No Impact (all options). The project site is not located within the vicinity of a private airstrip. Moreover, the project would not introduce new residents to the site. Consequently, the proposed project would not have the potential to expose people to the aircraft noise from a private airstrip.

XIII. POPULATION AND HOUSING

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	❒	❒	❒	■
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	❒	❒	❒	■
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	❒	❒	❒	■

No Impact (all options). The project would not involve construction of new homes or businesses, and would not result in the extension or construction of roads or infrastructure. There are no residential units on the site. As a result, the project would not result in the displacement of residential units nor necessitate construction of replacement housing elsewhere.

XIV. PUBLIC SERVICES

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	❒	❒	❒	■
Police protection?	❒	❒	❒	■
Schools?	❒	❒	❒	■
Parks?	❒	❒	❒	■
Other public facilities?	❒	❒	❒	■

No Impact (all options). The proposed project would not affect the provisions of fire, police, schools, parks or other public facilities as it would not affect population, employment or any public services infrastructure.

XV. RECREATION

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	❒	❒	❒	■
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	❒	■ DO 1 & 4	■ DO 2,3,5	❒

Affected Environment

The City of Foster City is served by 20 parks or approximately 103 acres of open space park land.[120] The City owns and operates a range of recreation facilities, including: Leo J. Ryan Memorial Park, Boat Park/Dog Park, Erckenbrack Park, Gull Park, Marlin Park, Catamaran Park, Farragut Park, Sea Cloud Park, Port Royal Park, Boothbay Park, and Edgewater Park. The proposed project would not affect the use of parks or recreation facilities once complete as it would not affect population, employment or any public services infrastructure. The construction would provide minor disruption to the Levee Pedways a small portion traverses the project site.

[120] City of Foster City, 2009.

Discussion

a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

No Impact (all options). The project would not be expected to increase the use of existing recreation facilities.

No residential growth would result directly or indirectly from the project, as the project consists of dredging an existing city facility to maintain water flow into the Lagoon. The project would not create new incentives or attractions that would increase use of the adjacent Sea Cloud Park or the Levee Pedway. Therefore, the project would not result in substantial or accelerated physical deterioration.

b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Less than Significant (DO 2, 3 & 5); Less than Significant with Mitigation Incorporated (DO 1 & 4). The project does not propose or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. The project would not result in any population growth or other changes in recreation demand that would trigger the need to construct or expand existing recreation facilities. The project site does include a small portion of the Levee Pedway, which is a regional recreation facility. Construction of the project could temporarily interfere with the use of the Levee Pedway if **Option 1** or **Option 4** are selected. Under these options, a temporary fixed piping system from the dredging plant would transverse the Levee Pedway to dispose of dredge material. However, **Mitigation Measure REC-1-DO 1 & 4** would reduce this to a less-than-significant impact.

> Mitigation Measure REC-1-DO 1 & 4: - Maintain Use of Levee Pedway: A temporary trench would be used to place the temporary fixed piping system below grade, allowing continued use of the Levee Pedway during construction and avoiding an impact on recreational facilities.

XVI. TRANSPORTATION/TRAFFIC

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	❒	❒	❒	■
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	❒	❒	❒	■
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	❒	❒	❒	■
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	❒	❒	❒	■
e) Result in inadequate emergency access?	❒	❒	❒	■
f) Conflict with adopted polices, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	❒	❒	❒	■

Affected Environment

No Impact (all options). The project would not cause a significant increase in traffic, resulting in inadequate emergency access or conflict with adopted policies or programs supporting alternative transportation. Traffic generated by the project would be limited to

construction vehicles (trucks) making trips to the staging area of the project site to deliver erosion control materials and workers. These trips would be a temporary change and would occur only during the construction portion of the project. No permanent changes in traffic would occur as a result of the project. The project site is not along an emergency access route, and therefore the project would not impact emergency access. The proposed project would not conflict with any policy or plan relating to alternative transportation, as the project would not build or alter any existing or planned transportation facilities or features, result in any capacity or demand changes to circulation systems, or in any way impact transportation. The project would also have no effect on air traffic patterns, therefore there is no impact.

XVII. UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	❒	❒	❒	■
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	❒	❒	❒	■
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	❒	❒	❒	■
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	❒	❒	❒	■
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	❒	❒	❒	■
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	❒	❒	❒	■
g) Comply with federal, State, and local statutes and regulations related to solid waste?	❒	❒	❒	■

Affected Environment

No Impact (all options). The proposed project would not create new sources of wastewater or expand upon any current sources of wastewater. Dredging activities would not generate wastewater, as dredge material would be removed from Angelo Slough and placed in the dredging barge (**Options 2**, **3**, and **5**) or pumped into the Sea Cloud Phase II basin or upland disposal site (**Options 1** and **4**), which would not generate waste water.

Under **Options 1** or **4**, excess water mixed in with dredge material would be passively decanted into the Lagoon and would also naturally evaporate from the disposal location. This water would not be waste water, but would be passively returned to the natural environment. The project would not exceed wastewater treatment requirements of the Regional Water Board, as no wastewater would be generated by the project, therefore no wastewater treatment would be required. No new water or wastewater treatment facilities, or an expansion of existing facilities, would be required for the proposed project. New stormwater drainage facilities would not be constructed. The proposed project would not place any new demands or increase existing demands on the water supply or sewer system, or landfill for solid waste disposal as no water will be discharged into the sewer system, no water from the water supply would be used for the project, and no materials would be disposed of at a landfill or solid waste disposal site. Therefore, federal, state, and local statutes and regulations to solid waste would not apply for the proposed project.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	❒	■	❒	❒
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	❒	❒	■	❒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	❒	■	❒	❒

Discussion

a) *Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?*

Less than Significant with Mitigation Incorporated (all options). The above analysis identifies potentially significant impacts to aesthetics, air quality, biology, hydrology and water quality, hazards, geology and soils, noise, and recreation, which could degrade the

quality of the natural environment. However, each potential impact would be mitigated to a less-than-significant level through implementation of the mitigation measures identified within in each section.

The project site is vacant; thus, the project would not eliminate important examples of major periods of California history or prehistory.

b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)*

Less than Significant (all options). Cumulatively, the project combined with other past, present, and reasonably foreseeable future projects, would result in a physical change to the west intake structure and would result in a physical change to the Sea Cloud Phase II basin and surrounding area under **Options 1** and **4**. Potentially significant impacts were identified for air quality, biology, cultural, GHG emissions, noise, and recreational resources. However, with the mitigation measures identified in this Initial Study, no significant cumulative impacts would result from the proposed project. The project analysis for each topic area included considers the cumulative effect of the proposed project. An overview of the cumulative analysis for topics identified as having less-than-significant impacts or impacts that are less-than-significant with mitigation are listed below.

c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less than Significant with Mitigation Incorporated (all options). The project would be generally consistent with State and federal requirements, as described in the preceding sections.

The following mitigation measures as mentioned above have been incorporated into the project to reduce direct and indirect adverse effects on human beings:

Mitigation Measure AES-1-DO 4: - Landscaped Berm System:

Mitigation Measure AQ-1 DO 3: - EPA Tier 3 Emission Standards

Mitigation Measure AQ-2 DO 1 & 4-: - Foster City Construction Practices: Foster City Construction Practices

Mitigation Measure CULT-1(all options): - Archaeological Deposits

Mitigation Measure CULT-2 (all options): - Human Remains

Mitigation Measure CULT-3 (all options): - Paleontological Resources

Mitigation Measure HYD-1 (all options): - Agency Permits and Approvals

Mitigation Measure HYD-2 (all options): - Sediment Sampling for Disposal

Mitigation Measure HYD-3-DO 1 & 4: - Implement Mitigation Measure HAZ-5~~-DO 1 & 4~~

Mitigation Measure HYD-4-DO 1 & 4: - Construction General Permit and SWPPP

Mitigation Measure HYD-5 (all options): - Implement Mitigation Measure HYD-1

Mitigation Measure HYD-6-DO 1 & 4: - Implement Mitigation Measure ~~HAZ~~HYD-4-DO 1 & 4

Mitigation Measure HYD-7 DO 1 & 4: - Implement Mitigation Measure ~~HAZ~~HYD-4-DO 1 & 4 and HYD-1

Mitigation Measure HAZ-1 (all options) - Health and Safety Plan

Mitigation Measure HAZ-2 (all options)*:* - Implement Mitigation Measure HYD-1

Mitigation Measure HAZ-3 (all options): - Implement Mitigation Measure HYD-2

Mitigation Measure HAZ-4-DO 1 & 4: - Sediment Sampling

Mitigation Measure HAZ-5 (all options): - Foster City Construction Practices

Mitigation Measure GEO-1 (all options): - Implement Mitigation Measure HYD-1

Mitigation Measure GEO-2-DO 1 & 4 – Implement Mitigation Measure HYD-~~3~~4-DO 1 & 4

Mitigation Measure GEO-3-DO 1 & 4 – Implement Mitigation Measure ~~HYD-3~~GEO-2-DO 1 & 4

Mitigation Measure GEO-4-DO 1 & 4 – Implement Mitigation Measure ~~HYD-3~~GEO-2-DO 1 & 4

Mitigation Measure NS-1-DO 1 & 4*:* - Distance to Residential

Mitigation Measure NS-2-DO 1 & 4: - Noise and Vibration Disturbance Coordinator

Mitigation Measure NS-3 (all options): - Foster City Construction Practices

Mitigation Measure REC-1-DO 1 & 4: - Maintain Use of Levee Pedway

These mitigation measures reduce the environmental effects which could cause substantial adverse effects on human beings, either directly or indirectly, to a less-than-significant level.

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APPENDIX A

Air Quality

Summary of Proposed Equipment and Construction Activity Assumptions

Equipment	Engine Type	Construction Activity	Quantity	Days	Hours Per Day	Round Trips per Vehicle	Miles per Round Trip
Dredging							
Barge Backhoe/Clamshell	Off-Road Equipment	Dredging	1	11	8	---	---
Worker Vehicle	On-Road Vehicle	Dredging	10	---	---	11	25
Pushboat	Marine Vessel	Barge mobilization	1	2	6	---	---
Disposal Alternative 1							
Scow Pump System	Off-Road Equipment	Disposal	1	11	8	---	---
Backhoe	Off-Road Equipment	Disposal	1	11	8	---	---
Pump	Off-Road Equipment	Disposal	1	11	8	---	---
Worker Vehicle	On-Road Vehicle	Disposal	2	---	---	11	25
Disposal Alternative 2							
Pushboat	Marine Vessel	Disposal	1	11	14	---	---
Disposal Alternative 3							
Pushboat	Marine Vessel	Disposal	1	11	20	---	---
Disposal Alternative 4							
Excavator	Off-Road Equipment	Construction of Disposal Area	2	30	8	---	---
Rubber Tired Dozer	Off-Road Equipment	Construction of Disposal Area	2	30	8	---	---
Rubber Tired Loader	Off-Road Equipment	Construction of Disposal Area	2	30	8	---	---
Water Truck	On-Road Vehicle	Construction of Disposal Area	1	30	1	---	---
Worker Vehicles	On-Road Vehicle	Construction of Disposal Area	10	---	---	30	25
Scow Pump System	Off-Road Equipment	Disposal	1	11	8	---	---
Backhoe	Off-Road Equipment	Disposal	1	11	8	---	---
Pump	Off-Road Equipment	Disposal	1	11	8	---	---
Worker Vehicle	On-Road Vehicle	Disposal	2	---	---	11	25
Disposal Alternative 5							
Pushboat	Marine Vessel	Disposal	1	11	7	---	---

Summary of Off-Road Diesel Equipment Model Parameters for Construction Emissions

Off-Road Equipment Model Input Parameters							Emission Factors							Priority Criteria Pollutants				GHGs
Off-Road Equipment	CalEEMod Equipment Reference	Quantity	Days	Hours per day	Engine Horsepower[1]	Load Factor[2]	ROG (g/bhp-hr)	NOx (g/bhp-hr)	Exhaust PM10 (g/bhp-hr)	Exhaust PM2.5 (g/bhp-hr)	CO2 (g/bhp-hr)	CH4 (g/bhp-hr)	N2O [3] (g/bhp-hr)	ROG (lbs)	NOx (lbs)	Exhaust PM10 (lbs)	Exhaust PM2.5 (lbs)	CO2eq (lbs)
Dredging																		
Barge Backhoe/Clamshell	Tractors/Loaders/Backhoes	1	11	8	98	0.37	0.5380	5.1424	0.3959	0.3643	511.3456	0.1542	0.0703	4	36	3	3	3,768
Disposal Alternative 1																		
Scow Pump System	Other Construction Equipment	1	11	8	172	0.42	0.5244	5.8176	0.3059	0.2815	503.9641	0.1520	0.0693	7	81	4	4	7,399
Backhoe	Tractors/Loaders/Backhoes	1	11	8	98	0.37	0.5380	5.1424	0.3959	0.3643	511.3456	0.1542	0.0703	4	36	3	3	3,768
Pump	Pumps	1	11	8	84	0.74	0.6100	4.4780	0.3250	0.3250	568.2990	0.0550	0.0251	7	54	4	4	6,954
Disposal Alternative 4																		
Excavators	Excavators	2	30	8	163	0.38	0.3575	4.0810	0.2008	0.1847	506.4950	0.1528	0.0697	23	267	13	12	34,779
Rubber Tired Dozer	Rubber Tired Dozer	2	30	8	255	0.40	0.6883	7.7103	0.3588	0.3301	513.3109	0.1548	0.0706	74	831	39	36	58,043
Rubber Tired Loader	Rubber Tired Loader	2	30	8	200	0.36	0.3933	5.1151	0.1745	0.1605	503.6542	0.1519	0.0693	30	389	13	12	40,201
Scow Pump System	Other Construction Equipment	1	11	8	172	0.42	0.5244	5.8176	0.3059	0.2815	503.9641	0.1520	0.0693	7	81	4	4	7,399
Backhoe	Tractors/Loaders/Backhoes	1	11	8	98	0.37	0.5380	5.1424	0.3959	0.3643	511.3456	0.1542	0.0703	4	36	3	3	3,768
Pump	Pumps	1	11	8	84	0.74	0.6100	4.4780	0.3250	0.3250	568.2990	0.0550	0.0251	7	54	4	4	6,954

Notes:

All off-road equipment assumed to be powered by diesel.

Off-Road equipment emission rates from CalEEMod, assuming construction begins in 2016.

Off-Road Construction Equipment Emissions = [quantity x total hours x hp x LF x EF]/454 g/lb

$CO2eq = CO2 \times GWP_{CO2} + CH4 \times GWP_{CH4} + N2O \times GWP_{N2O}$

CalEEMod = California Emissions Estimator Model (ENVIRON International Corporation and the California Air Districts, 2013)

lbs = pounds
g = grams
hp = horse power
bhp = brake horsepower
LF = load factor
EF = emission factor
GHGs = greenhouse gases
hr = hour

ROG = reactive organic gases
NOx = nitrogen oxides
PM10 = particulate matter less than 10 microns in diameter
PM2.5 = particulate matter less than 2.5 microns in diameter
CO2 - carbon dioxide
CH4 = methane
N2O = nitrous oxide
CO2eq - carbdon dioxide equivalent

Global Warming Potentials (GWP)

CO2	1
CH4	25
N2O	298

Source: Title 40 Code of Federal Regulations, Chapter I, Subchapter C, Part 98, Subpart A, Table A-1

[1] Default engine horsepower values from CalEEMod. These values are based on a weighted average of horsepower (by equipment population) from OFFROAD2011.

[2] Load factors are from OFFROAD2011. The load factor for pumps was reduced 33% from OFFROAD2007 (as recommended by CARB).

[3] N2O emission rate based on ratio of CH4 emission to N2O emission rate for diesel construction equipment.
EPA, 2014. *Emission Factors for Greenhouse Gas Inventories.* Table 5 - Mobile Combustion CH4 and N2O Emission Factors for Non-road Vehicles. http://www2.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf. 4 April.

Summary of On-Road Vehicle Model Parameters for Construction Emissions

On-Road Vehicle Model Input Parameters				Emission Factors					Priority Criteria Pollutants				GHGs
On-Road Vehicles	EMFAC2014 Equipment Reference	Round Trips	Miles per Round Trip	ROG (g/VMT)	NOx (g/VMT)	Exhaust PM10 (g/VMT)	Exhaust PM2.5 (g/VMT)	CO2 (g/VMT)	ROG (lbs)	NOx (lbs)	Exhaust PM10 (lbs)	Exhaust PM2.5 (lbs)	CO2eq [1] (lbs)
Dredging													
Worker Vehicles	Gasoline Light-Duty Truck	110	24.8	0.05513	0.22404	0.00243	0.00224	312.75	0.33	1.35	0.01	0.01	1902
Disposal Alternative 1													
Worker Vehicles	Gasoline Light-Duty Truck	22	24.8	0.05513	0.22404	0.00243	0.00224	312.75	0.07	0.27	0.00	0.00	380
Disposal Alternative 4													
Worker Vehicles	Gasoline Light-Duty Truck	322	24.8	0.05513	0.22404	0.00243	0.00224	312.75	0.97	3.94	0.04	0.04	5568
Water Truck	Diesel Medium-Duty Truck	30	5.00	0.20888	0.16805	0.02671	0.02556	1170.58	0.07	0.06	0.01	0.01	391

Notes:
On-Road vehicle emission rates from EMFAC2014, assuming a weighted average of vehicle types and ages for the year 2016.
Worker vehicles assumed to travel at an average speed of 55 miles per hour.
Water truck assumed to travel at an average of 5 miles per hours for 1 hour per day (totalling 5 miles per day).
Miles per round trip for workers in San Mateo County derived from CalEEMod.
On-Road Vehicle Emissions = [trips x miles x EF]/454 g/lb
EMFAC2014 = EMission FACtors 2014 model (California Air Resources Board, 2014)

lbs = pounds
g = grams
VMT = vehivle miles travelled
LF = load factor
EF = emission factor
GHGs = greenhouse gases
ROG = reactive organic gases
NOx = nitrogen oxides
PM10 = particulate matter less than 10 microns in diameter
PM2.5 = particulate matter less than 2.5 microns in diameter
CO2 - carbon dioxide
CO2eq - carbdon dioxide equivalent

[1] Carbon dioxide emissions were divided by 0.988 to account for vehicle methane and nitrous oxide emissions.
EPA, 2015. *GHG Equivalencies Calculator - Calculations and References.* http://www2.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references. Accessed 3 November. Updated October 8.

Summary of Diesel Marine Vessel Model Parameters for Construction Emissions

Off-Road Equipment Model Input Parameters									ROG			NOx			Exhaust PM10			Exhaust PM2.5			CO2	CH4	N20	Priority Criteria Pollutants				GHGs
Marine Vessel	CARB Marine Vessel Engine Reference	Quantity	days	hr/day	hp[2]	LF[1]	A[3]	UL[1]	EF[1]	F[1]	D[1]	EF[1]	F[1]	D[1]	EF[1]	F[1]	D[1]	EF[1]	F[1]	D[1]	EF[4]	EF[4]	EF[4]	ROG (lbs)	NOx (lbs)	Exhaust PM10 (lbs)	Exhaust PM2.5 (lbs)	CO2eq (lbs)
Dredging																												
Pushboat	Pushboat Propulsion Engine	1	2	5.8	1274	0.50	15	21	0.68	1.0	0.44	5.5	0.948	0.21	0.20	0.80	0.67	0.20	0.80	0.67	592	0.003	0.03	15	98	4	4	9,761
	Pushboat Auxiliary Engine	1	2	5.8	111	0.31	15	23	1.2	1.0	0.28	5.3	0.948	0.14	0.3	0.80	0.44	0.30	0.80	0.44	592	0.003	0.03	1	5	0	0	527
Disposal Alternative 2																												
Pushboat	Pushboat Propulsion Engine	1	11	14.5	1274	0.50	15	21	0.68	1.0	0.44	5.5	0.948	0.21	0.20	0.80	0.67	0.20	0.80	0.67	592	0.003	0.03	200	1349	53	53	134,218
	Pushboat Auxiliary Engine	1	11	14.5	111	0.31	15	23	1.2	1.0	0.28	5.3	0.948	0.14	0.3	0.80	0.44	0.30	0.80	0.44	592	0.003	0.03	17	67	4	4	7,250
Disposal Alternative 3																												
Pushboat	Pushboat Propulsion Engine	1	11	19.7	1274	0.50	15	21	0.68	1.0	0.44	5.5	0.948	0.21	0.20	0.80	0.67	0.20	0.80	0.67	592	0.003	0.03	272	1834	72	72	182,537
	Pushboat Auxiliary Engine	1	11	19.7	111	0.31	15	23	1.2	1.0	0.28	5.3	0.948	0.14	0.3	0.80	0.44	0.30	0.80	0.44	592	0.003	0.03	23	90	5	5	9,860
Disposal Alternative 5																												
Pushboat	Pushboat Propulsion Engine	1	11	7.0	1274	0.50	15	21	0.68	1.0	0.44	5.5	0.948	0.21	0.20	0.80	0.67	0.20	0.80	0.67	592	0.003	0.03	96	647	25	25	64,425
	Pushboat Auxiliary Engine	1	11	7.0	111	0.31	15	23	1.2	1.0	0.28	5.3	0.948	0.14	0.3	0.80	0.44	0.30	0.80	0.44	592	0.003	0.03	8	32	2	2	3,480

Notes:
All marine vessels assumed to be powered by diesel.
The engine deterioration factor for ROG assumed to equal the engine deterioration factor for hydrocarbons.
Emissions factor units = g/hp-hr
Criteria Pollutant Emissions = [EF x F x (1 + D x A/UL) x hp x LF x hr)]/454 g/lbs
GHG emissions = [EF x hp x LF x hr)]/454 g/lbs
CO2eq = CO2 x GWP_{CO2} + CH4 x GWP_{CH4} + N2O x GWP_{N2O}

lbs = pounds
g = grams
hp = horse power
hr = hour
EF = emission factor
F = fuel correction factor
D = deterioration factor
LF = load factor
A = engine age
UL = useful life

ROG = reactive organic gases
NOx = nitrogen oxides
PM10 = particulate matter less than 10 microns in diameter
PM2.5 = particulate matter less than 2.5 microns in diameter
CO2 - carbon dioxide
CH4 = methane
N2O = nitrous oxide
CO2eq - carbdon dioxide equivalent
GHGs = greenhouse gases

Assumed Tugboat Travel Logistics to Disposal Sites

Disposal Alternatives	Miles Round Trip	Average Speed of Tugboat (mph)[5]	Hours per Round Trip
Dredging	40	6.9	5.8
Alternative 2	100	6.9	14.5
Alternative 3	136	6.9	19.7
Alternative 5	48	6.9	7.0

Global Warming Potentials (GWP)

CO2	1
CH4	25
N2O	298

Source: Title 40 Code of Federal Regulations, Chapter I, Subchapter C, Part 98, Subpart A, Table A-1

[1] Load factors, engine age, useful life, emissions factors, fuel correction factors, and engine deterioration factors derived from the CARB's (2007) *Emissions Estimation Methodology for Commercial Harbor Craft Operating in California.*

[2] Average engine horsepower and age derived from CARB's (2004) *Statewide Commerical Harbor Craft Survey* .

[3] Unmitigated engine emissions are based on EPA 2007 certified Tier 2 engines.

[4] GHG emissions factors derived from EPA's (2014) *Emission Factors for Greenhouse Gas Inventories* . The emissions factors were converted from g/gal to g/hp-hr using CARB's (2007) brake specific fuel consumption rate of 0.058 gal/hp-hr for commerical harbor craft.

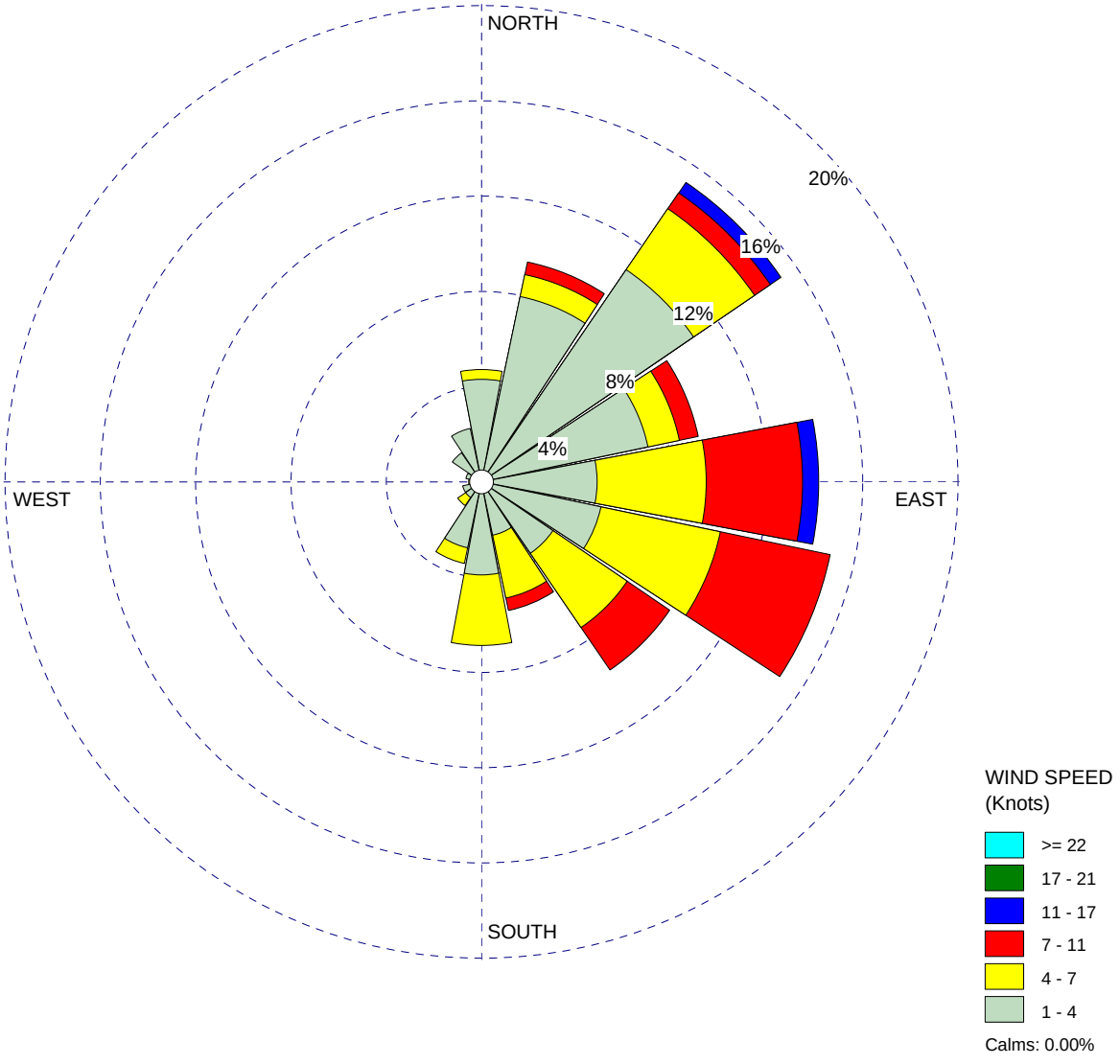
[5] Average round trip pushboat speed (6 knots [6.9 mph]) based on a 1200 hp pushboat transporting a barge with a 12-foot draft (approximately 1,200 yards of dredge materials).

WIND ROSE PLOT:

Station #6801

DISPLAY:

Wind Speed
Flow Vector (blowing to)



COMMENTS:	DATA PERIOD: **Start Date: 10/1/2005 - 00:00** **End Date: 10/31/2005 - 23:00**	COMPANY NAME:	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **744 hrs.**	
	AVG. WIND SPEED: **4.24 Knots**	DATE: **12/22/2015**	PROJECT NO.:

URBAN PLANNING PARTNERS INC.

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MEMORANDUM

DATE: September 16, 2016

TO:
Curtis Banks, Community Development Director
City of Foster City
Kohar Kojayan, Planning Manager
City of Foster City

FROM:
Lynette Dias, Principal
Brianna C. Bohonok, Project Manager
Urban Planning Partners, Inc.

RE: Responses to Comments (RTC) on the Dredging at Lagoon Intake Structure IS/MND

This Response to Comments Memorandum (RTC Memo) has been prepared to document responses to comments received on the Draft Initial Study with Mitigated Negative Declaration (IS/MND) prepared for the proposed Dredging at Lagoon Intake Structure project (State Clearinghouse #2016052002). The Draft IS/MND identifies the likely environmental consequences associated with the implementation of the proposed project, and recommends mitigation measures to reduce potentially significant impacts to a less-than-significant level.

This RTC Memo includes: (1) a short description of the environmental review process, (2) a discussion presenting the comments that were received on the Draft IS/MND and responses to those comments, and (3) text revisions to the Draft IS/MND in response to the comments received and/or to clarify material in the document.

Although not explicitly required by CEQA, a response to comments has been provided to clearly address comments on the draft document. This RTC Memo, together with the Final IS/MND document, constitutes the Final IS/MND for the proposed Dredging at Lagoon Intake Structure project.

A. ENVIRONMENTAL REVIEW PROCESS

According to CEQA, lead agencies are required to consult with public agencies having jurisdiction over a proposed project and to provide the general public with an opportunity to comment on the Draft IS/MND. Foster City circulated a Notice of Completion (NOC) that briefly described the proposed project and the environmental topics that were evaluated in the Draft IS/MND. The Draft IS/MND was published and

submitted to the State Clearinghouse on April 29, 2016. The 30-day public comment period lasted from May 2, 20016 to May 31, 2016. The Draft IS/MND was sent to responsible and trustee agencies, organizations, and interested individuals. The Draft IS/MND was also sent to the State Clearinghouse.

One public hearing for the project was held on May 19, 2016 in conjunction with the Planning Commission meeting. No written or verbal comments were received by the City on the Draft IS/MND at the public hearing. Members of the public did inquire about project details relating to disposal options 1 and 4, and these questions were addressed verbally at the meeting. For reference, minutes from the public hearing are included in Attachment A.

Comments on the Draft IS/MND were received from the California State Lands Commission (CSLC). The comment letter is included in this memo. No members of the public provided any written or verbal comments on the Draft IS/MND.

B. WRITTEN COMMENTS

During the 30-day comment period, the City received written comments from one agency. This memorandum includes a reproduction of the written comment letter in its entirety received on the Draft IS/MND. Written responses to each comment are provided.

The following agencies and individuals submitted written comments.

State, Local and Regional Agencies		
1	California State Lands Commission (CSLC)	May 31, 2016

C. RESPONSES

Written responses to all comments on the Draft IS/MND are provided in this section. The letter received from the CSLC is provided in its entirety, and is immediately followed by a response keyed to the specific comment. Responses follow the numeration of comments in the letter. Where noted, specific comments do not raise environmental issues or relate to the adequacy of the information or analysis within the Draft IS/MND, therefore, no response is required per *CEQA Guidelines* Section 15132.

CALIFORNIA STATE LANDS COMMISSION
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Established in 1938

May 31, 2016

File Ref: SCH # 2016052002

Kohar Kojayan
City of Foster City
610 Foster City Boulevard
Foster City, CA 94404

Subject: Mitigated Negative Declaration (MND) for Dredging at Lagoon Intake Structure Project, San Mateo County

Dear Ms. Kojayan:

The California State Lands Commission (CSLC) staff has reviewed the subject MND for the Lagoon Intake Structure Project (Project), which is being prepared by Foster City (City). The City, as the public agency proposing to carry out the Project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The CSLC is a trustee agency for projects that could directly or indirectly affect sovereign lands and their accompanying Public Trust resources or uses. Additionally, because the Project involves work on sovereign lands, the CSLC will act as a responsible agency.

CSLC Jurisdiction and Public Trust Lands

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subd. (c), 6301, 6306). All tidelands and submerged lands, granted or ungranted as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands in trust for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or

artificial accretion or where the boundary has been fixed by agreement or a court. On navigable non-tidal waterways, including lakes, the State holds fee ownership of the bed of the waterway landward to the ordinary low water mark and a Public Trust easement landward to the ordinary high water mark, except where the boundary has been fixed by agreement or a court. Such boundaries may not be readily apparent from present day site inspections.

Angelo Slough and Belmont Slough at the Project location include State-owned sovereign land. Therefore, a lease from the CSLC will be required for the Project. Additionally, please note that Angelo Slough and Belmont Slough may lie in an area that is subject to a public navigation easement. This easement provides that members of the public have the right to navigate and exercise the incidences of navigation in a lawful manner on State waters that are capable of being physically navigated by an oar or motor-propelled small craft. Such uses may include, but not be limited to, boating, rafting, sailing, rowing, fishing, fowling, bathing, skiing, and other water-related public uses. The proposed Project must not restrict or impede the navigational easement right of the public.

The proposed dredging disposal site adjacent to Alcatraz Island (Option 5 Disposal Site) does not appear to require a lease from the CSLC.

This determination is without prejudice to any future assertion of State ownership or public rights, should circumstances change, or should additional information come to our attention. This letter is not intended, nor should it be construed as, a waiver or limitation of any right, title, or interest of the State of California in any lands under its jurisdiction.

Project Description

The City proposes to dredge at the Foster City Lagoon (Lagoon) intake structure in Angelo Slough (connecting to Belmont Slough as seen in Figure 2) to meet the agency's objectives and needs (pages 20-21 of MND) as follows:

- Remove and dispose of sediment material currently obstructing the west Lagoon intake structure; and
- Restore the existing west Lagoon intake structure to its original, intended function of transmitting water from Belmont Slough into the Lagoon, including in-kind replacement of the intake gate.

From the Project Description, CSLC staff understands that the Project would include the following components.

- Dredging. The proposed Project area of approximately 1.73 acres would be dredged to an elevation of -6.062 feet mean lower low water (MLLW) along the centerline of the channel within Angelo Slough. Approximately 11,250 cubic yards of accumulated sediment below the mean high tide line and below the mean high water line within Angelo Slough would be dredged. Due to a 1-foot over dredge depth allowance, the total amount of dredged material could reach 13,300 cubic yards.

- Grade Angelo Slough's Bank Area. Angelo Slough's bank area (intake channel) would be graded to a 4:1 slope that would only be visible during low tide.
- Replace West Lagoon Intake Structure's Gate. The existing west Lagoon intake structure's intake gate would be replaced with a new in-kind gate.
- Five Disposal Sites. Figure 4 of the MND identifies five potential disposal sites for the dredged material. Sites 1 and 4 are located adjacent to the dredging area, and sites 2, 3, and 5 are located off-site, requiring use of a barge and tow boat to transport the dredged material through San Francisco Bay to these sites.

Environmental Review

CSLC staff requests that the City consider the following comments on the Project MND.

General Comments

1. CSLC Lease Authorization: CSLC staff requests that the CSLC be added to the list of Responsible Agencies (page 26 of MND) and the MND discussion of jurisdiction (page 12 of MND, paragraph 2), because a lease is required for proposed Project activities within the CSLC's jurisdiction (Angelo Slough and Belmont Slough).

2. Intake Structure Replacement Gate: CSLC staff requests that additional information be included on how the intake structure's intake gate would be replaced with a new in-kind gate, what possible environmental impacts could occur, and how and where the old intake gate would be disposed of or recycled.

Biological Resources

3. State and Federal Agency Consultation: Please update the biological resources section of the MND to discuss consultation with the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service, and identify any required or recommended mitigation measures.

4. Invasive Species: One of the major stressors in California waterways is introduced species. Therefore, the MND should consider the Project's potential to encourage the establishment or proliferation of non-native aquatic invasive species (AIS), such as snails, clams, and aquatic and terrestrial plants. These types of AIS can be transported to the Project area via construction equipment and watercraft that have been in contact with other infested waterways. AIS can be transported and introduced via biofouling of watercraft and construction equipment that has not been cleaned, drained, and dried. If the analysis in the MND finds potentially significant AIS impacts, possible mitigation could include contracting with vessels and barges from nearby the Project area, requiring contractors to perform a certain degree of hull-cleaning, and ensuring that all construction equipment and watercraft are cleaned, drained, and dried prior to contact with Project area waterways and following completion of construction activities. The CDFW's Invasive Species Program could assist with this analysis as well as with the development of appropriate mitigation (see https://www.wildlife.ca.gov/Conservation/Invasives).

In addition, in order to protect at-risk fish species, the MND should examine if any elements of the Project (e.g., vegetation removal, sediment removal, etc.) would favor non-native species within the Project area waterways.

Cultural Resources

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5. Compliance with Assembly Bill (AB) 52: The MND does not discuss how it complies with AB 52, effective July 1, 2015. CSLC staff requests that the MND include the following impact question, "Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code section 21074?" to the Cultural Resources Checklist (page 111 of MND). See "question c" on page 3-36 as an example at www.slc.ca.gov/Info/Reports/Mohave/3.5.pdf. CSLC staff also requests that the adopted MND address this question and explain if and how appropriate tribes were consulted to comply with AB 52.

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6. Submerged Resources: Even though it is stated on page 111 of the MND that a cultural resources study was completed for the Project site in October 2015, it is not clear whether the CSLC-maintained shipwrecks database was checked for this analysis. The database includes known and potential vessels located on the State's tide and submerged lands; however, the locations of many shipwrecks remain unknown. CSLC staff requests that the City contact Assistant Chief Counsel Pam Griggs (see contact information below) to obtain shipwrecks data from the database, and check CSLC records for the Project site. Please note that any submerged archaeological site or submerged historic resource that has remained in State waters for more than 50 years is presumed to be significant.

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7. Title to Resources: CSLC staff recommends the following additions to Mitigation Measures CULT-1 and CULT-3 (pages 112-114 of MND):

   a) Require notification of CSLC within 72 hours should any paleontological, archaeological, historic, or cultural resources be discovered on State lands during Project construction;

   b) State that title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California are vested in the State and under the jurisdiction of the CSLC (Pub. Resources Code, § 6313); and

   c) Include the following statement, "The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the CSLC must be approved by the Commission."

   Mitigation Measure CULT-2 should require notification of CSLC within 24 hours should any human remains be discovered on State lands during Project construction. Mitigation Measures CULT-1, CULT-2, and CULT-3 should list CSLC Assistant Chief Counsel Pam Griggs (see contact information below) as the point of contact should any paleontological, archaeological, historic, or cultural resources or human remains be discovered on State lands during Project construction.

Greenhouse Gases

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8. The greenhouse gas (GHG) emissions analysis in the MND identifies that the Bay Area Air Quality Management District (BAAQMD) does not have an adopted threshold for GHG emissions for construction activities, which includes the barge transportation routes for disposal option sites two, three, and five. The analysis does not include any discussion on consultation with the BAAQMD or justification for using the GHG threshold for Project operational emissions against Project construction emissions. Please update the MND to include additional supporting information for concluding that Project construction GHG emissions are less than significant, and whether the BAAQMD is supportive of this conclusion.

Recreation

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9. Public Access During Construction: CSLC staff requests that the following public access concerns during proposed construction be discussed in the MND's Recreation section (page 192 of MND):

   a) Angelo and Belmont Slough Access: Please explain how Angelo Slough and Belmont Slough are currently being used by the public and how these uses might be impeded during Project construction (see CSLC Jurisdiction and Public Trust Lands section above);

   b) Levee Pedway Access: Please explain how the current use of Levee Pedway (Bay Trail and Belmont Slough Trail as explained on page 9 of MND) might be impacted by Project-related activities since the Levee Pedway trailhead is located within the staging site, and can be accessed from the west by the multi-use path that connects the trail to Sea Cloud Park and from the north (page 12 of MND); and

   c) Sea Cloud Park Access: Please explain how the Bayfront Court residents would be able to access Sea Cloud Park, when the area that connects them to the park is being used as a staging area (Figure 3 of MND).

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10. Mitigation Measures: CSLC staff requests that appropriate mitigation measures be included to avoid possible recreational impacts. Mitigation measures should include, but not be limited to the following measures:

   - Placement of notices at the Project site prior to construction, informing the public of when the Project site will have restricted public access; and
   - Placement of notices at recreation sites surrounding the Project site (Bay Trail, Levee Pedway Trail, Belmont Slough Trail, etc.), informing the public of when these sites may have restricted public access due to Project construction.

Water Quality

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11. The water quality analysis for potential dredging impacts identifies that impacts are expected to be less than significant due to conformance with other agency permit requirements (SWPPP, NPDES, Section 401, etc.). Please update the analysis to

include specific BMPs and/or turbidity barriers as mitigation measures to reduce impacts. CSLC staff also requests that the following items be discussed and analyzed in the water quality section of the MND (these items may be required as a condition of lease approval):

- A suitability letter from the Dredged Material Management Team for the sediment proposed to be dredged; and
- Results of a sediment characterization study for the Project site.

Mitigation and Monitoring Program

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12. The MND does not include a Mitigation and Monitoring Program (MMP) table for all identified mitigation measures in the MND. Public agencies are required to prepare a MMP when adopting an MND, in order to mitigate or avoid significant environmental effects (Pub. Resources Code, § 21081.6). CSLC staff requests that a MMP table be included in the MND, in order to facilitate CSLC staff's review of which mitigation measures (MMs) apply to the portions of the Project under the CSLC's jurisdiction

Thank you for the opportunity to comment on the MND for the Project. As a responsible and trustee agency, the CSLC will need to rely on the adopted MND for the issuance of any new lease as specified above and, therefore, we request that you consider our comments prior to adoption of the MND.

Please send copies of future Project-related documents, including electronic copies of the adopted MND, MMP, and Notice of Determination, when they become available, and refer questions concerning environmental review to Afifa Awan, Environmental Scientist, at (916) 574-1891 or via e-mail at Afifa.Awan@slc.ca.gov. For questions concerning archaeological or historic resources under CSLC jurisdiction, please contact Assistant Chief Counsel Pam Griggs at (916) 574-1854 or via e-mail at Pamela.Griggs@slc.ca.gov. For questions concerning CSLC leasing jurisdiction, please contact Al Franzoia, Public Land Management Specialist, at (916) 574-0992 or via e-mail at Al.Franzoia@slc.ca.gov.

Sincerely,

Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
A. Awan, CSLC
L. Calvo, CSLC
A. Franzoia, CSLC
P. Griggs, CSLC

Letter 1
California State Lands Commission (CSLC)
Cy R. Oggins, Chief, Division of Environmental Planning and Management
May 31, 2016

Response 1. The CSLC has been added to the list of responsible agencies and to the IS/MND discussion of jurisdiction. An application for lease of State lands for the project was submitted on April 26, 2016. No further response is necessary.

Response 2. The intake gate will be replaced after dredging is completed, but within the work window and project timeline identified in the IS/MND. The replacement will occur within the project footprint identified in the IS/MND. Construction equipment would be positioned on the concrete platform above the intake gate, east of the Levee Pedway. Equipment required to replace the intake gate would be similar to equipment identified for dredging material disposal under Option 1 or Option 4, such as a backhoe. This equipment has been captured in the IS/MND analysis. Foster City's Standard Construction Practices, as identified in the IS/MND, are sufficient to avoid any significant impacts that could result from the replacement of the intake gate.

Once removed, the broken intake gate will be disposed of at the contractor's discretion, which may include recycling at Recology's San Carlos location.

Response 3. The project was reviewed by the Dredge Material Management Office (DMMO) to determine if the dredge material was suitable for beneficial reuse. The DMMO generally reviewed and commented on where and how the project would be implemented, potential impacts, and consultation requirements with respect to each specific agency involved in the DMMO. Agencies include the California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), California State Lands Commission (CSLC), San Francisco Bay Conservation and Development Commission (BCDC), US Environmental Protection Agency (US EPA), US Army Corps of Engineers (USACE), US Fish and Wildlife Service (USFWS), and National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS).

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA requires consultation with CDFW on projects or actions that could result in the "take" of a species as defined by CESA. Mitigation measures were provided in the IS/MND and the project was designed, considering comments from DMMO, to avoid "take" of a state and federal listed species. As a result, "take" of state listed species was avoided and consultation with the CDFW pursuant to CESA was not warranted.

USACE determined the project "may affect but is not likely to adversely affect" Ridgway's Rail (Rallus obsoletus), Salt marsh harvest mouse (Reithrodontomys raviventris) and Western Snowy Plover (Charadrius alexandrinus nivosus). USACE also initiated an ESA Section 7 Informal Consultation with the USFWS on April 14, 2016. The consultation is pending. Once the consultation is complete the permittee

will incorporate all required and recommended permit measures, where practicable, into the project design.

The USACE determined the project "may affect but is not likely to adversely affect" Central California Coast steelhead (Oncorhynchus mykiss) and North American green sturgeon (Acipenser medirostris). In addition, the USACE determined the project "may adversely affect" Essential Fish Habitat (EFH) protected under the Magnuson-Stevens Fishery Conservation and Management Act. The USACE initiated an ESA Section 7 Informal Consultation and consultation with the National Marine Fisheries Service pursuant to the Magnuson-Stevens Fishery Conservation and Management Act for potential adverse effects to EFH with the NMFS on April 14, 2016. The consultation is pending. Once the consultation is complete the Permittee will incorporate all required and recommended permit measures, where practicable, into the project design.

The April 14, 2016 consultation letters submitted to the USFWS by the USACE are included as Attachment B.

Response 4. Federal Executive Order 13112, Invasive Species, works to prevent the introduction of invasive species, and to provide control for the spread of invasive species that have already been introduced. This law prohibits the federal government from the following: "authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions." As described below, the project alternatives are not expected to cause the introduction or substantial spread of invasive nonnative plants or wildlife.

Under all alternatives, dredging vessels are likely to come from local sources that are currently being used for similar projects within the San Francisco Bay, San Pablo Bay or Suisun Bay (collectively called the "Bay"). Any organisms growing or clinging to the hull of such equipment, invasive or native, will have likely come from the Bay. Therefore, equipment sourced from the Bay would not be expected to substantially increase the spread of invasive nonnative species. The possibility for use of vessels in the dredging operations originating from outside the Bay is extremely remote. All requirements of Federal Order 13112 will be applied to any vessel originating from outside the Bay to prevent introduction or spread of aquatic invasive species.

If dredging vessels come from areas outside of the Bay, there is the potential that aquatic invasive species could be introduced from the ballast water of vessels, if ballast water is released in San Francisco Bay. The United States Coast Guard has mandatory regulations in effect that require ships carrying ballast water to have a ballast water management and reporting program in place and, without jeopardizing the safety of the crew, exchange ballast water with mid-ocean water or use an approved form of ballast water treatment, prior to releasing any ballast water in a port in the United States. Dredge equipment would

comply with these regulations, as applicable. Therefore, ballast water from equipment sourced from the Bay would not be expected to substantially increase the spread of invasive nonnative species.
Under all alternatives, impacts on special-status species, critical habitat, and commercially valuable marine species from localized and temporary disturbances of benthic habitat would be less than significant.

Response 5. A cultural resource study was completed for the project, and included archival research and tribal consultation. Archival research found that there has been one previous cultural resources survey that contains a portion of the project area, and no cultural resources were identified. There has been one cultural resource survey within a one-quarter mile radius from the project site, and no cultural resources were observed. There are no cultural resources within a one-mile radius of the study area.

The following tribes were consulted in compliance with AB 52: The State of California's Native American Heritage Commission, Amah/Mutsun Tribal Band, Costanoan Rumsen Carmel Tribe, Indian Canyon Mutsun Band of Costanoan, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, The Ohlone Indian Tribe, Trina Marine Ruano Family, Jakki Kehl, Katherine Erolinda Perez, Linda G. Yamane were contacted in writing. A log of contact efforts is provided at the end of this memo (Attachment C).

The IS/MND uses the current CEQA Guidelines checklist (CEQA Appendix G: Environmental Checklist Form).

Response 6. The project site consists of a man-made channel constructed in the early 1970's. Prior to this, the channel was not navigable. Maintenance dredging of the intake channel was last performed in 1978, at which time no shipwrecks were identified or encountered. Due to the nature of the fill in the channel, the channel's history of dredging, and the absence of any known shipwreck in the channel since that time, it is considered virtually impossible that a shipwreck could be present. Additionally, since the channel was constructed less than 50 years ago, there is virtually no possibility that a shipwreck that has remained in State waters for more than 50 years could be present or that accidental discovery could occur.

As required by Mitigation Measure CULT-1 (all options) as amended in this memo, if any archaeological deposits are encountered during dredging, work will be halted until the CSLC has been notified, and title to all abandoned shipwrecks are understood to be under the jurisdiction of the CSLC (please see Response 7, below for additional provisions).

As the mitigation measures identified in the IS/MND, as amended, remain sufficient to reduce all potential impacts to a less-than-significant level, no further response is required.

Response 7. Mitigation measures CULT-1 through CULT-3 are amended to include notification of the CSLC within a specified time frame in the event that human remains, archaeological resources, paleontological resources, or historic resources are discovered on State lands during the project. Mitigation Measure CULT-1 is amended to acknowledge the CSLC's jurisdiction over resources, including abandoned shipwrecks, located on State lands. Additionally, the final disposition of resources discovered on State

lands will be subject to the approval of the CSLC. For the full text revisions to CULT-1 through CULT-3, please see section D, Text Revisions.

Response 8. As stated in Section I, *Greenhouse Gas Emissions*, the Bay Area Air Quality Management District (BAAQMD) has not developed a threshold of significance for evaluating GHG emissions from construction because these emissions represent a relatively small portion (less than two percent) of the overall GHG emissions inventory in the Bay Area. In other words, the BAAQMD considers construction emissions of GHGs to be less than significant.

The BAAQMD only recommends estimating GHG emission to disclose the GHG levels. The purpose of estimating the amortized GHG emissions during construction over the operational lifespan of the project was to disclose the emission levels (as recommended by BAAQMD) and to compare the levels to the BAAQMD's operational threshold to further demonstrate how the relatively short-term and low levels of GHG emissions would have a less-than-significant impact on global climate change. The comparison of amortized GHG levels to the BAAQMD's operation threshold is only provided for informational purposes and additional consultation with the BAAQMD regarding the approach to analysis is not necessary.

Response 9. Public access will be maintained during construction, as follows:

9.a. Angelo and Belmont Slough Access. Both of the sloughs are currently accessible via the San Francisco Bay (Bay) only. There is no public access to the sloughs within Foster City. During project construction, recreational users would not be prevented from accessing the sloughs via the Bay. There will continue to be no public access to the sloughs from Foster City.

9.b. Access to the Levee Pedway during construction is detailed in the IS/MND under Section XV, *Recreation*, item b). Mitigation Measure REC-1-DO 1 & 4 will ensure that access and use of the Levee Pedway is maintained during construction. Please refer to this section of the IS/MND for additional details.

9.c. During construction, access from Sea Cloud Park to Bayfront Court will continue as usual. The staging area will be used for equipment storage and access to the dredging site; however the paved pathway connecting Bayfront Court to the park will not be obstructed.

Response 10. Mitigation measure REC-1-DO 1 & 4: *Maintain Use of Levee Pedway* has been developed to ensure that public access to recreational facilities will not be restricted during construction and that no significant impacts relating to recreational facilities will result from the project. Public recreational facilities will not have restricted access during project construction, as access to Sea Cloud Park, the Levee Pedway, and the Lagoon will be maintained. While the San Francisco Bay (Bay) is a public recreational facility, no access to the Bay exists in the project vicinity, and therefore access to the Bay will not be impacted by the project. No further response is required.

Response 11. This question and response cover three topics: turbidity, dredge material suitability, and sediment characterization. Responses are provided individually below.

Turbidity:
For details on turbidity barriers, please refer to the discussion under section VI, Hydrology and Water Quality, which states that dredging has the potential to release sediments (and potentially contaminants which may be entrained in the sediments) directly into surface water, which would result in a potentially significant impact. Mitigation Measure HYD-1 specifically refers to the use of physical barriers (e.g., silt curtains) to prevent potential localized impacts to water quality.

As stated in the IS/MND, the proposed dredging could result in an increase in turbidity and siltation that in the worst case could stress respiratory function in fish. Green sturgeon and longfin smelt would not be likely to suffer adverse impacts from increased turbidity as both are species that occur in deeper portions of the water column and are adapted to higher levels of turbidity. Because this project is relatively minor and turbidity would be localized and temporary, no BMP's to minimize turbidity from dredging are suggested. The measures included under Mitigation Measure HYD-1 are sufficient to ensure impacts will be less than significant.

Under all alternatives, impacts on special-status species, critical habitat, and commercially valuable marine species from localized and temporary turbidity would be less than significant.

DMMO Suitability Letter:
In a letter from the USACE dated June 2, 2016, the DMMO recommended that the sediment proposed for dredging from the Foster City Lagoon Intake Structure Channel is suitable for unconfined aquatic disposal at the Cullinan Ranch Tidal Restoration Project site. A copy of this letter is included in Attachment D.

Results of Sedimentation Characterization:
Sediment samples were collected at five locations throughout the dredging area footprint. Subsamples from each location were combined with like subsamples to form a single composite sample that represented the material to be dredged.

This composite sample was analyzed for grain size distribution, total solids, total organic carbon, metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and zinc), chlorinated pesticides, PCB congeners, PAH compounds and polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans (dioxins/furans or PCDDs/PCDFs).

The composite sediment sample was also subjected to 10-day solid phase toxicity testing using an amphipod (Ampelisca abdita) and a polychaete worm (Neanthes arenaceodentata). Additional testing on the sediment composite sample to further assess wetland restoration "beneficial reuse" included a Modified Elutriate Test (MET). Chemical analyses (metals and total suspended solids) and an acute mysid bioassay were performed on the MET extracts to assess return water characteristics.

The Sampling Analysis Results (SAR) and supplemental information to the SAR found that chemical concentrations in the site sediments were similar to or below threshold values established for the Cullinan Ranch Tidal Restoration Project site and there was no evidence of toxicity to benthic organisms.

Furthermore, the discharge of decant water after placement of the sediments at the Cullinan Ranch Tidal Restoration Project site, should not exceed any water quality objectives.

Response 12. A Mitigation Monitoring and Reporting Program has been completed for the project in compliance with PRC 21081.6 and is included as an attachment to the Final IS/MND.

D. TEXT REVISIONS

This RTC Memo presents specific revisions to the text of the Draft IS/MND that were initiated by City staff for the purpose of responding to comments received on the draft and clarifying or correcting material from the draft. The page and paragraph (or mitigation measure) are noted, followed by the appropriate revision.

Added text is indicated with underlined text. Deletions to text in the Draft IS/MND are shown with ~~strikeouts~~. Page numbers correspond to the page numbers of the Final IS/MND. Revisions presented in this RTC Memo do not significantly alter the conclusions or findings of the Draft IS/MND.

Page 12, paragraph 2 is revised as follows:

> The dredging would take place below the high tide line and mean high water line within Angelo Slough. The entire 2.78-acre dredging site is composed of jurisdictional waters of the United States (U.S.) and State lands (submerged lands), and is a mostly unvegetated intertidal area surrounded by salt marsh vegetation. Dredging activity would occur within approximately 1.73 acres of the 2.78-acre dredging site, mostly in the unvegetated intertidal area. Figure 2 shows the 1.73-acre area in which the dredging would take place.

Page 26, Project Approvals Table is revised as follows:

Lead Agency	Permit/Approval
City of Foster City	Adoption of Mitigated Negative Declaration
City of Foster City	Construction contract approval
City of Foster City	Construction permits, grading permit, and building permit
Responsible Agencies	
San Francisco Bay Regional Water Quality Control Board (Regional Water Board)	National Pollutant Discharge Elimination System, Section 401
DMMO	Consolidated Dredge Material/Disposal
USACE	Section 404
U.S. Fish and Wildlife Service (USFWS)	Biological Opinion

San Francisco Bay Conservation and Development Commission (BCDC)	Shoreline Improvements Permit
CSLC	Lease of State lands

Page 112 to 113, Mitigation Measure CULT-1 is revised as follows:

Mitigation Measure CULT-1 (all options): – Archaeological Deposits: In keeping with the CEQA guidelines, if archaeological ~~remains~~ resources are uncovered, work at the place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds (Section 15064.5 [f]).

If archaeological resources or any cultural resources are uncovered on State lands during the project, the California State Lands Commission (CSLC) shall be notified within 72 hours. The point of contact shall be Assistant Chief Counsel Pam Griggs. Title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or within the tidal and submerged lands of California are under the jurisdiction of the CSLC. Therefore, the final disposition of archaeological or historical resources recovered on State lands under the jurisdiction of the CSLC shall be approved by the CSLC.

Page 113, Mitigation Measure CULT-2 is revised as follows:

Mitigation Measure CULT-2 (all options): – Human Remains: The following actions are promulgated in Public Resources Code 5097.98 and Health and Human Safety Code 7050.5, and pertain to the discovery of human remains. If human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission. The Native American Heritage Commission will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

Should any human remains be discovered on State lands during the project, the CSLC shall be notified within 24 hours. The point of contact shall be Assistant Chief Counsel Pam Griggs.

Page 114, Mitigation Measure CULT-3 is revised as follows:

Mitigation Measure CULT-3 (all options): – Paleontological Resources: If paleontological resources are encountered during project construction activities, all soil-disturbing activity within 100 feet of the find shall be temporarily halted until a qualified paleontologist can assess the

significance of the find and provide proper management recommendations. The City shall review and incorporate the management recommendations into the project as feasible. Additionally, if paleontological resources are uncovered on State lands during the project, the CSLC shall be notified within 72 hours. The point of contact shall be Assistant Chief Counsel Pam Griggs. The final disposition of paleontological resources recovered on State lands under the jurisdiction of the CSLC shall be approved by the CSLC.

Page 127, Mitigation Measure HYD-3-DO 1 & 4 is revised as follows:

Mitigation Measure HYD-3-DO 1 & 4: - Implement Mitigation Measure HAZ-54 ~~-DO 1 & 4~~: Mitigation Measure HAZ-54 ~~-DO 1 & 4~~ (which addresses potential on-shore chemical releases) shall be implemented.

Page 130, Mitigation Measure HYD-6-DO 1 & 4 is revised as follows:

Mitigation Measure HYD-6-DO 1 & 4: - Implement Mitigation Measure ~~HAZ~~HYD-4-DO 1 & 4: Mitigation Measures ~~HAZ~~HYD-4-DO 1 & 4 shall be implemented.

Page 134, Mitigation Measure HYD-7-DO 1 & 4 is revised as follows:

Mitigation Measure HYD-7 DO 1 & 4: - Implement Mitigation Measure ~~HAZ~~HYD-4-DO 1 & 4 and HYD-1: Mitigation Measures ~~HAZ~~HYD-4-DO 1 & 4 and HYD-1 shall be implemented. Additionally, the temporary fixed piping system for moving dredge material shall be placed over the perimeter levee and its construction shall not involve excavation into the perimeter levee.

Page 151, Mitigation Measure GEO-2-DO 1 & 4 is revised as follows:

Mitigation Measure GEO-2-DO 1 & 4: – Implement Mitigation Measure HYD-~~3~~4-DO 1 & 4: Mitigation Measure HYD-~~3~~4-DO 1 & 4, which specifies that the project prepare and implement a SWPPP (and includes typically required BMPs), shall be implemented.

Page 154, Mitigation Measure GEO-3-DO 1 & 4 is revised as follows:

Mitigation Measure GEO-3-DO 1 & 4: – Implement Mitigation Measure ~~HYD-3~~ GEO-2-DO 1 & 4: Mitigation Measure ~~HYD-3~~ GEO-2-DO 1 & 4 shall be implemented.

Page 155, Mitigation Measure GEO-4-DO 1 & 4 is revised as follows:

Mitigation Measure GEO-4-DO 1 & 4: – Implement Mitigation Measure ~~HYD-3~~ GEO-2-DO 1 & 4: Mitigation Measures ~~HYD-3~~ GEO-2-DO 1 & 4 shall be implemented.

ATTACHMENT A: Planning Commission/Public Hearing Minutes, May 19, 2016
ATTACHMENT B: Consultation Letters Submitted to USFWS by USACE
ATTACHMENT C: Native American Consultation Log
ATTACHMENT D: DMMO Suitability Letter

ATTACHMENT A

Planning Commission/Public Hearing Minutes, May 19, 2016

REGULAR MEETING OF THE FOSTER CITY PLANNING COMMISSION

Council Chambers – 620 Foster City Boulevard -- Foster City

MINUTES

MAY 19, 2016

1. CALL TO ORDER

   At 7:00 p.m. by Chairman Williams

2. ROLL CALL

   Present: **Commissioners Avram, Dyckman, Pattum, Wykoff and Chairman Williams**

   Staff Present: **Kohar Kojayan, Planning Manager; Ruemel Panglao, Assistant Planner**

3. ORAL COMMUNICATIONS FROM THE PUBLIC

   1. None

4. WRITTEN COMMUNICATIONS FROM THE PUBLIC

   1. None

5. CONSENT CALENDAR

   1. MAY 5, 2016 REGULAR MEETING MINUTES
   2. MAY 5, 2016 STUDY SESSION MINUTES

   ACTION: Motion by Commissioner Dyckman, seconded by Commissioner Pattum to approve the Minutes of May 5, 2016 Regular Meeting and May 5, 2016 Study Session roll call vote, passed, 5-0-0-0.

6. CONTINUED PUBLIC HEARING

   1. None

7. NEW PUBLIC HEARING

   1. USE PERMIT REQUEST TO ALLOW THE SALE AND CONSUMPTION OF BEER AND WINE IN CONJUNCTION WITH THE PROPOSED WAREHOUSE BUFFET RESTAURANT (FORMERLY CHEVYS) LOCATED AT 979A EDGEWATER BOULEVARD - APN: 094-541-070 - NEIGHBORHOOD 8-EDGEWATER HOLDING CORPORATION - UP-16-004

      ACTION: Motion by Commissioner Avram, seconded by Commissioner Dyckman to close public hearing, passed 5-0-0-0.

ACTION: Motion by Commissioner Avram, seconded by Commissioner Wykoff to Adopt Resolution No. P-10-16, approving UP-16-004 subject to the conditions of approval in Exhibit A, passed 5-0-0-0.

2. TO RECEIVE PUBLIC COMMENTS AND MAKE A RECOMMENDATION TO THE CITY COUNCIL ON THE DREDGING AT LAGOON INTAKE STRUCTURE MITIGATED NEGATIVE DECLARATION EA-15-003

ACTION: Motion by Commissioner Wykoff, seconded by Commissioner Dyckman to close public hearing, passed 5-0-0-0.

ACTION: Motion by Commissioner Wykoff, seconded by Commissioner Williams to Adopt Resolution No. P-11-16, approving EA-15-003 subject to the conditions of approval in Exhibit A, passed 5-0-0-0.

Kohar Kojayan explained the appeal process.

8. OLD BUSINESS

1. None

9. NEW BUSINESS

1. None

10. ADMINISTRATIVE BUSINESS/REPORTS AND REFERRALS

1. None

11. STATEMENTS AND REQUESTS FROM THE COMMISSIONERS

None

12. ADJOURNMENT

Adjourned at 7:24 p.m. to a Regular Meeting June 2, 2016 Council Chambers, 620 Foster City Boulevard, Foster City, California.

PASSED AND ADOPTED by the Planning Commission of the City of Foster City at a Regular Meeting thereof held on June 2, 2016 by the following vote:

AYES, COMMISSIONERS: Avram, Dyckman, Wykoff and Chairman Williams

NOES, COMMISSIONERS:

ABSTAIN, COMMISSIONERS: Pattum

ABSENT, COMMISSIONERS:

RAUL C. WILLIAMS, CHAIRMAN

ATTEST:

CURTIS BANKS, SECRETARY

ATTACHMENT B

Consultation Letters Submitted to USFWS by USACE

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

APR 14 2016

Regulatory Division

SUBJECT: Number 2015-00405S; Foster City Lagoon Intake Structure Channel Dredging - Initiation of Endangered Species Act Consultation

Ms. Kim Turner, Assistant Field Supervisor
Endangered Species Division
U.S. Fish and Wildlife Service (USFWS)
Bay-Delta Fish and Wildlife Office
650 Capitol Mall, Suite 8-300
Sacramento, California 95814

Dear Ms. Turner:

The U.S. Army Corps of Engineers (Corps) has received an application for a permit pursuant to Section 404 of the Clean Water Act (CWA) of 1972, as amended (33 U.S.C. § 1344 et seq.) and Section 10 of the Rivers and Harbors Act (RHA) of 1899, as amended (33 U.S.C. § 403 et seq.) from the city of Foster City proposal to conduct dredging at the Foster City Lagoon West Intake Structure Intake Channel (Intake Channel) located adjacent to Belmont Slough west of Foster City Lagoon near Sea Cloud Park in Foster City, San Mateo County, California. The purpose of the proposed dredging of the Intake Channel is to remove accumulated sediment that impedes water from flowing into the Foster City Lagoon except at periods of high tides. The Corps is processing the permit application for the proposed project under Corps Nationwide Permit 3 for Maintenance.

The proposed project would involve dredging, using a mechanical clamshell dredge, approximately 12,800 cubic yards of sediment from the substrate located within the Intake Channel, which is also referred to as Angelo Slough. The proposed project dredging design depths would be -5 feet mean lower low water (MLLW) plus a 1-foot over dredge allowance. Existing depths within the Intake Channel range from -2.1 feet MLLW to -6.4 feet MLLW. The area directly affected by the proposed dredging would be approximately 1.33 acres. The dredged material would be placed in a dredge scow and transported to Cullinan Ranch Tidal Restoration Project, which is a beneficial reuse site located west of the Napa River and adjacent to Highway 37 in Solano County, California. Additional details on the project can be found in the project documents, "Endangered Species Act Biological Assessment Dredging at the Lagoon Intake Structure (CIP 301-629) Project, Foster City, California prepared by Huffman-Broadway Group, Inc. and dated April 2016 (enclosed).

The proposed project has been reviewed for its impacts to threatened and endangered species and their designated critical habitat. The species listed below are known to be present in the project area:

- **Salt marsh harvest mouse *(Reithrodontomys raviventris),***
- **Ridgway's rail *(Rallus obsoletus obsoletus),***
- **Western snowy plover *(Charadrius alexandrines nivosus).***

Based on a review of the project application and the findings of the enclosed Biological Assessment (BA) the Corps has determined that the proposed project may affect but is not likely to adversely affect the above-listed threatened and endangered species and their critical habitat (See sections 5.2.1, 5.2.3, and 5.2.3 in the BA). The proposed project would be conducted outside the Ridgway's rail breeding season (September 1 – November 30), would not remove salt marsh vegetation, and would not disturb breeding or roosting behavior of the above listed bird species. Conservation measures listed in the BA (see pages 20 – 22) would further reduce any possibility of adverse effects to listed species or their critical habitat. With this letter we are requesting initiation of informal Section 7 consultation for potential impacts to species pursuant to the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1531 et seq.).

We are requesting your written concurrence with these determinations. The Corps appreciates your cooperation in completing this informal section 7 consultation by concurring with our not likely to adversely affect determination in a timely manner. If you disagree with our determination and request for informal section 7 consultation, please contact us to discuss project effects and your additional information needs. We will continue to coordinate with your office via email to provide the requested information and, if warranted, a revised effects determination.

Should you have any questions regarding this matter, please contact Mark D'Avignon of our staff at (415) 503-6806 or by email: mark.r.d'avignon@usace.army.mil. Please address all correspondence to the Regulatory Division and refer to the File Number at the head of this letter.

Sincerely,

Aaron O. Allen, Ph.D.
Acting Chief, Regulatory Division

Enclosure

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

APR 14 2016

Regulatory Division

SUBJECT: Number 2015-00405S; Foster City Lagoon Intake Structure Channel Dredging - Initiation of Endangered Species Act Consultation and Magnuson- Stevens Fishery Conservation and Management Act Consultation

Mr. William W. Stelle, Jr.
Regional Administrator
National Marine Fisheries Service, West Coast Region
c/o
Mr. Gary Stern
North Central Coast Regional Office
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

Dear Mr. Stern:

The U.S. Army Corps of Engineers (Corps) has received an application for a permit pursuant to Section 404 of the Clean Water Act (CWA) of 1972, as amended (33 U.S.C. § 1344 et seq.) and Section 10 of the Rivers and Harbors Act (RHA) of 1899, as amended (33 U.S.C. § 403 et seq.) from the city of Foster City proposal to conduct dredging at the Foster City Lagoon West Intake Structure Intake Channel (Intake Channel) located adjacent to Belmont Slough west of Foster City Lagoon near Sea Cloud Park in Foster City, San Mateo County, California. The purpose of the proposed dredging of the Intake Channel is to remove accumulated sediment that impedes water from flowing into the Foster City Lagoon except at periods of high tides. The Corps is processing the permit application for the proposed project under Corps Nationwide Permit 3 for Maintenance.

The proposed project would involve dredging, using a mechanical clamshell dredge, approximately 12,800 cubic yards of sediment from the substrate located within the Intake Channel, which is also referred to as Angelo Slough. The proposed project dredging design depths would be -5 feet mean lower low water (MLLW) plus a 1-foot over dredge allowance. Existing depths within the Intake Channel range from -2.1 feet MLLW to -6.4 feet MLLW. The area directly affected by the proposed dredging would be approximately 1.33 acres. The dredged material would be placed in a dredge scow and transported to Cullinan Ranch Tidal Restoration Project, which is a beneficial reuse site located west of the Napa River and adjacent to Highway 37 in Solano County, California. Additional details on the project can be found in the project documents, "Endangered Species Act Biological Assessment Dredging at the Lagoon Intake Structure (CIP 301-629) Project, Foster City, California", and "Essential Fish Habitat Assessment Dredging at the Lagoon Intake Structure (CIP 301-629) Project Foster City, California" prepared by Huffman-Broadway Group, Inc. and dated April 2016 (enclosed).

The proposed project has been reviewed for its impacts to threatened and endangered species and their designated critical habitat. The species listed below are known to be present in the project area:

- **Central California Coast steelhead *(Oncorhynchus mykiss),***
- **North American green sturge*on (Acipenser medirostris).***

Dredging would be conducted using a clamshell dredge, and would involve upland placement of the dredged material at a beneficial reuse site as opposed to aquatic disposal. Entrainment of salmonids or green sturgeon would be highly unlikely using a clamshell dredge. Dredging would be conducted during the time period when migrating and rearing salmonids are not expected to be present (September 1 – November 30). Turbidity from the proposed dredging would be temporary and confined to a short dredging period during each day. The dredge footprint is small (1.33 acres), and adverse effects to the benthic community would be short-term and minor. The benthic community would be expected to recover within several months. For these reasons, adverse effects of the proposed project on federally listed steelhead, green sturgeon, and their critical habitat are expected to be minor.

Based on a review of the project application and the findings of the enclosed Biological Assessment (See pages 23 through 28, sections 5.2.4 and 5.2.5.), the Corps has determined that the proposed project may affect but is not likely to adversely affect the above-listed threatened and endangered species and their critical habitat.

We are requesting your written concurrence with these determinations. The Corps appreciates your cooperation in completing this informal section 7 consultation by concurring with our not likely to adversely affect determination in a timely manner. If you disagree with our determination and request for informal section 7 consultation, please contact us to discuss project effects and your additional information needs. We will continue to coordinate with your office via email to provide the requested information and, if warranted, a revised effects determination.

Additionally, the proposed project has been reviewed for potential impacts to Essential Fish Habitat (EFH). The Corps has determined that the project may adversely affect EFH. Therefore, the Corps requests consultation on EFH for species managed under the Pacific Groundfish Fishery Management Plan, Coastal Pelagics Fishery Management Plan, and Pacific Coast Salmon Fishery Management Plan, pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1855(b). The proposed project would temporarily disturb the substrate within the dredge footprint and create localized turbidity. However, these adverse effects would be short-term and minor due to the minor magnitude of the dredging, the timing of the project, and the short duration of the dredging. No eelgrass beds *(Zostera marina)* occur within close proximity (i.e. 450 meters) of the proposed dredging site. The dredged material

would be taken directly to an upland beneficial reuse site for placement. No aquatic disposal of dredged material would occur. Therefore, The Corps has determined the adverse effects to EFH from the proposed dredging project would be short-term and minor in magnitude (See enclosed Essential Fish Habitat Assessment, Section 5.0).

Should you have any questions regarding this matter, please contact Mark D'Avigon of our staff at (415) 503 - 6806 or by email: mark.r.d'avignon@usace.army.mil. Please address all correspondence to the Regulatory Division and refer to the File Number at the head of this letter.

Sincerely,

Aaron O. Allen, Ph.D.
Acting Chief, Regulatory Division

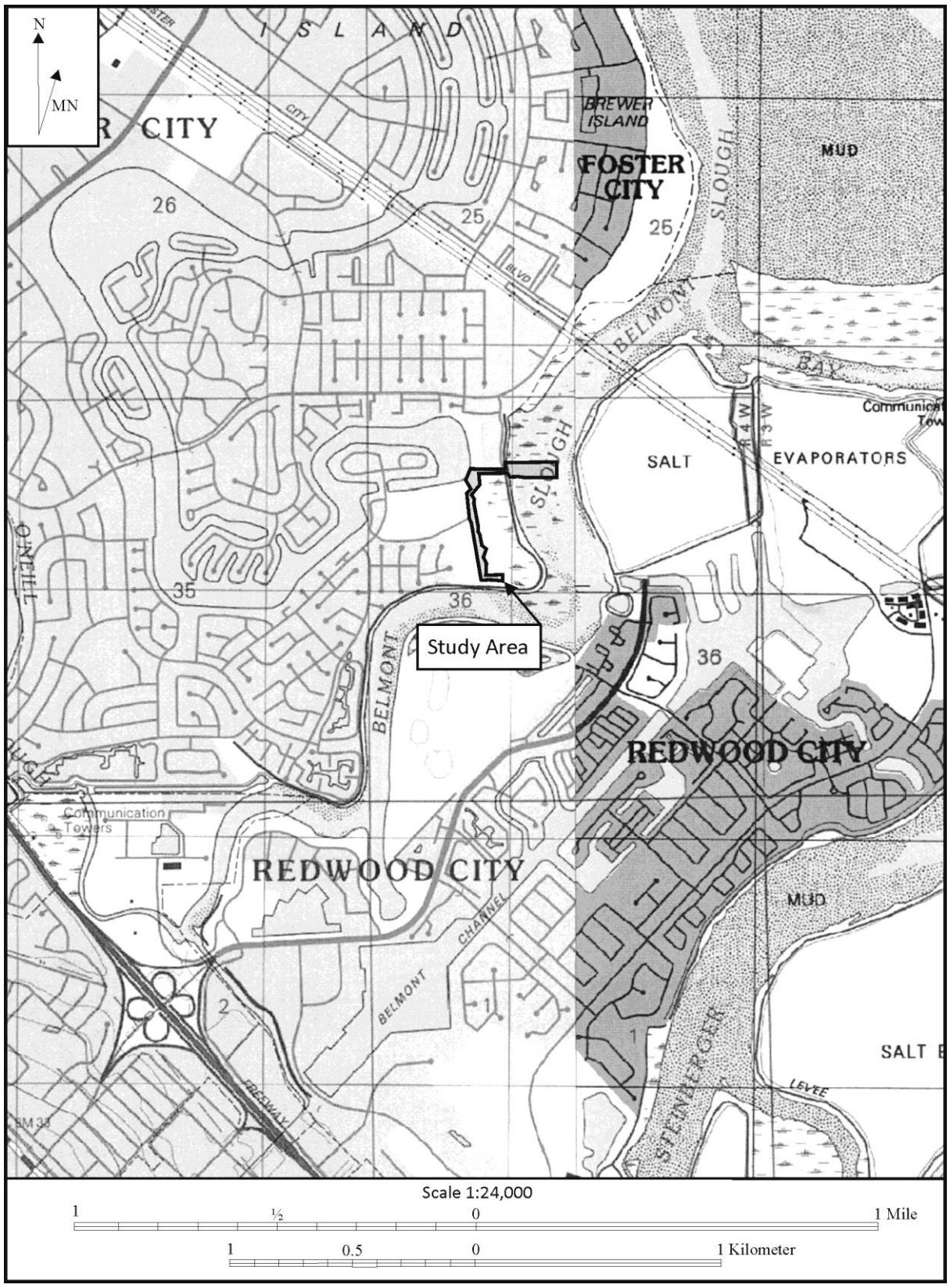
Enclosures

ATTACHMENT C

Native American Consultation Log

Native American Contact Efforts
Lagoon Dredging Project
San Mateo County, California

Organization	Action	Results
Native American Heritage Commission	Email	No response received as of the date of this report.
Amah/Mutsun Tribal Band		No response received as of the date of this report.
Jean-Marie Feyling	Letter	
Edward Ketchum	Letter	
Valentin Lopez	Letter	
Michelle Zimmer	Email	
Irene Zwierlein	Email	
Coastonoan Rumsen Carmel Tribe Tony Cerda	Email	No comments received as of the date of this report.
Indian Canyon Mutsun Band of Costanoan Ann Marie Sayers	Email	No response received as of the date of this report.
Muwekma Ohlone Indian Tribe of the San Francisco Bay Area Rosemary Cambra	Email	No response received as of the date of this report.
The Ohlone Indian Tribe Andrew Galvan	Email	No response received as of the date of this report.
Trina Marine Ruano Family Ramona Garibay	Email	No response received as of the date of this report.
Jakki Kehl	Email	No response received as of the date of this report.
Katherine Erolinda Perez	Letter	No response received as of the date of this report.
Linda G. Yamane	Email	No response received as of the date of this report.


N
MN
ISLAND
CITY
BREWER ISLAND
FOSTER CITY
MUD
SLOUGH
BELMONT
BAY
SALT
EVAPORATORS
R4W
R3W
26
25
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36
Study Area
O'NEILL
REDWOOD CITY
Communication Towers
CHANNEL
FREEWAY
LEVEE
SALT E
Scale 1:24,000
1
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0
1 Mile
1
0.5
0
1 Kilometer

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Linda G. Yamane
1585 Mira Mar Ave
Seaside, California 93955

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Ms. Yamane:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Katherine Erolinda Perez
PO Box 717
Linden, California 95236

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Ms. Erolinda Perez:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Jakki Kehl
720 North 2nd Street
Patterson, California 95363

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Ms. Kehl:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Ramona Garibay
Trina Marine Ruano Family
30940 Watkins St
Union City, California 94587

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Ms. Garibay:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Andrew Galvan
The Ohlone Indian Tribe
PO Box 3152
Fremont, California 94539

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Mr. Galvan:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Rosemary Cambra
Muwekma Ohlone Indian Tribe of the SF Bay Area
PO Box 360791
Milpitas, California 95036

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Ms. Cambra:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Ann Marie Sayers
Indian Canyon Mutsun Band of Costanoan
PO Box 28
Hollister, California 95024

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Ms. Sayers:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Tony Cerda
Costanoan Rumsen Carmel Tribe
244 E. 1st Street
Pomona, CA 91766

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Mr. Cerda:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Irene Zwierlein
Amah/Mutsun Tribal Band
789 Canada Road
Woodside, California 94062

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Ms. Zwierlein:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Michelle Zimmer
Amah Mutsun Tribal Band
789 Canada Road
Woodside, California 94062

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Ms. Zimmer:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Valentin Lopez
Amah Mutsun Tribal Band
PO Box 5272
Galt, California 95632

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Mr. Lopez:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Edward Ketchum
Amah Mutsun Tribal Band
35867 Yosemite Ave
Davis, California 95616

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Mr. Ketchum:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

Tom Origer & Associates
Archaeology / Historical Research

October 13, 2015

Jean-Marie Feyling
Amah/Mutsun Tribal Band
19350 Hunter Court
Redding, California 96003

Re: Lagoon Intake Structure Maintenance Dredging, Angelo Slough, Foster City, San Mateo County.

Dear Ms. Feyling:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The Lagoon Intake Structure Maintenance Dredging is the proposed removal and disposal of accumulated sediment in the Angelo Slough channel along Belmont Slough in Foster City, San Mateo County. Marlene Subhashini, City of Foster City, is reviewing the project for CEQA compliance.

Enclosed is a portion of the San Mateo 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Julia Franco
Associate

ATTACHMENT D

DMMO Suitability Letter

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

JUN - 2 2016

Operations and Readiness Division

SUBJECT: File Number 2015-00405S: Foster City Lagoon Intake Structure Channel; Maintenance Dredging/Excavation, Episode l; Test Results; DMMO Serial Number: 16-038

Mr. Jeff Moneda
Department of Public Works
City of Foster City
Foster City, California 94404

Dear Mr. Moneda:

The Dredged Material Management Office (DMMO) is an interagency group comprised of representatives from the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the San Francisco Bay Conservation and Development Commission, the San Francisco Bay Regional Water Quality Control Board, the California State Lands Commission, and state and federal wildlife agencies. At the meeting on April 20, 2016, the DMMO completed its review of the sediment test results presented in the document prepared by Kinnetic Laboratories, Inc. and the Huffman-Broadway Group, Inc. entitled, "Sampling and Analysis Report Sampling and Testing of Sediments Dredging at the Foster City Lagoon Intake Structure (CIP-629)," dated April 2016. At the June 1, 2016 meeting, the DMMO reviewed a supplemental information report presented by Huffman-Broadway Group, Inc. and Kinnetic Laboratories, Inc. regarding the elevated levels of certain chemicals of concern in the sediment at the Foster City Lagoon Intake Structure Channel, most notably silver. The test results and supplemental information are for the approximately 12,800 cubic yards of sediment proposed to be dredged to a design depth of -5 feet mean lower low water, plus an overdepth allowance of 1 foot, from an approximately 1.33-acre dredge footprint at the Foster City Lagoon located in Foster City, San Mateo County, California.

The members of the DMMO are recommending to their respective agency's management that the sediment proposed for dredging from the Foster City Lagoon Intake Structure Channel, as characterized in the above documents, is suitable for unconfined aquatic disposal at the Cullinan Ranch Tidal Restoration Project Site.

To assist the National Marine Fisheries Service in more accurately assessing the environmental impacts of maintenance dredging, the DMMO is keeping track of the actual acreage that is dredged, to compare that to the amount that is permitted to be dredged. Please include the approximate acreage of the proposed dredge footprint in the dredge operation plan.

Also, please be advised that this letter does not constitute an authorization to proceed with your dredge project. You must first obtain appropriate Federal, State and local authorizations and provide all appropriate notifications.

If you have any questions regarding this matter, please contact Mark D'Avignon at (415) 503-6806 or e-mail at mark.r.d'avignon@ usace.army.mil. If you wish to write, please address all correspondence to Mark D'Avignon, Operations and Readiness Division and **refer to the file number at the head of this letter and include the dredge episode number.**

Sincerely,

James C. Mazza
Acting Chief, Dredged Material Management Office

Copies Furnished:

Robert Perrera, Huffman-Broadway Group, Inc., San Rafael, CA
US EPA, San Francisco, CA, Attn: Brian Ross
US FWS, Sacramento, CA, Attn: Kim Turner
CA BCDC, San Francisco, CA, Attn: Brenda Goeden
CA RWQCB, Oakland, CA, Attn: Beth Christian
CA SLC, Sacramento, CA, Attn: Al Franzoia
CA DFW, Santa Rosa, CA Attn: Arn Aarreberg
CA DFW, Napa, CA, Attn: Craig Weightman
NOAA Fisheries, Santa Rosa, CA, Attn: Sara Azat