

Corte Madera Marsh
Ecological Reserve



UPDATE ON CORTE MADERA 4- ACRE MARSH RESTORATION PROJECT

DISTRICT 72-ACRE PARCEL NEAR THE CORTE MADERA MARSH ECOLOGICAL RESERVE (CMER)

Golden Gate Bridge, Highway and Transportation District
Building and Operating Committee Meeting of February 26, 2026
Agenda Item No. 3



PROJECT SCOPE

2

The Golden Gate Bridge, Highway and Transportation District (District) established Project No. 2014, Corte Madera Marsh Restoration, to restore approximately 4-acres of tidal salt marsh at the District's 72-acre parcel near the Corte Madera Marsh Ecological Reserve. Project No. 2014 included:

1. Design and Permitting Services:

- Investigate design alternatives
- Perform site investigation, prepare technical studies and complete environmental assessment
- Perform final design for selected alternative and secure construction permitting

2. Construction:

- Clear and grub and establish the perimeter around the approximately 14-acre project limits
- Excavate new tidal channels within the marsh area
- Reuse the excavated material to construct a berm along the east and south boundaries of the new marsh
- Install native plants and apply sees within the various restoration area zones
- Create 0.23 acres of season wetlands to replace the seasonal wetlands lost while creating tidal wetlands
- Construct an informal public access trail on top of the new berm

3. Monitoring and Invasive Plant treatments:

- Monitor the new marsh for compliance with permit success criteria
- Perform weeding of invasive plants and re-planting and seeding as needed

PROJECT SCOPE

1. Restoration of approximately 4-acres of tidal salt marsh:
 - Restore native plant species within the tidal marsh area and transition zone.
 - Reducing the presence of invasive plant species that were previously dominant in the Project Area.

2. Earthwork:
 - Excavate and deposit on-site approximately 28,600 cubic yards of earth material to support the new tidal salt marsh and new seasonal wetland habitat.
 - Design and establish internal tidal channels within the tidal salt marsh to provide full tidal hydrology for the new tidal marsh.

3. Revegetation:
 - Utilizing planting and hydroseeding, establish a functioning marsh ecosystem that supports the new tidal marsh by seeding and planting in the High Marsh Zone, Transition Zone, Seasonal Wetlands, and Upland Project Areas.

4. Monitoring and invasive plant treatments:
 - Monitor adverse erosion or sedimentation around the Project Areas.
 - Treat the invasive pampas and Harding grass populations utilizing mechanical methods and re-seed with a native grass restoration seed mix.

PROJECT NEED

4

- As a condition of a 1988 U.S. Army Corps of Engineers' permit covering dredging for the Larkspur Ferry Terminal (LFT), the District was required to create 2-acres of tidal marsh and habitat suitable for California Ridgway's rail (a federally protected species of marsh bird).
- As part of a negotiated agreement with environmental groups in 1996 to settle a dispute associated with the District's ferry operations at the LFT, the District committed to restore 2-acres of tidal marsh.
- The District owns a 72-acre parcel located adjacent to the Corte Madera Marsh Ecological Reserve (CMER) and former Muzzi Marsh in Corte Madera, Marin County, where it is feasible to create tidal marsh.

PROPERTY LOCATION



PROPERTY LOCATION



Photo: WRA

Aerial Imagery Source: Google Earth

PROPERTY HISTORY

7

- Acquired the property in the 1970s as part of a larger acquisition of approximately 600 acres for mitigation for the construction of the Larkspur Ferry Terminal (LFT)
- Diked off approximately 72 acres and deposited the dredged spoils from the original LFT berth and channel construction
- In the 1980s, restored approximately 203 acres of the adjacent fallow marsh and deeded to the California Department of Fish and Wildlife
- Intended to use site as depository for subsequent dredge episodes but other sites were used
- Site was un-used since that time

HISTORIC CONDITIONS OF CORTE MADERA MARSH

8



HISTORIC CONDITIONS OF CORTE MADERA MARSH

9



HISTORIC CONDITIONS OF CORTE MADERA MARSH

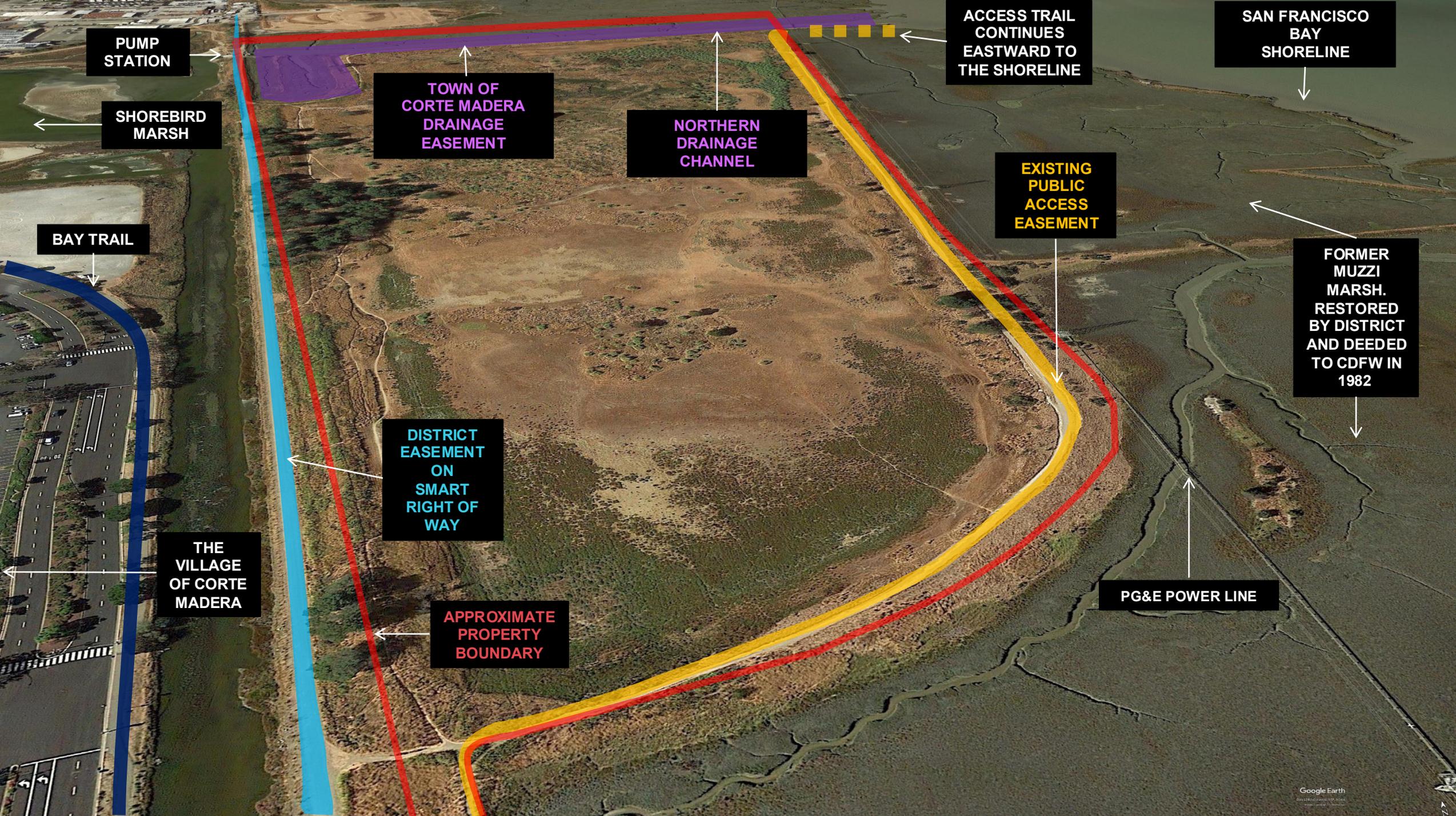
10



PROPERTY ENCUMBRANCES

11

- Adjacent to SMART right of way.
- Town of Corte Madera drainage easement
- Town of Corte Madera public access easement
- Within Bay Conservation and Development Commission (BCDC) jurisdiction
- Adjacent to PG&E easement



PUMP STATION

SHOREBIRD MARSH

BAY TRAIL

THE VILLAGE OF CORTE MADERA

DISTRICT EASEMENT ON SMART RIGHT OF WAY

APPROXIMATE PROPERTY BOUNDARY

TOWN OF CORTE MADERA DRAINAGE EASEMENT

NORTHERN DRAINAGE CHANNEL

EXISTING PUBLIC ACCESS EASEMENT

PG&E POWER LINE

ACCESS TRAIL CONTINUES EASTWARD TO THE SHORELINE

SAN FRANCISCO BAY SHORELINE

FORMER MUZZI MARSH. RESTORED BY DISTRICT AND DEEDED TO CDFW IN 1982

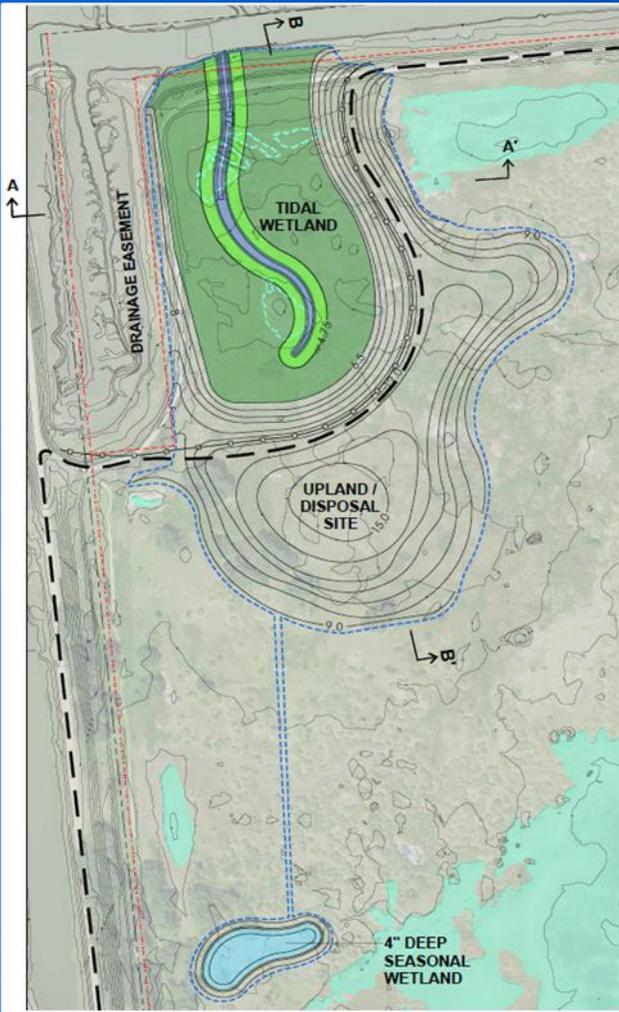
PROJECT PERMITS AND CONDITIONS

13

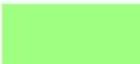
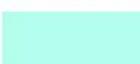
- U.S. Army Corps of Engineers (Corps) Permit - Section 404 Permit authorized by the Clean Water Act, regulates the discharge of dredged or fill materials into the waters of the United States. (File Number 1999-24251N).
- Regional Water Quality Control Board (RWQCB) Certification - Water Quality Certification (WDID# CW429899).
- San Francisco Bay Conservation and Development Commission (BCDC) Construction Permit - Permit M2019.011.00
- A five-year Habitat Mitigation and Monitoring Plan was developed that includes the Project monitoring criteria and performance goals

SELECTED ALTERNATIVE

14



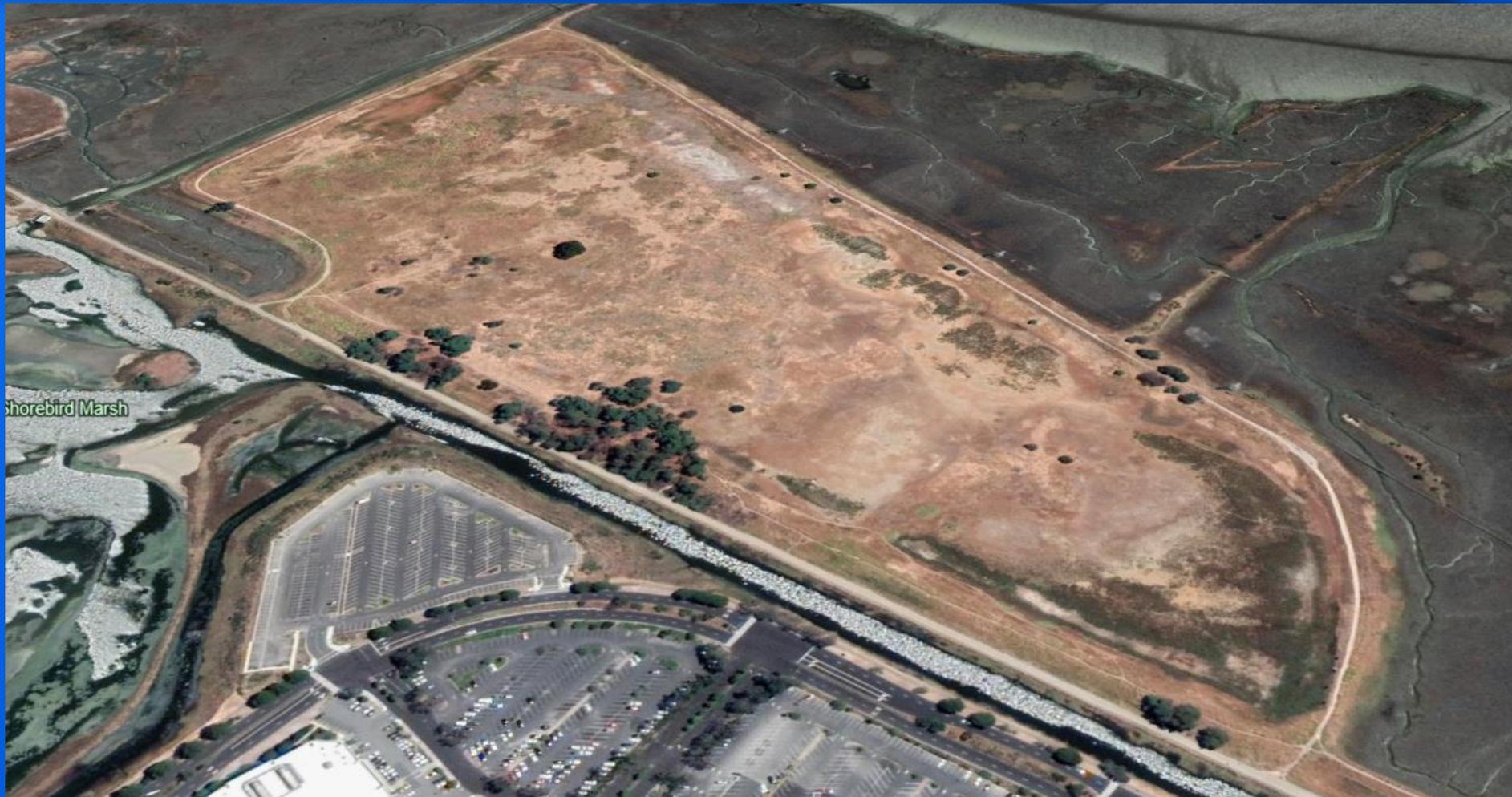
LEGEND

| <u>SYMBOL</u> | <u>DESCRIPTION</u> |
|---|--|
|  | NEW TIDAL MARSH (PICKLEWEED BENCH) |
|  | NEW TIDAL MARSH (CORDGRASS BENCH) |
|  | NEW TIDAL MARSH (CHANNEL) |
|  | NEW SEASONAL WETLANDS (0.28 ACRE) |
|  | IMPACTED SEASONAL WETLANDS (0.28 ACRE) |
|  | EXISTING SEASONAL WETLANDS TO REMAIN |
|  | PEDESTRIAN/DOG EXCLUSION FENCE |
|  | INFORMAL TRAIL |
|  | LIMIT OF GRADE |
|  | EXISTING EASEMENT |

4.0 ACRES

PRE-CONSTRUCTION CONDITION

15



PRE-CONSTRUCTION CONDITION

16



RESTORATION OF TIDAL SALT MARSH

17



RESTORATION OF TIDAL SALT MARSH

18



RESTORATION OF TIDAL SALT MARSH

19



RESTORATION OF TIDAL SALT MARSH

20



RESTORATION OF TIDAL SALT MARSH

21



RESTORATION OF TIDAL SALT MARSH

22

- Parcel Boundary (72.31 ac)
- Project Area (14.71 ac)
- Tidal Hydrology Monitoring Location
- Photo Points
- Vegetation Monitoring Transects
- Reference Seasonal Wetland
- Restored Tidal Marsh - High Marsh
- Upland Transition Zone
- Restored Seasonal Wetland
- Public Trail Atop Perimeter Berm
- Restored Tidal Marsh - Low Marsh / Tidal Channels



PROJECT PERFORMANCE CRITERIA - TIDAL MARSH

23

- Erosion and/or Sedimentation - Compare as-built condition to the year 5 condition to confirm channels are functioning as designed without undue erosion or sedimentation.
- Hydrology - Measure MHHW within the tidal marsh to ensure it is within 0.3 ft of MHHW within the Northern Drainage Channel.
- Wetland Verification - Perform a protocol-level wetland delineation to compare the wetland and non-wetland as-built conditions with the year 5 conditions.

PROJECT PERFORMANCE CRITERIA - TIDAL MARSH

24

- Vegetation

- Following native cordgrass establishment, confirm low marsh cover will increase a minimum of 5% annually
- Confirm native plant cover within the restored high marsh is equal or greater than 50%
- Confirm native shrub survival within the transition zone is equal or greater than 80%
- Confirm Cal-IPC plants do not exceed 5%
- Report presence of *Spartina* SP to ISP

PROJECT PERFORMANCE CRITERIA - SEASONAL WETLAND

25

- Hydrology - Confirm soils in the restored wetland are inundated or saturated for at least 14 days per year.
- Vegetation - Confirm absolute native plant cover will be equal or greater than 100% of absolute native plant cover in the reference seasonal wetland.
- Wetland Verification - Perform a protocol-level wetland delineation to verify boundaries of the seasonal wetlands and non-seasonal wetlands waters.

RESTORATION OF TIDAL SALT MARSH - 2021

26



RESTORATION OF TIDAL SALT MARSH -2022

27



RESTORATION OF TIDAL SALT MARSH - 2023

28



RESTORATION OF TIDAL SALT MARSH - 2024

29



RESTORATION OF TIDAL SALT MARSH -2025

30



CONTROL OF INVASIVE SPECIES OUTSIDE THE RESTORATION AREA

31



CONTROL OF INVASIVE SPECIES OUTSIDE THE RESTORATION AREA

32



ADJACENT AREA INVASIVE GRASS TREATMENTS

33



ADJACENT AREA INVASIVE GRASS TREATMENTS

34

Cutting of Pampas Grass Fronds



ADJACENT AREA INVASIVE GRASS TREATMENTS

35

Removal of Pampas Grass Root Ball



ADJACENT AREA INVASIVE GRASS TREATMENTS

36

Harding Grass Solarization



SITE MONITORING AND INVASIVE GRASS TREATMENTS



NEXT STEPS

38

- Year 5 Report was submitted to regulatory agencies in January 2026. Awaiting any comments on the report.
- Continue performing invasive grass treatments in the areas adjacent to the tidal marsh restoration area.
- Monitor the areas response to the treatments and adjust treatments, as necessary, to control invasive species.

THANK YOU

39

