



Millbrae and Burlingame Shoreline Resilience Project

Fall 2024 Update

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Agenda

Introduction to OneShoreline

**Project Area, Need,
Objectives, and Constraints**

Project Progress to Date

Updated Draft Alternatives

Updated Draft Criteria

Next Steps

Introduction to OneShoreline

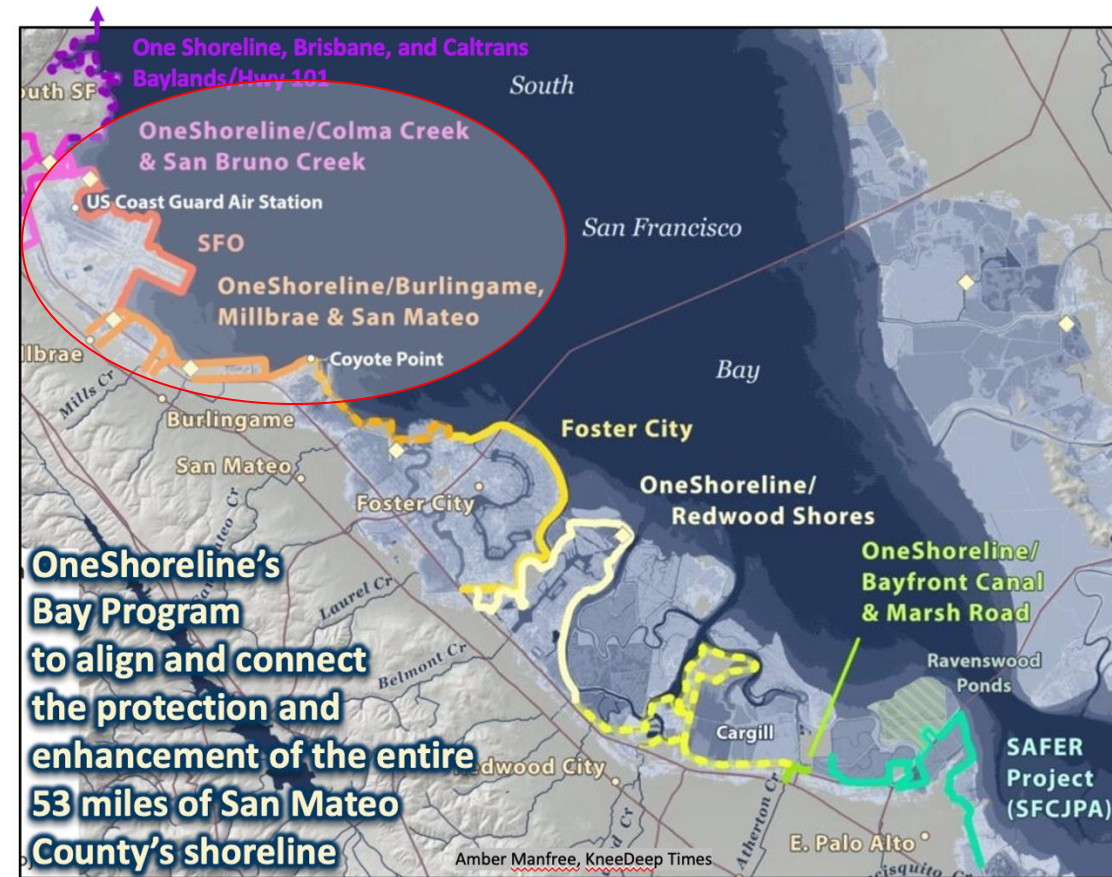


You can learn more about OneShoreline and its other projects on our website: [OneShoreline.org](https://www.oneshoreline.org)

- San Mateo has more people and property threatened by sea level rise than any other CA county
- State law established OneShoreline on Jan. 1, 2020 as the first government agency to plan and build regional resilience to the water-related impacts of climate change: flooding, sea level rise, groundwater rise, coastal erosion, and drought

2024-25 Priorities

- Plan land use, private development, and public infrastructure for future climate-driven conditions and with regional resilience efforts
- Advance projects that align long-term resilience for developed, natural, and recreational areas across jurisdictions
- Provide early warning of, and reduce the impacts of, today's extreme storms made worse by rising tides
- Develop ongoing local funding streams to sustain these efforts long-term and leverage outside funding



OneShoreline and the Project Area

The Big Picture around SFO



Project Area



Project Need, Objectives, and Constraints

**Current FEMA
100-year
floodplain**



You can view this data directly on
OneShoreline's [Map of Future Conditions](#)

Project Need, Objectives, and Constraints

**Current FEMA
100-year
floodplain
+ Sea Level Rise**



SEA LEVEL RISE
ADAPTATION
ASSESSMENT

City of Millbrae, CA

*Supported by Climate Ready SMC,
an initiative of the County of
San Mateo Office of Sustainability*

CLIMATE
READY
SAN MATEO COUNTY

Sea Change Burlingame
Proposed Sea Level Rise Adaptation Strategies
Update to City Council

December 2nd, 2019

Sea Change
Burlingame



You can view this data directly on
OneShoreline's [Map of Future Conditions](#)

Project Need, Objectives, and Constraints

**Current FEMA
100-year
floodplain**

+ Sea Level Rise

**+ Shallow
Groundwater Rise**



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Project Need, Objectives, and Constraints

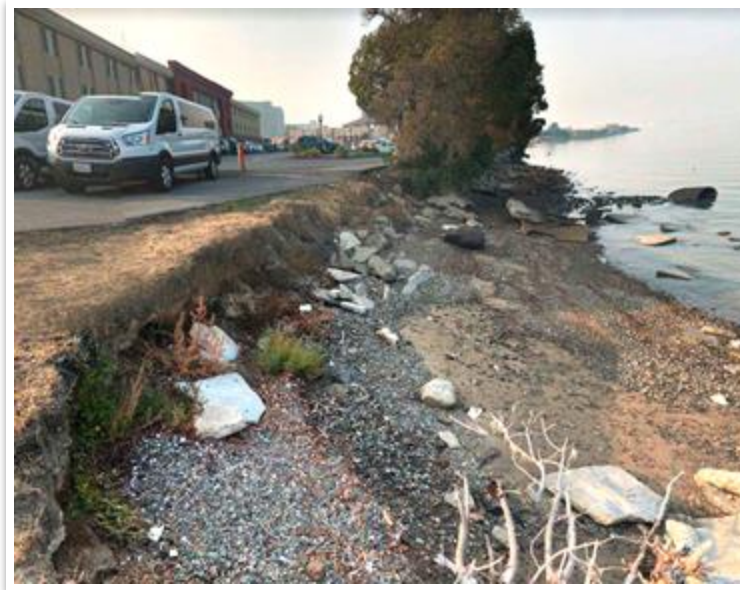
Overall Project Goal: Long-term climate resilience against sea level rise and extreme storms for developed, natural, and public access areas

Coastal Flood Protection



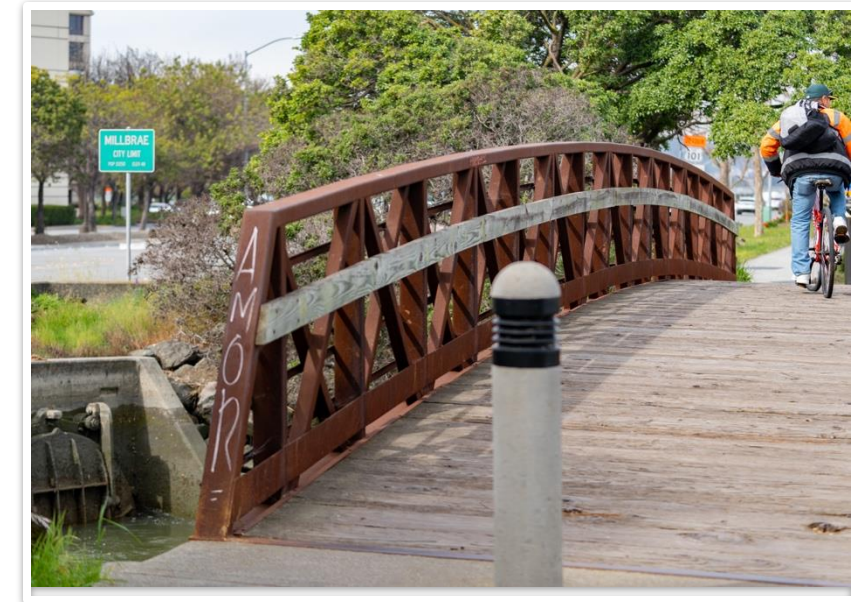
Protect shoreline area against current and future hazards

Functioning Habitat



Facilitate healthy and sustainable ecosystems

Public Access + Recreation



Enhance the shoreline area experience today and in the future



You can find more details on project background, need, objectives, and constraints on our project website: oneshoreline.org/MBSRP

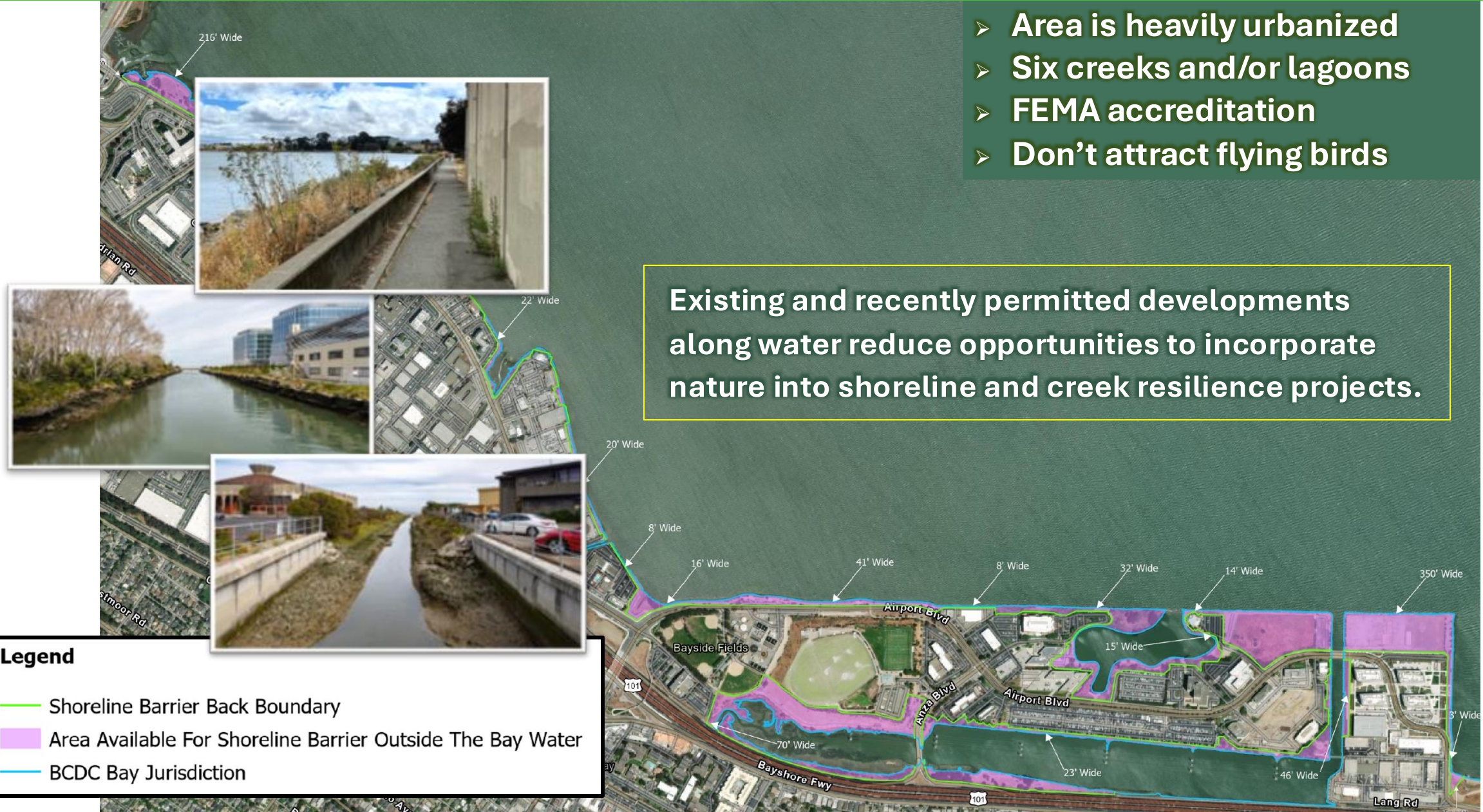
Project Need, Objectives, and Constraints

- Area is heavily urbanized
- Six creeks and/or lagoons
- FEMA accreditation
- Don't attract flying birds

Existing and recently permitted developments along water reduce opportunities to incorporate nature into shoreline and creek resilience projects.

Legend

- Shoreline Barrier Back Boundary
- Area Available For Shoreline Barrier Outside The Bay Water
- BCDC Bay Jurisdiction



Project Progress to Date

March 2022

July 2022–
Sept. 2023

October 2023

Nov. 2023–
May 2024

August 2024

Sept.–Nov. 2024

Oct.–Dec. 2024

Spring &
Summer 2025

Hire design consultant team, kickoff project

Complete Feasibility Analysis of first set of conceptual alternatives, release NOP of an EIR to initiate CEQA process

Review NOP comments, explore additional alternatives, hired outreach consultant

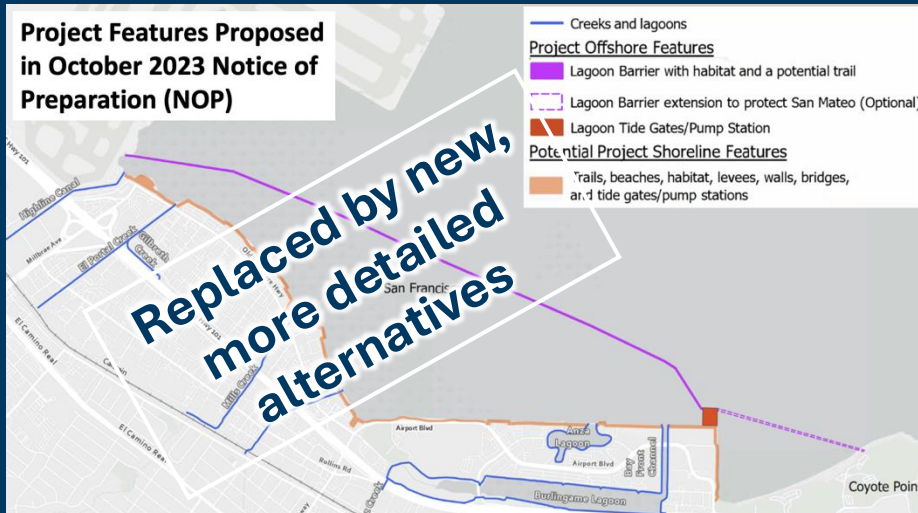
Begin vetting updated draft alternatives & criteria with City partners, landowners, and permitting agencies

Analyze and establish LEDPA, outreach, begin EIR

Collect data collection and develop first set of project alternatives

Present Outreach and Engagement Plan to OneShoreline Board

Public engagement on updated draft project alternatives & criteria



What we heard in many NOP comments

- A large offshore lagoon can impact water quality, including changing circulation, increasing pollutants, turbidity, temperature, and salinity, and increasing the risk of algal blooms.
- A large offshore lagoon can impact specific bird, plant, and aquatic species and their habitats. Nature-based solutions are a top priority.
- A large offshore lagoon could attract wildlife, including birds of concern to SFO.
- A large offshore lagoon, particularly one that extends to Coyote Point, limits wind sport access.
- A large offshore lagoon would impact views, habitat, and the overall public experience of the Bay at Millbrae's Bayfront Park.

How we responded to these comments

- OneShoreline does not plan to carry the large offshore lagoon alternative forward for further analysis. Updated draft alternatives include shoreline features and a nearshore waterway.
- Early modeling indicates a smaller nearshore footprint results in maximum tidal exchange. Further studies on water quality impacts will be completed with a more detailed design.
- Features that incorporate natural infrastructure and minimize attracting high-flying birds are incorporated into all draft alternatives.
- Updated draft alternatives no longer include an optional extension to Coyote Point.
- Two alternatives (A & B) were developed to have little visual impact and enhance public access along Millbrae's shoreline.

Our vision is this

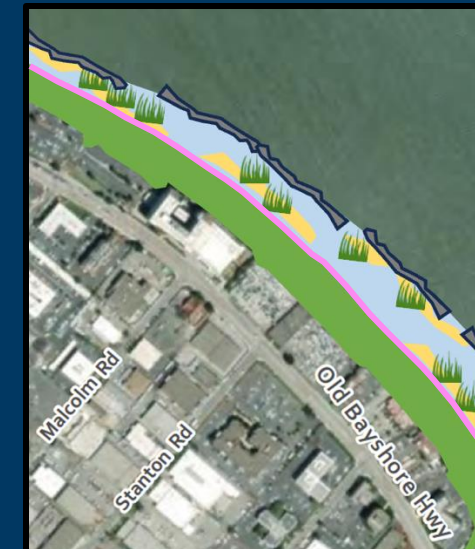
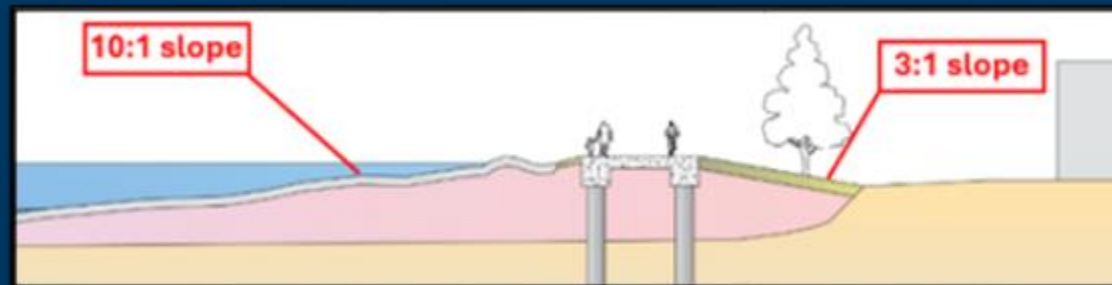


Rather than this



A gradually-sloped living shoreline provides two key benefits:

- Shoreline elevations can be lower
- Less abrupt transition from land to Bay for people and wildlife



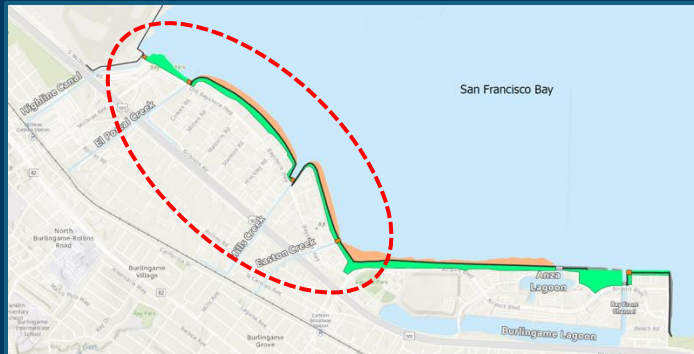


Updated Draft Alternatives

OneShoreline does not have a preferred alternative at this time. Feedback this fall will directly inform changes to these draft alternatives and the process to ultimately identify a preferred alternative.

A

Remain on Shoreline



Coastal Flood Protection

Manage creek water at each creek mouth (5 pump stations)



Habitat Functionality

Living shoreline

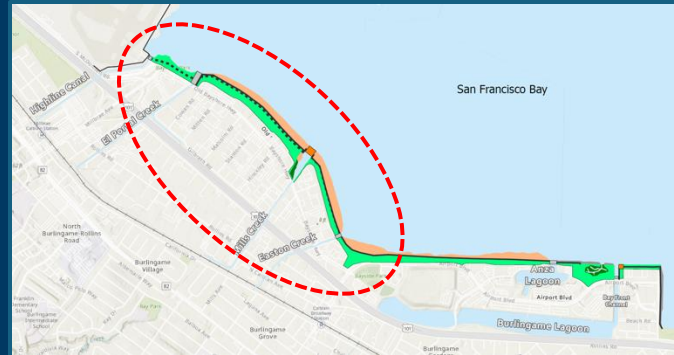


Public Access + Recreation

Bay Trail improvements, 2 new or improved shoreline parks

B

Park Tunnels



Coastal Flood Protection

Manage creek water through tunnels (2 pump stations)



Habitat Functionality

Living shoreline



Public Access + Recreation

Bay Trail improvements, 3 new or improved shoreline parks

C

Nearshore Waterway



Coastal Flood Protection

Manage creek water through waterway (2 pump stations)



Habitat Functionality




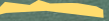


Living shoreline & fish passage

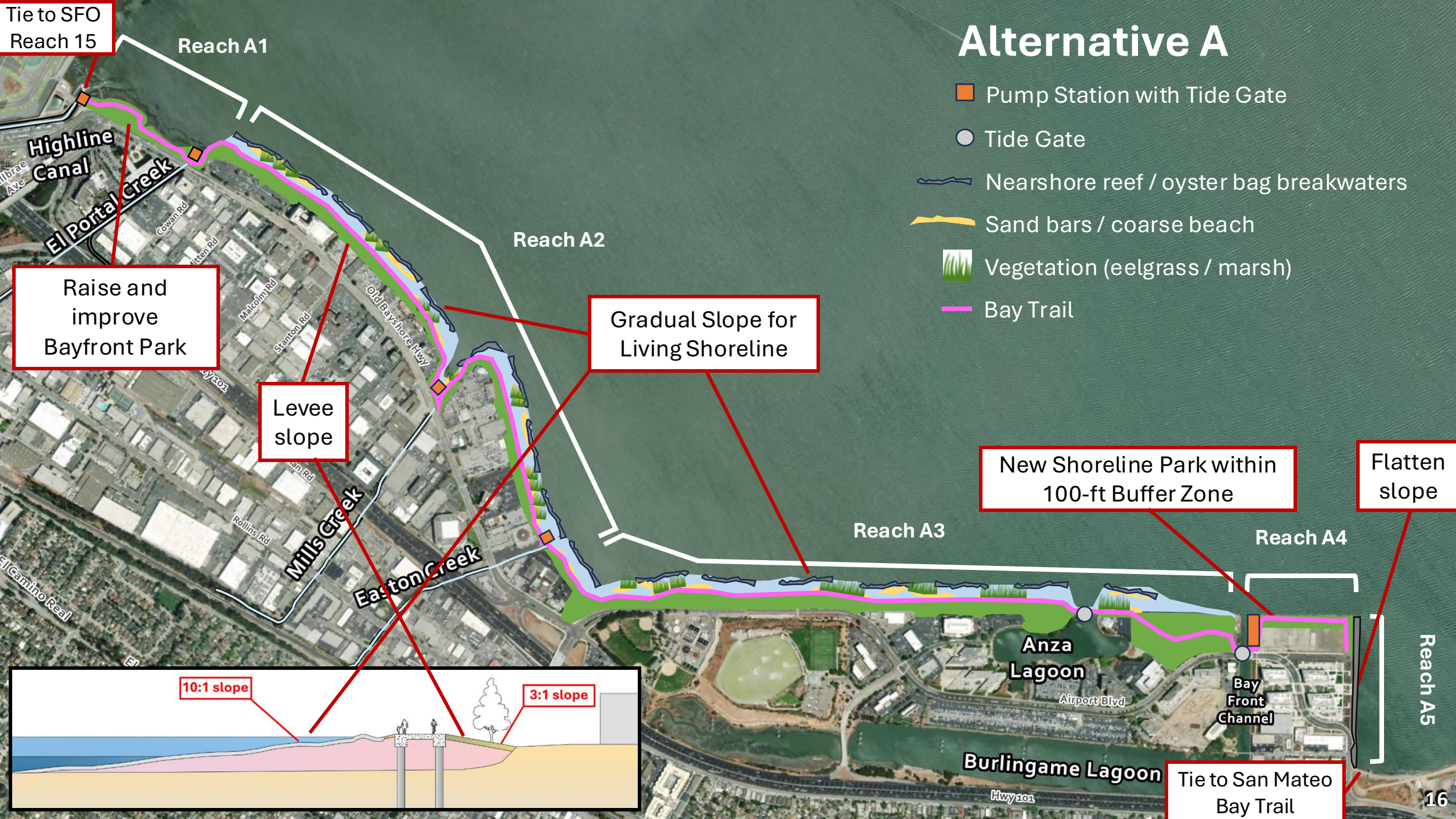


Public Access + Recreation

Bay Trail improvements, new Bay Trail, 1 new shoreline park

Alternative A

-  Pump Station with Tide Gate
-  Tide Gate
-  Nearshore reef / oyster bag breakwaters
-  Sand bars / coarse beach
-  Vegetation (eelgrass / marsh)
-  Bay Trail



Tie to SFO Reach 15

Reach A1

Highline Canal
El Portal Creek
Milbrae Ave
Cowan Rd
Litten Rd

Raise and improve Bayfront Park

Levee slope

Reach A2

Gradual Slope for Living Shoreline

El Camino Real



Mills Creek
Stanton Rd
Malcolm Rd
Rollins Rd

Easton Creek

Reach A3

New Shoreline Park within 100-ft Buffer Zone

Flatten slope

Anza Lagoon

Reach A4









Bay Front Channel

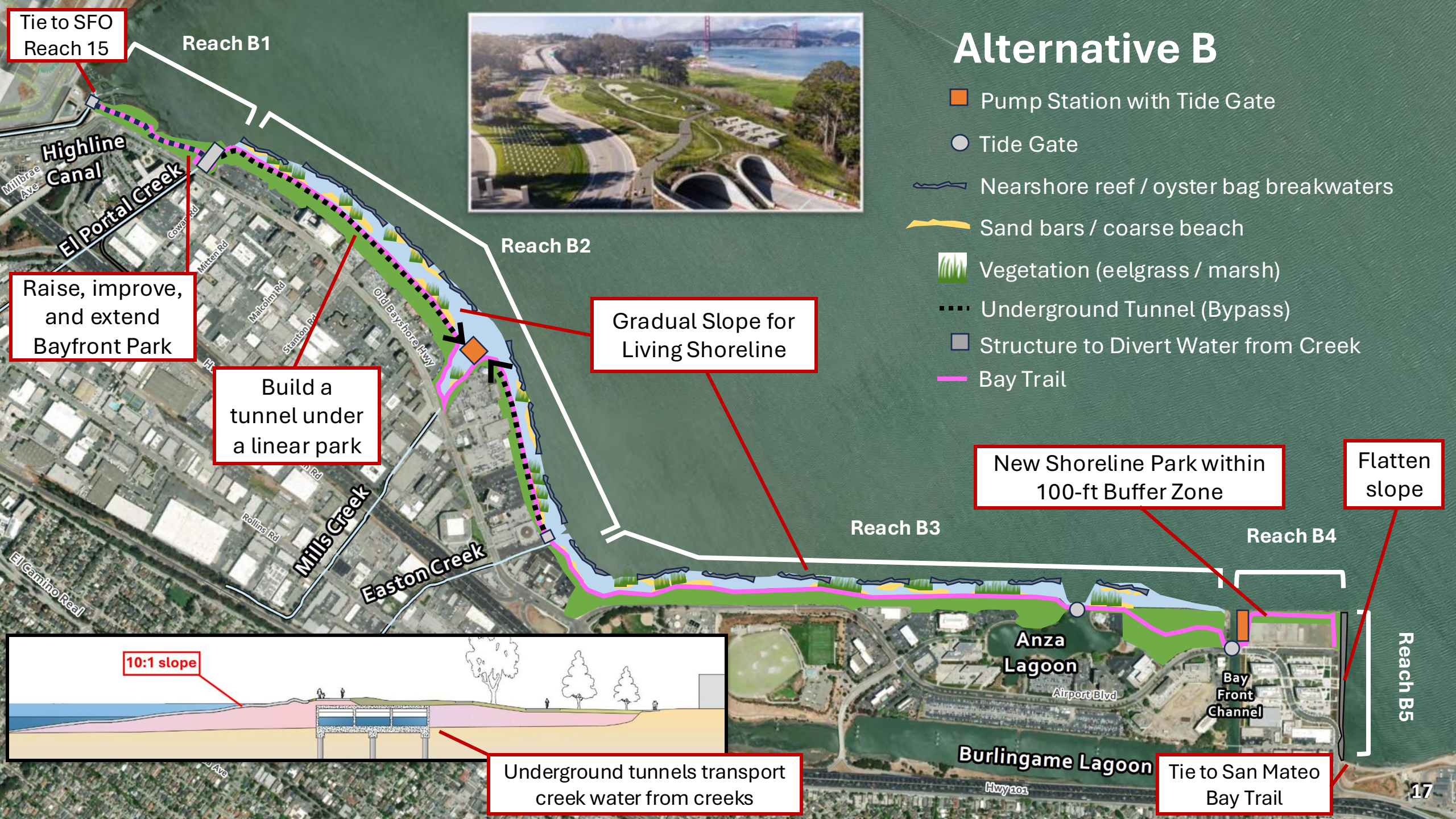
Burlingame Lagoon

Tie to San Mateo Bay Trail

Reach A5

Alternative B

-  Pump Station with Tide Gate
-  Tide Gate
-  Nearshore reef / oyster bag breakwaters
-  Sand bars / coarse beach
-  Vegetation (eelgrass / marsh)
-  Underground Tunnel (Bypass)
-  Structure to Divert Water from Creek
-  Bay Trail



Tie to SFO Reach 15

Reach B1

Raise, improve, and extend Bayfront Park

Build a tunnel under a linear park

Gradual Slope for Living Shoreline

New Shoreline Park within 100-ft Buffer Zone

Flatten slope

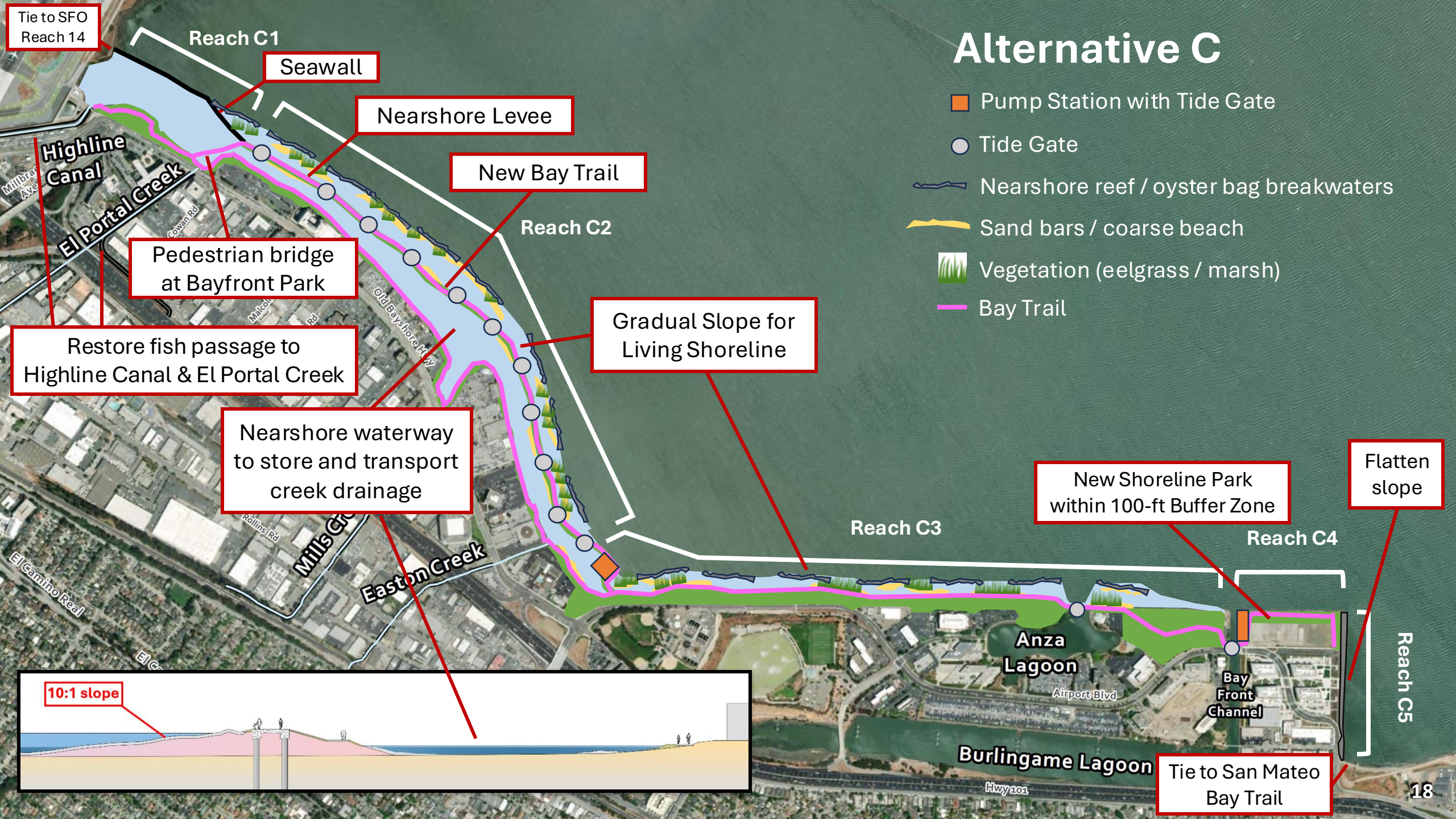
10:1 slope

Underground tunnels transport creek water from creeks

Tie to San Mateo Bay Trail

Alternative C

- Pump Station with Tide Gate
- Tide Gate
- Nearshore reef / oyster bag breakwaters
- Sand bars / coarse beach
- Vegetation (eelgrass / marsh)
- Bay Trail



Tie to SFO Reach 14

Reach C1

Seawall

Nearshore Levee

New Bay Trail

Reach C2

Pedestrian bridge at Bayfront Park

Restore fish passage to Highline Canal & El Portal Creek

Nearshore waterway to store and transport creek drainage

Gradual Slope for Living Shoreline

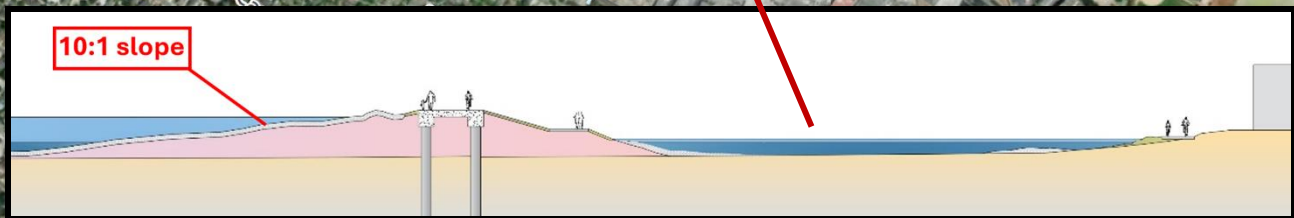
Reach C3

New Shoreline Park within 100-ft Buffer Zone

Flatten slope

Reach C4

Reach C5

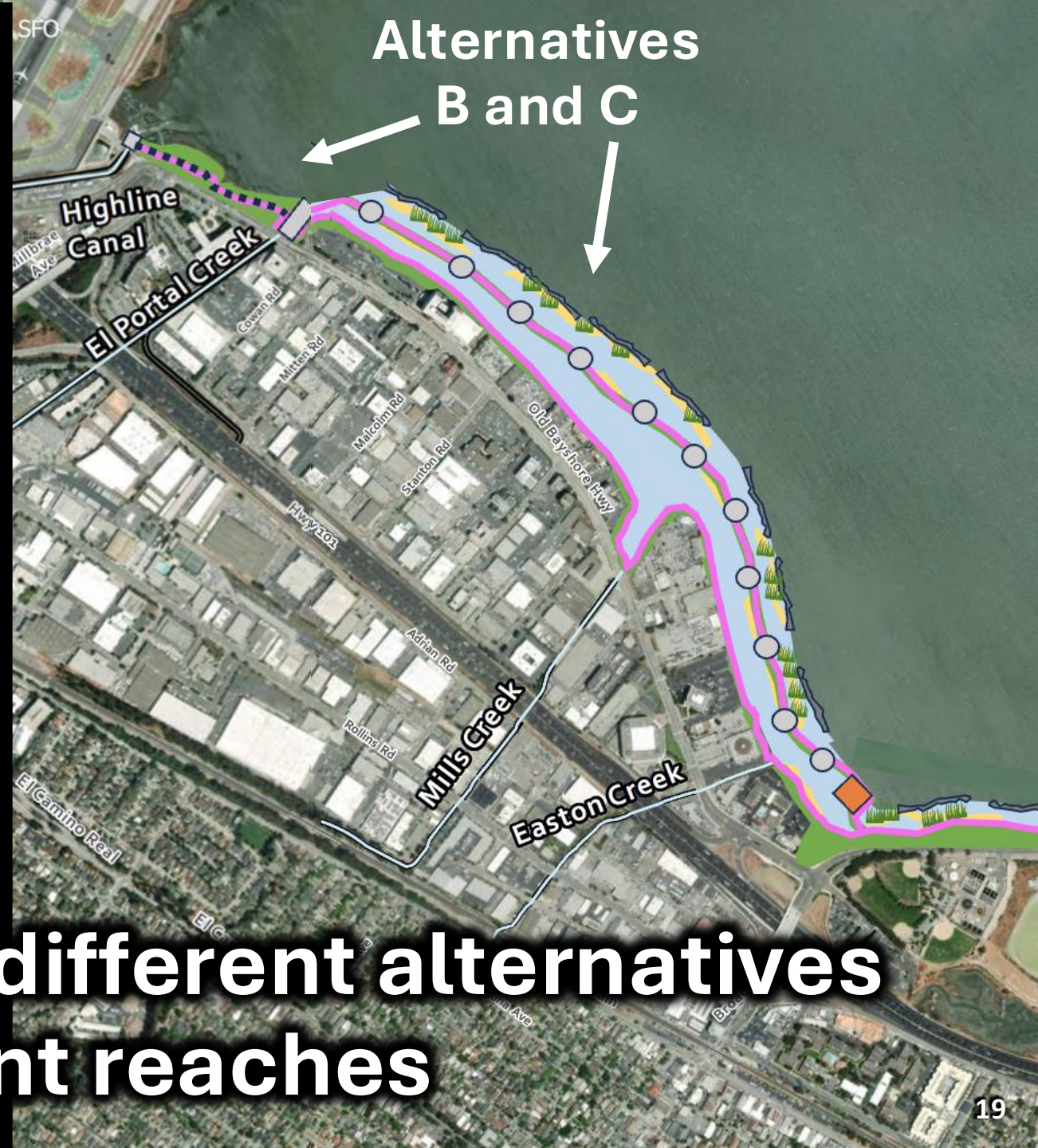


Anza Lagoon

Burlingame Lagoon

Bay Front Channel

Tie to San Mateo Bay Trail



It is possible to use different alternatives in different reaches

To select a preferred project alternative, we propose the following criteria:

Flood Protection

Does the alternative provide the required coastal flood protection benefits? Does it allow for stormwater to drain? Does it increase or reduce flooding from groundwater rise?

Habitat

Does the alternative harm or benefit current and future species habitat? Does it impact water quality?

Public Access + Recreation

What does the alternative look like and how would one experience it? What benefits or impacts does the alternative have on the Bay Trail and Bay recreation?

Implementation

How will the alternative be implemented? Is it feasible to obtain the land rights and permits necessary to construct? What is the alternative's cost and schedule?

Operations & Maintenance

How will the alternative be operated and maintained? How will this change as sea levels rise and storms become more extreme?

SFO

Does the alternative increase the likelihood of bird strikes?

Next Steps



You can find event details and links to register on our project website: OneShoreline.org/MBSRP

Ongoing Vetting with city staff, permitting agencies, landowners

Oct. 28 Presentation to OneShoreline Board

Nov. 12 Presentation to Millbrae City Council

Nov. 16 Burlingame Community Workshop ←

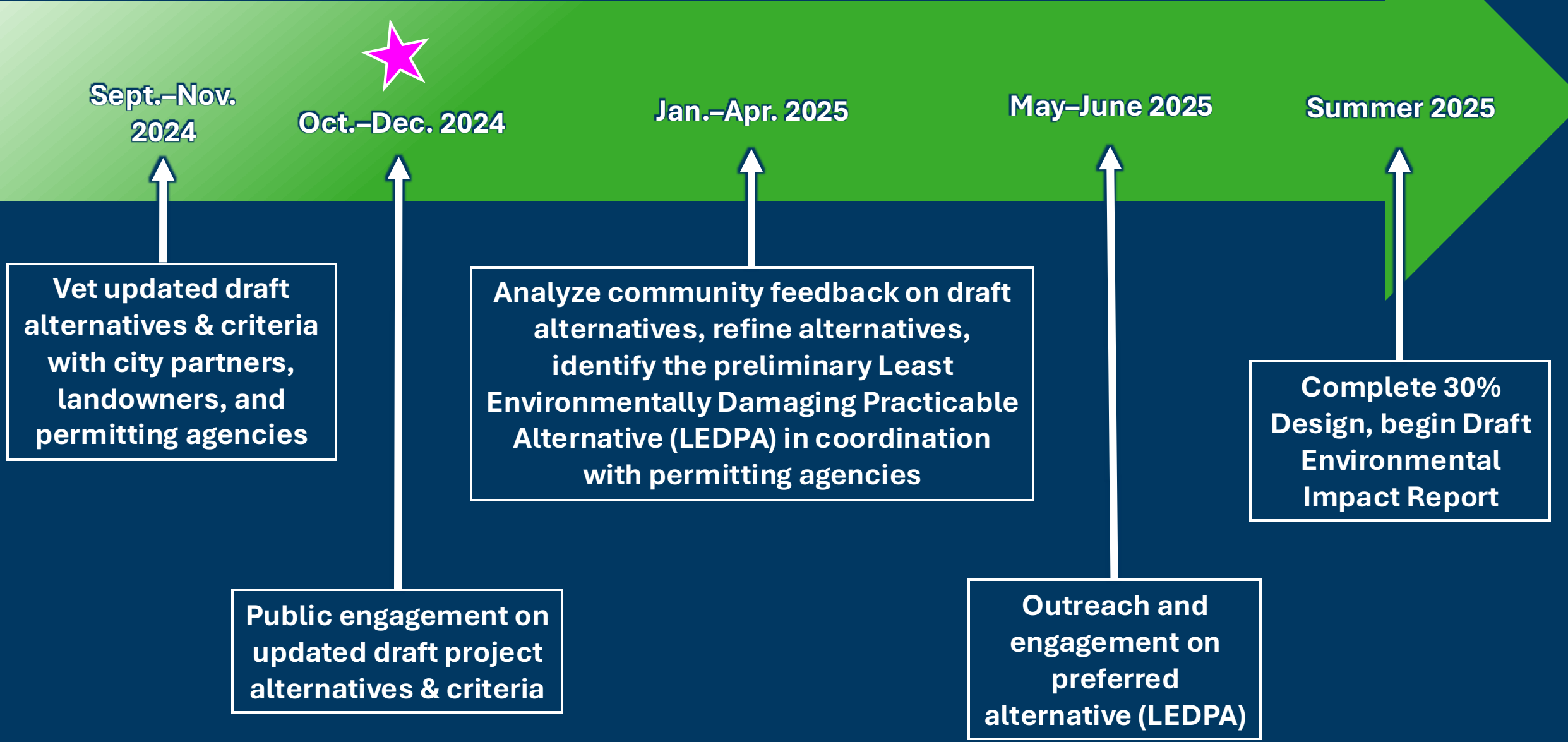
Nov. 17 Public shoreline walking tour

Nov. 18 Presentation to Burlingame City Council

Nov. 19 Millbrae Community Workshop

Dec. 4 Online Community Meeting (webinar)

Next Steps – anticipated schedule in 2025



Feedback + Q&A



OneShoreline.org/MBSRP



MBSRP@OneShoreline.org

Now, we want to hear from you!

Choose one of the following stations, we will rotate after 20 minutes:

Coastal Flood Protection



Where are areas you are concerned about protecting?

What's good and what could be challenging about the alternatives in terms of coastal protection?

Habitat



Where are areas of habitat you are concerned about?

What's good and what could be challenging about the alternatives in terms of habitat?

Public Access + Recreation



Where do you currently go for recreation along the project area?

What's good and what could be challenging about the alternatives in terms of public access + recreation?