



LOS ANGELES COUNTY  
**COASTAL RESILIENCE  
STAKEHOLDER MEETING**

January 29, 2025

# COUNTYWIDE LAND ACKNOWLEDGMENT

As Adopted by the County of Los Angeles Board of Supervisors on November 1, 2022

The County of Los Angeles recognizes that we occupy land originally and still inhabited and cared for by the Tongva, Tataviam, Serrano, Kizh, and Chumash Peoples. We honor and pay respect to their elders and descendants—past, present, and emerging—as they continue their stewardship of these lands and waters. We acknowledge that settler colonization resulted in land seizure, disease, subjugation, slavery, relocation, broken promises, genocide, and multigenerational trauma.

This acknowledgment demonstrates our responsibility and commitment to truth, healing, and reconciliation and to elevating the stories, culture, and community of the original inhabitants of Los Angeles County. We are grateful to have the opportunity to live and work on these ancestral lands. We are dedicated to growing and sustaining relationships with Native peoples and local tribal governments, including (in no particular order) the

- Fernandño Tataviam Band of Mission Indians
- Gabrielino Tongva Indians of California Tribal Council
- Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Gabrieleño Band of Mission Indians—Kizh Nation
- San Manuel Band of Mission Indians
- San Fernando Band of Mission Indians

To learn more about the First Peoples of Los Angeles County, please visit the Los Angeles City/County Native American Indian Commission website at [lanaic.lacounty.gov](http://lanaic.lacounty.gov).





# Agenda

- This meeting is being recorded
- This meeting is interactive! Stay muted until your turn to speak
- Meeting materials will be available on the website:  
<https://beaches.lacounty.gov/coastal-resilience-2/>
- Questions and comments can be sent via Email [coastalresilience@bh.lacounty.gov](mailto:coastalresilience@bh.lacounty.gov)

01 Urban Tides Project/USC Sea Grant

02 Coastal Resilience Initiative Update

03 Living Shoreline Project  
Dockweiler Alternatives Review

04 Living Shoreline Project  
Zuma & Point Dume Alternatives Review

05 Living Shoreline Project  
Redondo Alternatives Review

06 Project Schedule





# Urban Tides Project

Dane Lazarus

USC Sea Grant Coastal Resilience Specialist

- Citizen science effort
  - In parallel with the Coastal Commission King Tides project
- Goals:
  - Identify flooding hotspots
  - Visualize sea level rise impacts
  - Provide valuable data
  - Engage residents and beachgoers in preparing for coastal change



# Project Updates

## Goals:

- Coordinate multiple overlapping efforts:
  - King Tides, Urban Tides, CoastSnap
- Improve scientific data value
  - Shoreline extraction
  - Photogrammetry
  - Repeated photo point monitoring
- Improve engagement and value to users
  - Streamlined photo app and upload
  - Updated dashboard and viewer

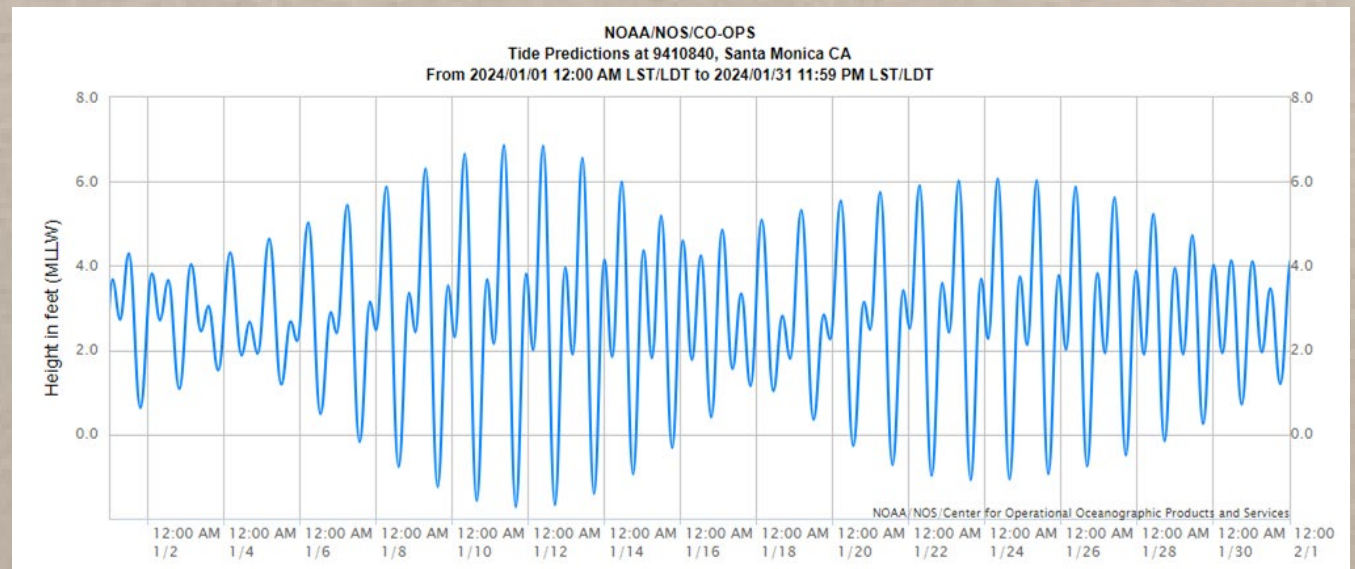


# Planned Changes

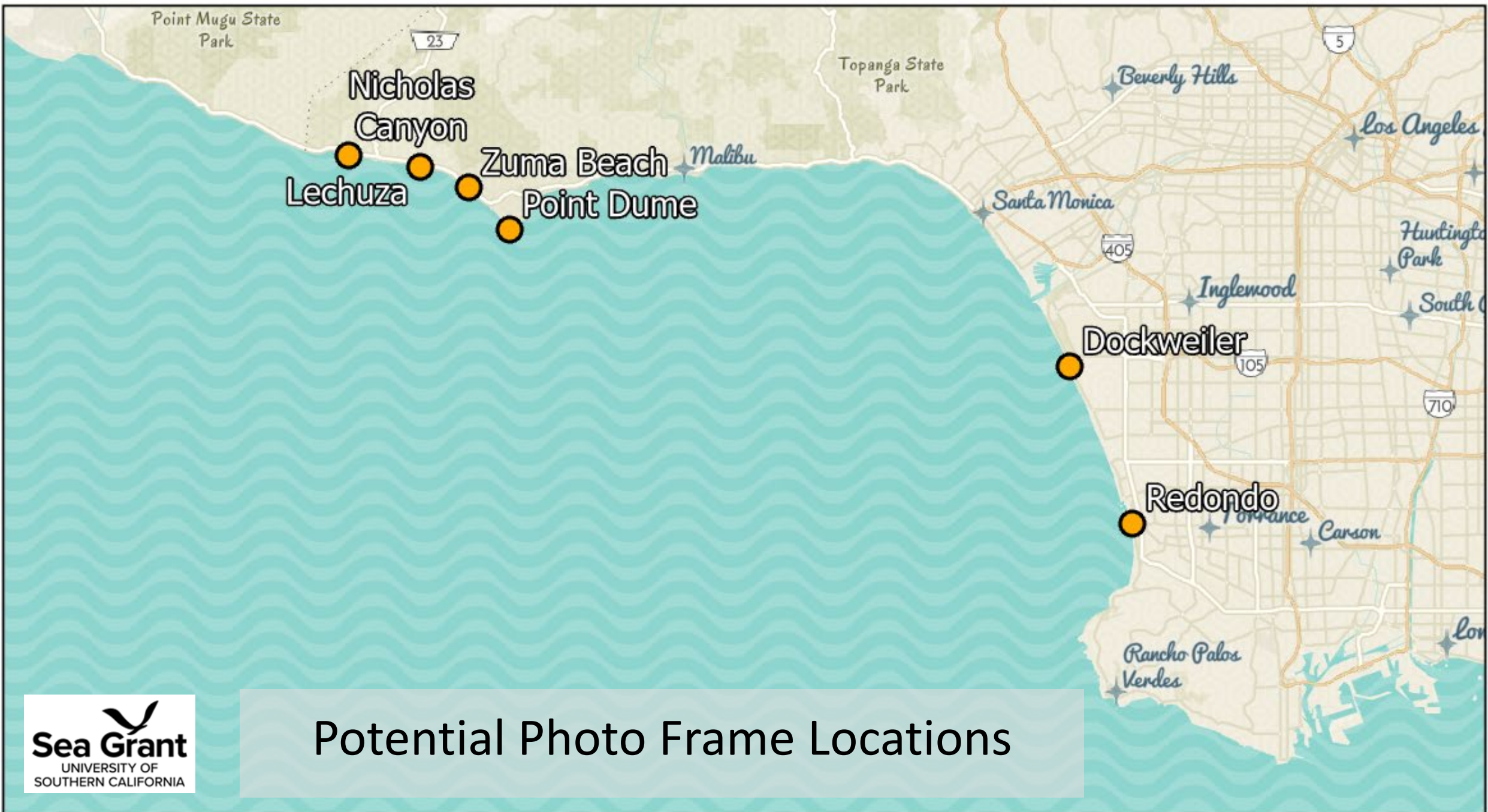
- CoastSnap app for photo collection
- Install targeted photo frames at:
  - Vulnerable sites
  - Restoration and/or nourishment projects
- Update and improve data viewer and dashboard
  - Tide/wave height
  - Translation to current SLR projections



Photo Credit: CoastSnap







# Potential Photo Frame Locations



# Coastal Resilience Initiative Update

## PLANNING PHASE

Feasibility Study in progress. Estimated to be completed in Spring 2025.

Living Shoreline Demonstration Projects

Sand Compatibility and Opportunistic Use Program (SCOUP)

## PLANNING PHASE

Establish 5 pre-approved sites for relatively small beach nourishment projects (up to 150k cubic yards per year) using opportunistically available sand sources, such as those generated from upland land development projects, harbor maintenance dredging projects, and flood control maintenance operations. Estimated to be completed in mid-2026.

LA County Regional Coastal Strategic Adaptation Plan

## PROJECT KICK OFF JANUARY 2025

Develop a regional coalition of stakeholders and prepare a strategic plan to facilitate implementation of regional shoreline management activities for the Los Angeles County coast.





# LA County Regional Coastal Strategic Adaption Plan

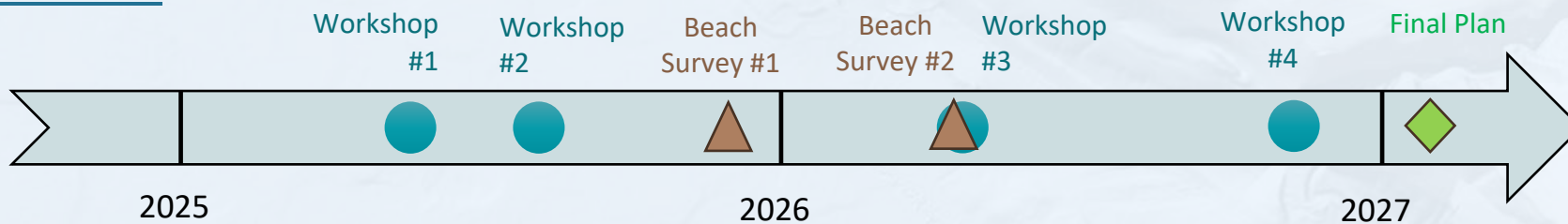
*Developing the foundation for collaboration to protect and enhance the shoreline and ensure public access by making the beaches more resilient to current coastal erosion and future SLR*

- County led initiative to develop a **regional coalition** of stakeholders to facilitate shoreline management **across multiple jurisdictions**
- Funded by a **\$1M grant** awarded through OPC's SB1 Grant Program

## Project Work Plan

- Organize and Initiate Stakeholder Meetings
- Prepare Shoreline Management Strategic Plan
- Establish and Conduct Regional Shoreline Monitoring Program

## Schedule





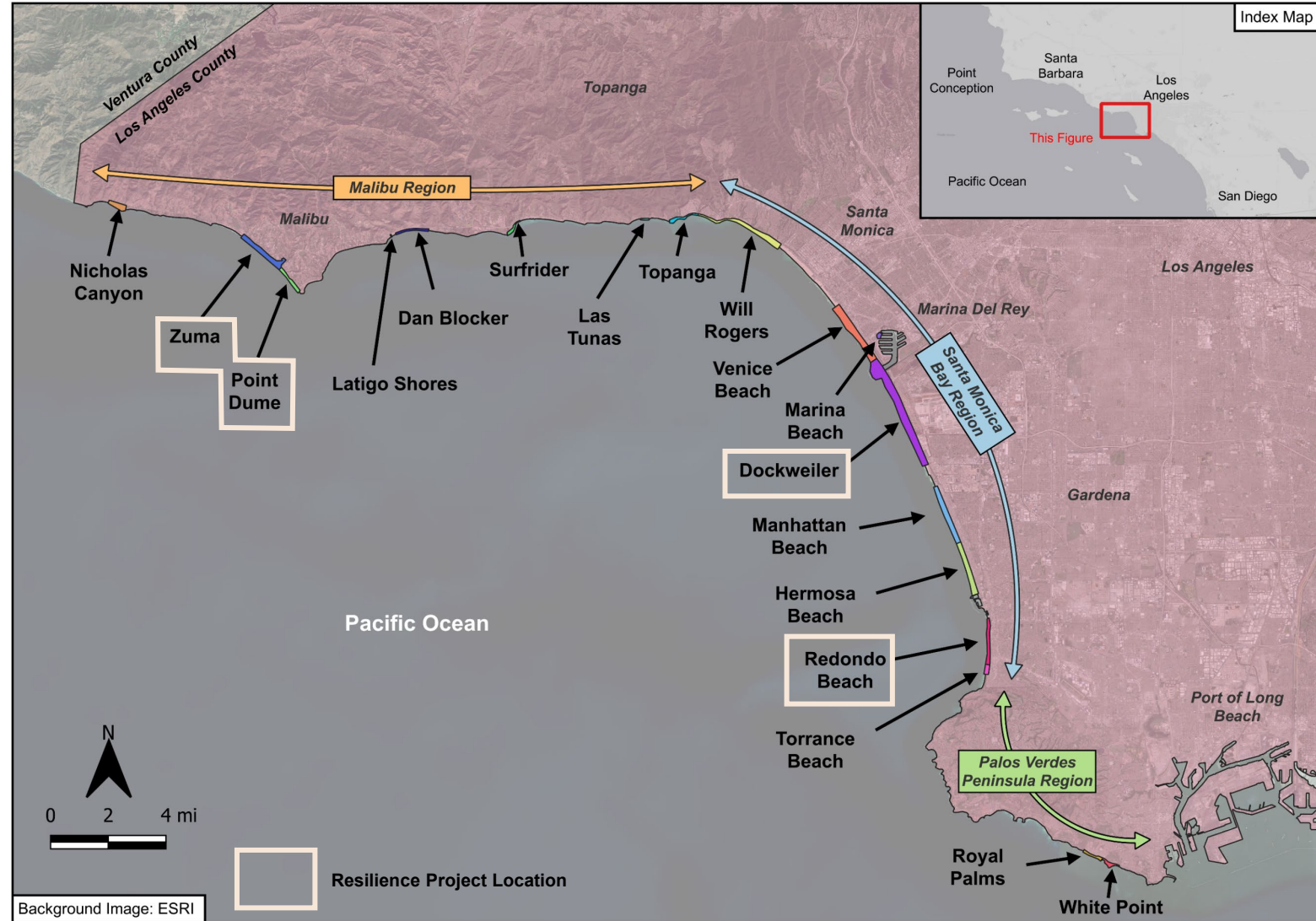
# Living Shoreline Demonstration Projects

## Purpose

- Increase resilience to present and future coastal hazards
- Preserve and enhance equitable public access to County-owned or maintained beaches

## Projects

- **Zuma Beach and Point Dume**  
Increase sediment supply and expand habitat through beach nourishment and dune creation
- **Dockweiler State Beach**  
Enhance and expand dune habitat and limit sediment transport onto bike path, sidewalk, and parking lot
- **Redondo Beach**  
Increase beach widths and create dune habitat between Topaz Groin and Redondo Pier through beach nourishment

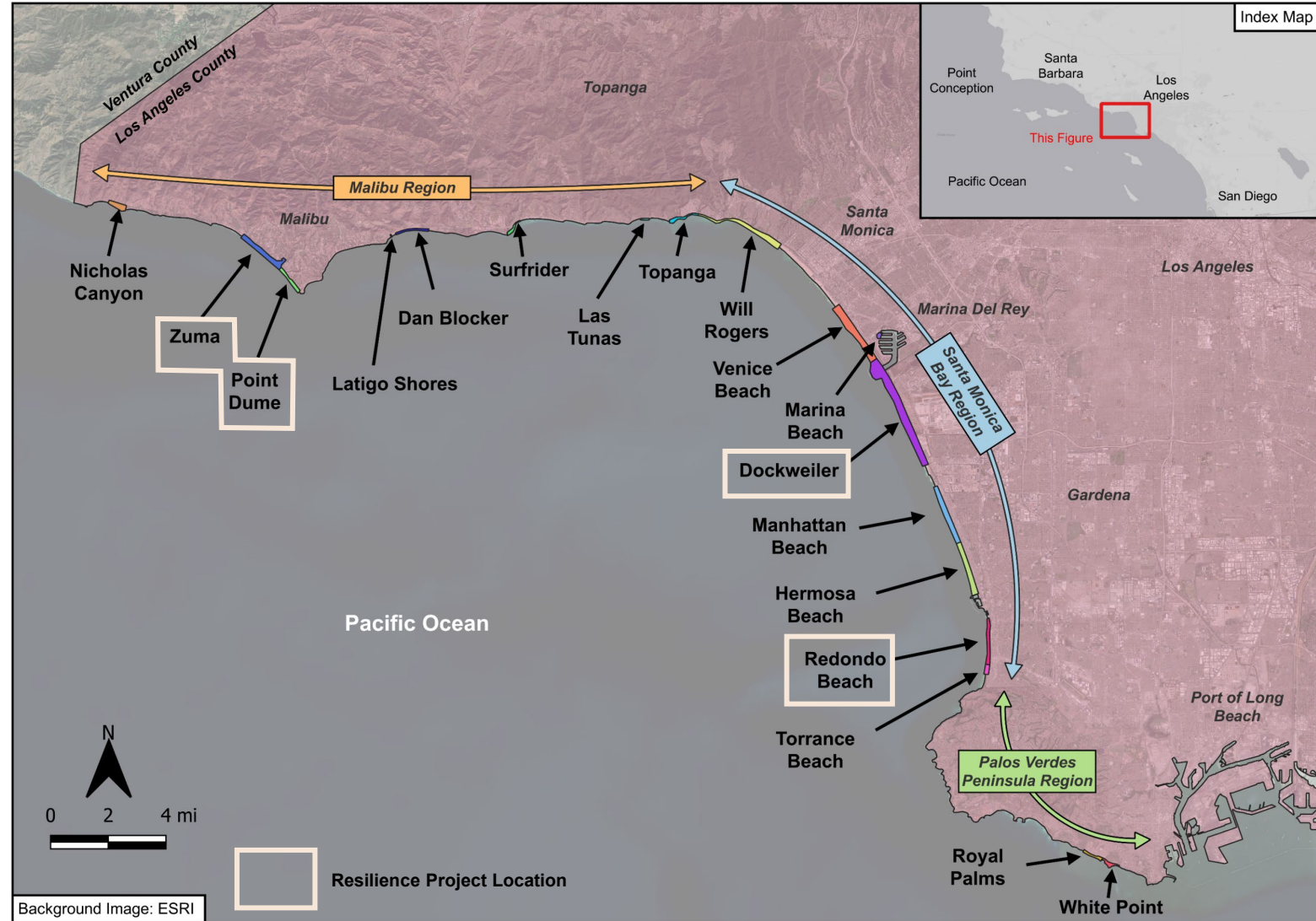




# Living Shoreline Demonstration Projects

## Approach

1. Identify project objectives
2. Summarize opportunities and constraints
3. Develop a **proposed project** and **two alternatives**.
4. Evaluate the performance of each project and alternative. **Evaluation metrics:**
  - Net increase in beach width
  - Quantity of dune habitat
  - Environmental benefits and impacts
  - Public access benefits and impacts
  - Economic analysis (*to be completed*)





# Dockweiler State Beach

## Objectives

- Manage and expand existing dune system
- Reduce wind-blown sediment on bike path and parking lot
- Provide educational information related to dunes (habitat creation, risk reduction, and resilience planning)





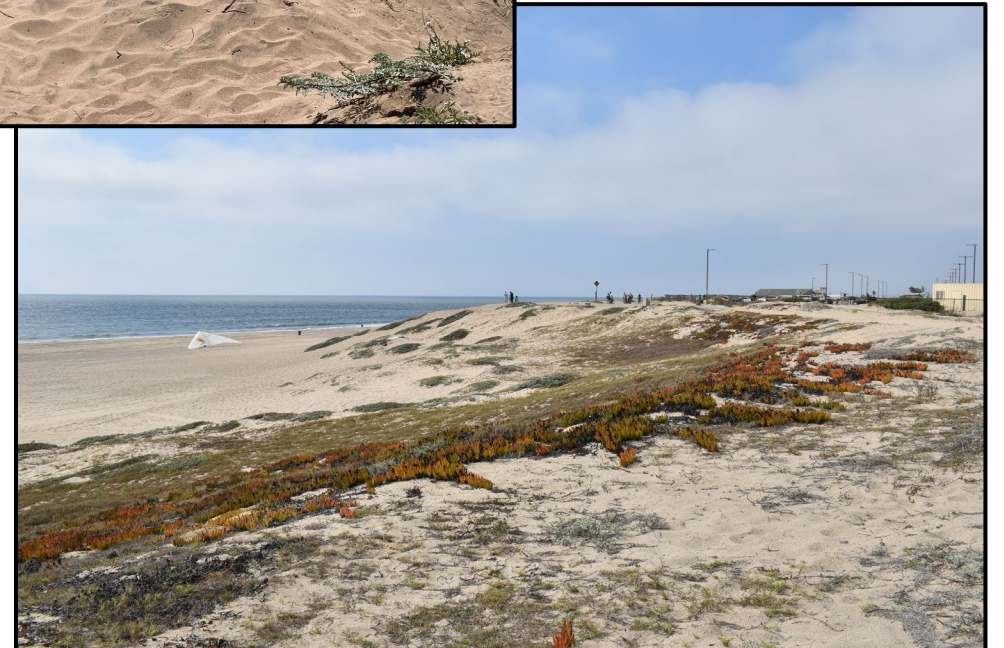
# Dockweiler State Beach

## Opportunities

- Dunes presently exist at the site
  - Project scale is relatively small
- Improves the likelihood for funding and expedited construction

## Constraints

- Public access must be preserved
- Existing public use (Hang Gliding)
- Existing biological habitat
  - Western Snowy Plover
  - El Segundo Butterfly

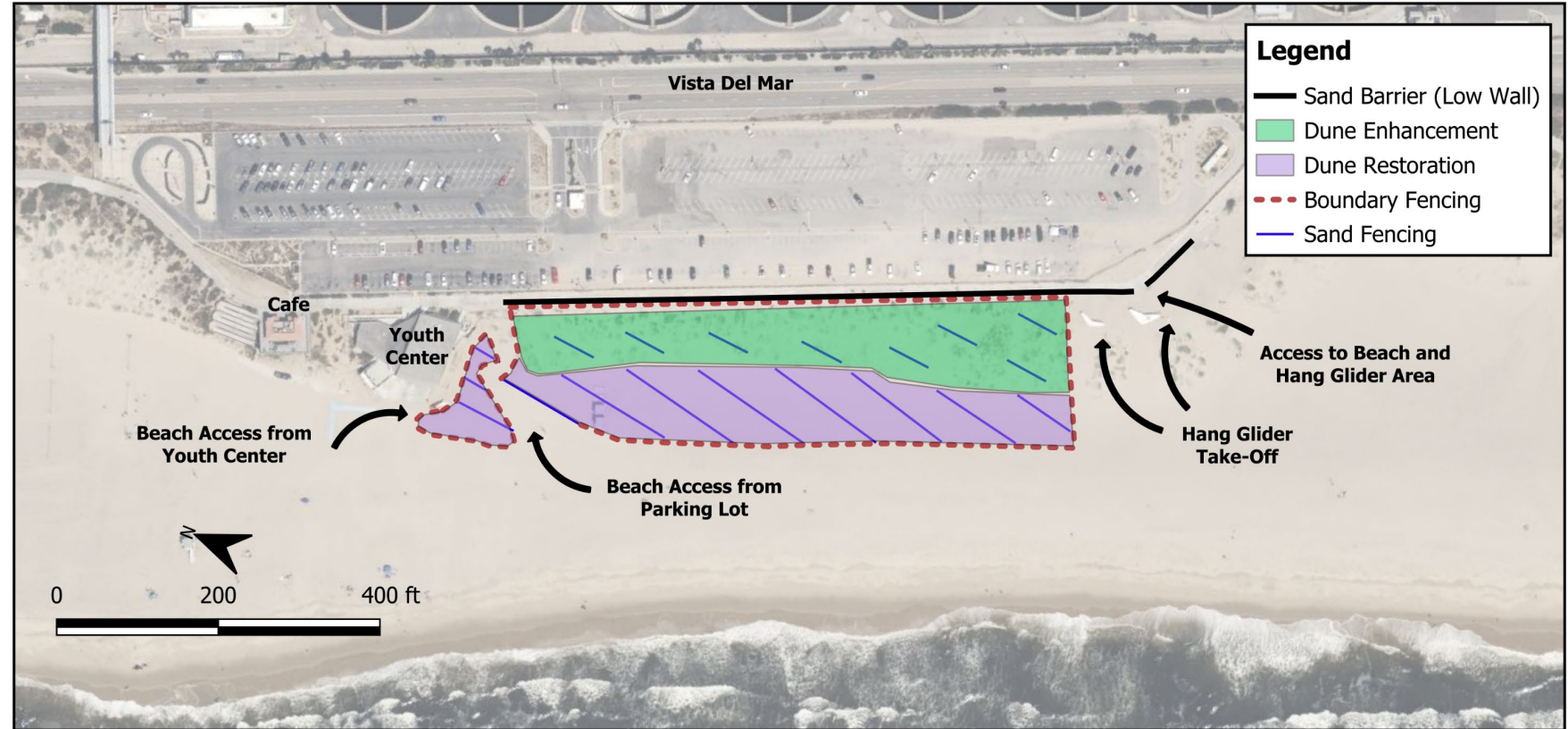


# Dockweiler State Beach

## Proposed Project

- Low sand barrier at bike path
- Enhancement of existing dunes
- Restoration (expansion) of dunes seaward
- Public accessways at three locations

*Low sand barrier at Zuma Beach*





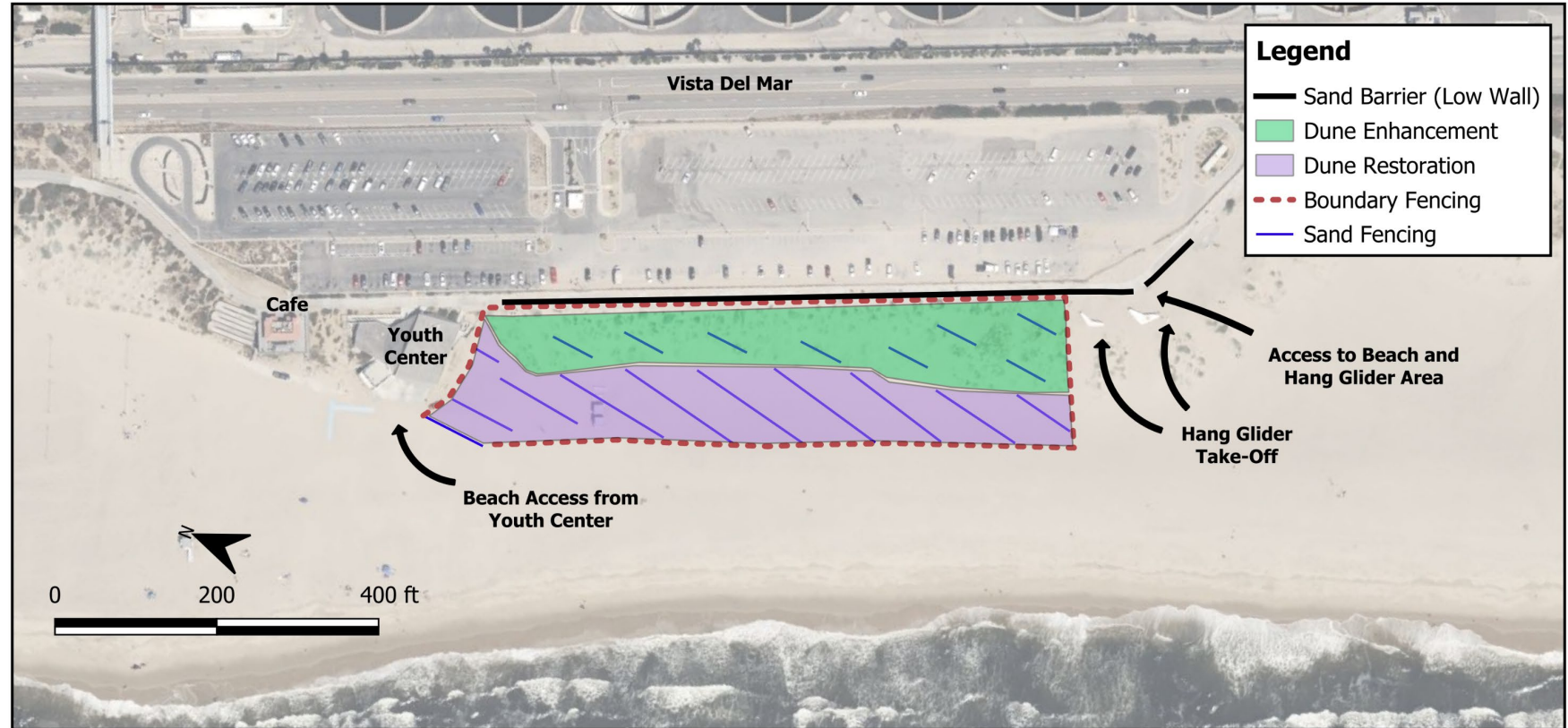
# Dockweiler State Beach

## Alternative 1

- Low sand barrier at bike path
- Enhancement of existing dunes
- Restoration (expansion) of dunes seaward
- Public accessways at two locations

## Difference from Proposed

- Increase restored dune area
- Remove beach access through dunes



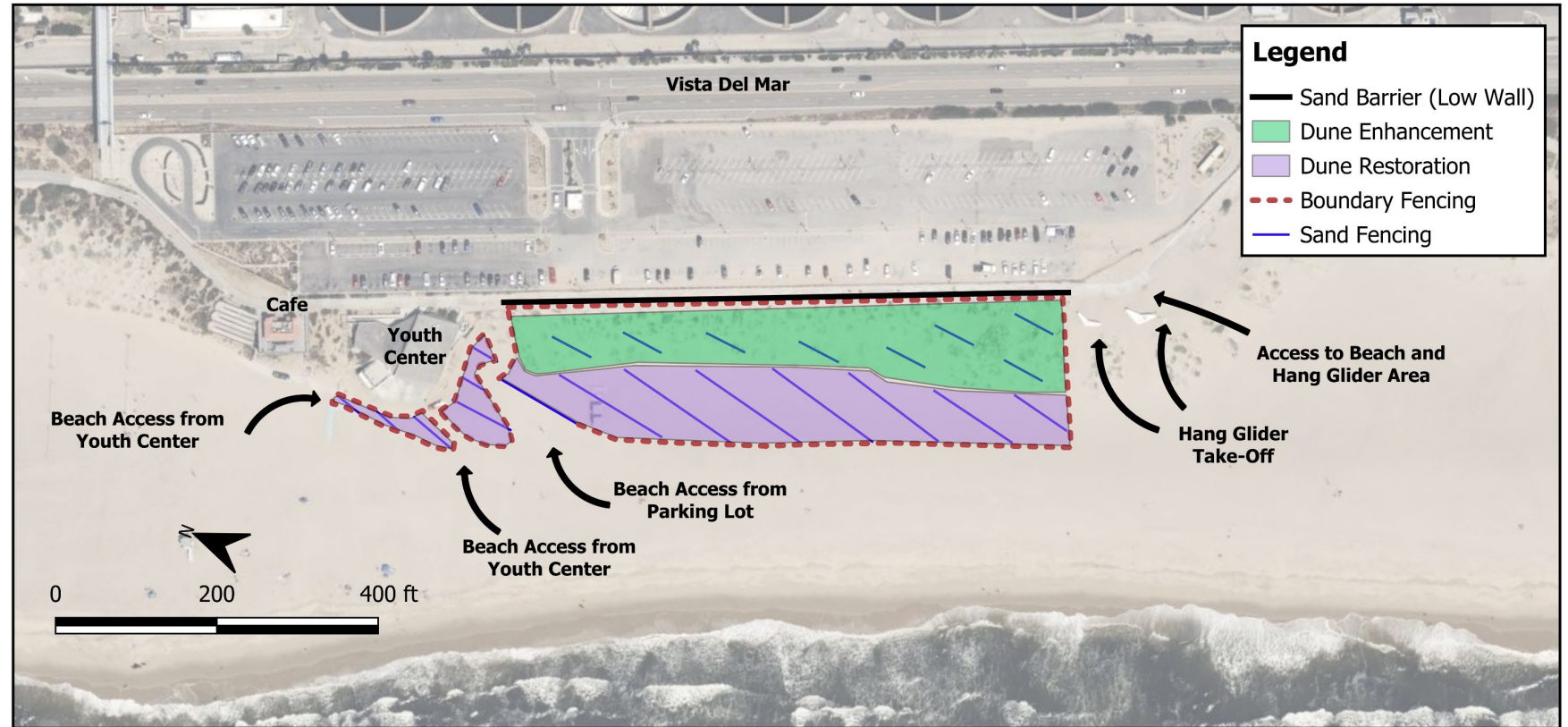
# Dockweiler State Beach

## Alternative 2

- Low sand barrier at bike path
- Enhancement of existing dunes
- Restoration (expansion) of dunes seaward and at Youth Center
- Public accessways at four locations

## Difference from Proposed

- Decrease length of sand barrier
- Increase restored dune area

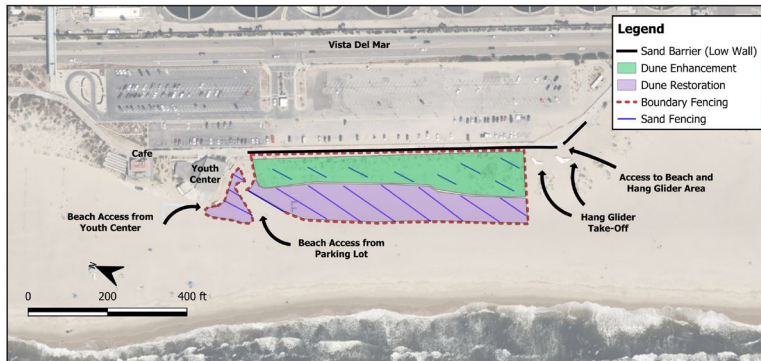




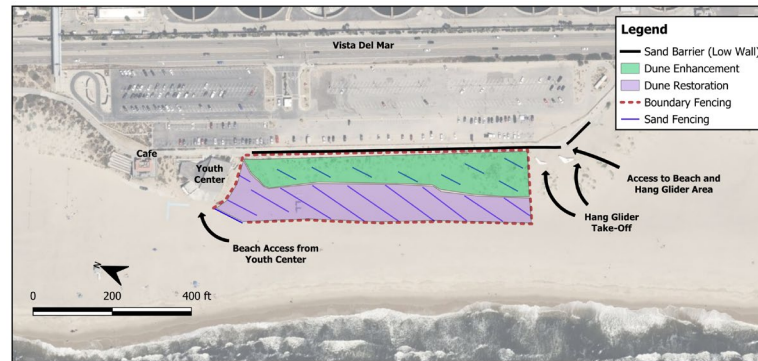
# Dockweiler State Beach - Summary

Project	Enhanced Dune Habitat	Restored Dune Habitat	Length of Sand Barrier	Number of Beach Access Points
Proposed	1.3 acres	1.3 acres	850 ft	3
Alternative 1	1.3 acres	1.5 acres	850 ft	2
Alternative 2	1.3 acres	1.4 acres	700 ft	4

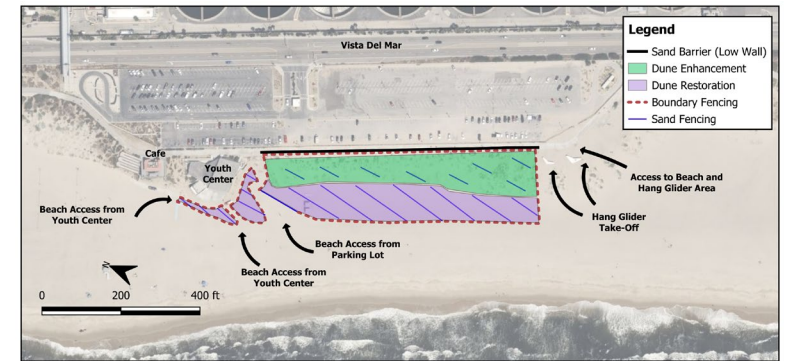
*Proposed Project*



*Alternative 1*



*Alternative 2*



# Dockweiler State Beach – Next Steps

## Next Steps

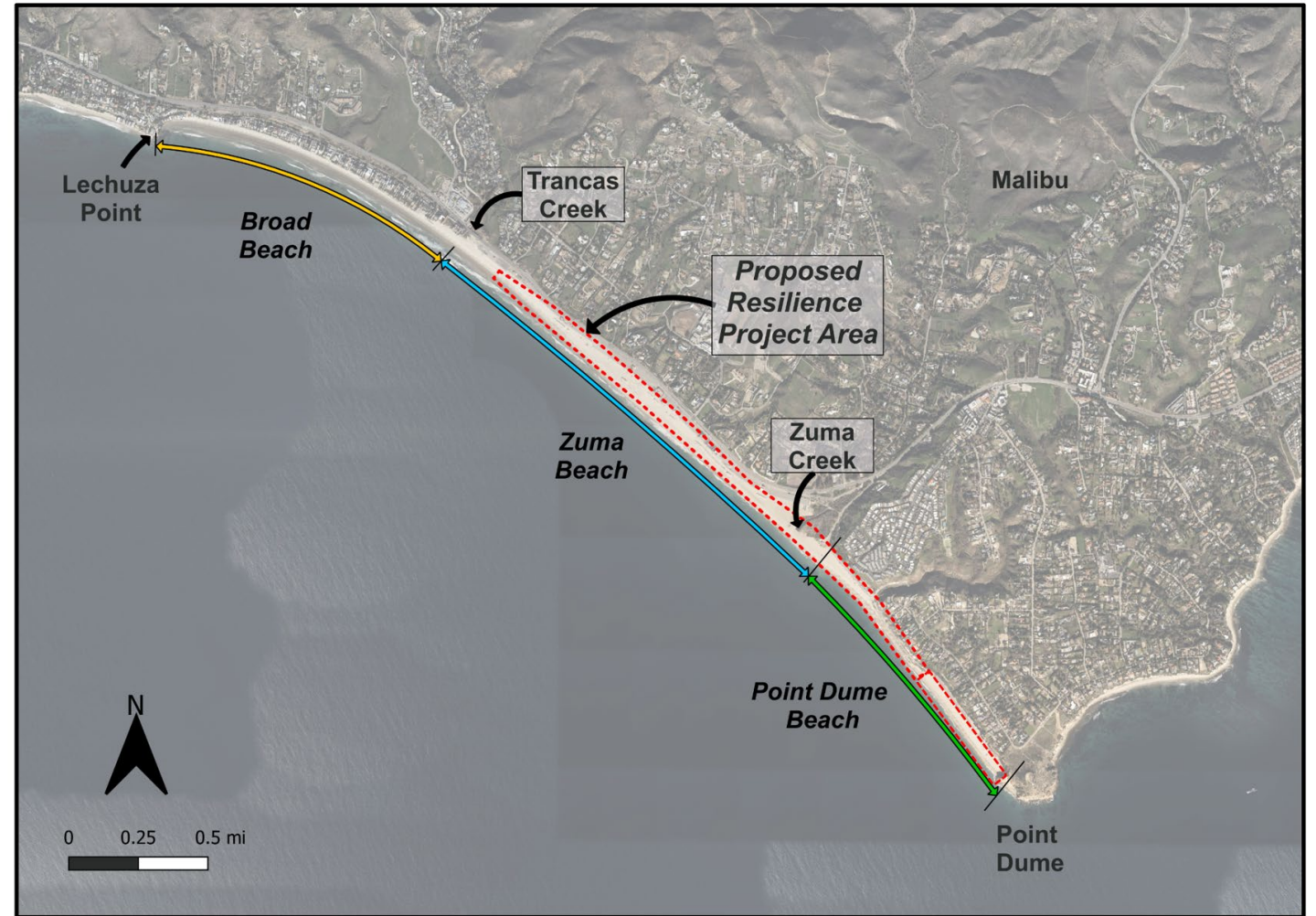
1. Confirm selected alternatives are suitable based on public feedback
2. Apply relative weights for evaluation metric
  - Quantity of dune habitat
  - Environmental benefits and impacts
  - Public access benefits and impacts
  - Economic analysis (*to be completed*)
3. Rank alternatives based on weighted score



# Zuma Beach and Point Dume Beach

## Objectives

- Expand public access and recreational opportunities
- Increase protection of coastal infrastructure
- Increase and enhance sensitive sandy beach and dune habitat
- Expand local and regional economic benefits



# Zuma Beach and Point Dume Beach

## Opportunities

- Sediment placed at Zuma Beach is expected to benefit Point Dume Beach and other down-drift beaches
- Could be considered mitigation for impacts to sandy beach from Westward Beach Road revetment
- Significant portions of the shoreline have “high potential” for self sustaining dunes

## Constraints

- Point Dume Beach is in the Point Dume **State Marine Reserve**
- Public access must be preserved
- Existing biological habitat
  - Western Snowy Plover
  - Essential Fish Habitat
  - Area of Special Biological Significance





# Zuma Beach and Point Dume Beach

## State Marine Reserve

- Point Dume Beach
- More restrictive

*In a state marine reserve, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource, except under a scientific collecting permit issued by the department pursuant to Section 650 or specific authorization from the commission for research, restoration, or monitoring purposes (California Code of Regulations Title 14, Section 632).*

## State Marine Conservation Area

- Zuma Beach
- Less restrictive
- Beach nourishment is allowed

**Beach nourishment and other sediment management activities are allowed** inside the conservation area pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

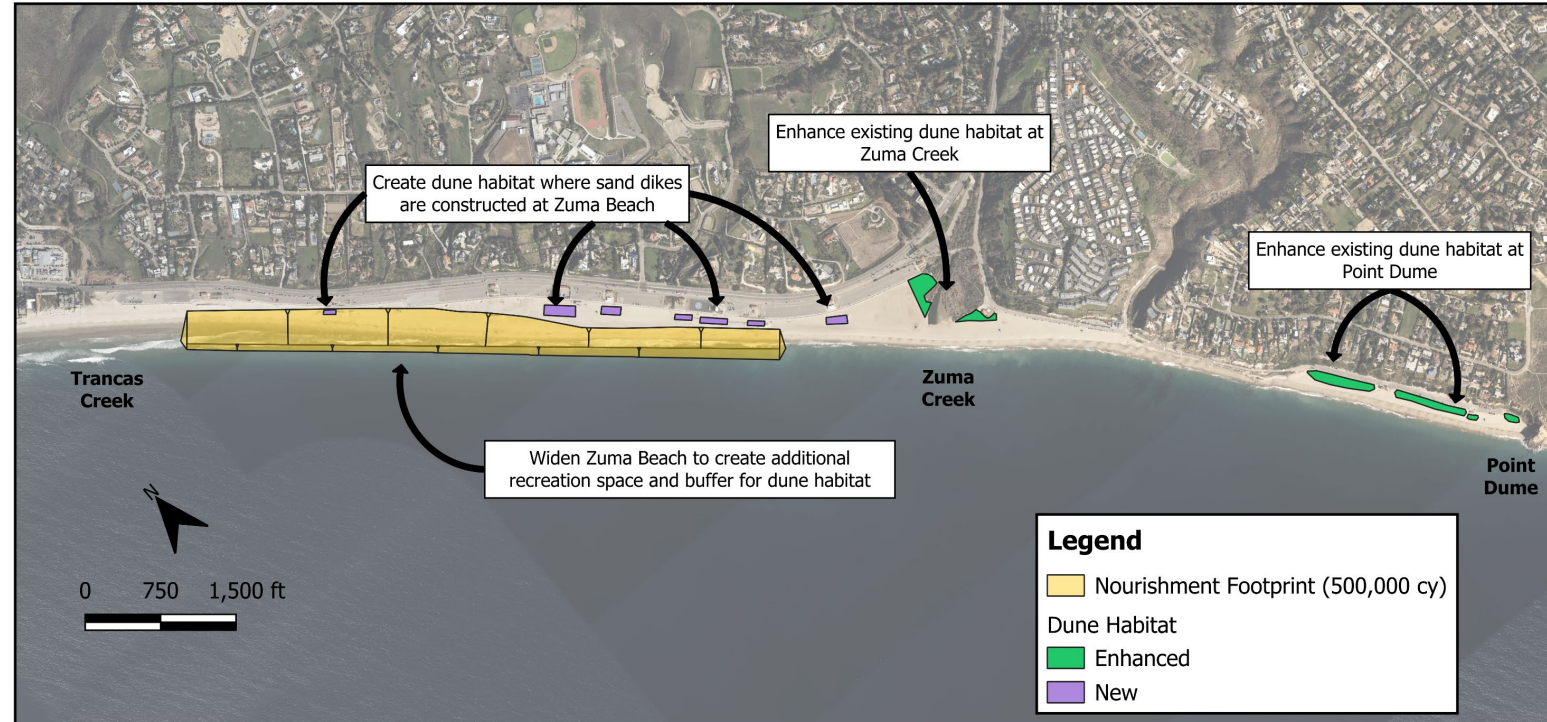
*Applies to area below Mean High Tide Line*



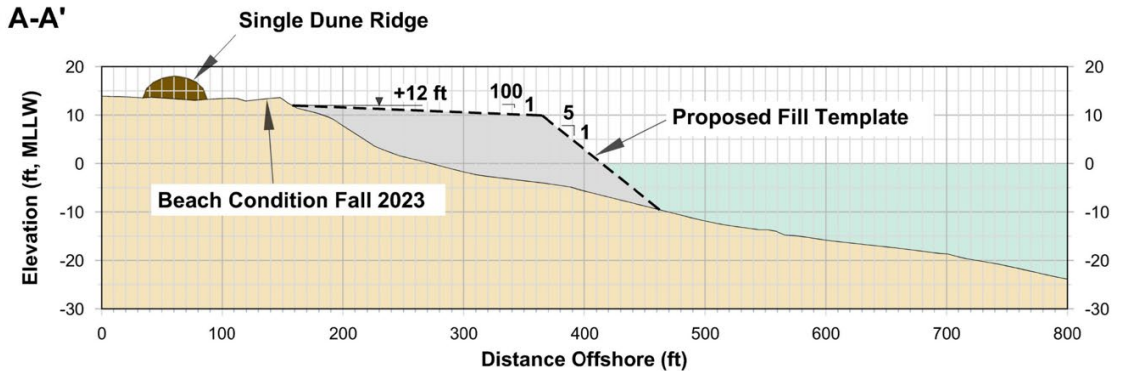
# Zuma Beach and Point Dume Beach

## Proposed Project

- Beach nourishment at Zuma (500,000 cy)
  - Renourishment interval ~5 years
- Create dune habitat at Zuma Beach where winter sand dikes are typically built
- Enhance existing dune habitat at Zuma Creek and Point Dume Beach



Section A-A'





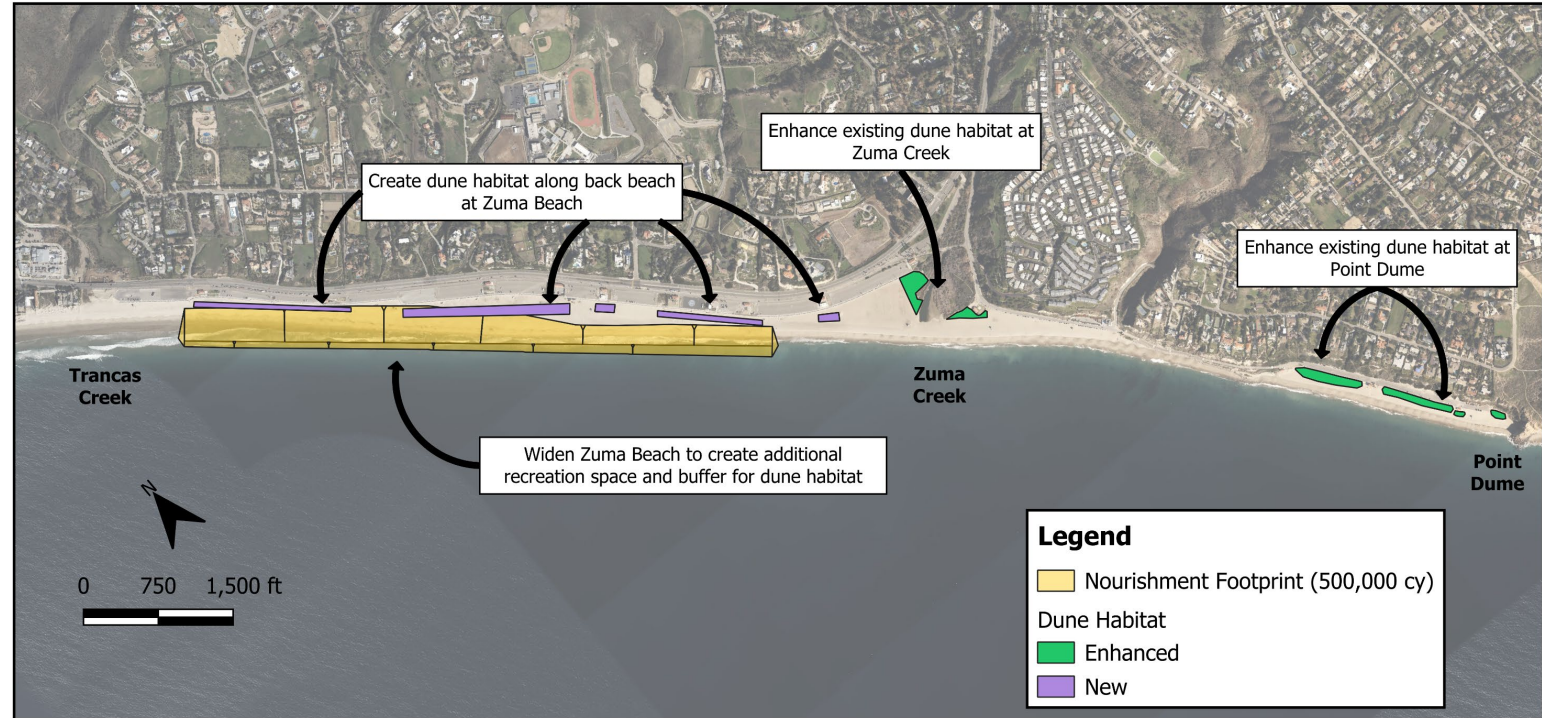
# Zuma Beach and Point Dume Beach

## Alternative 1

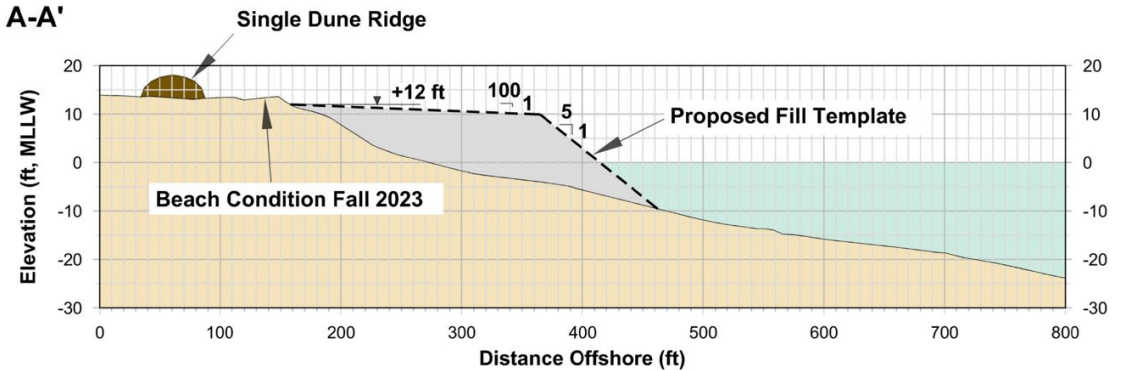
- Beach nourishment at Zuma (500,000 cy)
  - Renourishment interval ~5 years
- Create dune habitat at Zuma Beach where winter sand dikes are typically built and along back beach
- Enhance existing dune habitat at Zuma Creek and Point Dume Beach

## Difference from Proposed

- Increase new dune area at Zuma Beach



Section A-A'



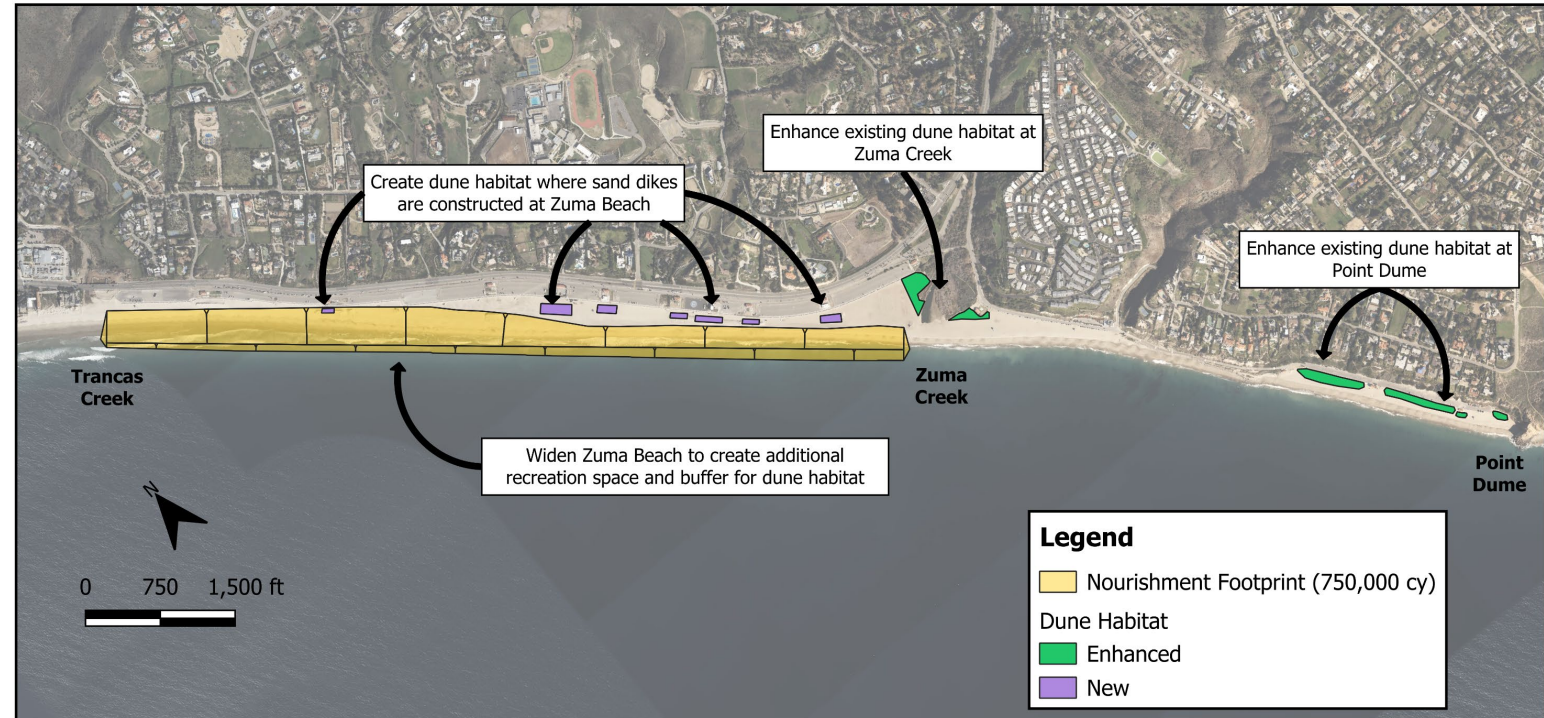
# Zuma Beach and Point Dume Beach

## Alternative 2

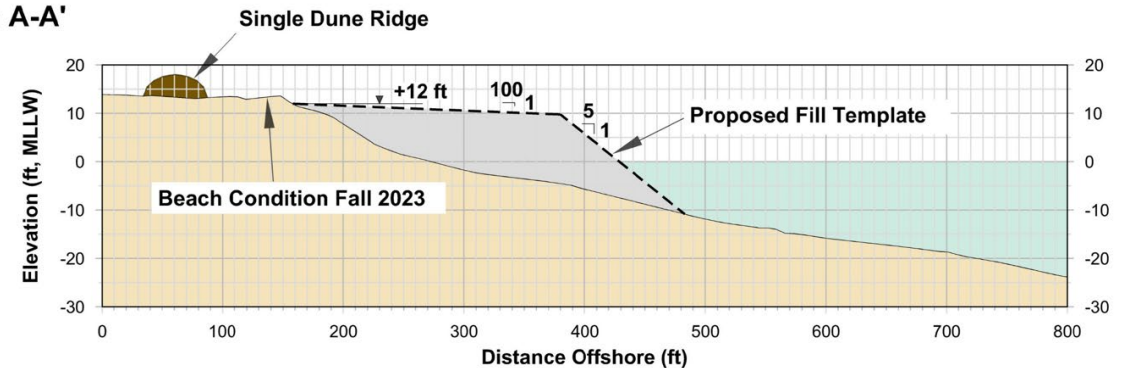
- Beach nourishment at Zuma (750,000 cy)
  - Renourishment interval ~8 years
- Create dune habitat at Zuma Beach where winter sand dikes are typically built
- Enhance existing dune habitat at Zuma Creek and Point Dume Beach

## Difference from Proposed

- Larger nourishment volume
- Less frequent renourishment



## Section A-A'

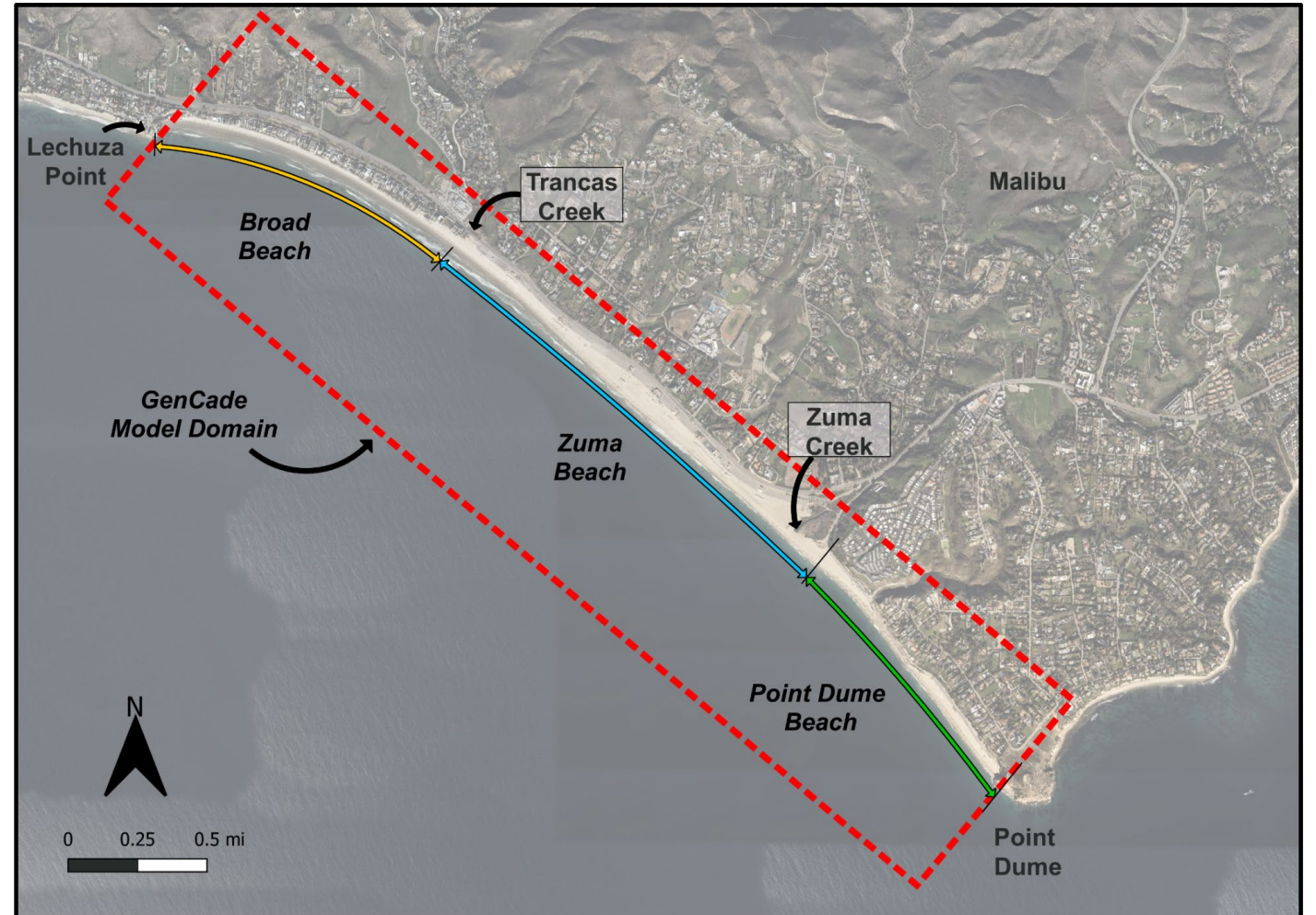




# Zuma Beach and Point Dume Beach

## Shoreline Evolution Modeling

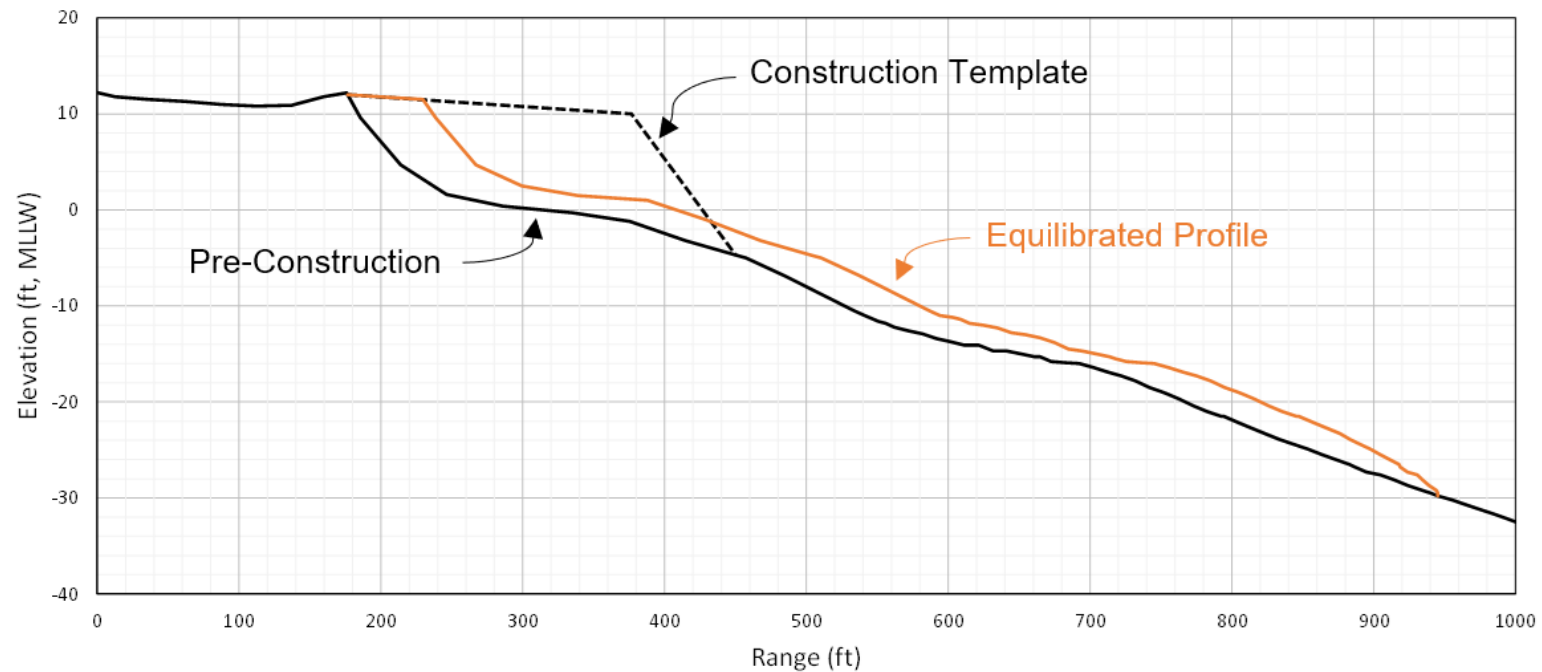
- GenCade (U.S. Army Corps of Engineers)
- Wave-induced sediment transport (alongshore)
- Inputs
  - Shoreline position
  - Sediment characteristics
  - Coastal structures
  - Sediment sources and sinks
  - Wave conditions
- Model Calibration
  - 2009 to 2016
  - **RMS error = 22 ft**
- Model Simulations
  - 2030 to 2050
  - **20-year design life**



# Zuma Beach and Point Dume Beach

## Beach Equilibration

- Occurs over the course of about one season
- Construction template = 200 ft wide
- Equilibrated condition = 50 ft wide (*conservative estimate*)



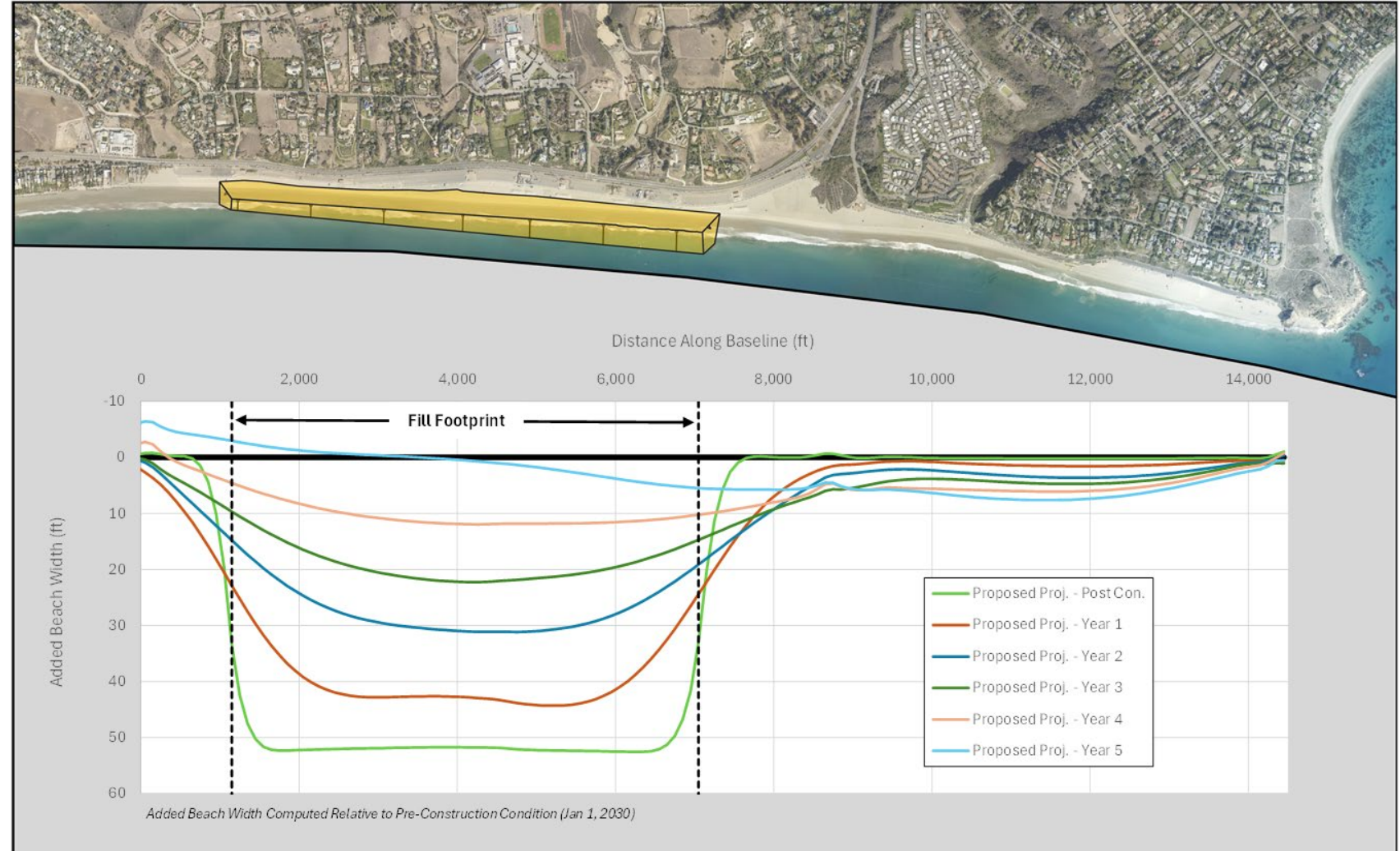


# Zuma Beach and Point Dume Beach

## 500,000 cy Nourishment

### Proposed Project and Alternative 1

- Initial added beach width ~50 ft
- Primary transport toward Point Dume
- Some material toward Lechuza Point
- Renourishment interval ~5 years
- Added beach width at Point Dume ~10 ft

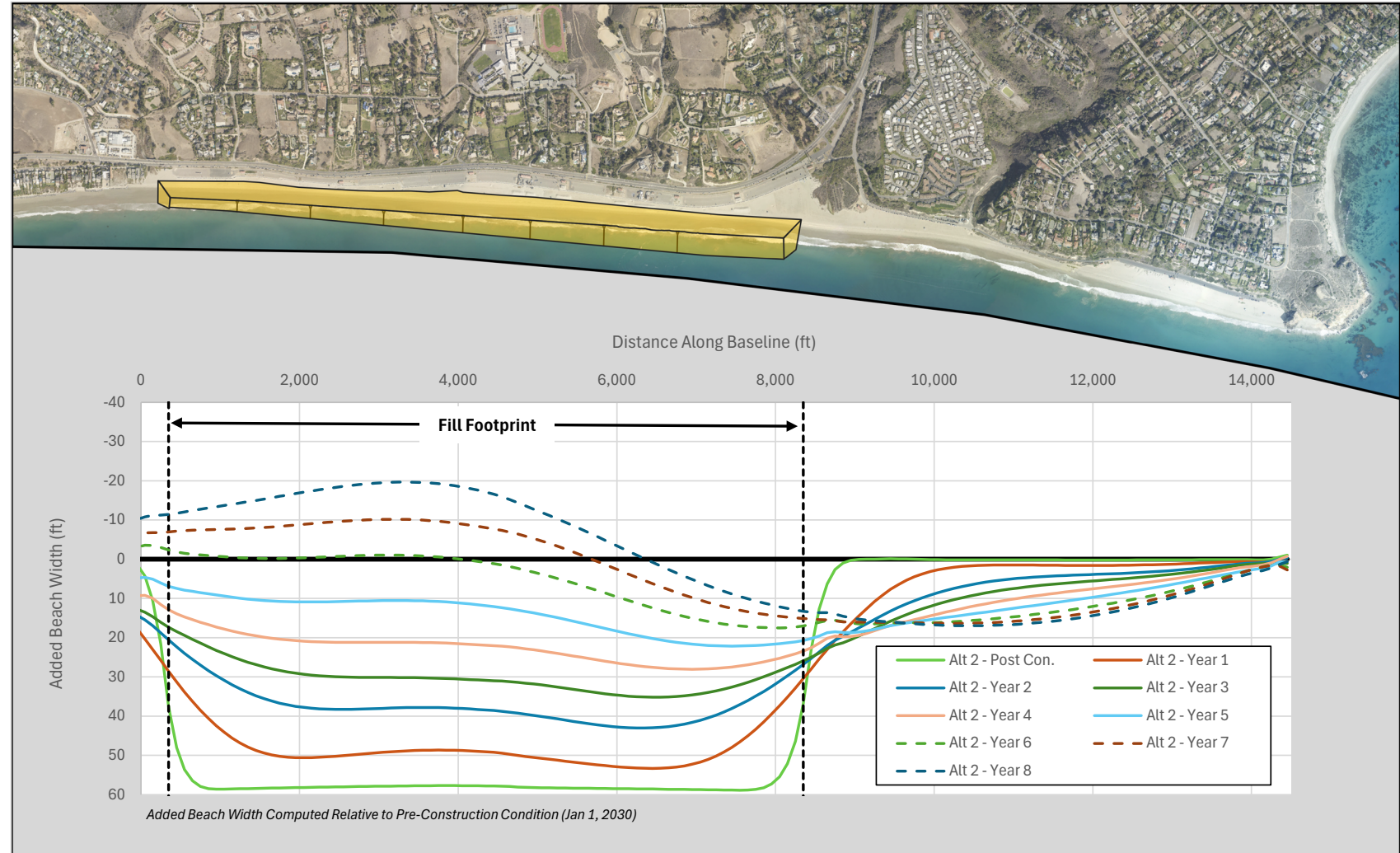


# Zuma Beach and Point Dume Beach

## 750,000 cy Nourishment

### Alternative 2

- Initial added beach width ~60 ft
- Primary transport toward Point Dume
- Some material toward Lechuza Point
- Added beach width retained from Zuma to Point Dume for ~8 years
- Added beach width at Point Dume ~20 ft

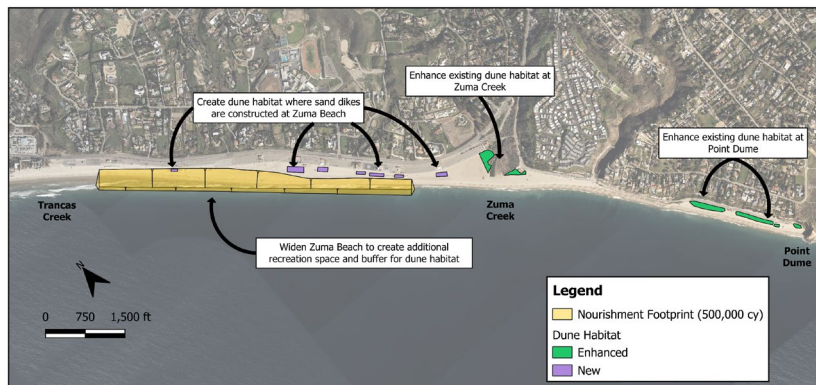




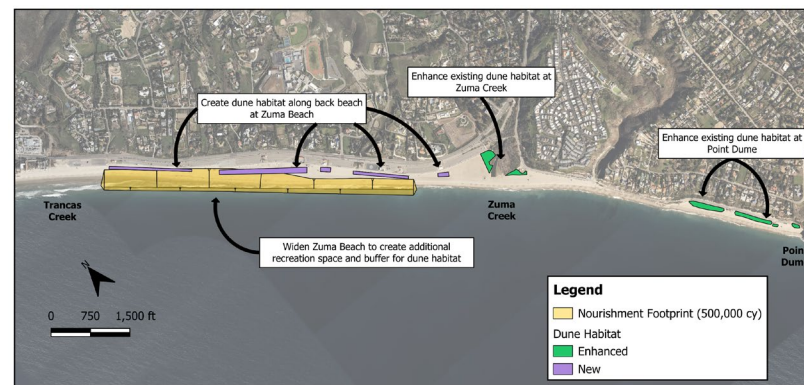
# Zuma Beach and Point Dume Beach- Summary

Project	Beach Nourishment	Renourishment Interval	New Dune Habitat	Enhanced Dune Habitat
Proposed	500,000 cy	5 years	2.5 acres	4.5 acres
Alternative 1	500,000 cy	5 years	7.5 acres	4.5 acres
Alternative 2	750,000 cy	8 years	2.5 acres	4.5 acres

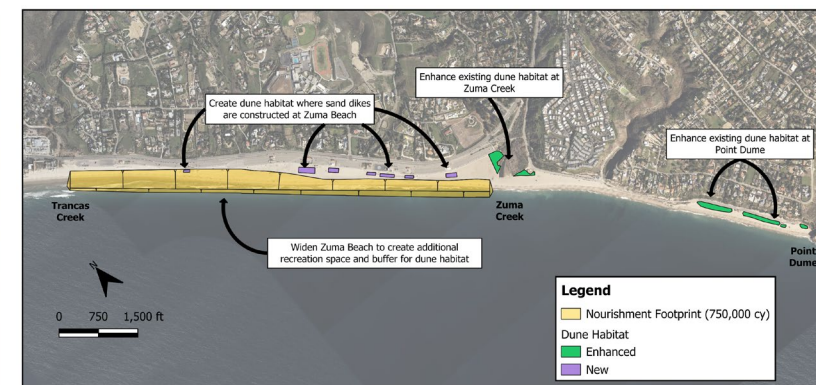
Proposed Project



Alternative 1



Alternative 2



# Zuma Beach and Point Dume Beach – Next Steps

## Next Steps

1. Confirm selected alternatives are suitable based on public feedback
2. Apply relative weights for evaluation metric
  - Net increase in beach width
  - Quantity of dune habitat
  - Environmental benefits and impacts
  - Public access benefits and impacts
  - Economic analysis (*to be completed*)
3. Rank alternatives based on weighted score



# Redondo Beach

## Objectives

- Expand public access and recreational opportunities
- Increase protection of coastal infrastructure
- Increase and enhance sensitive sandy beach and dune habitat
- Expand local and regional economic benefits





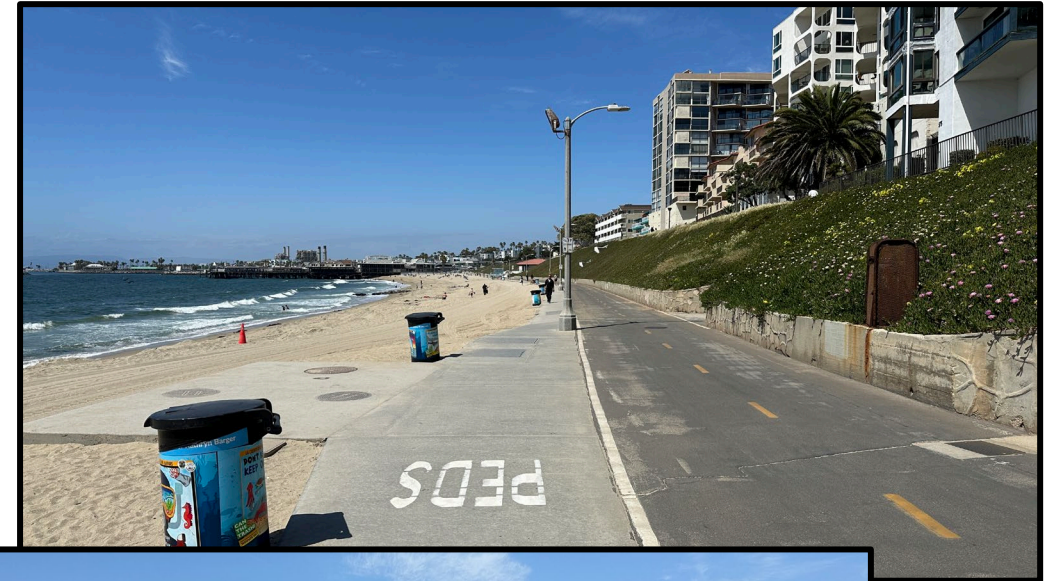
# Redondo Beach

## Opportunities

- Prior use as beach nourishment site (USACE)
- Pier provides possible location for sediment retention structure
- No negative down-drift impacts from sediment retention (to the north)

## Constraints

- Public access must be preserved
- Towel space will be reduced where dunes are created
- Potential grunion impacts during nourishment
- Proximity to Redondo Submarine Canyon

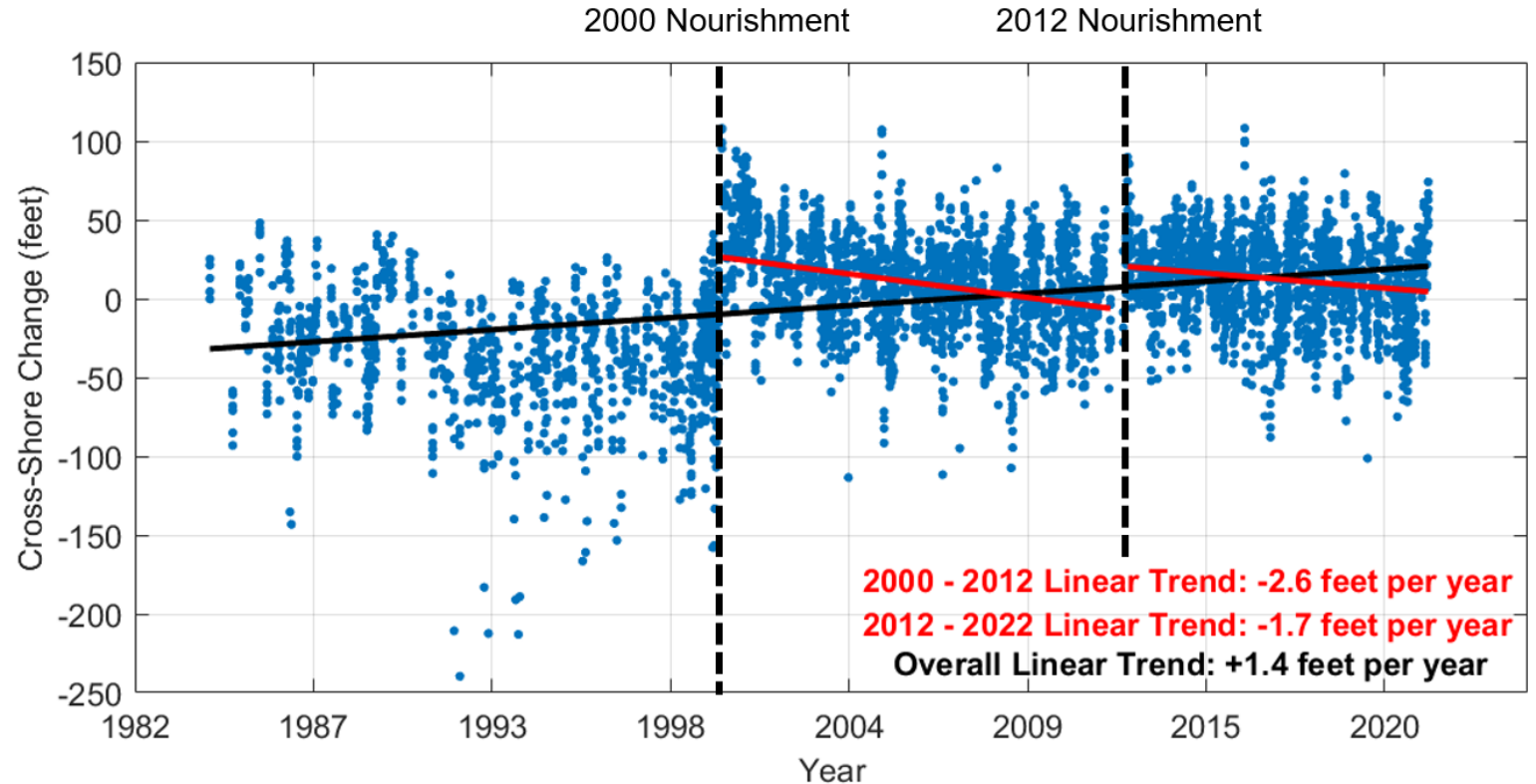




# Redondo Beach

## Prior Shoreline Changes

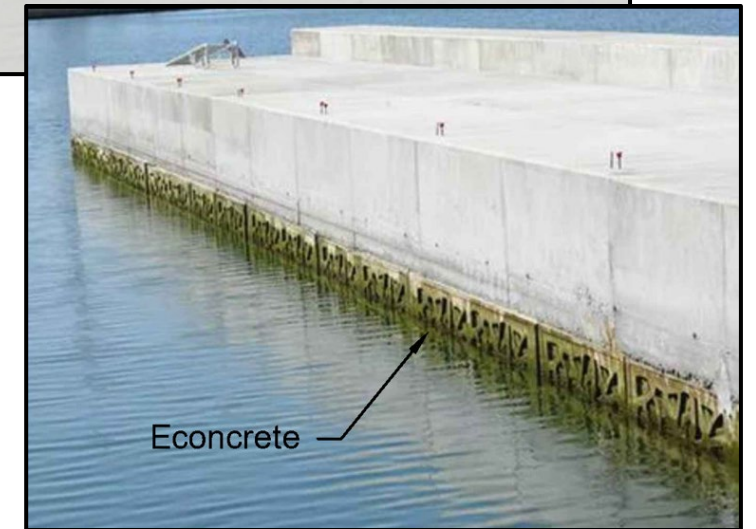
- CoastSAT shoreline analysis tool
- Shoreline changes between Topaz Groin and Pier from 1985 to 2022
- Similar rates of retreat following nourishment events
  - 2000-2012: -2.6 ft/yr
  - 2012-2022: -1.7 ft/yr
- Adopted average rate: **-2.0 ft/yr**
- Relatively stable beach, despite proximity to submarine canyon



# Redondo Beach

## Pier Groin

- Similar to Seal Beach Pier
- Potential ecologic facade (ECONcrete)  
encourages biological recruitment, increases carbon sequestration
- Assume rate of retreat is half of rate without retention: **-1.0 ft/yr**

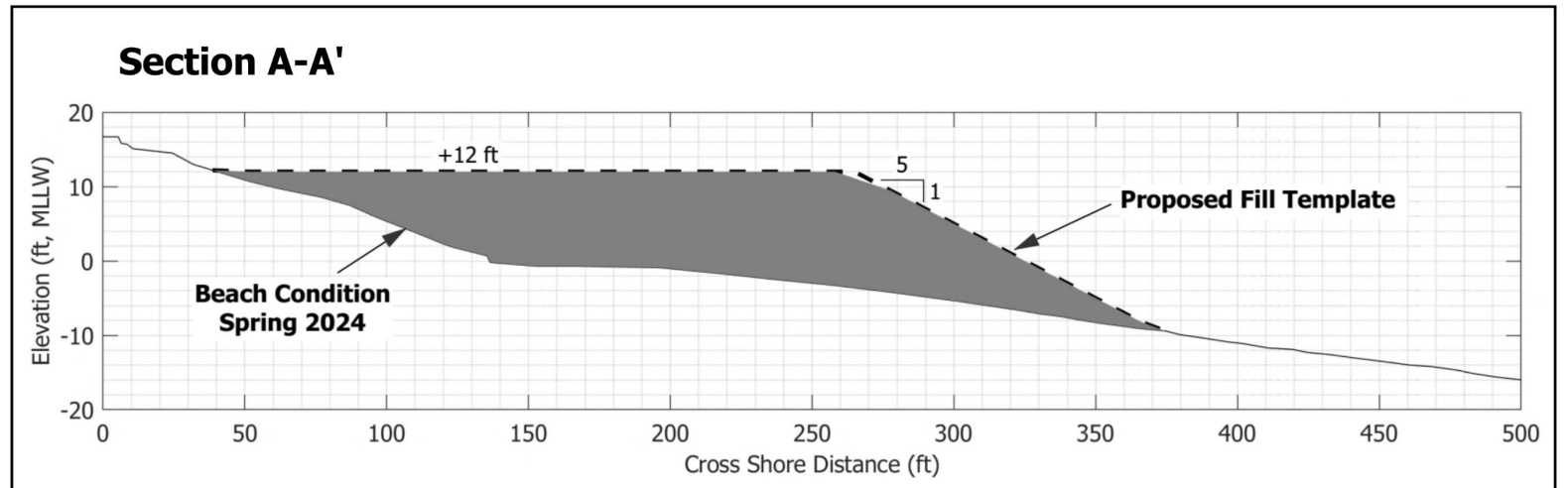
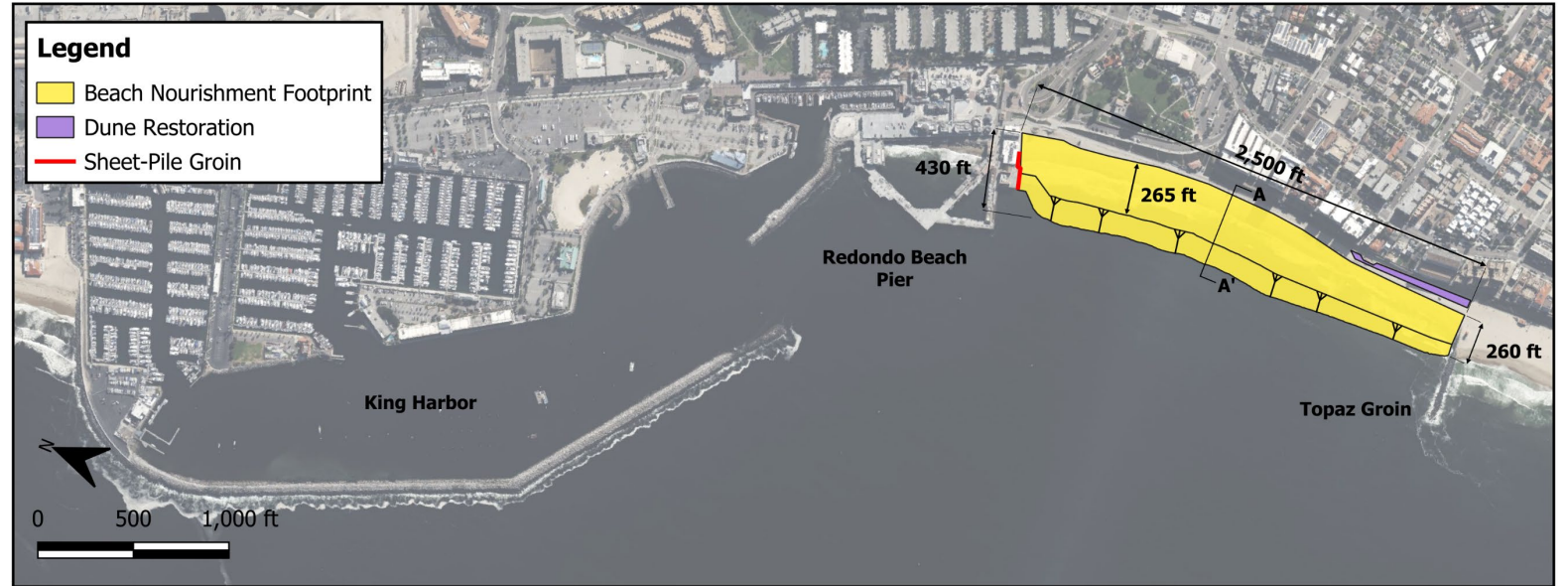




# Redondo Beach

## Proposed Project

- Beach nourishment (300,000 cy)
  - ~90-ft wide equilibrated beach width at start of project
  - ~70-ft wide beach after 20 years
- Dune restoration at south end
- Sediment retention (groin) at pier



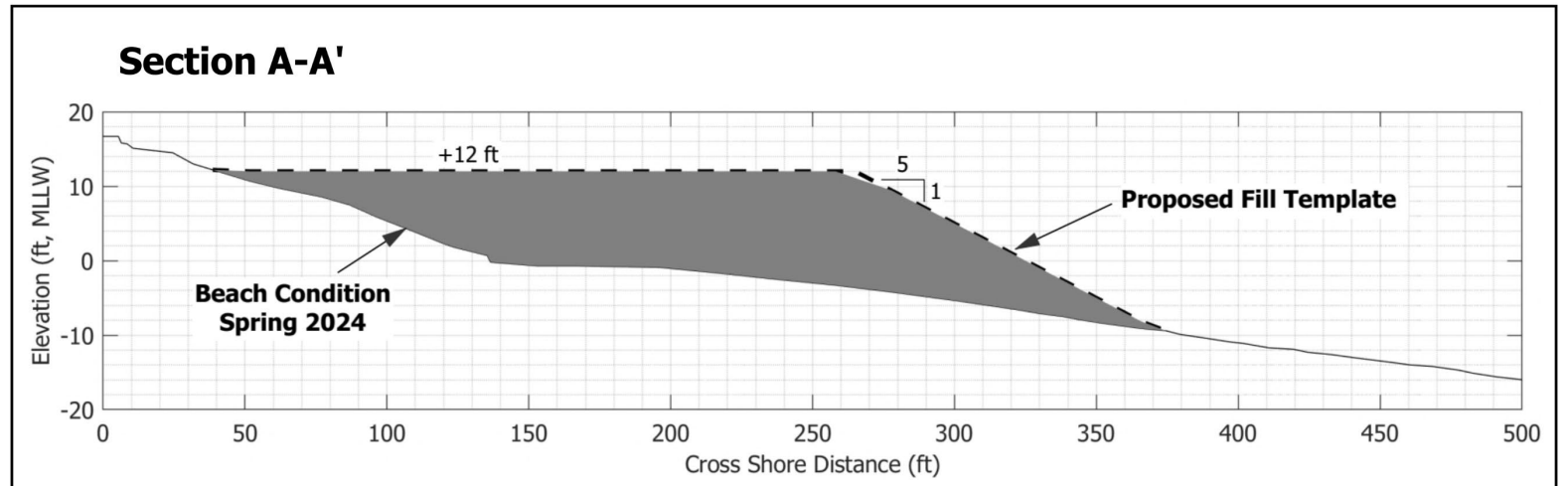
# Redondo Beach

## Alternative 1

- Beach nourishment (300,000 cy)
  - ~90-ft wide equilibrated beach width at start of project
  - ~50-ft wide beach after 20 years
- Dune restoration at south end

## Difference from Proposed

- No sediment retention at pier





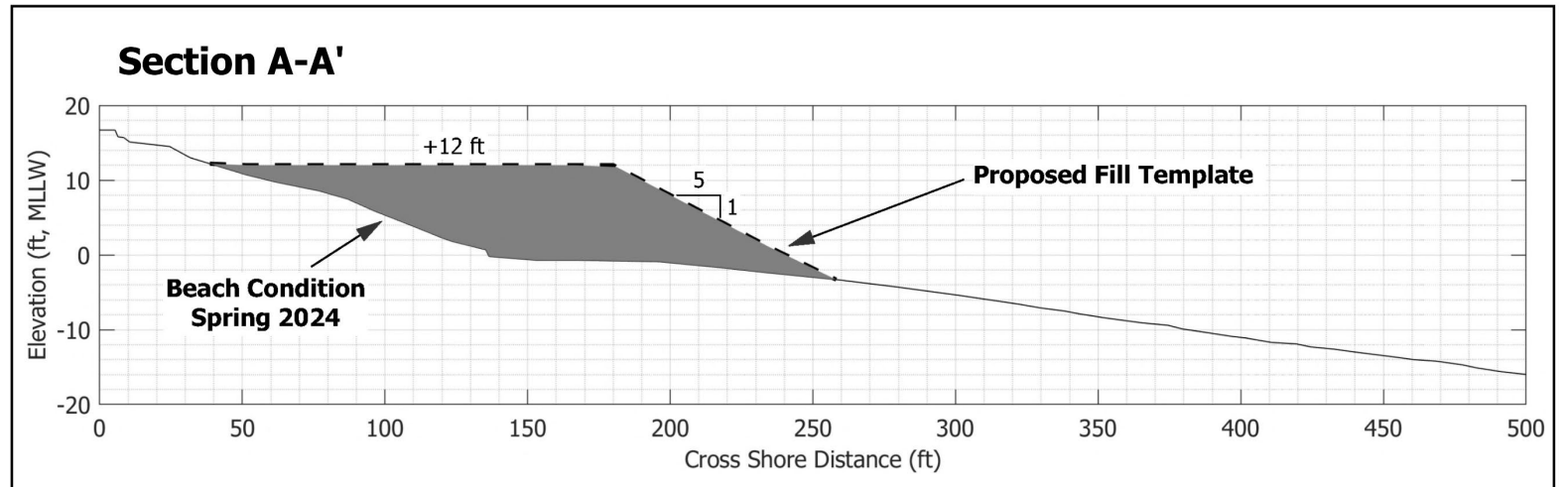
# Redondo Beach

## Alternative 2

- Beach nourishment (150,000 cy)
  - ~45-ft wide equilibrated beach width at start of project
  - ~25-ft wide beach after 20 years
- Dune restoration at south end
- Sediment retention (groin) at pier

## Difference from Proposed

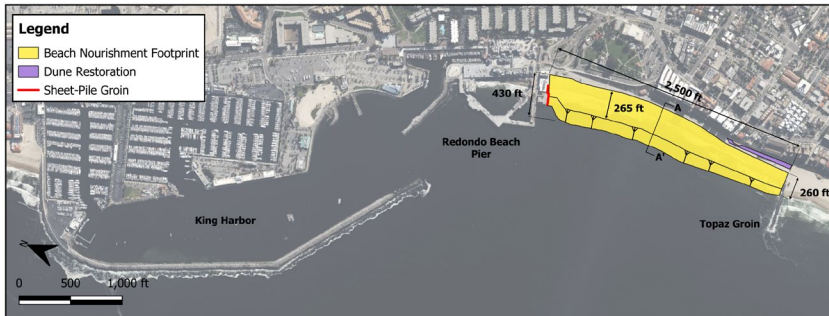
- 50% of beach nourishment volume



# Redondo Beach - Summary

Project	Beach Nourishment	Renourishment	Sediment Retention	Dune Habitat
Proposed	300,000 cy	No	Yes	4.5 acres
Alternative 1	300,000 cy	No	No	4.5 acres
Alternative 2	150,000 cy	No	Yes	4.5 acres

*Proposed Project*



*Alternative 1*



*Alternative 2*



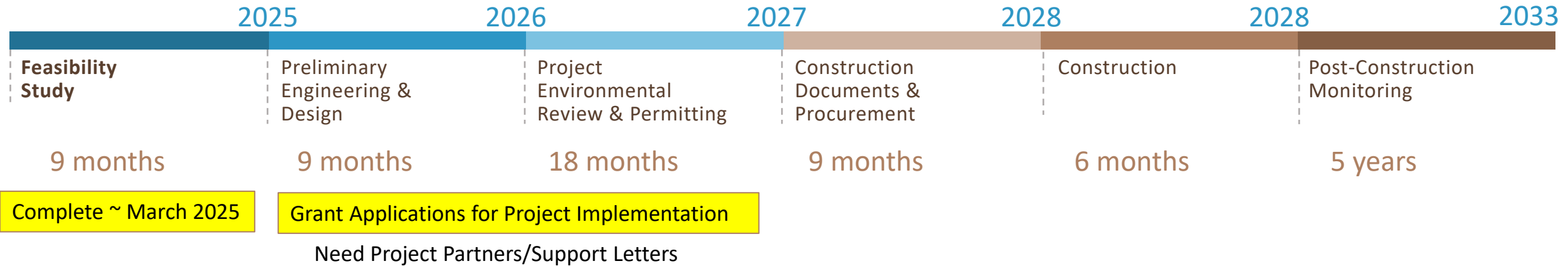


# Redondo Beach – Next Steps

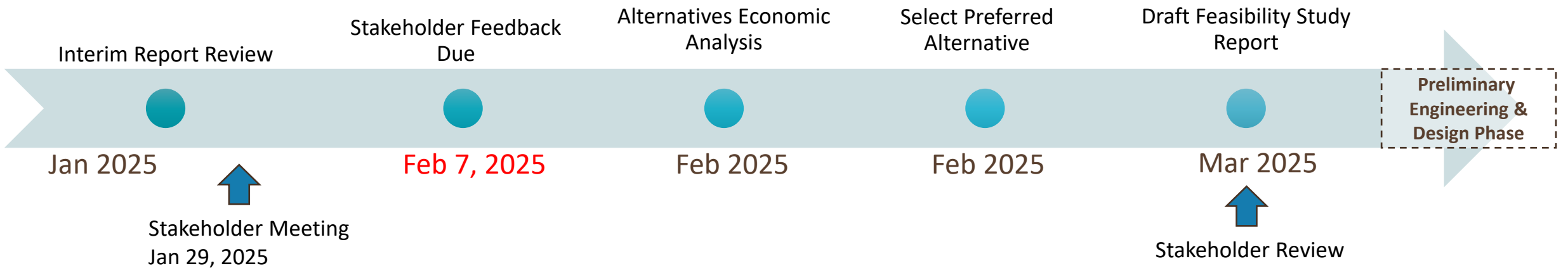
## Next Steps

1. Confirm selected alternatives are suitable based on public feedback
2. Apply relative weights for evaluation metric
  - Net increase in beach width
  - Quantity of dune habitat
  - Environmental benefits and impacts
  - Public access benefits and impacts
  - Economic analysis (*to be completed*)
3. Rank alternatives based on weighted score

# Project Schedule



## Feasibility Study Schedule





# Thank You!

- Contact [coastalresilience@bh.lacounty.gov](mailto:coastalresilience@bh.lacounty.gov)
- DBH Coastal Resilience Webpage  
<https://beaches.lacounty.gov/coastal-resilience-2/>
  - Find past and current reports
  - Sign up for email notification
  - Find stakeholder meeting materials

Any comments or feedback?



