

May 16, 2024



LEAGUE OF  
**CALIFORNIA  
CITIES**

Strengthening California Cities  
through Advocacy and Education

# Coastal Cities Group: 2nd Quarterly Forum

# Agenda

- Introductions
- Opening Remarks
- Live Survey on Coastal Issues
- Spotlights:
  - City of San Clemente
  - City of Santa Cruz
- Open Forum
- Closing Remarks

# Welcome! Thank you for attending!

All participating cities, please share your name and city in the chat to introduce yourself

# Introductions

## Get to Know Your Coastal Cities Group Leadership Representative:

- **North Coast** - Tess Albin Smith, Councilmember, Fort Bragg
- **North Central Coast** - Sue Beckmeyer, CCG Chair & Mayor ProTem, Pacifica
- **Central Coast** - Shebreh Kalantari Johnson, Councilmember, Santa Cruz
- **South Central Coast** - Eric Friedman, Councilmember, Santa Barbara
- **South Coast** - Mark Enmeier, Councilmember, San Clemente
- **San Diego** - Dwight Worden, CCG Vice Chair & Councilmember, Del Mar

# Opening Remarks

Cal Cities staff will facilitate a short survey and share the results live





# City of San Clemente

**Mark Enmeier, Mayor Pro-Tem**

**Andy Hall, City Manager**





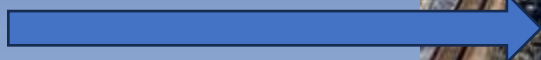
# Background on San Clemente

- LOSSAN Rail Corridor
  - Loss of natural sand replenishment
  - Stronger storm surges
  - OCTA Intervention
- Beach Erosion



**2008**

OCTA Revetment



**2023**













**In the City of San Clemente, the coastal rail continues to be squeezed by the ocean to the west and the bluffs to the east**



THE OTHER SIDE  
OF THE TRACKS



# Bluff Erosion → Landslides





# Casa Romantica, 2023







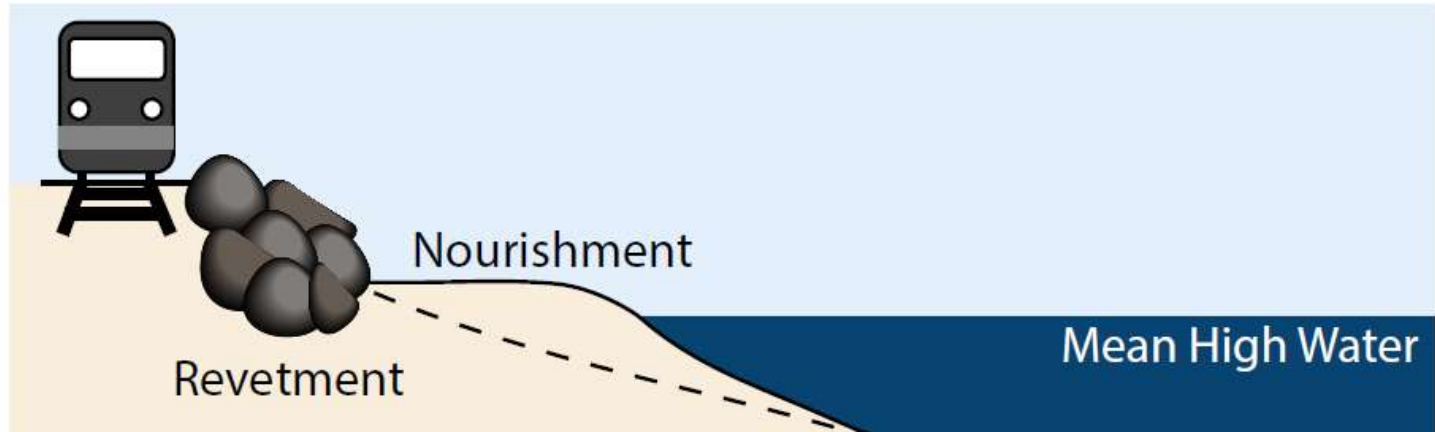




**Is there a different  
approach to Coastal  
Rail Line Protection?**



SAND!!!!



# Solana Beach, CA

## Before and After Sand Nourishment





# Current Sand Replenishment Project





# Cooperation and Partnerships are Key

- Federal:
  - Army Corps of Engineers
  - Funding from the Inflation Reduction Act
  - 251,000 Cubic Yards of Sand
- State
  - California Coastal Commission
  - Lobbying State Legislators
  - State Parks
- County
  - Orange County Transportation Agency
  - Opportunist Sand
- City
  - Hired a full time Coastal Administrator
  - Contracting for sand retention study/implementation
  - Looking for new revenue sources
  - SCoup
- Public Participation
  - Save our Beaches



# Quick Takeaways

- **Keeping the Rail Lines Open and Operating is Priority Number 1!**
- **Adequate sand is the best protection of the revetment**
  - **Emergency protection of the revetment should be permits to place sand, not to place rip-rap**
  - **Coordination with OCTA, City of San Clemente, State Parks, Private Owners and the California Coastal Commission is Necessary and all parties seem motivated to work together**
  - **Time is Critical – Preapproval to Place Sand in Key Locations Must be in Place**
- **The best protection from additional landslides is to reduce inundation through the placement of sand**
- **Innovative Bluff Protection Measures Must be Explored**

# Coastal Management + Climate Change

League of Cities  
California Coastal Cities

Quarterly Meeting  
May 16, 2024



*Artwork by Farallon Strategies*



# Agenda

- Data, Science and Planning
- Policy
- Infrastructure





# Data, Science and Planning





Local



### City of Santa Cruz CLIMATE ADAPTATION PLAN

An update to the 2007 Local Hazard Mitigation Plan  
2012 - 2017



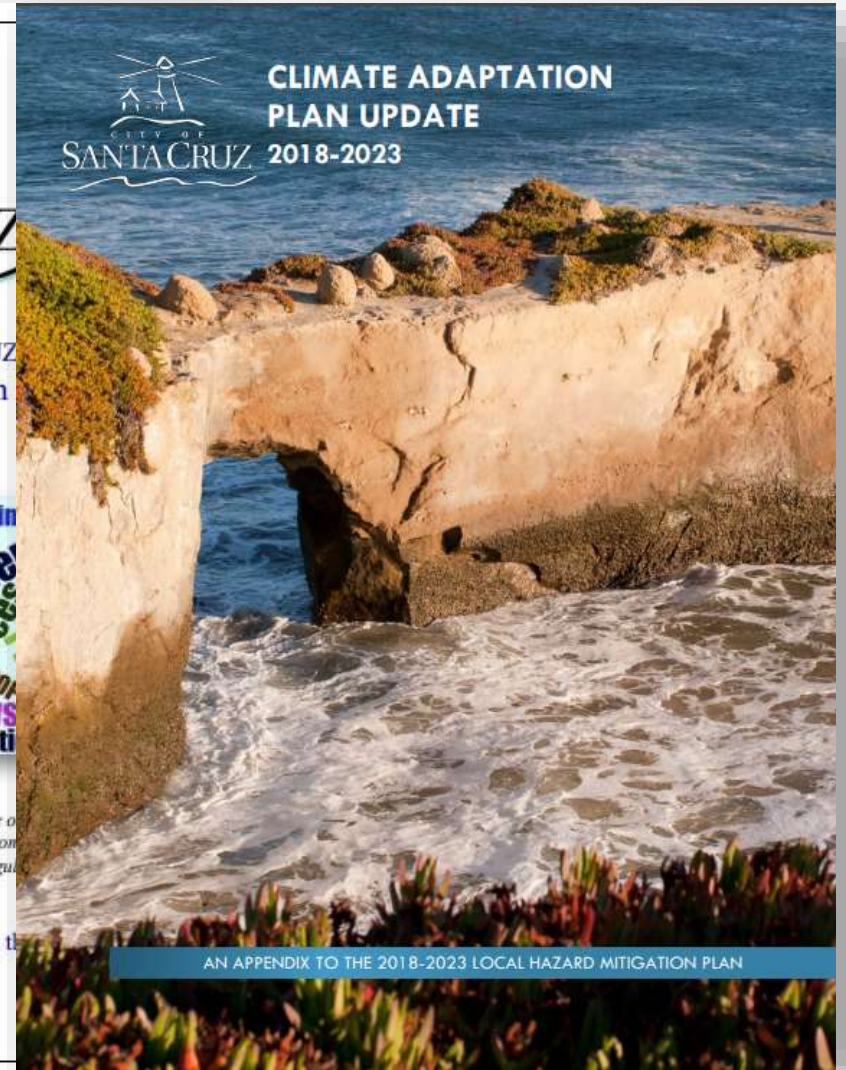
### CITY OF SANTA CRUZ Local Hazard Mitigation Five Year Update 2018-2023

**2024-2029  
Update &  
Integration  
in Progress**

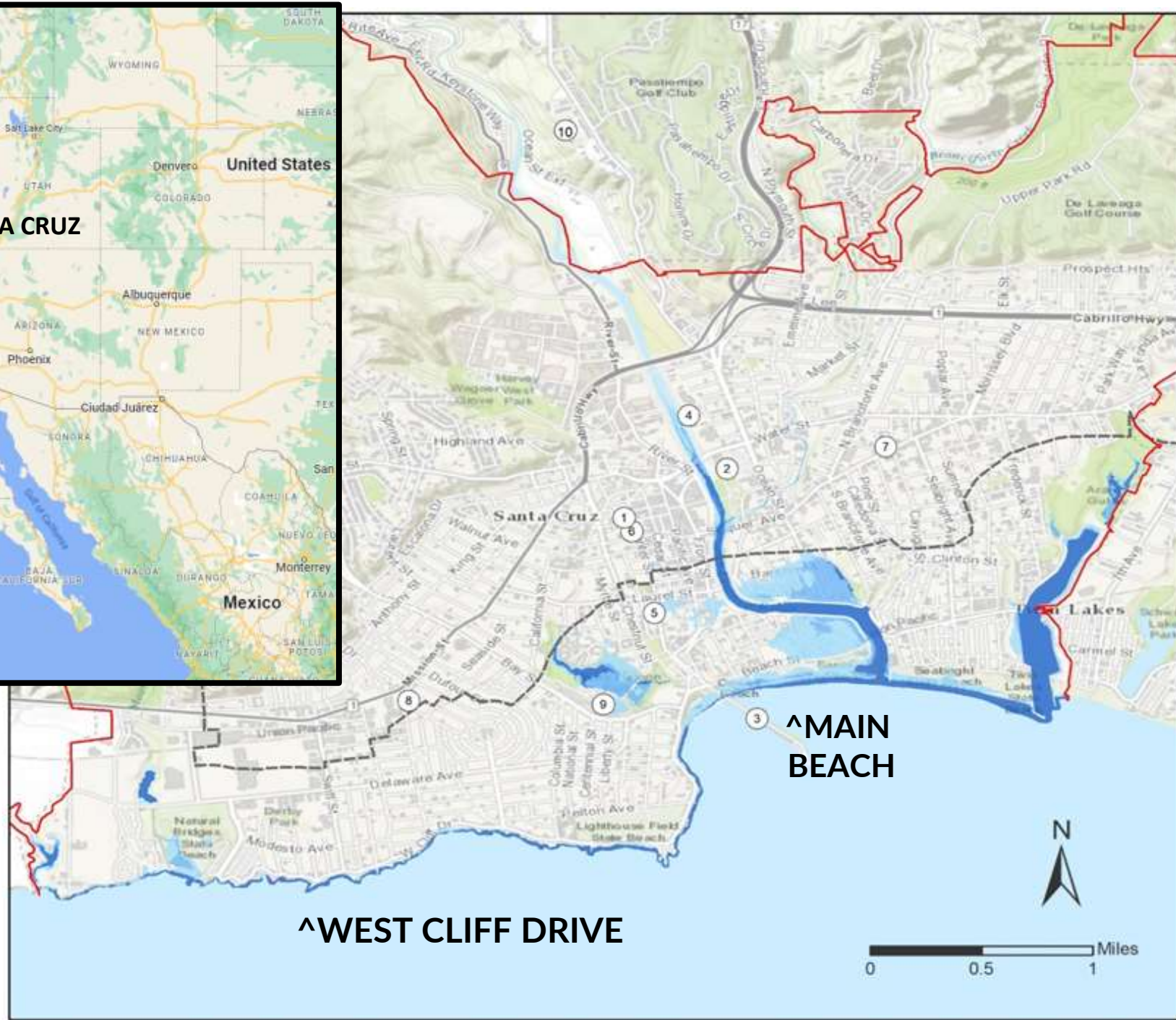
Cities law duty in  
Situations  
Incidents  
resources  
Sys  
organizati

Action taken to reduce o  
an life and property from  
e 44 Code of Federal Regu

Adopted by the



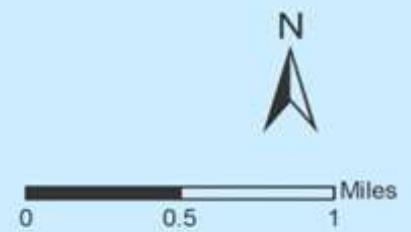




- Boundaries**
- SC City Limit
  - Coastal Zone Boundary
- Rising Tides Hazard Zones**
- Existing
  - 2030 (.3 ft SLR)
  - 2060 (2.4 ft SLR)
  - 2100 (5.2 ft SLR)
- Critical Facilities**
- ① City Hall
  - ② County Government Center
  - ③ Lifeguard Headquarters
  - ④ PG&E Substation
  - ⑤ Police Department
  - ⑥ Santa Cruz City Fire 1
  - ⑦ Santa Cruz City Fire 2
  - ⑧ Santa Cruz City Fire 3
  - ⑨ Wastewater Plant
  - ⑩ Water Treatment

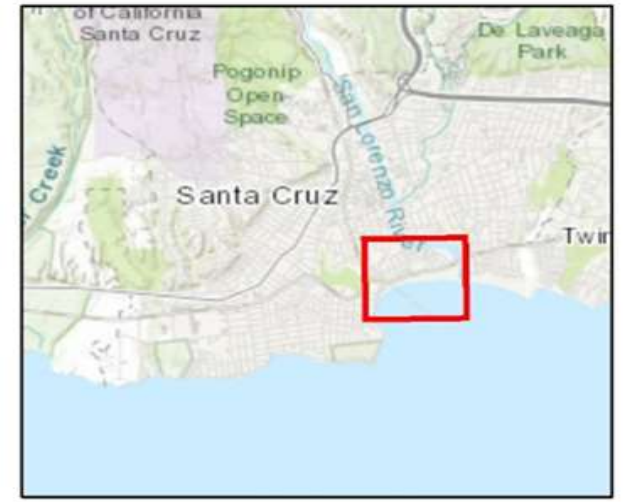
**PROJECTIONS/MAPS:**

<< SEA LEVEL RISE  
 + EROSION  
 + COASTAL STORMS





# Main & Cowell Beaches



## Legend

- Coastal Access
- ▬ Coastal Armoring

## Rising Tides Hazard Zones

- 2030 (0.3 ft SLR)
- 2060 (2.4 ft SLR)
- 2100 (5.2 ft SLR)





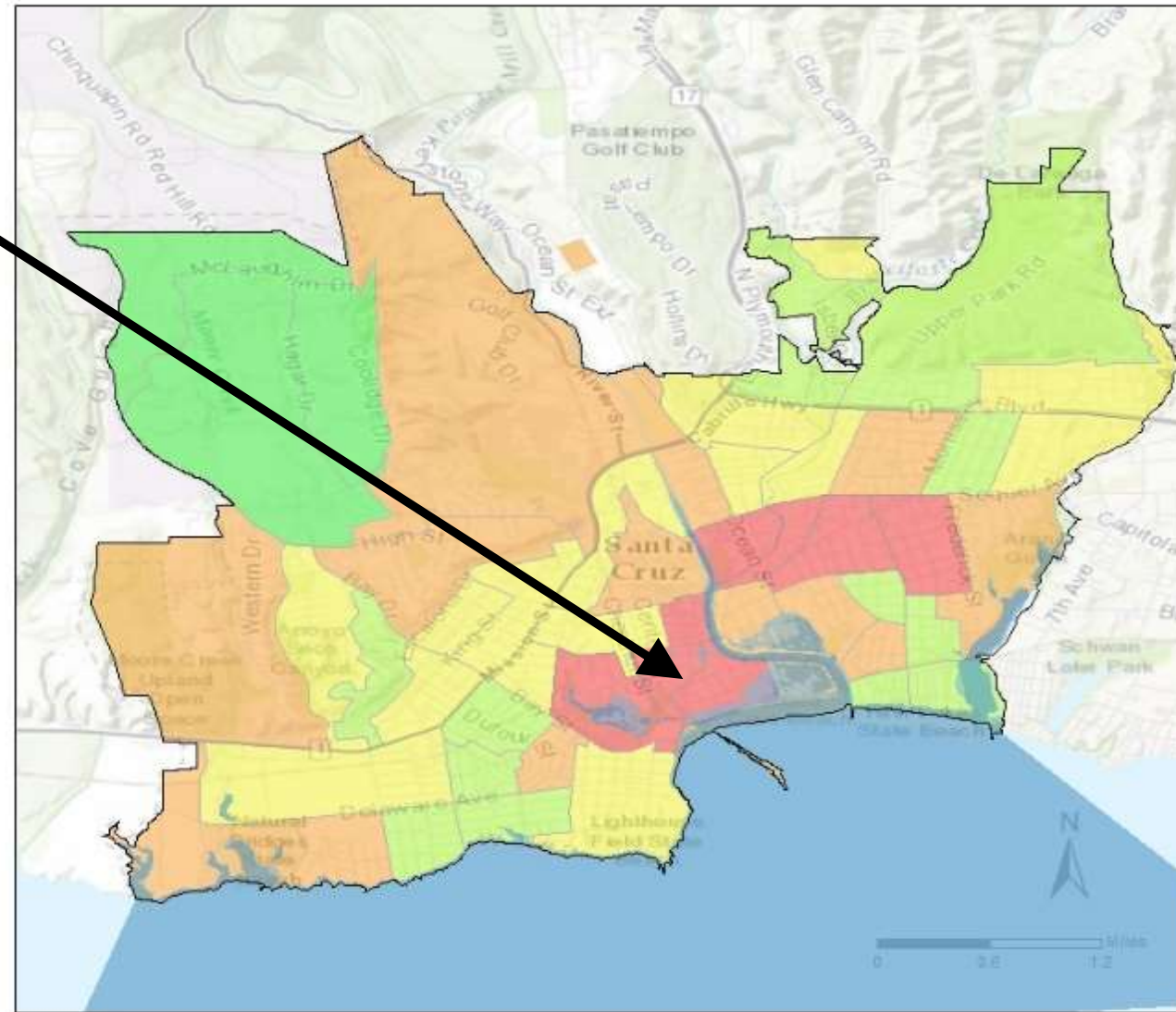
# Social Vulnerability to Coastal Hazards

## High Social Vulnerability:

- Beach Flats
- Downtown/South of Laurel

## Social Vulnerability Score

- Elderly
- Poverty
- Crime incidence
- English is 2<sup>nd</sup> language
- Differently abled



# Resilient Coast Santa Cruz 1.0

Existing conditions, future  
vulnerability assessment.

Community Engagement +  
VR Sea Level Rise Explorer App.

ADAPTATION  
PATHWAYS  
APPROACH

Adaptation strategy analysis.  
Cost benefit analysis.

Conceptual transportation  
alternatives report.

Pathways, Project + Policy  
Recommendations.



# Main & Cowell Beaches: Protect, Accommodate, Retreat



### Legend

- Coastal Access
- Coastal Armoring

#### Pathway Strategies

- 1a Living shoreline
- 1b Increase pump capacity
- 2 Raise curb wall
- 3a Accommodate/ Increase resiliency
- 3b Managed retreat

**NEAR TERM**

**MEDIUM TERM**

**LONGER TERM**

Monitoring Parameter	Near Term Triggers + Thresholds
Beach width	Beach width during winter king tides is 100 feet or less for 3 years in a row
Wave overtopping and repairs frequency	Wave overtopping 3 days/year that causes store front damage or flood damage to Beach Flats neighborhood



# Draft Physical + Social Triggers (or conditions) to Monitor

## Sense of Preparedness

- Beach erosion
- Cliff erosion
- Wave overtopping
- Sea level rise



**PEERS**

The Practitioner Exchange for  
Effective Response to Sea Level Rise

- Sea level rise

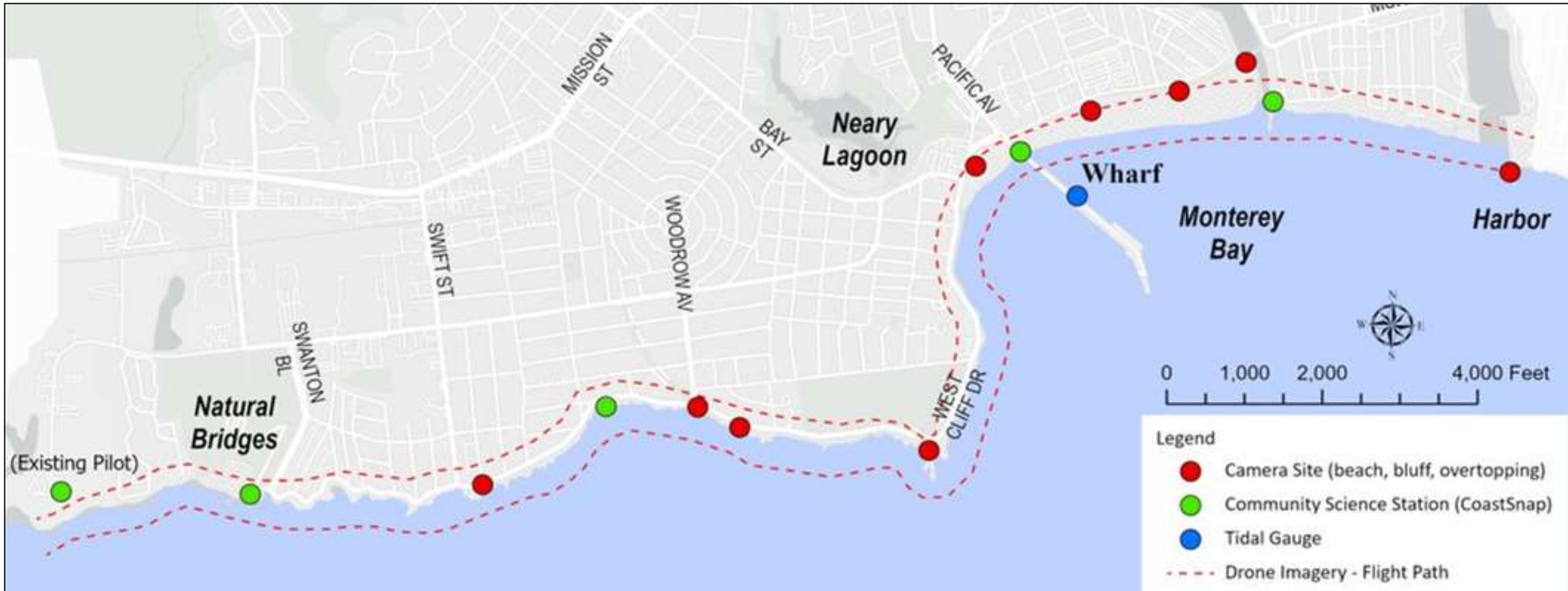
## Loss of Access to Beaches + Facilities

- Sea level rise
- Beach erosion
- Cliff erosion
- Loss of public use/access

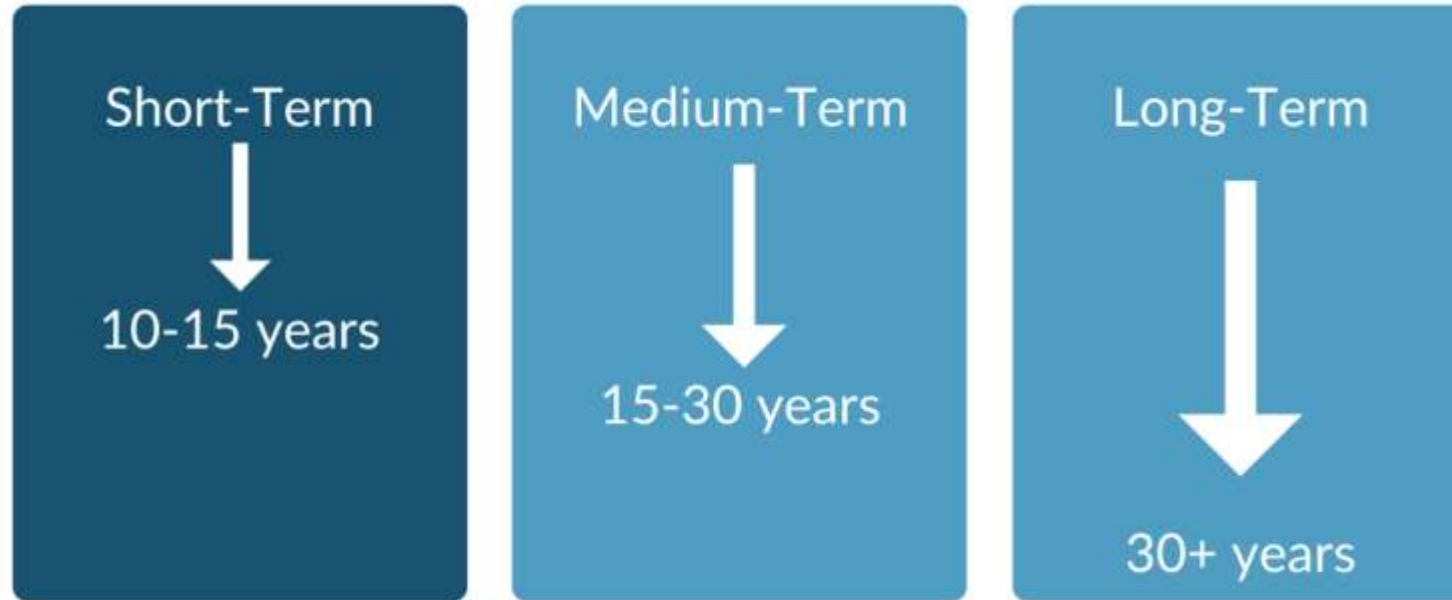
***Developing Ecological Triggers is part of the scope of NBS project***



# Coastal Change Monitoring Network Hardware + Data Collection Locations



# The Future is Now



Use of Triggers + Thresholds Approach

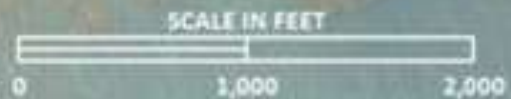
Vs. Time Horizons under Uncertainty in Rate of Change



# Jan. 2023 WCD Bomb Cyclone Damage Impacts









# WCD Zone 2 Triggers + Thresholds Exceeded

**NEAR  
TERM**

**Armoring integrity** | Revetment showing signs of failure.  
**EXCEEDED PRE-2023**

— *Repair Rip Rap or Wall*

**MEDIUM  
TERM**

**Cliff erosion** | Distance between clifftop edge and Rec Trail is less than 5 feet.  
**EXCEEDED JANUARY, 2023**

— *Build Sea Wall*

**Loss of public use or access** | Rec Trail and/or beach access repaired > twice per year over 5- year period.  
**EXCEEDED JANUARY, 2023**

— *Build Sea Wall*

**LONG  
TERM**

**Costs** | Infrastructure repaired more than twice over 5- year period + Repair costs from impacts exceeds \$500,000.  
**EXCEEDED JANUARY, 2023**

— *Retreat from Coast*

*^^i.e., one lane, one way roadway vs. 2 lane, two way*



City of Santa Cruz



# 50-year Community Vision For West Cliff

April 2024



## Vision Pillars

- **Balancing Change and a Collective Future**
- **Beauty, Resilience and Continued Use**
- **Prioritizing Pedestrian and Bicycle Access**
- **One-way Vehicle Access and Additional Traffic Control**
- **Limited Hard Armoring**
- **Exploring Nature-based Solutions and Engineered Natural Feature Restoration**
- **Park Space as Recreation Area and Buffer**
- **Planned Relocation**
- **Collaboration**
- **Consider the Safety and Quality of Life of the Neighborhoods Abutting West Cliff Drive**





# Next Steps

- Transitioning from Vision to Implementation Roadmaps + Plans (Existing + New)
- Local Coastal Program Amendment (Dec. 2024)
- Living Shorelines, Nature Based Solutions and Sand Management Feasibility Study (thru March 2025)
- Flood Control and Climate Change Study (thru March 2025)
- Local Hazard Mitigation Plan + Climate Adaptation Plan Update and Integration



# Resilient Coast Santa Cruz 2.0: Shoreline Adaptation Blueprints



# Local Coastal Program – Land Use Plan & Implementation Plan

## Amendments & Updates

*Beaches and Bluffs Hazards Adaptation*

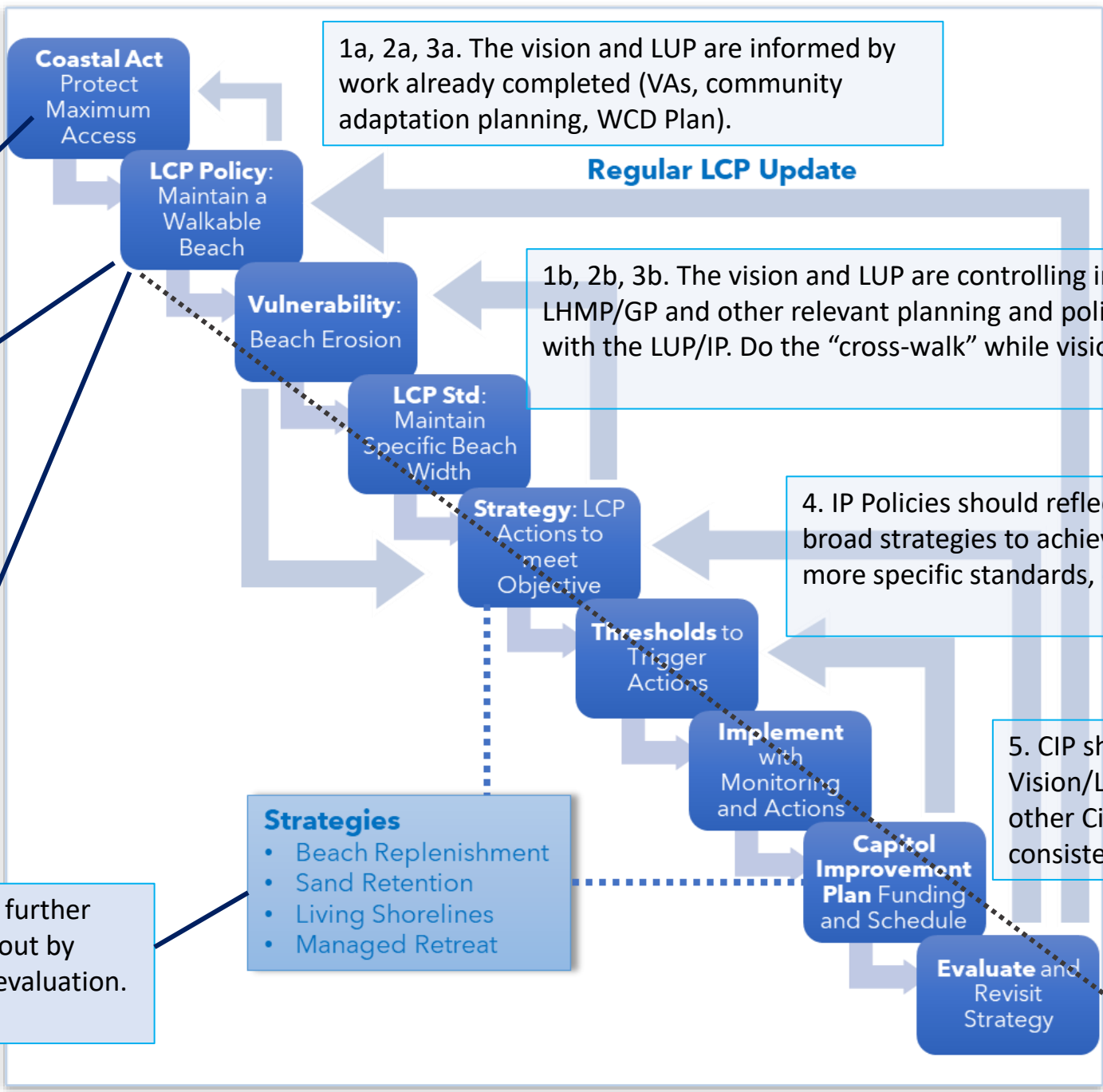


1. City vision should reflect Coastal Act, community values and specific planning objectives/pathways for each area based on projected futures.

2. LUP Policies should reflect the vision, and the broad strategies to achieve it over time.

3. LUP can include broad policy and standards that embody thresholds and triggers; also studies/assessments (NBS) to inform next pathway step; monitoring requirements, feedback loops.

1c, 2c, 3c. The vision and LUP are further informed and potentially carried out by additional work such as the NBS evaluation.



1a, 2a, 3a. The vision and LUP are informed by work already completed (VAs, community adaptation planning, WCD Plan).

1b, 2b, 3b. The vision and LUP are controlling in coastal zone. LHMP/GP and other relevant planning and policy should be consistent with the LUP/IP. Do the "cross-walk" while visioning and drafting LUP.

4. IP Policies should reflect the vision, and the broad strategies to achieve it over time through more specific standards, criteria and actions.

5. CIP should flow from the Vision/LUP/IP. Public works and other City projects should be consistent with the LCP.

6. Include 10-year update policy for LCP (includes assessment of vision, objectives, strategies, etc.).



# Erosion Ahead

*Images show possible erosion with existing roadway as-is.*

- West Cliff Adaptation Plan estimated 5.6 – 7.0 feet of erosion by 2100 north of Lighthouse Field.
- Without intervention, will likely lose the shared-used path.





# The Time to Act is Now

- More damage will occur.
- Rebuilding again is financially unrealistic and contrary to many City policies.
- Create room for safe access for all, retreat, and adaptation.

*Big Sur Example*



*Be  
Strategic  
and  
Proactive*





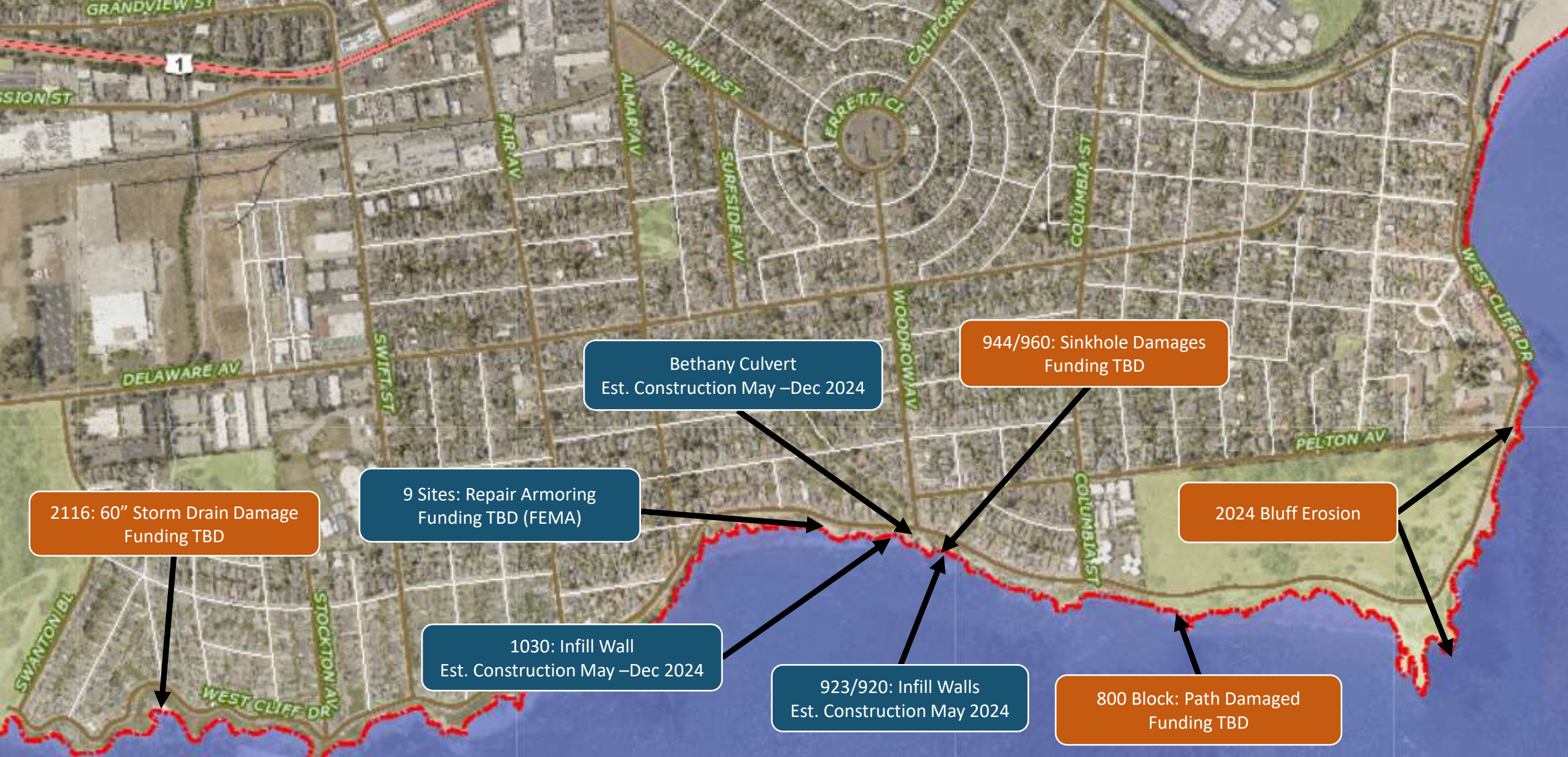
# Infrastructure

*West Cliff Storm Damages*

*Infrastructure/ECDPs*

*Lighthouse Point Study*





## West Cliff Damages - April 2024

Sites Damaged by  
January 2023 Storms

Sites Damaged in High Swell  
Event December 28, 2023



# 920 & 923 West Cliff - Infill Walls





# 920 & 923 West Cliff - Infill Walls





# 1016 West Cliff - Infill Wall





# 1000 Block of West Cliff





# Lighthouse Point Hazard Analysis and Engineering Study

- Evaluate potential hazards and threats from erosion and undermining sea caves
- Explore mitigations including planned relocation, Nature Based-Solutions, and Engineered Natural Feature Restoration



Figure 3-3. Priority areas for adaptation and management in Zone 3.

# Nature-Based Solutions vs. Engineered Natural Feature Restoration

Nature-based Solutions

Natural Feature Restoration

Vegetation Only



Only ecosystem

Assisted natural regeneration



Mostly ecosystem

Green-gray infrastructure



Mixed ecosystem and human system

Concrete with some habitat



Mostly human system

...and Planned Relocation?!



# Thank you! Questions?

Dr. Tiffany Wise-West, PE | [twise-west@santacruzca.gov](mailto:twise-west@santacruzca.gov)  
Sustainability + Resiliency Officer

Nathan Nguyen, PE | [nnguyen@santacruzca.gov](mailto:nnguyen@santacruzca.gov)  
Public Works Director

Lee Butler | [lbutler@santacruzca.gov](mailto:lbutler@santacruzca.gov)  
Planning and Community Development Director



# Bounds of the Vision





# Open Forum

All participating cities share:

- Any topics of interest
- General comments / questions

# Closing Remarks

Save-the-Date for the next Quarterly Forum:

- **August 8, 2024 from 1 to 2:30pm**



# THANK YOU!

**Melissa Sparks-Kranz**  
Environmental Quality Lobbyist  
[msparkskranz@calcities.org](mailto:msparkskranz@calcities.org)



Strengthening California Cities  
through Advocacy and Education

 @calcities

 @calcities

 @calcities.org