From Reaction to Resilience in Santa Cruz: Policy and Planning to Implementation

CA Shoreline + Boating Preservation Association

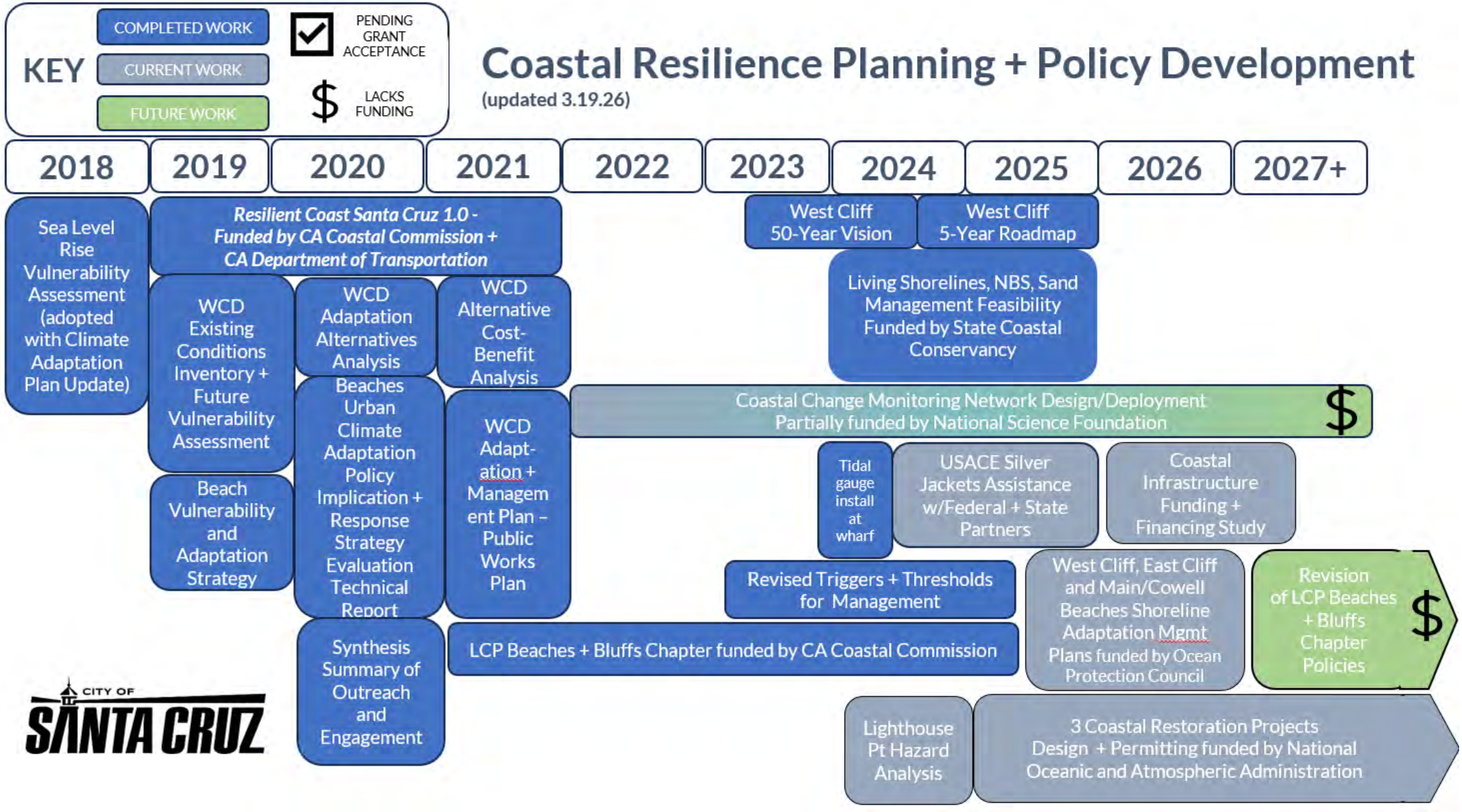
Coastal Conditions Symposium

May 11, 2026

Dr. Tiffany Wise-West, P.E.
Sustainability + Resiliency Officer

Outline

- Studies
- Plans
- Policies
- Engagement
- Implementation
- Monitoring


KEY
COMPLETED WORK
CURRENT WORK
FUTURE WORK
PENDING GRANT ACCEPTANCE
LACKS FUNDING
Coastal Resilience Planning + Policy Development
(updated 3.19.26)
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027+
Sea Level Rise Vulnerability Assessment (adopted with Climate Adaptation Plan Update)
Resilient Coast Santa Cruz 1.0 - Funded by CA Coastal Commission + CA Department of Transportation
WCD Existing Conditions Inventory + Future Vulnerability Assessment
WCD Adaptation Alternatives Analysis
WCD Alternative Cost-Benefit Analysis
West Cliff 50-Year Vision
West Cliff 5-Year Roadmap
Living Shorelines, NBS, Sand Management Feasibility Funded by State Coastal Conservancy
Coastal Change Monitoring Network Design/Deployment Partially funded by National Science Foundation
$
Beach Vulnerability and Adaptation Strategy
Beaches Urban Climate Adaptation Policy Implication + Response Strategy Evaluation Technical Report
WCD Adapt-ation + Managem ent Plan – Public Works Plan
Tidal gauge install at wharf
USACE Silver Jackets Assistance w/Federal + State Partners
Coastal Infrastructure Funding + Financing Study
Revised Triggers + Thresholds for Management
West Cliff, East Cliff and Main/Cowell Beaches Shoreline Adaptation Mgmt Plans funded by Ocean Protection Council
Revision of LCP Beaches + Bluffs Chapter Policies
$
Synthesis Summary of Outreach and Engagement
LCP Beaches + Bluffs Chapter funded by CA Coastal Commission
Lighthouse Pt Hazard Analysis
3 Coastal Restoration Projects Design + Permitting funded by National Oceanic and Atmospheric Administration
CITY OF SANTA CRUZ

KEY

COMPLETED WORK

CURRENT WORK

☑ PENDING GRANT ACCEPTANCE

Coastal Resilience Planning + Policy Development

RESILIENT COAST SANTA CRUZ 1.0

RESILIENT COAST SANTA CRUZ 2.0

2018	2019	2020	2021	2022	2023	2024	2025	2026	2027+

Sea Level Rise Vulnerability Assessment (adopted with Climate Adaptation Plan Update)

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Beach Vulnerability and Adaptation Strategy

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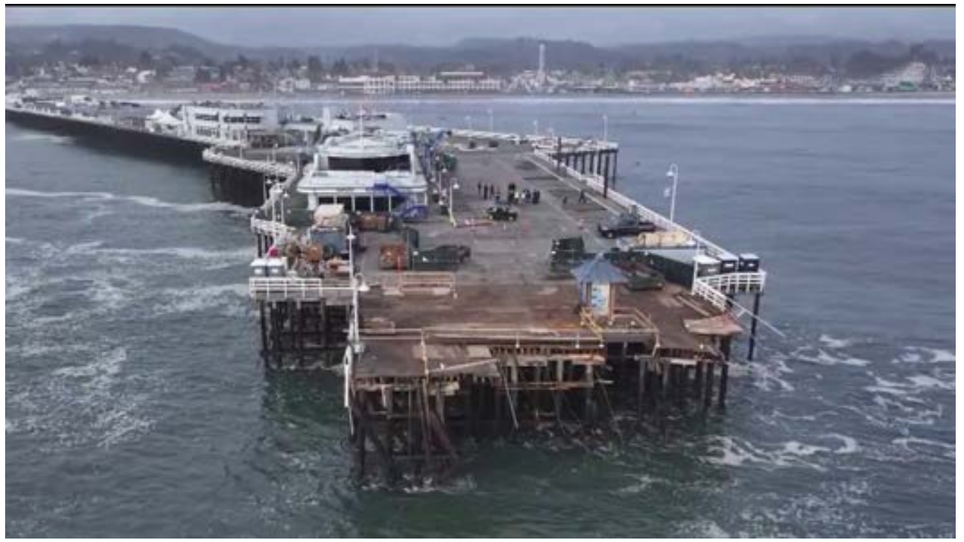
CITY OF SANTA CRUZ

Challenges facing the Santa Cruz shoreline…



Studies, Plans + Policies

2018 Climate Adaptation Plan

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

<u>PROJECTIONS/MAPS</u>:

<< SEA LEVEL RISE
+ EROSION
+ COASTAL STORMS

2019 – 2021 West Cliff + Beaches Adaptation

City of Santa Cruz Beaches

Urban Climate Adaptation Policy Implication & Response Strategy Evaluation Technical Report

June 30, 2020

Developed Initial Adaptation Pathways Approach
with
Triggers and Thresholds

WEST CLIFF DRIVE ADAPTATION AND MANAGEMENT PLAN:

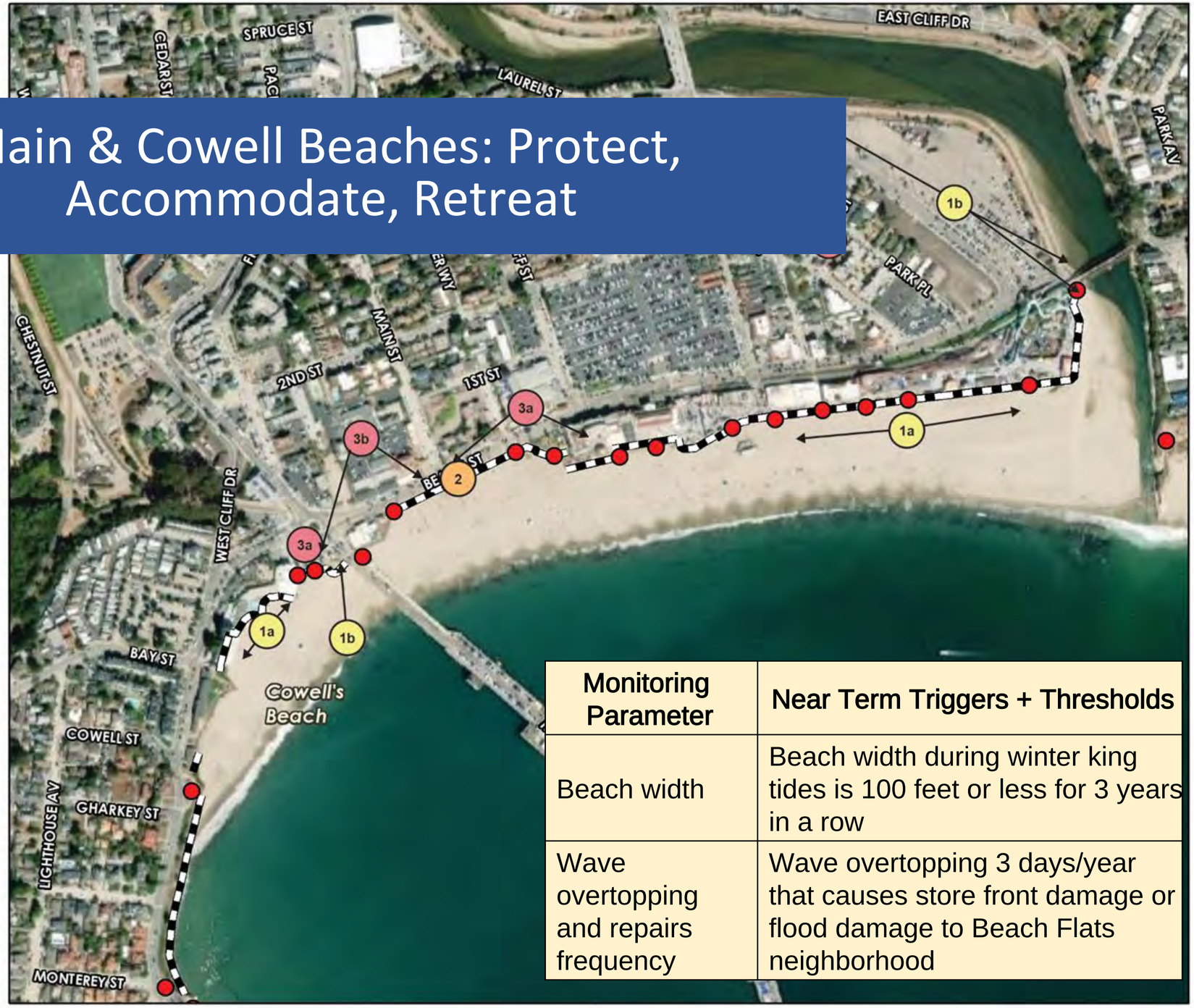
PUBLIC WORKS PLAN

APRIL 1, 2021

SANTA CRUZ

Caltrans

Main & Cowell Beaches: Protect, Accommodate, Retreat



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

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

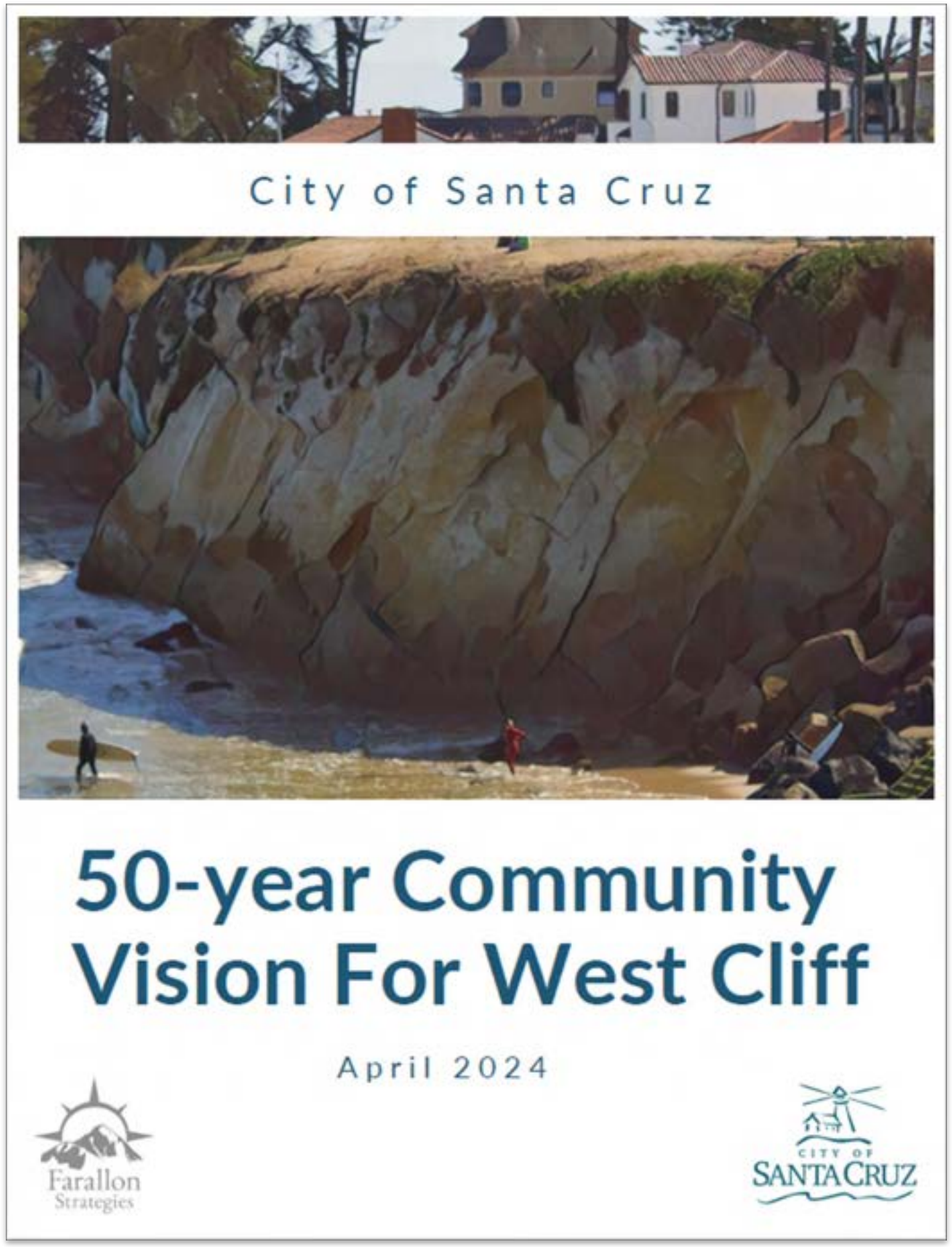
NEAR TERM

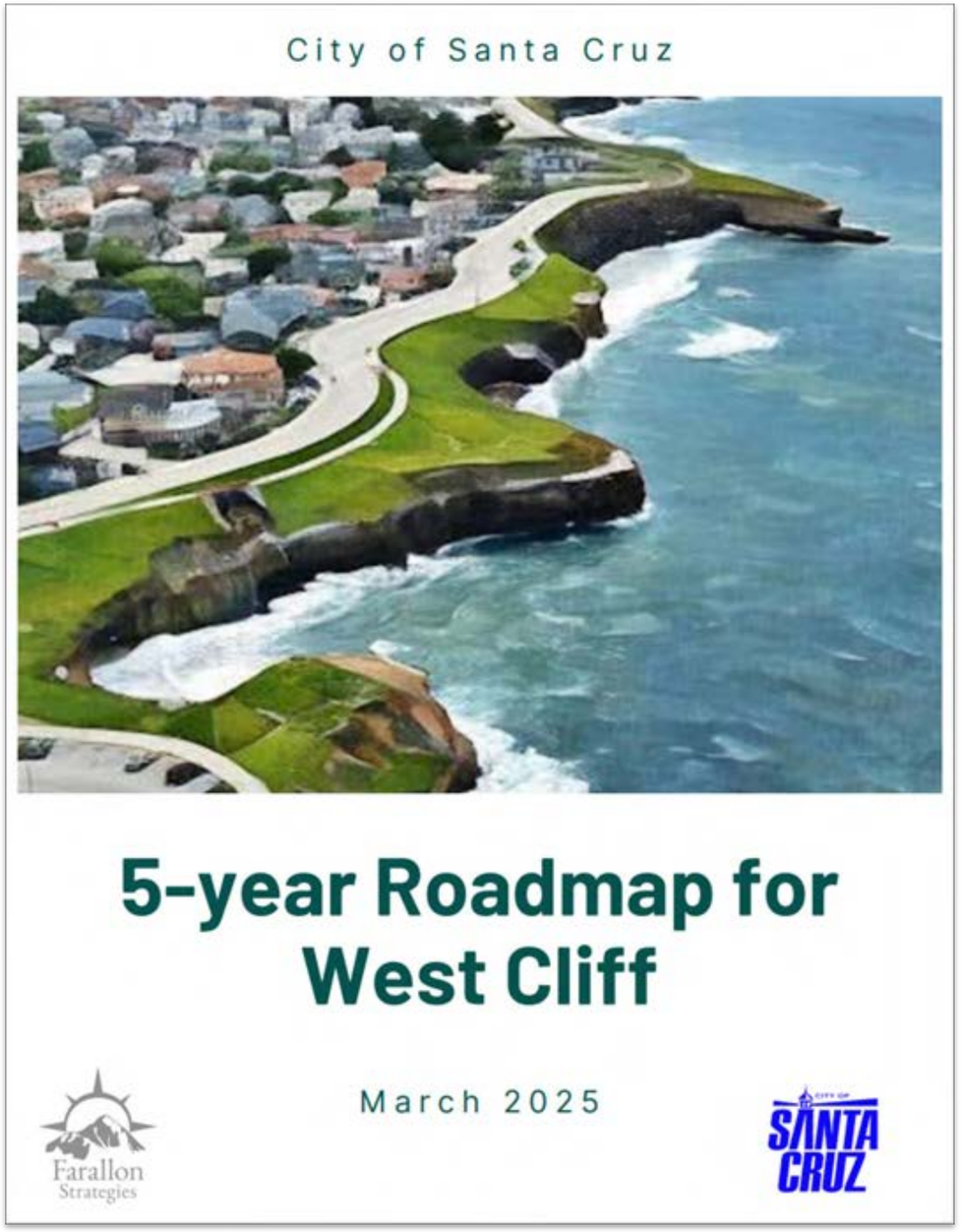
MEDIUM TERM

LONGER TERM

SCALE IN FEET
0 400 800

2024-2025 Post WC Storm Damage…





2025 Nature Based Solutions Feasibility Study

MAIN BEACH:

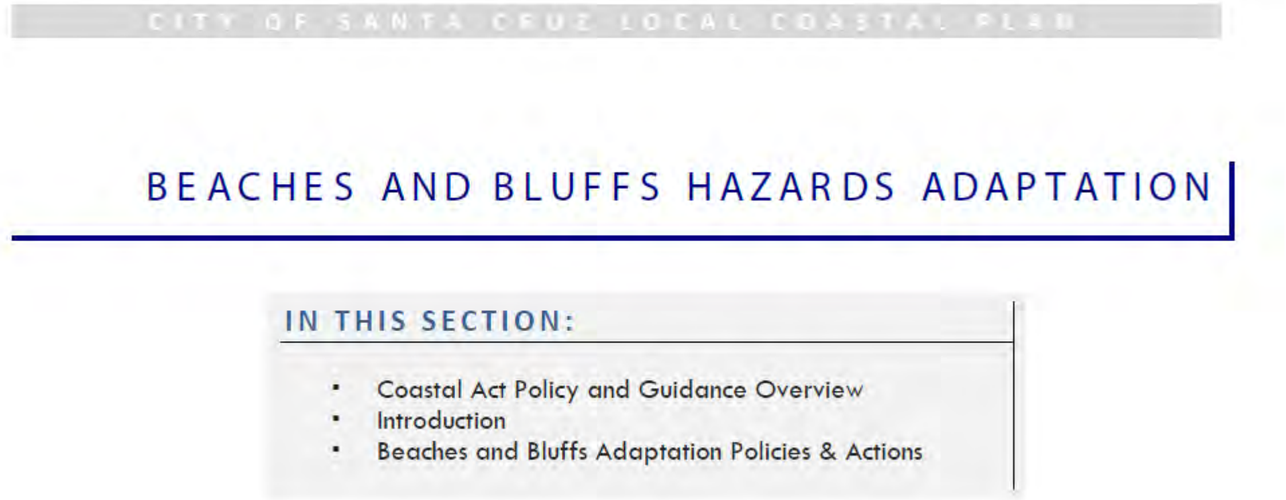
- Estimated loss of 30 feet of beach with 1 ft of SLR.
- 100 feet of beach loss with 3 ft of SLR

2026 Lighthouse Point Hazards + Adaptation

20-30 Year Shoreline Adaptation Management Plans (SAMPs)

Projects | Policies | SB 272 Compliance | Funding

2026 LCP Amendment



- Plan for sea level rise using the best available science.
- Protect beaches, bluffs, and public coastal access as priority resources.
- Require long-term shoreline adaptation planning.
- Limit new development in hazardous shoreline areas.
- Allow shoreline armoring only in narrow circumstances.

Engagement

Connecting the Work with Things That Matter

Beach Flats y Lower Ocean

Folleto de Preparación Para Emergencias en la Comunidad

Prepárate hoy en caso de una emergencia

Es posible que tu familia no este junta en caso de una emergencia, es importante saber que tipos de desastres pueden afectar el área en el que vives, y que harás en caso de una emergencia. Planea como contactaras a tus seres queridos y como se van a reunir si se separan. Establece un punto de reunión con el que estén

¿Como voy a saber si hay una emergencia cerca de mí?

Para encontrar su la zona en la que se encuentra su residencia, favor de visitar:

PLAN DE EMERGENCIA FAMILIAR

Tómale una foto a este documento y compártelo con sus seres queridos en caso de emergencia.

Miembros de la familia/Ocupant

Ingrese la información para cada miembro de

NOMBRE	NUMERO DE TELÉFONO	OTRO NUMERO O REDES SOCIALES

Experimentation with Communication Tools

^Visit our Sea Level Rise Explorer and New Nature Based Solutions App!

https://virtualplanet.tech/santa -cruz

^Coastal Santa Cruz Loteria (Mexican Bingo)– free file share!

Collaboration on many scales…

RESILIENT CITIES CATALYST

Center for Coastal Climate Resilience

groundswell
coastal ecology

UC SANTA CRUZ
COASTAL SCIENCE AND POLICY

SJSU SAN JOSÉ STATE UNIVERSITY

Virtual Planet

CALIFORNIA STATE PARKS

SAVE THE WAVES COALITION

COASTAL WATERSHED COUNCIL

SAVE OUR SHORES

CGS
CALIFORNIA GEOLOGICAL SURVEY

30 CMSF
Celebrating 30 Years

SEYMOUR Marine Discovery Center
UC SANTA CRUZ

SCRIPPS INSTITUTION OF OCEANOGRAPHY
UC San Diego

Kudela Lab
Biological Oceanography
University of California Santa Cruz

USGS
science for a changing world

PEERS

LEAGUE OF CALIFORNIA CITIES

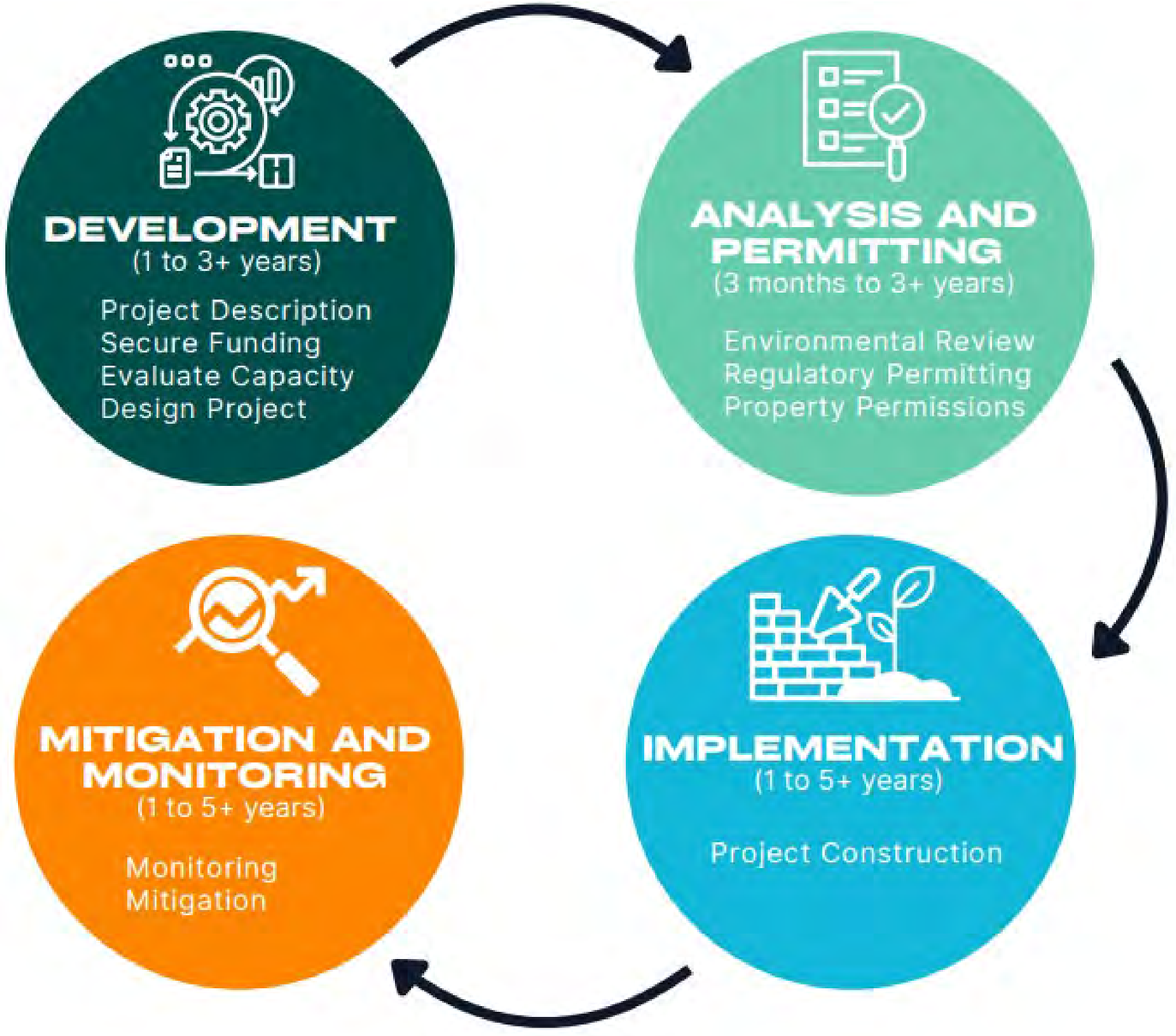
Ecology Action

AMAH MUTSUN LAND TRUST

Costanoan Rumsen Carmel Tribe

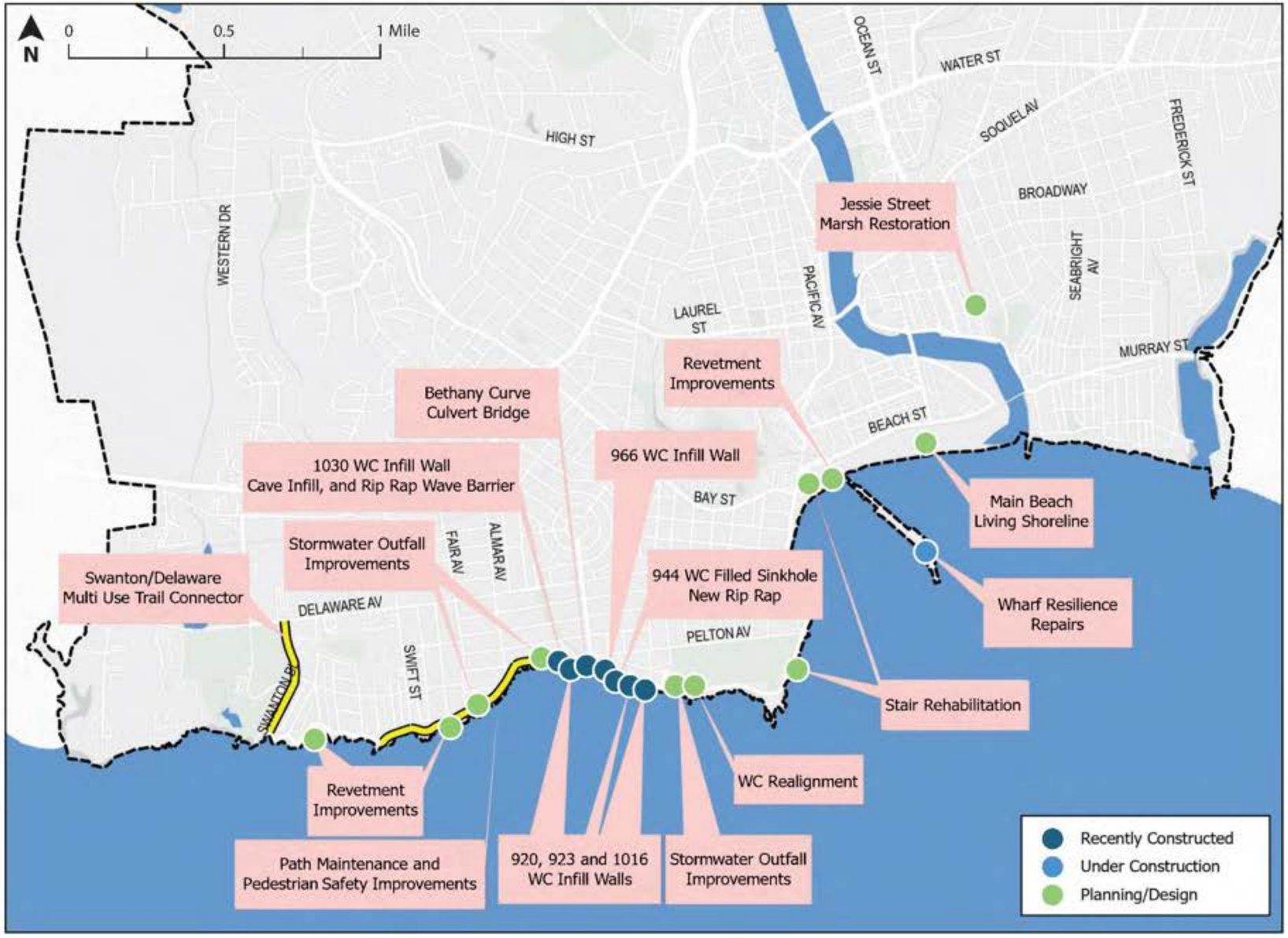
CALIFORNIA COASTAL COMMISSION

Infrastructure
+
Monitoring

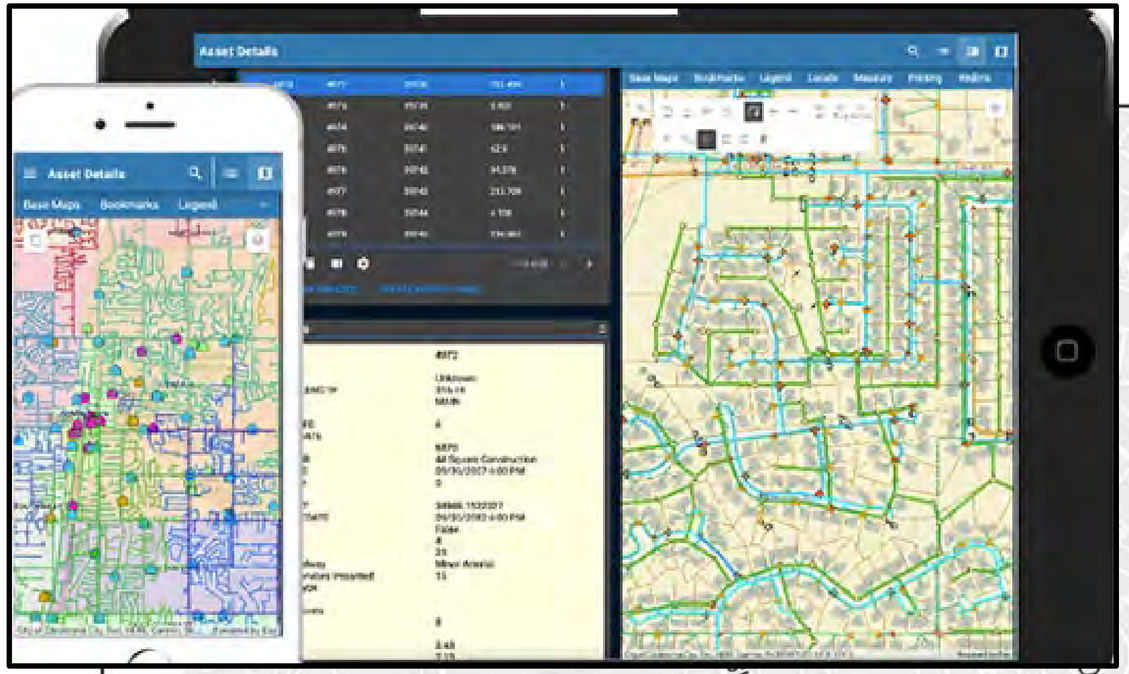

DEVELOPMENT
(1 to 3+ years)
Project Description
Secure Funding
Evaluate Capacity
Design Project
ANALYSIS AND PERMITTING
(3 months to 3+ years)
Environmental Review
Regulatory Permitting
Property Permissions
IMPLEMENTATION
(1 to 5+ years)
Project Construction
MITIGATION AND MONITORING
(1 to 5+ years)
Monitoring
Mitigation

CITY OF SANTA CRUZ

COASTAL RESILIENCE INFRASTRUCTURE PROJECTS



Coastal Monitoring + Inspection Network



<<COASTAL ASSET MANAGEMENT

MURRAY ST
PACIFIC AV
BAY ST
Neary Lagoon
Wharf
Monterey Bay
Harbor
SWIFT ST
ODROW AV
SWANTON BL
Natural Bridges
(Existing Pilot)
WEST CLIFF DR
N
W
E
S
0 1,000 2,000 4,000 Feet

Legend
- Camera Site (beach, bluff, overtopping)
- Community Science Station (CoastSnap)
- Tidal Gauge
- Drone Imagery - Flight Path

Thank you!