

SOUTH SHORE

INTRODUCTION

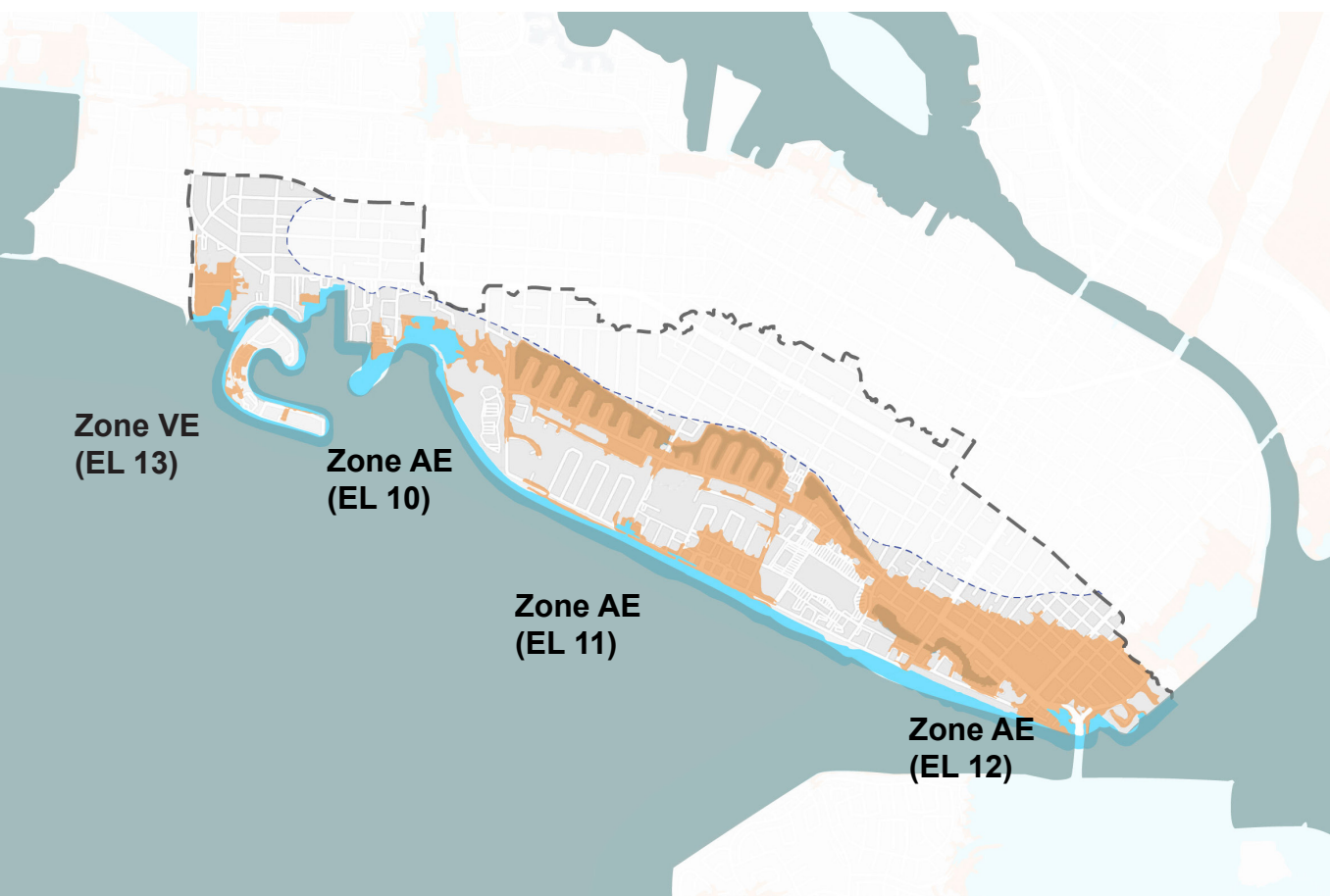
Alameda’s South Shore neighborhood is home to beautiful beaches and views, with a wide variety of opportunities for visitors and residents to experience the San Francisco Bay. However, much of the shoreline is vulnerable to coastal flooding, especially areas that are low elevation. Some of these areas are shown below. **As sea levels rise, this risk will increase and our community will need to decide collectively how and when to adapt.**

Much of this area is currently at risk of coastal flooding during storms. **The coastal hazards change along the shoreline due to variable exposure to waves coming in from across the Bay and how those waves interact with the features along the shoreline.** For example, Alameda Beach reduces the wave hazard by a couple of feet or so.

Flood Risk Today

FEMA Flood Hazard Zones

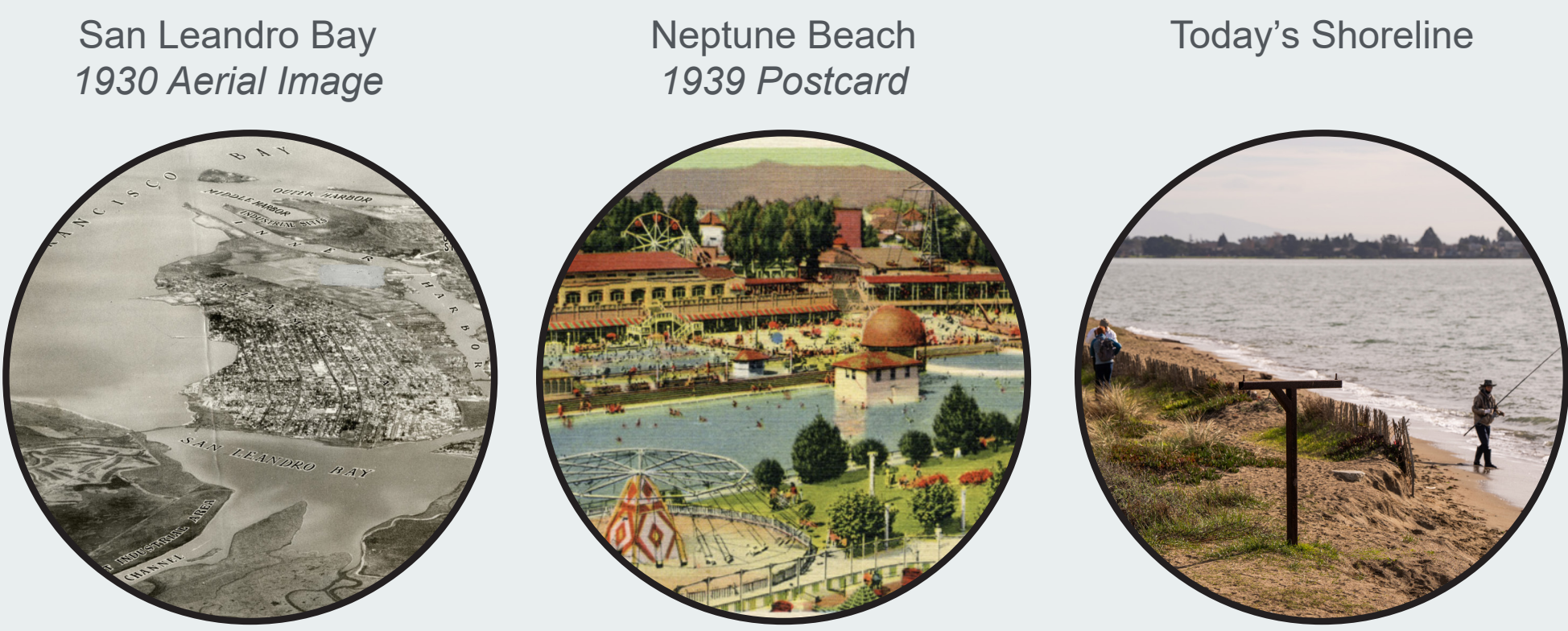
- 0.2% CHANCE ANNUAL FLOOD PLAIN
- 1% CHANCE ANNUAL FLOOD PLAIN
- ADAPTATION ZONE
- REACH BOUNDARY



ADAPTATION PLANNING - KEY CONSIDERATIONS

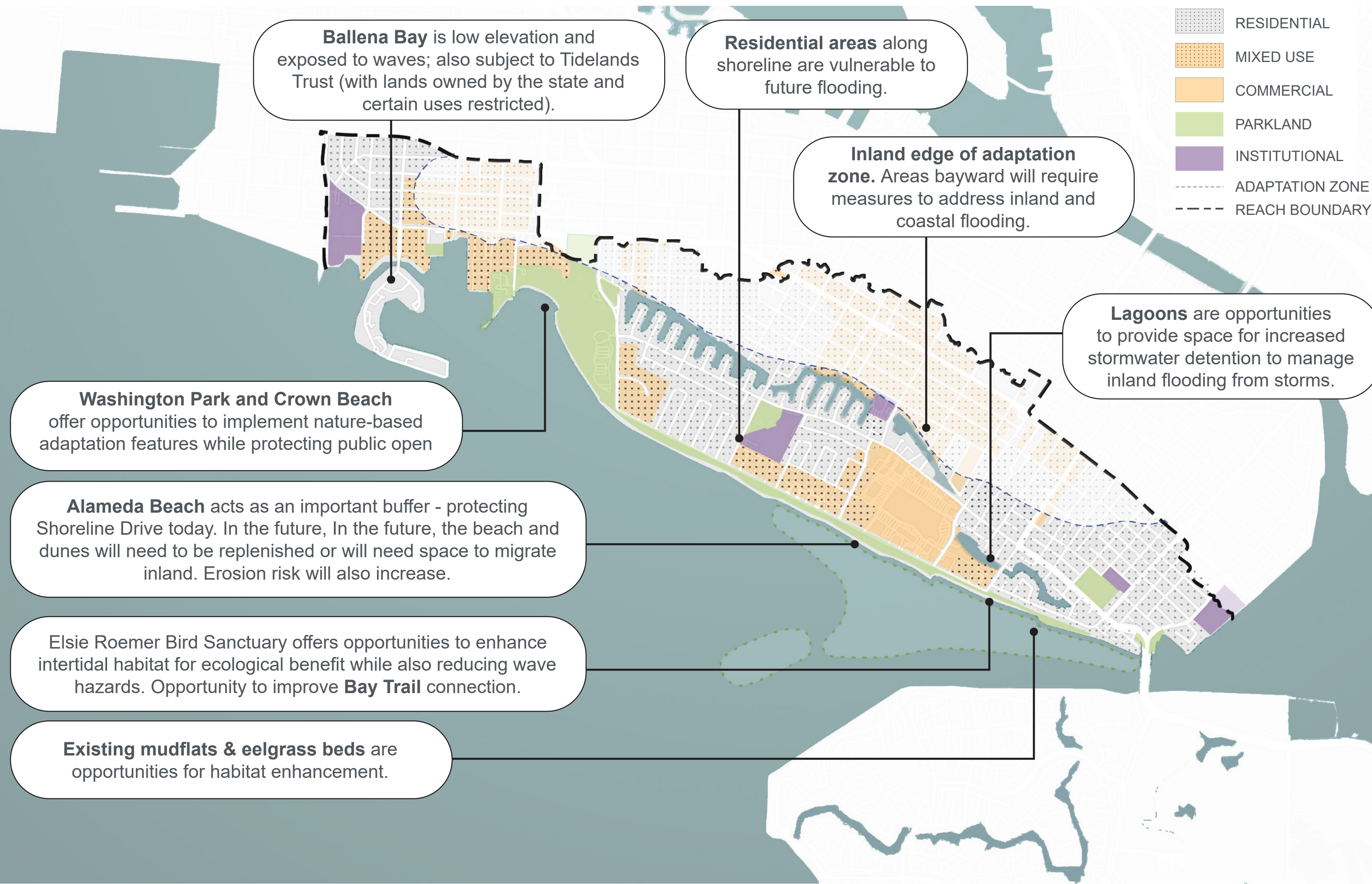
Shoreline Transformation

South Shore has changed significantly over the past century. Tidal marsh and mudflats were filled to create developable land that eventually grew into the shoreline community we encounter today. The area’s historic transformation points to the range of possibilities for the future.

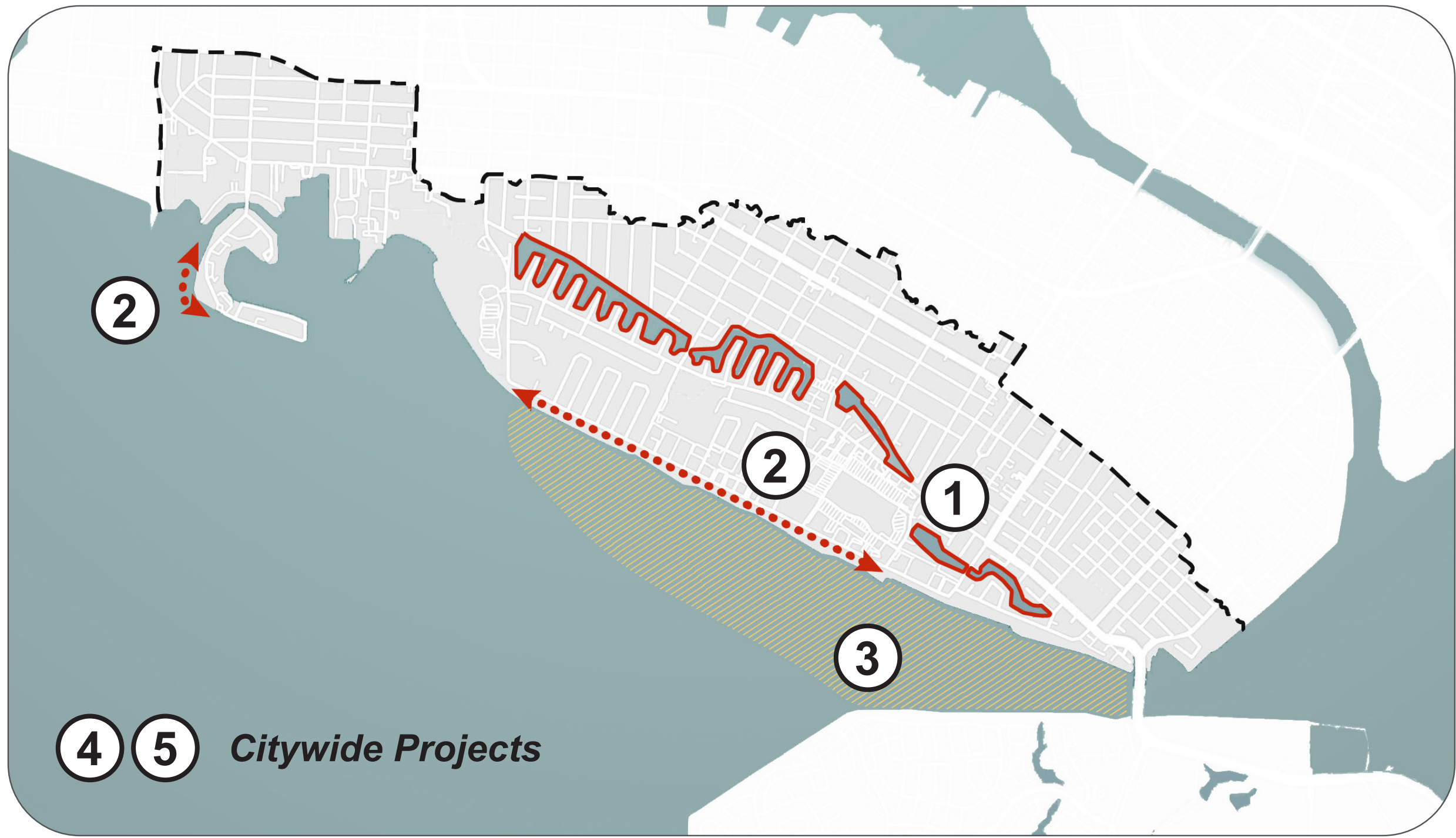


There are many opportunities to improve the South Shore community via adaptation, such as increasing habitat and public access. Current land uses, risks to residential areas, and opportunities for adaptation via redevelopment must also be considered.

Are we missing anything? Please let us know!



IMMEDIATE ACTIONS



Ongoing Efforts

The City of Alameda has identified strategies for urgent implementation along South Shore in the Local Hazard Mitigation Plan (LHMP, 2025) along with **Citywide strategies for stormwater management and the Basement Flooding Campaign**. Future adaptation efforts will build on this work.

- 1 Lagoon Maintenance
- 2 Shoreline Maintenance and Erosion Management in coordination with East Bay Regional Parks District
- 3 South Shore Geomorphology and Ecological Study to inform potential green and gray features along Alameda South Shore
- 4 Basement Flooding Campaign (Citywide)
- 5 Stormwater Management (Citywide)



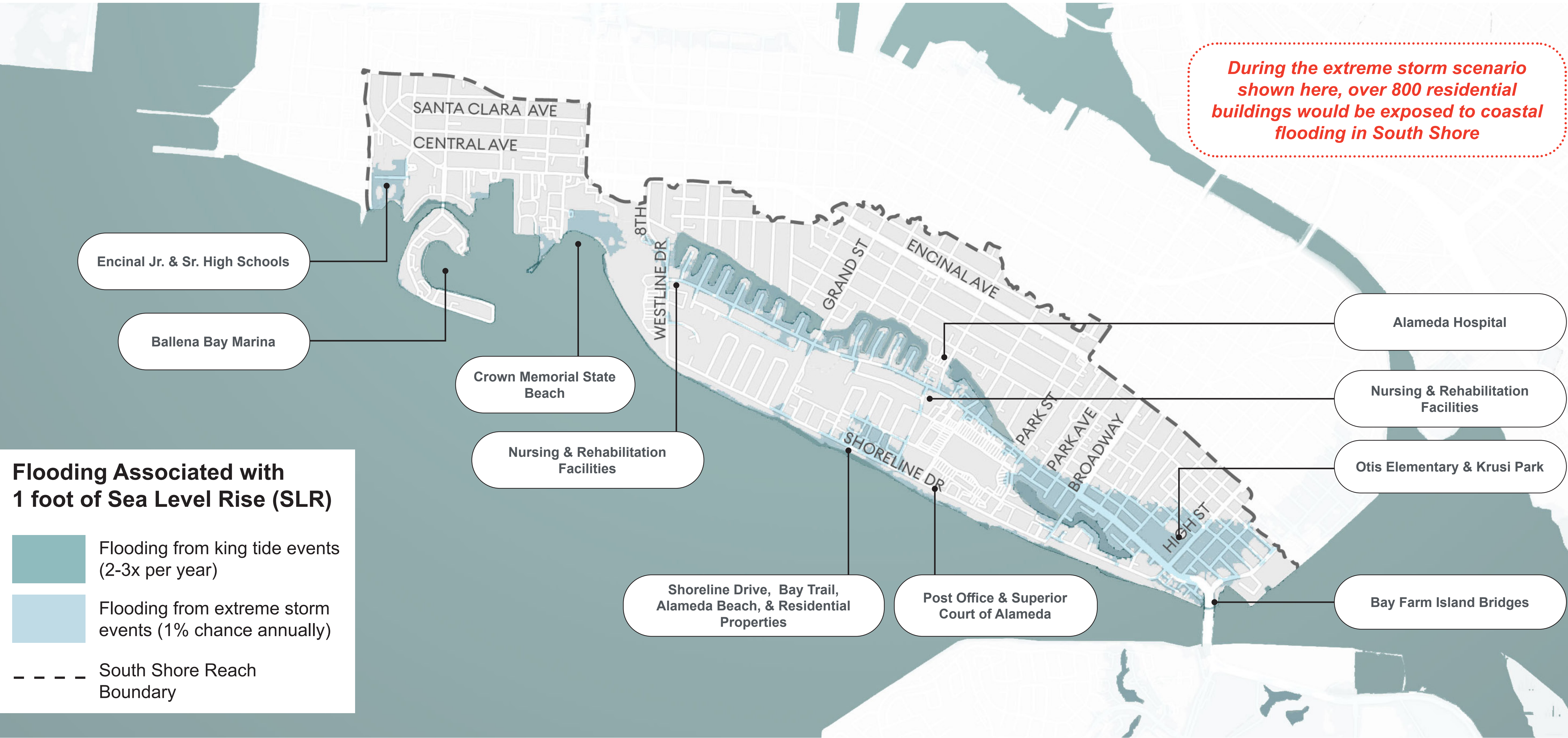
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NEAR-TERM ADAPTATION ALTERNATIVES

1 FOOT OF SEA LEVEL RISE: THE ‘DO NOTHING’ ALTERNATIVE (2040-2060)

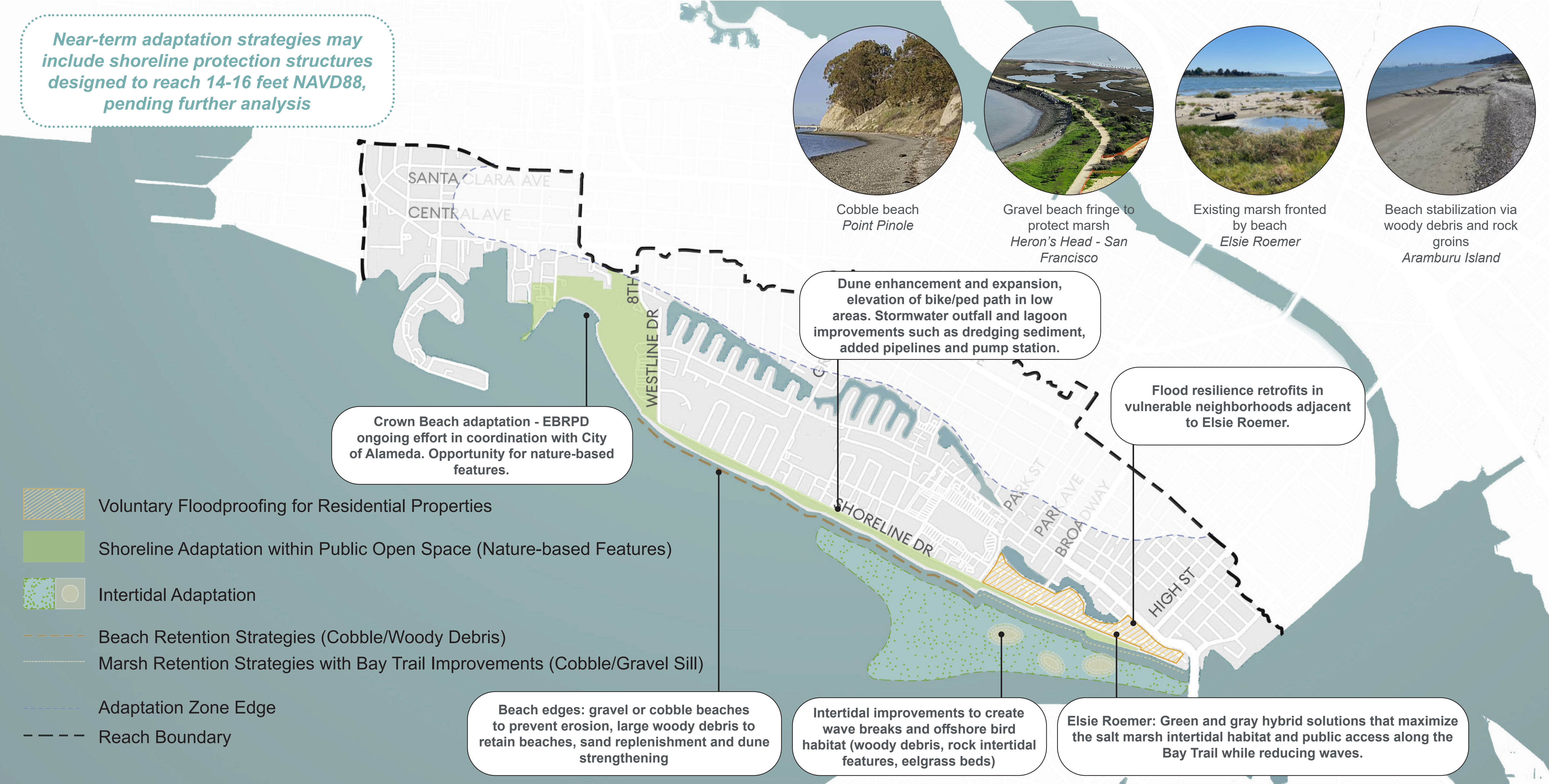
The lowest portions of this shoreline area are already at risk of inundation during a major coastal flood. Sea level rise of 1 foot may occur by 2040-2060.* Increasingly frequent and intense extreme rainfall events, combined with rising groundwater, are anticipated to cause additional flooding in low-lying areas. With 1 foot of sea level rise, king tide flooding will remain confined to the shoreline. However, an extreme storm would have major impacts to much of this area’s built environment. The map below highlights some of the places that would be exposed to coastal flooding or groundwater flooding.

*Based on approximate High and Intermediate projections (OPC, OST, and CA Sea Level Rise Task Force 2024) in comparison to a 2000 baseline



NEAR-TERM ADAPTATION STRATEGIES (IMPLEMENT BY 2035)

Potential near-term adaptation strategies focus on strengthening Alameda Beach and the Elsie Roemer tidal wetland using nature-based adaptation measures and raising other portions of the South Shore shoreline to address about 2 feet of sea level rise. The beach and marsh act as important buffers - protecting Shoreline Drive and inland areas from waves and coastal flooding. Ongoing sediment management and sand replenishment will be required. Geomorphic studies will determine placement of beach protections. Additional measures, such as flood resilience retrofitting of private structures, may also be required.



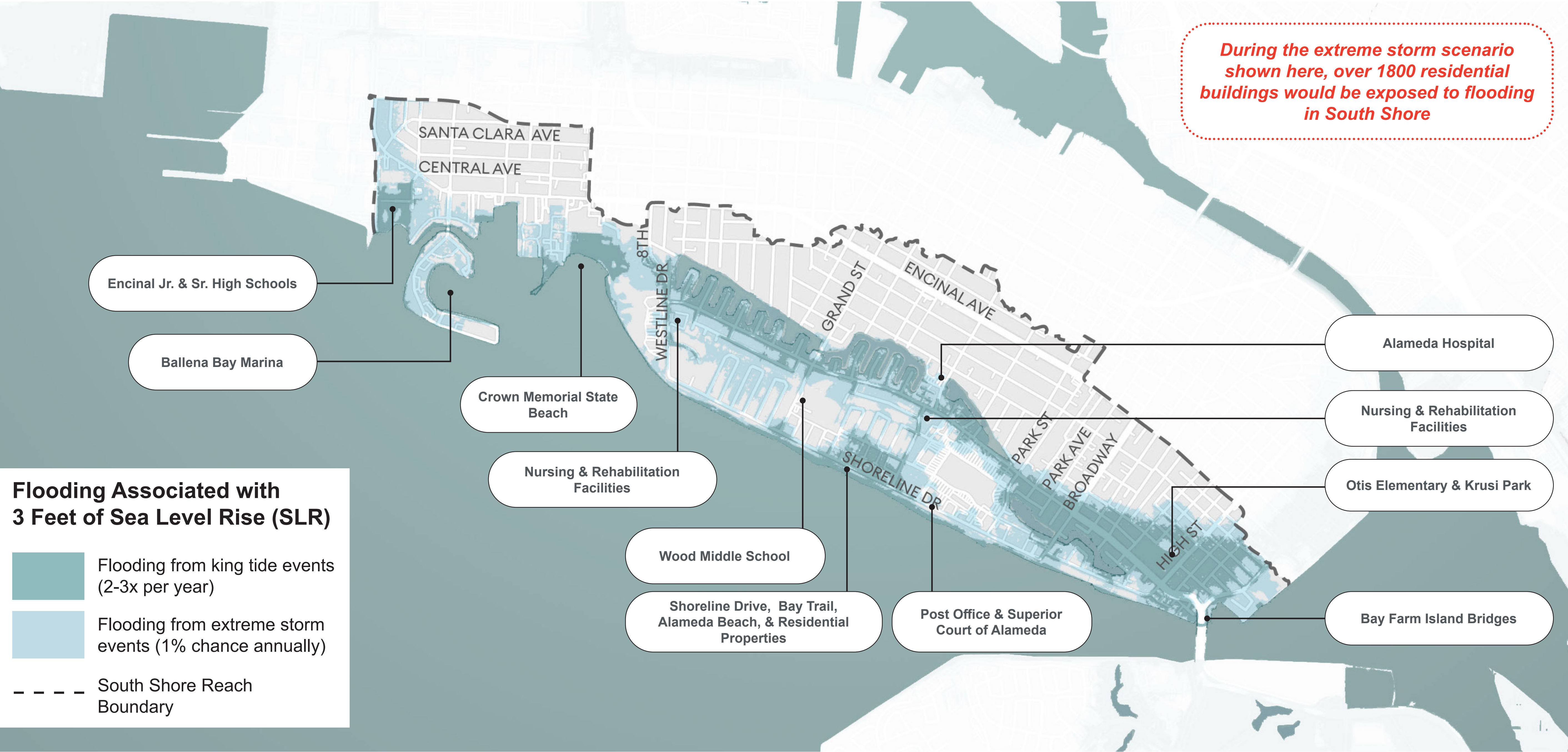
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MID- TO LONG-TERM ADAPTATION

3 FEET OF SEA LEVEL RISE: THE ‘DO NOTHING’ ALTERNATIVE (2070-2100)

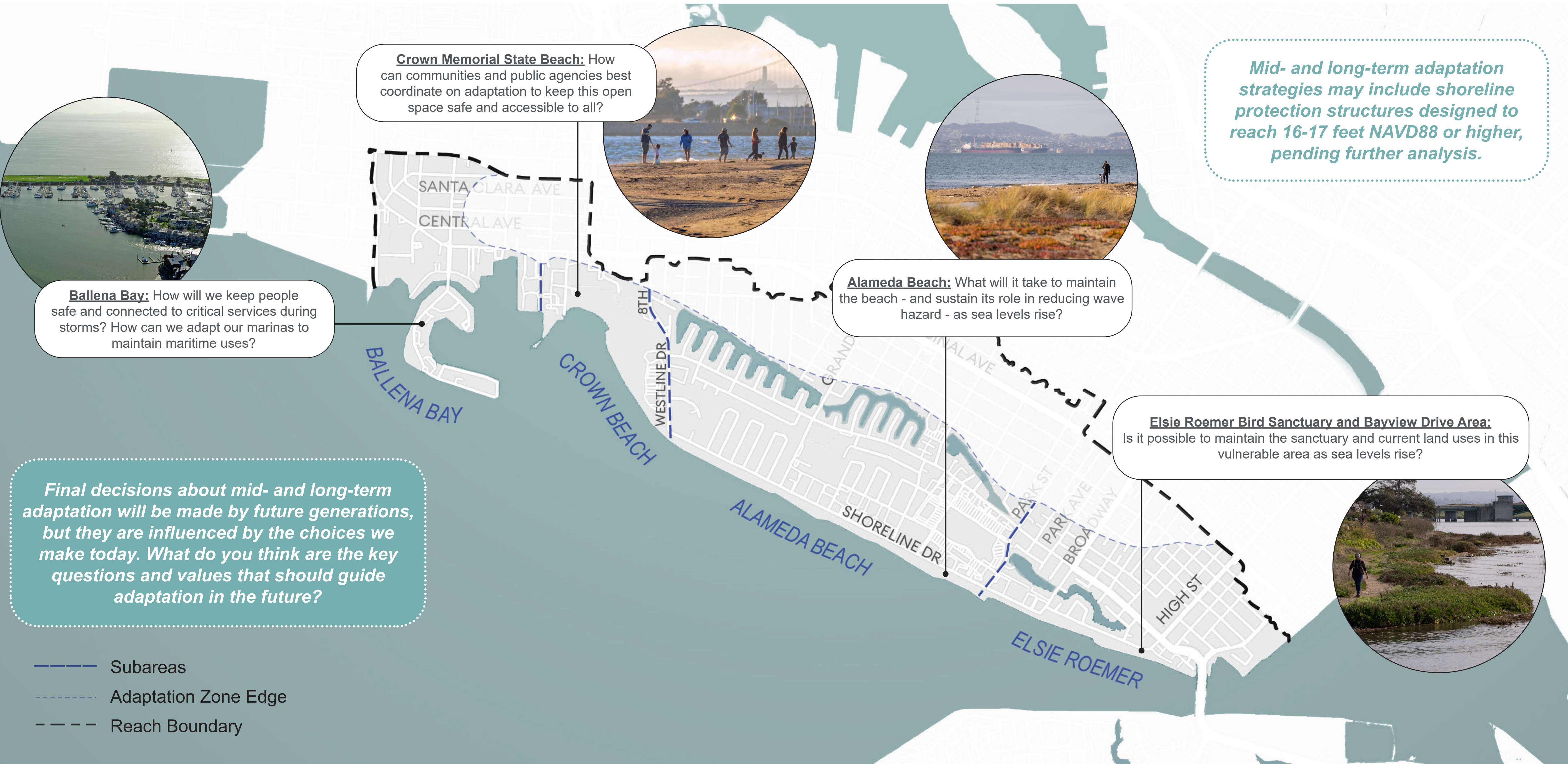
If adaptation measures are not implemented in the near term, coastal flooding will continue to increase in severity and frequency, significantly changing the South Shore communities. Flooding from groundwater and extreme rainfall events will also impact inland areas. Alameda Beach will erode over time, no longer able to provide protection to Shoreline Drive, the Bay Trail, and homes and businesses along the shoreline.

*Based on approximate High and Intermediate projections (OPC, OST, and CA Sea Level Rise Task Force 2024) in comparison to a 2000 baseline



MID- TO LONG-TERM ADAPTATION (2070-2100)

Two feet of sea level rise is a critical tipping point for Alameda Beach. In the near-term, we will be able to adapt along our shoreline, with more modest infrastructural and ecological improvements. Adaptation has the potential to transform the South Shore shoreline and may include construction of additional flood defenses (such as levees), nature-based features, and land use change in certain high risk areas.



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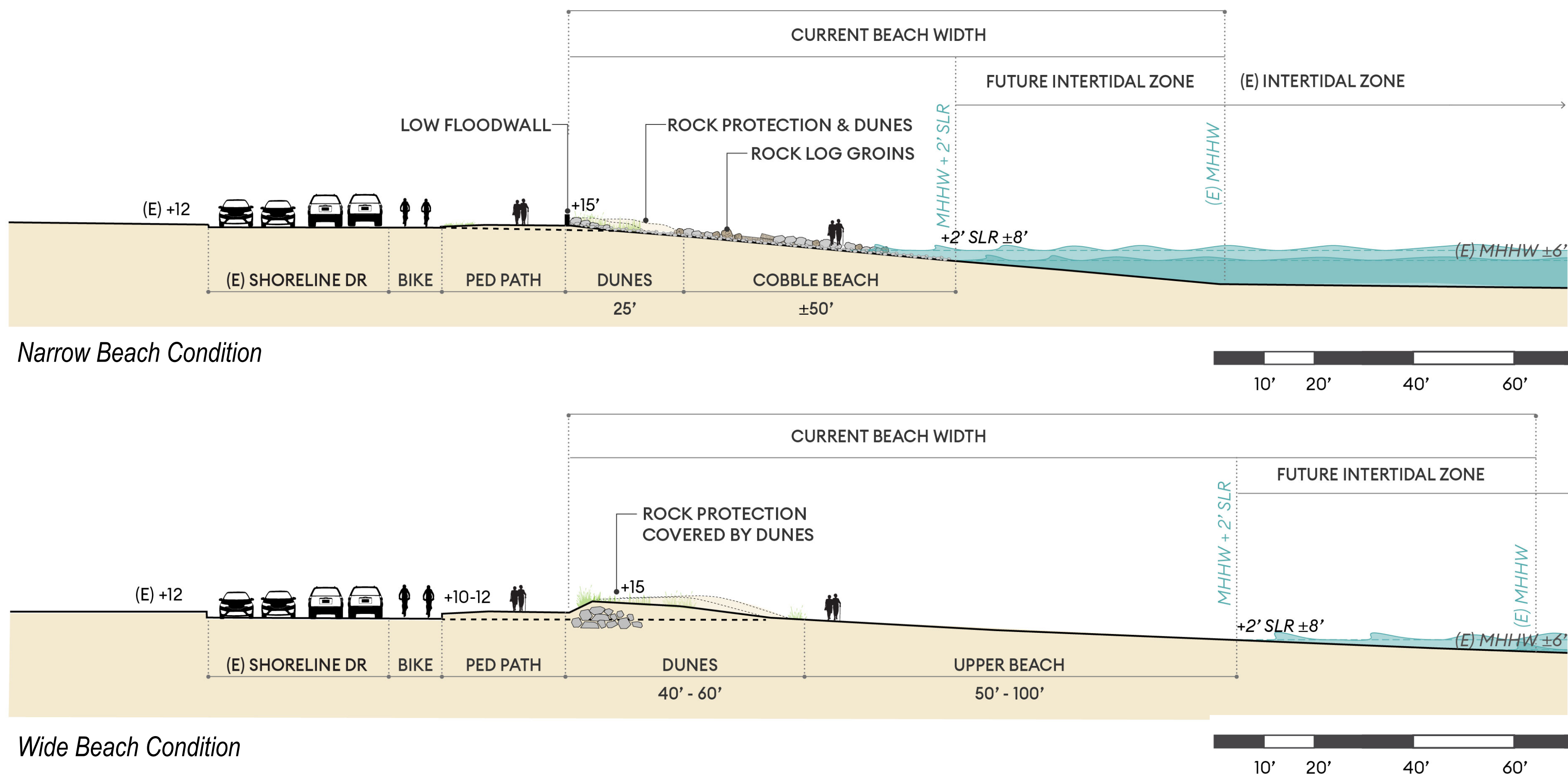
DEEP DIVE: ADAPTING THE BEACH

ALAMEDA BEACH: EXISTING CONDITIONS

Alameda Beach is a long, human-made beach and a popular day-trip destination for residents and visitors throughout the region. Dune and beach widths vary significantly along this dynamic shoreline. This variability reflects how the sand moves in response to wind and waves, especially during major storms. The City of Alameda works with East Bay Regional Parks District to redistribute sand and occasionally add new sand to maintain the beach in this environment.



NEAR-TERM ADAPTATION (2040-2060)

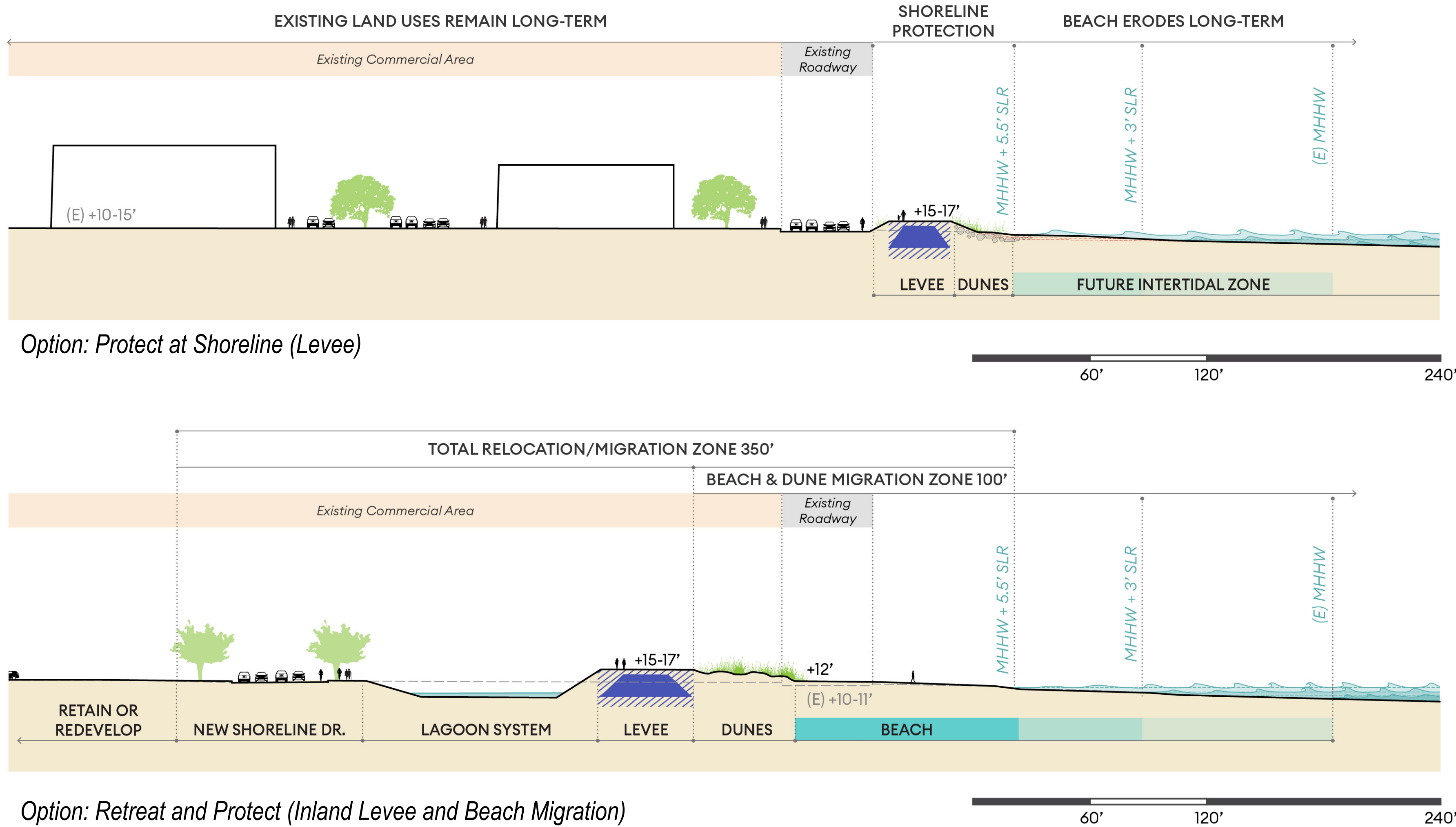


Near-term adaptation concepts along Alameda Beach are centered around strengthening the dunes, stabilizing the beach, and raising the shoreline in targeted locations to reduce the risk of flooding Shoreline Drive, the Bay Trail, and the inland neighborhoods.

The **City of Alameda's Geomorphology and Ecological Study** will inform the design of these near-term adaptation concepts, helping us better understand local sand movement dynamics and how to work with natural processes to maximize community and ecological benefits.

MID- TO LONG-TERM ADAPTATION (2070-2100)

Two feet of sea level rise is a critical tipping point for Alameda Beach. Before that point, the City and community will need to make a critical decision – whether to give the beach space to migrate inland or to construct shoreline protection at the existing edge and lose the beach to sea level rise and erosion. Conceptual timelines and shoreline conditions are shown here.



Potential Timeline - South Shore Adaptation

