



**Regional Shoreline  
Adaptation Plan**

An implementing project of **BAY ADAPT**

## RSAP Planning Practitioner Workshop

# Session D. Adaptation Strategies: Land Uses and Adaptation Strategy Standards

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This session will provide an opportunity to explore and discuss:

1. How does the RSAP guide the selection of **adaptation strategies**?
2. How does the RSAP ask jurisdictions to think about **adaptation and land use**?
3. How does this **reflect existing local efforts** on these topics?

# How does the RSAP guide local adaptation strategies and land uses?

## Plan Guidelines

**Element A: Planning Process**

**Element B: Existing Conditions**

**Element C: Vulnerability Assessment**

**Element D: Adaptation Pathways**

**Element E: Land Use and Policy Plan**

**Element F: Implementation and Funding Plan**

**Element G: Project List**

## Minimum Standards

**Coastal Flood Hazards and  
Sea Level Rise Scenarios**

**Minimum Categories and  
Assets**

**Equity Assessment**

**Adaptation Strategy  
Standards**

**SUBREGIONAL  
SHORELINE  
ADAPTATION  
PLANS**

# Minimum Standards

## Coastal Flood Hazards and Sea Level Rise Scenarios

Required coastal flood hazards:

- Tidal inundation
- 100-year storm
- Shallow Groundwater Rise

Recommended coastal flood hazards:

- Compound/fluviial flooding
- Nearshore wave height
- And more

Table X. Sea Level Rise Scenario Requirements						
Sea Level Rise Scenario <sup>24</sup>			Vulnerability Assessment	Adaptation Pathways	Additional details	
2050	INT	1 ft	R	R	<p><b>Near-Term (present to 2050):</b> While the range of the OPC intermediate to high scenarios runs from .8 ft to 1.3ft, the RSAP guidelines only require 1 foot of SLR in the near-term scenario. This is because there is less uncertainty about sea level rise in the near term and regional data is not granular enough such that differences of 0.2-0.5ft warrant three distinct scenarios.</p>	
2100	INT	3.1 ft	R	R	<p><b>Mid-Term (2050 – 2100):</b> OPC recommends conducting a Vulnerability Assessment on all three of the 2100 scenarios.</p> <p>For adaptation pathways, the 2100 intermediate (INT) scenario is the minimum required for development according to the Adaptation Strategy and Pathways standards. However, jurisdictions are encouraged to use the intermediate-high or high scenario if it is appropriate for the jurisdiction.</p> <p>The 2100 HIGH scenario is required to be completed using a qualitative approach.</p>	
	INT-HIGH	4.9 ft	R			
	HIGH	6.6 ft	R	R		
2150	INT	6.1 ft			<p><b>Long-Term (2100-2150):</b> For Vulnerability Assessment, formal quantitative risk analysis for long-term scenarios is optional but encouraged.</p> <p>For Adaptation Pathways, a qualitative description of adaptation pathways is optional but encouraged.</p>	
	INT-HIGH	8.3 ft				
	HIGH	11.9 ft				

Sea level rise projections come from the Ocean Protection Council Updates SLR Guidance (2024)

# Element D: Adaptation Pathways

D1. Include a **local vision** and goals for the planning area that incorporates and localizes the One Bay Vision.

D2. Identify **adaptation strategy options**/alternatives for each shoreline reach and the planning area as a whole.

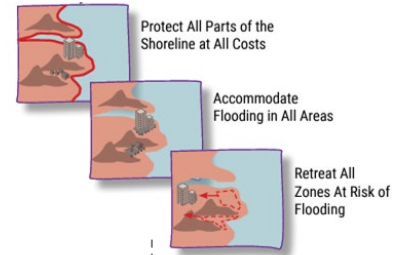
D3. **Evaluate** adaptation alternatives to identify preferred adaptation strategies for shoreline reach(es).

D4. **Provide conceptual plan(s) and descriptions of preferred adaptation strategies** and adaptation pathways for shoreline reach(es), including physical and non-physical strategies.



*Local and Regional Vision*

*Adaptation Alternatives*



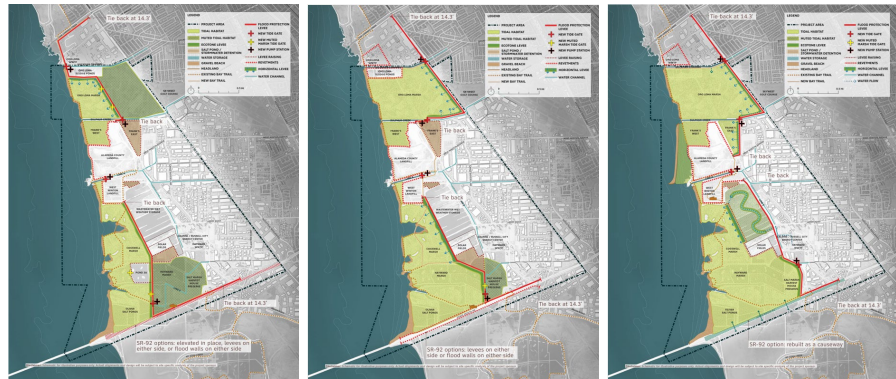
*Evaluate Alternatives*

*Identify Preferred Strategies*

# How does the RSAP guide the selection of adaptation strategies?

- Guideline D2, for a given part of the shoreline, identify at least *two different alternatives* for what combination of adaptation strategies could reduce flood risk  
E.g. a “strategy” could be a levee, a land use change, elevating land, etc.
- Use the **RSAP Adaptation Strategy Standards** to help shape what those adaptation strategies might be.  
E.g., explore how strategies can include nature-based elements where feasible, look to integrate multiple benefits, etc.

Example of three “design alternatives” from the Hayward Regional Shoreline Adaptation Master Plan (2021)



Alternative #1: Closer to the Bay

Alternative #2: Down the Middle

Alternative #3: Further Inland

# Minimum Standards

## Adaptation Strategy Standards

### PROTECT SHORELINES

1. Integrate multiple benefits.
2. Improve public access.
3. Improve habitats and support long-term survival.
4. Promote whole watershed approach.
5. Utilize nature-based approaches where feasible.
6. Support existing housing needs.
7. Plan for development life cycles.
8. Integrate strategies for shallow groundwater rise.
9. Consider real estate disclosures.
10. Avoid and minimize Bay Fill for hard shoreline protection.

### ACCOMMODATE THE WATER

11. Consider height above freeboard.
12. Consider climate responsive codes.
13. Consider a shoreline setback.

### AVOID OR RETREAT

14. Explore avoidance opportunities.
15. Preserve natural lands and open space for adaptation and resilience.
16. Consider increasing density in areas outside flood risk zones.

### PREPARE FOR FUTURE CHANGES

17. Evaluate consequences of flood protection failure.
18. Consider adaptive design.
19. Consider phased zoning and land use.
20. Minimize GHG emissions resulting from adaptation actions.
21. Plan for infrastructure removal at its end-of-life cycle.

# Element E: Land Use and Policy Plans

E1. Describe **land use changes necessary** to enact the adaptation strategies and pathways identified in Element D.

F2. Describe **policy and programmatic changes** necessary to enact the adaptation strategies and pathways identified in Element D.



# How does this approach to adaptation reflect what you currently do?

- Please **share local examples** of how you've identified or developed adaptation strategies and/or used adaptation pathways
- Please let us know if you have **questions or something is unclear** in our guidelines and standards
- Please let us know how we can **clarify or improve this language** or process for local planners