Welcome!

We're glad you're here

The Port of Oakland is working with community partners to prepare for future flooding and other climate challenges.

Today's workshop focuses on the Waterfront Resilience Plan. You will learn what the project team is finding, explore possible flood solutions, and share what future strategies should achieve.

The Waterfront Resilience Plan Area

This map shows the Port, nearby neighborhoods, the shoreline, and major transportation routes included in the study.

How the Plans Fit Together

- **Port of Oakland Waterfront Resilience Plan:** Studies flooding and develops strategies to adapt Oakland's waterfront.
- **Oakland Subregional Shoreline Adaptation Plan**: The City of Oakland's broader plan for preparing the shoreline for sea level rise.
- **Sustainability Management Plan**: Brings together the Port's work on air quality, clean energy, water, waste, jobs, and climate change.

These plans have different purposes, but they share information and work together.



Your input will help shape the plan

Who's involved + what the Port does

PORT OF OAKLAND

The Port is a landlord port, where property is leased to tenants and third parties.

The Port acts as the governmental agency and manages infrastructure such as electrical systems, streets, and storm drains, and some shoreline areas within the Port jurisdiction.

What the Port is doing in the Waterfront Resilience Plan

- The Port studies flooding on Port property and in nearby neighborhoods.
- The Port works with the City of Oakland and others to plan long-term solutions.
- The Port shares information with the public and with partner agencies.
- The Port helps create a big-picture plan that protects jobs, transportation, and the shoreline.

What the Port does not do

- The Port does not build projects outside Port property.
- The Port does not fund work on City streets or private land.
- The Port does not have jurisdiction over residential areas or make decisions about housing.
- The Port does not decide what private landowners can or cannot build.

REGIONAL COORDINATION

Who makes decisions

Flooding does not stop at city borders, so many groups must work together to make the shoreline safer and more resilient.

The **City of Oakland** manages City streets and storm drains, parks, and housing rules.

The **East Bay Regional Park District (EBRPD)** stewards many parks and shoreline areas.

The **San Francisco Bay Conservation & Development Commission (BCDC)** sets shoreline rules and sea level rise requirements.

The **Oakland Alameda Adaptation Committee (OAAC)** is a coalition of shoreline communities and other interest-holders collaborating on sea level rise.

Caltrans manages freeways, bridges, and major transportation routes.

Federal agencies manage ocean navigation and airport safety.

How your voice shapes the Waterfront Resilience Plan

Your ideas are an important part of this planning process.

What you share today helps the Port of Oakland identify places that matter most in your community, guide which kinds of solutions we explore, and support the Port's final Waterfront Resilience Plan.

This plan has several steps over the next year. Community workshops, conversations with partners, and survey responses all play a role in creating the plan.

Your input **can influence** which places will be included in future flood defense planning, which solutions will be considered for your community, and how we share information and engage with the community.

Timeline



Your input at these workshops **cannot influence** state or federal laws, private development, zoning decisions, airport or seaport operational decisions, or how much funding agencies receive.

We appreciate your time and your experience.

Your ideas help guide how this work moves forward.

Flooding + how water moves

Types of Flooding

Not all flooding happens for the same reason. Understanding the different types of flooding helps us plan solutions that match Oakland's local needs.





Coastal flooding happens when tides or storms push water over the shoreline.



Groundwater flooding happens when water under the soil rises toward the surface, creating wet or soggy areas even without rain.



Stormwater flooding happens when heavy rain fills streets faster than drains can move the water away.

Impacts of Flooding

Flooding can have many different levels of impacts.

Flooding can damage property, block streets and walkways, interrupt transit, affect supply chains and businesses, disrupt jobs and daily living, and damage important infrastructure such as water or electrical systems.



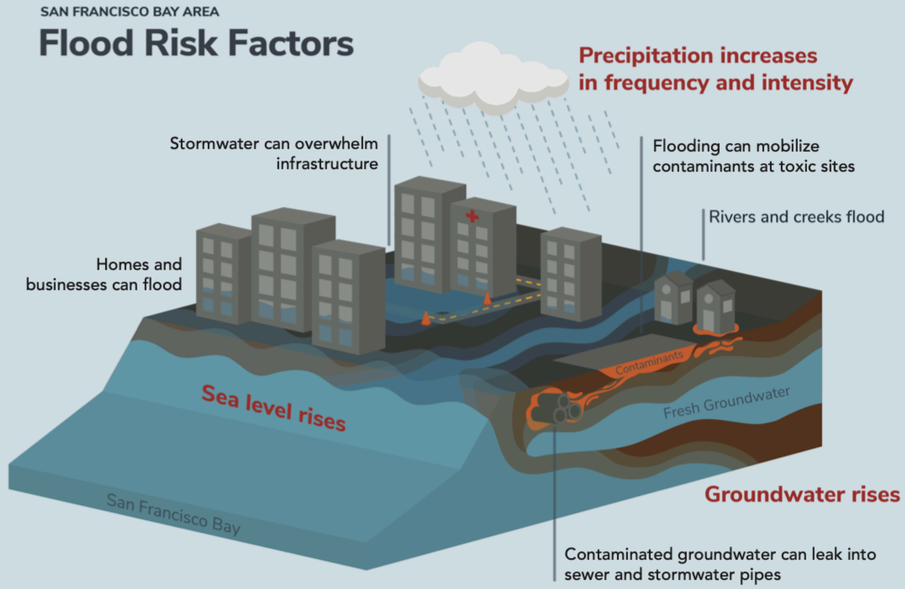


Image adapted from infographic, courtesy of Save The Bay

How vulnerability is measured and what's at risk

The Waterfront Resilience Plan studies how flooding affects different places along the shoreline.

To help us understand which locations or systems might need the most attention in the future, we look at four things to understand vulnerability and risks:

1. **Exposure**
means how often a place may flood and how deep the water might get.

2. **Sensitivity**
means how easily that place could be damaged by water.

3. **Adaptive capacity**
means how easily something can be fixed, moved, or protected.

4. **Consequence**
means what happens to people, businesses, and the community if that place floods.

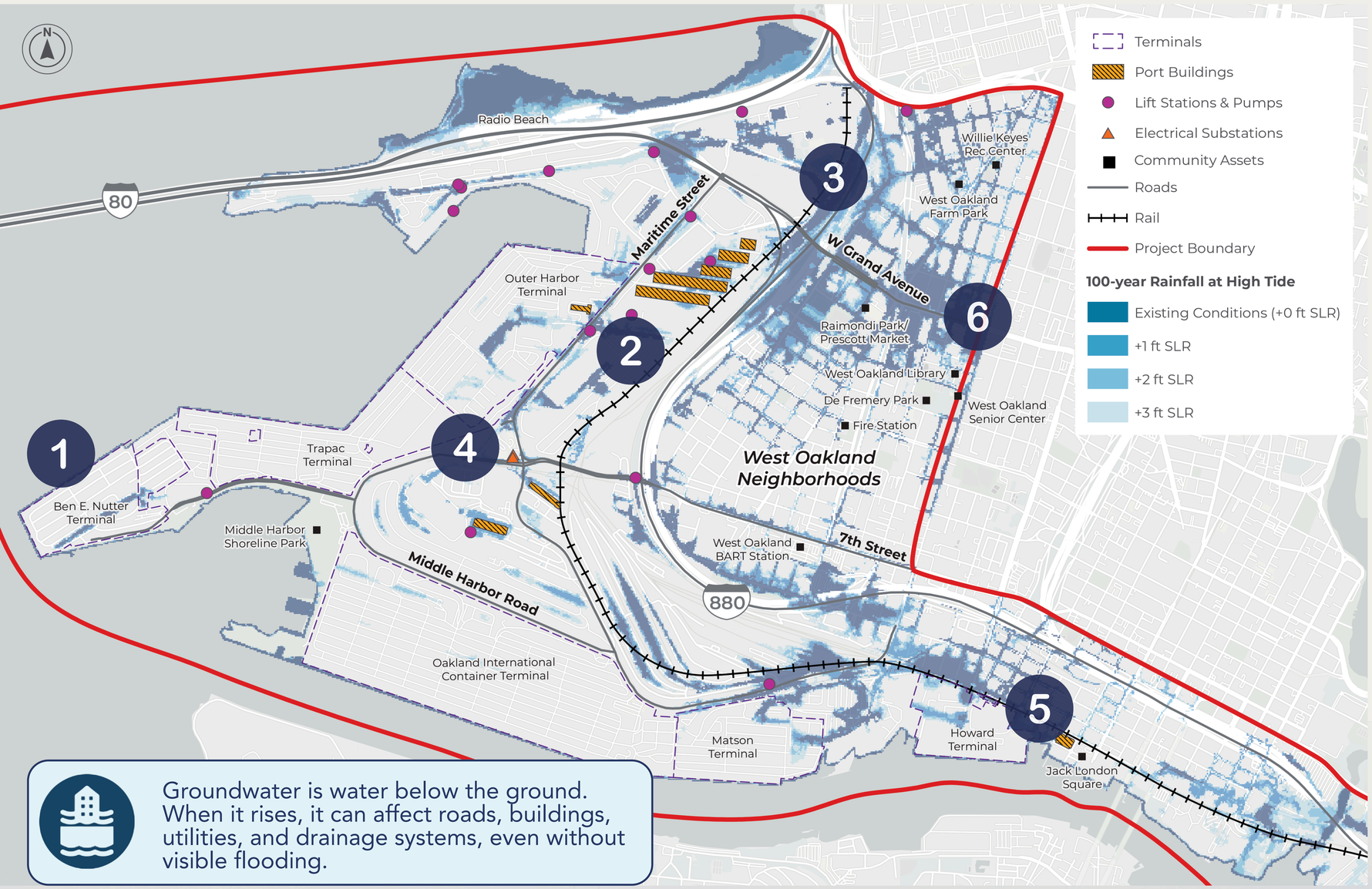
Potential Impacts

The Plan's study area has many important facilities that can be affected by flooding. **These include roads, rail lines, airport runways, storm drains and pump stations, buildings, warehouses, cranes, docks, and electrical and water systems.**

When these places flood, it can impact things like restaurants along the water in Jack London Square, the movement of goods through the Port, regional and international flights, and how the community connects to the shoreline.

Flood Vulnerability Along Your Waterfront

Flooding can affect more than individual Port facilities. Roads, rail, power, utilities, and nearby communities are all connected. The examples below show why these connections matter.



Groundwater is water below the ground. When it rises, it can affect roads, buildings, utilities, and drainage systems, even without visible flooding.

1 Port Terminals
Terminals are places where cargo moves between ships, trucks, and trains. Flooding can slow or stop the movement of goods.

2 Lift Stations & Pumps
Pumps move wastewater and stormwater. Flooding or power loss can stop them from working.

3 Road & Rail Connections
Road and rail lines move people and goods around the waterfront and beyond. Flooding can block important routes.

4 Electrical Substations
Provide power to buildings and equipment. Flooding can cause power outages and disrupt many activities across the waterfront.

5 Buildings
Buildings support businesses, Port activities, and community services. Even short-term flooding can damage equipment and building materials and lead to longer-term problems like mold.

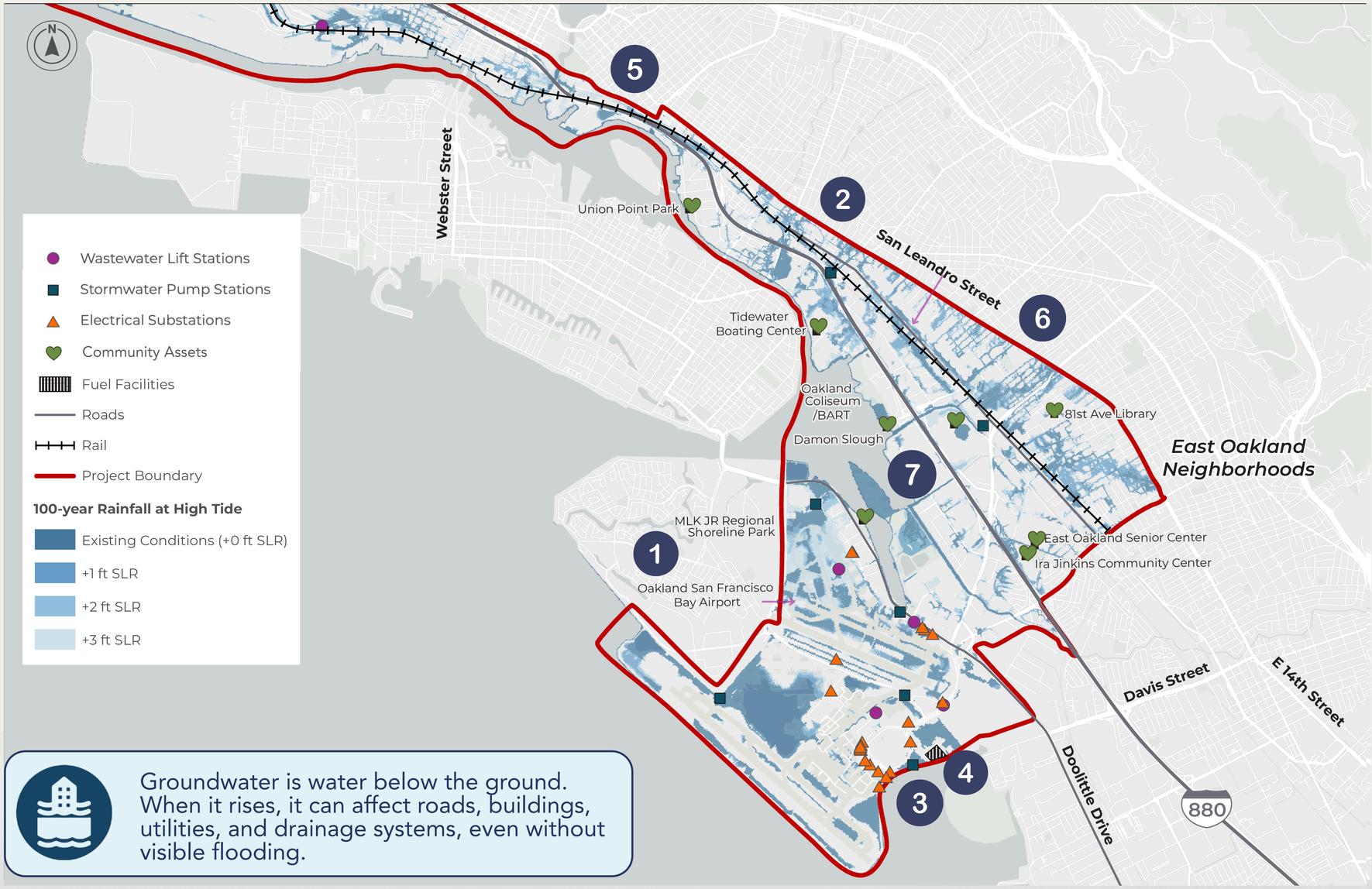
6 Community Access & Connections
Connect people to schools, parks, services, jobs, and the waterfront. Flooding can make these places harder to reach.

Planning for a Connected Waterfront

Flooding does not stop at property lines. Planning can help protect Port operations while also considering roads, infrastructure, and nearby communities.

Flood Vulnerability Along Your Waterfront

Flooding can affect more than individual Port facilities. Roads, rail, power, utilities, and nearby communities are all connected. The examples below show why these connections matter.



Groundwater is water below the ground. When it rises, it can affect roads, buildings, utilities, and drainage systems, even without visible flooding.

1 Airport Runways & Taxiways
Allow planes to take off, land, and move around the Airport. Flooding can limit or stop Airport operations.

2 Pumps & Lift Stations
Move stormwater and wastewater. Flooding or power loss can stop these systems from working and cause problems beyond the flooded area.

3 Electrical Substations
Provide power to buildings, Airport facilities, pumps, and other equipment. Flooding can cause outages that affect many activities.

4 Fuel Facilities
Store and move fuel for Airport operations. Flooding can damage equipment and interrupt the fuel supply needed to keep planes moving.

5 Road & Transit Connections
Connect people to the Airport, jobs, services, and other destinations. Flooding can block important routes.

6 Buildings
Support Airport operations, businesses, services, and nearby communities. Flooding can damage equipment and building materials and cause longer-term problems like mold.

7 Community Access & Connections
Connect people to schools, parks, services, jobs, and the waterfront. Flooding can make these places harder to reach.

Planning for a Connected Waterfront

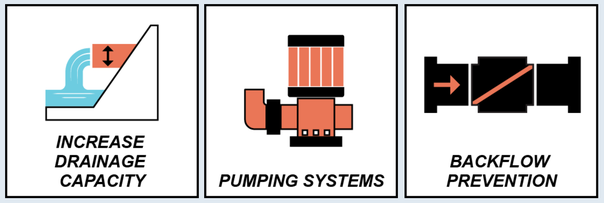
Flooding does not stop at property lines. Planning can help protect Port operations while also considering roads, infrastructure, and nearby communities.

What Could Adaptation Look Like?

There are many ways to adapt to flooding. The right strategies will depend on the type of flooding, what needs to be protected, and local conditions. The examples below represent the range of approaches that could be considered as part of the Waterfront Resilience Plan.

Drainage & Water Management

Manage rain and floodwater to help reduce flooding and keep water moving.



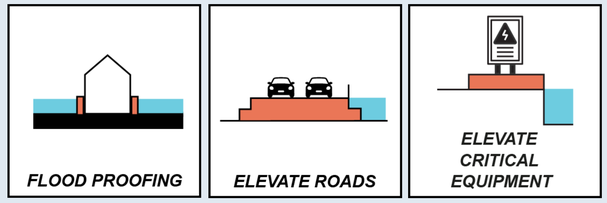
Nature-Based Solutions

Use plants and natural areas to help reduce flooding, improve water quality, and create habitat.



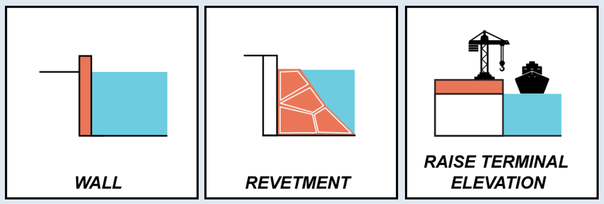
Asset-Specific Strategies

Protect individual assets, like buildings, roads, and equipment, so they continue to function when conditions change.



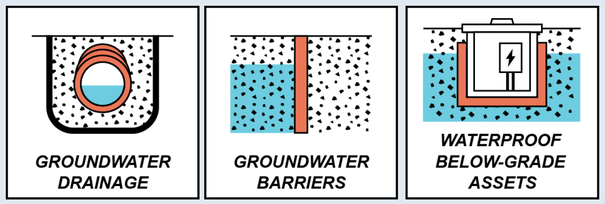
Shoreline Adaptation

Protect and change the waterfront edge to help keep floodwater and waves out.



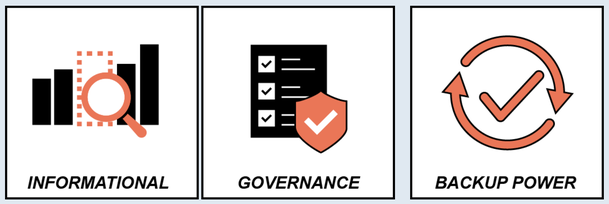
Groundwater Management

Manage water below the ground to help prevent damage to buildings, roads, and other infrastructure.



Planning, Operations & Preparedness

Plan and prepare for floods so important services can keep working and recover quickly.



Using different strategies together can help address more than one type of flooding.

Choosing the Right Mix of Strategies

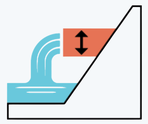
Example Adaptation Strategies



Living Shoreline

Helps
- Reduce waves and erosion

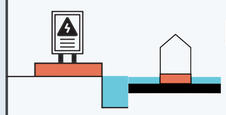
Keep in Mind
- Needs enough shoreline space



Increase Drainage Capacity

Helps
- Move rainwater and reduce flooding

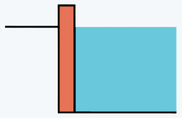
Keep in Mind
- Higher Bay levels can make it harder for water to drain



Elevate Critical Assets

Helps
- Keep important equipment above floodwater

Keep in Mind
- Does not protect the area or assets around it



Floodwall

Helps
- Keep coastal floodwater out and protect multilple assets

Keep in Mind
- Must connect to high ground or other protection



Backup Power

Helps
- Keeps important systems working during power outages

Keep in Mind
- Equipment must also be protected from flooding



Waterproof Below-Grade Infrastructure

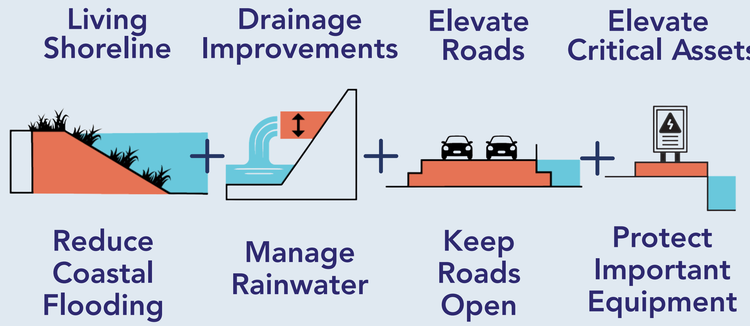
Helps
- Keeps groundwater out of underground equipment

Keep in Mind
- Some materials can handle water for a short time, but not long-term flooding

What Shapes the Right Approach?

- Different strategies work better for different types of flooding
- Available space and existing infrastructure can limit options
- Some strategies can be expanded or changed over time.

Strategies Can Work Together



A More Resilient Waterfront

What Should Flood Adaptation Achieve?

Place your dots next to the outcomes that matter most to YOU.

Each person has 5 dots. Please use no more than 2 dots on one outcome.

Did we miss something? Add a sticky note.

Your input will help identify **which outcomes should be prioritized** and guide how strategies are developed and evaluated.

 **Safety and Health** Help keep people safe and reduce health risks from flooding, pollution, and disruptions during storms and emergencies.	
 **Keeping Goods and People Moving** Protect Seaport and Airport operations that support travel, jobs, businesses, and the movement of goods across the region.	
 **Transportation and Access** Keep it easy for people to get to work, school, stores, and other important places.	
 **Homes, Neighborhoods, and Jobs** Reduce flood impacts to homes, local businesses, jobs, and neighborhoods.	
 **Clean Water and Nature** Improve water quality and protect habitats, natural areas, and healthy shorelines.	
 **Community Spaces** Protect parks, schools, libraries, cultural places, gathering spaces, and other places people rely on.	