

# A New Mission for Mission Bay:

Envisioning a Public & Resilient Waterfront on the South Shore

by Leeloo Gilet





## Personal Statement

Water has always been a defining presence in my life. I have lived in places where proximity to water shaped daily experience: the San Francisco Bay in Palo Alto, CA, the lakes and creek systems of Austin, TX, the Long Island Sound and Mianus River in Greenwich, CT, and the rivers and lakes around Durham, NC. Beyond the United States, the beaches and bays of the Basque Country have also deeply influenced my understanding of coastal landscapes and the cultural identity that forms around them.

As a competitive rower, water also guided my travels, bringing me to rivers and lakes around the country for training camps and regattas. Through these experiences, I came to understand waterways not only as recreational spaces, but as dynamic systems that shape cities, communities, and ecosystems.

These personal experiences ultimately led me to explore waterfronts through the lens of landscape architecture. I am particularly interested in how cities can design waterfronts that balance public access, ecological restoration, and long-term climate resilience.

This project serves as the culmination of my coursework, demonstrating a mastery of complex site analysis, large-scale master planning, and technical resilience standards. It represents my ability to balance future, environmental, and cultural needs to solve the most pressing challenge of our field: the urban-water interface.

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# Introduction





## Project Statement

This capstone project proposes a long-term vision for the land-use conversion of the **Mission Bay South Shores**, including the SeaWorld site, following the expiration of its lease in 2048.

Currently, the site exists as an isolated, car-dependent park remnant bounded by hardened edges that are devoid of ecological services and severely lacking in climate resiliency. Situated at the interface of the San Diego River and Mission Bay, this specific site offers a critical geographic opportunity to restore lost regional hydrological and ecological systems.

Guided by the **Waterfront Edge Design Guidelines (WEDG)**, this project demonstrates how landscape architecture can guide an ethical waterfront transformation by designing for **climate resilience**, **ecological restoration**, and **access for all**.



Size: 70 acres | Ownership: City of San Diego | Mission Bay Regional Park

## Site Selection

The site is located on the peninsula between the channelized flood-prone San Diego River and Mission Bay, a disturbed estuarine habitat.

Under the State Tidelands Grant, the California State Legislature transferred ownership and management authority of Mission Bay Regional Park to the City of San Diego. This statutory transfer legally mandates that the land be preserved, restored, and developed strictly as **public parkland**. As such, it includes a ban on permanent residential development and private land ownership and a cap for commercial leaseholds.

Currently, half of the South Shore leased to SeaWorld. However, SeaWorld's lease is set to expire in 2048, creating a major long-term planning opportunity to reclaim this land and transition the park toward high-performance public space.

The site is an ideal location for a capstone project because complex design interventions are required to accomplish the stated Public Trust goals, such as **climate resilience**, **environmental protection**, **public recreation**, and **equitable waterfront access**.

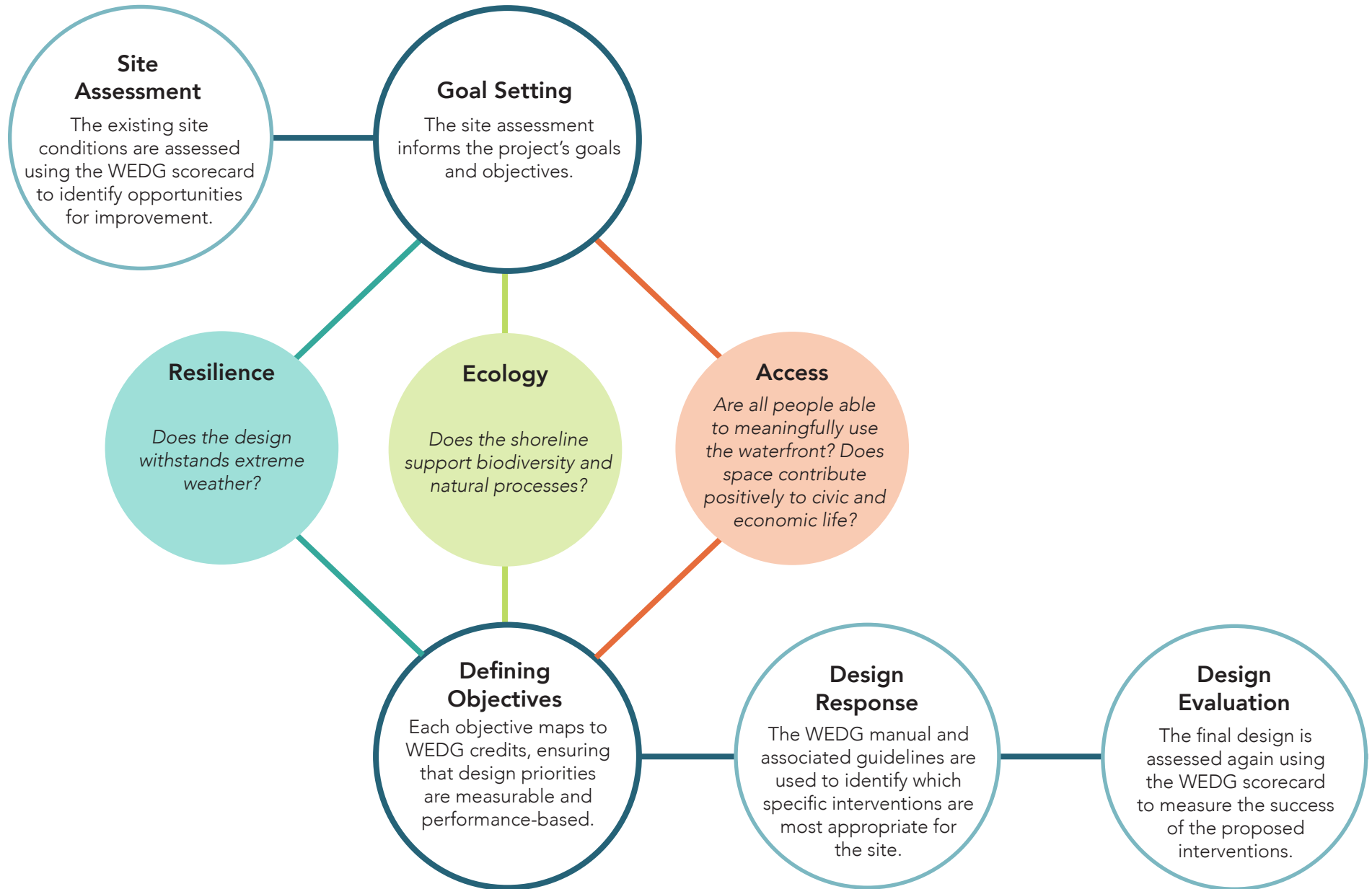






# Project Methodology

As a methodology, I have chosen to follow the [Watershed Edge Design Guidelines \(WEDG\)](#), a recognized standard of excellence in coastal landscape architecture. It provides a comprehensive framework that helps equitably address the often-competing demands of [coastal resilience](#), [environmental stewardship](#), and [community needs](#).





# Goals & Objectives

## Goals

### Resilience

Reduce risks, adapt to climate hazards, and prepare for flooding, heat, and storms.

### Ecology

Protect aquatic and upland habitats. Use designs, materials, and shoreline configurations to improve ecological function.

### Access

Be equitable and informed by the community, enhance public access, and maximize the diversity of the waterfront.

## Objectives

#### Adaptive Shoreline

- Design a living edge that accretes sediment to keep pace with sea-level rise

#### Thermal Mitigation

- Replace heat-trapping asphalt with native canopy to cool the local microclimate

#### Risk Reduction

- Create a natural flood buffer to protect adjacent inland infrastructure and property values

#### Civic Permanence

- Establish public space that remains accessible and functional during and after extreme weather events

#### Hydrological Reconnection

- Restore the tidal link between the San Diego River and Mission Bay

#### Water Remediation

- Utilize bio-filtration to improve water quality

#### Wetland Restoration

- Establish a continuous gradient of mesotidal ecotones throughout the site

#### Biodiversity Support

- Design for biodiversity net gain
- Parcel off dedicated nesting/foraging grounds for endangered wildlife

#### Multi-Modal Transportation

- Replace car-centric infrastructure with pedestrian and cycling passerelles
- Designate non-motorized boating areas

#### Universal Design

- Provide programming for all ages, abilities, and preferences

#### Educational Immersion

- Integrate outdoor classrooms and interpretive trails into the landscape for citizen science and lifelong learning

#### Economic Diversification

- Promote local, small business participation in the Blue Economy



# Project Justification: Existing Problem Conditions

## Resilience

Reduce risks, adapt to climate hazards, and prepare for flooding, heat, and storms.

## Compound Seasonal Flooding

Low-lying terrain around the channelized San Diego River experiences severe compound flooding when high tides or storm surges block river discharge during major rain events. This causes massive seasonal property damage and will drastically worsen with sea level rise.



## Ecology

Protect aquatic and upland habitats. Use designs, materials, and shoreline configurations to improve ecological function.

## Habitat Loss

Decades of dredging and urban development have fragmented critical marshlands and destroyed native estuarine ecosystems. This degradation has ruined vital breeding grounds, threatening regional biodiversity and driving sensitive native species toward local extinction.



## Access

Be equitable and informed by the community, enhance public access, and maximize the diversity of the waterfront.

## Privatization of Public Land

Commercial leaseholds restrict continuous public access, monetizing prime waterfront territory and eliminating free, equal access for all communities. This excludes low-income residents from enjoying their local shoreline and deepens socio-economic divides.



## Urban Heat Island

Extensive asphalt parking lots absorb heat and release it at night, raising local temperatures and creating heat stress for visitors and surrounding neighborhoods. This directly opposes the pre-development wetland, which naturally cooled the microclimate through evapotranspiration.



## Poor Water Quality

Stagnant bay water and untreated urban runoff degrade marine health and restrict safe water recreation. Frequent beach closures also foster public fear and misunderstanding, leading people to view local natural waterways as nuisances rather than assets.



## Car-Centric Design

Massive surface parking lots and high-speed arterial roads prioritize vehicle throughput over park connectivity. This forces reliance on automobiles, increases traffic emissions, and creates hazardous conditions for pedestrians and cyclists trying to reach the waterfront.





# Project Justification: Strategic Alignment With Existing Regional Goals

Implementing nature-based solutions to solve problem conditions contribute to the implementation of the **Climate Resilient San Diego**, the **San Diego Climate Action Plan**, and California's **30x30 Initiative**. These interventions mitigate flood risk while actively sequestering carbon to support Net Zero goals and regional biodiversity targets under the **Multiple Species Conservation Program** and the **Mission Bay Park Master Plan**.

By integrating natural filtration systems and wetland buffers, the site design captures and treats urban runoff to meet **Regional Water Quality Control Board (RWQCB) Clean Water Act** mandates. Furthermore, regrading and ecological shoreline adaptation reduce risks associated with flooding and seismic liquefaction, directly serving the life and property safety goals of the local **Local Hazard Mitigation Plan (LHMP)**.

Finally, transitioning automobile-dominated corridors into active transit pathways and expanding public access honors the **California Coastal Act's** mandate for maximum public shoreline access. Simultaneously, restoring ecological functions along the bay supports a sustainable Blue Economy, reinforcing the long-term environmental and economic health envisioned by the **Regional Decarbonization Framework (RDF)**.

| Existing Problem & Proposed Solution                                                  | Policies                     |                             |                               |                              |                                 |                                    |                                        |                  |                        |
|---------------------------------------------------------------------------------------|------------------------------|-----------------------------|-------------------------------|------------------------------|---------------------------------|------------------------------------|----------------------------------------|------------------|------------------------|
|                                                                                       | Mission Bay Park Master Plan | Climate Resilient San Diego | San Diego Climate Action Plan | Local Hazard Mitigation Plan | Multi Species Conservation Plan | Regional Decarbonization Framework | Regional Water Quality Clean Water Act | 30x30 Initiative | California Coastal Act |
| Compound Seasonal Flooding<br><i>Hydrological Reconnection<br/>Adaptive Shoreline</i> | ✓                            | ✓                           | ✓                             | ✓                            |                                 |                                    | ✓                                      |                  | ✓                      |
| Urban Heat Island<br><i>Thermal Mitigation<br/>Wetland Restoration</i>                | ✓                            | ✓                           | ✓                             |                              |                                 |                                    |                                        |                  |                        |
| Habitat Loss<br><i>Wetland Restoration<br/>Biodiversity Support</i>                   | ✓                            |                             |                               |                              | ✓                               |                                    |                                        | ✓                |                        |
| Poor Water Quality<br><i>Water Remediation<br/>Wetland Restoration</i>                | ✓                            |                             |                               |                              |                                 |                                    | ✓                                      |                  | ✓                      |
| Privatization of Public Land<br><i>Economic Diversification<br/>Civic Permanence</i>  | ✓                            |                             |                               |                              |                                 |                                    |                                        | ✓                | ✓                      |
| Car-Centric Design<br><i>Multimodal Transportation<br/>Universal Design</i>           | ✓                            | ✓                           | ✓                             |                              |                                 | ✓                                  |                                        |                  | ✓                      |

# Project Justification: 30 Years of Community Feedback

## Mission Bay Master Plan Survey (Rae & Parker 1992)

- Identified **water contamination** as the primary concern; strong consensus to preserve and enhance the Bay's natural resources.
- Favored **nature-oriented recreation**, picnic areas, and pedestrian/bike trails; motorized water sports and boating ranked least popular.
- Broad **opposition to expanding commercial leases**; agreement that the water setting should dictate land use.
- Widespread willingness to use and pay for an **internal park shuttle**.

## De Anza Cove Revitalization (Schmidt Design Group 2017)

- Strongest support for **native habitat restoration** and the "ReWild" approach to maximize wetland acreage.
- Ranked bicycle and **pedestrian infrastructure** as top priorities to integrate the site into the **regional trail network**.
- Identified "destination-only" car dependency as a barrier; urged improved **bike and transit connectivity** for safer arrival.
- Supported transitioning traditional camping toward nature-integrated "**eco-camping**" to minimize commercial footprints.

## Climate Resilient San Diego (City Thinkers 2021)

- 77% of participants **preferred "soft" solutions** (wetlands, dunes, living shorelines) over "hard" infrastructure like seawalls.
- Called for **shuttle services to reduce parking** demand and congestion.
- Labeled existing roads "hazardous"; proposed "road diets," narrowed lanes, and raised crosswalks to protect pedestrians.
- Advocated for separated "superhighways" to **eliminate conflicts between pedestrians, cyclists, and motorists**.
- Prioritized environmental justice, specifically requesting **tree canopy** for **heat mitigation** and equitable access for under-served communities.
- Recommended prioritizing projects based on long-term effectiveness and social equity rather than initial cost.



# Project Justification: Community Feedback



Transit Connectivity



Parking Lot Reduction & Greening



Road Diets & Reduction in Car-Centric Infrastructure



Trail Connectivity (To Regional Network)



Separated Bike & Pedestrian Trails



Improved Water Quality (For Safe Recreation)



Wetland Restoration & Habitat Protection



Nature Recreation



Increased Tree Canopy



# Research & Analysis

## Indigenous Context: Shared Kumeyaay Commons



The **Kumeyaay** (lipay-Tiipay) are the original, enduring inhabitants of the San Diego–Baja California region, with an archaeological record extending back over 10,000 years.

They practiced seasonal transhumance, moving between the mountains in the summer and the coast in the winter. Mission Bay and the San Diego River corridor were foundational for this cycle. The river was the pathway between coast and interior, and the estuary was the winter resource base.

The areas known today as Ocean Beach and Mission Beach were called **Hapai**, meaning “**People’s Water**” in lipay. This was a national Kumeyaay territory, a **shared commons** accessible to all bands.

They protected Hapai through reciprocal stewardship and **collective management**, ensuring its rich resources remained open to all bands, a principle that directly inspires this project’s mission to reclaim the privatized waterfront and restore it as an inclusive **public space** for the entire community.



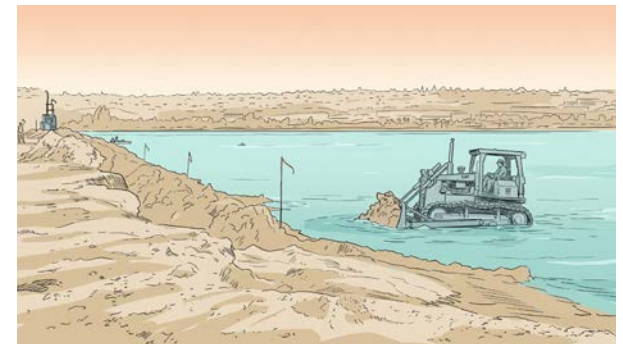
# Historical Context: Timeline



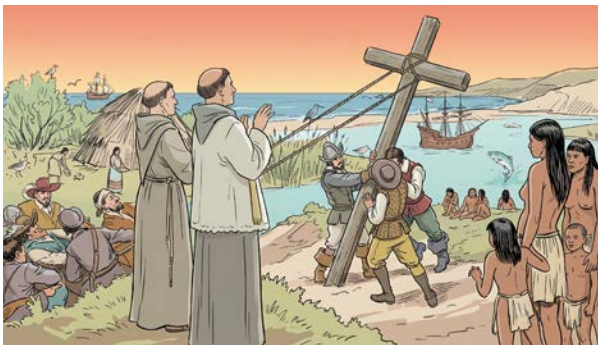
10kya-1542  
Known as *Hapai*, this area was a national Kumeyaay territory, a shared commons accessible to all bands.



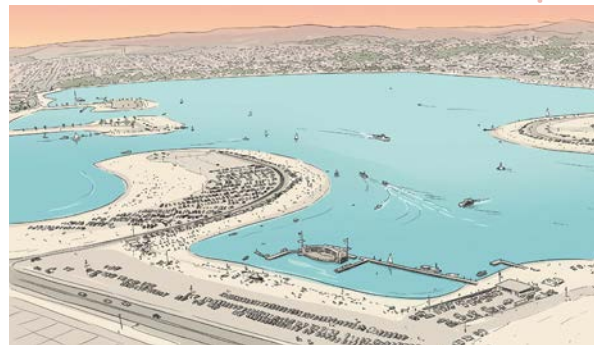
1926  
As surrounding neighborhoods develop, Mission Bay becomes a recreation destination for water sports.



1946  
Dredging of the Mission Bay begins. Over 15 years, roughly 25 million cubic yards of sand and silt are dredged, destroying 2,000 acres of native wetland.



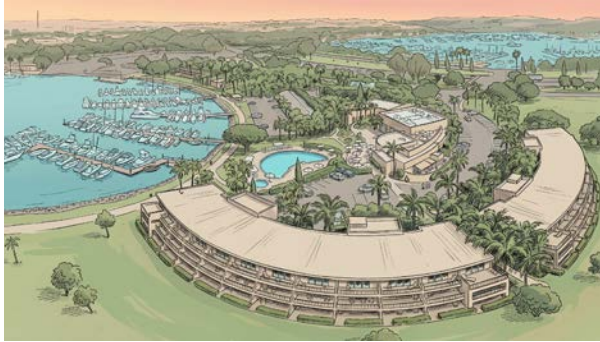
1769  
Junipero Serra arrives in San Diego to establish the first Mission in Alta California.



1945  
Ownership of Mission Bay is transferred from State Tidelands to the City of San Diego, with specific requirements that the land be used as a public park, and restrictions on future development and leaseholds.



1952  
An unlined landfill opens on the eastern half of the south shores for industrial and military waste. Over 7 years, more than two million tons of refuse are dumped and buried.



1960s

City priorities for the Bay shift to commercial leasehold development, resort boosterism, and amenity privatization.



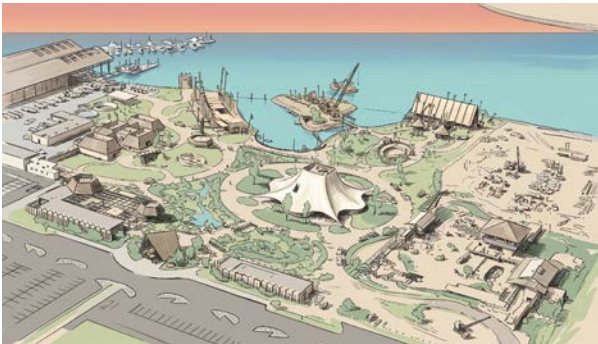
1996

After failed attempts to develop additional resort leaseholds over landfill cap, the City opens the South Shore park. Program overlooks community feedback.



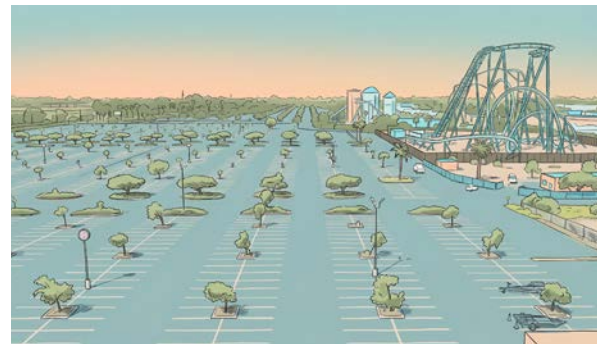
2016

SeaWorld agrees to end its captive breeding program after the California Coastal Commission requires it as a stipulation for approving a lease renewal.



1964

SeaWorld obtains a 20 acre lease as an environmental theme park with a strong educational mandate.



2000

Through corporate acquisitions and lease expansions, SeaWorld transforms into a 200+ acre theme park within a multinational entertainment conglomerate.



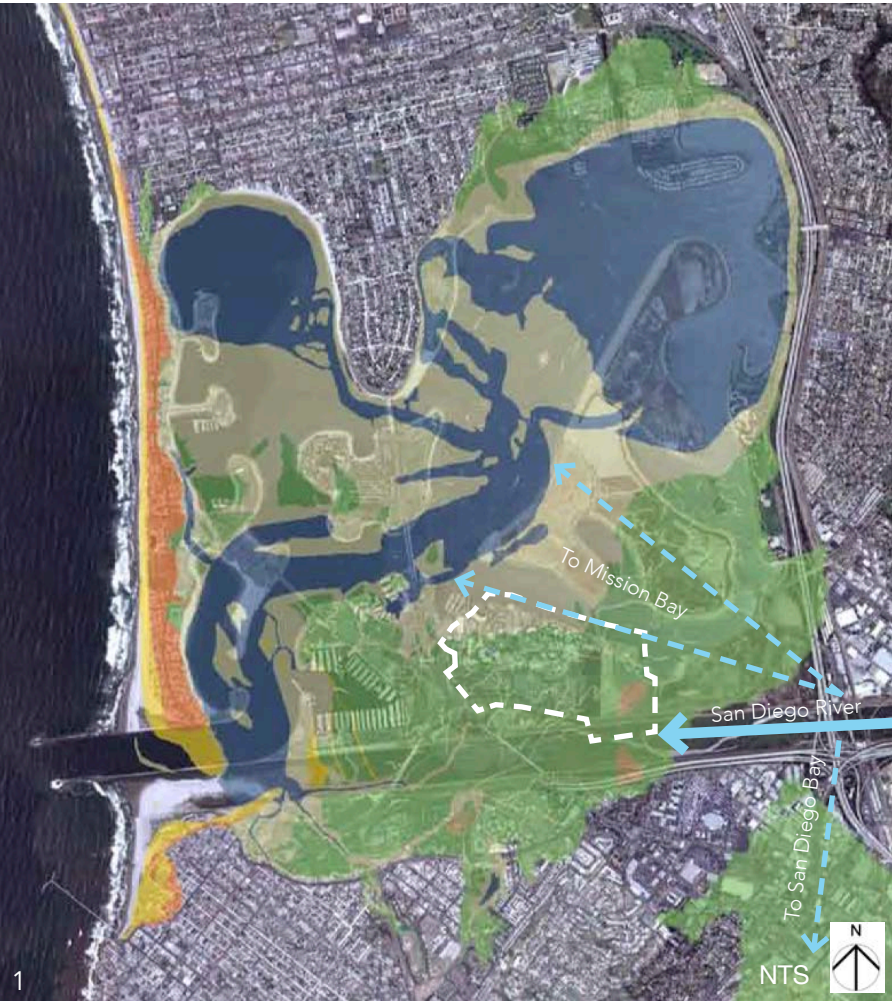
2024

City approves De Anza Naturalization Plan for wetland improvements in northeast Mission Bay in response to persistent community feedback.

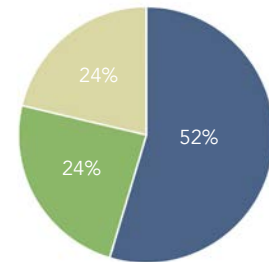


# Ecological Context: Degraded Mesotidal Estuary

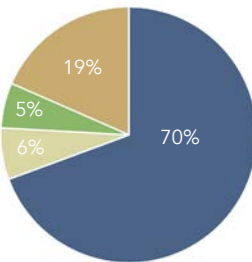
## Historic vs Current Composition



Historic Composition



Current Composition



Legend:

- Open Water
- Subtidal Water
- Intertidal Water
- Vegetated, Wetland
- Vegetated, Upland
- Vegetated, Woody
- Salt Flat
- Beach
- Dune

Mission Bay is the third largest coastal wetland system in Southern California. It is a subtidal-dominant mesotidal estuary, meaning its water movement is influenced by moderate tidal ranges between 6.5 to 13 feet, making it highly dynamic as salt and fresh water continually mix. Mesotidal estuaries characteristically feature expansive mudflats, salt marshes, and intricate tidal channels shaped by these daily water fluctuations. This constant flux drives intense nutrient cycling, turning the estuary into a vital keystone habitat that provides critical nursery grounds for marine species, migratory foraging stops for coastal birds, and natural buffer zones against coastal erosion.

Historically, the San Diego River shifted its path back and forth across its floodplain, discharging into both San Diego Bay and Mission Bay. During major rain events, the enormous volume of water draining from the surrounding 440-square-mile watershed would naturally spread out, slowed and absorbed by sprawling floodplain wetlands before reaching the ocean.

Rather than allowing this natural hydrologic process to continue, municipal decisions prioritized land development and deep-water boat access. To prevent the river from shifting back toward San Diego Bay and to facilitate dredging within Mission Bay, engineers channelized the river using earthen dikes. This severed the waterway from its floodplain, converting a dynamic natural filter into a rigid, concentrated conduit that blasts unbuffered stormwater directly out to sea.

Today, these aging flood control structures face ongoing maintenance concerns and potential failure during heavy storm events, while decades of dredging and urban development have severely degraded the estuary's natural composition, shorelines, and overall habitat quality.

## San Diego River Watershed





# Ecological Context: Degraded Mesotidal Estuary

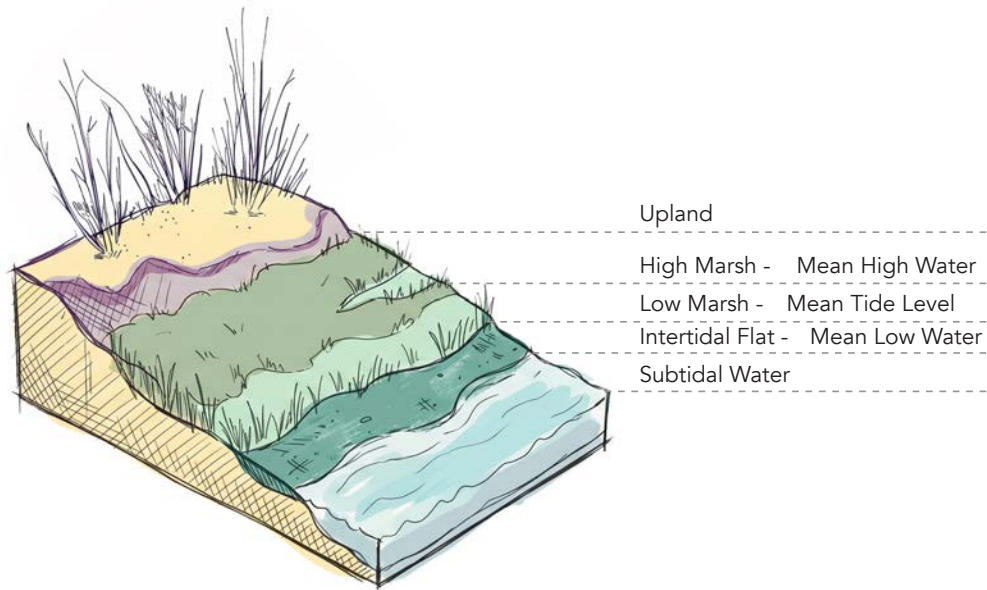


1937  
Enlarged view of San Diego River delta in Mission Bay.



1955  
Inter-tidal flats in Mission Bay.

## Historic Shoreline & Habitat

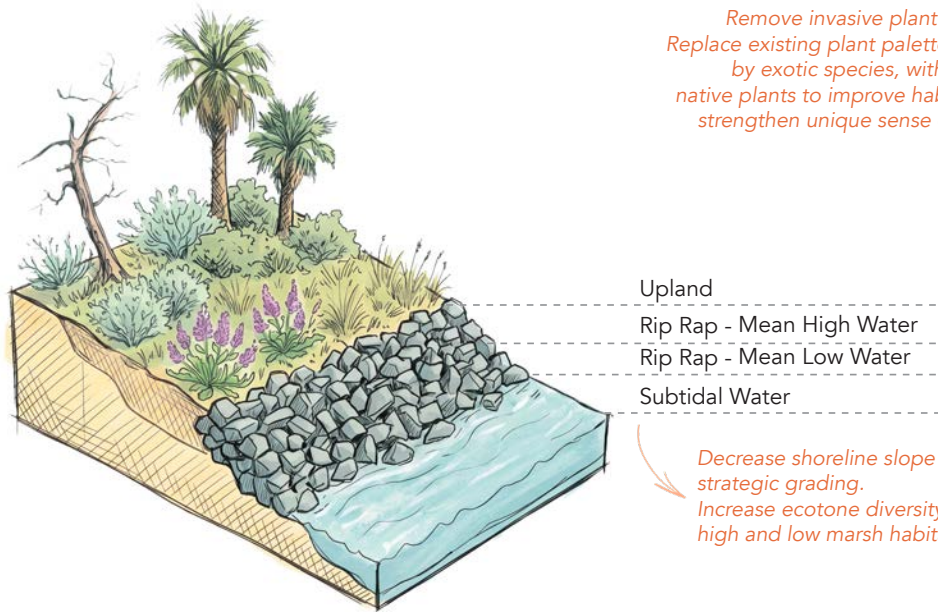


2026  
Current shoreline condition at Mission Bay.



2026  
Current shoreline condition at Mission Bay.

## Current Shoreline & Habitat





# Contemporary Context: Land Use

## Legend:

- Sandy Beach
- Residential & K-12 Education
- Retail & Hospitality
- Commercial
- Parks & Sports Fields
- Water

Recommit to using Mission Bay Park land for public park use.  
Best opportunity for waterfront park development and reducing commercial footprint is on SeaWorld site.

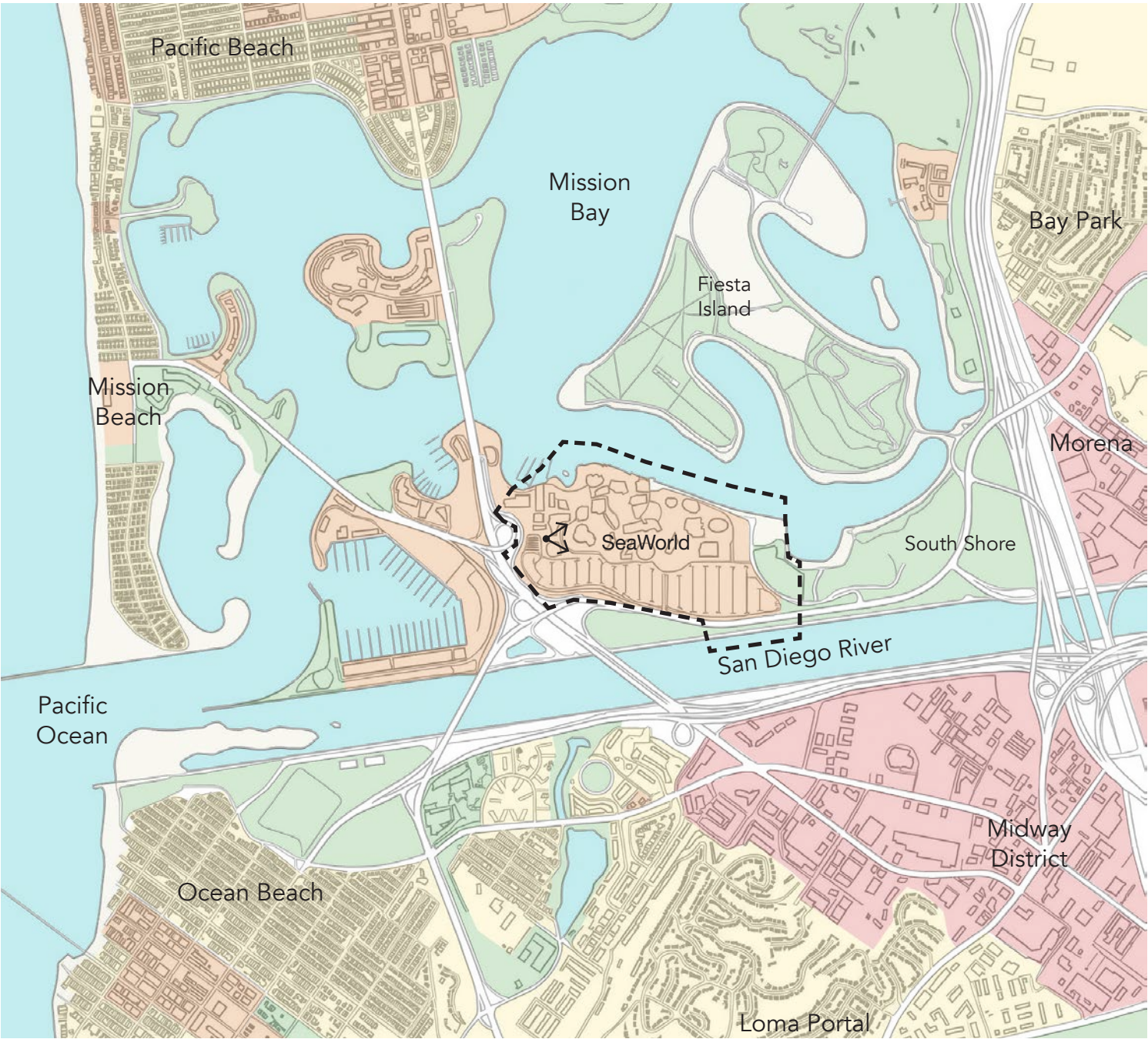
## Zone Designation (2006)



## Legend:

- RS-1-7: residential single unit (1/5,000 sf)
- RM-4-10: residential multi unit (1/400 sf)
- IL-3-1: light industrial, office, commercial

Note: Zone designation does not align with current land use nor land use limitations per conditions of transfer to City management

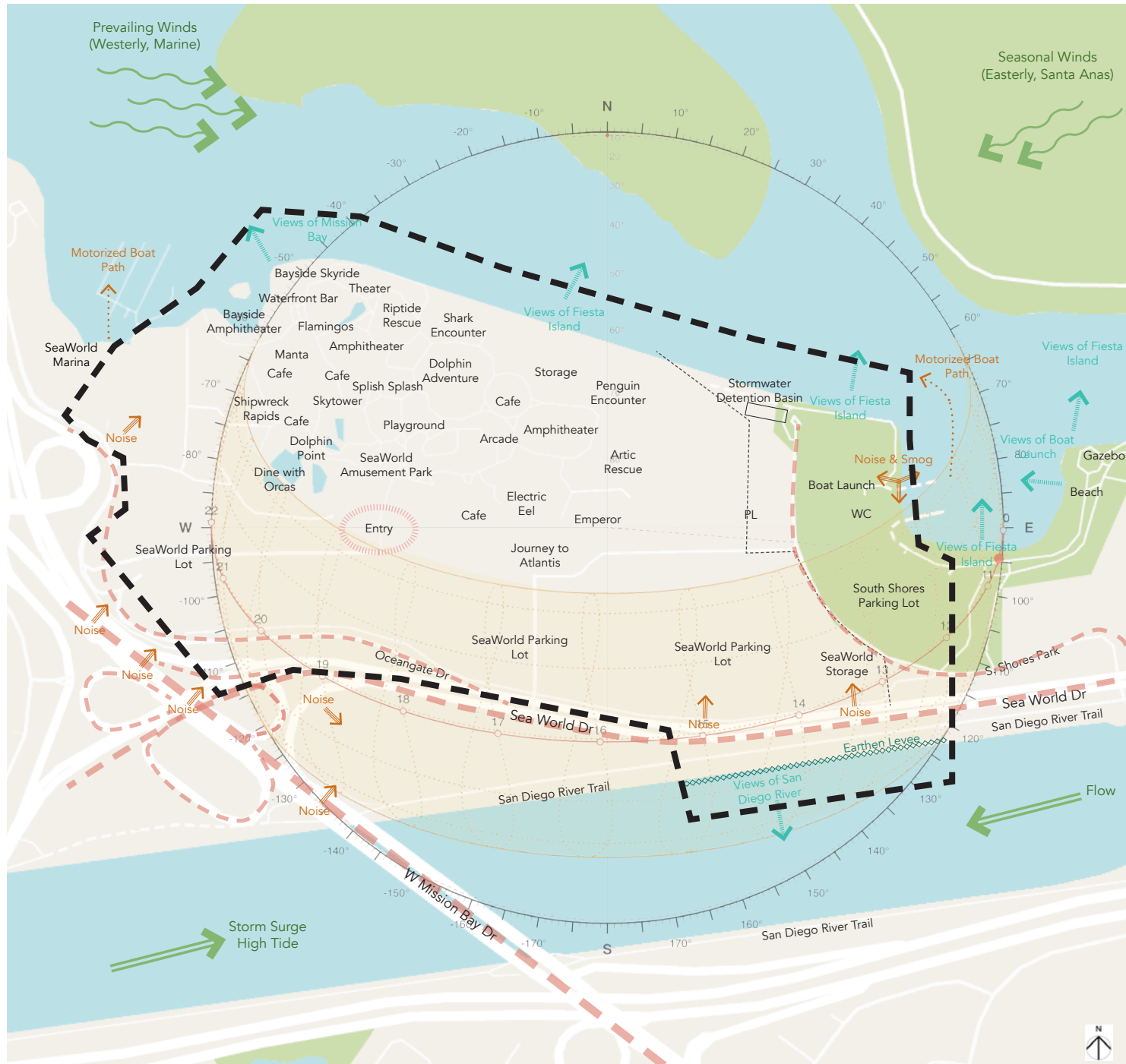








# Existing Conditions: Specific Project Site



## Climate

The South Shore features a stable, ocean-regulated Warm-Summer Mediterranean climate that avoids extreme temperature spikes. While late spring and early summer bring heavy morning marine layers, the fall offers peak outdoor conditions. This ideal window combines clear skies, the warmest ambient temperatures, and peak bay water temperatures of 68°F to 71°F. Daily conditions are driven by a consistent, prevailing westerly to northwesterly sea breeze that naturally cools spring and summer afternoons. In contrast, winter drops water temperatures to 58°F and introduces shifting storm tracks. The most significant meteorological disruptions occur in late autumn and winter with Santa Ana winds, high-velocity desert gusts that reverse typical airflow, rapidly drop humidity, and create temporary high-wind conditions along the waterfront.

## Seasonal Flooding

In winter, major storm events bring significant flood risks to the surrounding region. The San Diego River was channelized into a constrained corridor, destroying the natural estuarine delta that once absorbed excess water. During heavy winter rains, high river discharge collides with high tides and storm surge, causing the river to overflow into adjacent low-lying communities.

This site presents a unique opportunity to relieve this regional pressure by restoring the historic outlet that safely diverts floodwaters into Mission Bay.

# Existing Conditions: Photos



End of Public Path at SeaWorld Fence



SeaWorld Amphitheater



Unused Waterfront Space



Enormous Scale Motorized Boat Launch



Polluted Runoff from SeaWorld



SeaWorld Stormwater Detention Basin



South Shore Park Parking Lot



South Shore Park Parking Lot



SeaWorld Parking Lot



San Diego River Trail Looking West



SeaWorld Parking Lot



San Diego River Trail Looking East



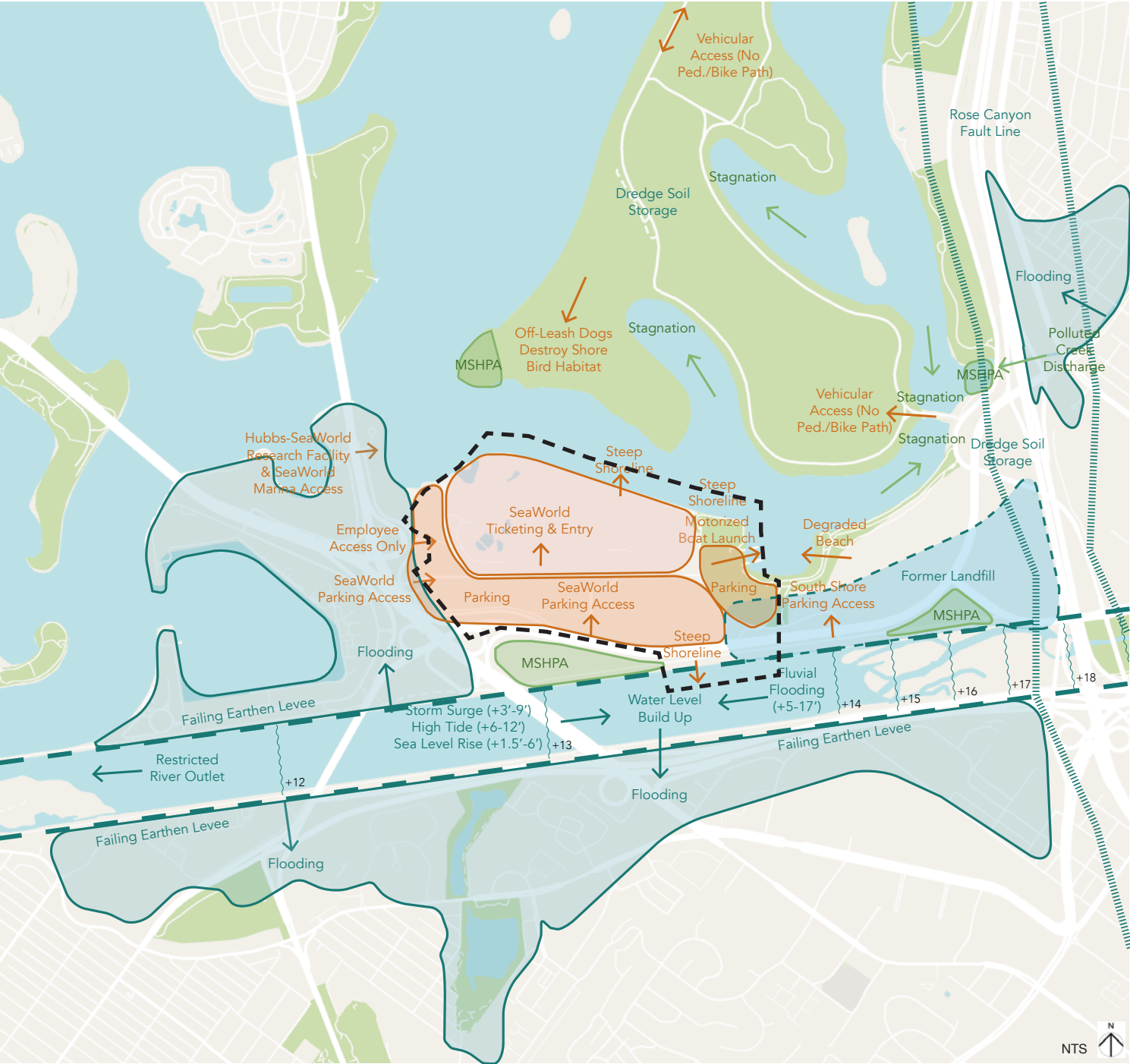
Key Map:



NTS



# Constraints: General South Shore



## Resilience

Reduce risks, adapt to climate hazards, and prepare for flooding, heat, and storms.

- Restricted river outlet
- Failing earthen levees
- Flooding due to combined fluvial flooding and storm surge, high tide, and/or sea level rise
- Former landfill contamination
- Dredge soil storage
- Rose canyon fault

## Ecology

Protect aquatic and upland habitats. Use designs, materials, and shoreline configurations to improve ecological function.

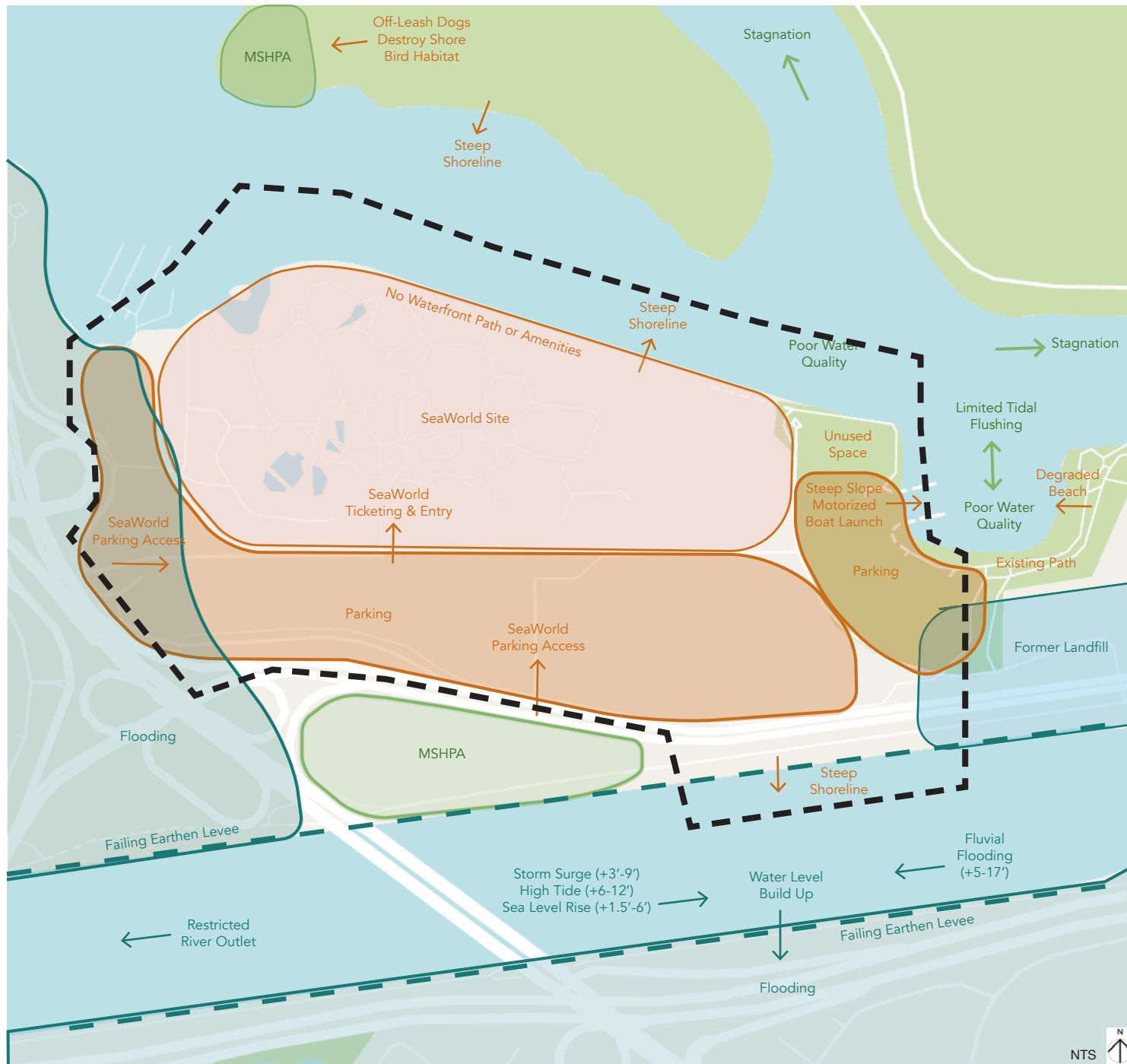
- Multi-Species Habitat Protection Areas
- Water stagnation
- Polluted creek discharge

## Access

Be equitable and informed by the community, enhance public access, and maximize the diversity of the waterfront.

- Site locations & access
- Parking
- Steep shorelines
- Degraded beach
- Motorized boat launch
- Off-leash dogs destroy shore bird habitat

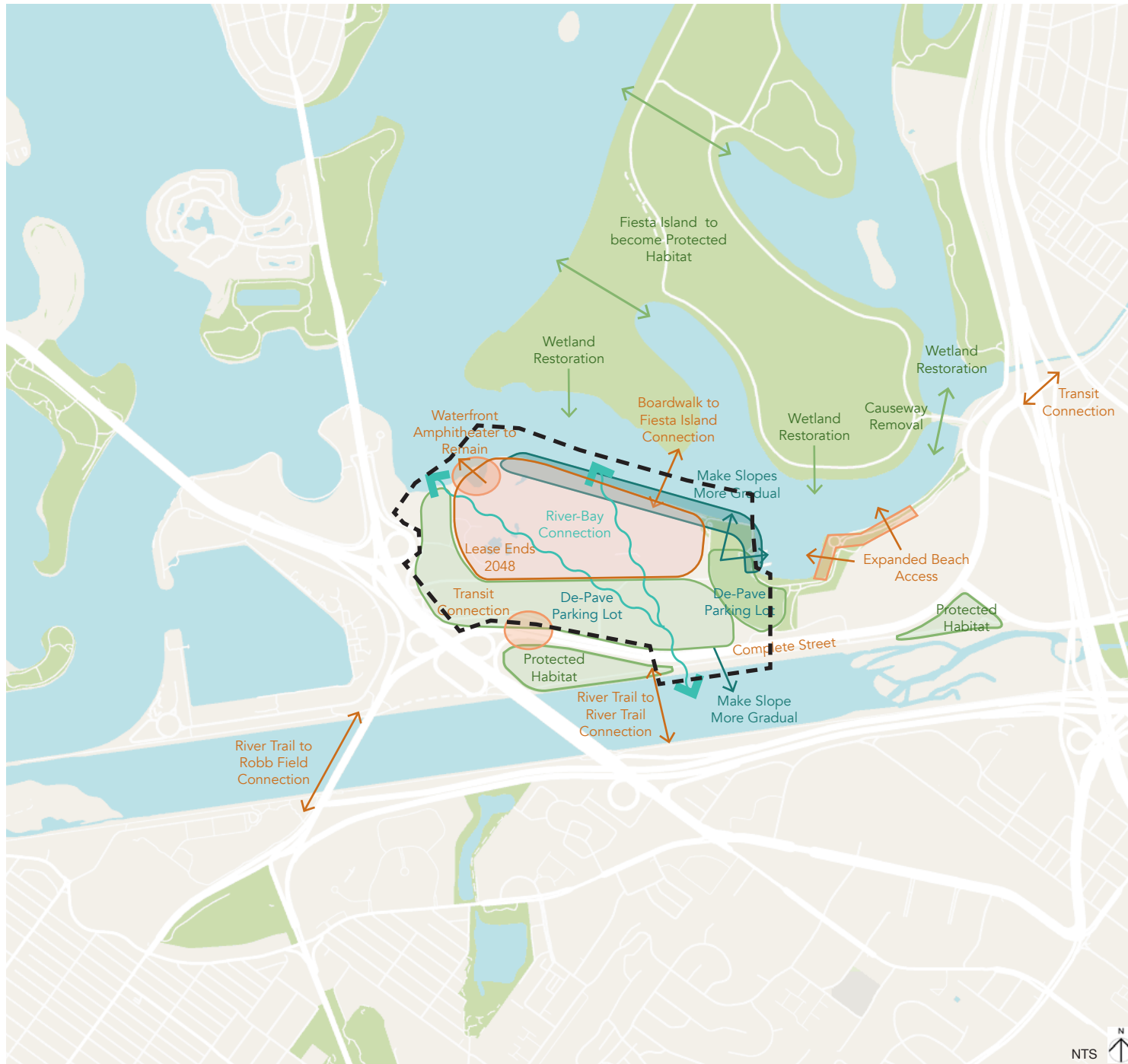
## Constraints: Specific Project Site



The South Shore is defined by severe environmental and structural liabilities. To the eastern edge, legacy landfill contamination creates subterranean hazards and water stagnation risks that restrict deep excavation. To the southwest, Multi-Species Habitat Protection Areas (MSHPA) impose strict limitations on human activity and hardscape expansion. Additionally, the site faces failing earthen levees along the San Diego River channel alongside compound risks from fluvial flooding, high tides, and sea-level rise. Through careful selection of the limit of work, the design avoids impacts to the landfill cap and protected habitat zones while directly mitigating flood risks.



# Opportunities: General South Shore



## Resilience

Reduce risks, adapt to climate hazards, and prepare for flooding, heat, and storms.

- Reconnect river and bay
- Make shoreline slopes more gradual
- Increase shoreline sinuosity
- De-pave parking lots

## Ecology

Protect aquatic and upland habitats. Use designs, materials, and shoreline configurations to improve ecological function.

- Fiesta island to become protected habitat
- Wetland restoration
- Causeway removal
- Protect designated habitats

## Access

Be equitable and informed by the community, enhance public access, and maximize the diversity of the waterfront.

- SeaWorld lease ends in 2048
- Waterfront amphitheater to remain
- Boardwalk to Fiesta Island
- River trail connections
- Expanded beach access
- Transit connection

# Opportunities: Specific Project Site



Conversely, the end of SeaWorld's lease in 2048 creates a unique opportunity to reimagine this site as a resilient public waterfront. The design can reconnect the San Diego River to Mission Bay, restore wetlands, soften the shoreline, and protect existing habitats. New trails, transit, boardwalks, and expanded access can make the waterfront more connected to the community.



# Community Profile

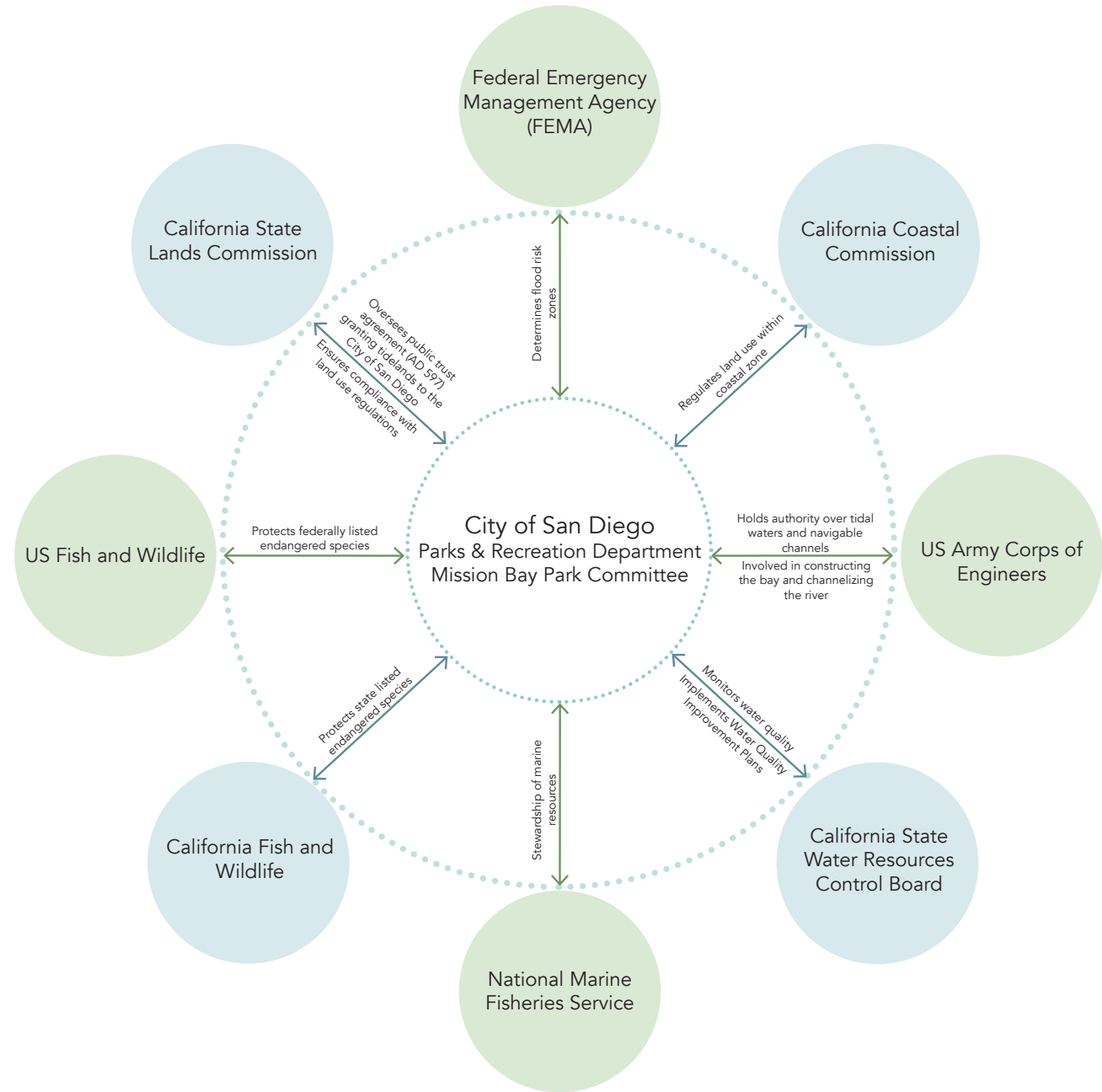
## Client & Jurisdiction

The primary client for this project is the **City of San Diego Department of Parks and Recreation**, acting specifically through the **Mission Bay Park Committee**. As the municipal entity entrusted with managing Mission Bay Regional Park under the State Tidelands Grant (AB 597), the City serves as both owner-trustee and primary steward of the site. Their mandate is to balance public access, environmental conservation, and recreational infrastructure within local land-use policies while ensuring all developments align with Public Trust goals.

Designing on this site requires balancing overlapping state and federal regulations. For instance, creating a living shoreline or restoring a wetland must satisfy both **California Fish and Wildlife** and **United States Fish and Wildlife (USFW)** regarding habitat impacts. At the same time, the design must meet **California Coastal Commission** rules for public access and **National Marine Fisheries Service** standards for marine protection.

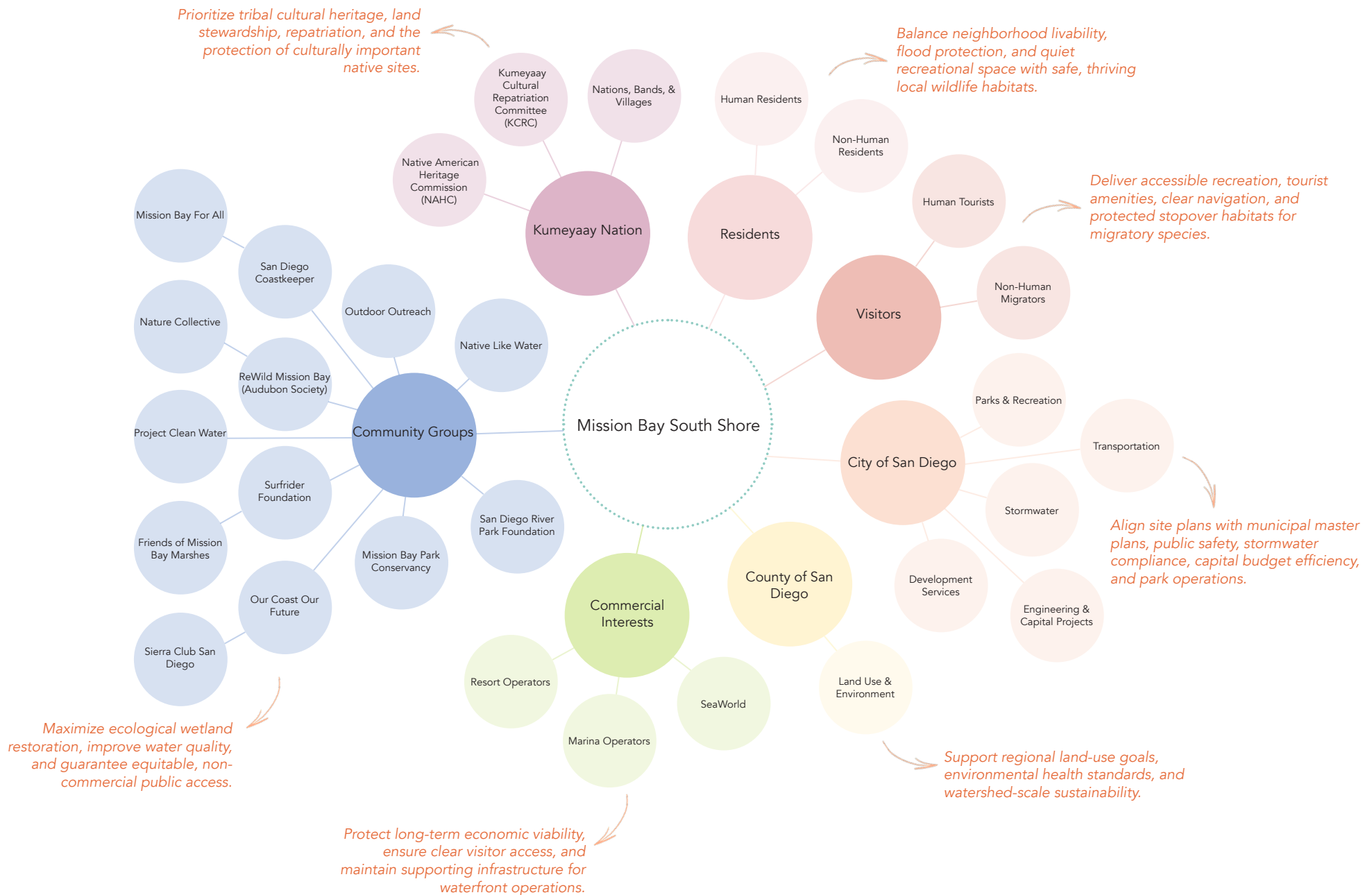
Similarly, managing flood risks along the river channel requires balancing federal engineering rules with state environmental targets. Any structural adjustments fall under **US Army Corps of Engineers** authority and **Federal Emergency Management Agency (FEMA)** flood zone requirements. Concurrently, these same features must function as green infrastructure to fulfill **California State Water Resources Control Board** mandates by filtering runoff before it reaches the bay.

Ultimately, the **California State Lands Commission** ensures all site uses honor the underlying Tidelands Grant. Navigating this collaborative gauntlet across all eight agencies is essential for project viability, ensuring proposed climate resilience strategies are legally buildable and environmentally sound.



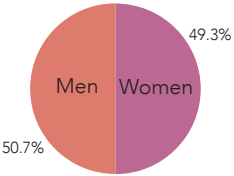
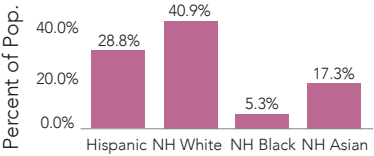
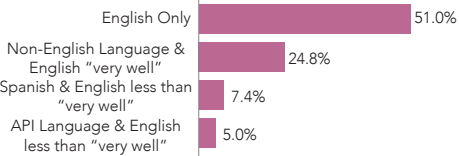
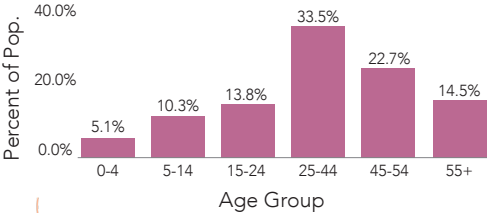
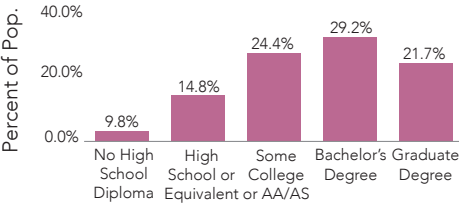
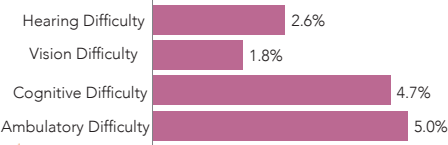


# Stakeholders



# User Demographics: City of San Diego Residents

Population: 1,389,526

|                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>Gender</div><div><div>Apply principles from <i>Crime Prevention Through Environmental Design (CPTED)</i> and <i>Leslie Kern's Feminist City</i>.</div></div></div>                                 | <div><div>Race/Ethnicity</div><div><div>Opportunities for diverse multicultural experiences.<br/>Incorporate Chicana art and motifs.</div></div></div>                                                                              | <div><div>Language Spoken At Home</div><div><div>Implement multilingual signage.</div></div></div>                                                                                                                                                                    | <div><div>Age Distribution</div><div><div>Provide amenities for all ages.</div></div></div>                                                                                                                |
| <div><div>Educational Attainment</div><div><div>Provide interpretive, educational signage about natural systems.<br/>Integrate outdoor classrooms for volunteers/community science.</div></div></div>         | <div><div>Income &amp; Cost of Living</div><div><p>Median household income: \$108,077<br/>Median house value: \$906,700<br/>Median gross rent: \$2,313</p><p>For about half of the population, housing costs exceed 30% of household income.</p><div>Ensure free access to site and all amenities.</div></div></div> | <div><div>Nutrition</div><div><p>1/3 of households report food insecurity.<br/>13.9% of households with children receive SNAP.<br/>Nutritional deficiency is in the top 15 causes of death in the City of San Diego.</p><div>Provide a community garden.<br/>Provide a community center with a full kitchen and community food pantry.</div></div></div> | <div><div>Transportation</div><div><p>6.6% of households lack a vehicle.</p><div>Provide alternative transportation options (cycling, public transit) to remove the cost-barrier or car-dependent access.</div></div></div>                                                                   |
| <div><div>Disability</div><div><p>10.5% of population is disabled.</p><div></div><div>Primary access to all amenities to be ADA compliant.<br/>Interpretive experiences to be multimodal.</div></div></div> | <div><div>ASD/Sensory Processing Differences</div><div><p>1 in 16 adults have Autism Spectrum Disorder, and up to 16% of the population experiences sensory processing differences.</p><div>Program for diverse sensory preferences and levels of stimuli.</div></div></div>                                         | <div><div>Physical Health</div><div><p>Leading causes of death from non-communicable disease include heart disease, hypertension, stroke, lung disease, and diabetes.</p></div></div>                                                                                                                                                                    | <div><div>Mental Health</div><div><p>30% of adults and 36% of youth report needing help for emotional or mental health problems.</p><div>Design restorative spaces for relaxation and connection to nature.<br/>Design spaces for social connection and community building.</div></div></div> |



# Expected User Personas

## Persona 1: Mateo

*Focuses on environmental justice and climate-adaptive mobility.*



A 24-year-old Hispanic Master's student in Environmental Science at UCSD, representing the region's young adult demographic. He is bilingual in English and Spanish. Mateo relies entirely on public transit and his bicycle as his primary transportation methods. He manages mild asthma, making him highly vulnerable to urban heat islands and vehicular air pollution.

*Continuous bike paths, secure bike storage, and direct public transit connections eliminate car-dependent isolation and welcome transit-reliant visitors.*

*Dense native planting buffers that separate outdoor fitness spaces from vehicular corridors to protect respiratory health.*

*Accessible outdoor classrooms and protected intertidal restoration zones that allow students and local advocates to engage in hands-on field research, mentoring, and climate advocacy.*

## Persona 2: Chloe

*Focuses on cultural diversity, language access, and mobility needs.*



A 32-year-old White SDSU alumna who represents the affluent regional eco-tourist and returning visitor demographic. Though she relocated after graduation, she regularly returns to San Diego to visit friends and immerse herself in the coastal lifestyle. Staying at the premier resorts directly within Mission Bay, she views the climate-adaptive park redesign as an elevated, all-inclusive eco-destination where she can seamlessly spend her entire vacation within the park boundaries.

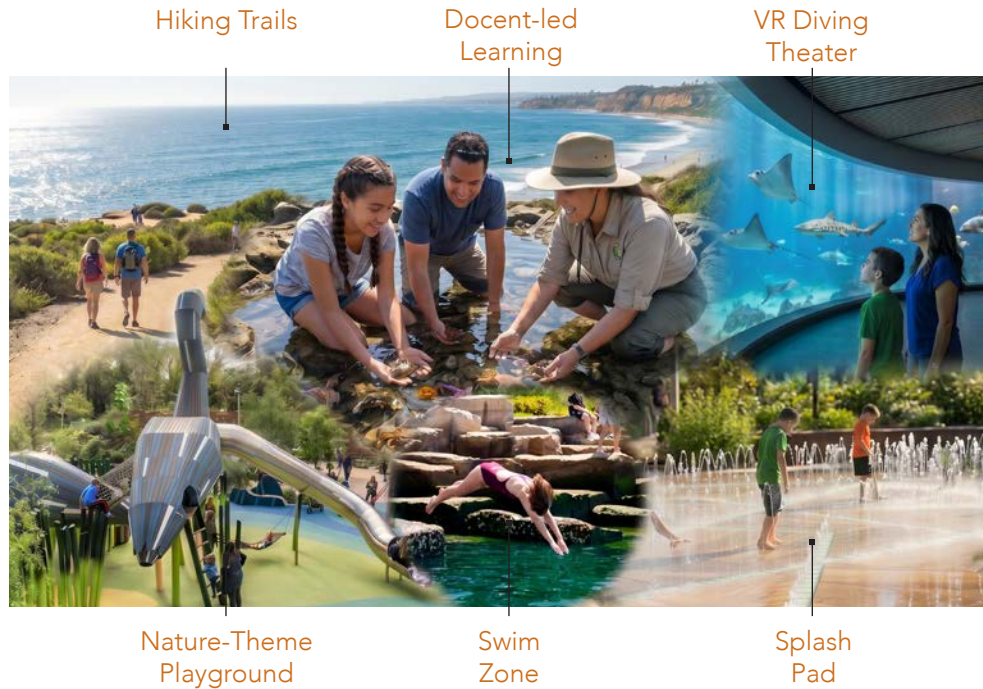
*Integrated multi-modal shoreline access, calm intertidal zones for snorkeling, and deep-water points suitable for scuba diving and kayaking. Sophisticated, low-impact commercial infrastructure that blends education with fine waterfront dining.*

*Non-motorized infrastructure, including scenic pedestrian bridges and continuous bike paths, that allows hotel guests to explore all corners of the park safely without ever needing a car.*

# Expected User Personas

## Persona 3: The Cruz Family

*Focuses on high-engagement, active family recreation and entertainment.*



A multi-racial local family consisting of parents Carlos (41) and Elena (39), their teenage daughter Sofia (13), and son Leo (9). They represent the active, youth-centric family demographic. Having previously relied on annual passes to SeaWorld for weekend entertainment, the family has completely redirected their leisure time toward the redesigned park.

*Large nature-themed adventure playground and splash pads provide rigorous activity for children of all ages. Immersive educational assets allow families to learn about marine life without animal captivity. Waterfront amphitheater for community plays or docent-lead educational presentations.*

## Persona 4: The Nguyen Family

*Focuses on cultural diversity, language access, and mobility needs.*



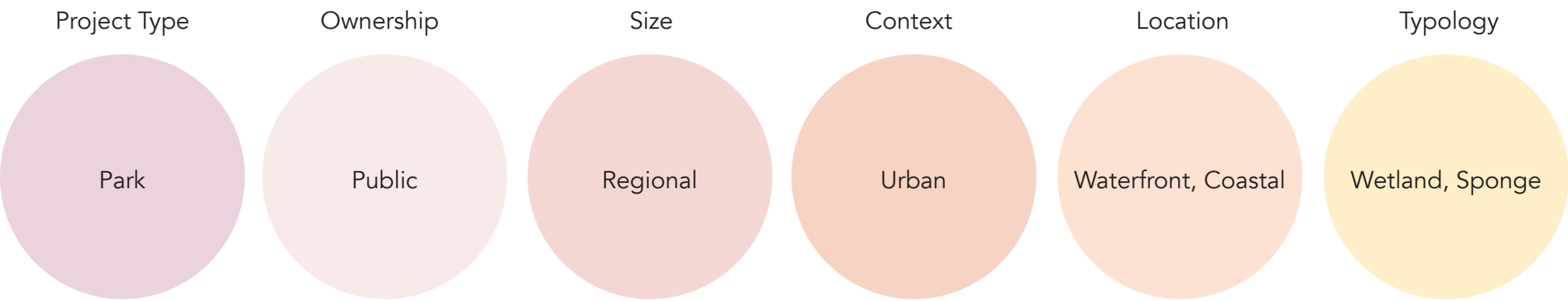
A multi-generational Vietnamese-American household representing the region's significant Asian demographic. Includes Linh (34), her husband and children, and her Grandmother Anh (67, Vietnamese immigrant). English is spoken as a secondary language at home. Linh is Anh's primary caregiver, dementia.

*Dual-language graphics ensure non-native English speakers feel welcome and can navigate the site safely. ADA-compliant pathways with clear wayfinding signage and material changes to highlight changes in programming. Picnic areas and shaded seating nodes ensure multi-generational groups can recreate together.*



# Program & Precedents

# Project Typology





# Precedent Project 1: Hunter's Point South Park (Queens, NY)

Designer(s): SWA/Balsley and WEISS/MANFREDI

Size: 33 acres

**Design Goal:** Transform a post-industrial waterfront into a program-rich public space that also serves as a resilient protective buffer against sea level rise and pluvial flooding for the surrounding residential community.

**Program Elements:** Multi-use floodable green, waterfront pavilion and cafe, cantilevered overlook, bioswales, dog run, play areas, and an urban beach.

**Challenges:** Designing for sea level rise and extreme flooding (built to withstand a 100-year storm event); managing contaminated industrial soils near a dense residential corridor.

**Solutions:** Restored historical wetlands, increased shoreline complexity, and replaced concrete bulkheads with vegetated rip rap and wetlands. Utilized native, salt-tolerant species that can manage traditional irrigation as well as contact with brackish river water during flood events. Integrated industrial relics salvaged from site into design.

*Demonstrates how hard, concrete edges can be transformed into dynamic, natural systems through careful revetment and vegetation strategy selections.*  
*Showcases how elevated, brownfield sites can be safely reconnected to the waterfront to support both human and wildlife use.*  
*Illustrates how interdisciplinary design can create a high-performance public space that mitigates flood risks while providing essential urban amenities and green space.*



Site Plan

NTS



Deck with Moveable Seating



Pedestrian Path Along Shoreline



Naturalized Shoreline



Local Limestone Path Edging & Seating



Constructed Wetland & Overlook

|       |                                    |                                 |
|-------|------------------------------------|---------------------------------|
| 0     | Site Planning & Assessment         | 29/32                           |
| 1     | Climate Hazard Resilience          | 37/45                           |
| 2     | Community Access & Connections     | 56/69                           |
| 3     | Edge Composition                   | 24/29                           |
| 4     | Natural Resources & Sustainability | 41/63                           |
| 5     | Innovation                         | 8/12                            |
| TOTAL |                                    | 195/250                         |
|       |                                    | Certification is at +130 points |

Actual WEDG Verification Score



# Precedent Project 2: The Gathering Place (Tulsa, OK)

Designer(s): MVVA (Michael Van Valkenburgh)

Size: 66.5 Acres

**Design Goal:** Create a world-class civic common that acts as a social equalizer, transforming a fragmented riverfront into a unified destination for all Tulsans.

**Program:** Massive adventure playgrounds, splash pad, a boathouse, skate park and pump track, sports courts, great lawn, nature trails, boardwalks, overlooks, and performance space.

**Challenges:** Navigating high-speed Riverside Drive which physically separated the river from the park; managing the massive hydrological scale of the Arkansas River while creating intimate, human-scaled spaces that create opportunities for people to interact with the water.

**Solutions:** Leveraged topography to create bridges over the busy road for safe, direct pedestrian and cyclist circulation from park to riverfront. Created a white-water recreation zone within part of the riverbed using dams and stabilized rip rap. Created an artificial pond within the site for access to calmer waters.

*Demonstrates how extensive earthworks can be successfully leveraged to reconnect communities with their waterways and establish rich wildlife habitats. Showcases a vast range of community amenities and diverse spatial experiences that draw broad public use and support active civic life. Illustrates the strategic use passerelles (pedestrian bridges) can create safe, grade-separated transit over high-traffic urban roadways.*



Site Plan

NTS



Nature Play



Pedestrian Overpass



River Boardwalks & Overlooks



Splash Pad & Water Play



Public Boathouse

|       |                                    |                                 |
|-------|------------------------------------|---------------------------------|
| 0     | Site Planning & Assessment         | 28/32                           |
| 1     | Climate Hazard Resilience          | 22/45                           |
| 2     | Community Access & Connections     | 59/69                           |
| 3     | Edge Composition                   | 18/29                           |
| 4     | Natural Resources & Sustainability | 39/63                           |
| 5     | Innovation                         | 6/12                            |
| TOTAL |                                    | 172/250                         |
|       |                                    | Certification is at +130 points |

Estimated WEDG Verification Score



# Precedent Project 3: Grand Junction Park & Plaza (Westfield, IN)

Designer(s): Land Collective (David Rubin)

Size: 6 Acres

Design Goal: Mitigate regional flooding while creating a civic space that celebrates the movement of water.

Program: Amphitheater, ice rink/plaza, riparian nature trails, and a signature trailhead.

Challenges: Managing significant water level fluctuations (flash flooding) within a small urban footprint; balancing intensive public programming with delicate riparian restoration.

Solutions: Integrated green infrastructure, including bioswales and rain gardens, to capture and filter stormwater runoff before it reaches the park's waterways.

*Demonstrates how sites can be graded to shape natural amphitheaters, flood-adapted plazas, and terraced seating for community gatherings and events. Showcases how a multi-use trail network with continuous pedestrian boardwalks and accessible bridges to reconnect the city and the waterfront. Illustrates how integrating bioswales and rain gardens can filter urban runoff before it discharges into waterways.*



Site Plan



River Naturalization



Stormwater Filtration Strategy



Multi-Use Path



Creek Daylighting & Access



Amphitheater & Performance Pavilion

|       |                                    |                                 |
|-------|------------------------------------|---------------------------------|
| 0     | Site Planning & Assessment         | 26/32                           |
| 1     | Climate Hazard Resilience          | 26/45                           |
| 2     | Community Access & Connections     | 52/69                           |
| 3     | Edge Composition                   | 20/29                           |
| 4     | Natural Resources & Sustainability | 24/63                           |
| 5     | Innovation                         | 6/12                            |
| TOTAL |                                    | 152/250                         |
|       |                                    | Certification is at +130 points |

Estimated WEDG Verification Score



# Precedent Project 4: Barangaroo Reserve (Sydney, AUS)

Designer(s): PWP Landscape Architecture

Size: 22 Acres

**Design Goal:** Transform a flat, concrete container terminal into a naturalistic “headland” park that restores the pre-industrial shoreline.

**Program:** Cultural event spaces, hidden underground gala hall, walking/cycling trails, and tidal rock pools.

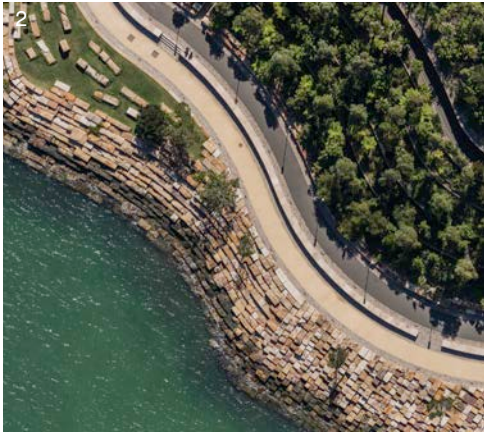
**Challenges:** Reconstructing a complex topography using 10,000 blocks of sandstone excavated directly from the site; creating a “living” shoreline in a deep-water harbor.

**Solutions:** Transformed a sterile industrial container wharf into a naturalistic headland park by rebuilding a sandstone foreshore and replanting extensive native vegetation to reclaim a degraded waterfront.

*Demonstrates how heavy, human-made shorelines can be comprehensively redesigned into organic, living environments.  
Proves that large-scale waterfront transformations can successfully integrate uninterrupted walking and cycling pathways, turning formerly constrained or commercialized edges into open public realms.  
Showcases the implementation of hardy regional plantings to simultaneously heal the ecosystem, enhance biodiversity, and restore a strong sense of natural coastal identity.*



Site Plan



Naturalized Shoreline



Swimming Cove



Local Limestone Throughout



Native Plants



Shoreline Revetments

|       |                                    |                                 |
|-------|------------------------------------|---------------------------------|
| 0     | Site Planning & Assessment         | 24/32                           |
| 1     | Climate Hazard Resilience          | 36/45                           |
| 2     | Community Access & Connections     | 53/69                           |
| 3     | Edge Composition                   | 23/29                           |
| 4     | Natural Resources & Sustainability | 47/63                           |
| 5     | Innovation                         | 9/12                            |
| TOTAL |                                    | 192/250                         |
|       |                                    | Certification is at +130 points |

Estimated WEDG Verification Score



# Program Elements

## Resilience

Reduce risks, adapt to climate hazards, and prepare for flooding, heat, and storms.

### Adaptive Shoreline

- Living Shoreline (10,000 lf)

### Thermal Mitigation

- Parking Lot Reduction & Greening (10 acre)

### Risk Reduction

- Clean Energy Production (5 acre)

### Civic Permanence

- Floating / Floodable Boardwalk (1.5 mi)

## Ecology

Protect aquatic and upland habitats. Use designs, materials, and shoreline configurations to improve ecological function.

### Hydrological Reconnection

- River-Bay Connection (15 acre)

### Water Remediation

- Stormwater Filtration & Flood Control (3 acre)

### Wetland Restoration

- Floating Wetlands (5,000 sf)

### Biodiversity Support

- Fuzzy Rope Aquaculture (10,000 sf)

## Access

Be equitable and informed by the community, enhance public access, and maximize the diversity of the waterfront.

### Multi-Modal Transportation

- Bike Lane (1.5 mi)

### Universal Design

- Non-Motorized & ADA Boat Launch (3,000 sf)

### Educational Immersion

- Outdoor Classroom (900 sf)

### Economic Diversification

- Oyster Farm & Tasting Bar (2 acre)



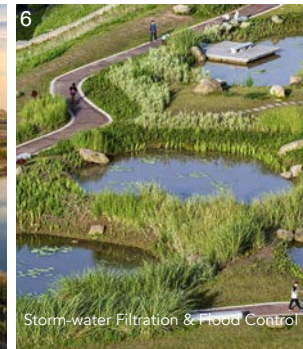
Living Shoreline



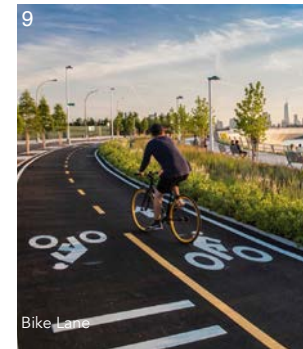
Parking Lot Reduction & Greening



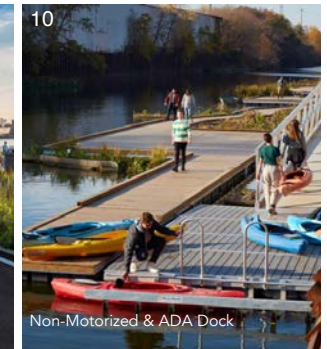
River-Bay Connection



Storm-water Filtration & Flood Control



Bike Lane



Non-Motorized & ADA Dock



Clean Energy Production



Floating / Floodable Boardwalk



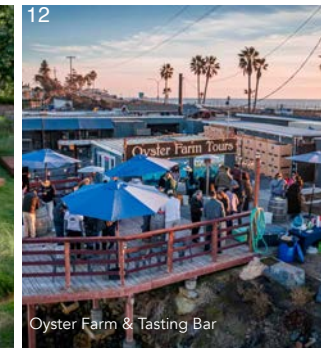
Floating Wetlands



Fuzzy Rope Aquaculture



Outdoor Classroom



Oyster Farm & Tasting Bar



# Additional Elements for Site Activation



1 Nautre-Themed Playground



2 Nautre-Themed Playground



3 Nature-Exploration Play



4 Splash Pad



5 Shaded Picnic Nodes



6 Fitness Nodes



7 Ping-Pong



8 Bocce Courts



9 Fishing Piers



10 Waterfront Seating



11 Swimming Zone



12 Multi-Use Lawn & Plaza



13



14



15

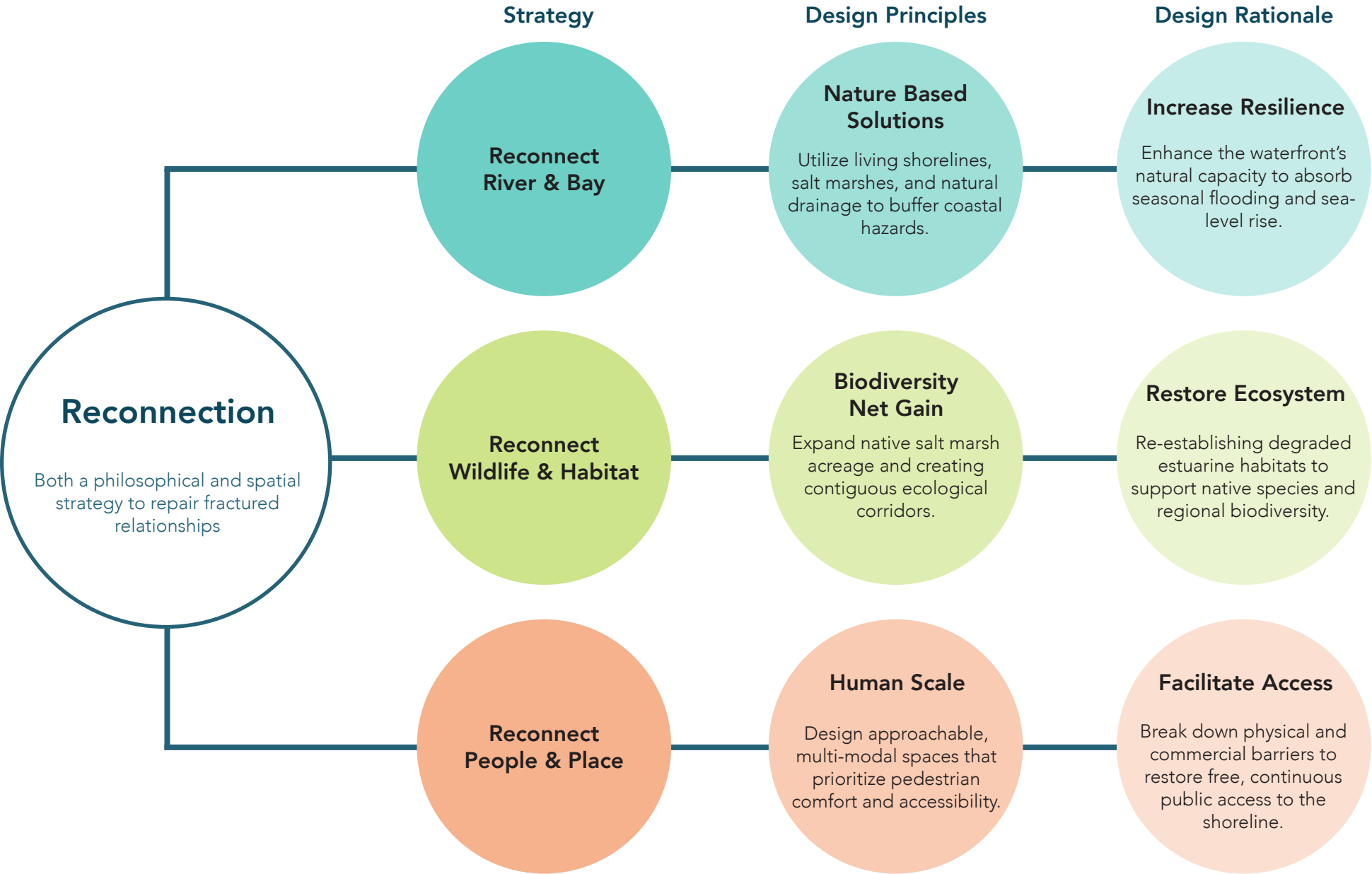


16



# Design Development

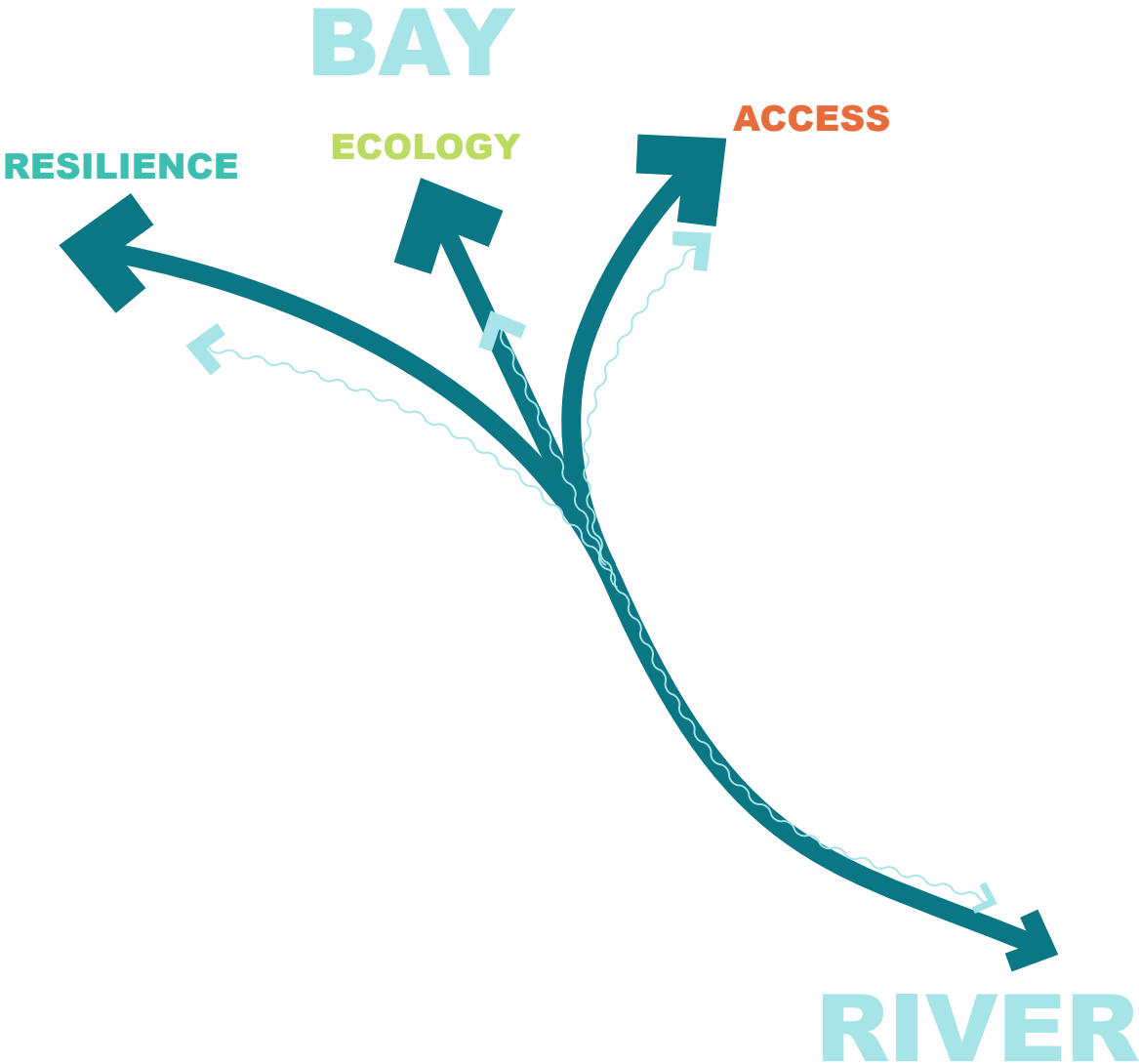
# Design Development





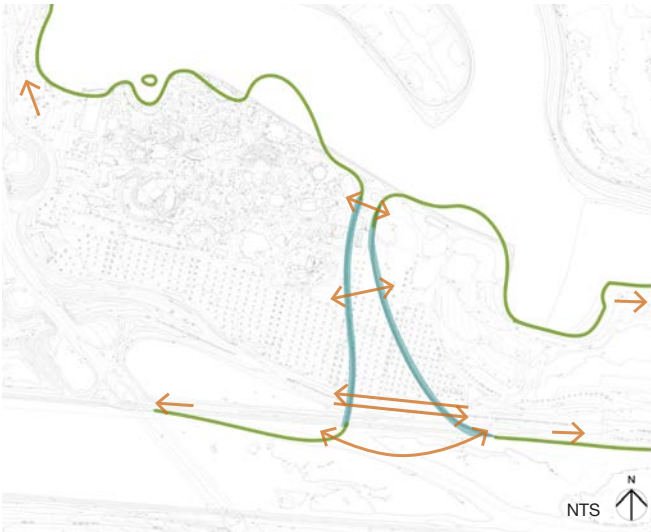
# Design Inspiration

The design concept is inspired by the branching form of a river delta, using interconnected channels and organic patterns to distribute water and guide movement through the landscape.



# Preliminary Design Alternatives

## Light Intervention



- Strengths:**
- Predictable Flow
  - Minimal Disruption
- Weaknesses:**
- High-Velocity Erosion Risk
  - Limited Increase In Wetland

**Resilience**



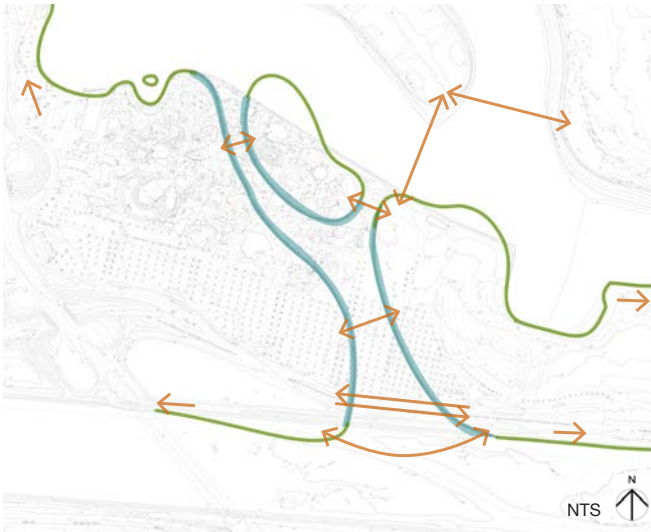
**Ecology**



**Access**



## Medium Intervention



- Strengths:**
- Improved Flow Dispersal
  - Increase In Habitat
- Weaknesses:**
- Medium-Velocity Erosion Risk
  - Siltation Maintenance Demands

**Resilience**



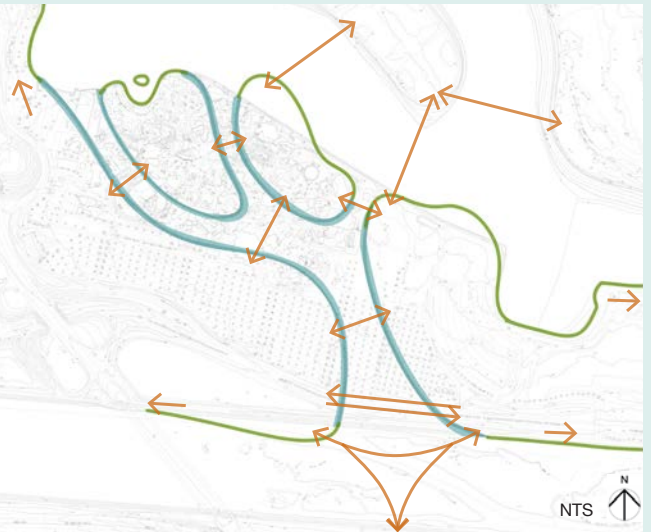
**Ecology**



**Access**



## Heavy Intervention



- Strengths:**
- Maximum Flow Dispersal
  - Maximum Increase In Wetland
  - Increased Habitat Complexity
  - Increased Experiential Diversity
- Weaknesses:**
- Higher Excavation/Construction Costs

**Resilience**



**Ecology**



**Access**





# Materials Inspiration



1 Wood & Metal Boardwalk



2 Wood Entry Signage



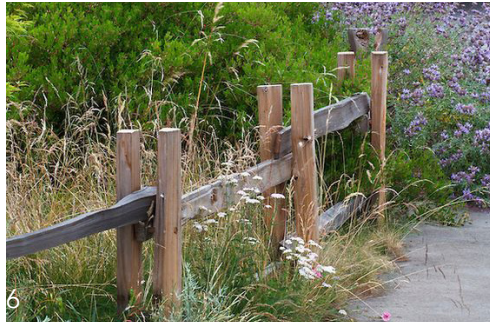
3 Etched Concrete Paving



4 Native Plants



5 Enhanced Pedestrian Pavers & Tree Well



6 Wood Perimeter Fencing



7 Native Plants



8 Wood Wayfinding Signage



9 Trash & Litter Receptacles



10 Native Plants



11 Wood & Metal Boardwalk



12 Concrete Steps & Wood Seat



13 Native Plants



14 Interpretive Concrete Paving



15 Wood Bench



16 Hardscape Materials



# Plant Palette

The plant palette follows the natural transition from upland habitat to coastal sage scrub, high and low marsh, and finally aquatic vegetation. Species are placed according to elevation, moisture, and salinity, creating a resilient living shoreline. This gradient restores habitat, supports biodiversity, stabilizes the soil, and allows the landscape to adapt as water levels change over time.





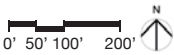
# Final Design

# Conceptual Design Plan



- Legend:**
- 1 Nature Center
  - 2 Viewpoint
  - 3 Comfort Station & Overlook Lounge
  - 4 Bridge, Typ.
  - 5 Community Farm
  - 6 Harvest Market
  - 7 Multi-Purpose Lawn
  - 8 Playground & Splash Pad
  - 9 Picnic Node
  - 10 Hammock Lounge
  - 11 Outdoor Classroom
  - 12 Fitness Node
  - 13 Game Node
  - 14 Oyster Tasting Restaurant
  - 15 Concert Venue & Lawn
  - 16 Public Boathouse
  - 17 Landscape Buffer, Typ.
  - 18 Multi-Species Habitat Area
  - 19 Parking Lot
  - 20 Transit Station
  - 21 San Diego River Trail
  - 22 Demonstration Garden & Trails
  - 23 Ecological Pond (Lined)
  - 24 Boardwalk
  - 25 Aquaculture Farm

Restored wetlands and habitat areas form the resilient and ecological framework, while trails, bridges, and boardwalks reconnect the San Diego River, Mission Bay, and surrounding communities. Educational, recreational, and gathering spaces create an active public waterfront.



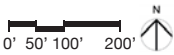


# Conceptual Design Plan: Zones

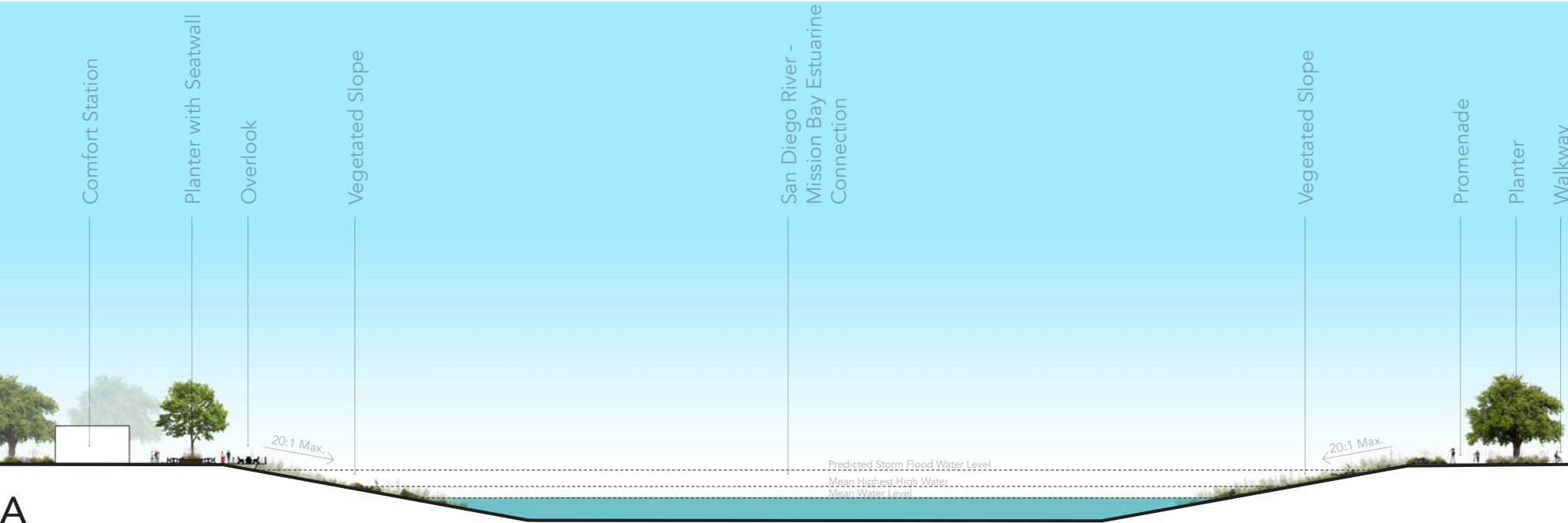


- Legend:
- 1 Ecology Zone
  - 2 Nature Education Zone
  - 3 Community Farm Zone
  - 4 Play & Adventure Zone
  - 5 Gathering Zone
  - 6 Living Lab Zone
  - 7 Transit & Buffer Zone

The plan is organized into six interconnected zones. More active uses are concentrated near the primary access points, while the ecological zones extend into the bay. Together, these areas create a gradual transition from urban activity to restored habitat.



# River-Bay Connection



Floodwater Storage Capacity

300K → 90.45M GAL.

New Coastal Wetland

60.3 ACRES



Key Map:

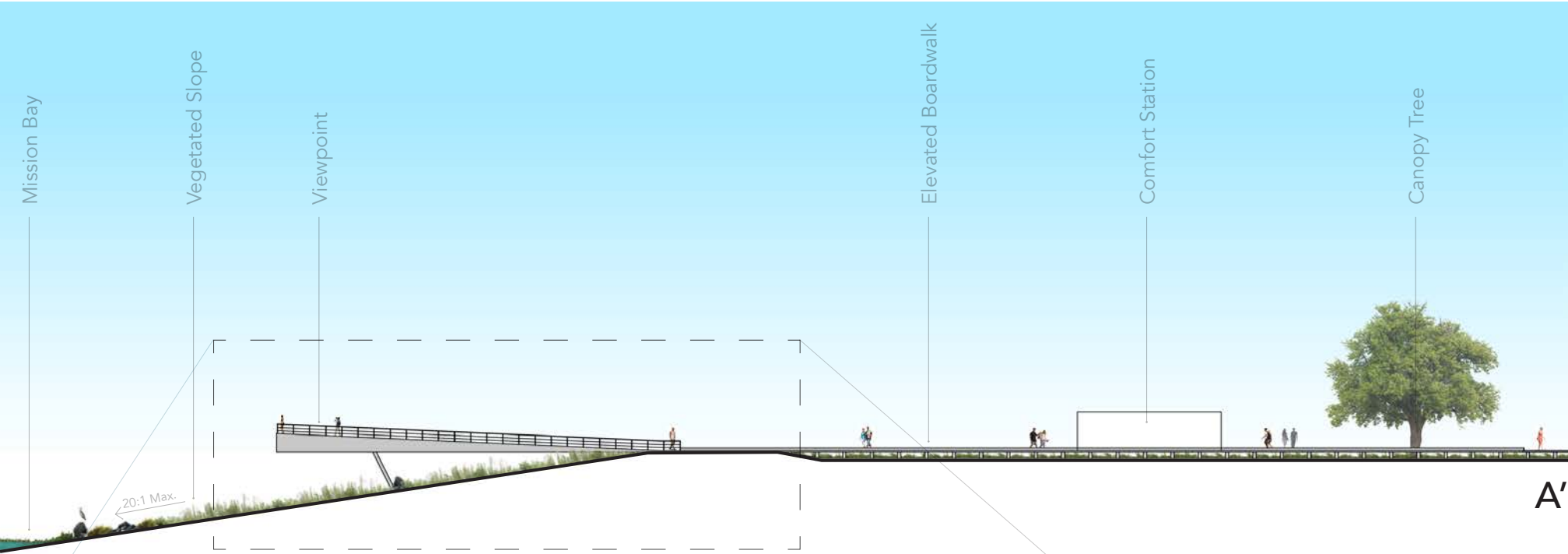




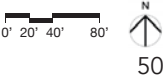
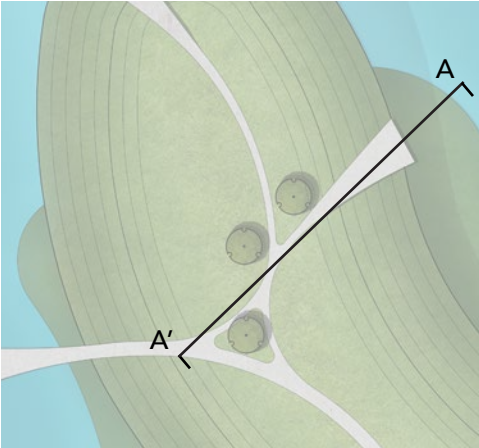
# Ecological Zone



# Ecological Zone

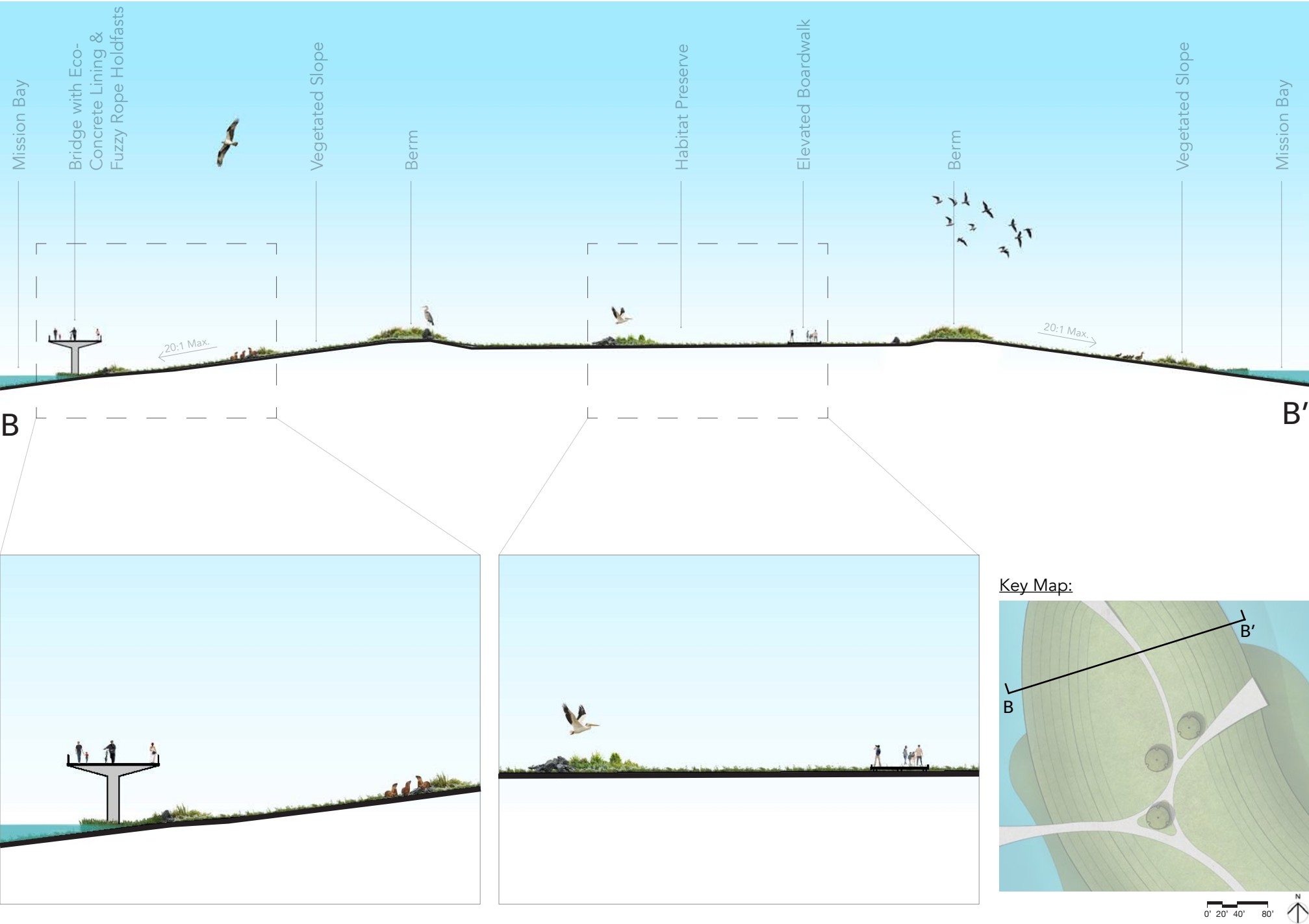


Key Map:





# Ecological Zone



# Nature Education Zone



- Legend:
- 1 Nature Education Center
  - 2 Arrival Courtyard & Canopy Tree Allée
  - 3 Amphitheater
  - 4 Fitness Node
  - 5 Hammock Lounge
  - 6 Café & Outdoor Seating



Key Map:





# Nature Education Zone

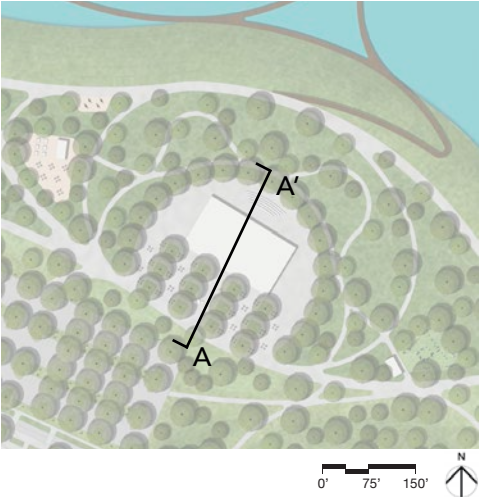


Nature Education Center



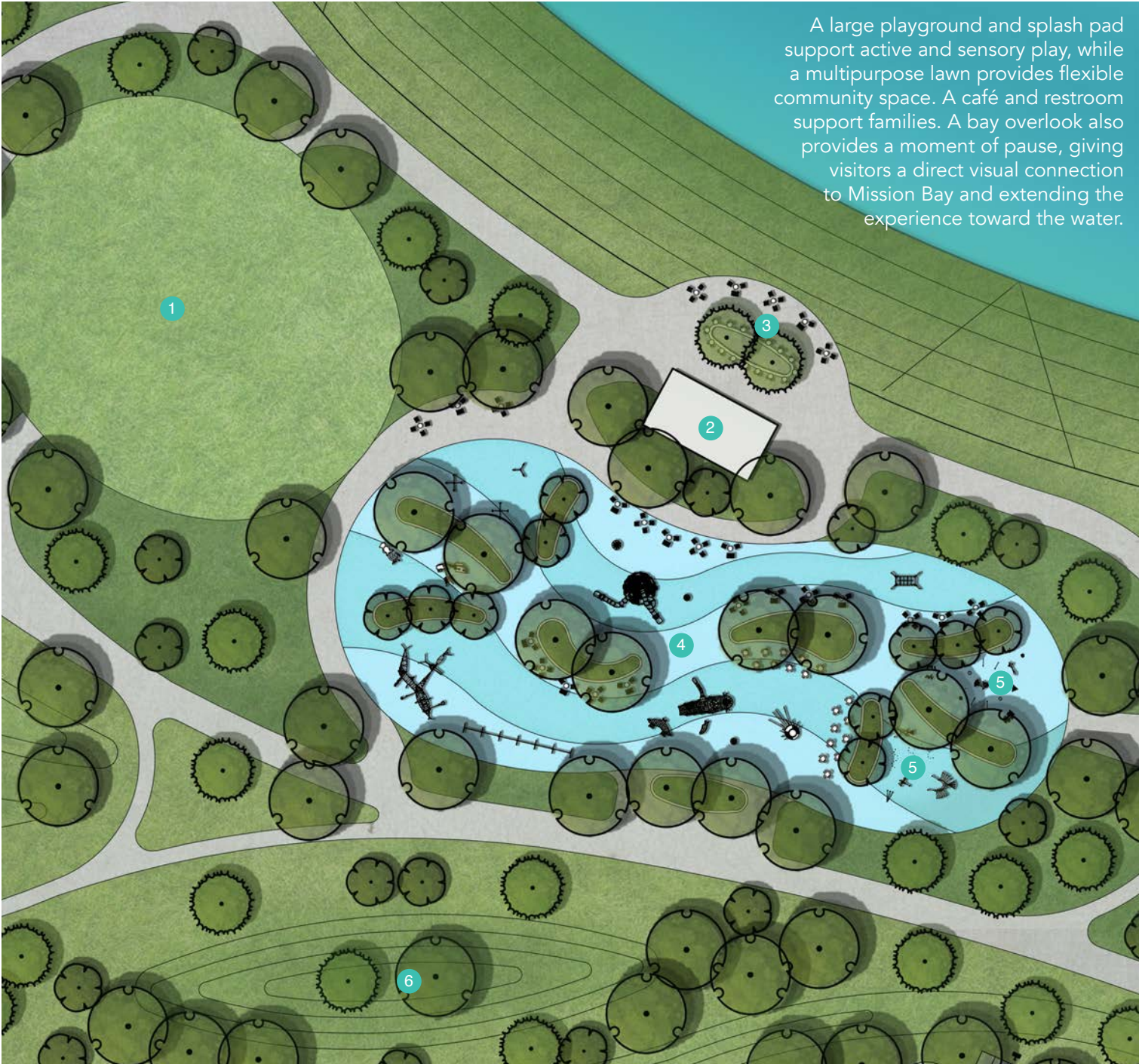
Amphitheater & Outdoor Classroom

Key Map:





# Adventure & Play Zone



A large playground and splash pad support active and sensory play, while a multipurpose lawn provides flexible community space. A café and restroom support families. A bay overlook also provides a moment of pause, giving visitors a direct visual connection to Mission Bay and extending the experience toward the water.

## Legend:

- 1 Multi-Purpose Lawn
- 2 Restroom & Café
- 3 Overlook Lounge
- 4 Playground
- 5 Splash Pad
- 6 Bioswale

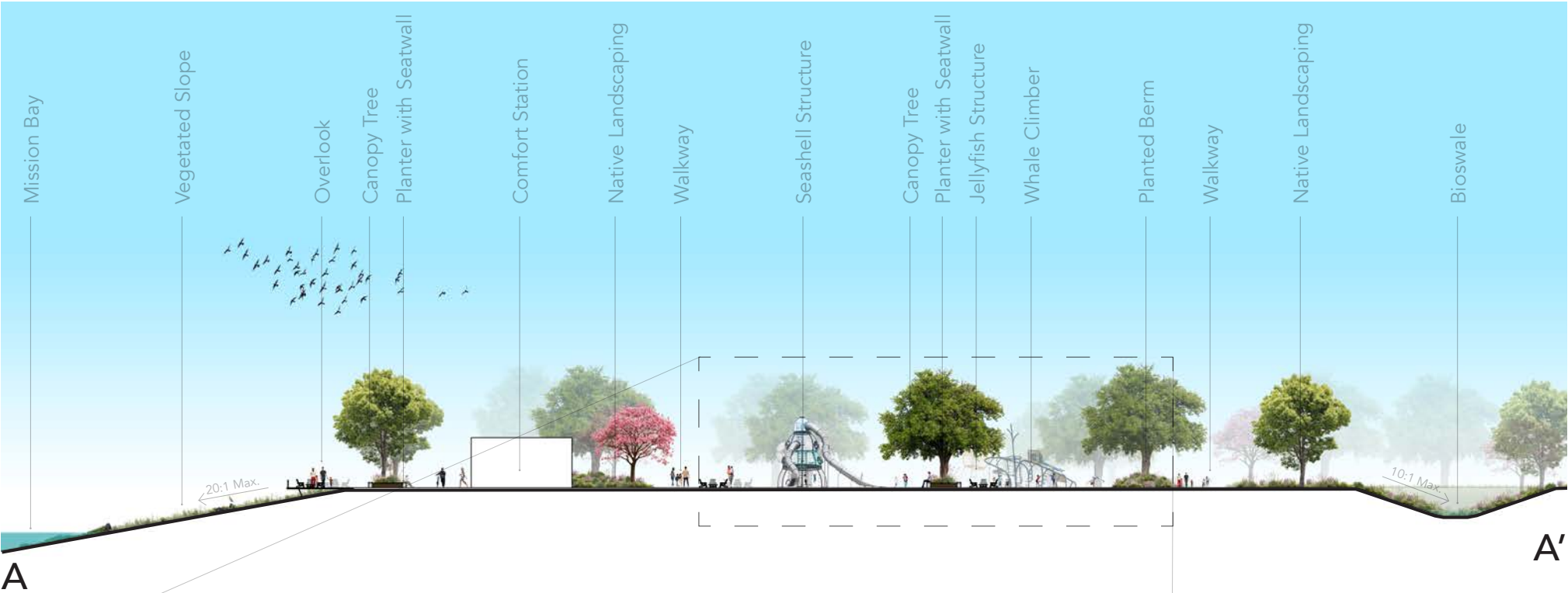


## Key Map:

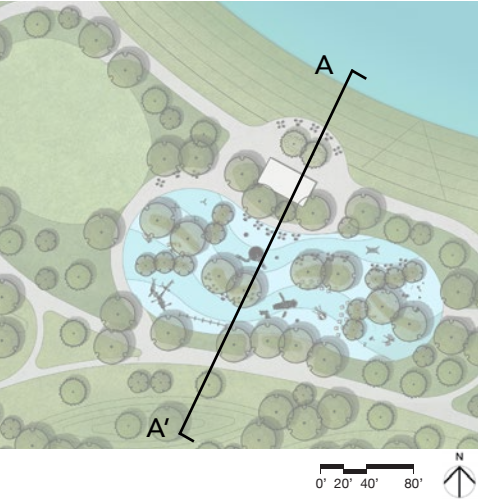




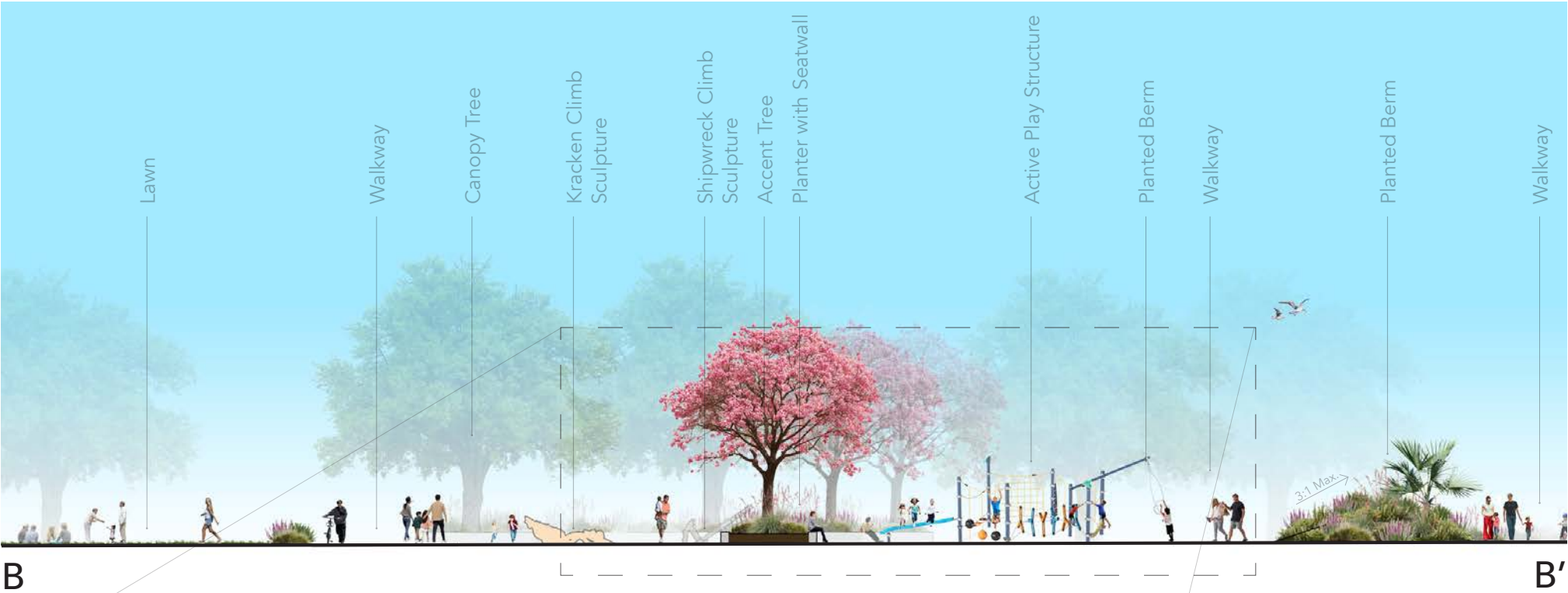
# Adventure & Play Zone



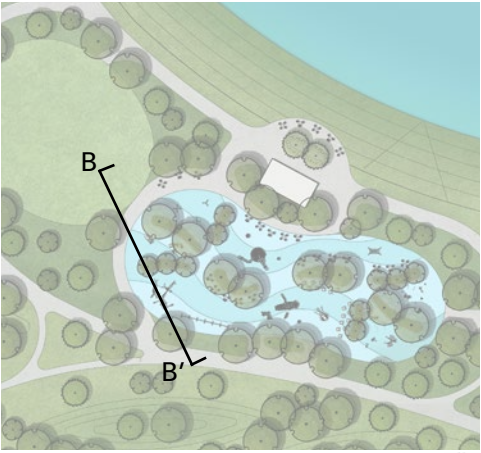
Key Map:



# Adventure & Play Zone

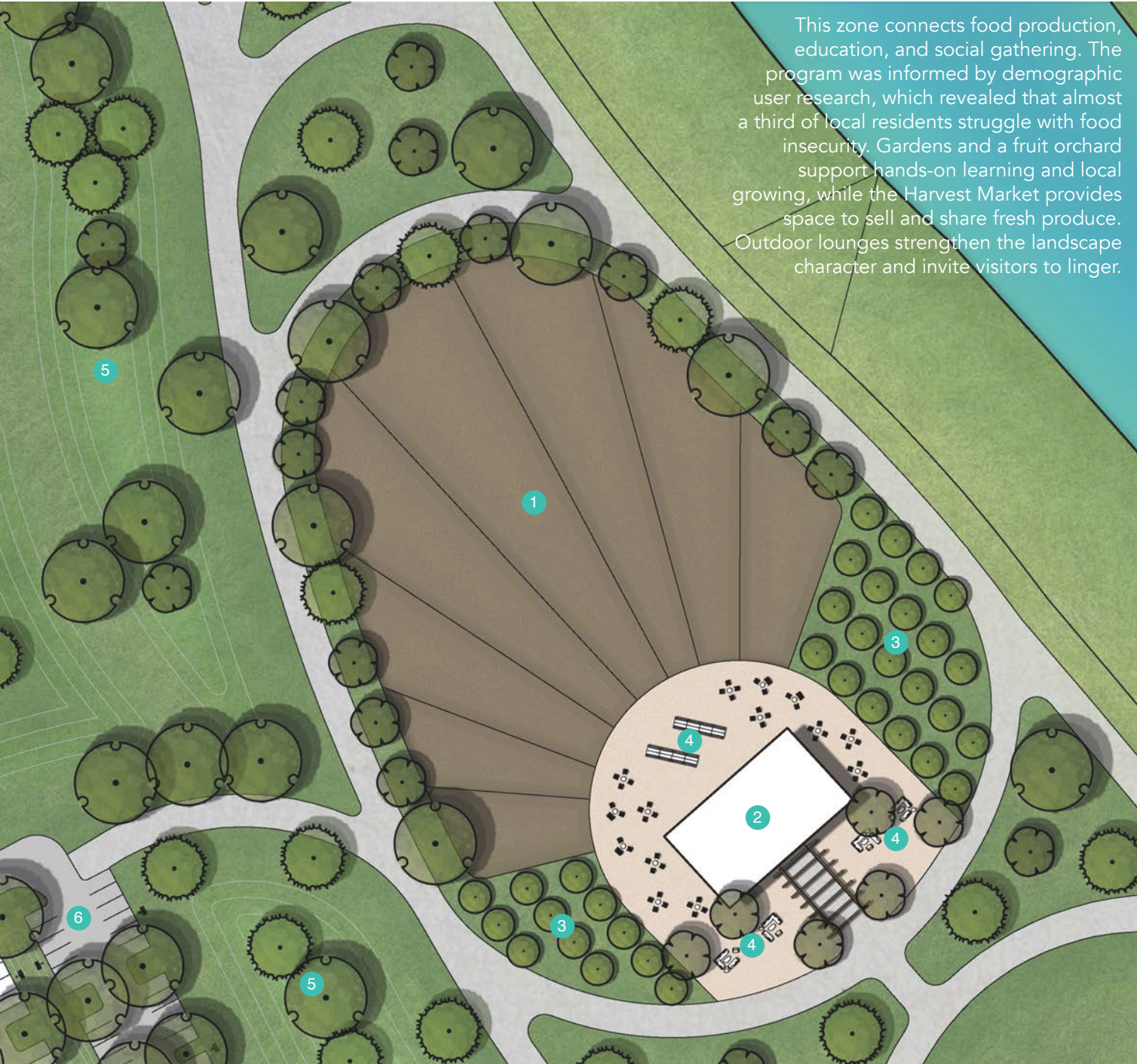


Key Map:





# Community Garden & Market Zone



## Legend:

- 1 Community Garden
- 2 Harvest Market
- 3 Fruit Tree Orchard
- 4 Outdoor Lounge
- 5 Planted Buffer Berm
- 6 Parking Lot



## Key Map:



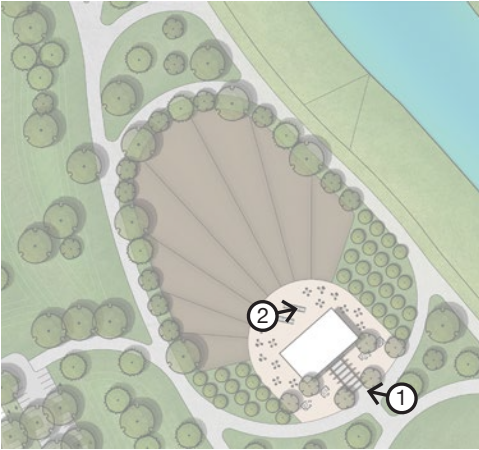


# Community Garden & Market Zone

The Harvest Market serves as the social heart of this zone, supporting produce sales, local vendors, educational events, and informal gatherings.

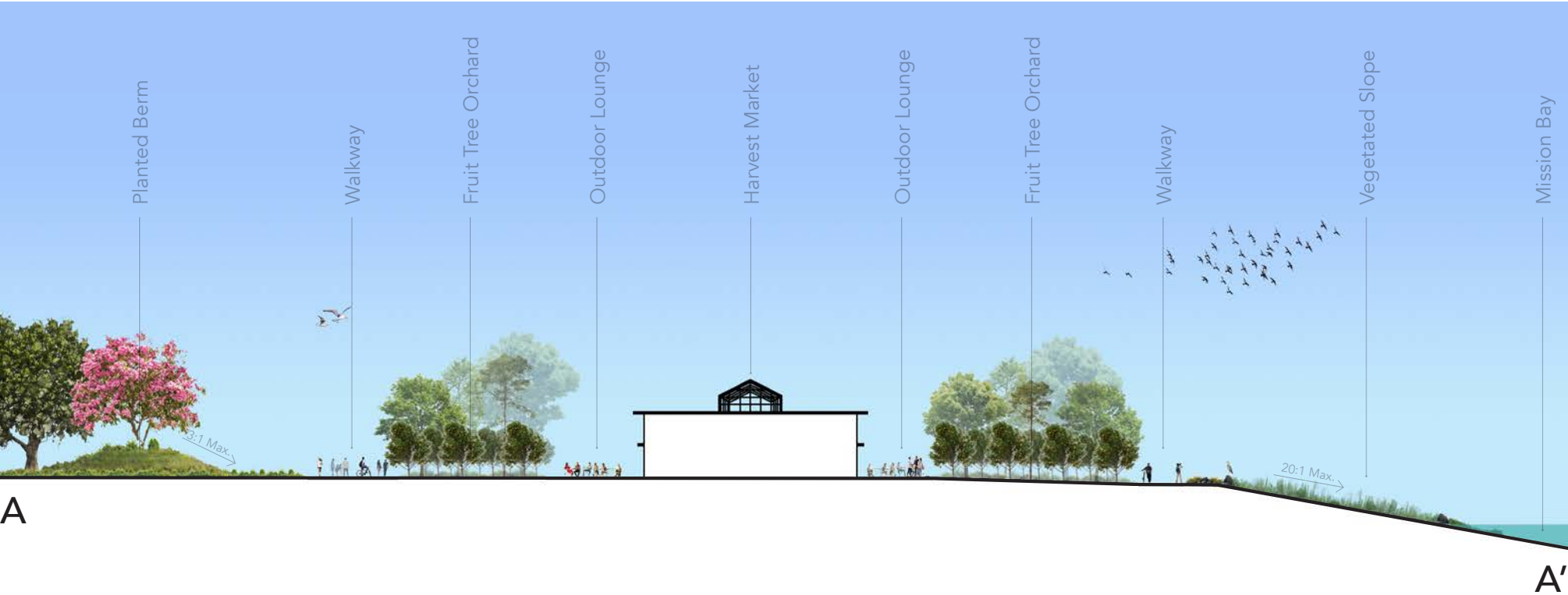


Key Map:





# Community Garden & Market Zone



Fruit Tree Orchard



Outdoor Lounge

Key Map:





# Gathering Zone



The Gathering Zone is the project's primary social destination. A flexible venue lawn, oysteria, cafés, and planted terraces support events and everyday gathering, while bocce courts and ping-pong tables offer recreation for all ages. The public boathouse and waterfront promenade connect these activities directly to Mission Bay.

- Legend:**
- 1 Concert Venue & Lawn
  - 2 Oysteria
  - 3 Planted Terraces
  - 4 Waterfront Promenade
  - 5 Public Boathouse
  - 6 Café & Seating
  - 7 Bocce Court
  - 8 Hammock Lounge

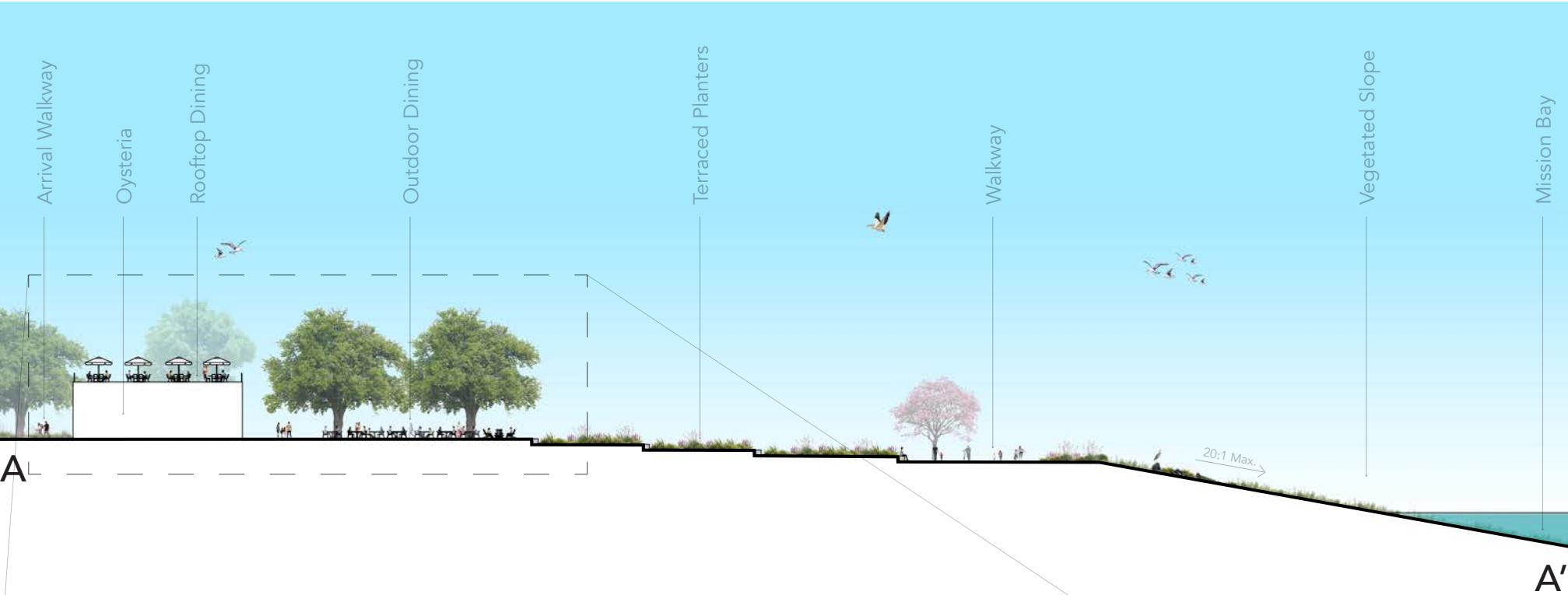


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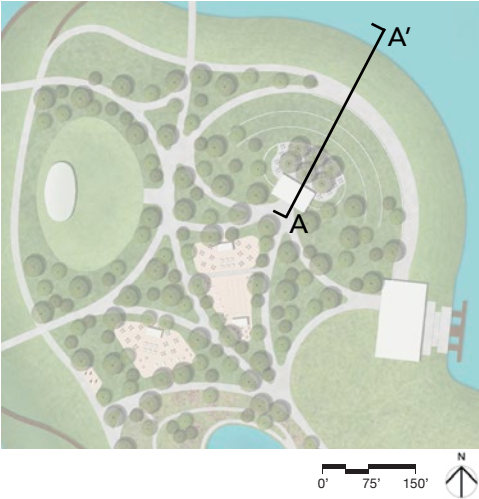




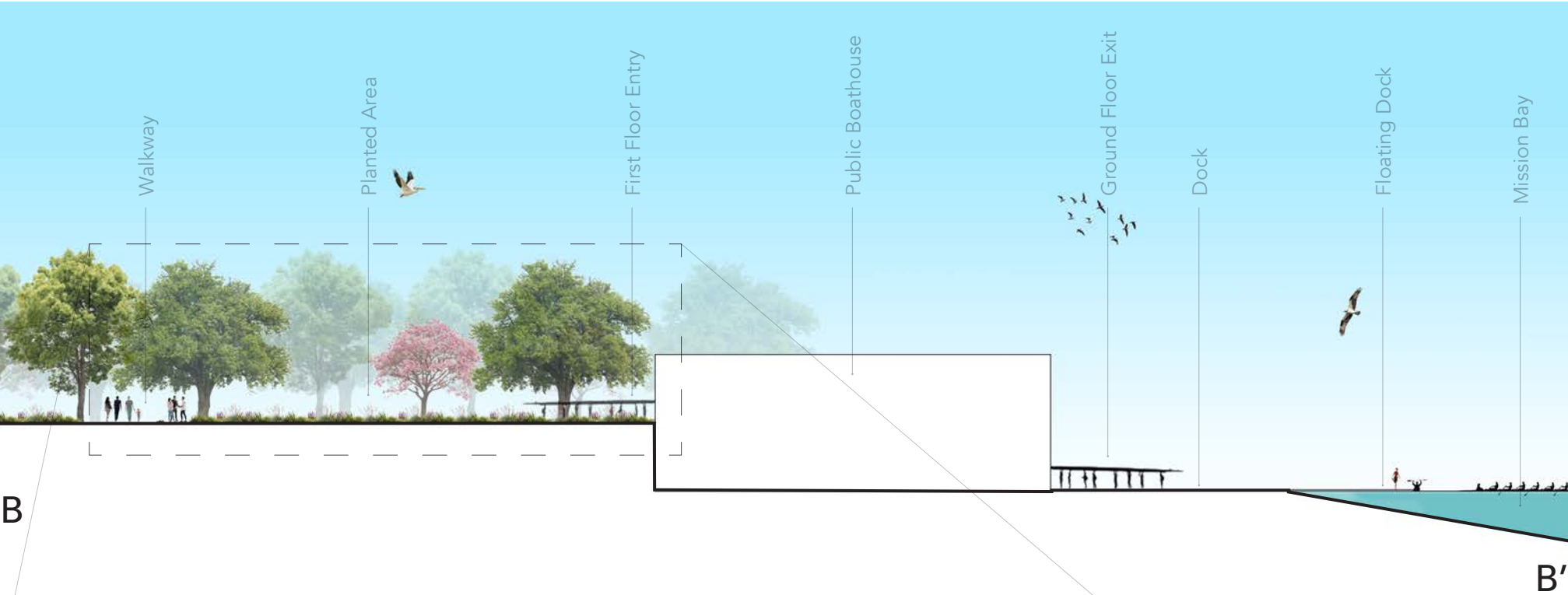
# Gathering Zone



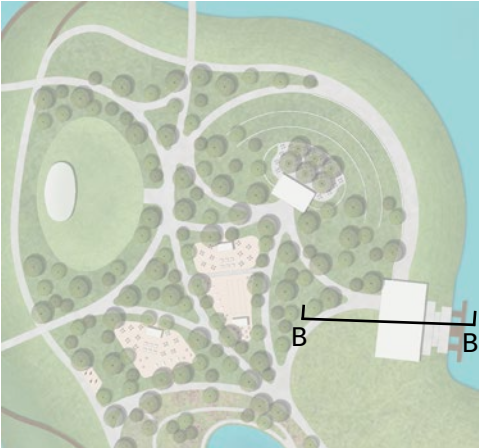
Key Map:



# Gathering Zone

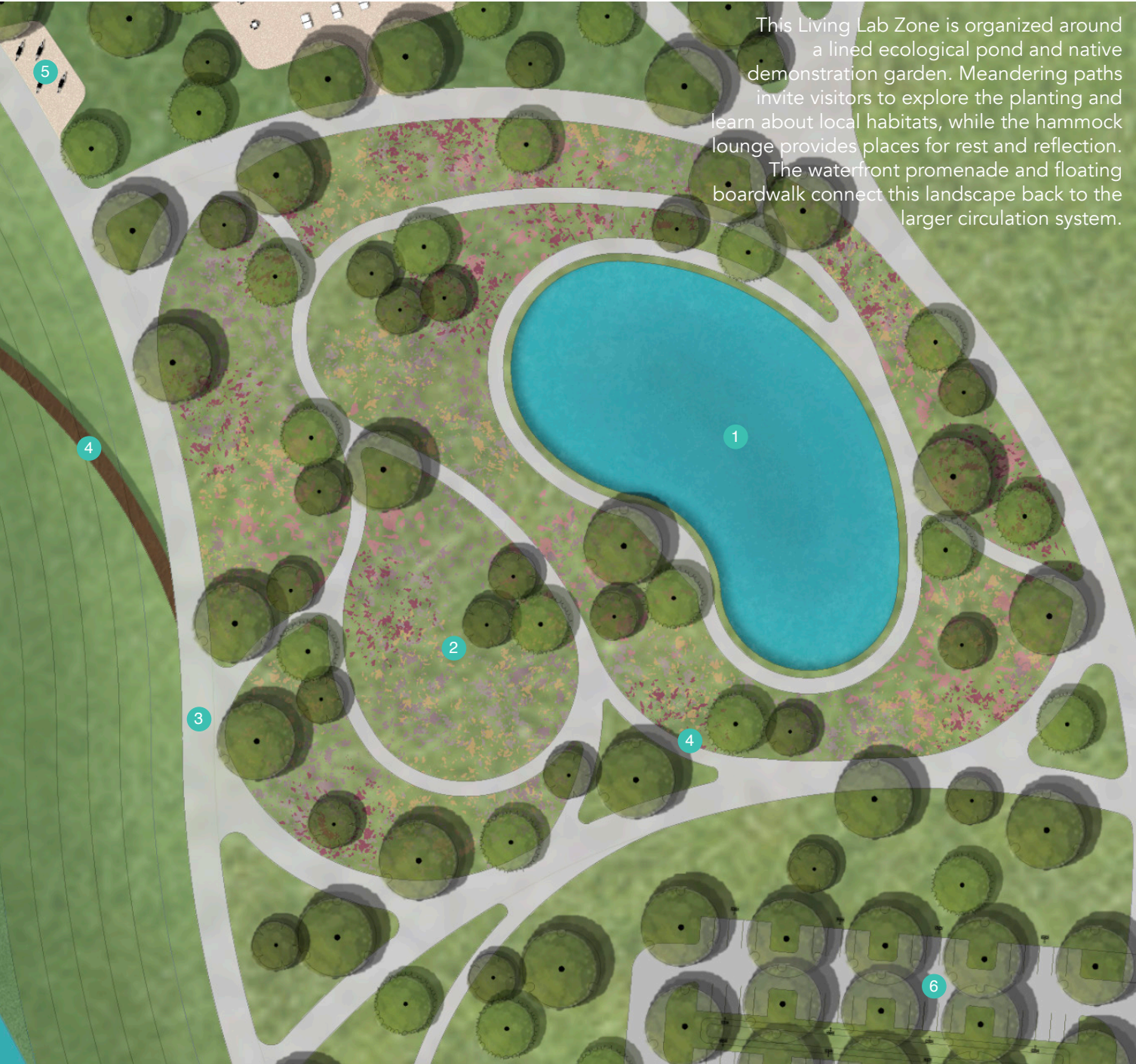


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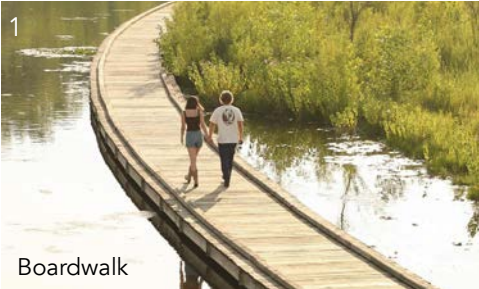


# Living Lab Zone



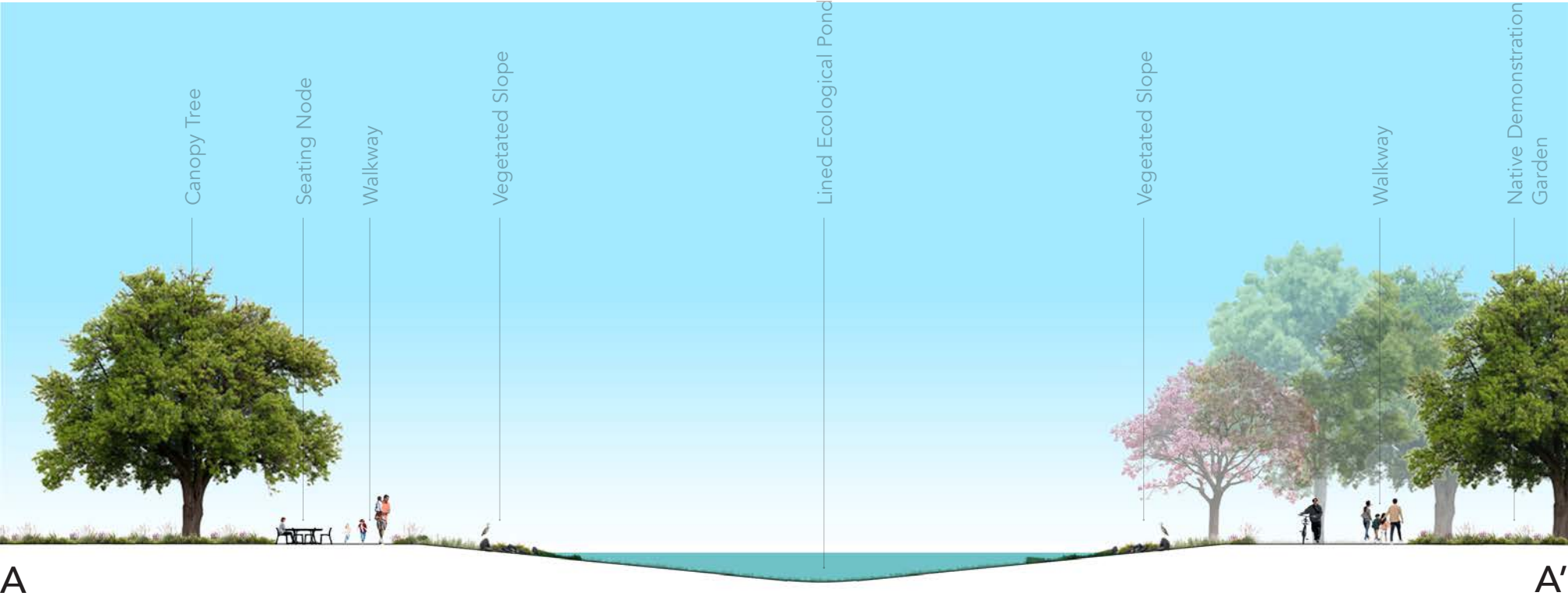
This Living Lab Zone is organized around a lined ecological pond and native demonstration garden. Meandering paths invite visitors to explore the planting and learn about local habitats, while the hammock lounge provides places for rest and reflection. The waterfront promenade and floating boardwalk connect this landscape back to the larger circulation system.

- Legend:**
- 1 Lined Ecological Pond
  - 2 Native Demonstration Garden
  - 3 Waterfront Promenade
  - 4 Boardwalk
  - 5 Hammock Lounge
  - 6 Parking Lot





# Living Lab Zone



Key Map:



Ecological Pond

Native Demonstration Garden



# Transit & Buffer Zone



This zone provides a welcoming, multimodal entrance to the park while reducing the impact of vehicles on the waterfront. A transit station and shaded pedestrian routes connect visitors to the site, while the tree-filled parking area incorporates bioswales to capture and filter stormwater. Planted berms screen the road and parking lot from the site.

- Legend:**
- 1 Parking Lot
  - 2 Transit Station
  - 3 Bioswale
  - 4 Walkway, Typ.
  - 5 Planted Buffer Berm
  - 6 Multi-Species Habitat Area



**Key Map:**





# Transit & Buffer Zone



Key Map:

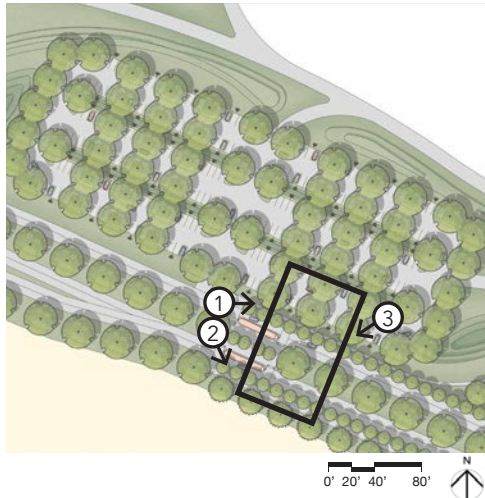




# Transit & Buffer Zone



Key Map:





# Transit & Buffer Zone



A

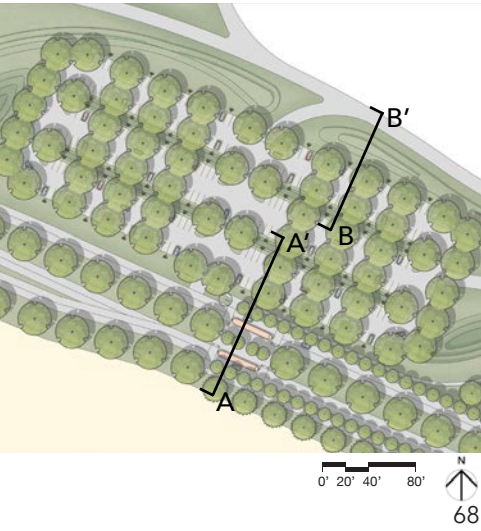
A'



B

B'

Key Map:





# Conclusion

# Design Analysis



|   |                                    |       |
|---|------------------------------------|-------|
| 0 | Site Planning & Assessment         | 3/32  |
| 1 | Climate Hazard Resilience          | 39/45 |
| 2 | Community Access & Connections     | 46/69 |
| 3 | Edge Composition                   | 22/29 |
| 4 | Natural Resources & Sustainability | 32/63 |
| 5 | Innovation                         | 0/12  |

**TOTAL** 142/250  
Certification is at +130 points

## WEDG Verification Score

The final design was evaluated using the WEDG framework to measure performance across resilience, access, and ecology. Scoring 142 out of 250 points, it exceeds the 130-point threshold required for certification (see appendix for scorecard). The strongest results are in climate-hazard resilience, natural resources, and community access. The design produces measurable improvements across all three goals.

Ultimately, this proposal transforms the former SeaWorld site into a resilient public waterfront—reconnecting the river to the bay, people to the water, and Mission Bay to a more equitable and ecologically vibrant future.



# Design Analysis

## Resilience

Reduce risks, adapt to climate hazards, and prepare for flooding, heat, and storms.

Floodwater Storage Capacity

300K → 90.45M GAL.

Shoreline Length

8,300 → 17,100 LF

Asphalt Surfacing

99 → 7 ACRES

Carbon Drawdown

100 TONNES

## Ecology

Protect aquatic and upland habitats. Use designs, materials, and shoreline configurations to improve ecological function.

New Ecological Reserve

48.6 ACRES

New Coastal Wetland

60.3 ACRES

Shoreline Slope

3:1 → 20:1

## Access

Be equitable and informed by the community, enhance public access, and maximize the diversity of the waterfront.

New Transit Stations

3

Immersive Educational Experiences

5+

New Connections to Regional Trails

3

## Acknowledgments

This project was developed on the traditional and unceded lands of the Kumeyaay people, who have stewarded the lands and waters of the San Diego region for thousands of years. Their deep cultural and ecological relationship with this landscape - particularly its rivers, coastlines, and bays - continues to shape the region today. I acknowledge and honor the Kumeyaay people past, present, and future, and recognize their enduring connection to the land and waters that are central to this project.

Additionally, I would like to extend my sincere gratitude to my professors, Meg Rushing Coffee and Jim Pickel, whose guidance, insight, and encouragement have been invaluable throughout the development of this capstone. Their thoughtful critique and support helped challenge and refine the ideas that shaped this project.

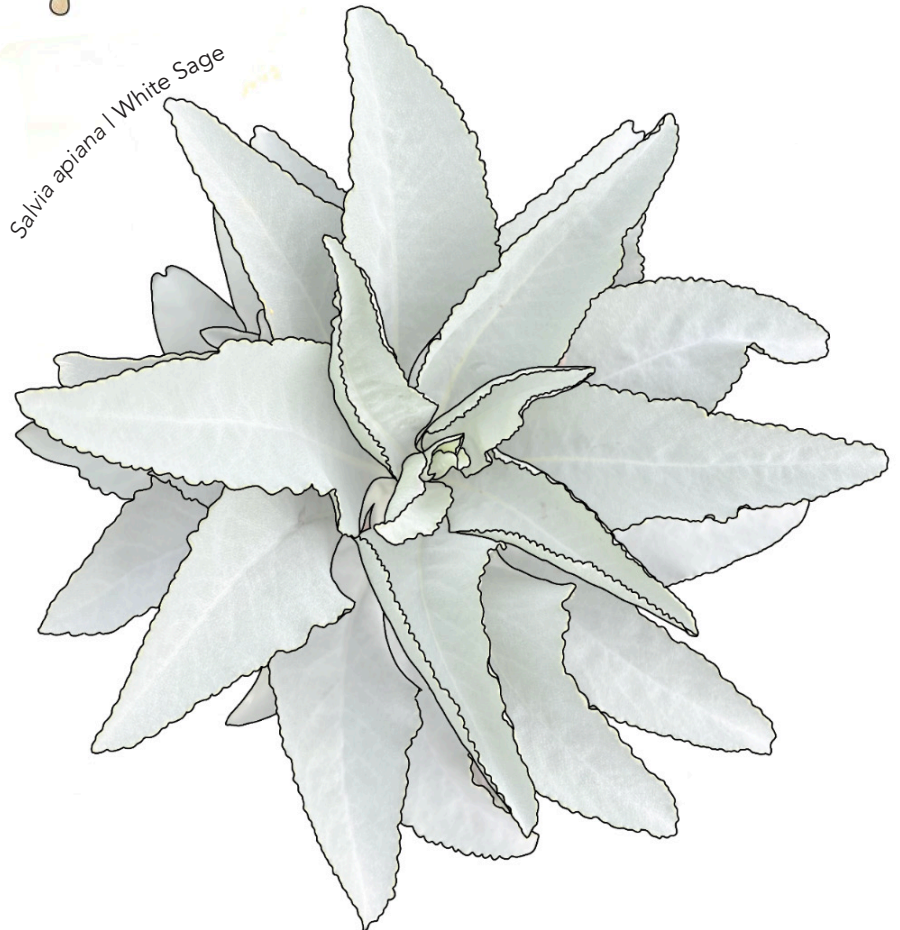
I am deeply grateful to my family for their constant encouragement and belief in me. To my partner, Kamron Zarrabi, thank you for your patience, support, and optimism throughout this journey. And to my parents, whose love and support have always made it possible for me to pursue my passions, I am endlessly thankful.

Finally, I am grateful to the landscapes and waterways that have shaped my life and inspired this work. Their presence continues to guide my curiosity, my travels, and my commitment to designing landscapes that reconnect people with water.

*Lilium humboldtii* | Humbolt Lily



*Salvia apiana* | White Sage





# Image References

Page 2  
Sketch created using AI

Page 3  
Maps created using SnazzyMaps.

Page 4  
Google Earth Pro 7.3. Mission Bay San Diego. Imagery date October 2022. Accessed August 20, 2026.

Page 6

1. Arch-Exist Photography. Suining South Riverfront Park. Photograph. In "World Architecture Festival 2021 Reveals Its Winners." ArchDaily, December 7, 2021. <https://www.archdaily.com/973082/world-architecture-festival-2021-reveals-its-winners/61ae6ecc627ccd01650aa1ad-world-architecture-festival-2021-reveals-its-winners-image>.
2. u/Kinextics. Sea Otter Wrapped in Kelp. Photograph. Reddit, May 9, 2015. [https://www.reddit.com/r/Awwducational/comments/35e1aw/to\\_keep\\_from\\_drifting\\_out\\_to\\_sea\\_when\\_resting\\_and/](https://www.reddit.com/r/Awwducational/comments/35e1aw/to_keep_from_drifting_out_to_sea_when_resting_and/).
3. Riverfront Park, photograph, Stewart, accessed August 20, 2026, <https://wearestewart.com/portfolio/riverfront-park/>.

Page 7

1. Alfred, K.C. 11 People Rescued from Storm-Swollen Waterways Across San Diego County. Photograph. The San Diego Union-Tribune, January 16, 2023. <https://www.sandiegouniontribune.com/2023/01/16/11-people-rescued-from-storm-swollen-waterways-across-san-diego-county-2/>.
2. U.S. Fish and Wildlife Service. Water Control Dredging at Bayou Sauvage Refuge. Photograph, October 28, 2021. <https://www.fws.gov/media/water-control-dredging-bayou-sauvage-refuge>.
3. MiceChat. SeaWorld San Diego Park Entrance Digital Ticket Kiosk. Photograph. MiceChat, June 11, 2021. [https://www.micechat.com/294722-seaworld-san-diego-update-electric-ocean-illuminates-the-night/seaworld-san-diego\\_park-entrance\\_digital-ticket-kiosk/](https://www.micechat.com/294722-seaworld-san-diego-update-electric-ocean-illuminates-the-night/seaworld-san-diego_park-entrance_digital-ticket-kiosk/).
4. Stevens, Geoff. Photos: San Diego Landmarks Empty Amid COVID-19. Photograph. KGTV 10News, March 27, 2020. <https://www.10news.com/news/news/slideshows/photos-san-diego-landmarks-empty-amid-covid-19>.
5. Troxel, Luan. It Rained, Can I Go to the Beach? Photograph. The Coronado Times, January 20, 2018. <https://coronadotimes.com/news/2018/01/20/rained-can-go-beach/>.
6. Bruxelles, Marc. Yes, This Year Is as Hot as You Think It Is. Photograph. Ars Technica, September 13, 2023. <https://arstechnica.com/science/2023/09/yes-this-year-is-as-hot-as-you-think-it-is/>.

Page 10

1. City of Perth and Gehl. City of Perth Towards 2036. Photograph. In "City of Perth Shares Vision for the City Towards 2036 and Beyond." Perth Is OK!, September 23, 2021. <https://perthisok.com/news/city-of-perth-towards-2036-and-beyond-report/>.
2. Région Nouvelle-Aquitaine. Végétalisation des parkings. Photograph. In CRAUPE Maurian 2, 19. May 2022. [https://www.nouvelle-aquitaine.fr/sites/default/files/2022-05/CRAUPE\\_Maurian\\_2.pdf](https://www.nouvelle-aquitaine.fr/sites/default/files/2022-05/CRAUPE_Maurian_2.pdf).
3. Protected Intersection and Bike Lane in Berlin. Photograph. Accessed August 20, 2026.
4. Hand Touching Water. Photograph. Accessed August 20, 2026.
5. The 606 (Bloomingtondale Trail), Chicago. 2015. Photograph. Chicago Park District. Accessed August 21, 2026. [chicagoparkdistrict.com](https://chicagoparkdistrict.com).
6. Pinterest Pin, photograph, Pinterest, accessed August 20, 2026, <https://in.pinterest.com/pin/526991593917316023/>.
7. Pinterest. Pinterest Pin. Photograph. Accessed August 20, 2026. <https://www.pinterest.com/pin/70776889735864242/>.
8. Frangella, Lucas. Ville de Villeurbanne. Photograph. In "Notre guide estival pour profiter des parcs avec les enfants." Grains de Sel, May 28, 2026. <https://grainsdesel.com/se-balader/guide-estival-parcs-enfants-lyon/>.
9. Nam, Gw. Cycling on Riverside Park. Photograph, June 22, 2015. Getty Images. <https://www.gettyimages.com/detail/photo/cycling-on-riverside-park-royalty-free-image/561060119>.

Page 12-14  
Illustrations produced using AI.

Page 15

1. Grossinger, Robin M., Eric D. Stein, Kristen N. Cayce, Ruth Askevold, Shawna Dark, and Alison A. Whipple. 2011. "Figure B35: Coastal Features Digitized from T-363, Overlaid on Modern Aerial Photography (USDA 2005), at Same Scale as Facing T-sheet." In Historical Wetlands of the Southern California Coast: An Atlas of US Coast Survey T-sheets, 1851–1889, B35. San Francisco Estuary Institute Contribution #586 / Southern California Coastal Water Research Project Technical Report #589. Oakland, CA: San Francisco Estuary Institute.
2. United States Coast Survey. 1857. San Diego Bay, California: From a Trigonometrical Survey. Map. Under the direction of A. D. Bache. Triangulation by R. D. Cutts; topography by A. M. Harrison; hydrography by James Alden. Washington, D.C.: United States Coast Survey. Digital image courtesy of Barry Lawrence Ruderman Antique Maps Inc., item no. 112764. <https://raremaps.com/gallery/detail/112764/san-diego-bay-from-trigonometrical-survey-1857>.
3. United States Geological Survey. 1942. California San Diego County La Jolla Quadrangle Joined with Point Loma Quadrangle. Map. Washington, D.C.: United States Geological Survey. Digital image courtesy of Barry Lawrence Ruderman Antique Maps Inc., item no. 105273. <https://raremaps.com/gallery/detail/105273/california-san-diego-county-la-jolla-quadrangle-joined-with-point-loma-quadrangle>.

Page 16

1. Erickson, Harry. OP 1497 Mission Bay Aerial, Nov. 19.1937. 1937. Photograph. San Diego History Center Photographic Collection, San Diego, CA.
2. Gabrielson, Ed. 2002. "Page 41: Looking North towards the Ventura Bridge, This 1955 Photograph Shows the Serious Sand Bar Problem Closing the Channel under the Bridge." Photograph. The Journal of San Diego History 48, no. 1 (Winter). San Diego Historical Society Photo. <https://sandiegohistory.org/journal/2002/january/imagesgabrielson/>.
3. Shoreline vignettes and flora/fauna sketches created using AI.

Page 17  
Map created using AI.

Page 18  
Alfred, K.C. Aerial View of SeaWorld San Diego. Photograph. The San Diego Union-Tribune, September 7, 2023. <https://www.sandiegouniontribune.com/2023/09/07/we-expect-them-to-pay-whats-due-san-diego-sues-seaworld-to-recover-rent-that-went-unpaid-during-pandemic/>.

Page 19  
Map created using SnazzyMaps.

Page 20

2. Google Earth Pro 7.3. SeaWorld Waterfront Amphitheater. 3D map. Imagery date October 2022. Accessed August 20, 2026.
8. Google Earth Pro 7.3. SeaWorld Parking Lot. 3D map. Imagery date October 2022. Accessed August 20, 2026.
9. Google Earth Pro 7.3. SeaWorld Parking Lot. 3D map. Imagery date October 2022. Accessed August 20, 2026.
10. Google Earth Pro 7.3. San Diego River Trail or Old SeaWorld Dr. Imagery date October 2022. Accessed August 20, 2026.
11. Google Earth Pro 7.3. San Diego River Trail or Old SeaWorld Dr. Imagery date October 2022. Accessed August 20, 2026.

Page 21-24  
Map created using SnazzyMaps.

Page 29-30  
Collages produced using AI.

#### Page 32

1. Gollings, John. Photograph of Adelaide Botanic Gardens Wetland, Adelaide, South Australia. Taylor Cullity Lethlean (TCL). Accessed July 5, 2026. <https://tcl.net.au/projects/adelaide-botanic-gardens-wetland>.
2. Waltefaugle, Nicolas. Maison de la Réserve. Photograph. In "Charles-Henri Tachon Architecture & Paysage: Maison de la Réserve." Muuuz, April 18, 2018. <https://www.muuuz.com/magazine/rubriques/architecture/7129-charles-henri-tachon-architecture-paysage-maison-de-la-r%C3%A9serve.html>.
3. Turenscape. Tongnan Dafo Temple Wetland Park. Photograph. In "Tongnan Dafo Temple Wetland Park by Turenscape." Mooool, August 24, 2020. <https://mooool.com/en/tongnan-dafo-temple-wetland-park-by-turenscape.html>.
4. Brillant, Vincent, and David Boyer. Photograph of Espace citoyen des Confluents, Laval, Canada. In "Espace citoyen des Confluents | Laval, Canada." World Landscape Architecture, May 13, 2026. <https://worldlandscapearchitect.com/espace-citoyen-des-confluents-laval-canada/>.
5. Hayes, Robin. Farsta Strandpark. Photograph. In Nivå Landskapsarkitektur, "Farsta Strandpark by Nivå." Landezine, December 12, 2017. <https://landezine.com/farsta-strandpark-by-niva/>.
6. Turenscape. Photograph of Kaban Lake Waterfront Revitalization, Kazan, Russia. March 30, 2023. In "Revitalizing Kazan's Prime Waterfront, Russia by Turenscape." mooool. <https://mooool.com/en/revitalizing-kazans-prime-waterfront-russia-by-turenscape.html>.

#### Page 33

7. SWA/Balsley and WEISS/MANFREDI. Hunter's Point South Waterfront Park Phase 2 Site Plan. Architectural plan/rendering. SWA/Balsley. Accessed July 5, 2026. <https://www.swabalsley.com/>.
8. Lloyd, David. Photograph of Hunter's Point South Waterfront Park Phase II Promenade. In Hunter's Point South Waterfront Park Project Portfolio. Houston, TX: SWA Group / SWA/Balsley. <https://www.swagroup.com/projects/hunters-point-south-waterfront-park/>.
9. Lloyd, David. Photograph of Hunter's Point South Waterfront Park Phase II Promenade. In Hunter's Point South Waterfront Park Project Portfolio. Houston, TX: SWA Group / SWA/Balsley. <https://www.swagroup.com/projects/hunters-point-south-waterfront-park/>.
10. Lloyd, David. Photograph of Hunter's Point South Waterfront Park Phase II Promenade. In Hunter's Point South Waterfront Park Project Portfolio. Houston, TX: SWA Group / SWA/Balsley. <https://www.swagroup.com/projects/hunters-point-south-waterfront-park/>.
11. Lloyd, David. Photograph of Hunter's Point South Waterfront Park Phase II Promenade. In Hunter's Point South Waterfront Park Project Portfolio. Houston, TX: SWA Group / SWA/Balsley. <https://www.swagroup.com/projects/hunters-point-south-waterfront-park/>.
12. Tatham, Bill. Photograph of Hunter's Point South Waterfront Park. December 2018. In "Hunter's Point South Waterfront Park / SWA/Balsley + WEISS/MANFREDI," by ArchDaily. ArchDaily. <https://www.archdaily.com/roup.com/projects/hunters-point-south-waterfront-park/>.

#### Page 34

1. Michael Van Valkenburgh Associates. Illustrative Plan. Landscape architecture plan. In Gathering Place Project Portfolio. New York, NY: Michael Van Valkenburgh Associates. <https://www.mvvainc.com/>.
2. Michael Van Valkenburgh Associates. View of the Chapman Adventure Playground at Gathering Place, Tulsa, OK. Photograph. In Gathering Place Park Guide. Tulsa, OK: George Kaiser Family Foundation. <https://www.gatheringplace.org/>.
3. Michael Van Valkenburgh Associates. Aerial view of the Gathering Place pedestrian bridge, Tulsa, OK. May 28, 2021. Photograph. In Gathering Place Project Portfolio. New York, NY: Michael Van Valkenburgh Associates. <https://www.mvvainc.com/>.
4. Michael Van Valkenburgh Associates. View of the pond-side deck at Gathering Place, Tulsa, OK. May 28, 2021. Photograph. In Gathering Place Project Portfolio. New York, NY: Michael Van Valkenburgh Associates. <https://www.mvvainc.com/>.
5. Michael Van Valkenburgh Associates. View of the stone gorge and splash pad at Gathering Place, Tulsa, OK. May 28, 2021. Photograph. In Gathering Place Project Portfolio. New York, NY: Michael Van Valkenburgh Associates. <https://www.mvvainc.com/>.
6. Doherty, Barrett. View of the ONEOK Boathouse at Gathering Place, Tulsa, OK. October 10, 2018. Photograph. Barrett Doherty Photography. <https://www.barrettdoherty.com/gathering-place>.

#### Page 35

1. DAVID RUBIN Land Collective. Site Plan of Grand Junction Park & Plaza, Westfield, IN. Landscape architectural plan. In Grand Junction Park & Plaza Portfolio. Philadelphia, PA: DAVID RUBIN Land Collective, 2022. Accessed July 5, 2026. <https://land-collective.com/projects/grand-junction-park/>.
2. DAVID RUBIN Land Collective. Aerial perspective of Grand Junction Plaza and the surrounding Westfield downtown district. Drone photograph. Land Collective Portfolio. Accessed July 5, 2026. <https://landcollective.com/>.
3. DAVID RUBIN Land Collective. "Grand Junction Flood Mitigation & Resilience Scheme." Annotated diagram. In Grand Junction Plaza Civic Infrastructure Plan. Philadelphia, PA: DAVID RUBIN Land Collective, 2021.
4. DAVID RUBIN Land Collective. Post-construction view of Cool Creek riparian corridor at Grand Junction Park & Plaza. Photograph. Land Collective Portfolio. Accessed July 5, 2026. <https://land-collective.com/>.
5. DAVID RUBIN Land Collective. Close-up view of the stone culvert bridge at Grand Junction Park & Plaza. Photograph. In "Grand Junction Park & Plaza Opens in Westfield." Landscape Architecture Magazine, 2022.
6. Fruits, Hadley. View of the limestone amphitheater and wetlands at Grand Junction Park & Plaza. Photograph. In Grand Junction Park & Plaza Portfolio. Philadelphia, PA: DAVID RUBIN Land Collective. <https://land-collective.com/projects/grand-junction-park/>.

#### Page 36

1. -6. PWP Landscape Architecture. "Barangaroo Reserve." <https://www.pwpla.com/barangaroo/barangaroo-reserve>.

#### Page 37

1. Yihe Planning and Design. Photograph of Renai Xiangyu Park, Tianjin, China. October 20, 2021. In "Xiangyu Park, China by Yihe Planning and Design." gooood. <https://www.gooood.cn/xiangyu-park-china-by-yihe-planning-and-design.htm>.
2. Surfacedesign, Inc. Photograph of Odette Winery parking lot and landscape, Napa, CA. In Odette Winery Project Portfolio. San Francisco, CA: Surfacedesign, Inc. Accessed July 5, 2026. <https://www.sdisf.com/odette-winery>.
3. Woodford, J. Photograph of suburban rooftops with solar panels in Australia. November 7, 2025. In "Australia is getting free electricity – will other countries follow?" New Scientist. <https://www.newscientist.com/article/2503532-australia-is-getting-free-electricity-will-other-countries-follow/>.
4. Gu, Jackie. Photograph of South Parklands Wetland, Adelaide, Australia. In "South Parklands Wetland by T.C.L." Landezine, February 2, 2017. <https://landezine.com/south-parklands-wetland-by-t-c-l/>.
5. Visit Encinitas. San Elijo Lagoon. Photograph. Accessed August 20, 2026. <https://visitenclitasca.com/places/san-elijo-lagoon/>.
6. Chongqing Haofeng Planning and Design Group Co., Ltd. Photograph of Chongqing Second Wanzhou Yangtze River Bridge Waterfront Ecological Park, China. February 3, 2021. In "Landscape Design of Chongqing Second Wanzhou Yangtze River Bridge Waterfront Ecological Park, China by Chongqing Haofeng Planning and Design Group Co., Ltd." gooood. <https://www.gooood.cn/landscape-design-of-chongqing-second-wanzhou-yangtze-river-bridge-waterfront-ecological-park-china-by-chongqing-haofeng-planning-and-design-group-co-ltd.htm>.
7. Floating Island International Inc. "Figure 2. Extensive root system for fish food and nutrient uptake." Diagram. In Fish Fry Lake Case Study: 2014 Update, 2. Shepherd, MT: Floating Island International Inc., 2011. Published online by Midwest Floating Island, May 2015. <https://midwestfloatingisland.com/wp-content/uploads/2015/05/Fish-Fry-Lake-Case-Study-2014-Update.pdf>.
8. Clarke, Sophie. "Aquaculture." Digital image. Pinterest. Accessed July 5, 2026. [https://nz.pinterest.com/sophieclarke\\_ke/](https://nz.pinterest.com/sophieclarke_ke/).
9. Lloyd, David. Photograph of Hunter's Point South Waterfront Park Phase II Promenade. In Hunter's Point South Waterfront Park Project Portfolio. Houston, TX: SWA Group / SWA/Balsley. <https://www.swagroup.com/projects/hunters-point-south-waterfront-park/>.
10. Burk, Dave. Photograph of the Wild Mile floating eco-park, Chicago, IL. Skidmore, Owings & Merrill + Urban Rivers. In "Local Knowledge and Ecological Context: City Making Lessons from Chicago's Wild Mile," by SOM. ArchDaily, October 7, 2024. <https://www.archdaily.com/1036351/local-knowledge-and-ecological-context-city-making-lessons-from-chicagos-wild-mile/692585da084c9e0188fe9573-local-knowledge-and-ecological-context-city-making-lessons-from-chicagos-wild-mile-photo>.
11. OJB Landscape Architecture. Photograph of Warner Bros. Second Century Burbank Studios Campus, Burbank, CA. Architectural design by Gehry Partners. In "Warner Bros. Second Century Burbank Studios." OJB Landscape Architecture Portfolio. Accessed July 5, 2026. <https://ojb-studios.com/work/burbank-studios-office/>.
12. Carlsbad Aquafarm. Photograph of oyster cultivation at the Carlsbad Aquafarm, Carlsbad, CA. May 31, 2023. In "Farming the Future: Aquafarms Cultivate Sustainable Oysters," by Amelia Rodriguez. San Diego Magazine. <https://sandiegomagazine.com/features/farming-the-future-aquafarms-cultivate-sustainable-oysters/>.

#### Page 38

1. MONSTRUM. "The Humpback Whale." Accessed August 20, 2026. <https://monstrum.dk/en/playground/humpback-whale>.
2. MONSTRUM. Heron Playground structures at Gathering Place in Tulsa. Photograph. Accessed August 20, 2026.
3. Earthscape Play Inc. "Empire P.S." Accessed August 20, 2026. <https://www.earthscapeplay.com/projects/empire-school-natural-playground/>.
4. Flickr. Photograph. In Lucy Carroll, "Water Technology Could Combat Extreme Sydney Heat and Cut Death Rates, Report Finds." UNSW Newsroom, November 30, 2017. <https://www.unsw.edu.au/newsroom/news/2017/11/water-technology-could-combat-extreme-sydney-heat-and-cut-death->.
5. Wood, Simon. Lizard Log Parklands. Photograph. In Owen Lynch, "Lizard Log Parklands by McGregor Coxall." IndesignLive, July 5, 2013. <https://www.indesignlive.com/projects/lizard-log-parklands-by-mcgregor-coxall>.
6. NOORD. Outdoor Fitness Equipment. Photograph. Accessed August 20, 2026. <https://noord.eu/>.
7. SLA. "Tilal Park." Accessed August 20, 2026. <https://www.sla.dk/cases/tilal-park/>.
8. Facebook. Facebook Photo. Photograph. Accessed August 20, 2026. <https://www.facebook.com/photo/?fbid=1725977260830422&set=pb.100067198094297.-2207520000>.
9. Sasaki. Photograph of the Chicago Riverwalk during a record flood event. October 24, 2019. In "The Dynamism of the Chicago River." Sasaki Voices. <https://www.sasaki.com/voices/the-dynamism-of-the-chicago-river/>.
10. Philips, Christian. Photograph of Chicago Riverwalk Phases 2 and 3. December 3, 2016. In "Sasaki and Ross Barney Architects complete Chicago Riverwalk." World Landscape Architecture. <https://worldlandscapearchitect.com/sasaki-and-ross-barney-architects-complete-chicago-riverwalk/>.
11. Sharp-Wiggins, Blake. Photograph of Jordyn Beazley diving at Marrinawi Cove, Barangaroo. January 12, 2023. In "Bathing at Barangaroo: Sydney's First City Beach in 50 Years Opens," by Jordyn Beazley. The Guardian. <https://www.theguardian.com/australia-news/2023/jan/12/bathing-at-barangaroo-sydneys-first-city-beach-in-50-years>.



- Design Workshop. Titledown Plaza at Lambeau Field. Photograph. Architizer. Accessed August 20, 2026. <https://architizer.com/idea/3070738/>.
- Simmons, Faith. Williams Lodge. Photograph. In "The Gathering Place." Integrated Design LLC, October 8, 2022. <https://www.integrateddesignllc.com/post/the-gathering-place>.
- Regional Plan Association. Photograph of the Flint Farmers' Market, Flint, MI. August 2024. In Reclaiming Public Space for Health Equity, by Danielle Fossett. Regional Plan Association Research Report. <https://rpa.org/work/reports/reclaiming-public-space-for-health-equity>.
- Pinterest. Pinterest Pin. Photograph. Accessed August 20, 2026. <https://www.pinterest.com/pin/729794314595417731/>.
- Bradley, Darren. Rady Shell at Jacobs Park. Photograph. In Greg Aragon, "Best Sports/Entertainment: Rady Shell at Jacobs Park." Engineering News-Record (ENR), October 17, 2022. <https://www.enr.com/articles/55013-best-sports-entertainment-rady-shell-at-jacobs-park>.

#### Page 41

- "Naturama." Pinterest Pin. Photograph. Accessed August 20, 2026. <https://www.pinterest.com/pin/278589926920021415/>.
- "Marine Drawings." Pinterest Pin. Photograph. Accessed August 20, 2026. <https://www.pinterest.com/pin/1075727061006394130/>.
- "Sandfire." Pinterest Pin. Photograph. Accessed August 20, 2026. <https://www.pinterest.com/pin/32440059824547148/>.
- "Aerial Wallpaper." Pinterest Pin. Photograph. Accessed August 20, 2026. <https://de.pinterest.com/pin/640426009498586947/>.
- Hallinen, Bob. A channel flows through the mud flats along the Seward Highway and Turnagain Arm in Alaska. October 25, 2014. Photograph. Anchorage Daily News / AP Photo. Featured in Associated Press, "'Mother Nature Has No Mercy': Man Gets Stuck Waist-Deep in Alaska Mud Flats, Drowns as Tide Comes In." WeAreGreenBay.com, May 24, 2023. <https://www.wearegreenbay.com/news/national/ap-mother-nature-has-no-mercy-man-gets-stuck-waist-deep-in-alaska-mud-flats-drowns-as-tide-comes-in/>.
- WWF España. 2016. Doñana-Haz que vuelva a latir 17. Photograph. Flickr. October 18, 2016. <https://www.flickr.com/photos/wwfespana/30287213992/>.

#### Page 43

- Insaw Photography. Xuhui Runway Park. Photograph. In Nina Frolova, "Vzletnaya polosa dlya gorodskoi zhizni" [Runway for urban life]. Archi.ru, February 19, 2021. <https://archi.ru/world/92366/vzletnaya-polosa-dlya-gorodskoi-zhizni>.
- RSM Design. "Parasol Park." Accessed August 20, 2026. <https://rsmdesign.com/work/parasol-park-irvine-ca>.
- Michael Van Valkenburgh Associates Inc. "Allegheny Riverfront Park." Accessed August 20, 2026. <https://www.mvva.com/projects/allegheny-riverfront-park>.
- Pinterest. Pinterest Pin. Photograph. Accessed August 20, 2026.
- SCAPE. "First Avenue Water Plaza." Accessed August 20, 2026. <https://www.scapestudio.com/projects/first-ave-plaza/>.
- Pinterest. Pinterest Pin. Photograph. Accessed August 20, 2026.
- Pinterest. Pinterest Pin. Photograph. Accessed August 20, 2026.
- Pinterest. Pinterest Pin. Photograph. Accessed August 20, 2026. <https://de.pinterest.com/pin/351912461495349/>.
- Forms+Surfaces. "Apex Litter & Recycling Receptacle." Accessed August 20, 2026. <https://www.forms-surfaces.com/apex-litter-recycling-receptacle>.
- Holt, Saxon. Palms Ocean Friendly Garden. Photograph. Urban Water Group. Accessed August 20, 2026. <https://www.urbanwatergroup.com/palms>.
- Schlyer, Krista. Anacostia River. Photograph. In Doug Siglin, "An Anacostia Revival." Chesapeake Bay Magazine, June 13, 2018. <https://www.chesapeakebaymagazine.com/an-anacostia-revival/>.
- Philips, Christian. Chicago Riverwalk Expansion. Photograph. In mooool. "Chicago Riverwalk Expansion by Sasaki." October 12, 2018. <https://mooool.com/en/chicago-riverwalk-by-sasaki.html>.
- Pinterest. Pinterest Pin. Photograph. Accessed August 20, 2026.
- Rhodeside & Harwell. "National Aquarium in Baltimore | Baltimore, USA | Rhodeside & Harwell." World Landscape Architecture, September 22, 2015. <https://worldlandscapearchitect.com/national-aquarium-in-baltimore-baltimore-usa-rhodeside-harwell/>.
- Pinterest. Pinterest Pin. Photograph. Accessed August 20, 2026. <https://in.pinterest.com/pin/761178774552845228/>.
- Pinterest. Pinterest Pin. Photograph. Accessed August 20, 2026. <https://za.pinterest.com/pin/381187555984189031/>.

#### Slide 44

- Gress, David. "Torrey Pine." Santa Barbara Beautiful. December 1, 2021. <https://sbbeautiful.org/torrey-pine/>.
- Walker, Lance. n.d. Platanus racemosa (California Sycamore). Photograph. PlantMaster. <https://plantmaster.com/plants/eplant.php?plantnum=237448>.
- Senior, Stuart. Lyonothamnus floribundus subsp. aspleniifolius. July 2020. Photograph. In Răzvan Chișu, "Lyonothamnus." Trees and Shrubs Online. Accessed September 2, 2026. <https://www.treesandshrubsonline.org/articles/lyonothamnus/>.
- Quercus agrifolia. Photograph. Cistus Nursery. Accessed September 2, 2026. <https://cistus.com/products/retail-quercus-agrifolia>.
- Perry, Bob. Chilopsis linearis (Desert Willow). Photograph. Water-Wise Garden Planner. Accessed September 2, 2026. <https://waterwisegardenplanner.org/plants/chilopsis-linearis/>.
- Perry, Bob. Cercis occidentalis (Western Redbud). Photograph. Water-Wise Garden Planner. Accessed September 2, 2026. <https://waterwisegardenplanner.org/plants/cercis-occidentalis/>.
- Kell. 2018. Agave shawii. Photograph. Dave's Garden. October 9, 2018. <https://davesgarden.com/guides/pf/showimage/437252>.
- Eriogonum grande var. rubescens (Red Buckwheat). Photograph. Gardenia.net. Accessed September 2, 2026. <https://www.gardenia.net/plant/erigonum-grande-var-rubescens>.
- Frosty Blue Ceanothus. Photograph. Reddit. r/Ceanothus. Accessed September 2, 2026. [https://www.reddit.com/r/Ceanothus/comments/1jsm3t1/frosty\\_blue\\_ceanothus/](https://www.reddit.com/r/Ceanothus/comments/1jsm3t1/frosty_blue_ceanothus/).
- Morse, Keir. Rhus integrifolia (Lemonade Berry). 2013. Photograph. Calscape. California Native Plant Society. [https://calscape.org/plant/3201/Rhus-integrifolia-\(Lemonade-Berry\)/gallery](https://calscape.org/plant/3201/Rhus-integrifolia-(Lemonade-Berry)/gallery).
- Perry, Bob. Muhlenbergia rigens (Deergrass). Photograph. Water-Wise Garden Planner. Accessed September 2, 2026. <https://waterwisegardenplanner.org/plants/muhlenbergia-rigens/>.
- Perry, Bob. Salvia clevelandii 'Winifred Gilman' (Winifred Gilman Cleveland Sage). Photograph. Water-Wise Garden Planner. Accessed September 2, 2026. <https://waterwisegardenplanner.org/plants/salvia-clevelandii-winfred-gilman/>.
- Artemisia californica 'Canyon Grey'. Photograph. Boething Treeland Farms. Accessed September 2, 2026. <https://www.boethingtreeland.com/plants/artemisia-californica-canyon-grey/>.
- Katz, Suzi. n.d. Grindelia stricta var. platyphylla. Photograph. Cal Flora Nursery. Accessed September 2, 2026. <https://www.calfloranursery.com/plants/grindelia-stricta-var-platyphylla-mendocino/>.
- Encelia californica (California Bush Sunflower). Photograph. Gardenia.net. Accessed September 2, 2026. <https://www.gardenia.net/plant/encelia-californica>.
- Boone, Jim. Eriogonum fasciculatum (California Buckwheat). Photograph. iNaturalist. Accessed September 2, 2026. <https://www.inaturalist.org/taxa/54999-Eriogonum-fasciculatum>.
- Perry, Bob. Erigeron glaucus 'Wayne Roderick' (Seaside Daisy). Photograph. Water-Wise Garden Planner. Accessed September 2, 2026. <https://waterwisegardenplanner.org/plants/erigeron-glaucus-wayne-roderick/>.
- Perry, Bob. Dudleya species (Liveforever). Photograph. Water-Wise Garden Planner. Accessed September 2, 2026. <https://waterwisegardenplanner.org/plants/dudleya-species/>.
- Vanderhoff, Ron. Spartina foliosa (California Cordgrass). July 12, 2012. Photograph. Natural History of Orange County, California, University of California, Irvine. <https://nathistoc.bio.uci.edu/plants/Poaceae/Spartina%20foliosa/Spartina%20foliosa.htm>.
- Fuchsia Delhommeau. n.d. Frankenia laevis — Sea Heath. Photograph. Accessed September 2, 2026. <https://www.fuchsia-delhommeau.com/frankenia-laevis-1.html>.
- Norton, Valerie. Salicornia pacifica (Pacific Glasswort). Photograph. Lost Coast Outpost. Accessed September 2, 2026. <https://lostcoastoutpost.com/nature/3952/>.
- Jaumea carnosa (Fleshy Jaumea). Photograph. California Native Plant Society, East Bay Chapter. Accessed September 2, 2026. <https://ebcnps.org/species/jaumea-carnosa/>.
- Hakai Institute. "Sea Otters Are Reshaping the Genetics of Eelgrass Meadows." Hakai Magazine. Accessed September 2, 2026. <https://hakaimagazine.com/news/sea-otters-are-reshaping-the-genetics-of-eelgrass-meadows/>.
- Fragman-Sapir, Ori. n.d. Ruppia maritima L. Photograph. Plants of the World Online. Royal Botanic Gardens, Kew. Accessed September 2, 2026. <https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:224565-2>.

#### Slide 48

- Pinterest. Pinterest Pin. Photograph. Accessed August 20, 2026. <https://www.pinterest.com/pin/707768897735864242/>.
- Visit Encinitas. San Elijo Lagoon. Photograph. Accessed August 20, 2026. <https://visitenclintasca.com/places/san-elijo-lagoon/>.

#### Slide 49

- See section on slide 40.
- Lloyd, David. Photograph of Hunter's Point South Waterfront Park Phase II Promenade. In Hunter's Point South Waterfront Park Project Portfolio. Houston, TX: SWA Group / SWA/Balsley. <https://www.swagroup.com/projects/hunters-point-south-waterfront-park/>.

#### Slide 52

- Rapt Studio. "The Backlot." Accessed September 13, 2026. <https://raptstudio.com/work/the-backlot/>.
- KOMPAN. "SOL201802." Product page. Accessed September 13, 2026. <https://www.kompan.com/en/us/p/sol201802>.

#### Page 53

- LPA Inc. "Coastline Community College – Newport Beach Learning Center." Southern California ASLA. Accessed September 11, 2026. <https://social-asla.org/portfolio-items/coastline-community-college-newport-beach-learning-center/>.
- BASE Paysagistes. "Montléger – Parc de l'Orient." Image. Accessed September 13, 2026. <https://www.baseland.fr/en/projets/montleger-parc-de-lorient/>.

Slide 54

1. MONSTRUM. "The Humpback Whale." Accessed August 20, 2026. <https://monstrum.dk/en/playground/humpback-whale>.
2. Flickr. Photograph. In Lucy Carroll, "Water Technology Could Combat Extreme Sydney Heat and Cut Death Rates, Report Finds." UNSW Newsroom, November 30, 2017. <https://www.unsw.edu.au/newsroom/news/2017/11/water-technology-could-combat-extreme-sydney-heat-and-cut-death->.

Slide 56

1. Hidden San Diego. "Fox Point Farms." Image. Accessed September 11, 2026. <https://hiddensandiego.com/things-to-do/places/fox-point-farms>.
2. Whalen, Stephen. Fox Point Farms Agritourism. Digital photograph. Sunset. <https://sunset.com/travel/culinary-travel/fox-point-farms-agritourism>.

Slide 58

1. "Pinterest Pin." Pinterest. Accessed September 11, 2026. <https://www.pinterest.com/pin/690598924092751329/>.
2. Instagram. "Instagram Post." Accessed September 11, 2026. <https://www.instagram.com/p/DNi9cc3PMwW/>.

Slide 59

1. Pinterest. "Pinterest Pin." Accessed September 13, 2026. <https://www.pinterest.com/pin/729794314595417731/>.
2. Tripadvisor. "The BayCare Sound." User photograph. Accessed September 13, 2026. [https://www.tripadvisor.com/Attraction\\_Review-g34141-d26697343-Reviews-The\\_BayCare\\_Sound-Clearwater\\_Florida.html](https://www.tripadvisor.com/Attraction_Review-g34141-d26697343-Reviews-The_BayCare_Sound-Clearwater_Florida.html).

Slide 61

1. Instagram. "Instagram Post." Accessed September 13, 2026. <https://www.instagram.com/p/DObBonEjWuA/>.
2. Hiner, Carrie. 48524173791. Digital photograph. Flickr. August 13, 2019. <https://www.flickr.com/photos/183443065@N08/48524173791>.

Slide 62

1. Pinterest. "Pinterest Pin." Accessed September 12, 2026. <https://www.pinterest.com/pin/233694668161258611/>.
2. Pinterest. "Pinterest Pin." Accessed September 12, 2026. <https://www.pinterest.com/pin/420171840257878413/>.

Slide 63

1. Dreyße, Claudia. Xanten – A Park of Encounter. Photograph. In Planergruppe Oberhausen, "Xanten – A Park of Encounter." Landezine, December 10, 2020. <https://landezine.com/xanten-a-park-of-encounter-by-planergruppe-oberhausen/>.
2. Surfacedesign, Inc. Photograph of Odette Winery parking lot and landscape, Napa, CA. In Odette Winery Project Portfolio. San Francisco, CA: Surfacedesign, Inc. Accessed July 5, 2026. <https://www.sdisf.com/odette-winery>.

Slide 64-66

Perspectives produced using AI to render my SketchUp model and Photoshop for additional edits.



# Research References

- California Coastal Act of 1976. Cal. Pub. Res. Code § 30000 et seq.
- Baumgarten, Sean, and Ben Satzman. "Mission Bay-Tecolote Creek Historical Ecology Reconnaissance Study." Presentation to the ReWild Mission Bay Coalition, San Francisco Estuary Institute, September 22, 2025.
- California Department of Fish and Wildlife, California Ocean Protection Council, California Natural Resources Agency, and California Environmental Protection Agency. State Agency Sea Level Rise Action Plan for California: 2024 Update. Sacramento: State of California, 2024.
- California Natural Resources Agency. Pathways to 30x30 California: Accelerating Conservation of California's Nature. Sacramento: State of California, April 2022. (The state's 30x30 Initiative enacted via Executive Order N-82-20).
- California Regional Water Quality Control Board, San Diego Region. Water Quality Control Plan for the San Diego Basin (9). San Diego, CA: California Environmental Protection Agency, 1994; amended through 2021.
- CAPA Strategies. San Diego California Heat Watch Report. Prepared for the City of San Diego. Portland, OR: CAPA Strategies, 2021.
- Casendino, Helen, Ben Satzman, and Sean Baumgarten. Mission Bay-Tecolote Creek Historical Ecology Reconnaissance Study. Prepared by the San Francisco Estuary Institute for the San Diego Bird Alliance, 2025.
- City of San Diego. Climate Action Plan. San Diego, CA: City of San Diego, 2022.
- City of San Diego. Climate Change Vulnerability Assessment. Prepared by Dudek. San Diego, CA: City of San Diego, February 2020.
- City of San Diego. Climate Action Plan. San Diego, CA: Sustainability and Mobility Department, 2022.
- City of San Diego. Climate Resilient SD: A Comprehensive Climate Adaptation and Resilience Plan. San Diego, CA: Planning Department, December 2021.
- City of San Diego. De Anza Natural Amendment to the Mission Bay Park Master Plan: Final Environmental Impact Report. Prepared by Dudek. San Diego, CA: City of San Diego, 2024.
- City of San Diego. Integrated Drainage Engineering Analysis: Mission Bay Watershed Management Area. San Diego, CA: Think Blue San Diego / Stormwater Department, May 2024.
- City of San Diego. Mission Bay Annual Report. San Diego, CA: City of San Diego, 2025.
- City of San Diego. Mission Bay Landfill Status Update. Report to the City Council, Report No. 03-123. San Diego, CA: City Manager's Office, June 11, 2003. <https://docs.sandiego.gov/reportstocouncil/2003/03-123.pdf>.
- City of San Diego. Mission Bay Park Master Plan Update. San Diego, CA: City of San Diego, 1994; amended 1997.
- City of San Diego. State Lands Sea Level Rise Vulnerability Assessment. Prepared by Wood Environment & Infrastructure Solutions, Inc. San Diego, CA: City of San Diego, July 2019.
- City of San Diego, and Caltrans. Mission Bay Watershed Management Area Water Quality Improvement Plan: 2020-2021 Annual Report. Prepared by Wood Environment & Infrastructure Solutions, Inc. and DMAX Engineering, Inc. Submitted to the San Diego Regional Water Quality Control Board, January 2022.
- City of San Diego. Mission Bay Landfill Status Update. Report to the City Council, Report No. 03-123. San Diego, CA: City Manager's Office, June 11, 2003. <https://docs.sandiego.gov/reportstocouncil/2003/03-123.pdf>.
- County of San Diego. 2019–2023 Demographic Profiles. San Diego, CA: Health and Human Services Agency, Public Health Services, Community Health Statistics Unit, February 2025.
- County of San Diego. Multi-Jurisdictional Hazard Mitigation Plan: San Diego County, California. San Diego, CA: Office of Emergency Services, 2023.
- County of San Diego. Multiple Species Conservation Plan (MSCP): County of San Diego Subarea Plan. San Diego, CA: Department of Land Use and Planning, 1997.
- County of San Diego. North Central Region Health Status Report Summary. San Diego, CA: Health and Human Services Agency, Public Health Services, Community Health Statistics Unit, March 2026.
- Environmental Science Associates (ESA). ReWild Mission Bay: Existing Conditions Final Report. Prepared for the San Diego Audubon Society. San Diego, CA: ESA, 2016.
- Environmental Science Associates (ESA). ReWild Mission Bay: Wetlands Restoration Feasibility Study Report. Prepared for the San Diego Audubon Society. San Diego, CA: ESA, 2018.
- Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. § 1251 et seq. (1972).
- Grossinger, Robin, Eric D. Stein, Kristen Cayce, Ruth Askevold, Shawna Dark, and Alison Whipple. Historical Wetlands of the Southern California Coast: An Atlas of US Coast Survey T-Sheets, 1851–1889. Technical Report 589. San Jose, CA: San Francisco Estuary Institute / Southern California Coastal Water Research Project / California State University, Northridge, 2011.
- Hardwick, Sian John, Daniel Leggett, Sean McNully, Nicola Meakins, and Robert Staniland. Joint Defra / Environment Agency Flood and Coastal Erosion Risk Management R&D Programme, Technical Report SC030220. Environment Agency, 2007. Hosted on ResearchGate.
- Herron, William J. "The Mission Bay Project." In Coastal Engineering 1976: Proceedings of the 15th Coastal Engineering Conference, 660–680. Reston, VA: American Society of Civil Engineers, 1977. <https://doi.org/10.1061/9780872620490.046>.
- Jennings, Megan K., Dan Cayan, Julie Kalansky, Amber D. Pairis, Dawn Lawson, Alexandra D. Syphard, Udara Abeysekera, et al. San Diego County Ecosystems: The Ecological Impacts of Climate Change on a Biodiversity Hotspot. San Diego, CA: Climate Science Alliance - South Coast San Diego State University, 2018.
- King, Philip, Aaron McGregor, and Lesley Ewing. Comparing Sea Level Rise Adaptation Strategies in San Diego: An Application of the NOAA Economic Framework. Silver Spring, MD: National Oceanic and Atmospheric Administration (NOAA) Office for Coastal Management, 2017.
- Matthews, John, and Ernesto Ocampo Dela Cruz. Integrating Nature-Based Solutions for Climate Change Adaptation and Disaster Risk Management: A Practitioner's Guide. Manila: Asian Development Bank, June 2022.
- Merkel & Associates, Inc. Mission Bay Park 2013 Bathymetry and Eelgrass Inventory. Prepared for the City of San Diego Park and Recreation Department. San Diego, CA: Merkel & Associates, Inc., 2014.
- Miller, Jon K., Laura Kerr, and Amy Bredes. Living Shorelines Engineering Guidelines: 2022 Update. Technical Report SIT-DL-22-9-3013. Prepared for the New Jersey Department of Environmental Protection. Hoboken, NJ: Stevens Institute of Technology, August 2022.
- Mission Bay Gateway. "Mission Bay Gateway Project Plan." Accessed July 5, 2026. <https://missionbaygateway.org/new-page>.
- Moffatt & Nichol. Mission Bay Hydrology Study: Mission Bay PEIR. Prepared for the City of San Diego. San Diego, CA: Moffatt & Nichol, April 5, 2019.
- New York City Department of City Planning. Urban Waterfront Adaptive Strategies: A Guide to Identifying and Evaluating Potential Strategies for Increasing the Resilience of Waterfront Communities to Coastal Flooding and Sea Level Rise. New York: City of New York, June 2013.
- O'Malley, Christopher. "Community Health Assessment Presentation: North Central Region." Lecture presented to the North Central Region Leadership Team, County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit, San Diego, CA, June 11, 2025.
- Potter, Matt. "Something Stinks in Mission Bay." San Diego Reader, July 20, 2000. <https://www.sandiegoreader.com/news/2000/jul/20/cover-something-stinks-mission-bay/>.
- Pryde, Philip R. "The Day the San Diego River Was Saved: The History of Floods and Floodplain Planning in Mission Valley." The Journal of San Diego History 57, no. 3 (Summer 2011): 154–173. <https://sandiegohistory.org/journal/v57-3/v57-3pryde.pdf>.
- Rae, Douglas A., and Richard A. Parker. Mission Bay Master Plan Survey. Prepared for the City of San Diego Park and Recreation Department. San Diego, CA, 1992.
- ReWild Mission Bay. "Restoring a People to Mission Bay: Revitalizing Historic Kumeyaay Land." ReWild Mission Bay (blog), February 8, 2023. <https://rewildmissionbay.org/2023/02/08/restoring-a-people-to-mission-bay-revitalizing-historic-kumeyaay-land/>.
- ReWild Mission Bay. "The History of Mission Bay Wetlands." ReWild Mission Bay (blog), May 4, 2023. <https://rewildmissionbay.org/2023/05/04/the-history-of-mission-bay-wetlands/>.
- San Diego Audubon Society. Mission Bay Historical Ecological Reconnaissance Study: Data Collection Summary. San Diego, CA: San Diego Audubon Society, 2015.
- San Diego Coastkeeper and Coastal Conservancy. San Diego Bay Native Oyster Restoration Plan. San Diego, CA: State Coastal Conservancy, May 2015.
- Schmidt Design Group. De Anza Cove Revitalization Plan: Conceptual Design Report. Prepared for the City of San Diego. San Diego, CA: Schmidt Design Group, 2017.
- SeaWorld San Diego. SeaWorld San Diego Master Plan. San Diego, CA: City of San Diego Planning Department, 1994.
- SeaWorld San Diego. SeaWorld San Diego Master Plan Update. San Diego, CA: City of San Diego, 2020. Smythe, William Ellsworth. The History of San Diego, 1542-1908: An Account of the Rise and Progress of the Pioneer Settlement on the Pacific Coast of the United States. Vol. 1, The Period of Discovery and the Mission Era, pt. 2. San Diego: The History Company, 1907. Digital archives hosted by San Diego History Center. <https://sandiegohistory.org/archives/books/smythe/part1-2/>.
- University of California, San Diego. "Reconnecting Kendall-Frost Marsh." UC San Diego Today, February 6, 2023. <https://today.ucsd.edu/story/reconnecting-kendall-frost-marsh>.
- U.S. Army Corps of Engineers. Nationwide Permit 54: Living Shorelines. Effective February 25, 2022. Washington, DC: U.S. Army Corps of Engineers, 2022.
- Viejas Band of Kumeyaay Indians. "Kumeyaay History." Viejas Community. Accessed July 5, 2026. <https://viejasbandofkumeyaay.org/viejas-community/kumeyaay-history/>.
- Thorne, Karen M., Glen D. Takekawa, Christopher M. Freeman, and Kevin J. Buffington. Effects of Climate Change on Tidal Marshes along a Latitudinal Gradient in California. Open-File Report 2017-1123. Reston, VA: U.S. Geological Survey, 2018.
- Waterfront Alliance. WEDG Handbook: Waterfront Edge Design Guidelines. New York: Waterfront Alliance, 2019. <https://wedg.waterfrontalliance.org/resources/>.
- Wasson, Kerstin, Brent L. Williams, Brent B. Hughes, and Charlie J. Endris. "In Situ Habitat Clearance Rates and Particle Size Preference of Indigenous Olympia Oysters (*Ostrea lurida*) vs. Non-Native Pacific Oysters (*Magallana gigas*)." Integrative Organismal Biology 6, no. 1 (2024): obad041. <https://doi.org/10.1093/iob/obad041>.





# Appendix: WEDG Scorecard



WEDG® (Waterfront Edge Design Guidelines) V3.0  
Project Scorecard  
Last Updated: 10/17/23

Fill in the blue cells with a project's information and anticipated points (column M) for each performance metric.

|                                                                  |                             |
|------------------------------------------------------------------|-----------------------------|
| Project Name:                                                    | South Shores Revitalization |
| Date:                                                            | 2026                        |
| Review Type (Prelim or Final):                                   | Prelim                      |
| Estimated Project Capital Cost:                                  |                             |
| Permit Submission Dates:<br>(Local/State/Federal, as applicable) |                             |
| Permit Approval Dates:<br>(Local/State/Federal, as applicable)   |                             |
| Submitter (Name):                                                | Leeloo Gilet                |
| Submitter (Company):                                             | UCLAx Capstone Studio       |

| Minimum Requirements                                                                                                                                                    |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Projects must meet the minimum standards below to be eligible for WEDG Verification. If you have questions on whether your site qualifies, contact Waterfront Alliance. |     |
| Is the water's edge on the property and part of the project scope?                                                                                                      | Yes |
| Does the project have a soft or natural shoreline or include an ecological enhancement on a hardened shoreline?                                                         | Yes |
| Did the project conduct community engagement during design?                                                                                                             | Yes |
| Does the site have public access or an acceptable alternative for industrial or working waterfront sites (as defined by Credit 2.1)?                                    | Yes |
| Does the project avoid intentionally introducing invasive plant species?                                                                                                | No  |
| Coastal Projects                                                                                                                                                        |     |
| Is the Design Flood Elevation (DFE) > Base Flood Elevation (BFE) + Sea-Level Rise + 1 Foot?                                                                             | Yes |
| Non-Coastal Projects                                                                                                                                                    |     |
| Is the Design Flood Elevation (DFE) > Base Flood Elevation (BFE) + Sea-Level Rise + 2 Feet or is the project sited outside the 0.2% annual chance flood event?          |     |

| Category 0     | Site Assessment & Planning                                              | Possible Points | Earned Points |
|----------------|-------------------------------------------------------------------------|-----------------|---------------|
| Credit 0.1     | Enlist a Multidisciplinary Project Team                                 | 6               | 1             |
|                | Project team includes required team members and collaboration           | 5               | 0             |
|                | WEDG Associate on the project team                                      | 1               | 1             |
| Credit 0.2     | Assess Stewardship Social and Ecological Context and Vulnerabilities    | 10              | 0             |
|                | Site assessments are complete for all relevant credits                  | 10              |               |
| Credit 0.3     | Develop and Implement a Plan for Equitable Stakeholder Engagement       | 10              | 2             |
|                | Project conducted stakeholder analysis/planning                         | 2               | 2             |
| Select One:    | Project used 2-3 methods of engagement                                  | 2               |               |
|                | Project used 4 or more methods of engagement                            | 4               | 0             |
|                | Project can provide evidence that engagement influenced design outcomes | 2               | 0             |
|                | Engagement occurred at multiple stages of design process                | 1               | 0             |
| Credit 0.4     | Create a Maintenance and Adaptive Management Plan                       | 6               | 0             |
|                | Maintenance plan in place                                               | 4               | 0             |
|                | Maintenance plan incorporates adaptive management                       | 2               | 0             |
| Category Total |                                                                         | 32              | 3             |

| Category 1                      | Climate & Hazard Resilience                                                                                              | Possible Points | Earned Points |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|
| Credit 1.1                      | Avoid or Reduce Flood Risk from the Waterbody                                                                            | 15              | 15            |
|                                 | Project provides compensatory storage or increases marine habitat space                                                  | 1               | 1             |
|                                 | Flood protection measures are designed to allow future adaptability                                                      | 1               | 1             |
| Coastal Only<br>Select One:     | Project meets qualifications for FEMA Dry-Floodproofing Credit or purchase flood insurance                               | 1               | 1             |
|                                 | Project reduces risk to adjacent community, contributes to floodplain management, or sited where there is no flood risk. | 6               | 6             |
|                                 | DFE greater than or equal to BFE + SLR Projection                                                                        | 2               |               |
|                                 | DFE greater than or equal to BFE + 2 feet of freeboard + SLR projection                                                  | 6               | 6             |
| Riverine Only<br>Select One:    | DFE greater than or equal to 0.2% annual chance storm                                                                    |                 |               |
|                                 | DFE greater than or equal to future BFE + 1 foot of freeboard                                                            | 2               |               |
|                                 | DFE greater than or equal to BFE + 2 feet of freeboard                                                                   | 6               | 0             |
|                                 | DFE greater than or equal to BFE + 3 feet of freeboard                                                                   | 2               |               |
| Lacustrine Only<br>Select One:  | DFE greater than or equal to 0.2% annual chance storm                                                                    |                 |               |
|                                 | DFE greater than or equal to Maximum Recorded Water Level + 2 feet of freeboard                                          | 6               |               |
|                                 | DFE greater than or equal to BFE + 3 feet of freeboard                                                                   | 2               |               |
|                                 | DFE greater than or equal to Maximum Recorded Water Level + 3 feet of freeboard                                          | 6               |               |
| Great Lakes Only<br>Select One: | DFE greater than or equal to 0.2% annual chance storm                                                                    | 2               |               |
|                                 | DFE greater than or equal to BFE + 2 feet of freeboard                                                                   | 6               | 0             |
|                                 | DFE greater than or equal to 0.2% annual chance storm                                                                    | 6               |               |
| Floodable Parks                 | Projects that are entirely floodable earn full points in the above section of DFE points.                                | 6               | 0             |

|                                                       |                                                                                                             |    |    |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----|----|
| Credit 1.2                                            |                                                                                                             | 16 | 16 |
| Industrial Only<br>Select One:                        | Retain, infiltrate, evapotranspire, reuse or detain an 85th percentile 24-hour storm                        | 2  |    |
|                                                       | Retain, infiltrate, evapotranspire, reuse or detain a 90th percentile 24-hour storm                         | 3  | 0  |
|                                                       | Retain, infiltrate, evapotranspire, reuse or detain a 95th percentile 24-hour storm                         | 4  |    |
| Parks Only<br>Select One:                             | Retain, infiltrate, evapotranspire, reuse, detain, directly drain, or treat a 95th percentile 24-hour storm | 2  |    |
|                                                       | Retain, infiltrate, evapotranspire, reuse, detain, directly drain, or treat a 99th percentile 24-hour storm | 4  | 4  |
| All Other Sites<br>Select One:                        | Retain, infiltrate, evapotranspire, reuse, detain, or treat a 90th percentile 24-hour storm                 | 2  |    |
|                                                       | Retain, infiltrate, evapotranspire, reuse, detain, or treat a 95th percentile 24-hour storm                 | 3  | 0  |
|                                                       | Retain, infiltrate, evapotranspire, reuse, detain, or treat a 99th percentile 24-hour storm                 | 4  |    |
| If Above is Not Possible:                             | Maximum feasible amount retained and treated or 100% redirected to waterbody                                | 1  | 0  |
| All Sites:                                            | Stormwater volume reflects climate projections or stormwater modeling includes storm surge                  | 4  | 4  |
|                                                       | Project utilizes green infrastructure or local best management practices                                    | 2  | 2  |
|                                                       | Project reduces risk to adjacent community or contributes to floodplain management                          | 6  | 6  |
| Credit 1.3                                            |                                                                                                             | 4  | 2  |
| Industrial Only:                                      | Treat or avoid stormwater pollution prior to discharge                                                      | 2  | 0  |
|                                                       | Stormwater treatment of Pollutants of Concern exceed regulatory requirements                                | 2  | 2  |
| Non-Industrial Only:                                  | Pesticide/fertilizer/herbicide use avoided during the wettest period of the year                            | 1  |    |
|                                                       | No pesticides/fertilizers/herbicides used on site                                                           | 2  | 0  |
| Credit 1.4                                            |                                                                                                             | 4  | 0  |
| Establish an Emergency Preparedness and Response Plan | Project has emergency preparedness protocols aligned with WEDG recommendations                              | 3  | 0  |
|                                                       | Emergency preparedness protocols reviewed with stakeholders or local officials                              | 1  | 0  |
| Credit 1.5                                            |                                                                                                             | 6  | 5  |
| Select One:                                           | At least 50% of unbuilt portion of project composed of plantings/tree canopy                                | 1  |    |
|                                                       | At least 75% of unbuilt portion of project composed of plantings/tree canopy                                | 2  | 2  |
| Select One:                                           | At least 50% of unbuilt portion of project is shaded on summer solstice at 11:00am                          | 1  |    |
|                                                       | At least 75% of unbuilt portion of project is shaded on summer solstice at 11:00am                          | 2  | 2  |
| Select One:                                           | At least 50% of applicable surfaces use high-albedo materials                                               | 1  |    |
|                                                       | At least 75% of applicable surfaces use high-albedo materials                                               | 2  | 2  |
| Category Total                                        |                                                                                                             | 45 | 39 |

| Category 2                                                                              | Community Access & Connections                                                                        | Possible Points | Earned Points |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------|---------------|
| Credit 2.1                                                                              | Provide Quality Public Access Areas on the Waterfront                                                 | 12              | 12            |
|                                                                                         | Public space is at least 20% of site area (or 80% for parks)                                          | 4               |               |
|                                                                                         | Public space is at least 30% of site area (or 90% for parks)                                          | 8               | 8             |
| Non-Industrial Only:                                                                    | Design of public space incorporates accessibility, health, and wellbeing elements                     | 4               | 4             |
|                                                                                         | Public access space is at least 10% of the site area                                                  | 8               | 0             |
| Industrial Only:                                                                        | Design of public space incorporates accessibility, health, and wellbeing elements                     | 4               | 0             |
|                                                                                         | No public access on site, but project includes one of: tours, nearby access, or education center      | 6               | 0             |
|                                                                                         | No public access on site, but project includes two or more of: tours, nearby access, education center | 8               | 0             |
| Credit 2.2                                                                              |                                                                                                       | 6               | 6             |
| Design Sites to Improve Visual or Other Sensory Connections to the Water                | Existing, additional, or widened view corridors to enhance public space incorporated                  | 6               | 6             |
|                                                                                         | Support Industrial Water-Dependent Uses                                                               | 6               | 0             |
| Credit 2.3                                                                              | Designs are appropriate for the site's ecological conditions                                          | 2               | 0             |
|                                                                                         | Marine transportation accounts for 25% or more of inbound/outbound goods movement                     | 4               | 0             |
| Credit 2.4                                                                              | Reduce Industrial Impacts to Human Health and Wellbeing                                               | 4               | 2             |
|                                                                                         | Ameliorate on-site visual impacts, wayfinding barriers, dust, odor, or noise beyond code              | 4               | 0             |
| Industrial Only:                                                                        | Ameliorate off-site dust, odor, or noise that impacts your site                                       | 2               | 2             |
|                                                                                         | Provide Diverse Programming and Passive Educational Features                                          | 7               | 5             |
| Agreement or plans in place for regular site educational programming                    | 3 or more passive educational features on-site (playgrounds count as 2)                               | 3               | 3             |
|                                                                                         | 2% of operating budget supports programming or free space provided to partners                        | 2               | 2             |
|                                                                                         | Increase Transportation Access to the Waterfront                                                      | 2               | 0             |
| Credit 2.6                                                                              | Increase Transportation Access to the Waterfront                                                      | 6               | 2             |
|                                                                                         | Ferry dock on-site                                                                                    | 2               | 0             |
|                                                                                         | Project sited within one-half mile of public transit                                                  | 2               | 2             |
| Credit 2.7                                                                              | Transit agreement exists for water- or land-based transportation                                      | 2               | 0             |
|                                                                                         | Create Maritime or Environmental Employment Opportunities                                             | 9               | 0             |
| 75% of jobs are maritime-related or environment-related and are full-time with benefits | Project has workforce development partnerships or apprenticeship programs                             | 3               | 0             |
|                                                                                         | EJ Communities Only:                                                                                  | 3               | 0             |
| Plans for local hiring goal of 25% or more post-construction                            | Increase Waterfront Pathway and Greenway Connectivity                                                 | 6               | 5             |
|                                                                                         | Continuous waterfront pathway in alignment with WEDG design strategies                                | 4               | 4             |
| Credit 2.8                                                                              | Greenway contributes to regional greenway plans and priorities                                        | 1               | 1             |
|                                                                                         | Coincides with adjacent Complete Streets project                                                      | 1               | 1             |
|                                                                                         | Provide Direct Connections to the Water for People and Boats                                          | 6               | 6             |
| Newly created or restored beach, get-down, or human-powered shoreline boat launch       | Two of the following: beach, get-down, human-powered boat launch or public fishing area               | 4               | 4             |
|                                                                                         | Only public fishing with amenities provided                                                           | 2               | 2             |
|                                                                                         | Support Diverse and Sustainable Maritime Activity                                                     | 1               | 0             |
| Credit 2.10                                                                             | Project supports recreational uses                                                                    | 7               | 7             |
|                                                                                         | Project supports historic/cultural uses (e.g., mooring for historic vessels)                          | 2               | 2             |
|                                                                                         | Project supports industrial, commercial, or government uses (ferries not included)                    | 3               | 3             |
| Category Total                                                                          |                                                                                                       | 69              | 46            |

# Appendix: WEDG Scorecard

| Category 3                                     |  | Edge Composition                                                                            | Possible Points | Earned Points |
|------------------------------------------------|--|---------------------------------------------------------------------------------------------|-----------------|---------------|
| Credit 3.1                                     |  | Choose an Appropriate Edge Composition for the Context and Intended Use                     | 12              | 12            |
| Select One:                                    |  | Current stabilized shoreline is in good condition and maintained in place                   | 4               | 4             |
|                                                |  | Stabilization method aligns with project goals and local context or no stabilization needed | 4               |               |
| Select One:                                    |  | Nature-based features or natural edge on 25% of shoreline (no less than 50 feet)            | 2               | 0             |
|                                                |  | Nature-based features or natural edge on 50% of shoreline (no less than 50 feet)            | 4               | 0             |
|                                                |  | Nature-based features or natural edge on 75% of shoreline (no less than 50 feet)            | 6               | 0             |
|                                                |  | Nature-based features or natural edge on 95% of shoreline (no less than 50 feet)            | 8               | 8             |
| Credit 3.2                                     |  | Maintain or Emulate Natural Shoreline Shape and Slope                                       | 6               | 6             |
| Projects with Modified Shorelines, Select One: |  | Shoreline sinuosity is increased on at least 25% of shoreline (no less than 50 feet)        | 2               | 3             |
|                                                |  | Shoreline sinuosity is increased on at least 50% of shoreline (no less than 50 feet)        | 3               |               |
| Projects with Modified Shorelines, Select One: |  | Shoreline slope is reduced on at least 25% of shoreline (no less than 50 feet)              | 2               | 3             |
|                                                |  | Shoreline slope is reduced on at least 50% of shoreline (no less than 50 feet)              | 3               |               |
| Natural Shorelines:                            |  | Existing, unmodified, natural shorelines earn full points                                   | 6               | 0             |
| Credit 3.3                                     |  | Protect the Working Edge                                                                    | 7               | 0             |
| Industrial Only:                               |  | Fenders and other docking infrastructure are protected against use and inclement conditions | 3               | 0             |
|                                                |  | Working edge condensed to less than 75% of total shoreline length                           | 4               | 0             |
| Credit 3.4                                     |  | Ecologically Enhance Structural Components                                                  | 4               | 4             |
| Select One:                                    |  | Sporadic ecological enhancements on hardened structures                                     | 1               | 0             |
|                                                |  | Ecological enhancements on 25% of hardened structures (no less than 50 feet)                | 2               | 0             |
|                                                |  | Ecological enhancements on 50% of hardened structures (no less than 50 feet)                | 4               | 4             |
|                                                |  | Non-stabilized shorelines earn full points                                                  | 4               | 0             |
| Category Total                                 |  |                                                                                             | 29              | 22            |

| Category 4     |  | Natural Resources & Sustainability                                                                                     | Possible Points | Earned Points |
|----------------|--|------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|
| Credit 4.1     |  | Site with Ecological Sensitivity                                                                                       | 6               | 2             |
|                |  | Over-water structures avoided and appropriate buffers in-place from sensitive habitats or no sensitive habitats exist. | 4               | 0             |
|                |  | Accommodates setbacks for habitat migration and channel migration or no migration is likely to occur.                  | 2               | 2             |
|                |  |                                                                                                                        | 11              | 11            |
| Credit 4.2     |  | Create, Restore, or Maintain Habitats and Ecosystem Migration                                                          | 5               | 5             |
| Select One:    |  | Project avoids loss to ecosystem services or plans to recover lost services                                            | 2               | 4             |
|                |  | At least one acre or 10% of site is restored or two acres or 20% of site is preserved for habitat                      | 3               |               |
|                |  | At least two acres or 20% of site is restored or four acres or 30% of site is preserved for habitat                    | 4               |               |
|                |  | At least five acres or 50% of site is restored or preserved for habitat                                                | 2               |               |
| Credit 4.3     |  | Project contributes to regional or local restoration plans and priorities                                              | 2               | 2             |
|                |  | Preserve and Increase Ecosystem Connectivity                                                                           | 6               | 6             |
|                |  | Average patch size is at least 5% of total new landscaped area (10% for parks)                                         | 2               | 2             |
|                |  | Net increase in restored contiguous riparian/in-water habitat                                                          | 2               | 2             |
| Credit 4.4     |  | New habitat corridors to adjacent sites established or connectivity to two habitat types                               | 2               | 2             |
|                |  | Support Native Habitat Complexity and Biodiversity                                                                     | 6               | 6             |
|                |  | Native plants comprise 75% or more of planned coverage and are tolerant of shoreline context                           | 2               | 3             |
|                |  | Native plants comprise 85% or more of planned coverage and are tolerant of shoreline context                           | 3               |               |
| Select One:    |  | Planting plan incorporates a diverse palette providing diversity of habitat, forage, and function                      | 2               | 2             |
|                |  | Maintenance plan includes plans for invasive fauna management                                                          | 1               | 1             |
| Credit 4.5     |  | Avoid Human Disturbance to Natural Resources                                                                           | 4               | 0             |
| Credit 4.6     |  | Measures taken to reduce disturbance and plans to review effectiveness in maintenance plan                             | 4               | 0             |
|                |  | Redevelop and Clean Up Degraded Sites                                                                                  | 6               | 0             |
| Credit 4.7     |  | Project completed soil remediation (in-situ, ex-situ, or engineering control)                                          | 4               | 0             |
|                |  | Project completed groundwater remediation                                                                              | 2               | 0             |
| Credit 4.8     |  | Practice Sustainable Fill and Soil Management                                                                          | 4               | 4             |
| Select One:    |  | At least 30% of total usable soil is sourced from the site                                                             | 1               | 2             |
|                |  | At least 50% of total usable soil is sourced from the site                                                             | 2               |               |
|                |  | Beneficial reuse of dredge material or locally sourced fill (50 miles by barge/30 by truck) used                       | 2               |               |
| Credit 4.9     |  | Use Renewable and Resilient Energy Sources*                                                                            | 4               | 3             |
|                |  | Cold ironing provided for vessels at berth                                                                             | 1               | 0             |
|                |  | On-site renewable systems are structured to allow independent operations during grid failure                           | 1               | 1             |
|                |  | On-site renewables power at least 50% of annual site-wide, outdoor energy needs                                        | 1               | 2             |
| Select One:    |  | On-site renewables power 100% of annual site-wide, outdoor energy needs                                                | 2               | 0             |
|                |  | *Sites where the primary use is renewable energy generation or support earn full points                                | 4               |               |
| Credit 4.10    |  | Reduce Emissions through Carbon Management                                                                             | 4               | 0             |
| Select One:    |  | Demonstrated tracking of carbon emissions and embodied carbon using a carbon calculator                                | 2               | 0             |
|                |  | Certified reduction of carbon emissions by a third-party rating agency                                                 | 4               | 0             |
| Credit 4.11    |  | Practice Environmentally Responsible Construction                                                                      | 4               | 0             |
|                |  | Acc                                                                                                                    | 1               | 0             |
|                |  | Demonstrated reuse of materials onsite as well as use of recycled materials                                            | 1               | 0             |
|                |  | Reduce in-water construction impacts through means beyond regulatory requirements                                      | 2               | 0             |
| Credit 4.12    |  | Reduce Water Use                                                                                                       | 4               | 0             |
|                |  | Water use for landscaping reduced by 50% from baseline (75% for parks) or no site irrigation                           | 1               | 0             |
|                |  | At least 20% of wastewater treated using green infrastructure                                                          | 1               | 0             |
|                |  | Indoor water use reduced by 20% against baseline                                                                       | 1               | 0             |
| Select One:    |  | Indoor water use reduced by 50% against baseline                                                                       | 2               | 0             |
|                |  |                                                                                                                        | 2               |               |
| Credit 4.12    |  | Engage a Partner to Study or Monitor the Site                                                                          | 4               | 0             |
|                |  | Agreement of at least five years with a research partner with a plan for publishing data collected                     | 3               | 0             |
|                |  | Permission is given to Waterfront Alliance for at least a subset of assessment data                                    | 1               | 0             |
| Category Total |  |                                                                                                                        | 63              | 32            |

| Category 5     |  | Innovation                                                                                  | Possible Points | Earned Points |
|----------------|--|---------------------------------------------------------------------------------------------|-----------------|---------------|
| Credit 5.1     |  | Inventive Design                                                                            | 6               | 0             |
|                |  | New approach, material, or technique contributes to resilience, ecology, or access (Item 1) | 3               | 0             |
|                |  | New approach, material, or technique contributes to resilience, ecology, or access (Item 2) | 3               | 0             |
| Credit 5.2     |  | Exemplary Performance                                                                       | 6               | 0             |
|                |  | Design significantly surpasses requirements in an existing WEDG credit (Credit 1)           | 3               | 0             |
|                |  | Design significantly surpasses requirements in an existing WEDG credit (Credit 2)           | 3               | 0             |
| Category Total |  |                                                                                             | 12              | 0             |

| Summary     | WEDG Verification requires at least 130 total points | Possible Points | Earned Points |
|-------------|------------------------------------------------------|-----------------|---------------|
| Category 0  | Site Assessment & Planning                           | 32              | 3             |
| Category 1  | Climate & Hazard Resilience                          | 45              | 39            |
| Category 2  | Community Access & Connections                       | 69              | 46            |
| Category 3  | Edge Composition                                     | 29              | 22            |
| Category 4  | Natural Resources & Sustainability                   | 63              | 32            |
| Category 5  | Innovation                                           | 12              | 0             |
| Total Score |                                                      | 250             | 142           |



