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ocean beach open space design

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About this document: Ocean Beach Open Space Design Focus Areas

This document presents schematic design improvements for two portions of Ocean Beach, which present very different conditions and opportunities. The North Ocean Beach focus area comprises the parking lots and promenade between Lincoln Avenue and Balboa Streets. The South Ocean Beach focus area comprises the roadway, parking lots, and beach access points South of Sloat Boulevard.

The designs presented here develop concepts recommended in the Ocean Beach Master Plan (2012) which was developed through a robust interagency and public process. They are designed to be integrated into the Master Plan implementation efforts being pursued by multiple agencies.



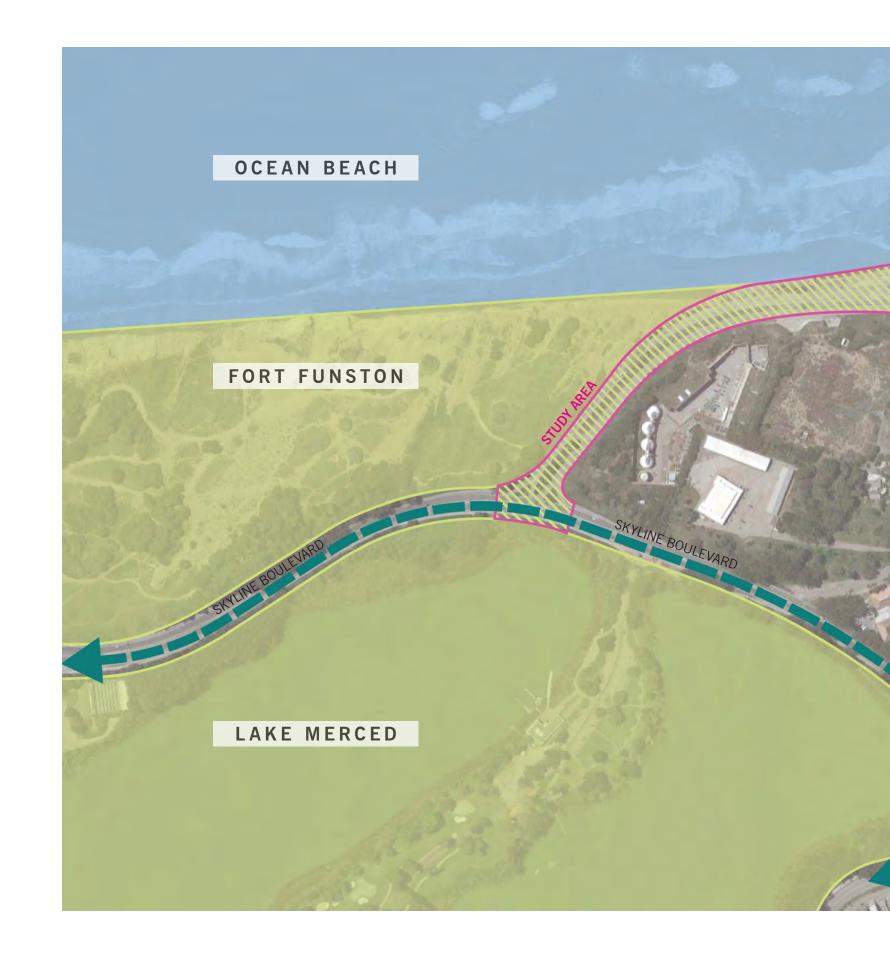






Open Space Relationships







South Ocean Beach Overview

South of Sloat Boulevard, Ocean Beach reflects the history of human intervention, coastal erosion, and ad hoc response. In contrast to the wide sandy beach at the north end, this area has a narrow beach, backed by a combination of natural sandstone bluffs, exposed construction fill, and engineered coastal protections. The Great Highway and adjacent parking lots were extended seaward during the construction of the wastewater infrastructure in the 1980s and 90s, which included the Oceanside Water Pollution Control Plant, the Westside Pump Station, and the Lake Merced Tunnel.

This, among other factors have resulted in a narrow beach and limited public access. In response to severe erosion, particularly during El Nino winters, the city placed boulder revetments to protect coastal infrastructure, further degrading beach conditions and resulting in regulatory compliance issues. The Ocean Beach Master Plan process brought affected agencies and the public together to propose a way forward, which will allow the removal of the revetments. The approach includes closure of the Great Highway south of Sloat, sensitively designed structural protections for threatened infrastructure, and a coastal trail connecting Fort Funston, Lake Merced, the San Francisco Zoo, Ocean Beach, and Golden Gate Park.









View 1 Fort Funston | 2014 by AECOM View 3 Erosion - Reach 2 | 2013 ESA/PWA





Erosion - Rubble Reach | 2013 ESA/PWA







Erosion - North Lot Reach (2012 Sand Placement) | 2012



View 6 Erosion - Reach 3 (2011 Sandbag Revetment) | 2013 ESA/PWA



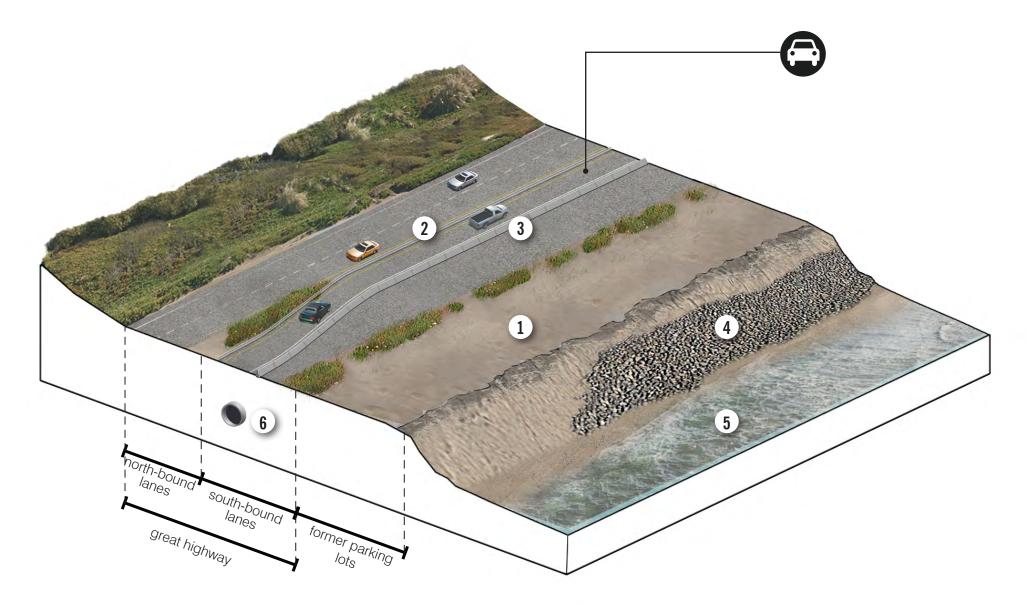
Connection to Lower Great Highway Park | 2014 AECOM



View 5

Existing Conditions

Typical conditions along the Great Highway south of Sloat Boulevard reflect the installation of the roadway and parking lots atop construction fill and the Lake Merced sewer tunnel, and the subsequent coastal erosion and city response. With erosion undercutting the paved areas and threatening the tunnel, concrete barriers have been used to narrow portions of the roadway, and the beach is narrow, backed by exposed fill and boulder revetments.



- 1 Exposed bluff top at former federal parking lots
- 2 Guardrail between North and South lanes
- 3 Temporary k-rail barrier installed in response to ongoing erosion issues
- 4 Emergency quarry stone revetment placed at foot of bluff in response to erosion
- 5 Pacific Ocean
- 6 Lake Merced Tunnel, located roughly at same elevation as Ocean Beach.

Existing Conditions Typical Condition



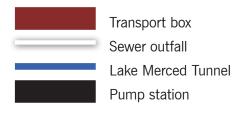
Existing Conditions Plan Diagram



Jurisdiction and Infrastructure

A basic challenge of managing changes at Ocean Beach is the complex, overlapping jurisdictions. The beach and parking lots, along with the Ft Funston bluff tops are Federal property, part of the Golden Gate National Recreation Area (GGNRA). Inland, the city property is generally owned by the San Francisco Recreation and Parks Department (Rec-Park). The SF Public Utilities Commission (SFPUC) owns and operates the wastewater infrastructure, including the Lake Merced Tunnel under the Great Highway. The roadway is managed and maintained by SF Public Works, and the SF Zoo sits on property leased from Rec-Park. In addition, Public Works and SFPUC have been issued permits by GGNRA to conduct coastal management (armoring, sand, and sandbag placement) on its property, and much of the area lies in the Coastal Zone, subject to permitting by the California Coastal Commission.

LegendInfrastructure



Jurisdiction

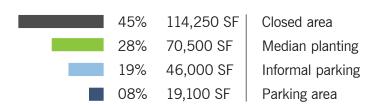






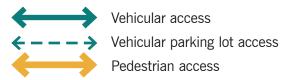


Existing Conditions Open Space Usage



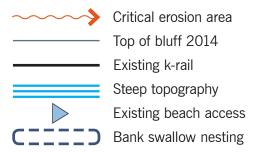


Existing Conditions Pedestrian and Vehicular Access





Existing Conditions Site Analysis

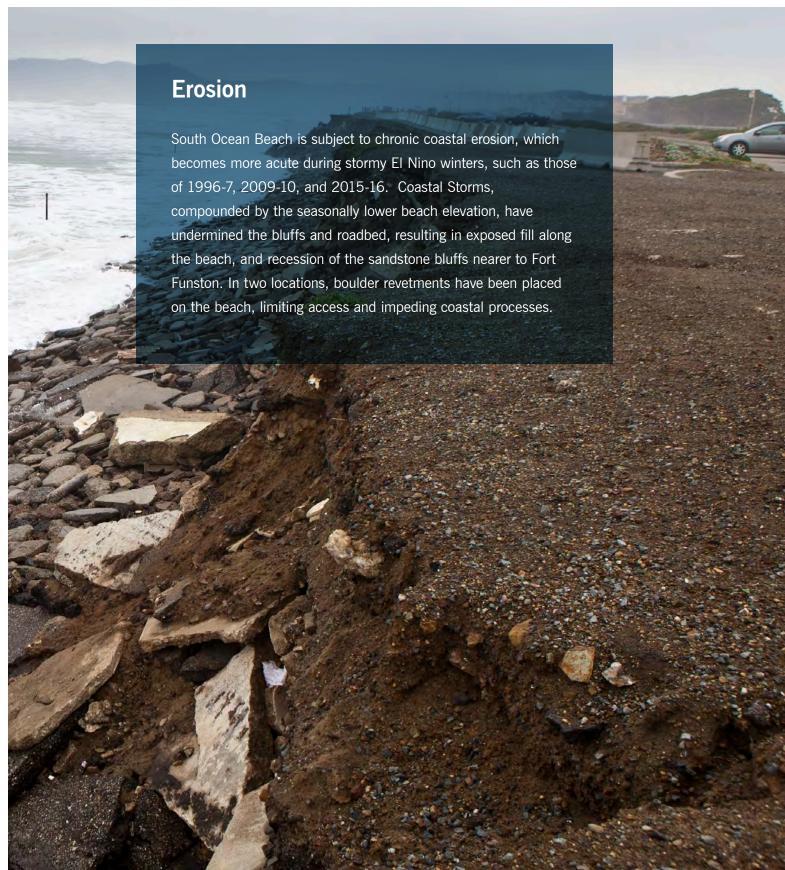










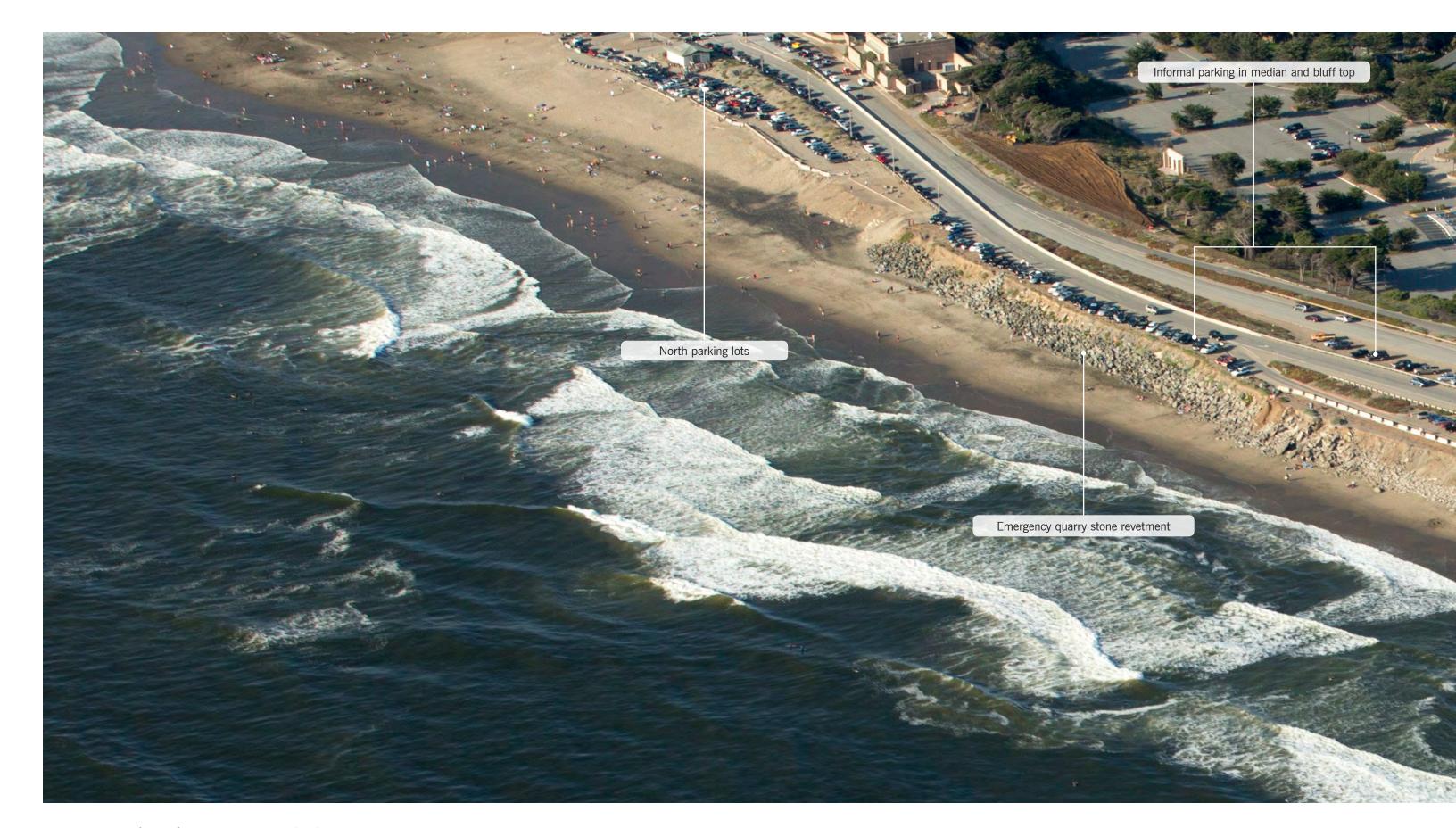


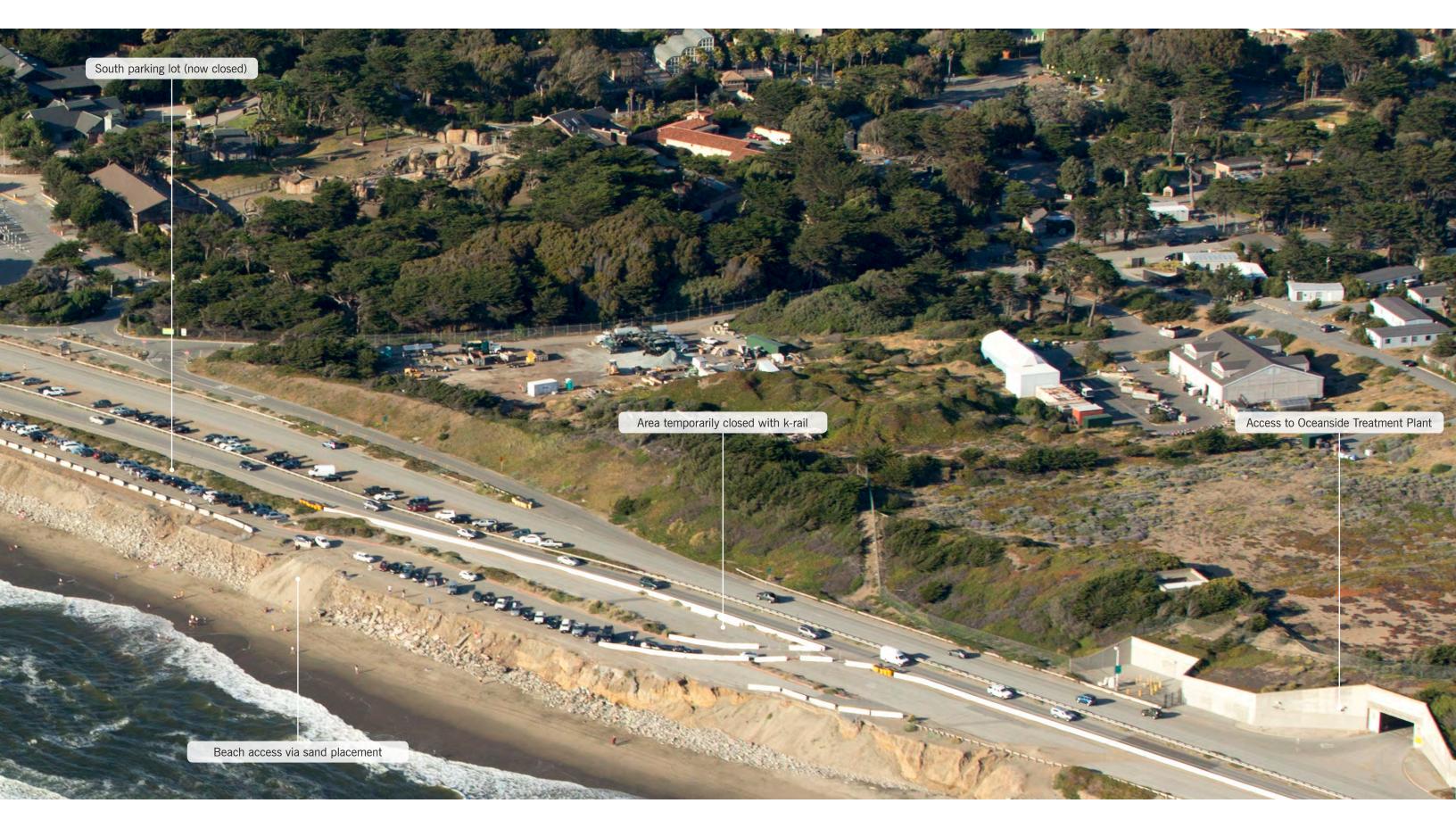
Building on the Ocean Beach Master Plan: Key Move 1

The designs presented here are intended to guide incremental implementation of the Ocean Beach Master Plan vision, and to be coordinated with other efforts, including the Master Plan's coastal management strategy and roadway and intersection improvements.

These proposals are based on the Ocean Beach Master Plan's "Key Moves" 1 and 2, which recommend the phased closure of the Great Highway south of Sloat Boulevard, re-routing of north-south traffic behind the Zoo via Sloat and Skyline Boulevards, and introducing integrated coastal management, environmental restoration, and open space access improvements. These actions are central to the Ocean Beach Master plan vision, and will result in a spectacular coastal open space amenity as developed in this document.







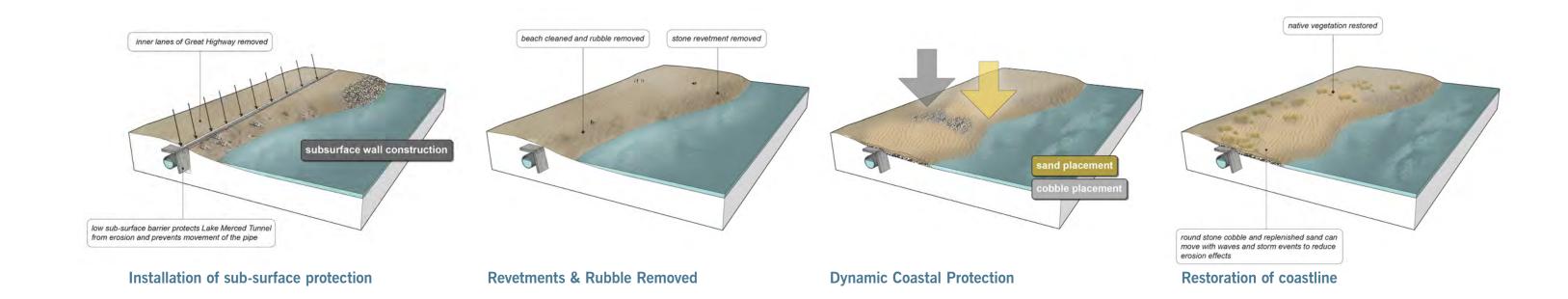
phased approach

South Ocean Beach is imagined as an "adaptive landscape", which takes shape over several phases as coastal erosion – and efforts to manage it – proceeds. This approach is important in the context of uncertainties about the pace of erosion, sea level rise, and related, interdependent implementation projects.





ocean beach open space design | February 2017

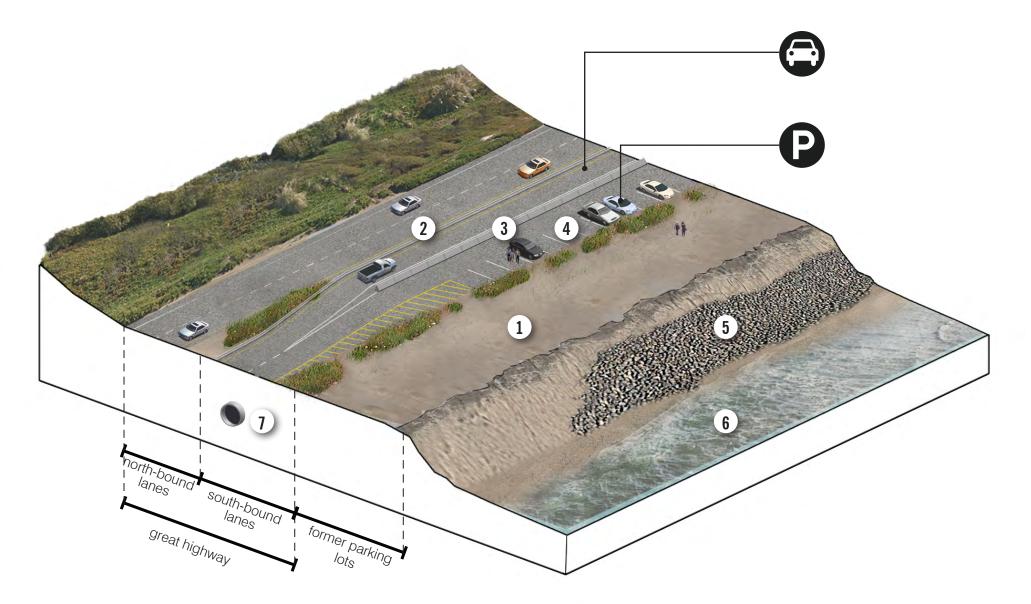






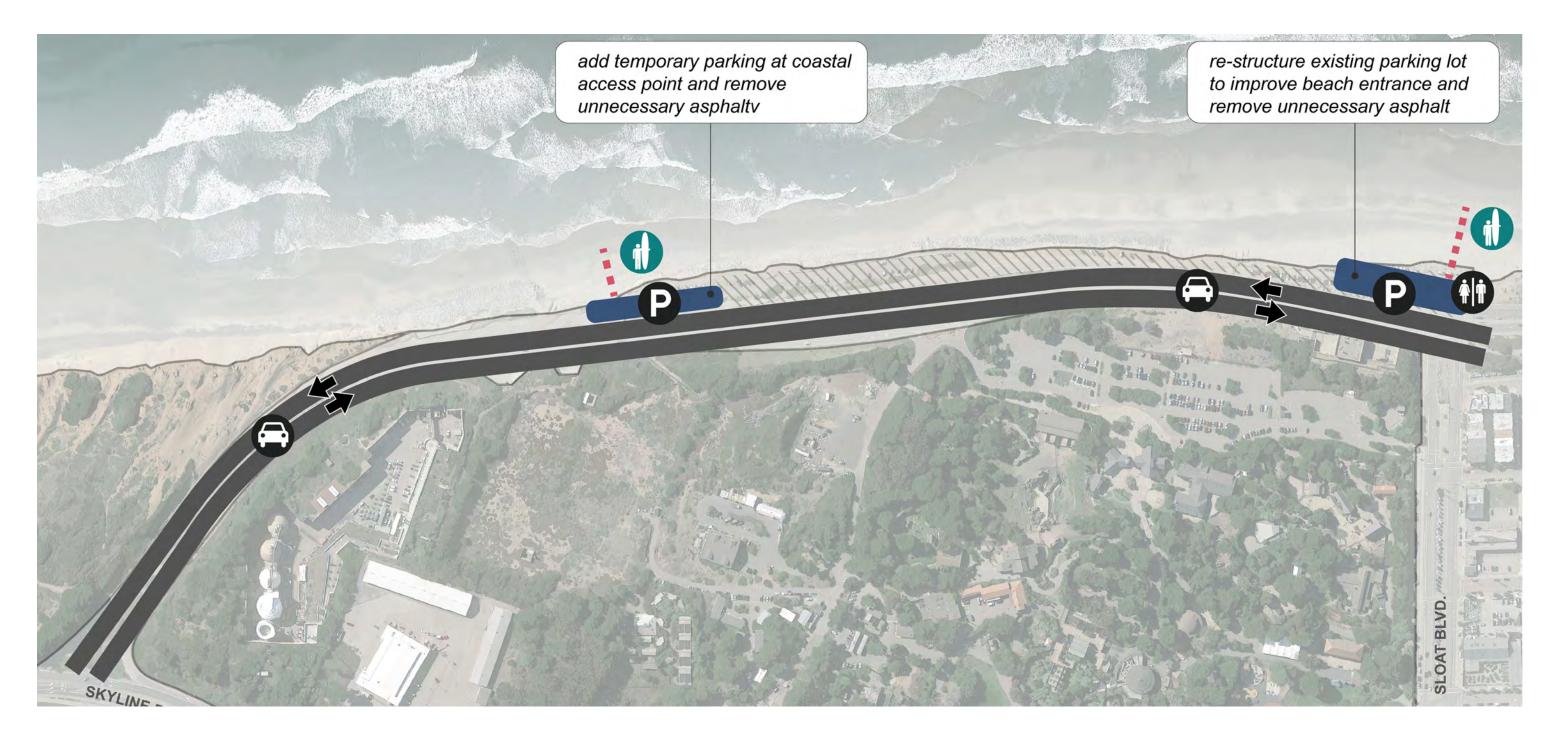
Phase 0

This phase represents thinking about what could be improved at South Ocean beach immediately, without changing the roadway footprint. It includes the reorganization of concrete barriers and parking areas, creation of a safe pedestrian route along the shore, and informational signage. Because of timelines and jurisdictional constraints, many of these actions appear unlikely to proceed, but are included here as a record of the design team's thinking and a source of ideas should conditions shift.



Phase 0 Axon

- 1 Exposed bluff top at former federal parking lots
- 2 Steel barrier between North and South
- 3 Temporary k-rail barrier re-arranged to form temporary parking area adjacent to exposed bluff top
- 4 Temporary parking area in closed roadway.
- 5 Emergency quarry stone revetment placed at foot of bluff in response to erosion
- 6 Pacific Ocean
- 7 Lake Merced Tunnel, located roughly at same elevation as Ocean Beach.



Phase 0 Plan Diagram

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phase 1



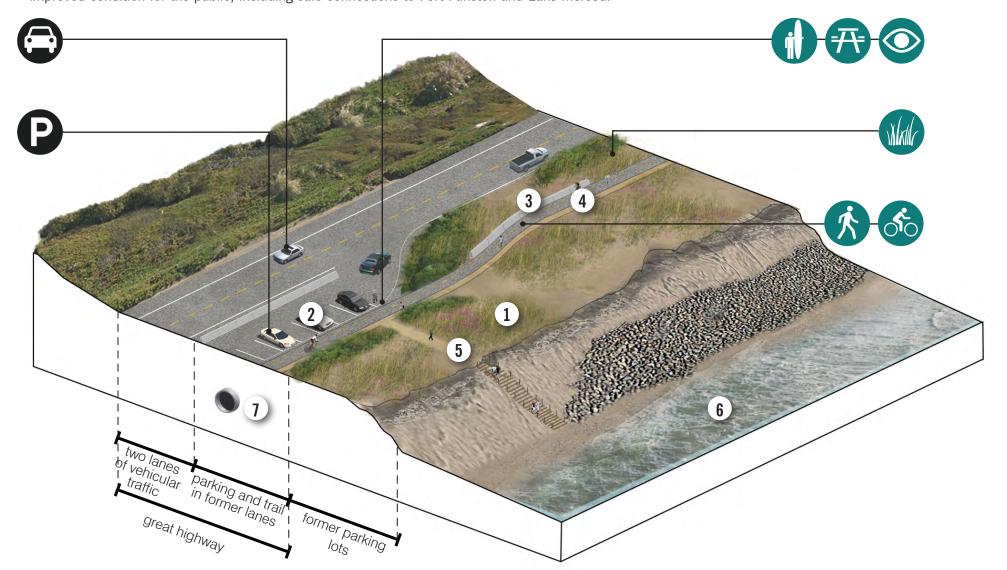


Phase 1: Great Highway Narrowed and Multi-use Path

This phase is enabled by the narrowing of the Great Highway to two lanes (one each way) south of Sloat Boulevard as part of the city of San Francisco's recovery from the 2010 erosion events. It includes:

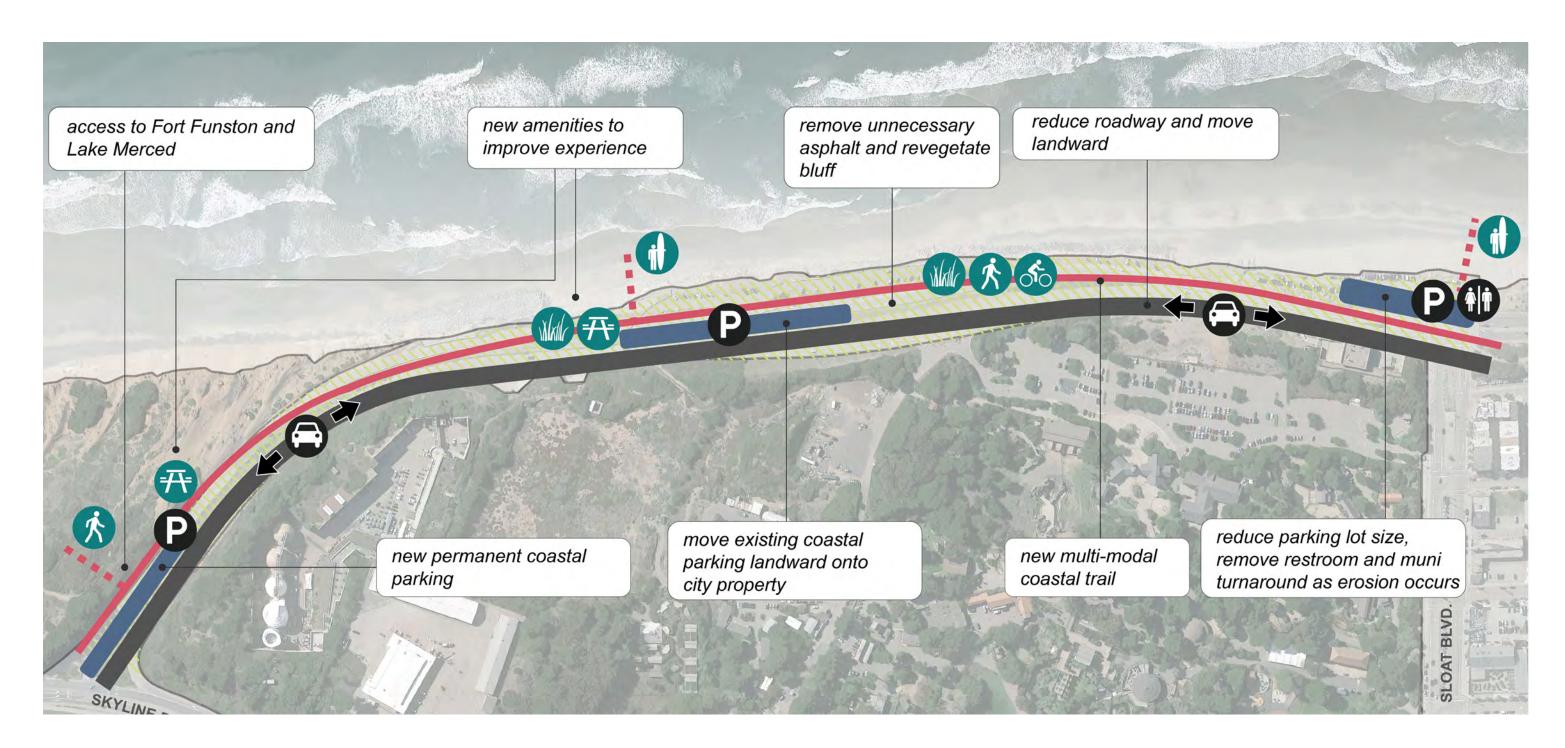
- multi-use bicycle/pedestrian path in the vacated southbound lanes,
- reconfiguration of the Great Highway/Skyline Boulevard intersection for safe crossing
- replacement coastal access parking away from coastal hazards
- depaving and revegetation along blufftops
- signage and site fixtures at coastal access points.
- temporary public art and interpretive materials

Several related projects from different agencies need to be coordinated to achieve these improvements, but they will result in a significantly improved condition for the public, including safe connections to Fort Funston and Lake Merced.



Phase 1 Typical Condition

- 1 Exposed bluff top at former federal parking lots with areas of sand management and revegetation
- 2 New parking area constructed in abandoned South-bound lanes
- 3 Temporary k-rail barrier re-arranged to manage sand and create distinct planting areas
- 4 Multi-use pathway connecting Ocean
 Beach to Fort Funston and Lake
 Merced, located in former South-bound
 lanes
- 5 Improved coastal access through Federally owned bluff
- 6 Pacific Ocean
- 7 Lake Merced Tunnel, located roughly at same elevation as Ocean Beach.



Phase 1 Plan Diagram

Phase 1 Overview

The designs presented here are intended to better connect Ocean Beach to Golden Gate Park and other open space amenities through several related interventions.

- 1) Multi-modal coastal trail
- Temporary coastal parking in abandonded South-bound lanes
- **3**) Long term coastal parking removed from coastal hazards
- 4) De-paving and revegetation along blufftops
- Re-configuration of the Great Highway/Skyline Boulevard intersection for safe crossing
- **6** Existing coastal parking at end of Sloat Boulevard.

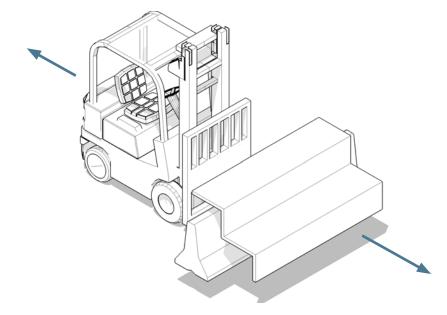


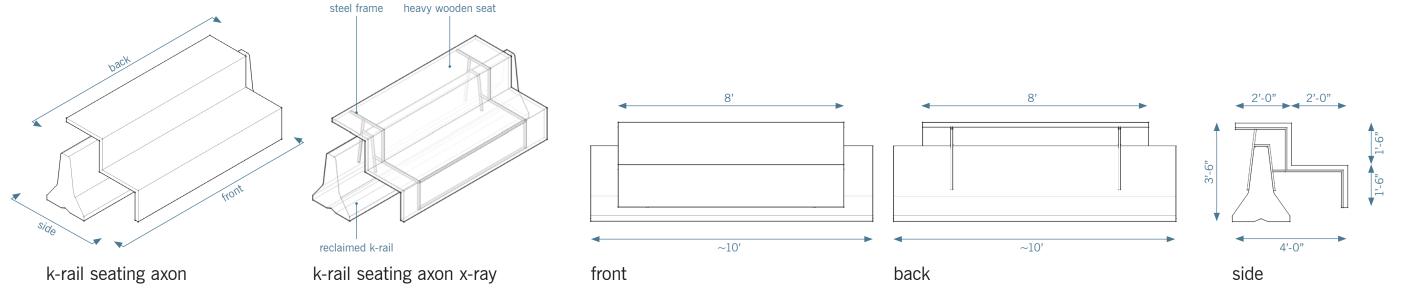


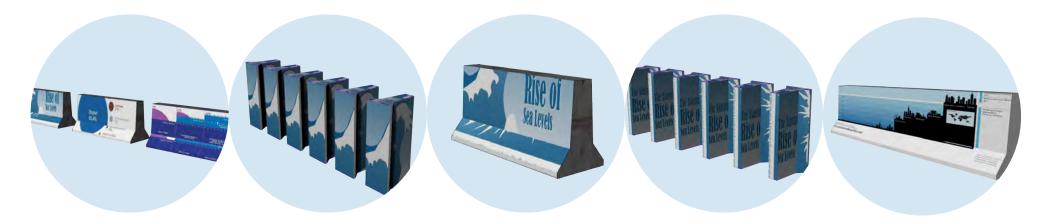
Moveable Site Furnishings for an Adaptive Landscape

"K-rail" or concrete barriers are found throughout the landscape at Ocean Beach south of Sloat Boulevard. This proposal uses the barriers - normally a mundane solution to temporary channel traffic - as a framework for site furnishings in this interim open space.

Because K-rail is rugged, modular, and moveable, it presents a useful foundation for furnishings, signage, and art in an adaptive landscape - one that is designed to change with the evolving coastline over time.







k-rail graphic treatment studies







Simple Bench









Shelter Bench - Land Side



Bike Parking



Shelter Bench - Ocean Side

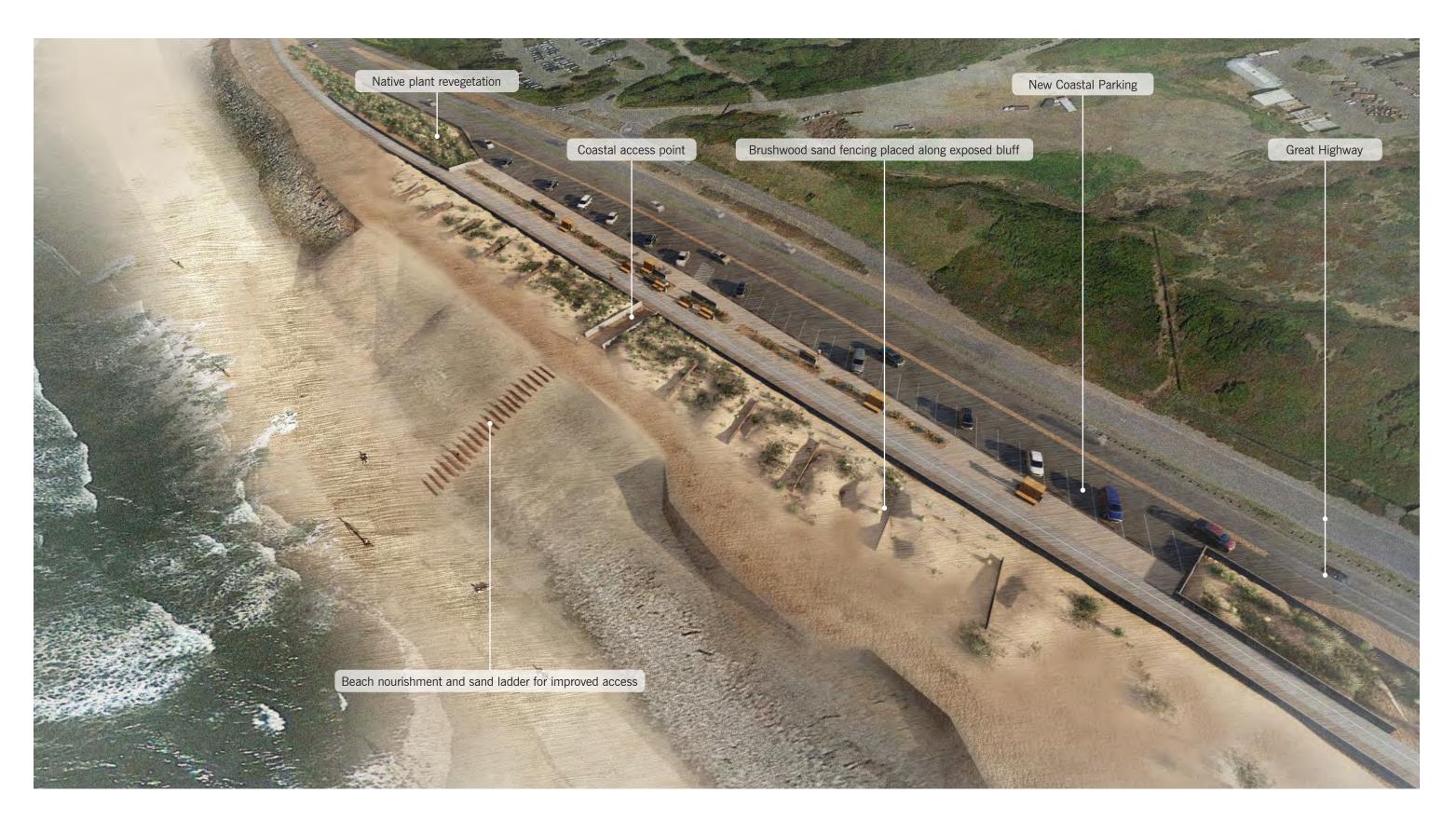
phase 1 concept renderings



View 1: Coastal Access from Parking Area



View 2: Multi-use Path at Coastal Parking



View 3: Overview of Coastal Parking Area

Sloat and Skyline Phase 1 Sub-projects



Existing Conditions

The current condition at Sloat and Skyline has no safe pedestrian crossings, and the unusual condition of an un-regulated northbound lane that does not stop at all.



Project 1.1 Road narrowing

The initial narrowing of the Great Highway as described in Phase 1 will not immediately affect the intersection at Sloat and Skyline - the intersection will remain as is for a brief period of time.



Project 1.2 Intersection Signalization

After the completion of the Great Highway narrowing, the intersection at Sloat and Skyline will recieve signalization or stop signs. This allows intersection improvements to occur in Project 1.3.



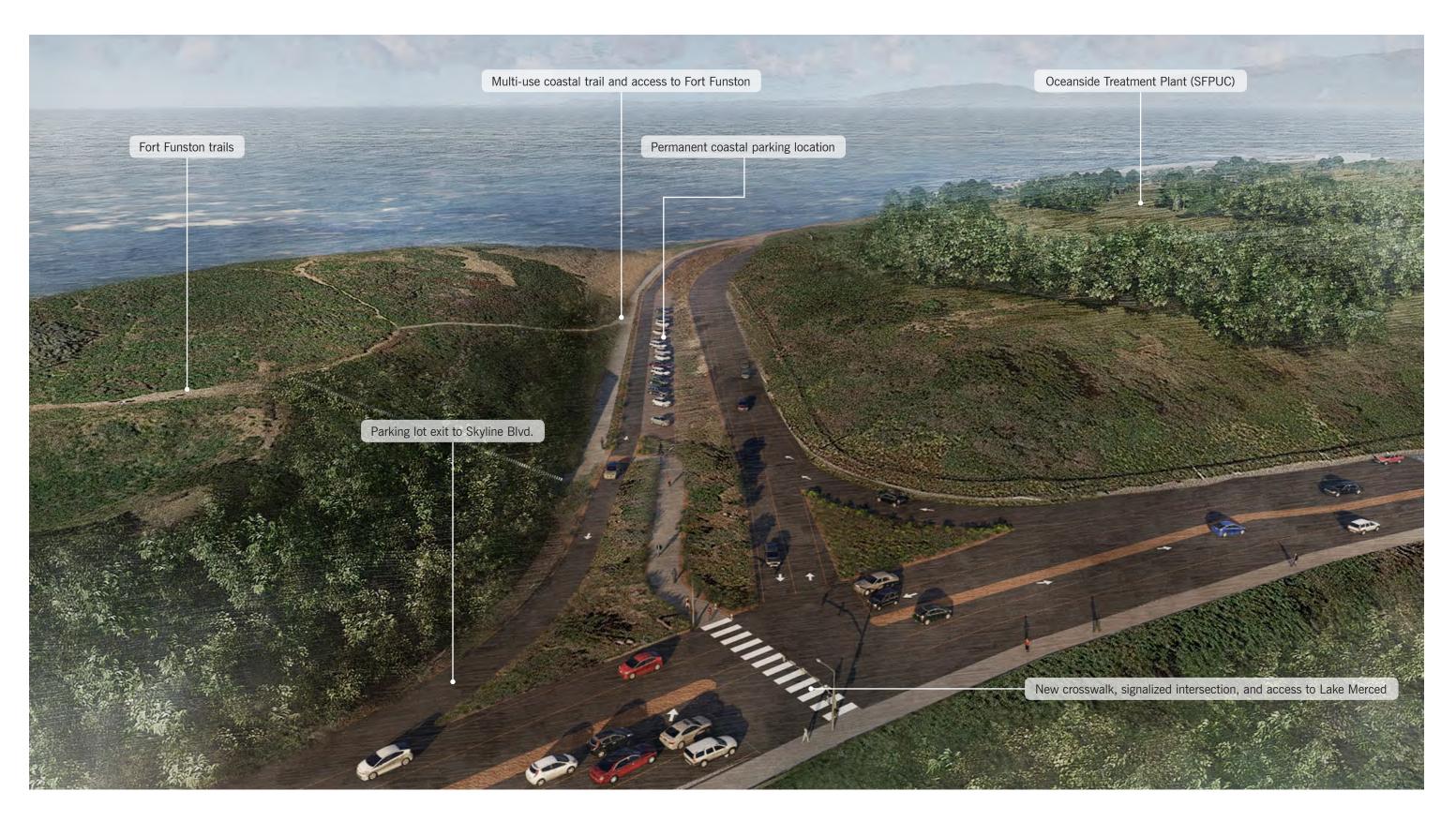
Project 1.3 Multi-use trail

A multi-use trail will use the vacated southbound lanes to connect from Sloat Boulevard to the Lake Merced trail.



Project 1.4 Ft. Funston trail connection

In addition to providing parking for Ocean Beach, new trail access will be provided to Fort Funston as well, as part of an independant project by the Golden Gate National Recreation Area.



View 4: Long Term Coastal Parking

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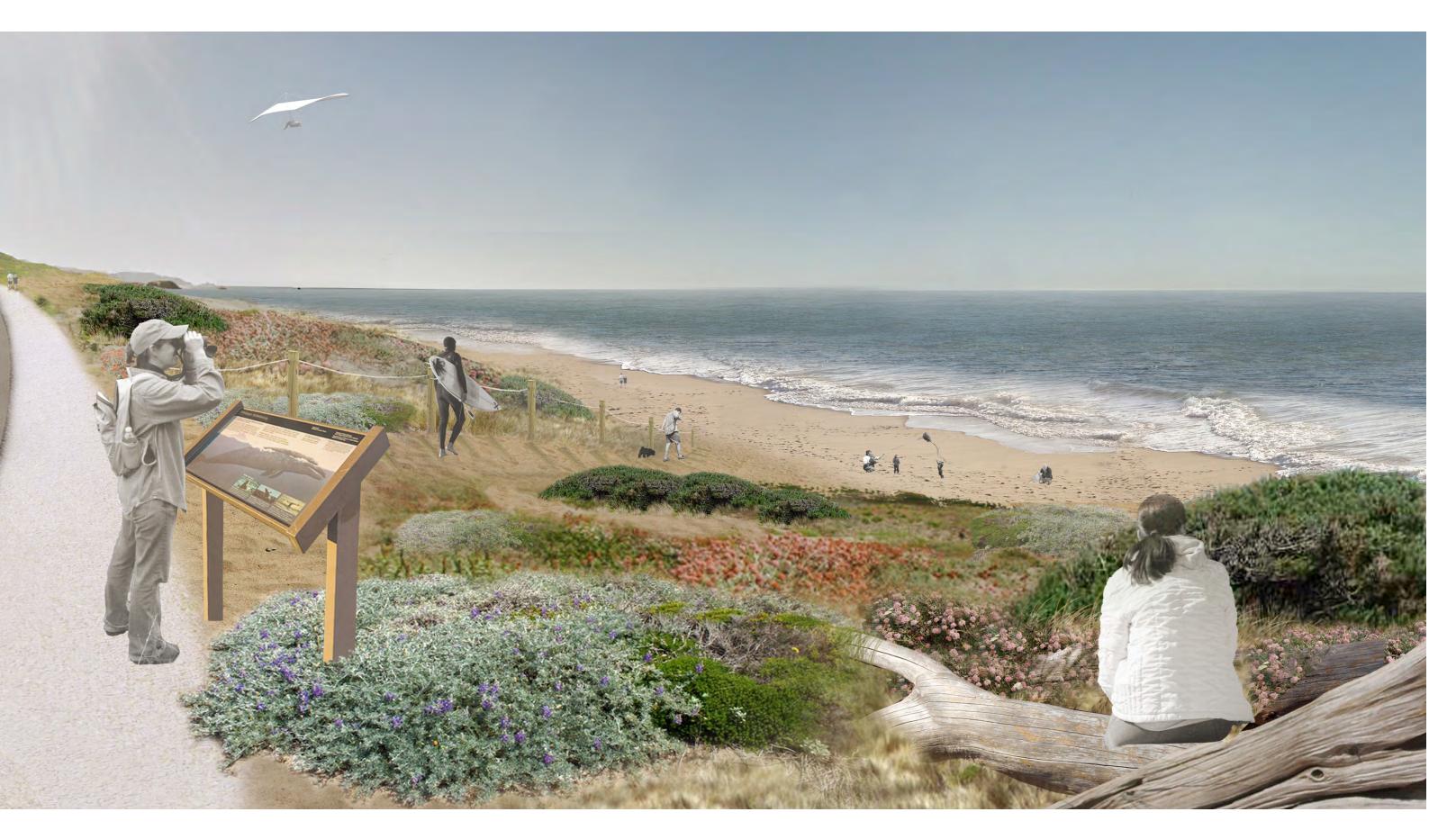
View 5: Intersection of Sloat and Skyline Before



View 5: Intersection of Sloat and Skyline After

phase 2

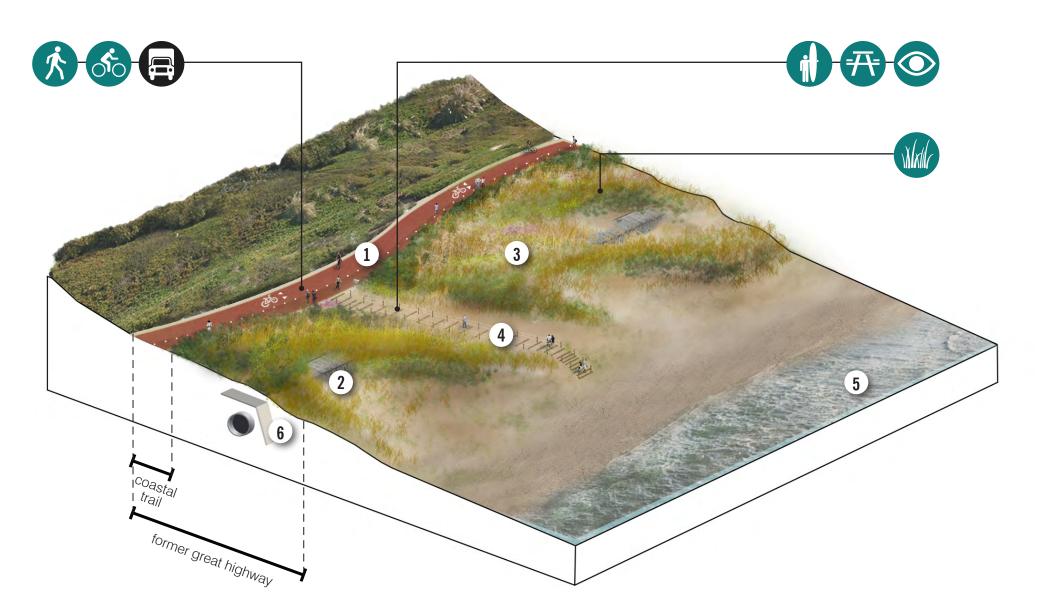




Phase 2

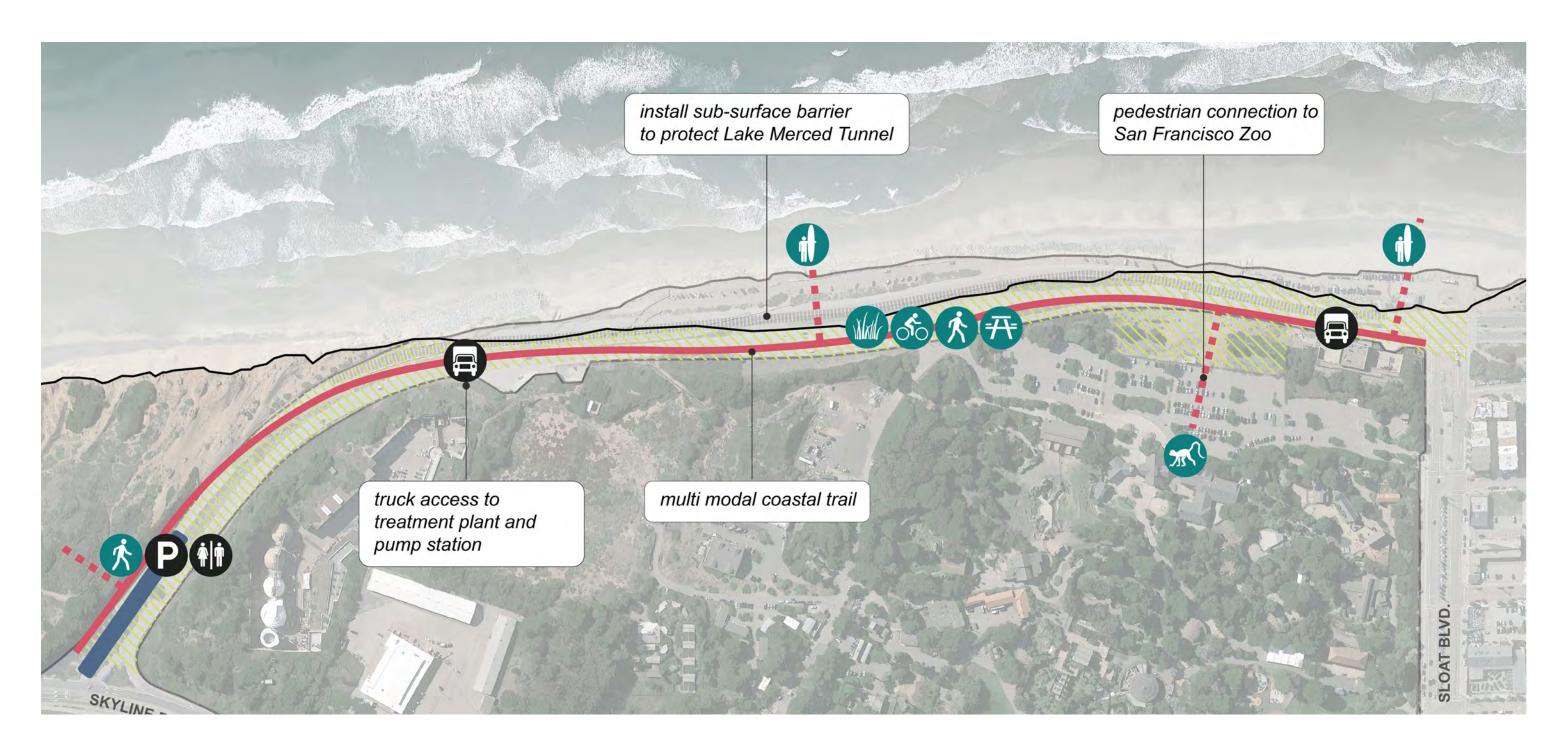
This phase is to be coordinated with the full implementation of the Ocean Beach Master Plan vision, including the closure of the Great Highway south of Sloat Boulevard, the installation of low-profile structures to protect the Lake Merced Tunnel, and the removal of existing boulder revetments. This phase includes:

- A permanent coastal bicycle-pedestrian trail connecting to Fort Funston and Lake Merced
- Coastal Access and Ft Funston parking located away from coastal hazards
- Depaying and re-vegetation of blufftop areas
- Truck access to the Oceanside Treatment Plant and pump station designed for minimal impact on open space



Phase 2 Typical Condition

- 1 New coastal trail access from Ocean
 Beach to Fort Funston and Lake
 Merced, with sporadic truck access to
 SFPUC facilities
- 2 Lake Merced Tunnel protective wall and cap may become exposed at some times
- 3 Restored dune system where appropriate
- 4 Dedicated coastal access and rest points located along coastal trail
- 5 Pacific Ocean
- 6 Lake Merced Tunnel, located roughly at same elevation as Ocean Beach.



Phase 2 Plan Diagram

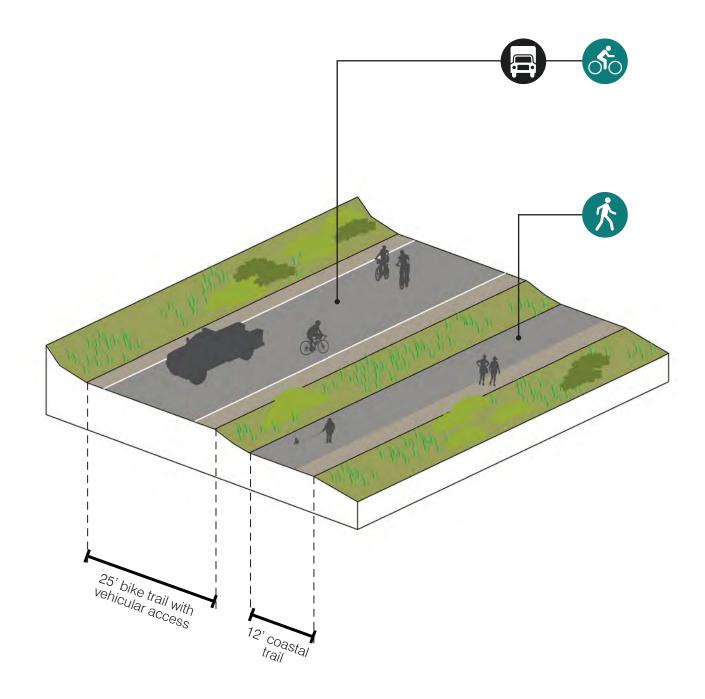
SPUR **AECOM**

Phase 2 Coastal Trail Options

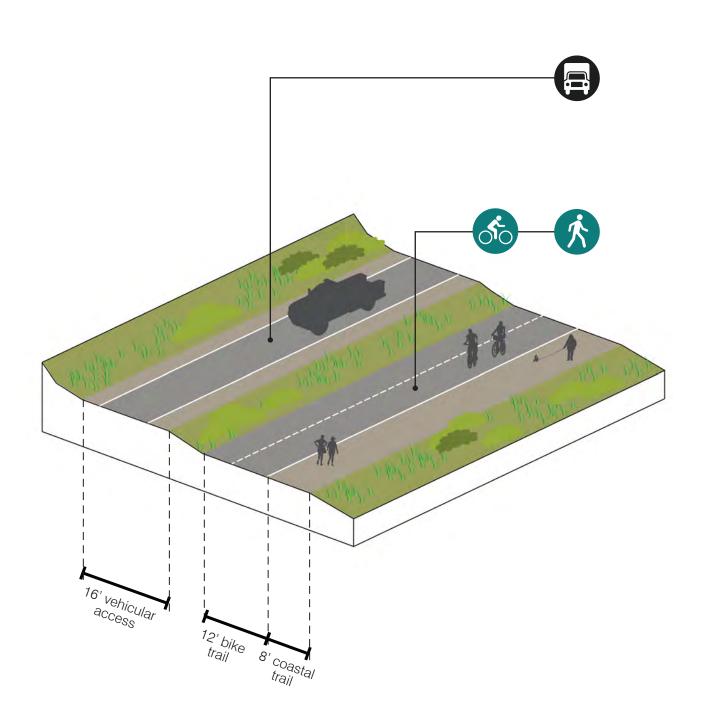
In Phase 2, the coastal trail which connects South Ocean Beach with Fort Funston and Lake Merced will replace the Great Highway between Sloat and Skyline Boulevards. The San Francisco Public Utilities Comission will need to maintain occasional truck access to their facilities along the coast; the Oceanside Treatment Plant and the Westside Pump Station near the current intersection of Sloat and Skyline. These graphics show potential arrangements between the minimal vehicle traffic, pedestrians, and cyclists.

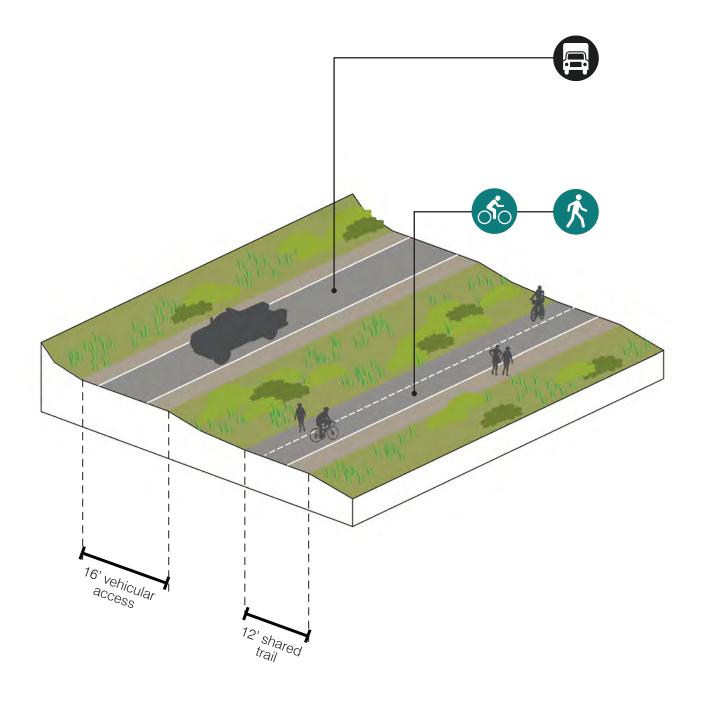
Wherever possible, truck access will use existing parallel access roads and driveways rather than the Great Highway alignment to minimize disruption of the public open space.

As the project moves forward, these options will be studied in more detail to determine the safest arrangement for all visitors to Ocean Beach.



Coastal Trail Option 1





Coastal Trail Option 2 Coastal Trail Option 3

Phase 2 Overview

The designs presented here are show a long term vision of the future of South Ocean Beach. This plan provides better and safer beach access, and connects the key open space resources in the area, while protecting our vital pieces of infrastructure from Sea Level Rise.

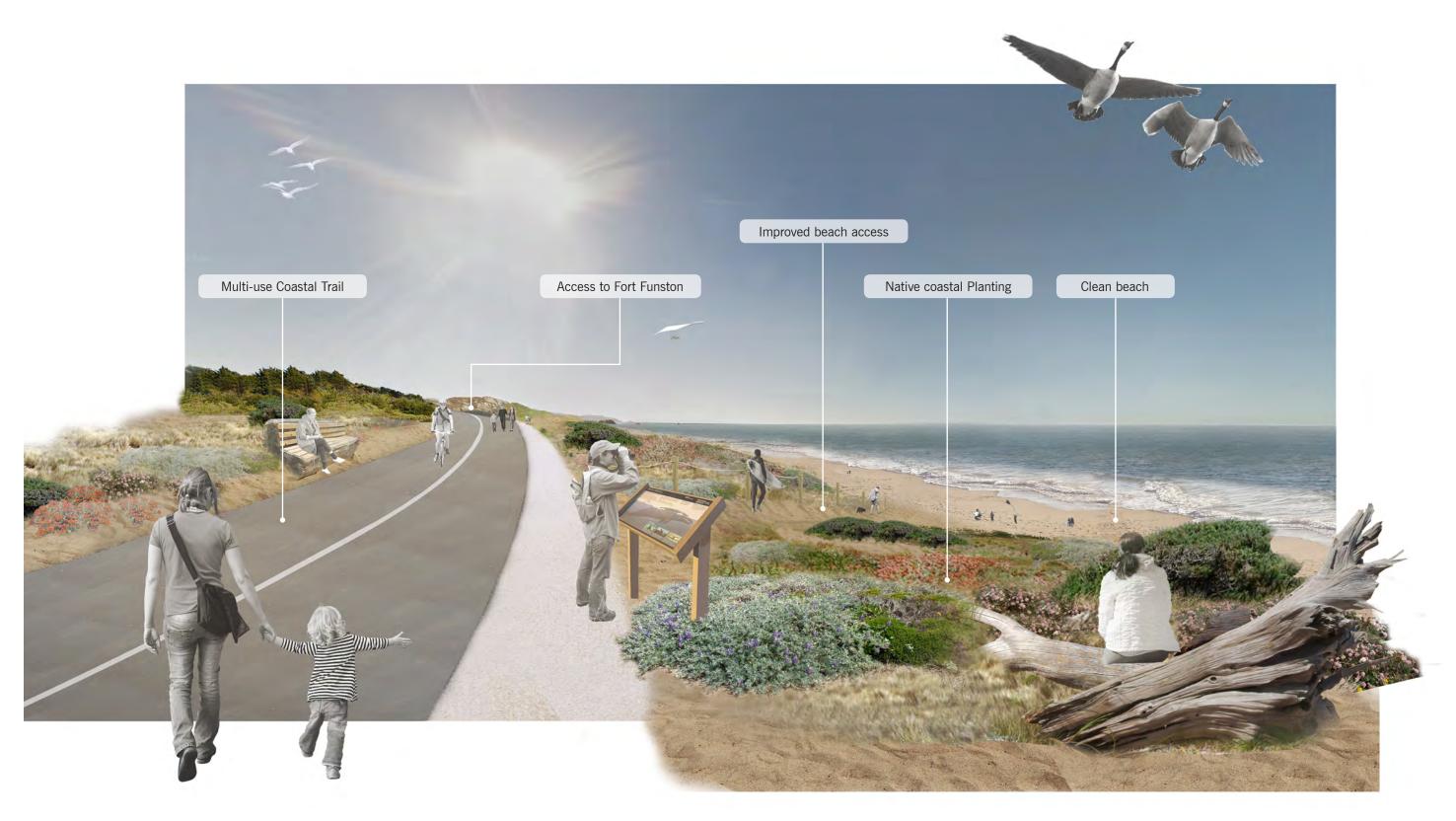
- 1) Multi-modal coastal trail
- 2) Long term coastal parking removed from coastal hazards
- Re-configuration of the Great Highway/Skyline Boulevard intersection for safe crossing
- 4) Access to SFPUC Westside Treatment Plant
- **5**) Revegetated Dune / Back Beach
- **6** SFPUC Pump Station





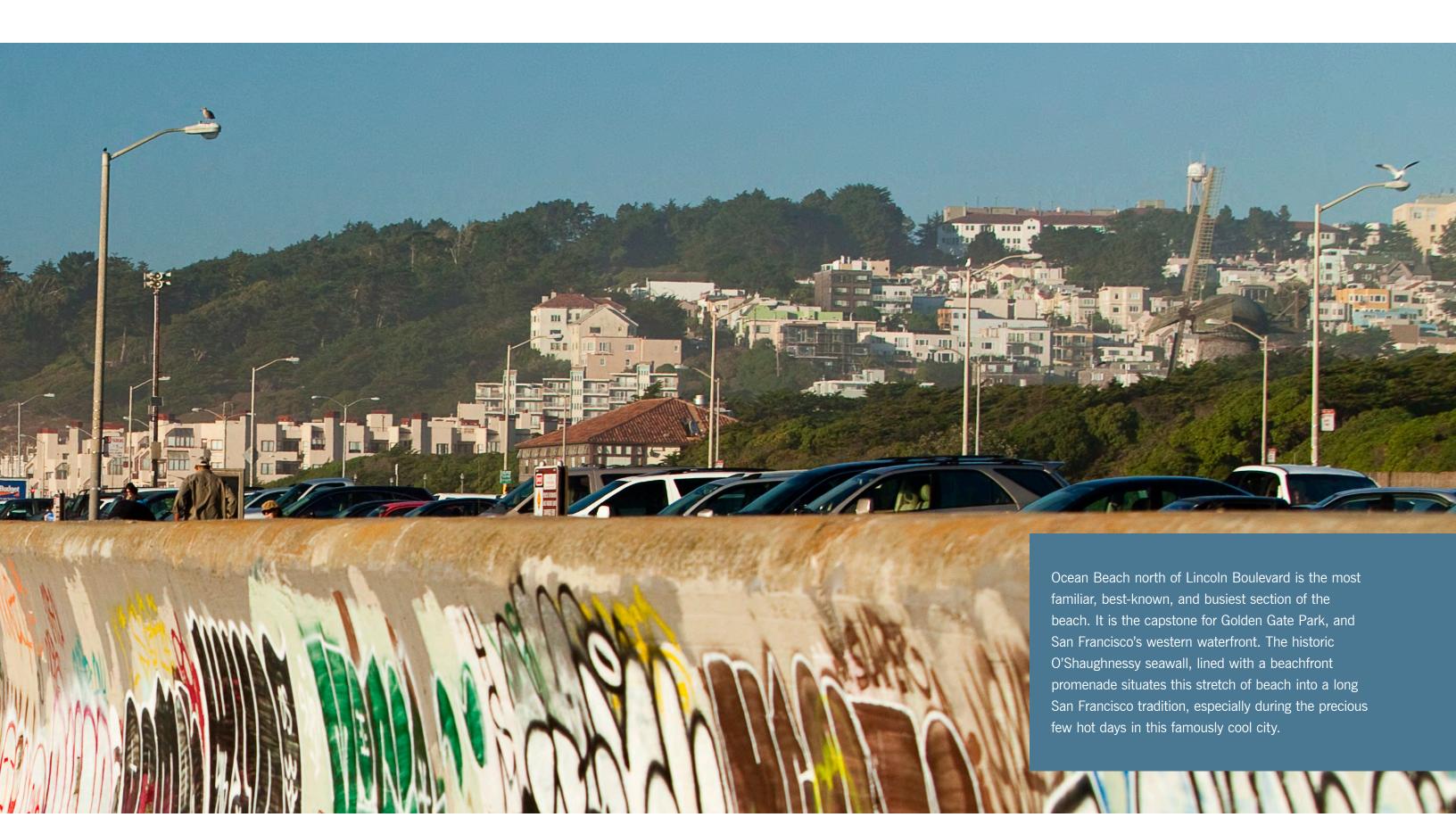


Existing View of Great Highway South of Sloat Boulevard



Conceptual Rendering of Coastal Trail and Restored Landscape





North Reach Overview

North Ocean Beach offers a wide, sandy, urban sea strand, and is host to more visitors than any other section. Beginning just north of Lincoln it is backed by the O'Shaughnessy seawall and promenade, and a series of parking lots which serve the beach and host several major events. Golden Gate Park is across the Great Highway between Lincoln and Fulton. North of Balboa, steep cliffs emerge topped by the popular Cliff House with the Sutro Baths ruins and Land's End beyond. A multi-use path extends south from Lincoln, but is not fully connected to the promenade.







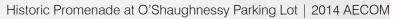


O'Shaughnessy Parking Lot | 2014 by AECOM



North End of O'Shaughnessy Parking Lot at Beach Entrance | 2014 AECOM

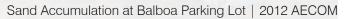






Historic Planters and Promenade | 2014 AECOM







Balboa Parking Lot | 2010 AECOM View 7



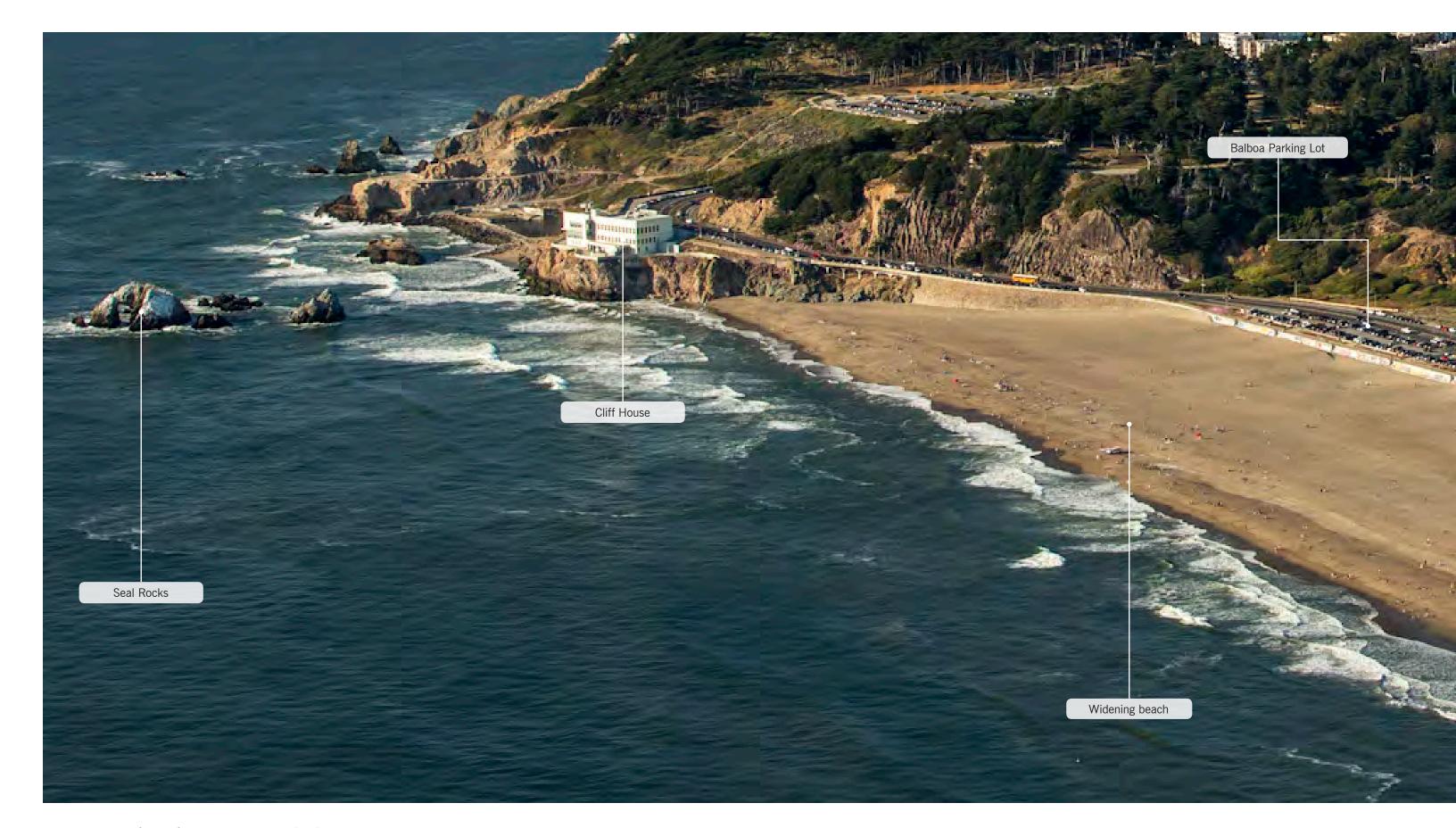
Beach Chalet from O'Shaughnessy Parking Lot | 2014 AECOM

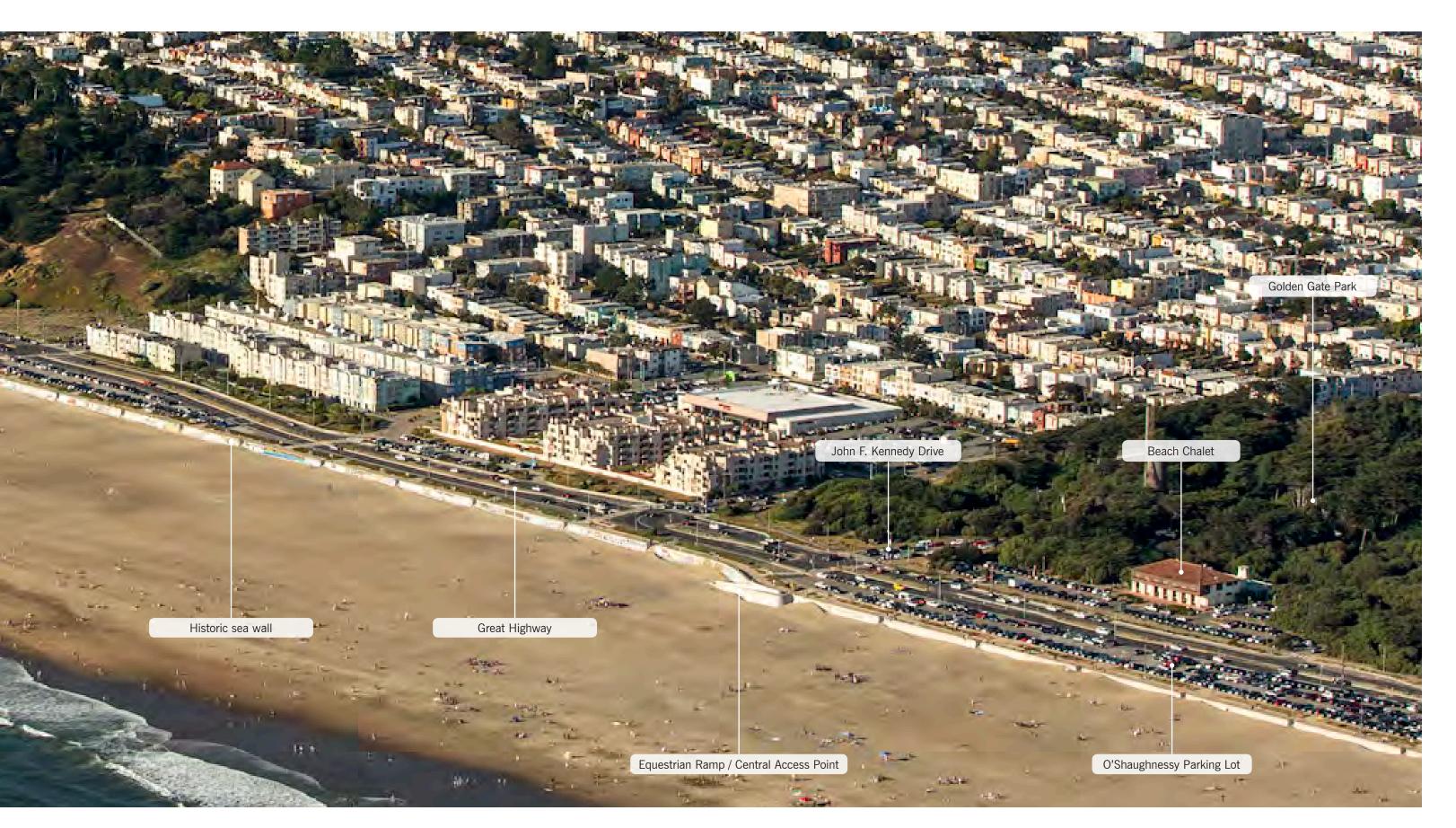


Bay 2 Breakers Finish Line at O'Shaughnessy Parking Lot | 2014 SPUR



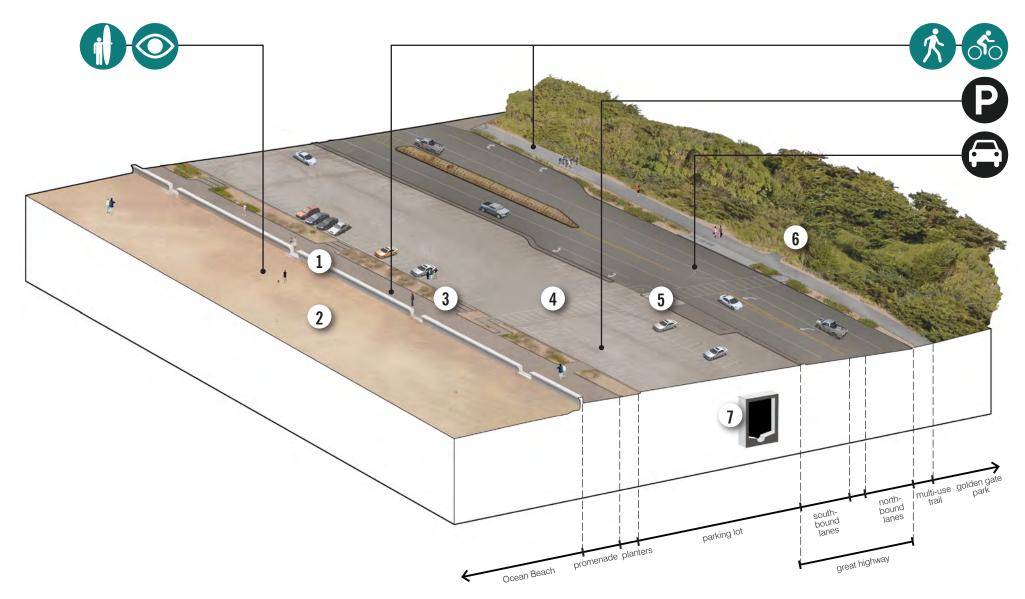
View 5





Existing Condition

Although several iconic recreational spaces converge at north Ocean Beach, they are not as well-connected as they should be, particularly for cyclists and pedestrians. While the parking lots facilitate access for motorists and hosts events, they also serve to separate the beach from Golden Gate Park, presenting large undefined swaths of asphalt instead of the grand sense of welcome the space deserves, especially at the terminus of JFK Drive. This separation also compromises the sense of safety, as visitors must repeatedly cross auto access routes. At Lincoln, the promenade ends unceremoniously in the sand, creating a gap that prevents cyclists, wheelchair and stroller users, and those with limited mobility from continuing south on the multi-use path in the Great Highway median. Finally, this busy open space lacks basic amenities, including restrooms, food, and adequate seating and bicycle parking, inconveniencing users and burdening the services at the nearby Beach Chalet.



1 Historic Sea Wall and Promenade 2 North Ocean Beach 3 Historic Planters & Seating areas 4 Existing Parking Lots 5 Public Bus Stop 6 Access to Golden Gate Park 7 West Side Transport Box

Existing Conditions Axon



Jurisdiction and Infrastructure

At North Ocean Beach, the beach, O'Shaughnessy seawall, promenade, and adjacent planting areas are all part of the GGNRA, while the parking lots and Great Highway are city property, owned by the SF Recreation and Parks Department. The SFPUC owns and operates the Westside Transport under the Great Highway and the combined sewer outfall visible on the beach south of Lincoln Way. All of these fall within the Coastal Zone and are thus subject to California Coastal Commission approval or Federal consistency processes.

Legend

Infrastructure



Transport box

Jurisdiction



Federal land

City land



City/Federal boundary

Managed by Public Works

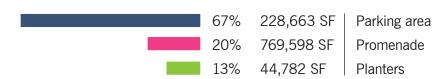






Existing Conditions Open Space Usage

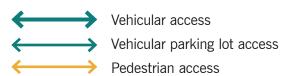
Legend





Existing Conditions Pedestrian and Vehicular Access

Legend



Building on the Ocean Beach Master Plan: Key Move 5

The improvements presented here are intended to implement Ocean Beach Master Plan "Key Move 5: Better Connection Between Golden Gate Park and the Beach". Some progress has already been made here through the installation of vegetated medians in the Great Highway north of Lincoln Way in 2013. This has created clarity in vehicular movements, shortened pedestrian crossings with median refuges, and introduced some visual respite from the excessive paving. These recommendations extend those improvements through the parking lots, expanding and clarifying pedestrian spaces and providing a welcoming sense of arrival.

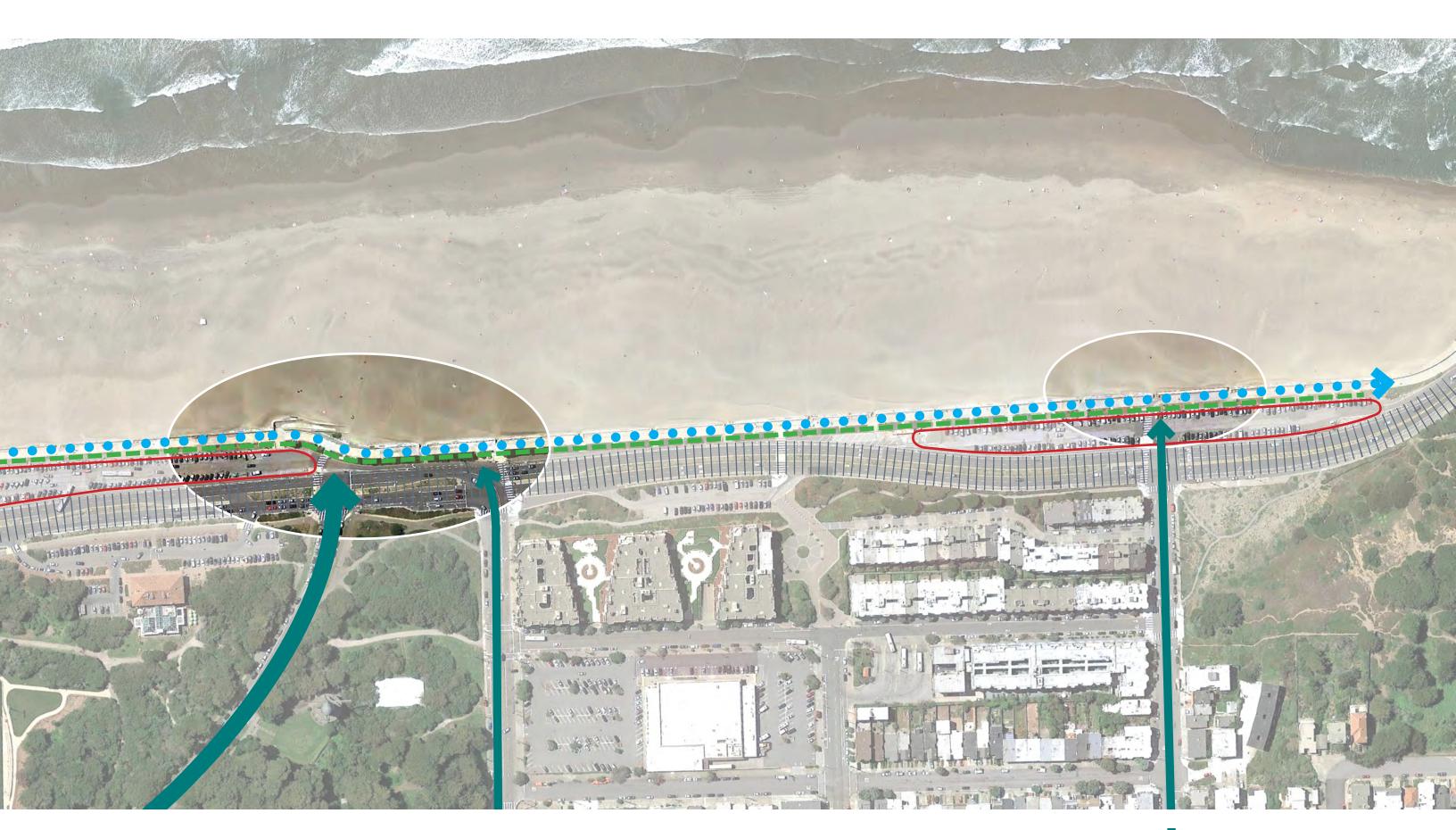


Existing Framework

Legend







Proposed Improvements: North Ocean Beach

The designs presented here are intended to better connect Ocean Beach to Golden Gate Park and other open space amenities through several related interventions.

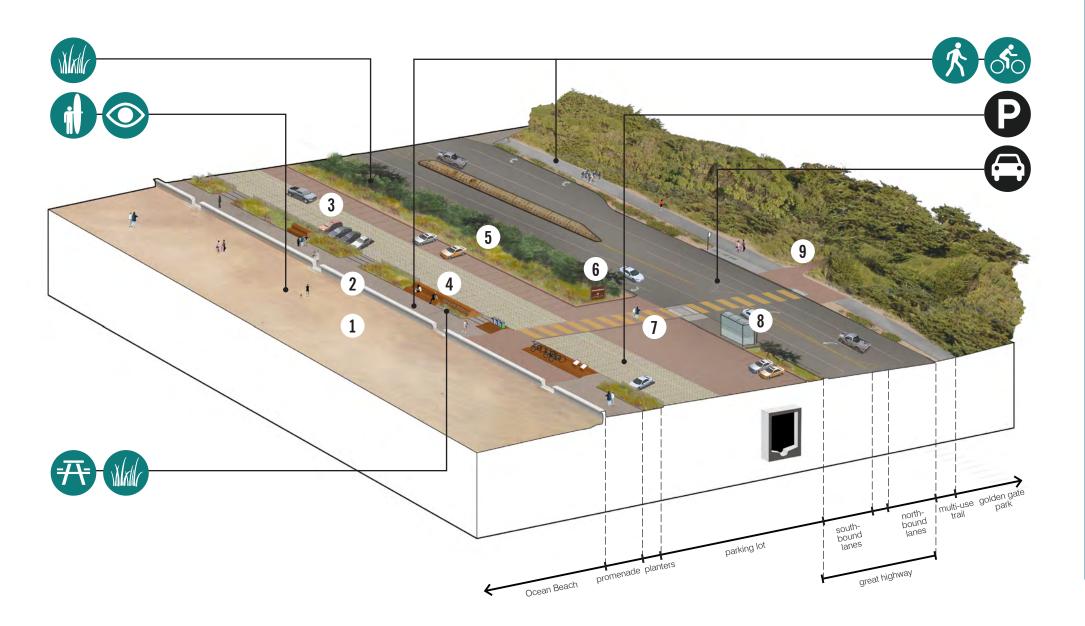
- 1) Ocean Beach Plaza
- **2**) Lincoln Connection
- **3**) Efficient and safe parking lots
- 4) Modular timber seating and access features
- 5 Landscaped buffer between parking lots and Great Highway
- **6** Native dune revegetation





Improving Connections to North Ocean Beach

- Repaving and restriping of the parking lots, using permeable pavement for portions of the lot, but maintaining conventional paving that can accommodate heavy trucks for event purposes as needed. The paving treatments would be visually distinct to further break down the visual monotony of the paved areas.
- Clearly marked pedestrian routes through the parking lots, aligned with crosswalks, bus stops, and the arrival plaza.
- Properly specified and installed climate-appropriate and native plantings in the planting areas, integrated with modular timber furnishings., and designed to prevent trampling.



- 1 Ocean Beach wide condition
- 2 Historic O'Shaughnessy sea wall
- 3 Replace asphalt with varied materials to define and breakdown large parking area. Use permeable materials where feasible
- 4 Modular seating, signage, and other elements at key locations
- 5 Through efficient parking layout, add planting buffer between parking area and Great Highway
- 6 Better and more visible signage
- 7 Improve pedestrian crossings through parking areas
- 8 Add shelter and seating to transit stations
- 9 Use materials to highlight entry into Golden Gate Park



Native Planting at Lands End



"Sand-crete" permeable pavers in parking stall



Native dune restoration



Decorative permeable asphalt



Median Planting - Great Highway



Colored asphalt



Native coastal plantin



Modular timber seating



GGNRA welcome sign at Ocean Beach



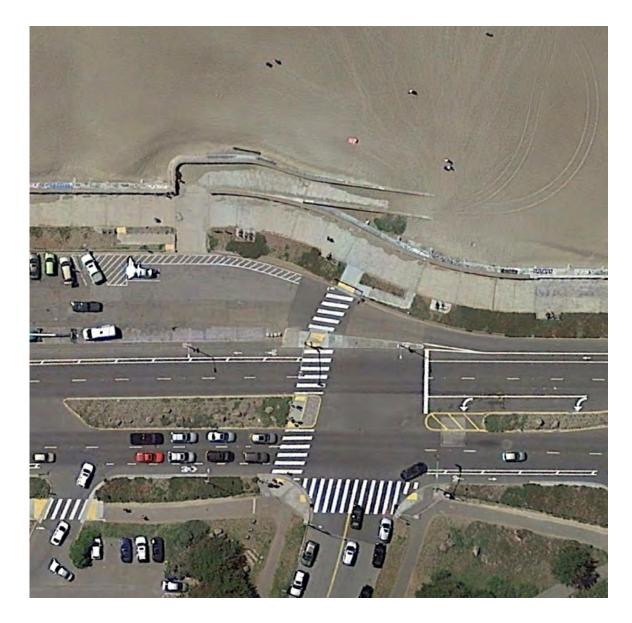
Raised pedetrian crossing in parking lot

Material and Character Images



Ocean Beach Plaza

An arrival plaza adjacent to the equestrian ramp, created by relocating the southbound parking lot entrance at JFK drive. The plaza would accommodate seating, signage, bike parking, and rugged, compact restrooms such as the "Portland loo." It would also incorporate space for food trucks that would be available during busy days.



JKF Drive and Great Highway Existing Conditions



View 1: Proposed Ocean Beach Plaza



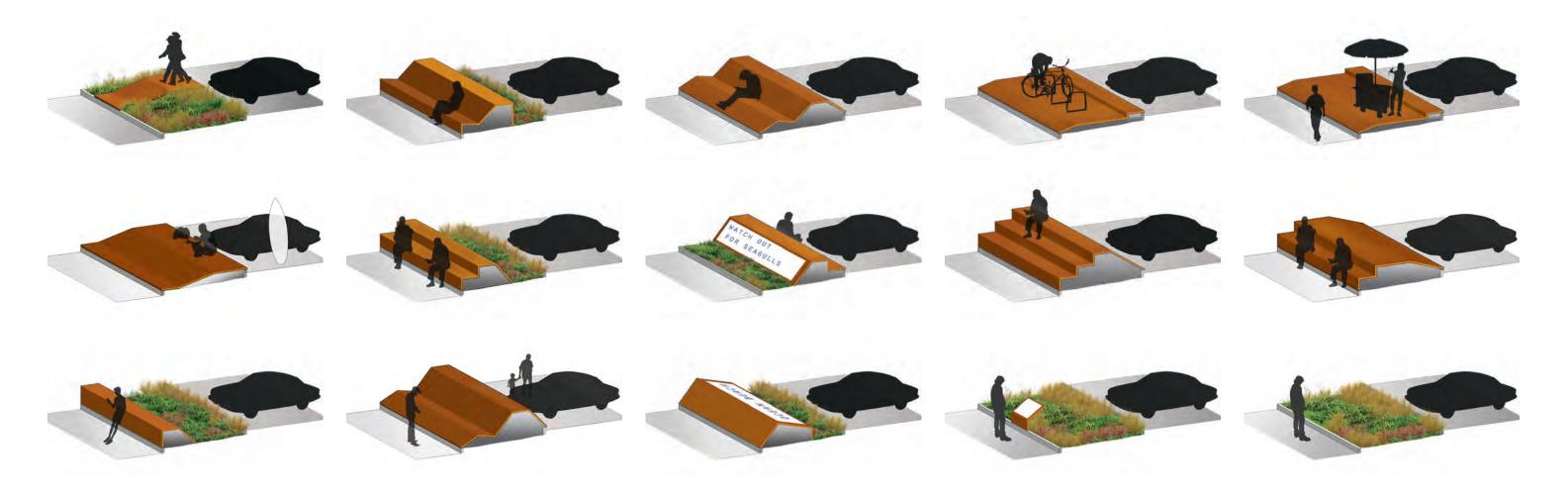
View 2: Overiew of Ocean Beach Plaza



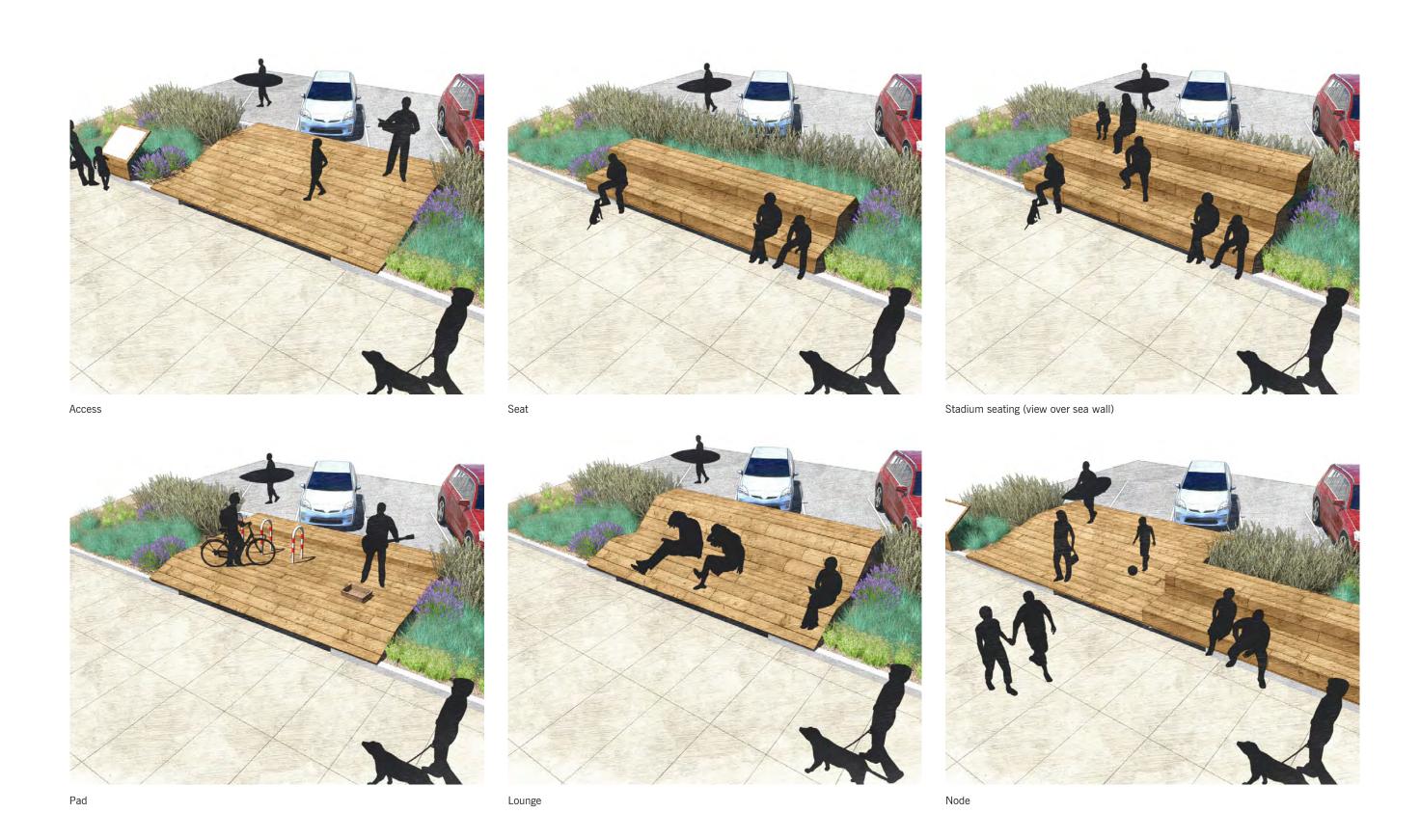
View 3: Seating and Flexible Use

Modular Furnishings in Planter Zone

Timber furnishings designed to be set in the existing planted areas providing a range of amenities for seating, lounging, bike parking and additional circulation between the parking lots and promenade. These would be deployed according to context, with more furnishings in areas of greater circulation, and more planting elsewhere.



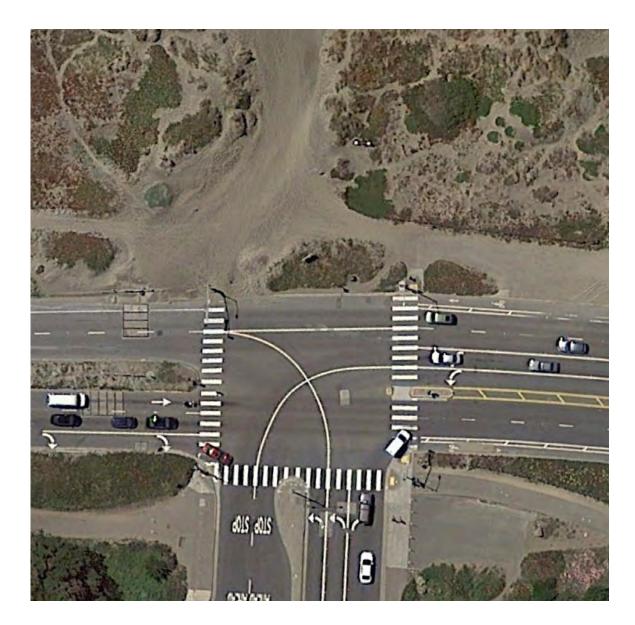
modular timber furnishings studies



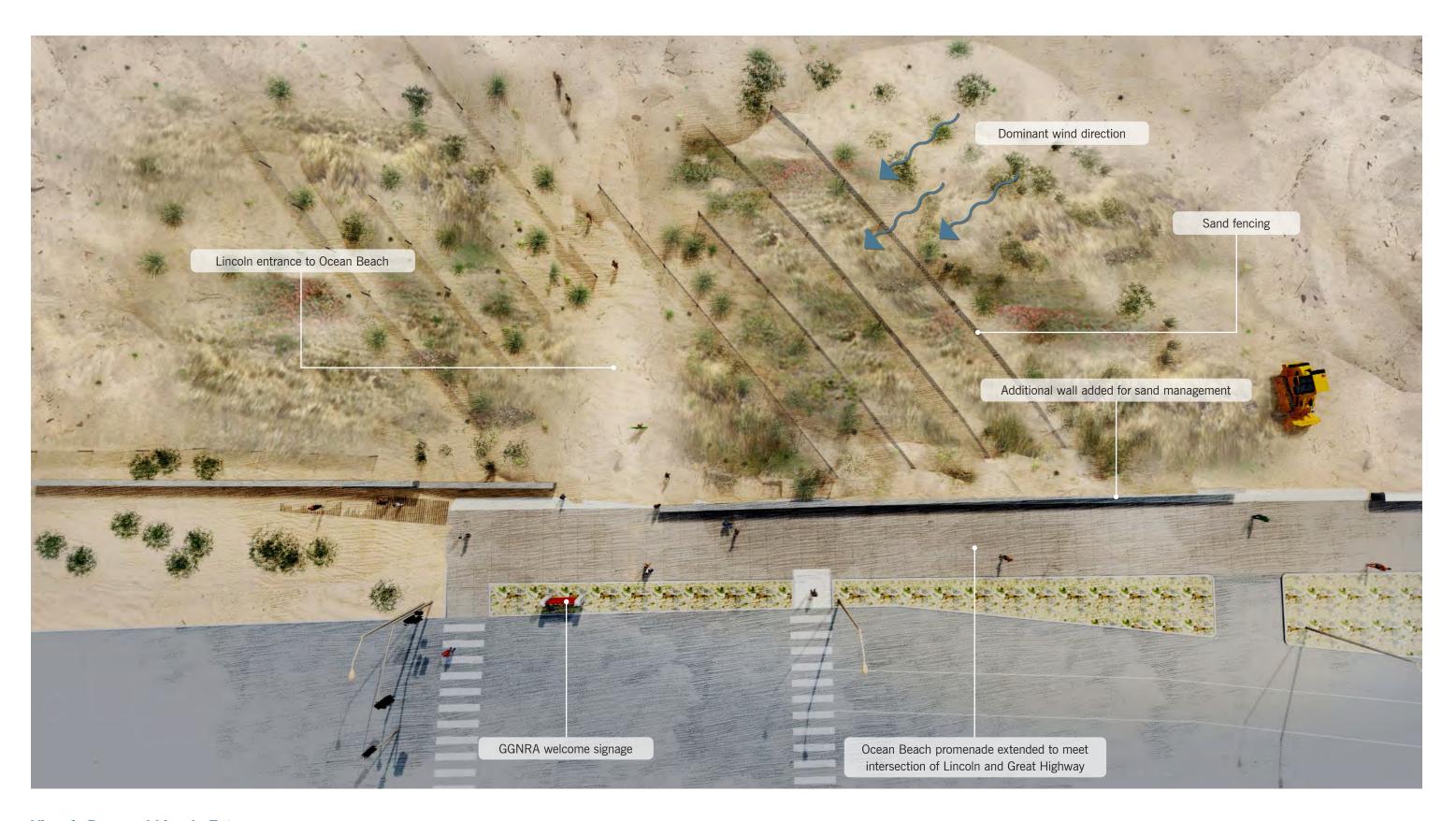
Lincoln Connection

An extension of the paved promenade beyond its current southern terminus to the crosswalk south of Lincoln Way, connecting the promenade to the existing median multiuse path. A low concrete wall would help keep sand off the promenade and allow efficient mechanical sand removal.

Re-vegetation of the dunes at the Lincoln beach access point with native species would occur, and installation of sand fencing to limit windblown sand onto the promenade and roadway.



Lincoln Way and Great Highway Existing Conditions



View 1: Proposed Lincoln Entrance



View 1: Pedestrian Crossing at Lincoln and Great Highway



View 2: Overview of Lincoln Entrance



