

WILDERNESS / UX
DESIGN RESEARCH

“Design & Planning Opportunities for
the Big Sur Region”

LANDSCAPE ARCHITECTURE AND ENVIRONMENTAL PLANNING
UC BERKELEY
LDARCH 203 - FALL 2023

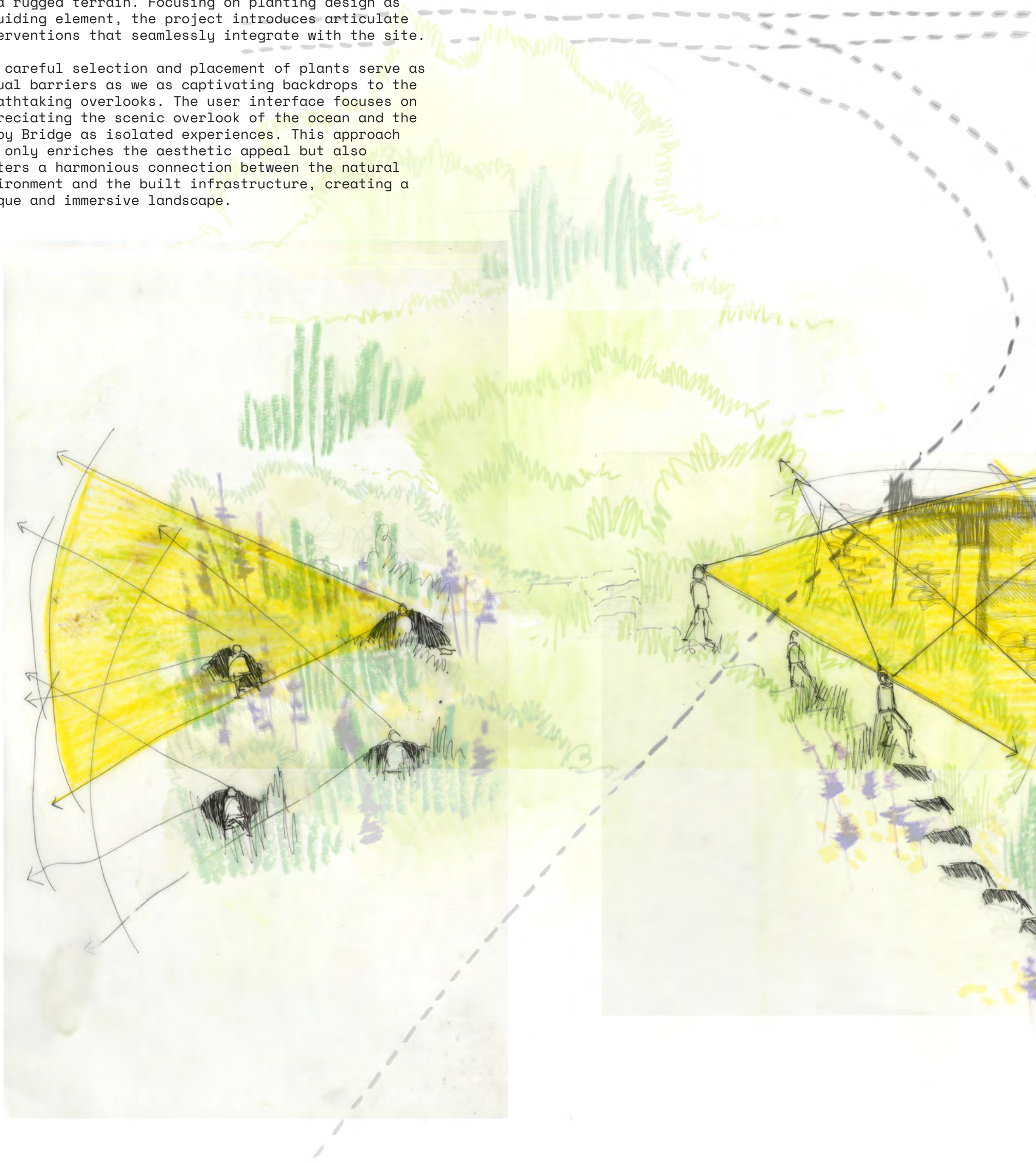
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Olivia Jones
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Lulu Liu
Dongni Ma
Luis Lu
Jie Han
Aishwarya Dubey
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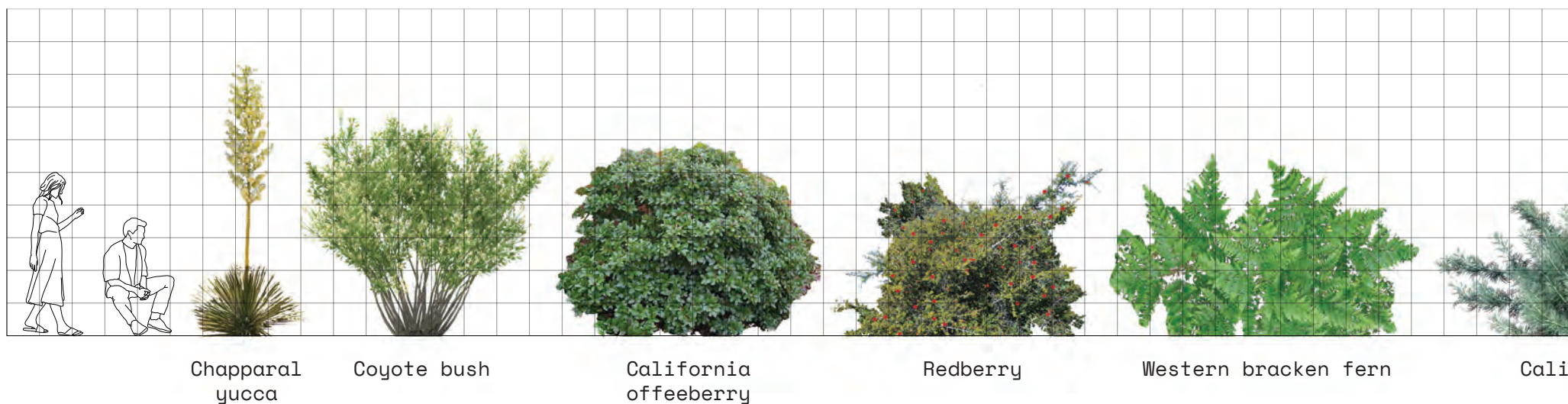
Bixby Bridge: Revitalizing the Scenic Overlook

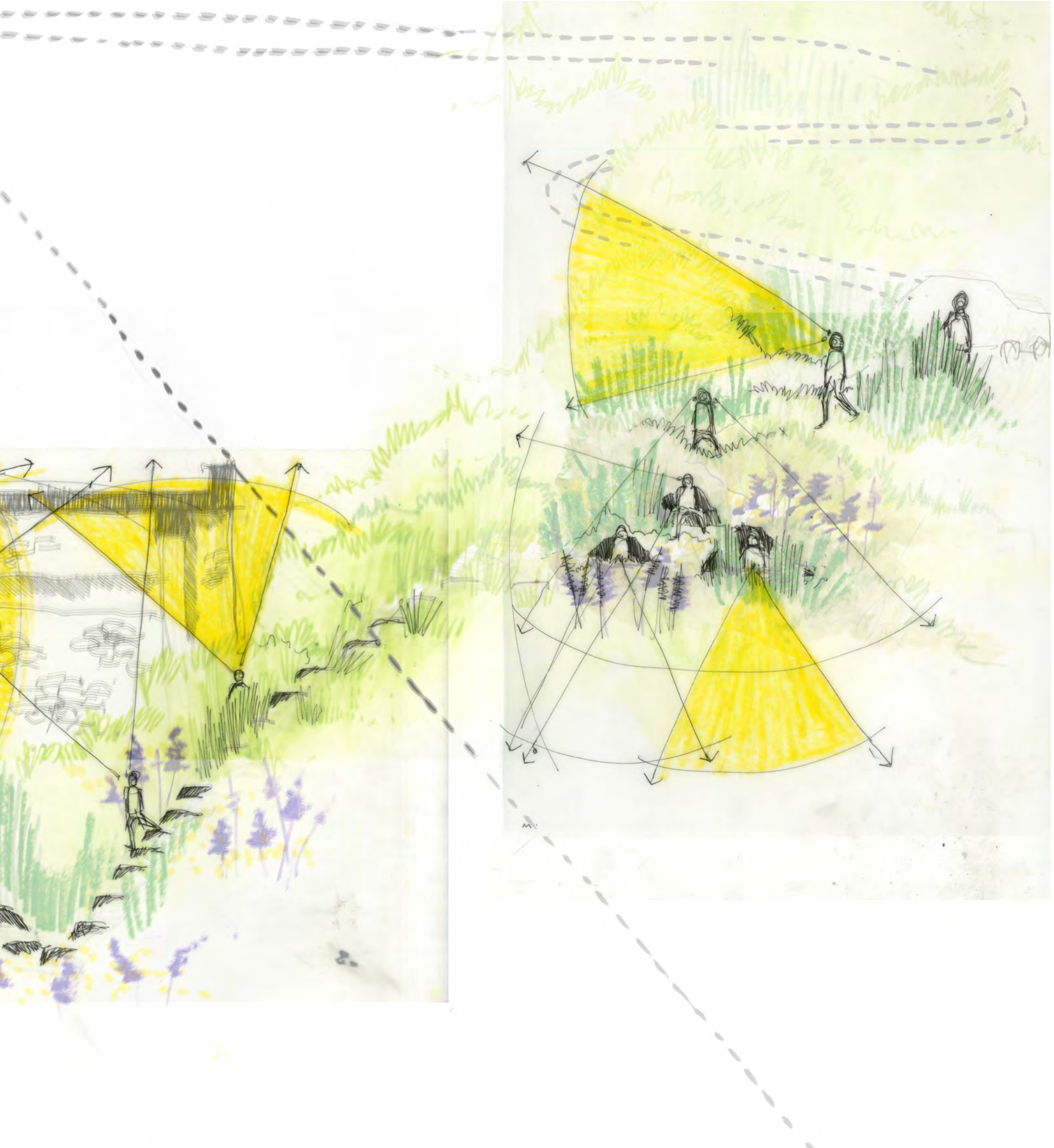
The project aims to elevate the user experience at Bixby Bridge through innovative strategies inspired by the coastal scrub planting community and context of a rugged terrain. Focusing on planting design as a guiding element, the project introduces articulate interventions that seamlessly integrate with the site.

The careful selection and placement of plants serve as visual barriers as well as captivating backdrops to the breathtaking overlooks. The user interface focuses on appreciating the scenic overlook of the ocean and the Bixby Bridge as isolated experiences. This approach not only enriches the aesthetic appeal but also fosters a harmonious connection between the natural environment and the built infrastructure, creating a unique and immersive landscape.



Coastal Scrub Plant Analysis Diagram





California sagebrush Seaside woolly sunflower California hedge nettle Silver lupine Deer weed Blueblossom ceonothus Seaside daisy Coast dudleya

Site Planting Plan

Existing vegetation

Underpass focal plant:

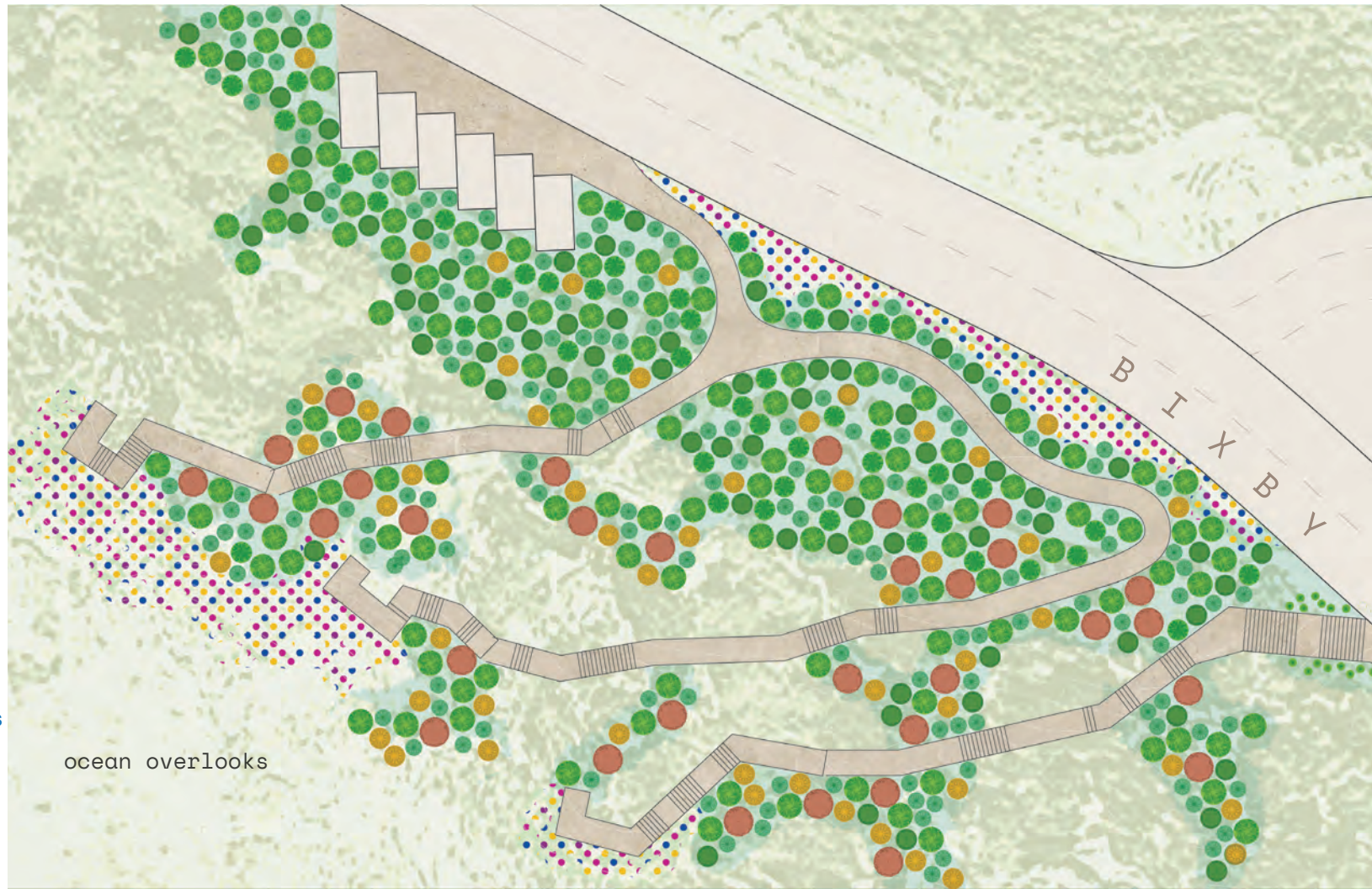
- Chapparral yucca

Background plants:

- Coyote bush
- California coffeeberry
- Redberry
- Western bracken fern
- California sagebrush
- Seaside woolly sunflower

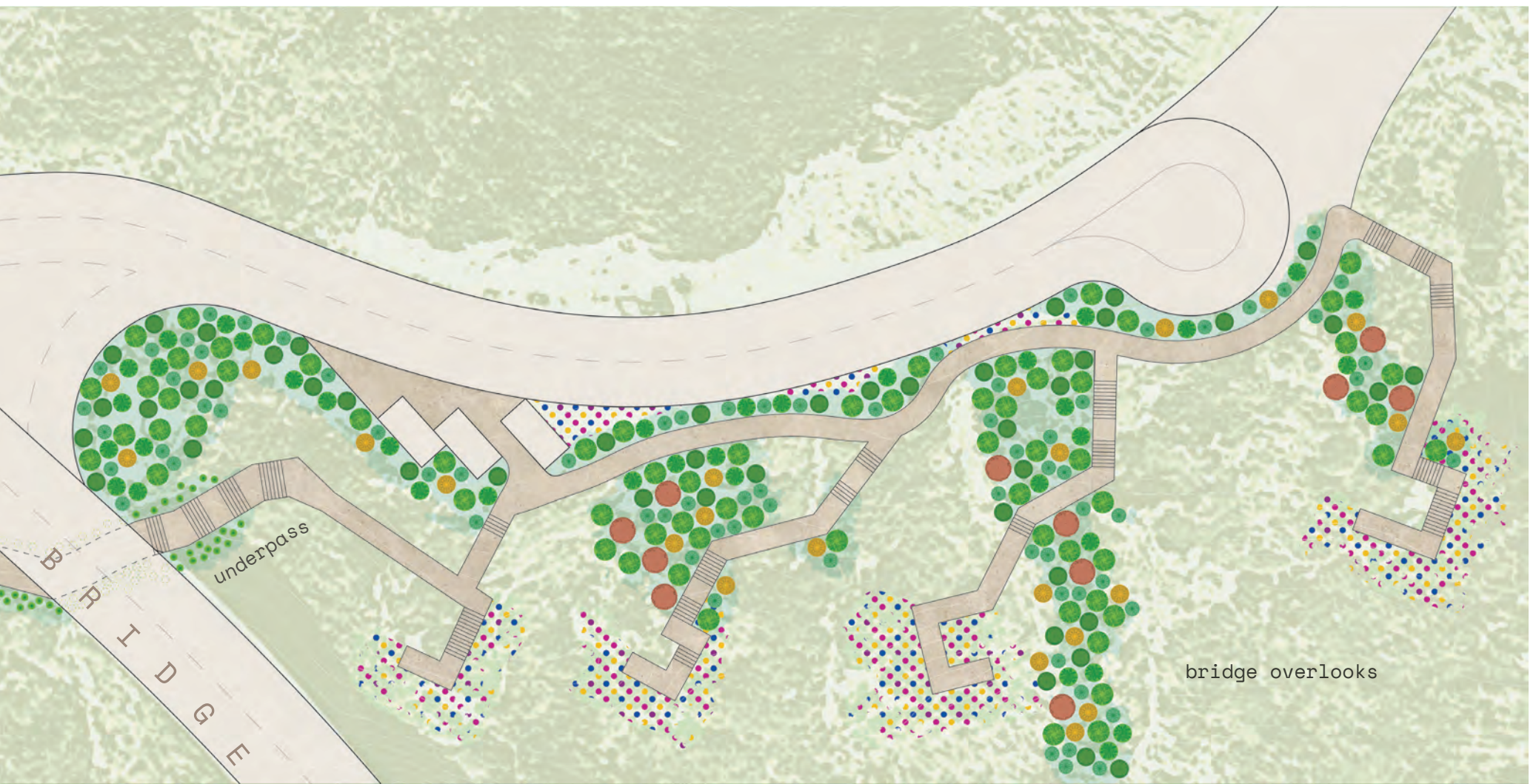
Foreground plants:

- California hedge nettle
- Silver lupine
- Deer weed
- Blueblossom ceonothus



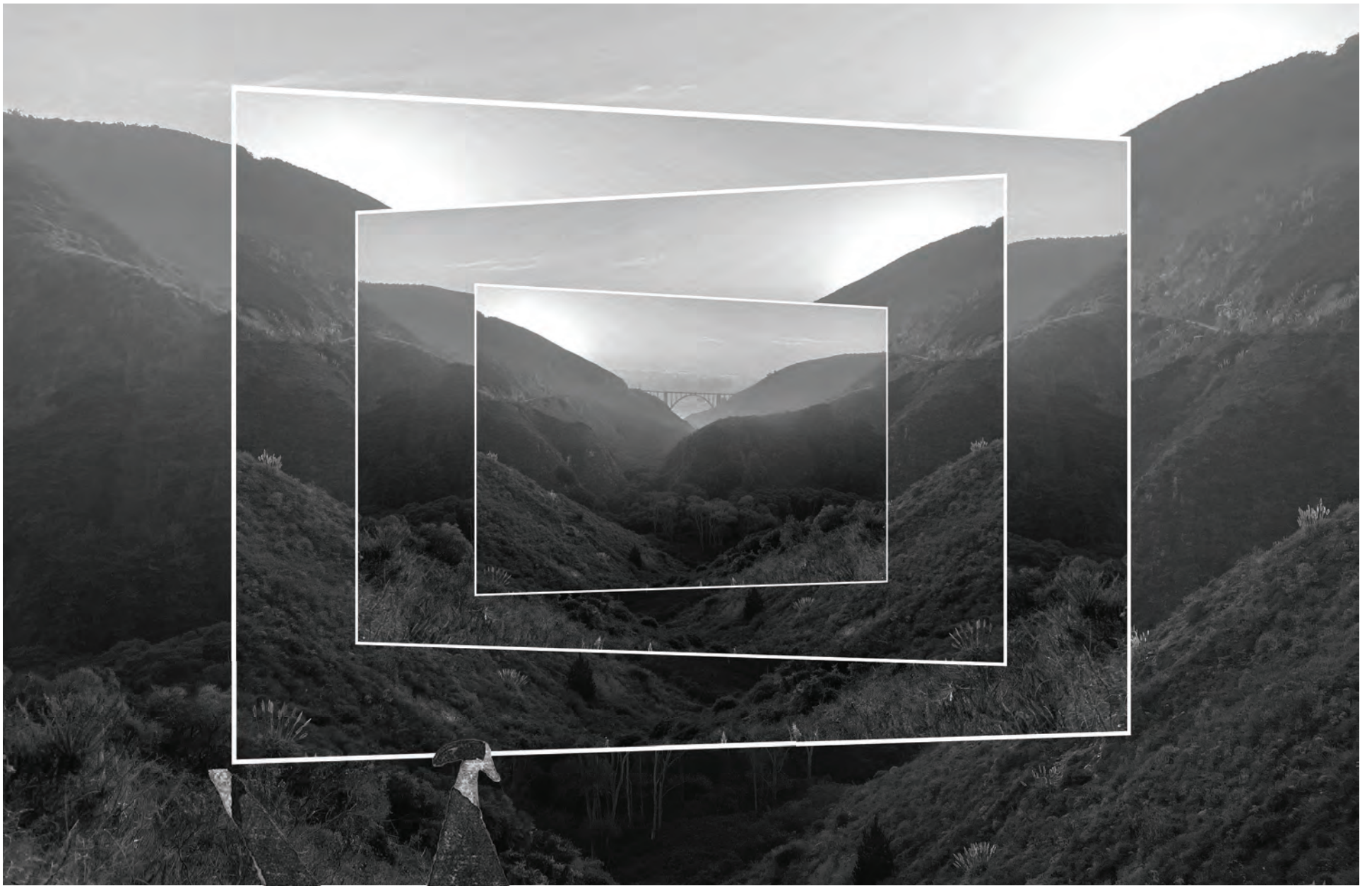
Underpass Pathway





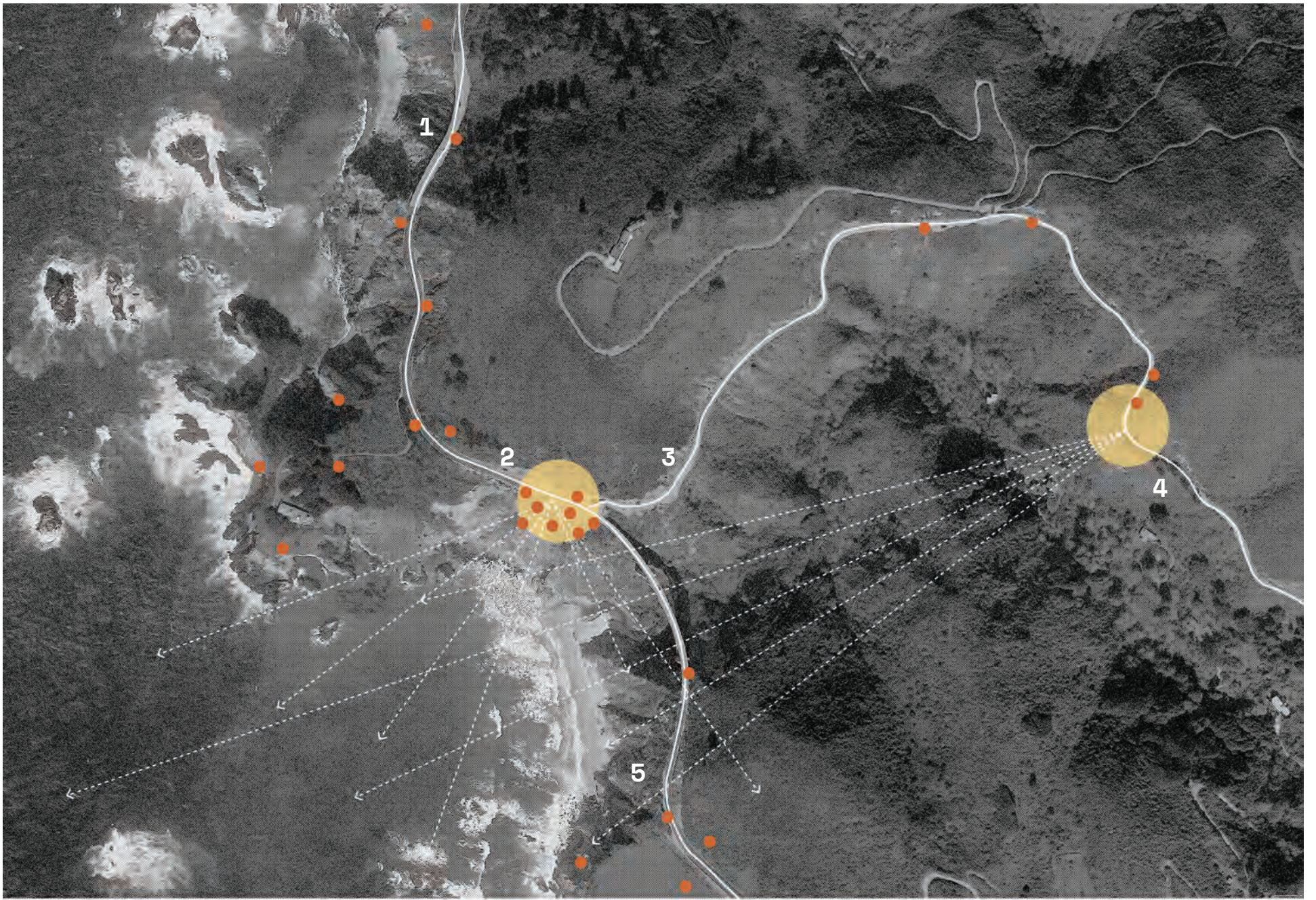
Overlook Pathway





Proposed Lookout 2

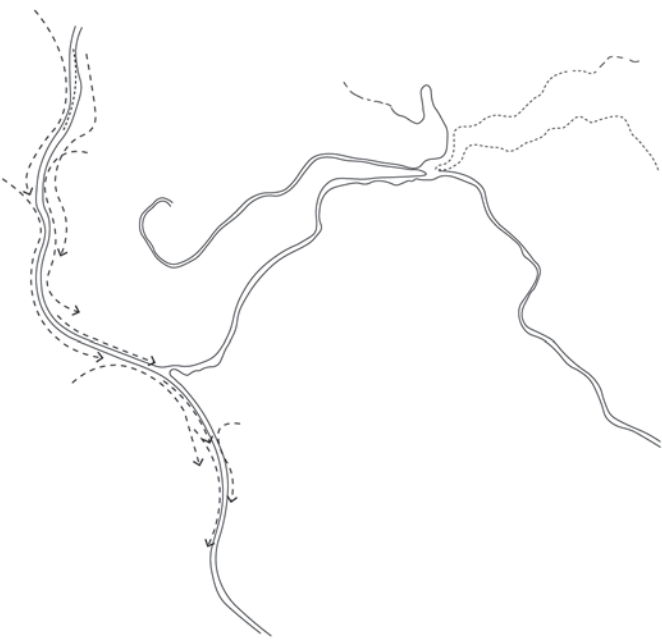
Viewpoint from the parking tunnel
(refer #4 on the opposite page)



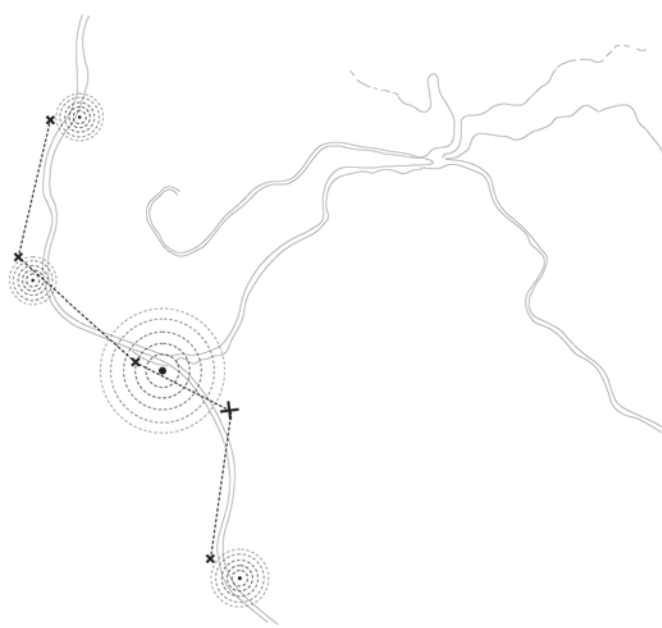
Key

- 1. Highway 1
- 2. Bixby Bridge Viewpoint - Lookout 1
- 3. Coast Road - Proposed way to parking
- 4. Parking tunnel and Proposed Lookout 2
- 5. Bixby Bridge

The BIG picture



The roadrunner's map

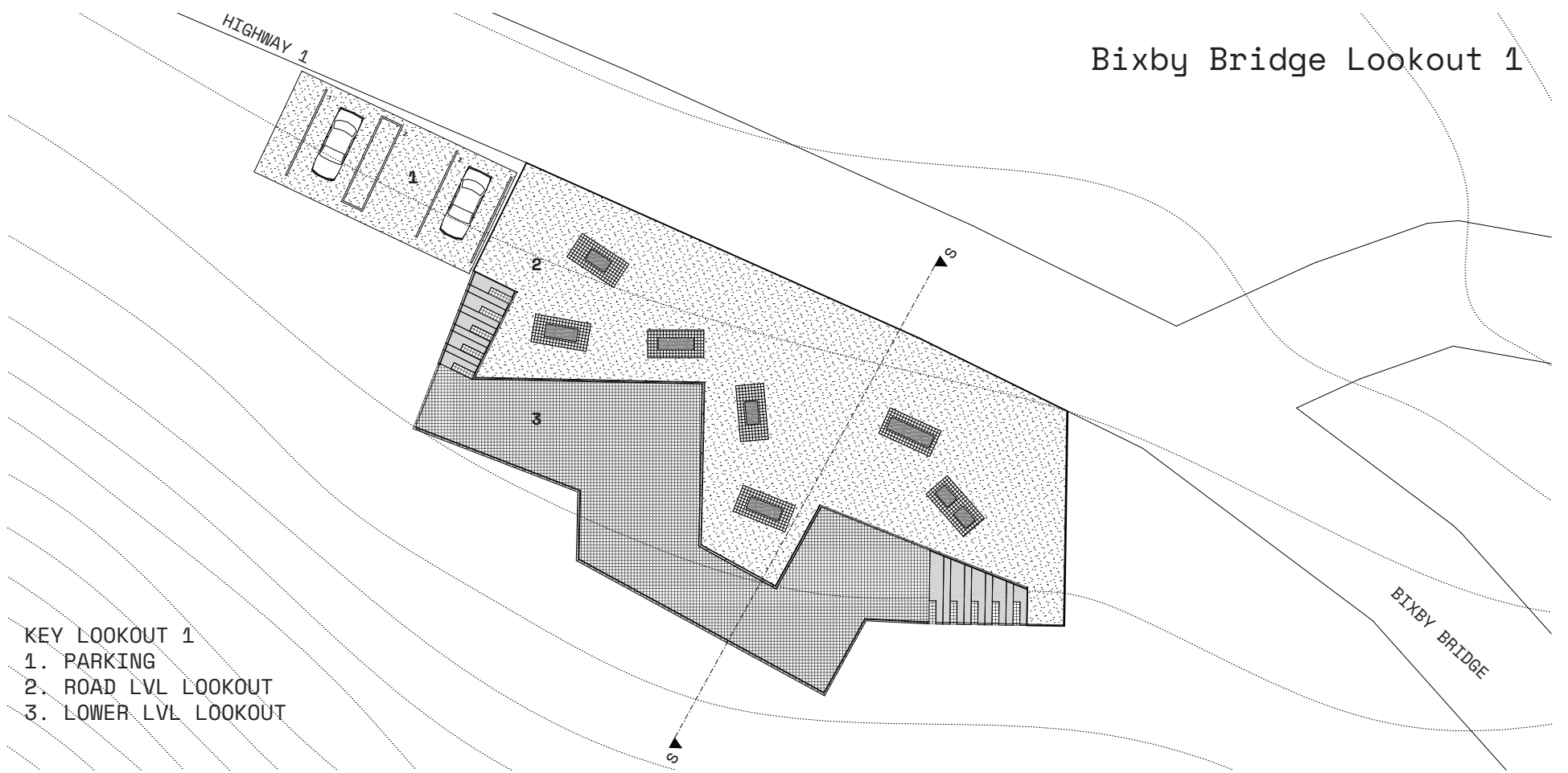


The photographer's map

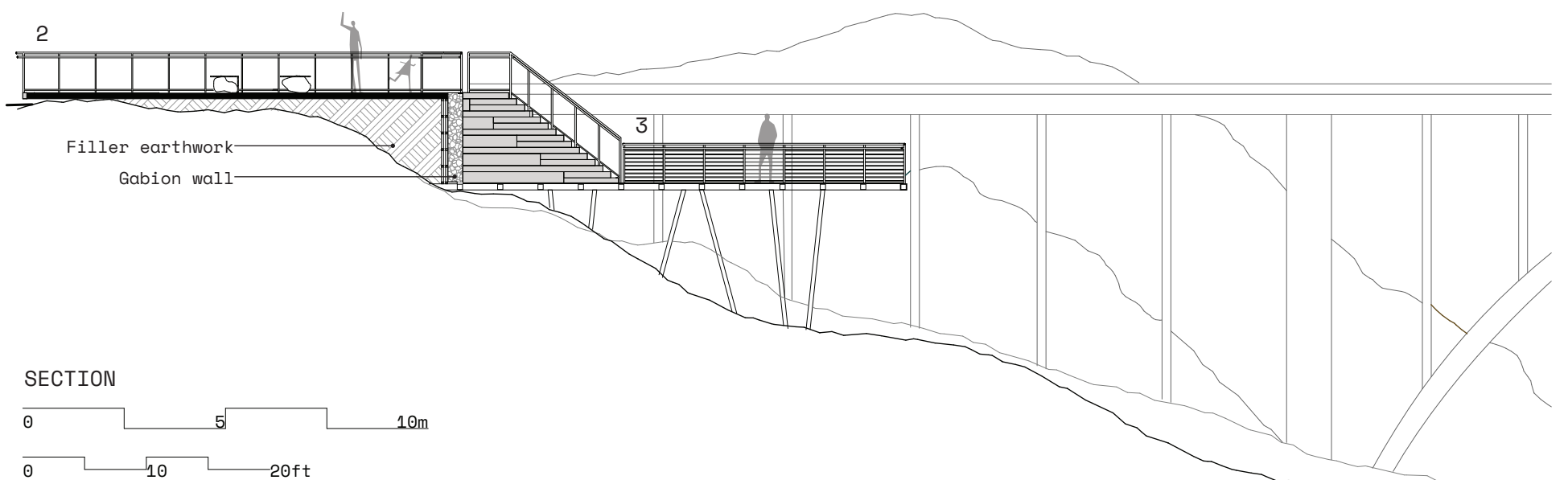


The proposed route map

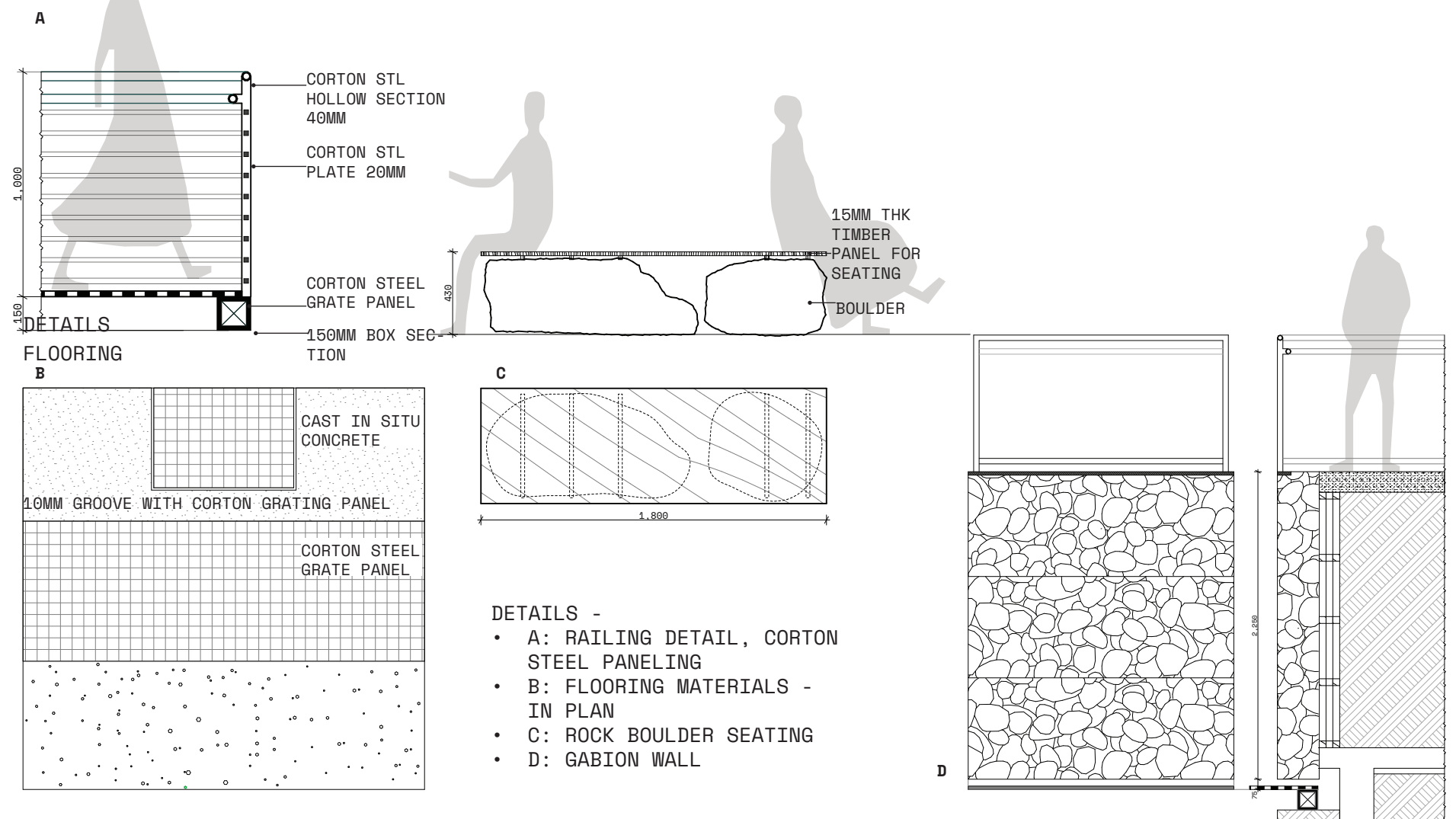
Bixby Bridge Lookout 1

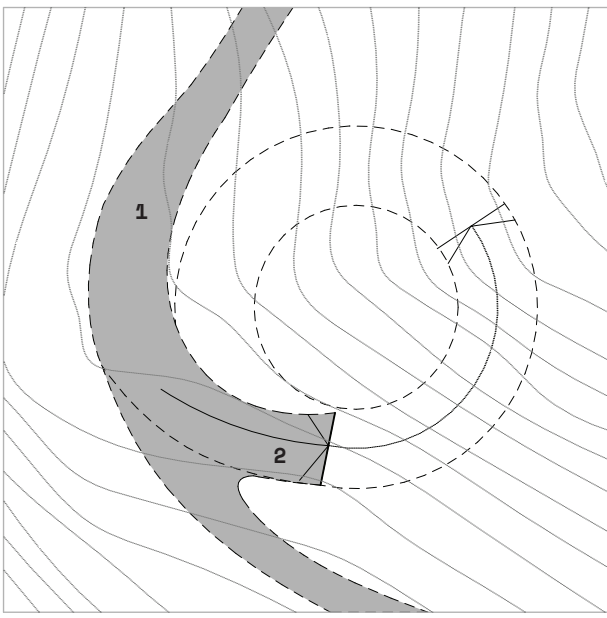


- KEY LOOKOUT 1
 1. PARKING
 2. ROAD LVL LOOKOUT
 3. LOWER LVL LOOKOUT

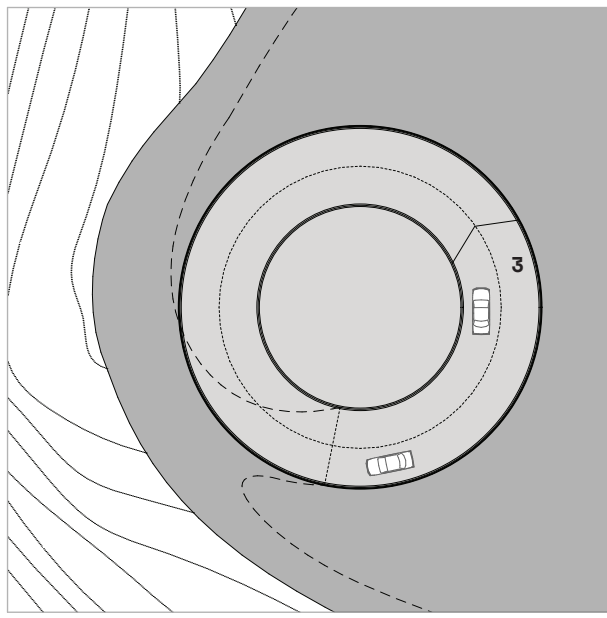


About the project -
 The proposal revisits the current observation area adjacent to Bixby Bridge, introducing a multi-tiered viewing platform. This deck **reimagines the lookout as a communal space**, complemented by the majestic bridge as its scenic backdrop. Everyday parking has been moved a mile away to a proposed tunnel, which also unveils **an unexpected second lookout** point, featuring its own deck. The materiality has been limited to corton steel, concrete, timber and sculptural boulder seating

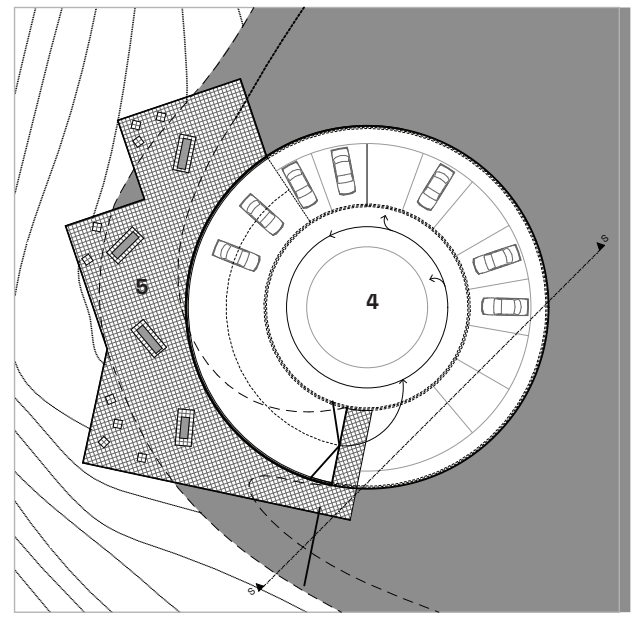




PLAN - COAST ROAD LVL
 1. COAST ROAD
 2. RAMP ENTRANCE



PLAN - TUNNEL RAMP LVL
 3. WAY DOWN TO PARKING

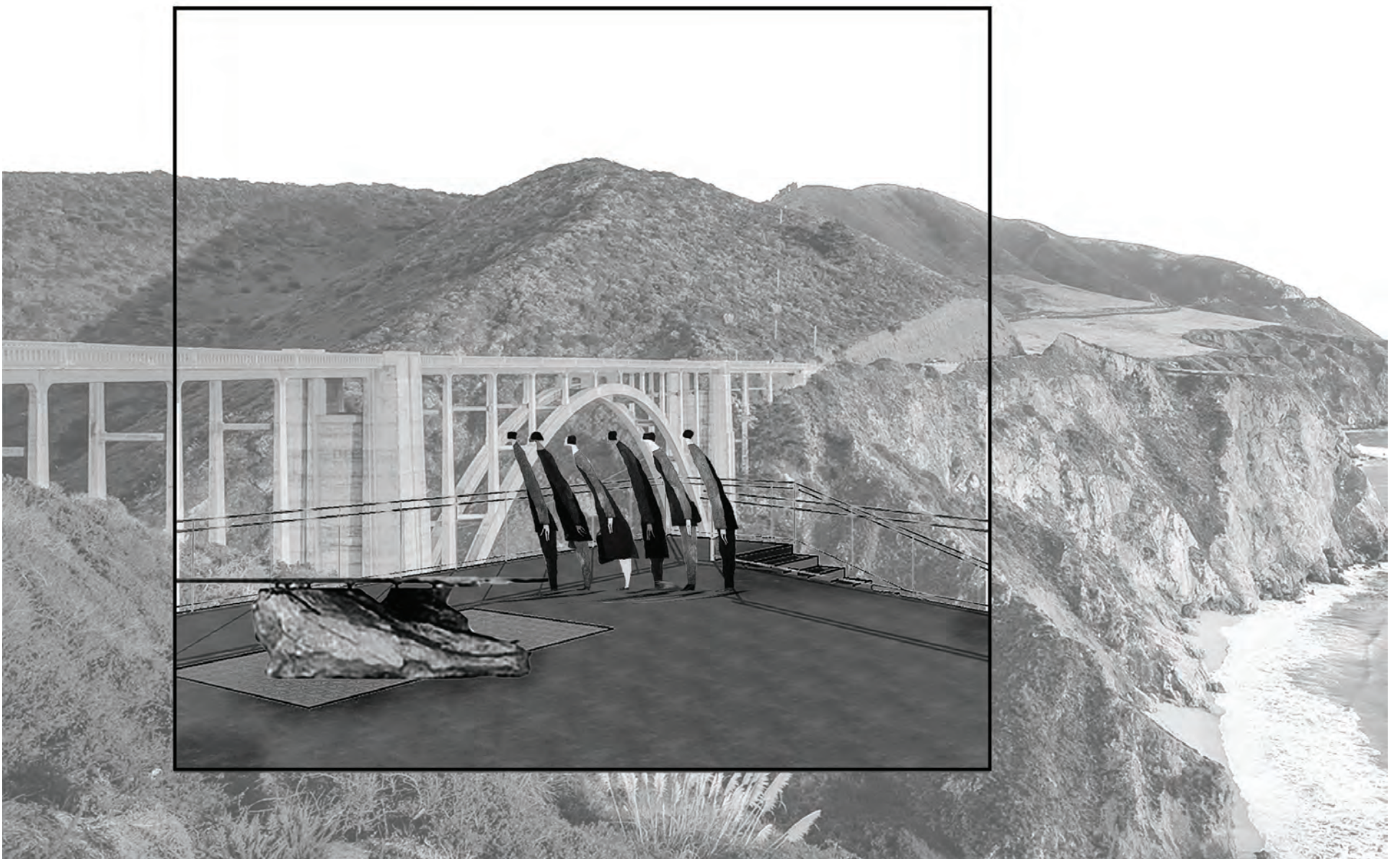
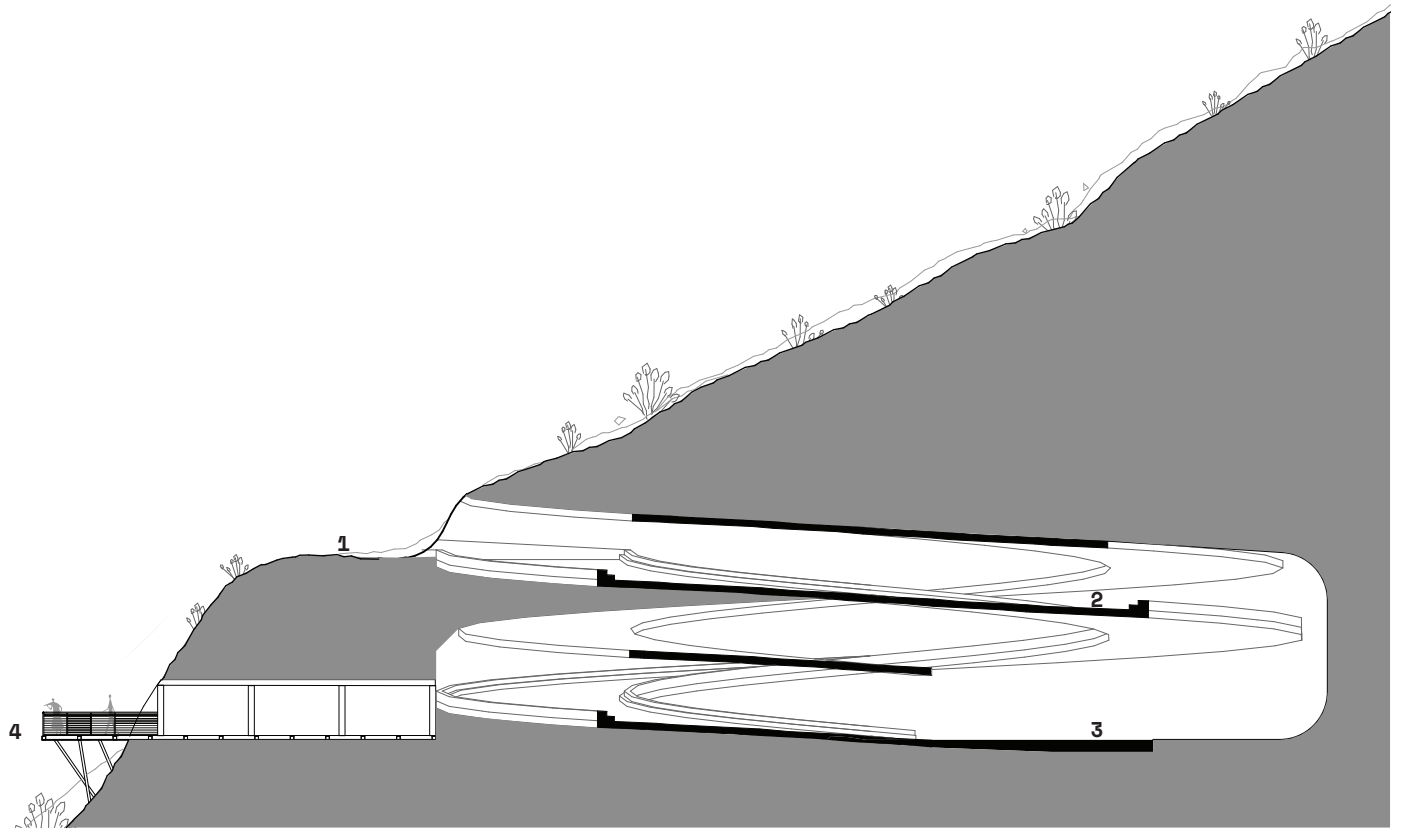


PLAN - PARKING + LOOKOUT 2
 4. PARKING
 5. LOOKOUT 2

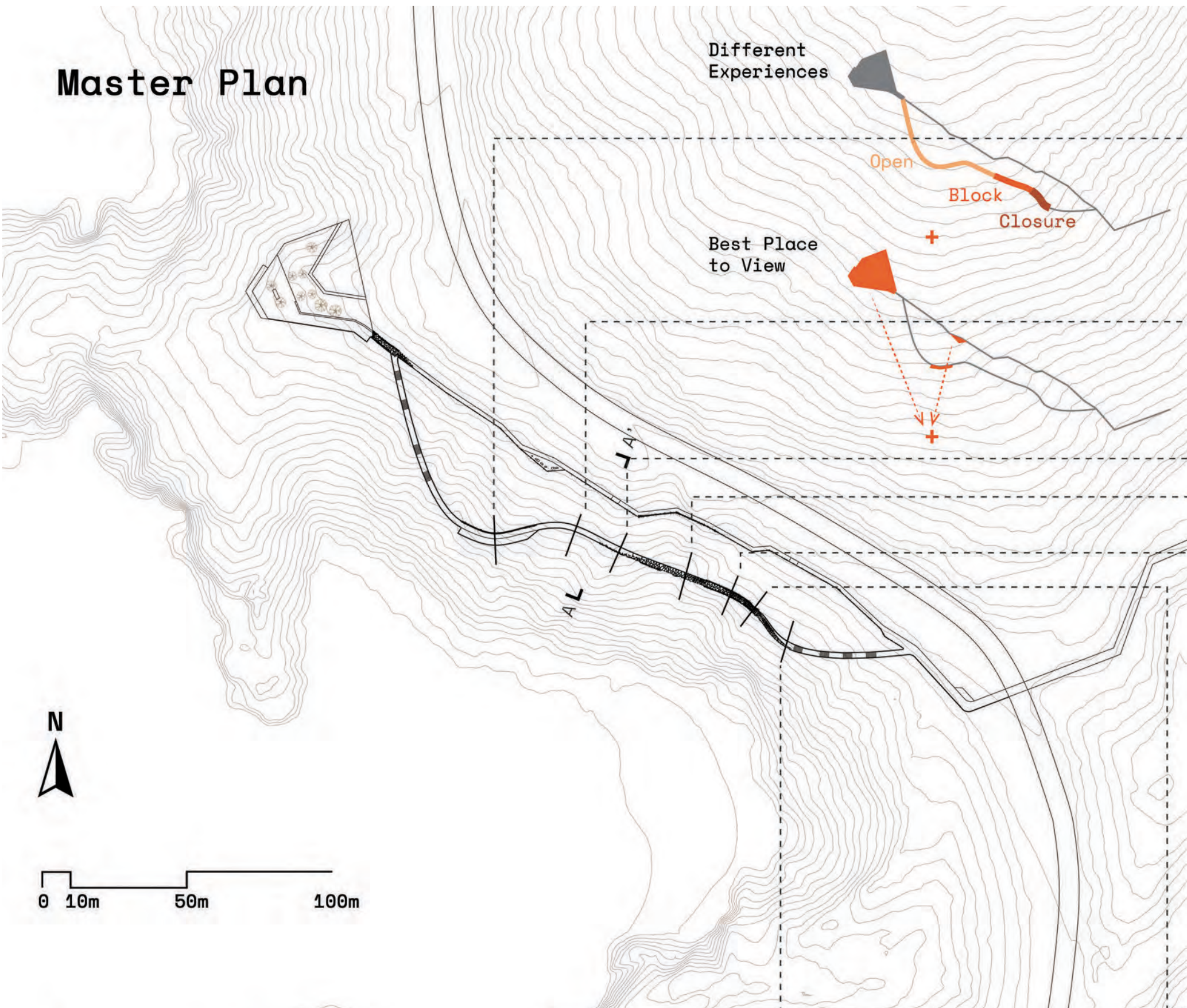
Proposed Parking tunnel and Lookout 2

- KEY LOOKOUT 2
 1. COAST ROAD
 2. RAMP TO THE PARKING
 3. PARKING
 4. LOOKOUT 2

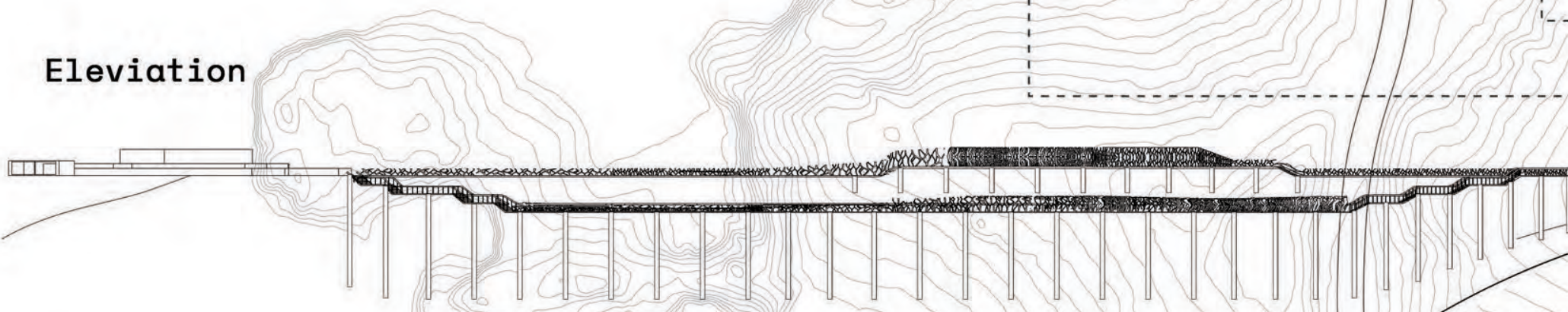
SECTION
 0 5m
 0 10ft



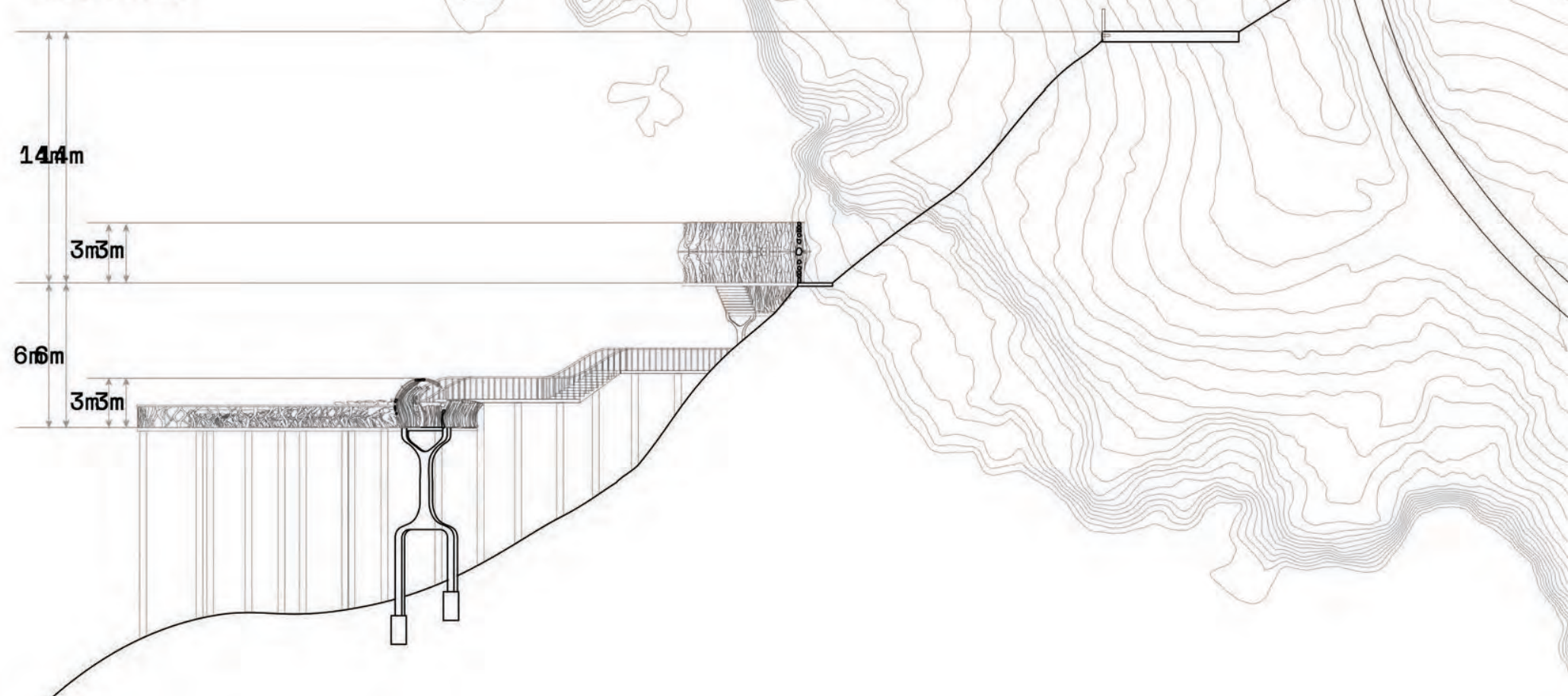
Master Plan

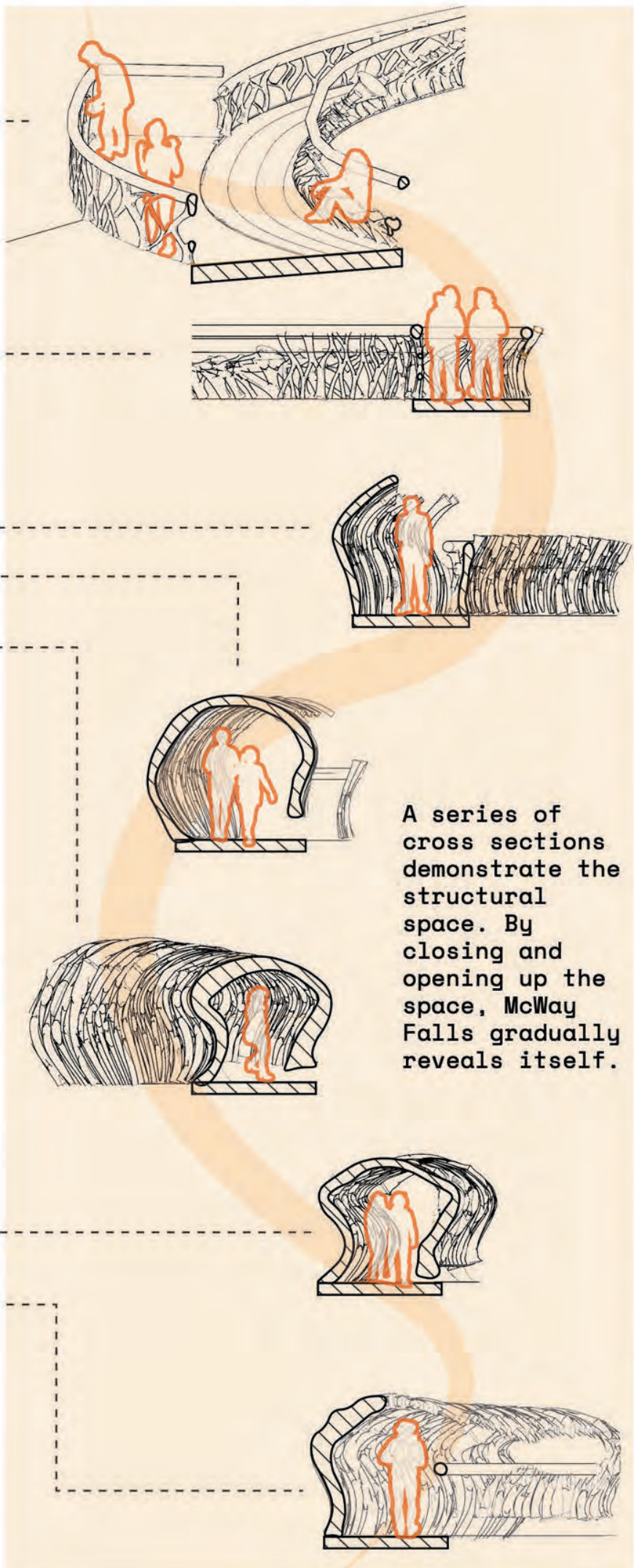


Elevation



Section





One-Piece Structure

A loop trail in Big Sur's McWay Waterfalls that offers an enriching excursion experience

+ Sea Otter

Abandoned McWay Waterfall House, It was once intended to be a history museum.

Has better view to McWay waterfall, but partial trail closure due to landslide

Lack of service infrastructure

+ Peregrine Falcon

McWay Fall

Lithology

- █ Clastic sedimentary
- █ Hillslope debris
- █ Hillslope deposit
- █ Marble
- █ Marine terrace
- █ Tonalite
- █ <all other values>

Slope Degree

- █ 0.01 - 11.01
- █ 11.02 - 28.03
- █ 28.04 - 38.38
- █ 38.39 - 49.73
- █ 49.74 - 85.11

Countour

The historical information provided adds even more magic to this already pristine piece of California coastline.

Much of the area is closed off, including the path to the former house site. That, to me, was the most special spot, affording 180 degree views of the ocean area and seeing what a nirvana place to have a house would be.

Great overlook and waterfall - just wish we could've done the full thing

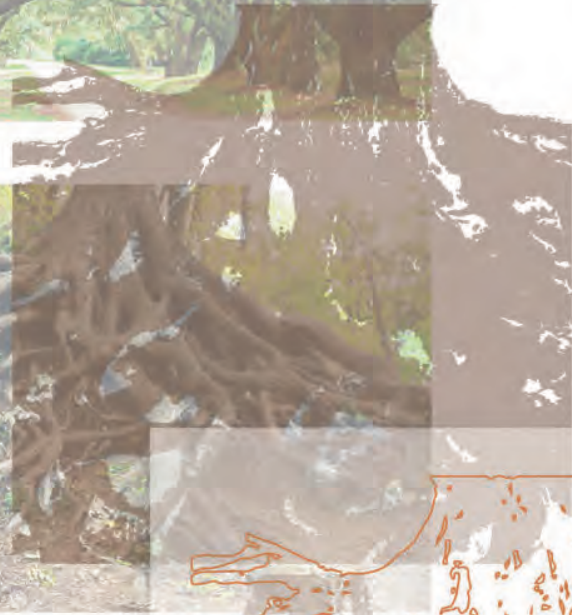
The park is probably very beautiful but they had a very bad landslide some years ago and several good trails have become inaccessible.



Inspiration From Live Oak Root



Very Dense



Taking inspiration from the roots of the oak tree, the density of the roots is utilized to create a different spatial experience, blocking the view; incorporating signage to show Big Sur's history

- Big Sur was home to people of three separate groups: the Ohlone, the Esselen, and the Salinan.



- Their food sources through the seasons moving in fall to the oak groves to collect acorns;



- in spring to the open meadows full of tender greens;



Watercress



Montia perfoliata

- in winter to the coastal to find shell



Functional Plants



Willow Branches were woven into fish traps and watertight baskets.

Chlorogalum Pomeridianum

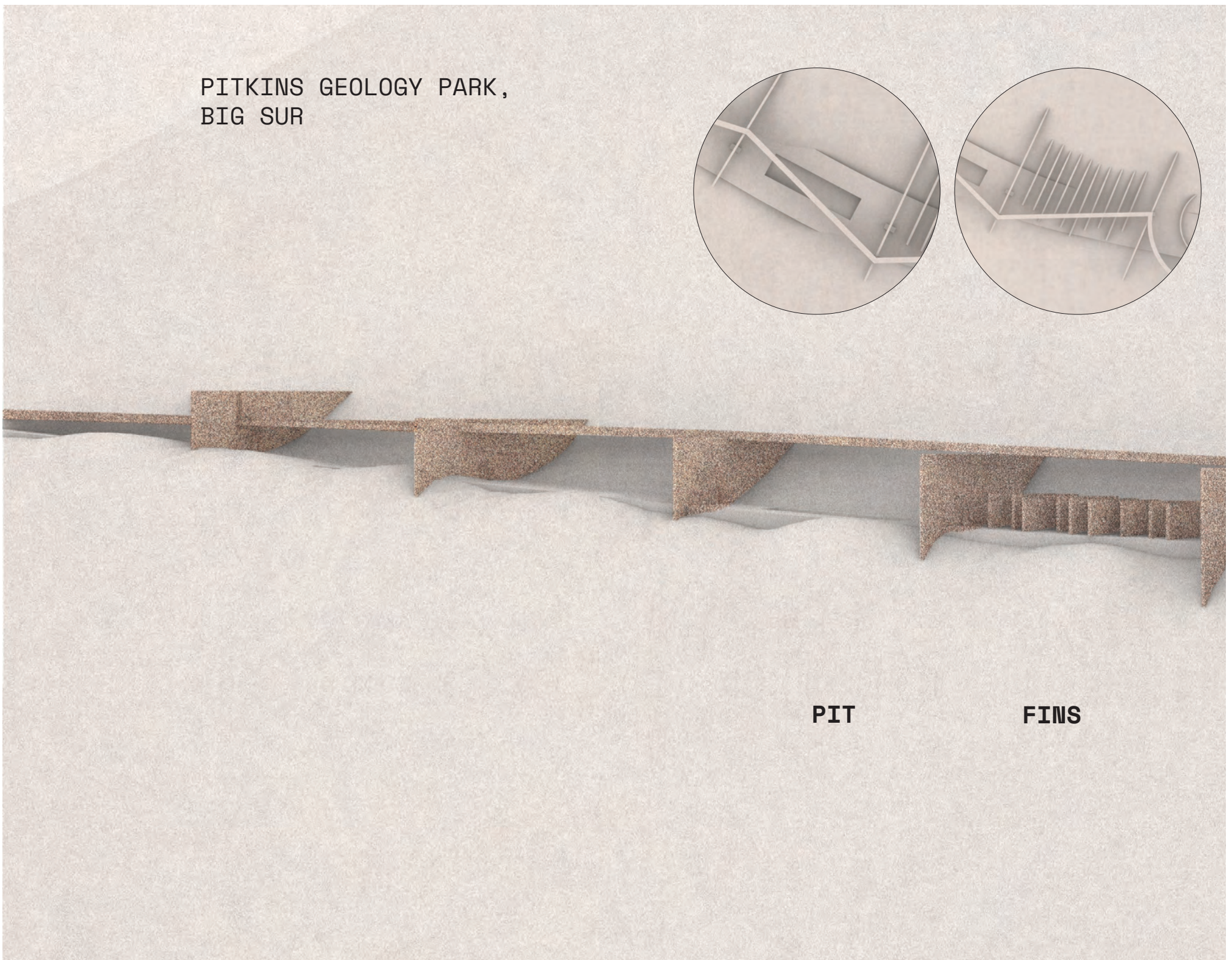


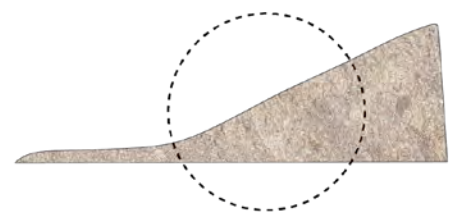
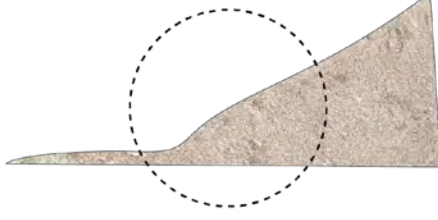
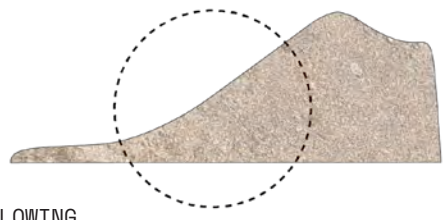
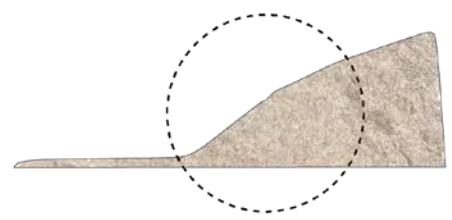
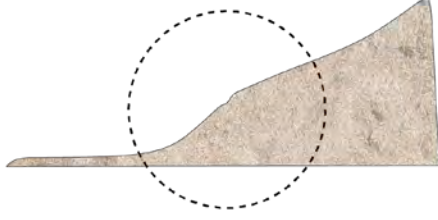
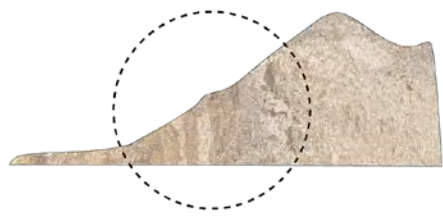
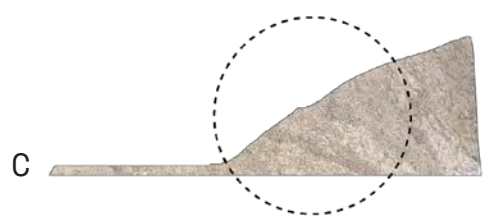
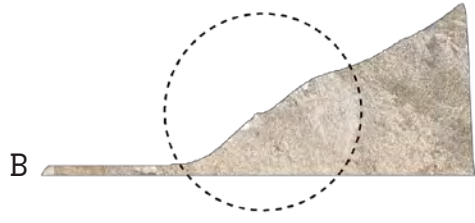
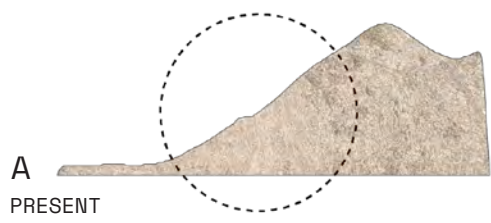
were used to stupefy and catch fish in the streams and to make a shampoo-like soap.

Very Dense

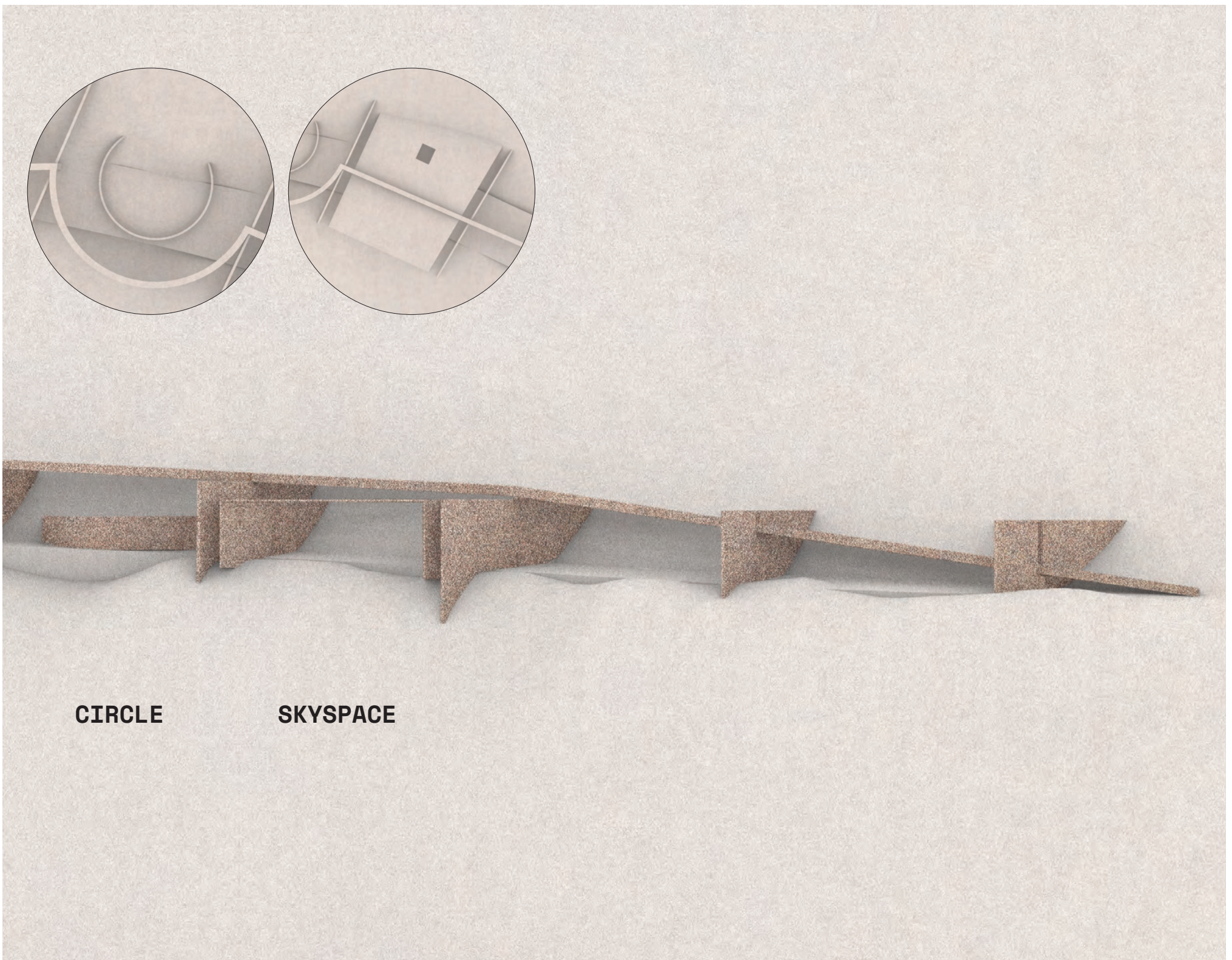
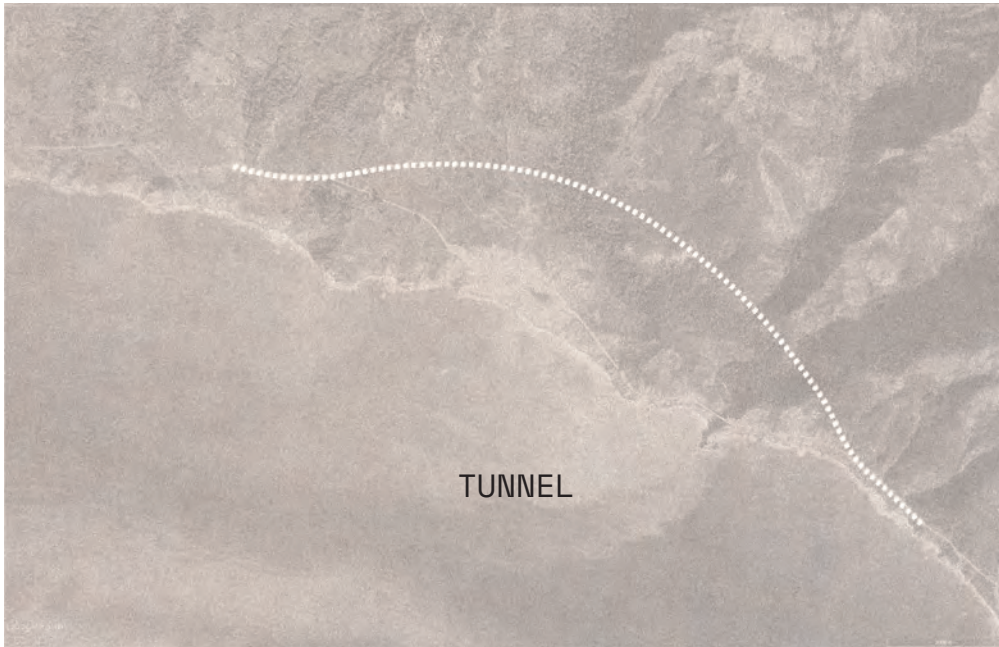


Loose





FOLLOWING
LANDSLIDE EVENTS

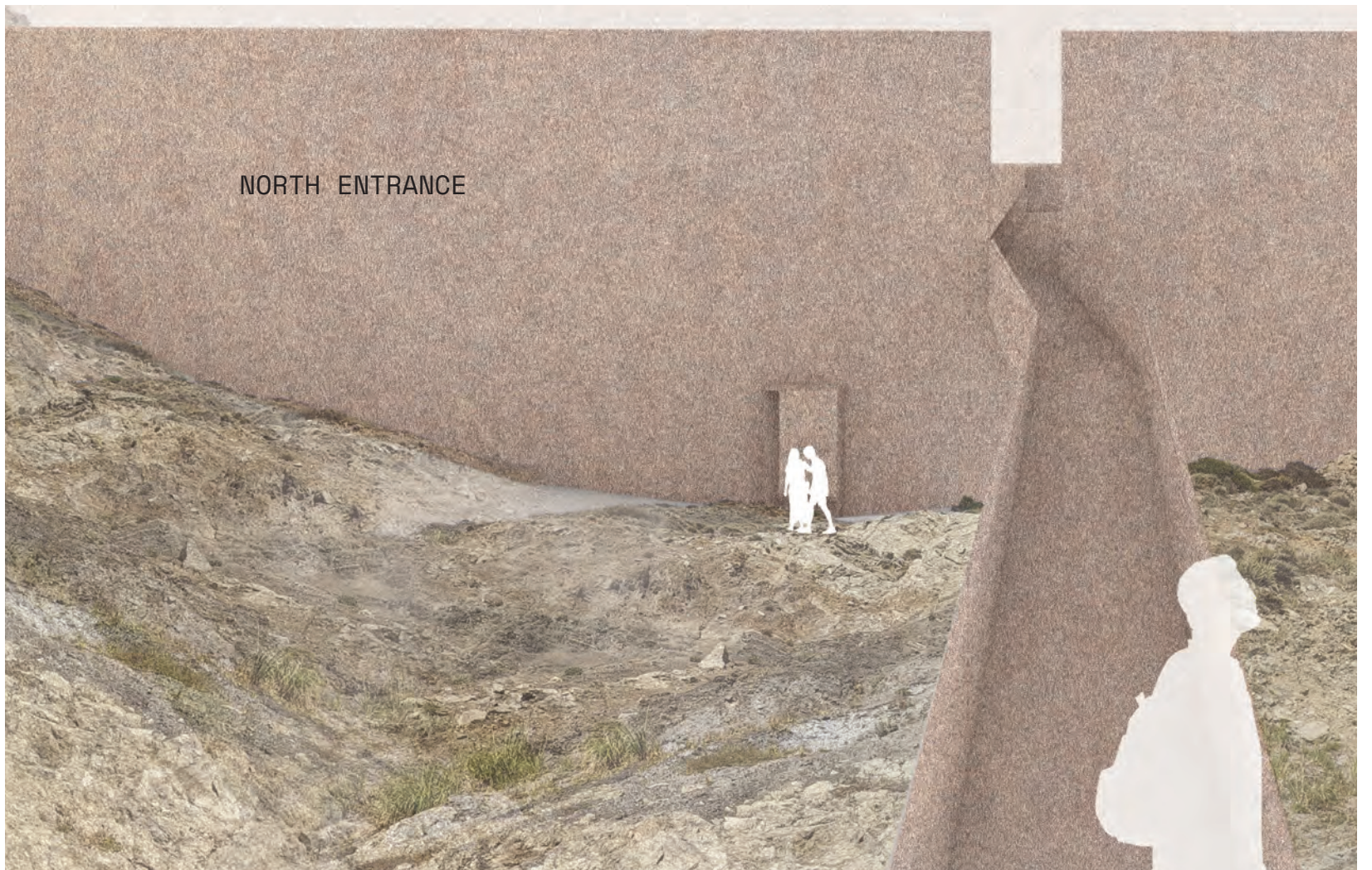




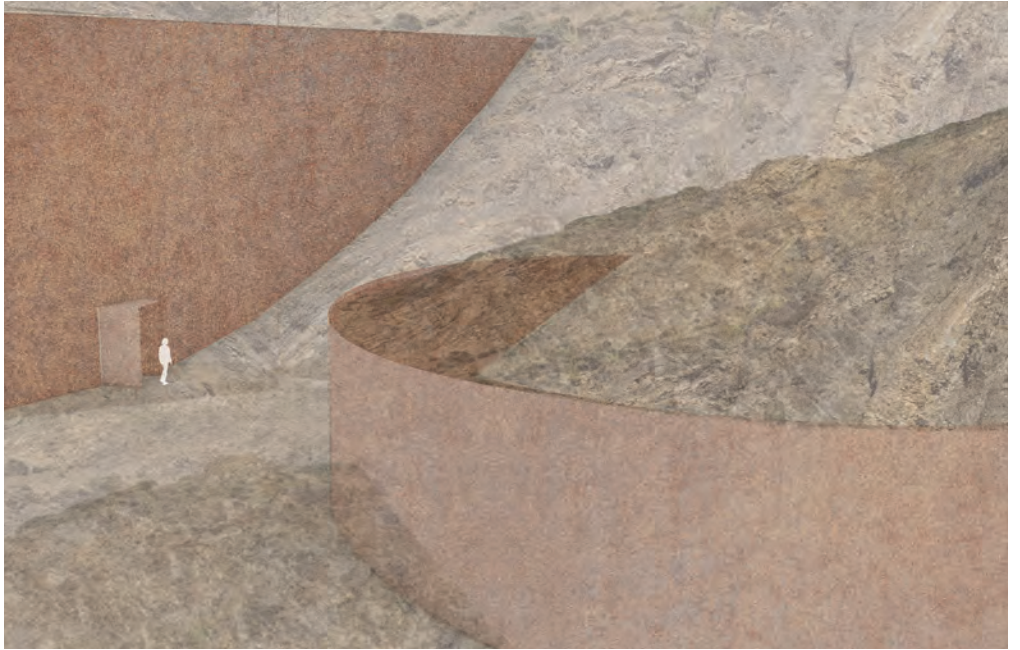
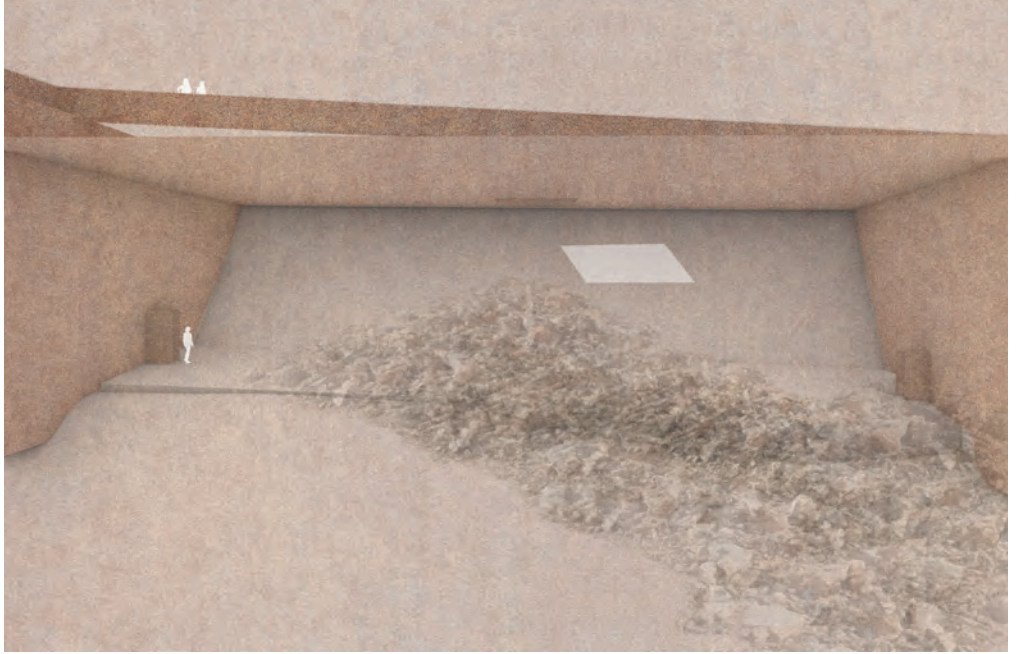
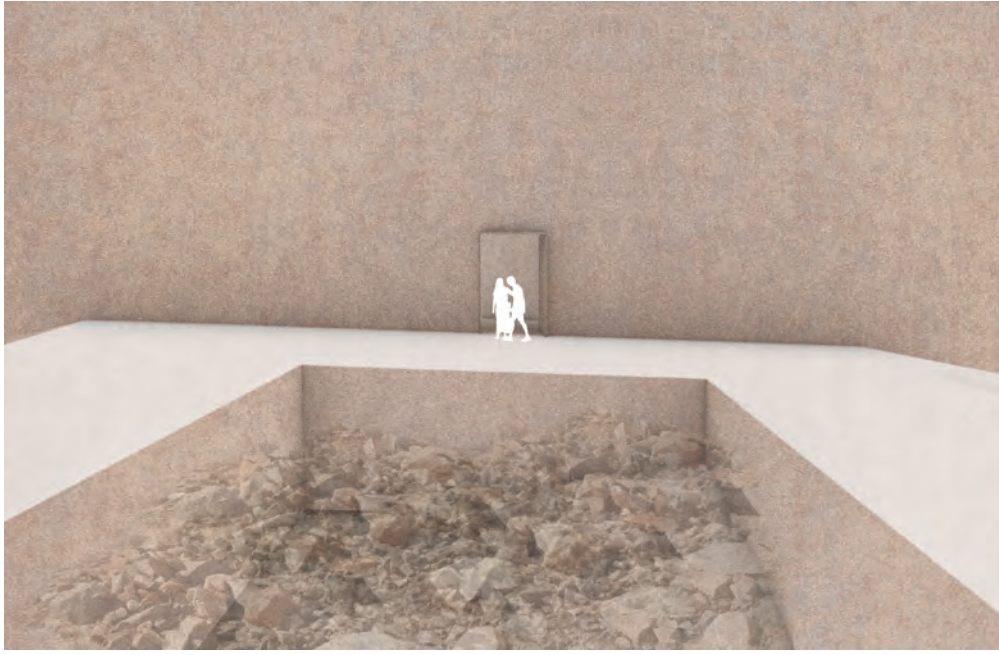
GROUND LEVEL WALKWAY



SKY WALKWAY

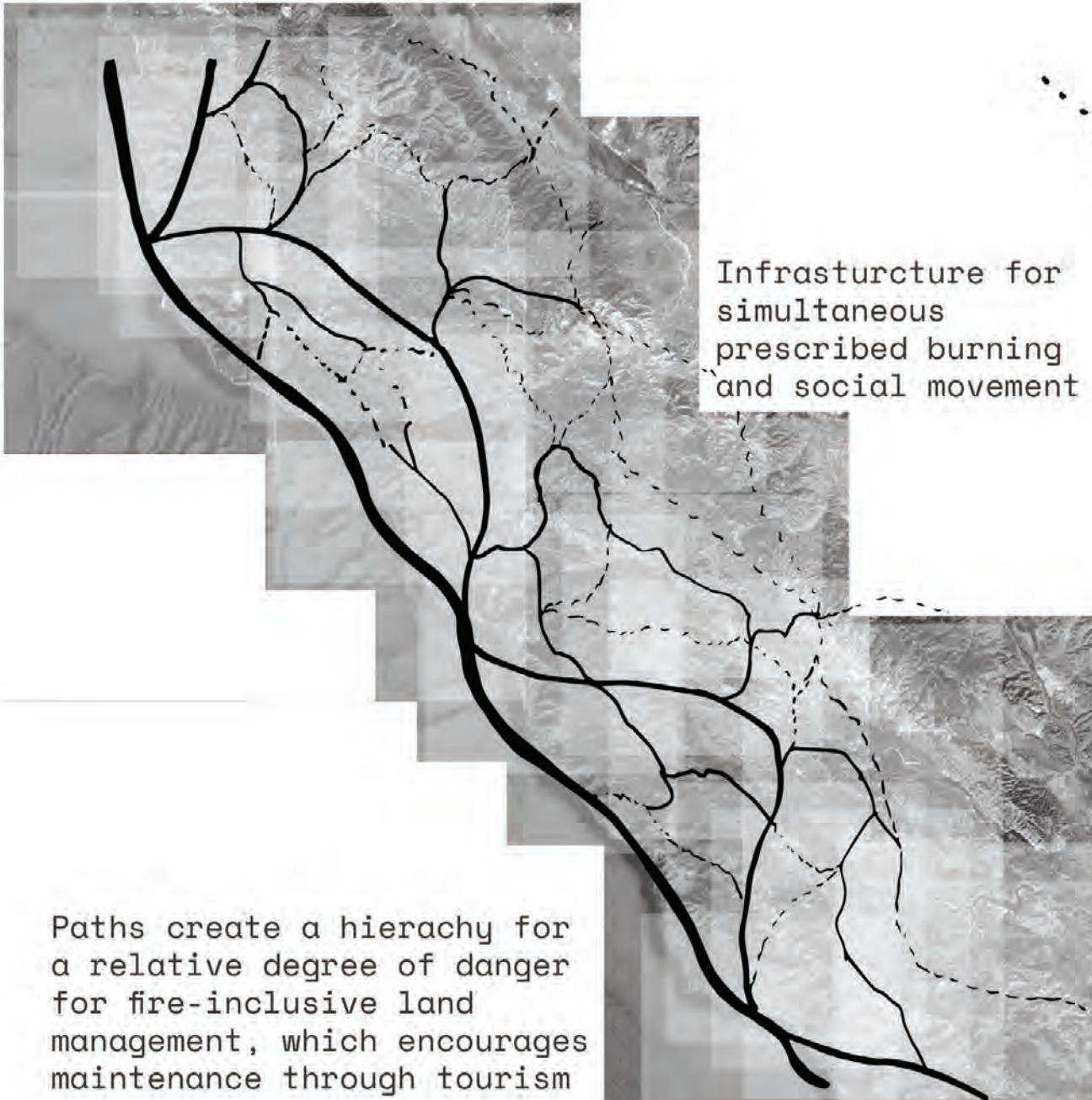


NORTH ENTRANCE



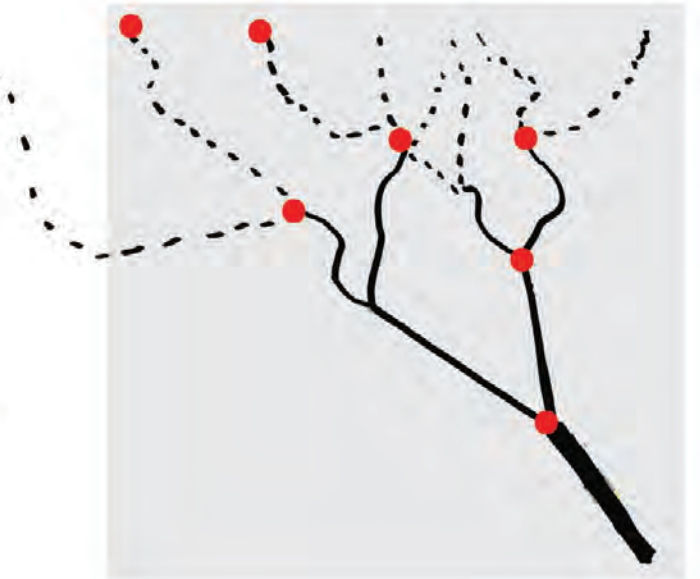
BIG SUR **INFRASTRUCTURE**

Eli
Demosthenes

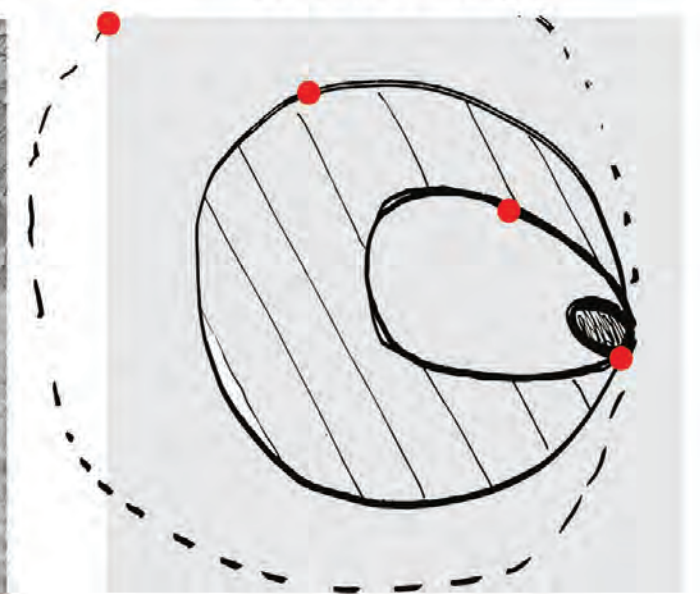


Infrastructure for simultaneous prescribed burning and social movement

Paths create a hierarchy for a relative degree of danger for fire-inclusive land management, which encourages maintenance through tourism



Hierarchy



Relativity



Density



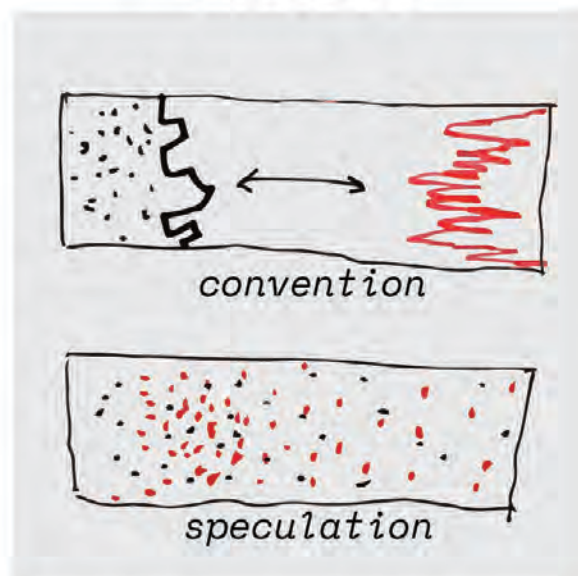
Contrast



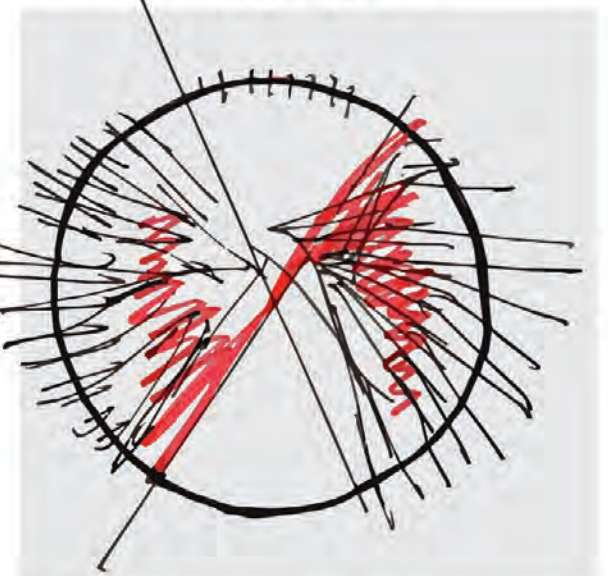
Mosaic



Fire as Ground

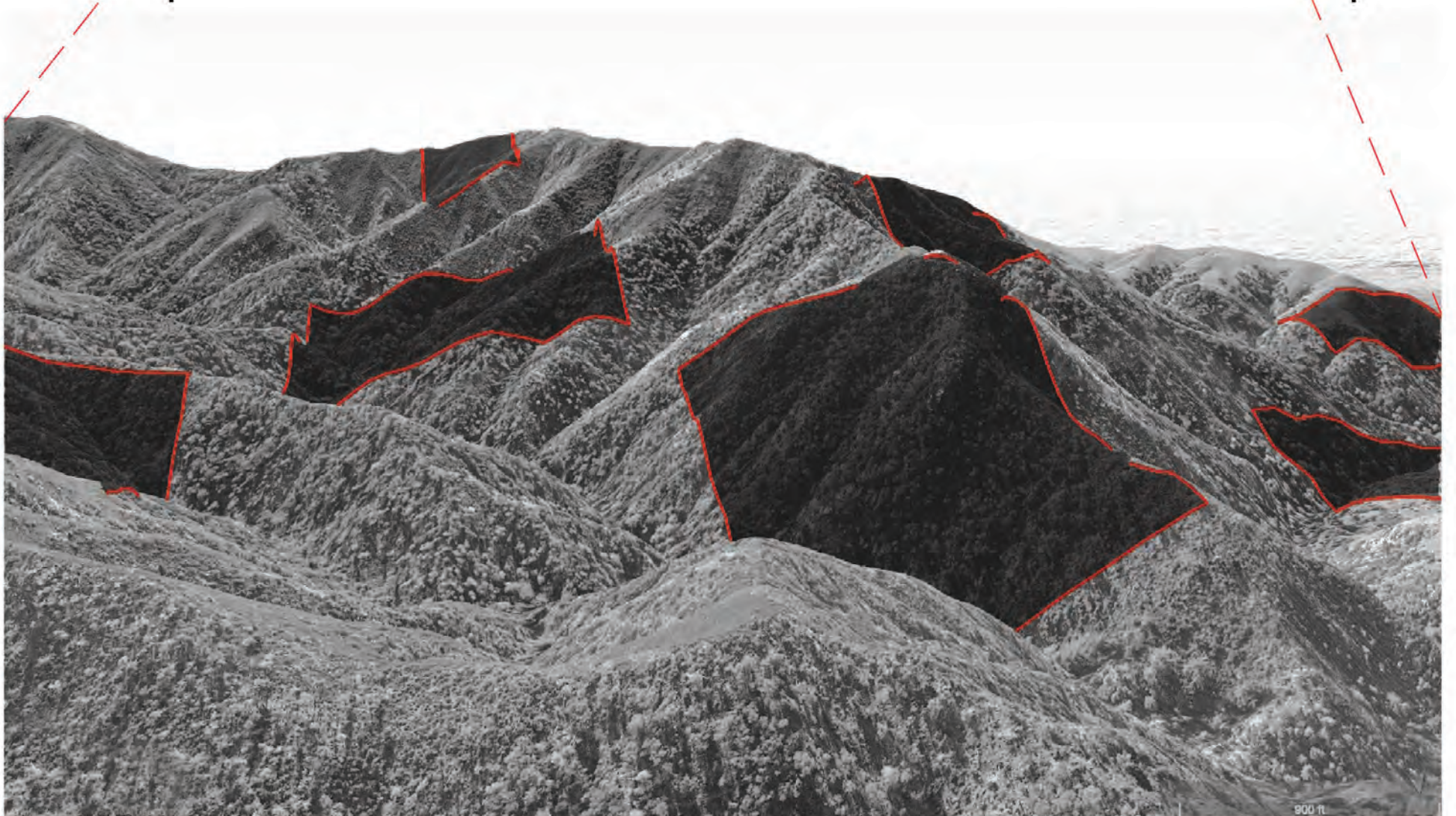
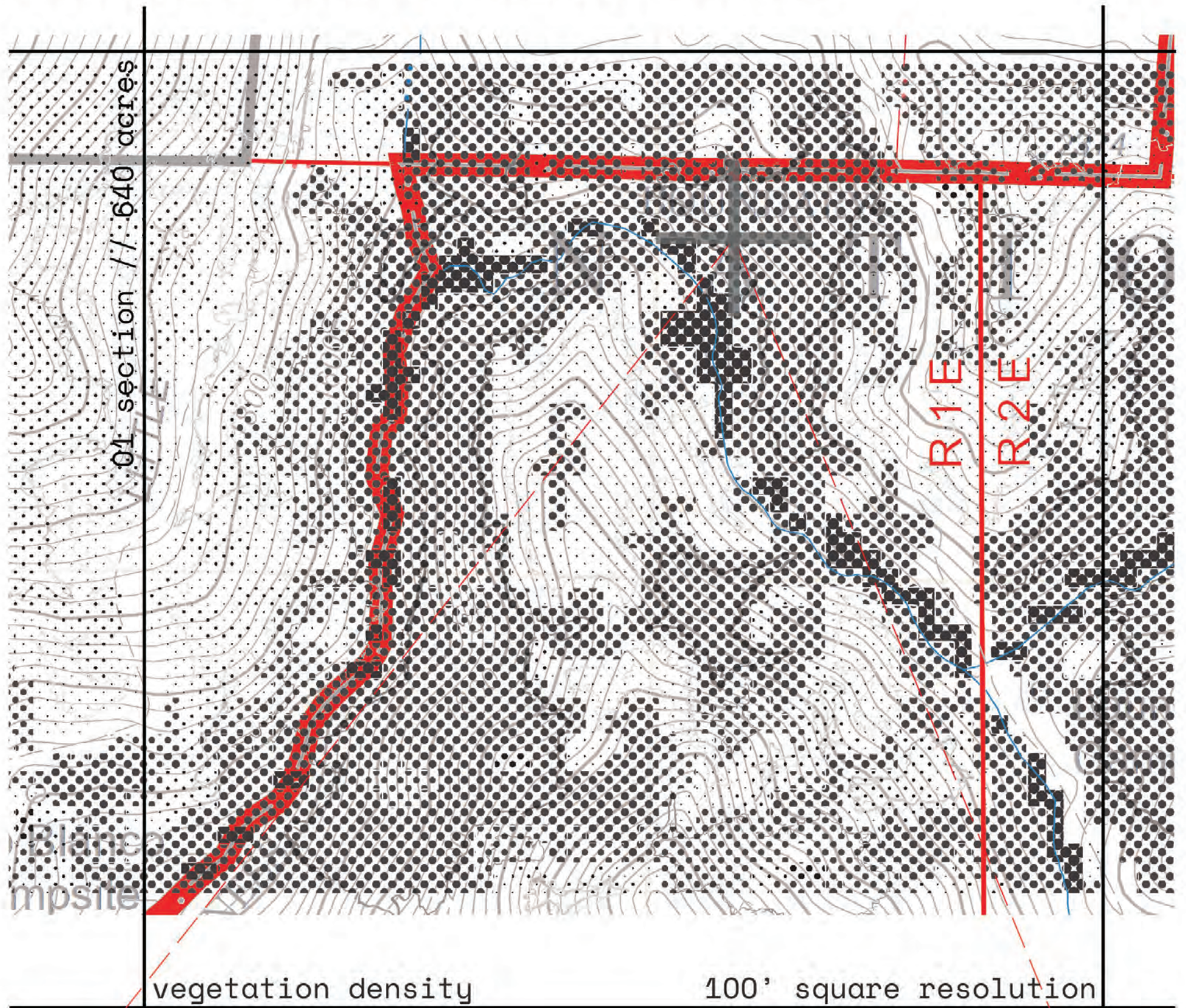


Accessible Processes



Rotational Burning

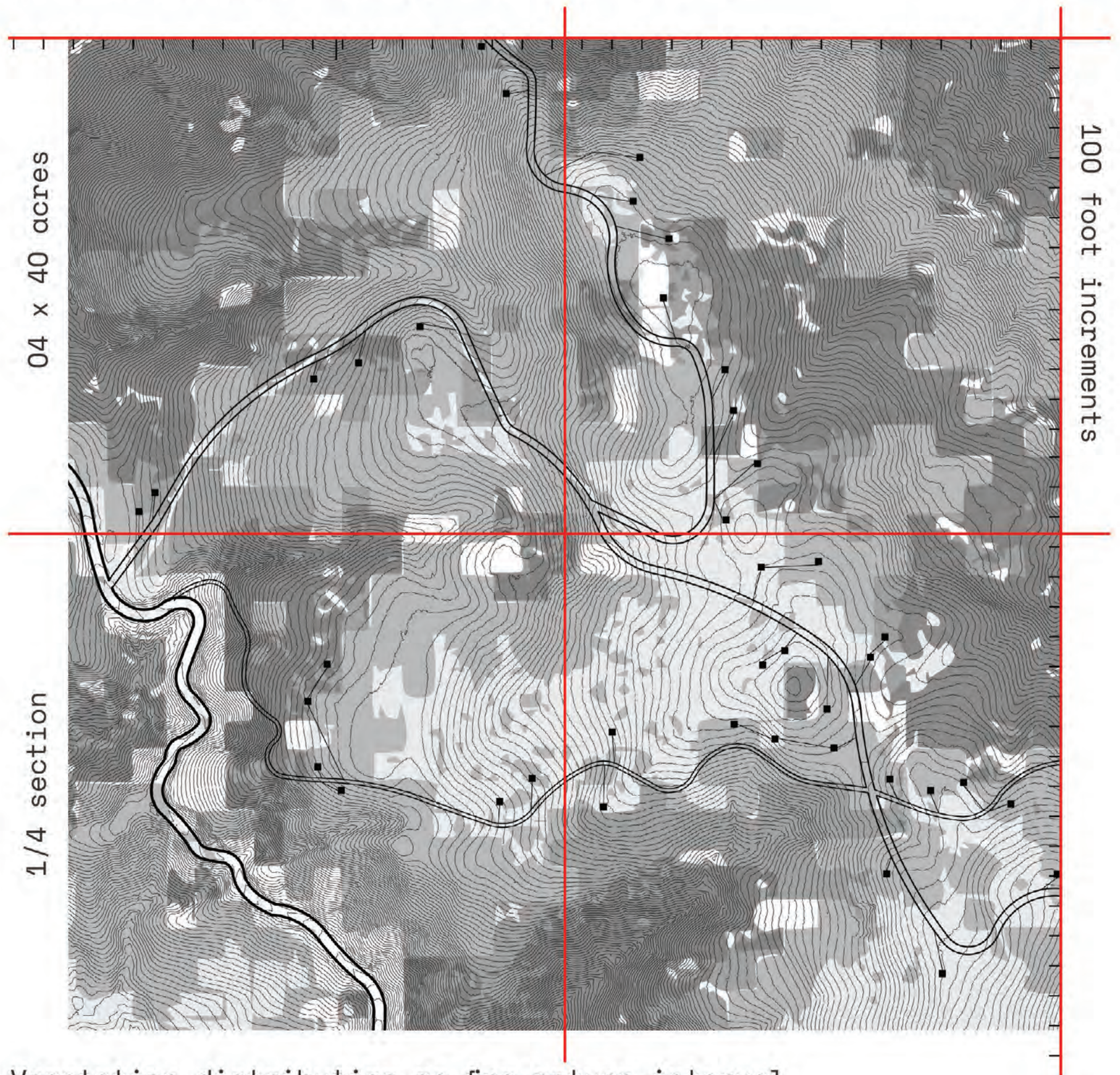
WILDERNESS density mosaic <coarse>



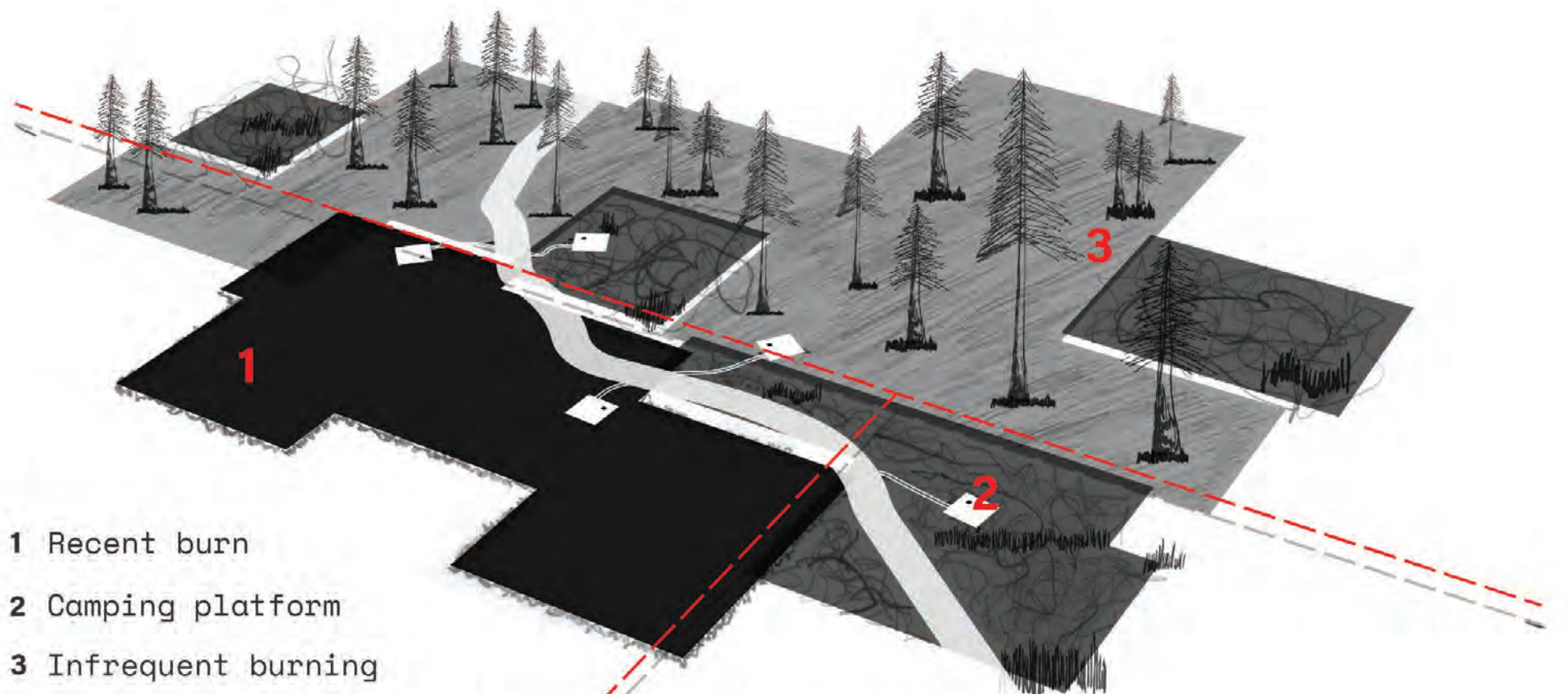
View of remote prescribed fires

|—————| 1000'

CAMPGROUND density mosaic <fine>

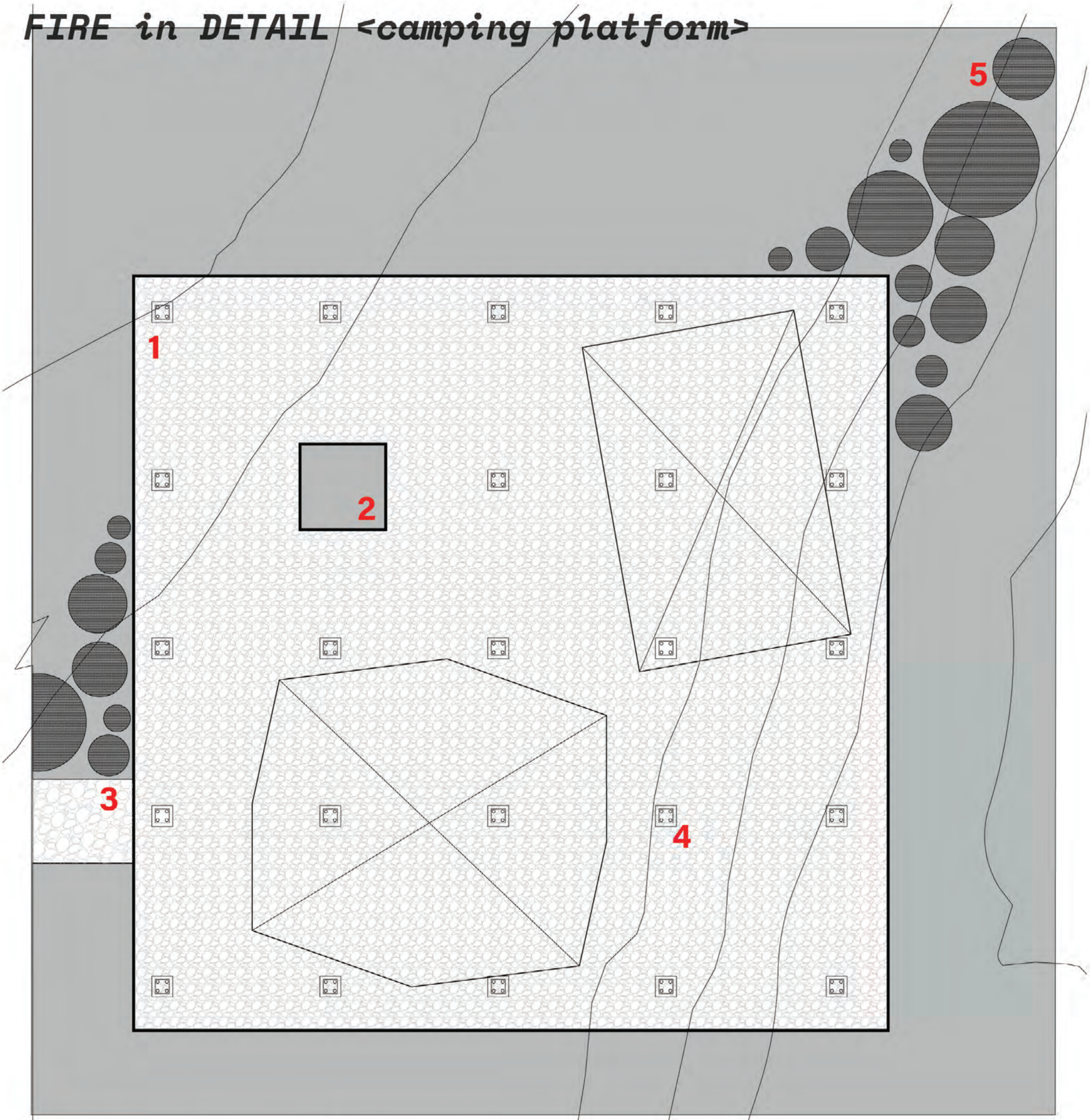


Vegetation distribution as fire-return-interval



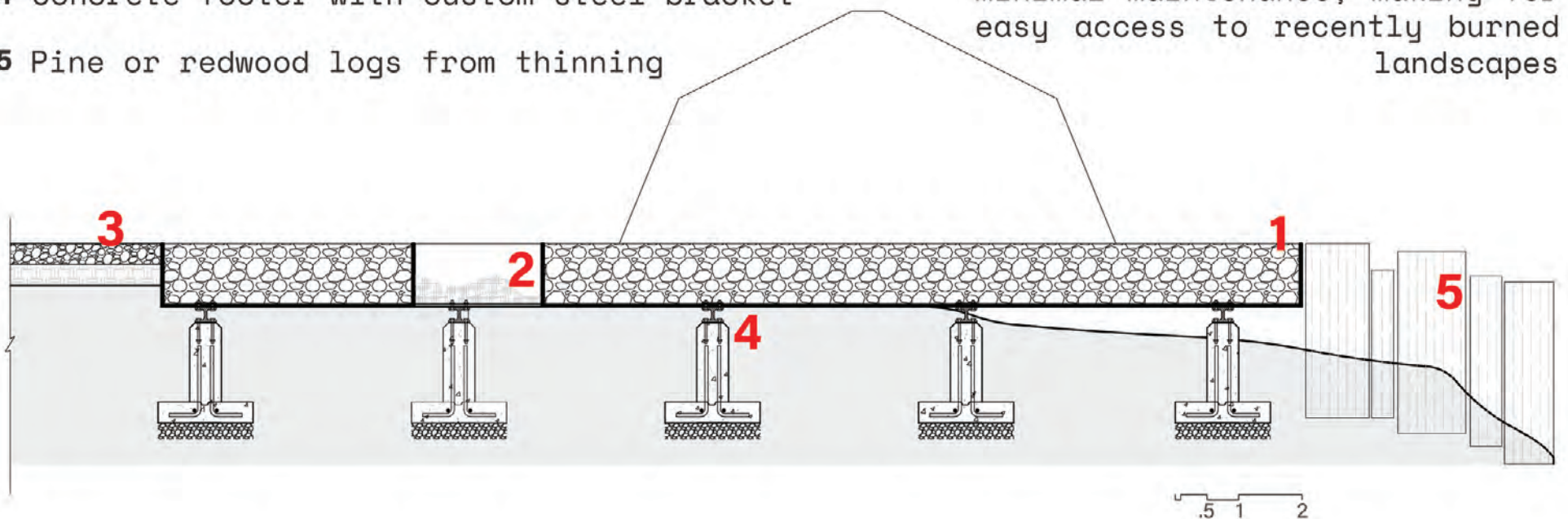
Camping can happen shortly after burning

FIRE in DETAIL <camping platform>



- 1 Steel frame filled with fine aggregate
- 2 Permanent fire pit
- 3 Gravel path from road & parking
- 4 Concrete footer with custom steel bracket
- 5 Pine or redwood logs from thinning

Pyro-impervious structure needs minimal maintenance, making for easy access to recently burned landscapes



JULIA PFIEFFER
BURNS STATE PARK

MCWAY FALLS

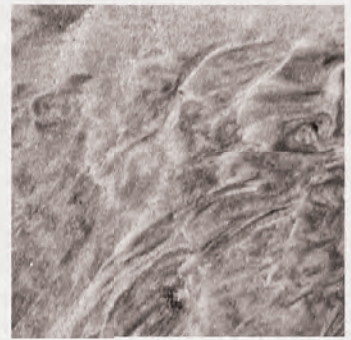
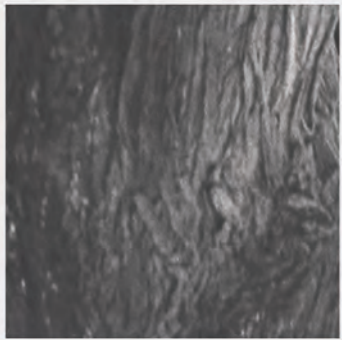
BUCK CREEK
CAMPGROUND

SLATES HOT SPRINGS

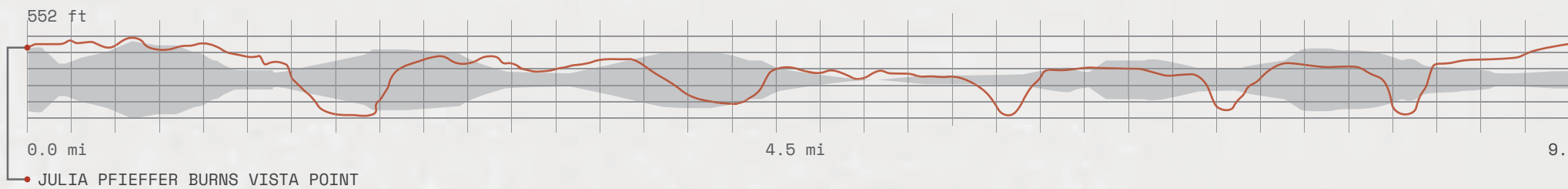
LABYRINTH

SPIRIT OF SUR

A TREK ALONG THE COAST



SENSORY EXPERIENCE & ELEVATION



TRAIL CONDITION







SPIRIT OF SUR TRAIL

OLIVA JONES

LENGTH: 17.4 MI

ELEVATION GAIN: 1,551 FT

ROUTE TYPE: POINT-TO-POINT

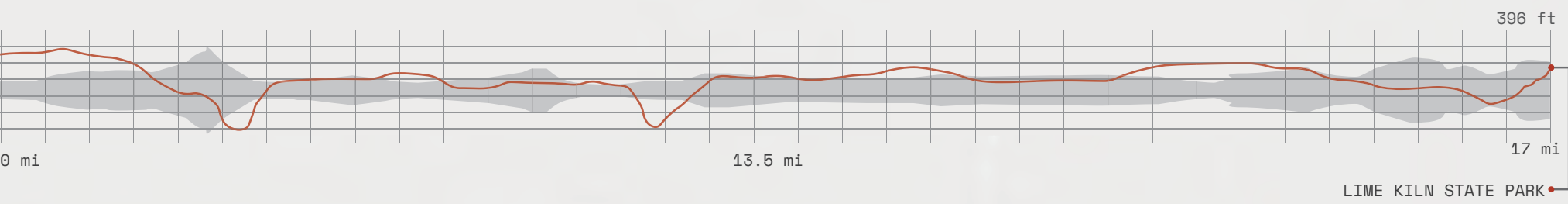
-  WAYPOINT
-  REST AREA & AMENITIES
-  CAMPGROUND
-  RESTORATION HUB

OVERVIEW

This trail celebrates the sublime qualities found in Big Sur – awe, wonder, light, color, and texture – all serving as defining elements for individuals seeking to rediscover their connection with the land. This trail guides users through modern complexities by breaking barriers and inviting exploration within 4th nature. The Spirit of Sur Trail design provides new opportunities for restoring ecosystem habitats, cultural sites, and community partnerships with municipalities.

PSYCHOGEOGRAPHY

The Spirit of Sur Trail utilizes psychogeography, a concept of exploring how geographical spaces influence emotions and behavior. Psychogeography delves into diverse activities that heighten awareness of our surroundings, emphasizing senses and emotions in relation to place. This trail is designed as a sensory journey. As users walk, their physical interactions deeply impact how they understand the world. Through moving around, over, and under, the mind-body connection will uncover hidden dimensions of the dynamic environment of Big Sur.



WAYFINDING & TRAIL IDENTITY

WAYFINDING

Wayfinding elements play a pivotal role in trail navigation within this landscape. Corten steel is used across all wayfinding and trail elements to provide a sense of trail identity. Location awareness is key when trekking across a varied and dynamic landscape. These strategic yet minimal interventions not only enhance safety but also promote responsible trail exploration and environmental conservation for restoring ecosystem habitats, cultural sites, and community partnerships with municipalities.

TRAIL EXPERIENCE (RIGHT)

The Spirit of Sur Trail confronts the existing boundaries of the coastline and seamlessly weaves above, below, and on highway one. Beyond a mere path, this trail responds to the dynamically shifting landscape conditions, urging users to engage with native and emerging ecosystems through restoration efforts and educational opportunities.



WAYPOINT PORTAL



FENCE STEP OVER



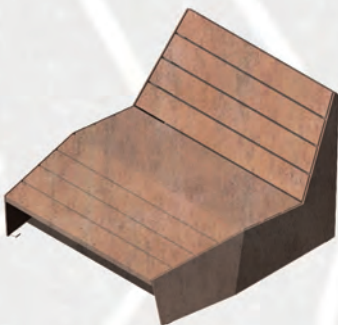
MILE MARKER



AMENITIES DIRECTIONS



TRAIL MAP



SUN BENCH



TRASH BIN



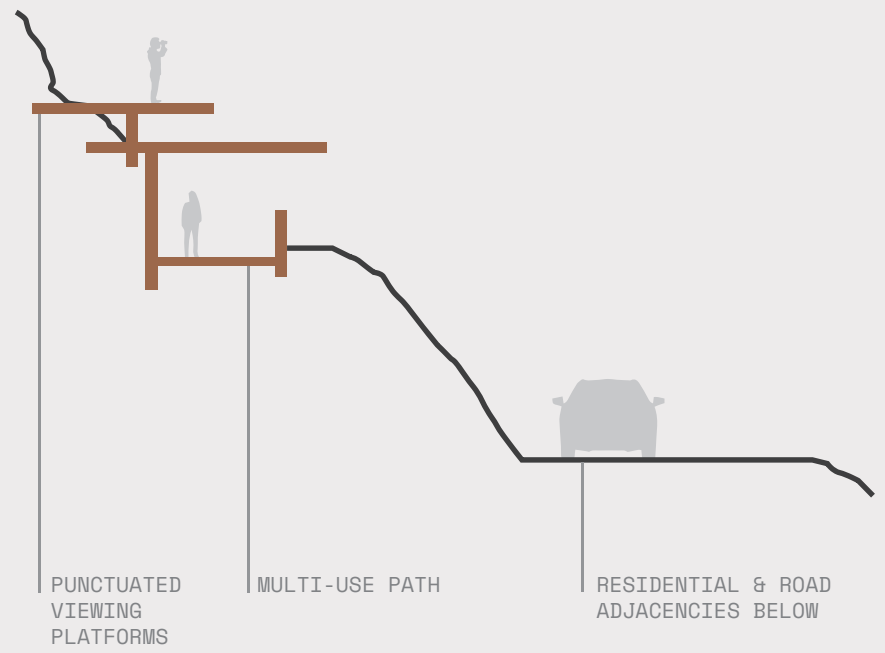
WATER STATION



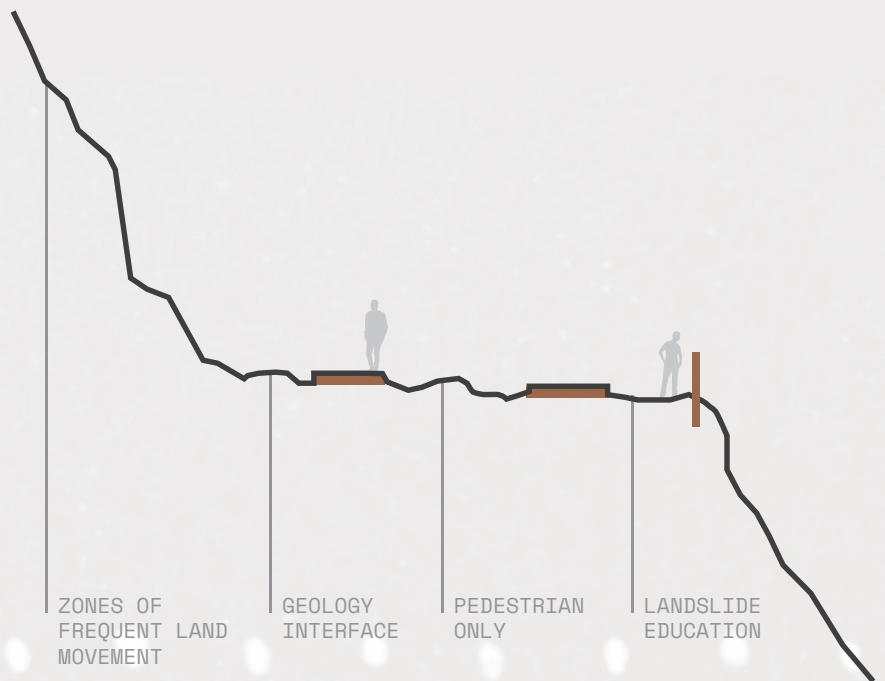
TRAIL EXPERIENCE



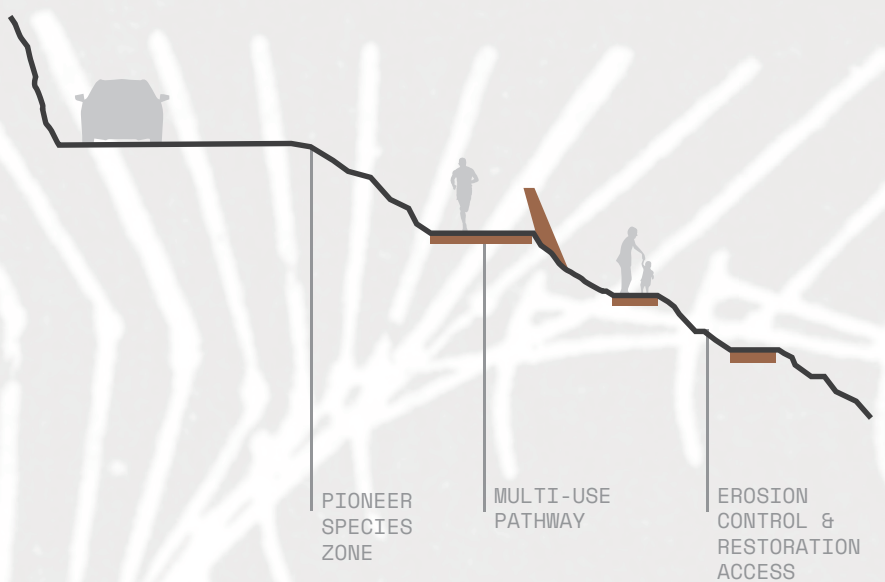
EMBED



ENCOUNTER



EMBRACE

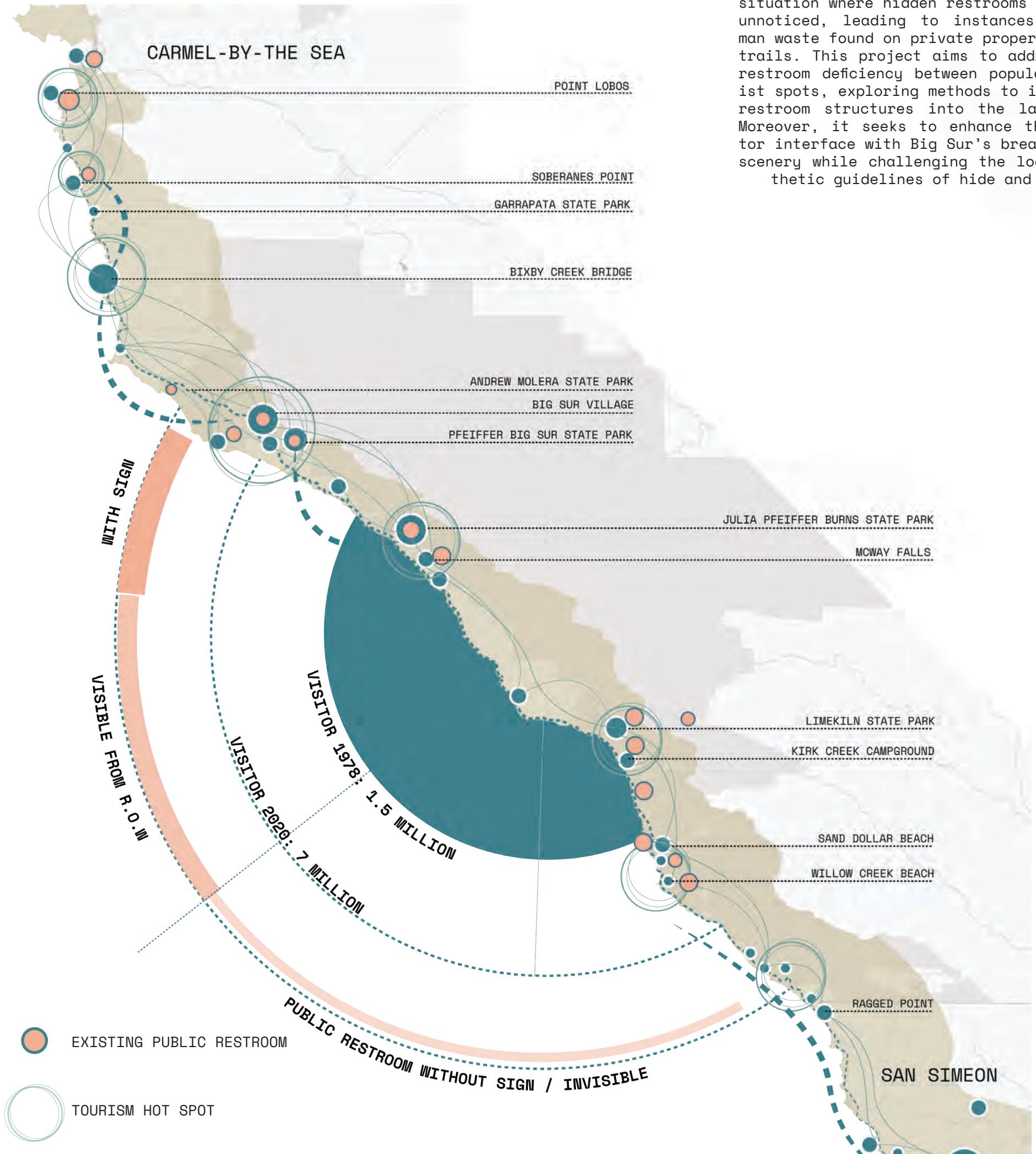


BRIDGING THE GAPS

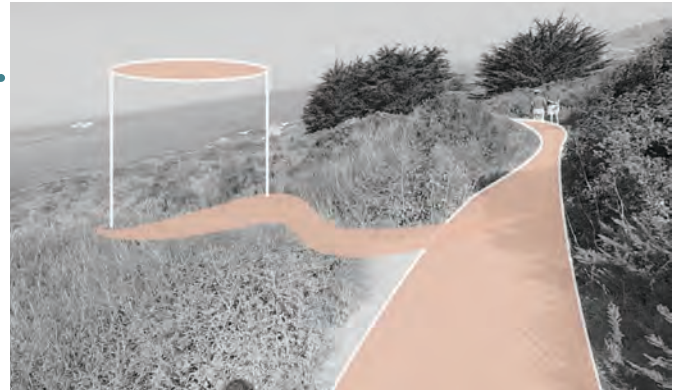
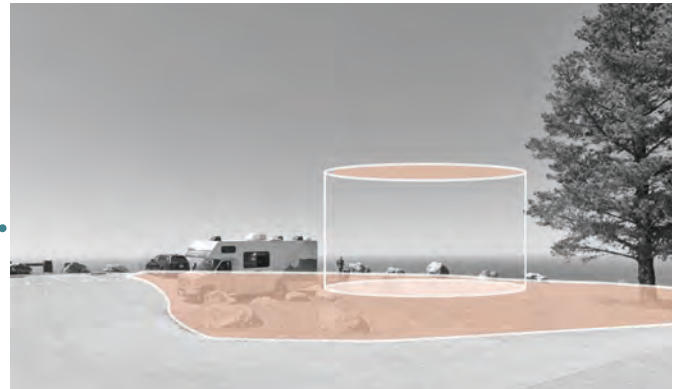
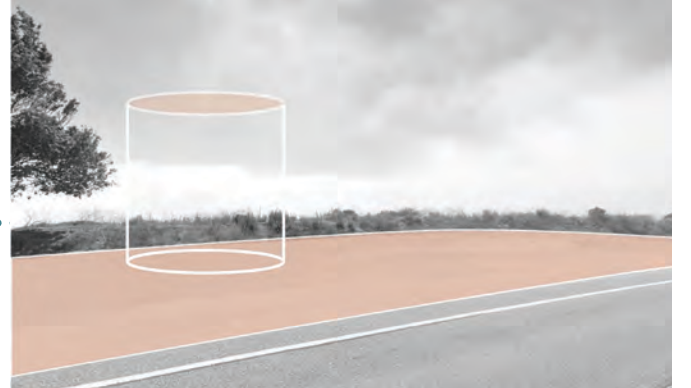
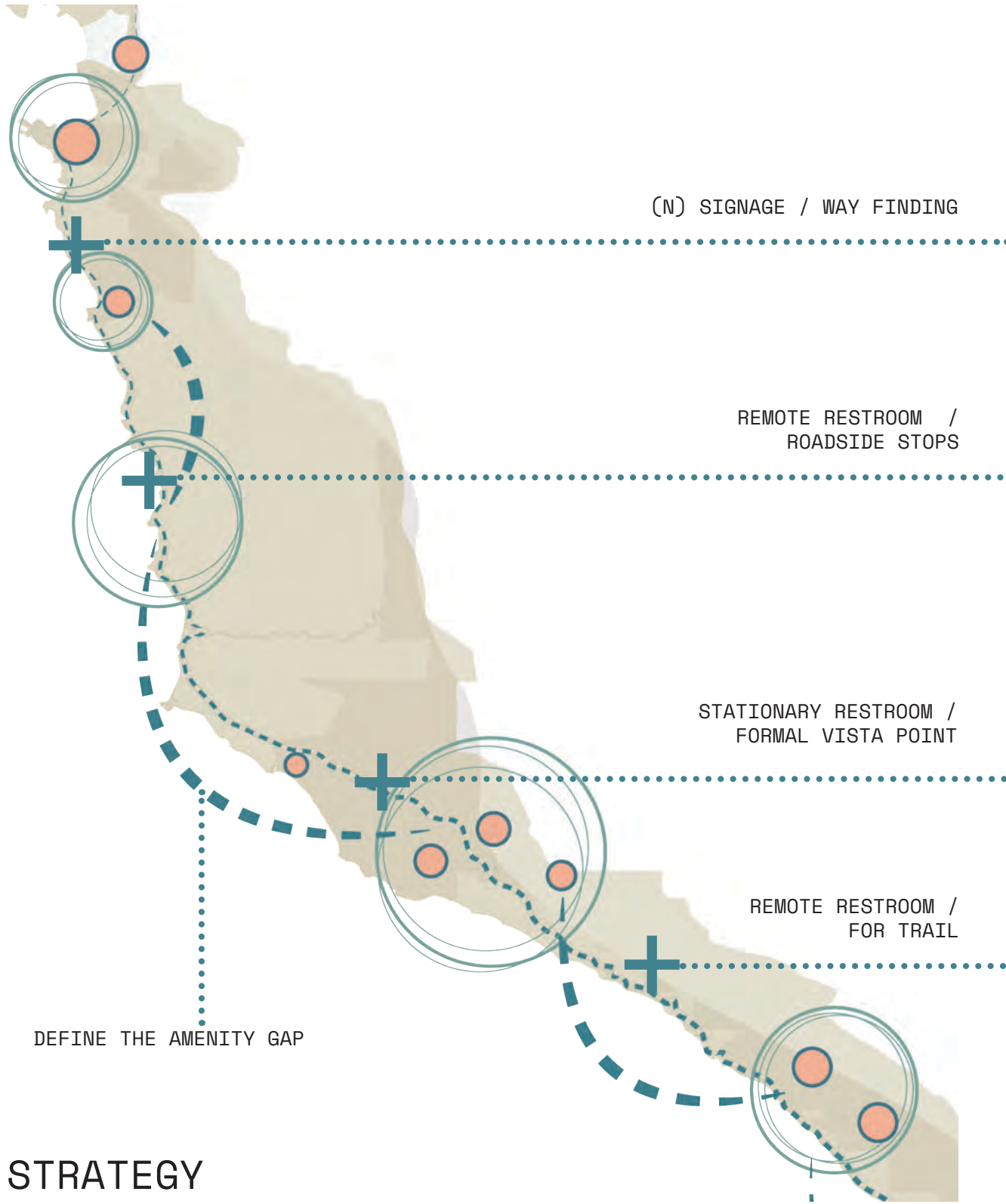
WAYFINDING . RELIEF . INTERFACE

LDARCH203 - LUIS LU

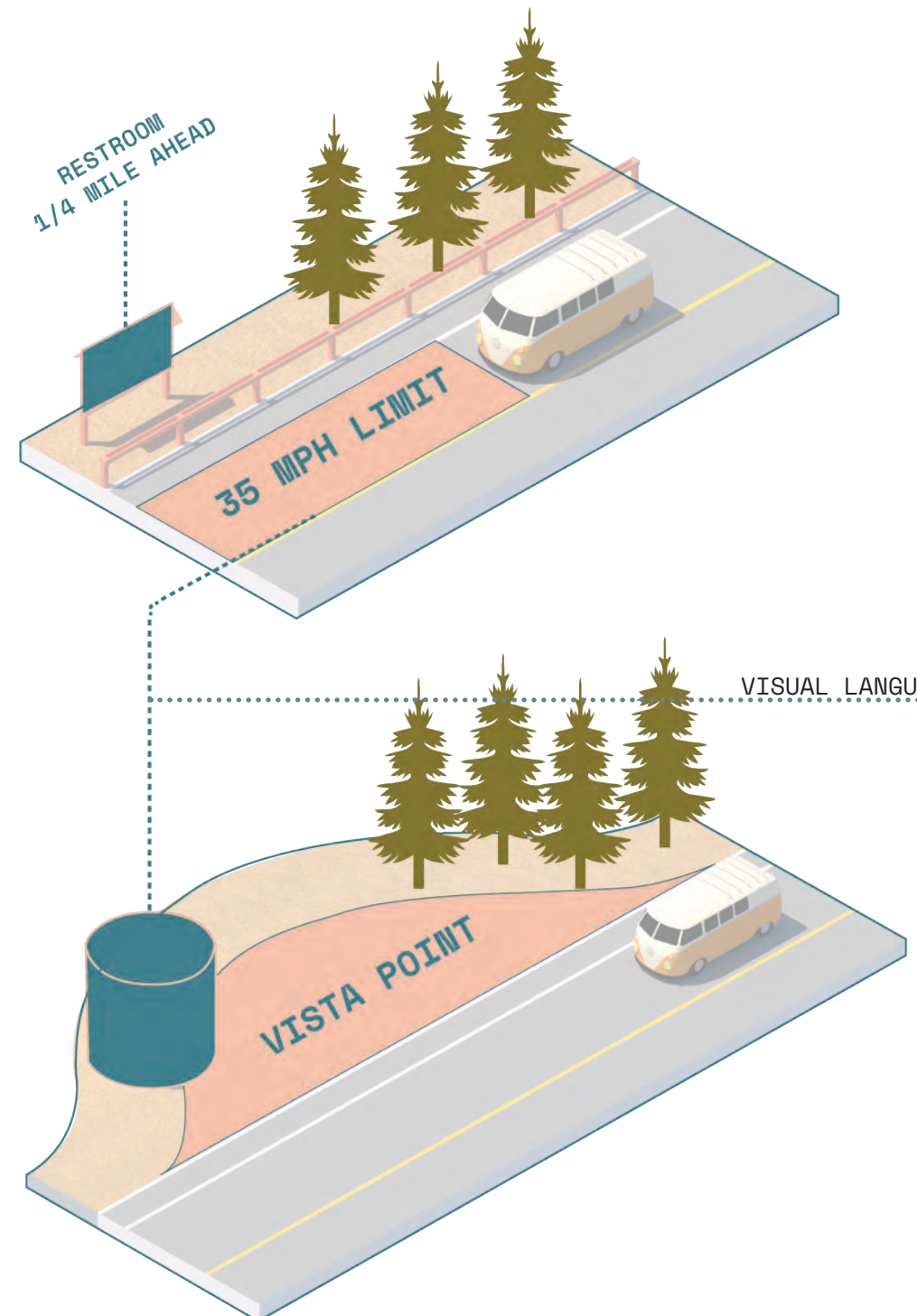
California's famed Big Sur coastline along Highway 1 is celebrated for its awe-inspiring beauty, beckons millions of visitors each year. However, the surge in tourism has posed challenges to local amenities, particularly the inadequate number of public restrooms. The strain on existing facilities has resulted in an unfortunate situation where hidden restrooms often go unnoticed, leading to instances of human waste found on private properties and trails. This project aims to address the restroom deficiency between popular tourist spots, exploring methods to integrate restroom structures into the landscape. Moreover, it seeks to enhance the visitor interface with Big Sur's breathtaking scenery while challenging the local aesthetic guidelines of hide and seek.



OPPORTUNITY



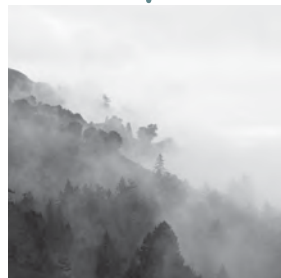
STRATEGY



HORIZON



FOG



REDWOOD



CLIFF



WEATHERING



RUSTIC



REFLECTION

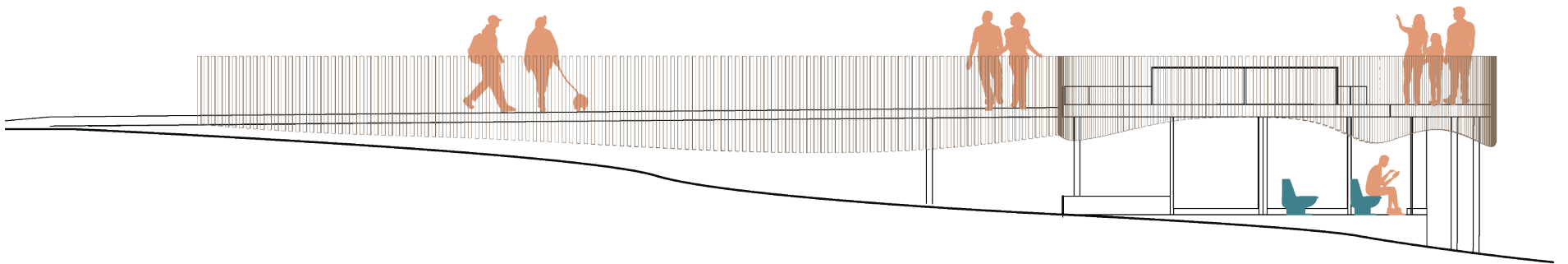
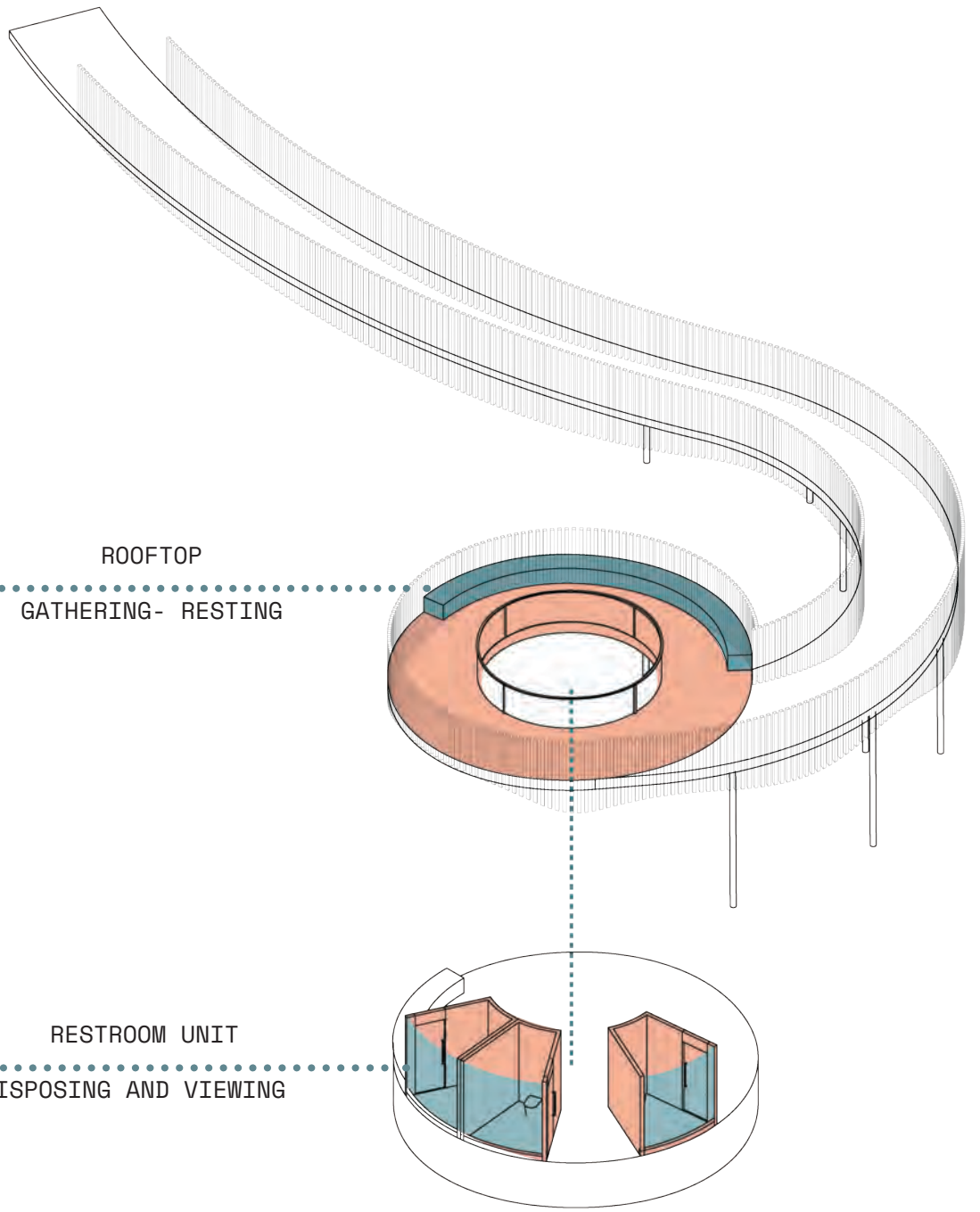




ROOFTOP
GATHERING- RESTING



RESTROOM UNIT
DISPOSING AND VIEWING



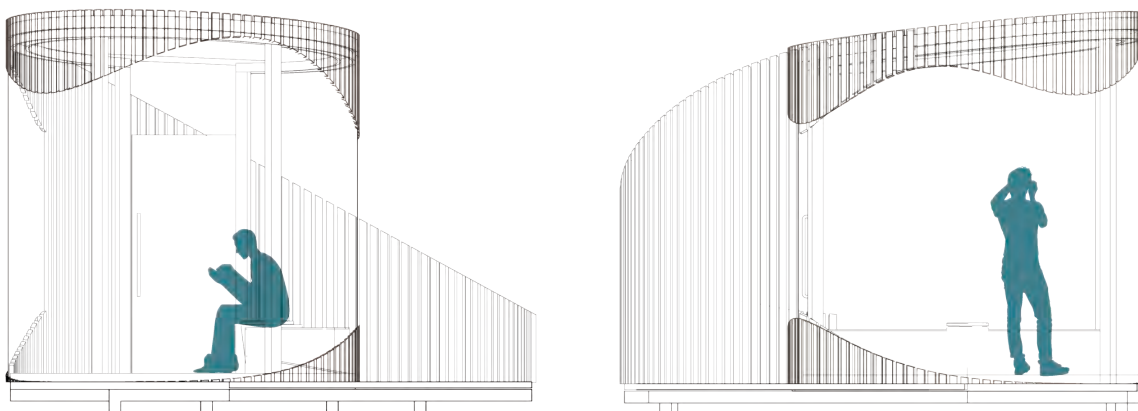
STATIONARY MODEL: COMFORT STATION

LOCATION: Julia Pfeiffer Burns Vista Point

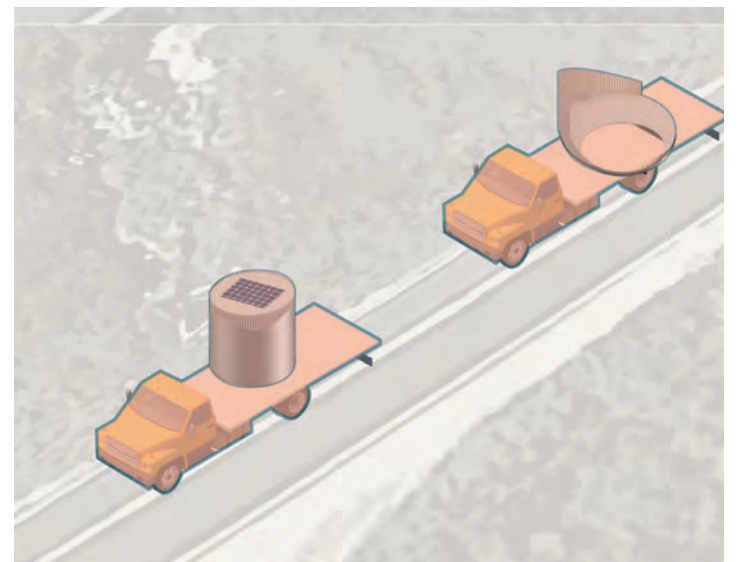


REMOTE MODEL: FLEXIBILITY

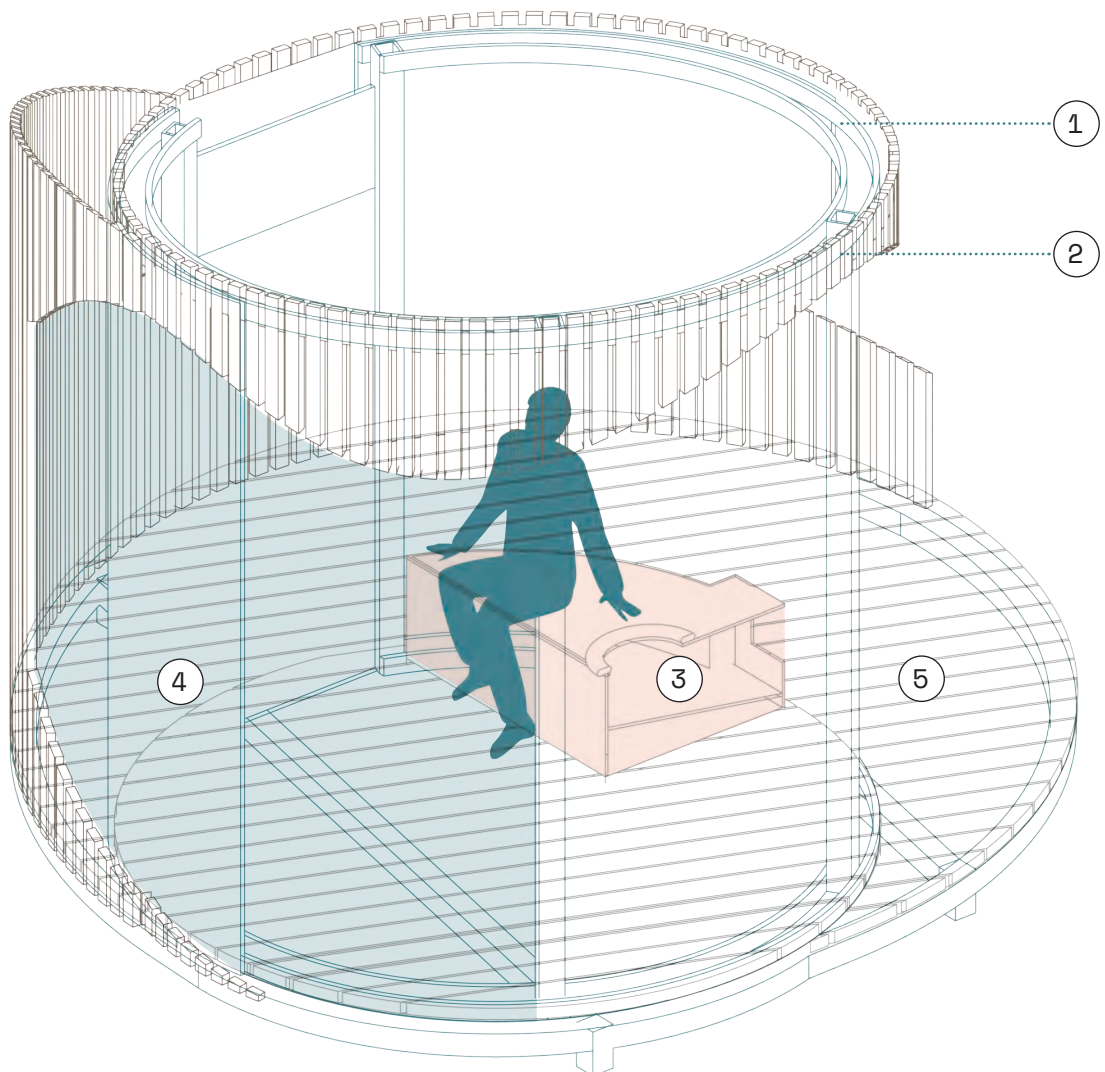
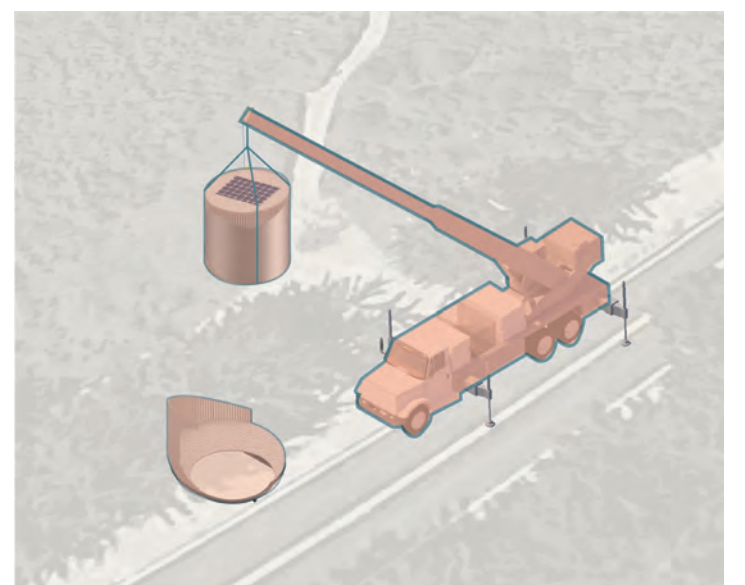
LOCATION: Soberane Trail



PREFABRICATED UNITS TRANSPORT



INSTALLATION ON SITE



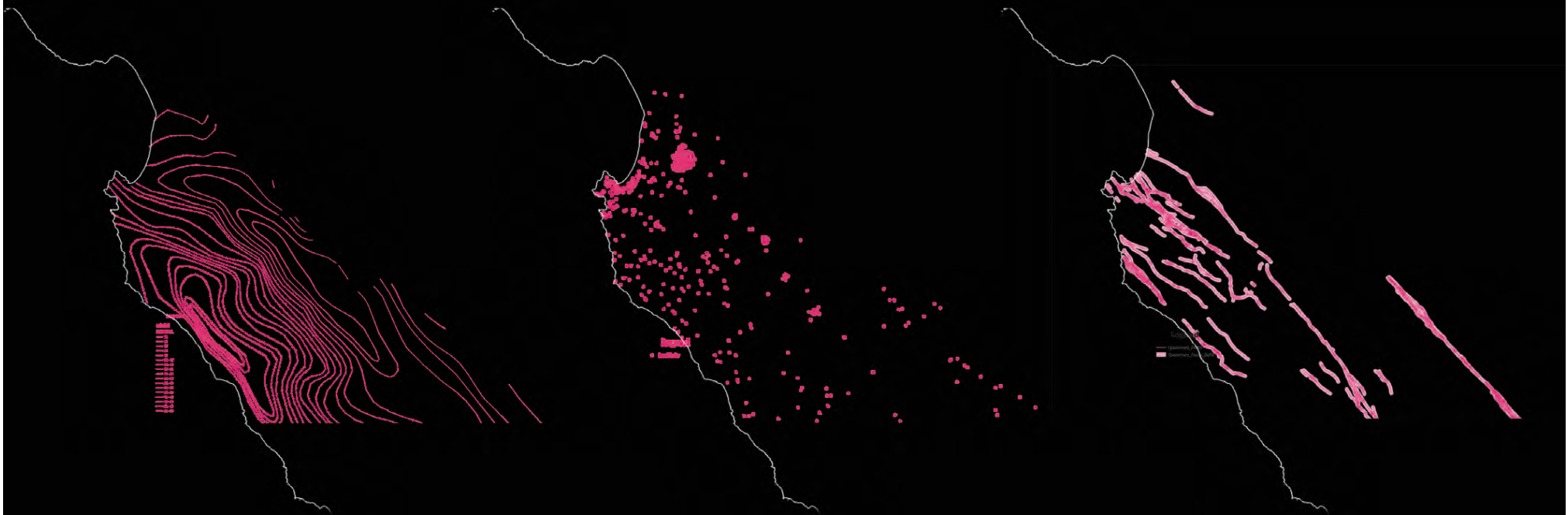
- 1. Prefabricated metal frame w/ HSS posts
- 2. 2x2 cedar wood slats, secure to metal frame
- 3. Built-in toilet w/ composting chamber
- 4. Two-way mirror
- 5. 2x6 cedar deck boards



Invisible Landscape

Explore Spatial Data and Visualization by Augmented Reality

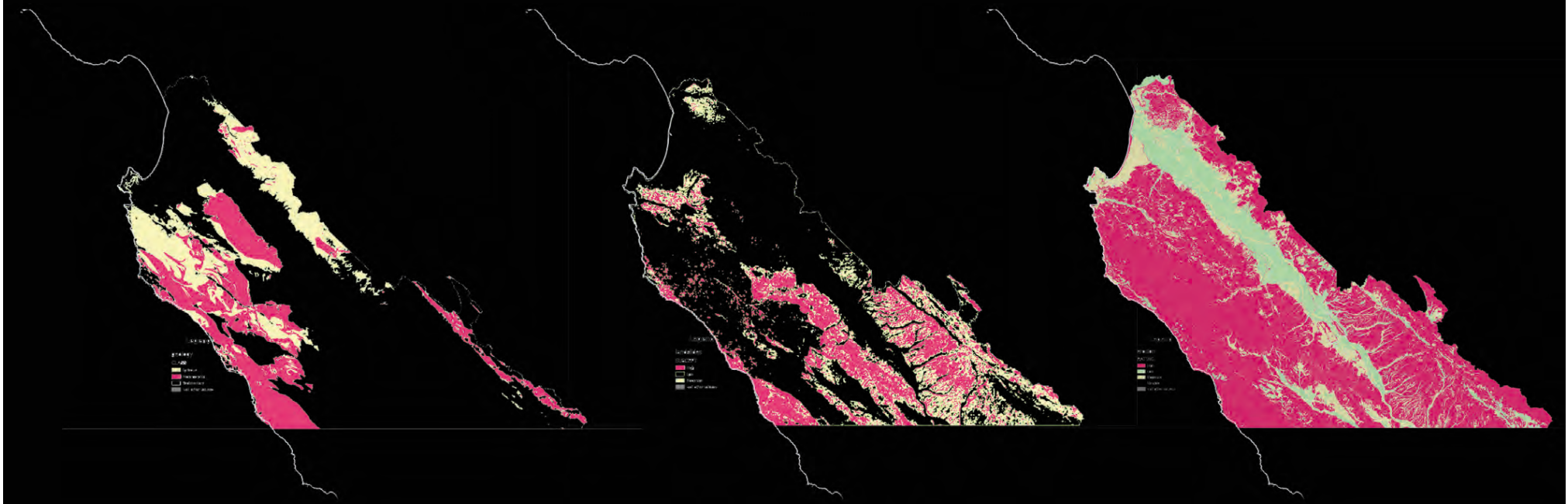
```
def Invisible Landscape(big sur):  
    ...  
    return ...
```



Rainfall

Landmark

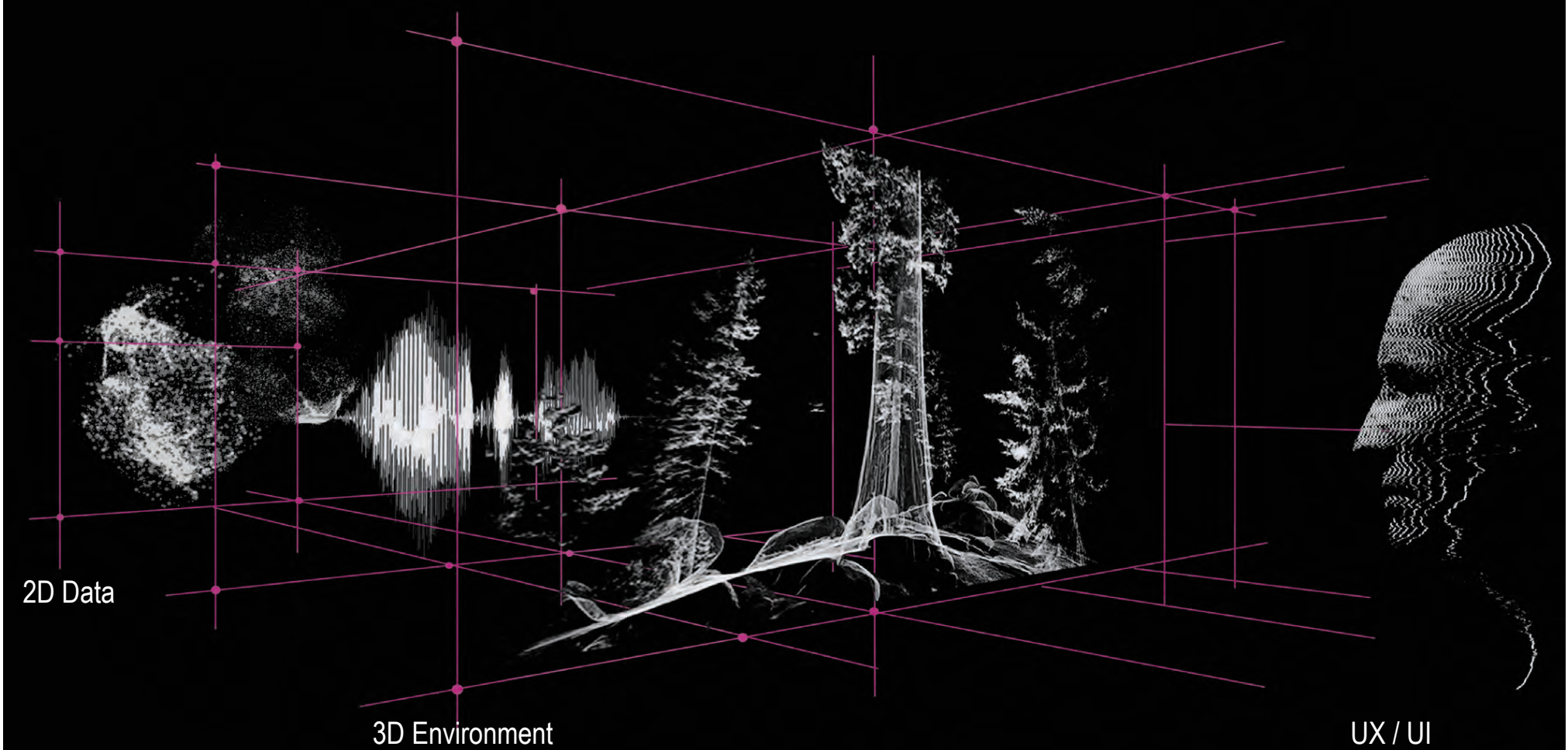
Fault Buffer



Geology

Landslide

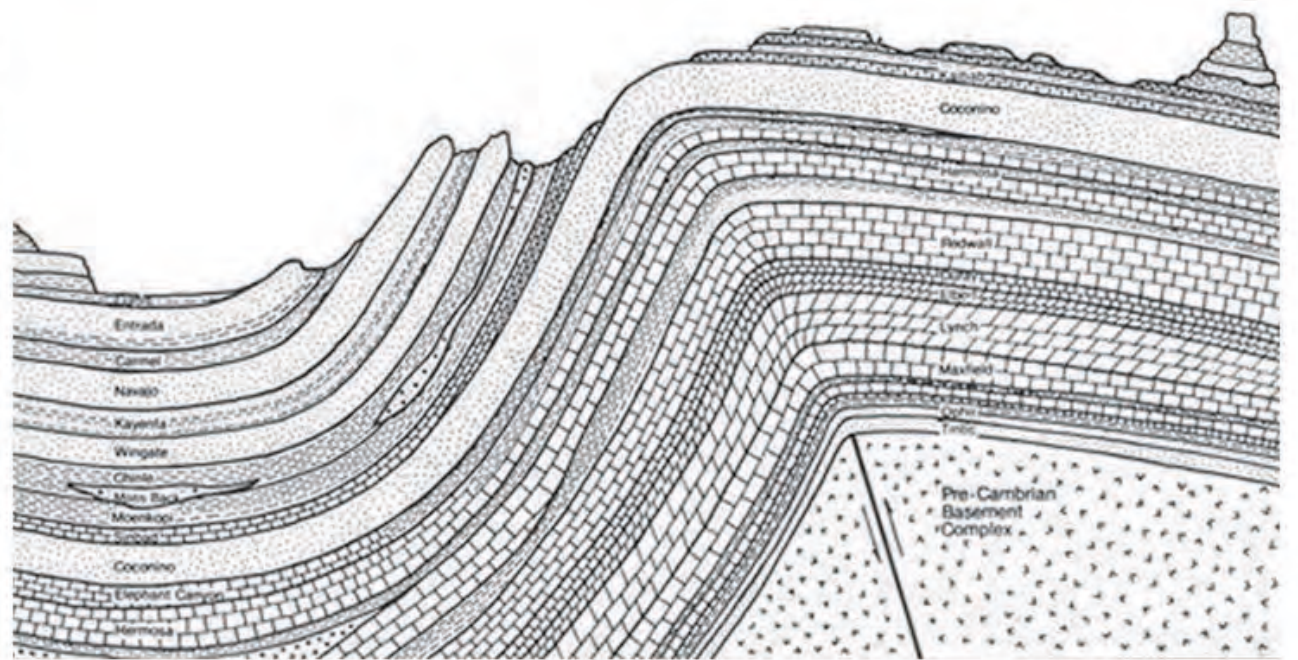
Erosion

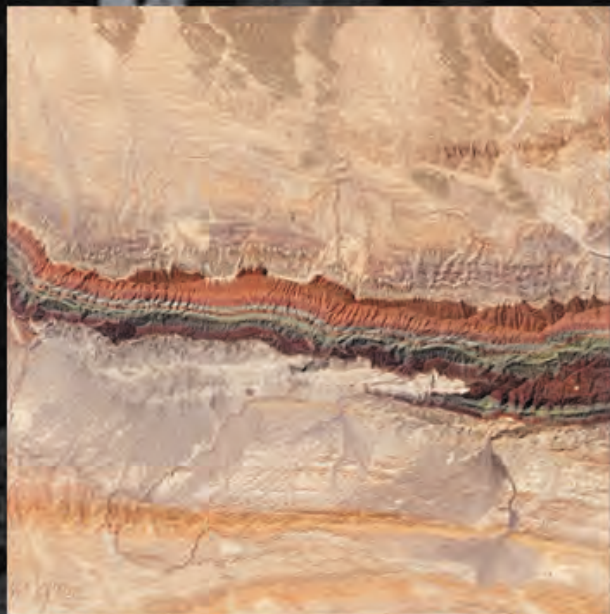


2D Data

3D Environment

UX / UI





01 DYNAMIC LANDSCAPE

Big Sur Interactive Installation Design

Course: LDARCH 203 Landscape Project Design

Instructor: Richard Hindle

Location: Big Sur, California

Time: Nov.-Dec. 2023

Type: Design studio, Individual



Project overview:

Big Sur's ever-changing landscape, characterized by elements like fog, tide, fire, and landslide, provides a dynamic canvas for artistic expression. Some of these changes unfold within a single day, while others take longer to manifest.

I envision harnessing these natural elements as my primary medium to craft a series of installations along Highway 1 in Big Sur. These installations, intentionally left incomplete, invite nature to take the reins and become the finishing touch, fostering a dynamic interaction between art and the environment.

01 Hurricane Point



02 Pfeiffer Beach



03 Julia Pfeiffer Burns State Park



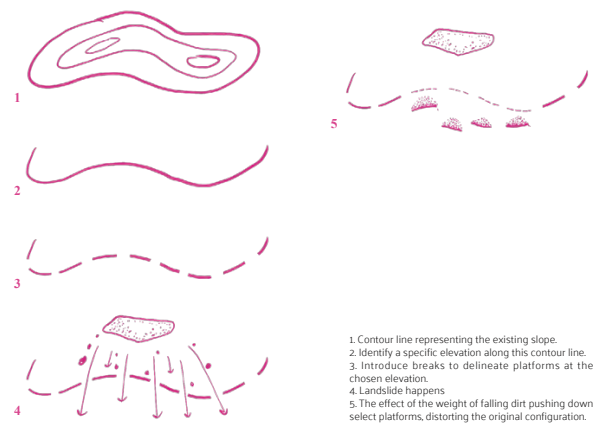
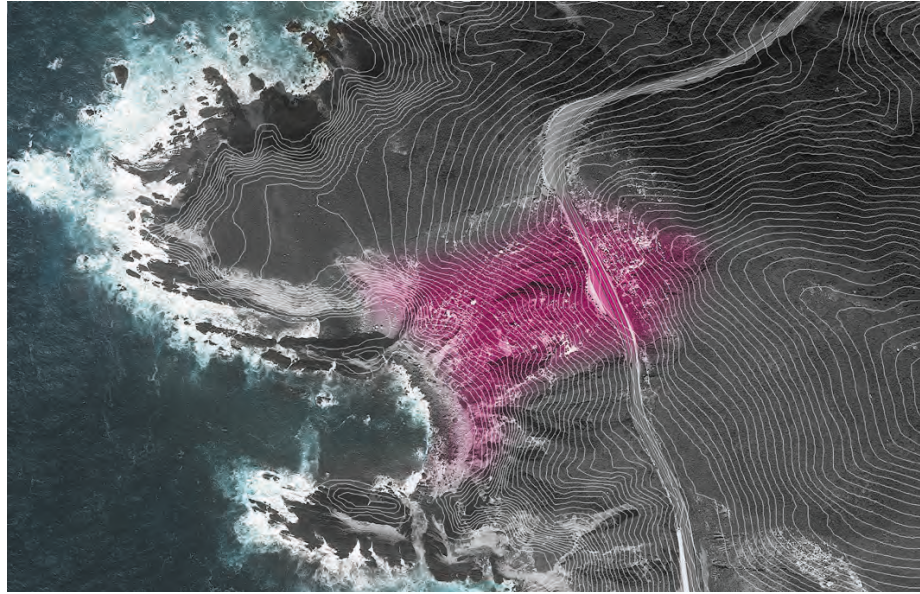
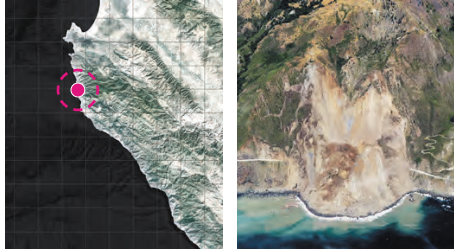
04 Rigdon Drinking Fountain



Landslide

Hurricane Point Slide

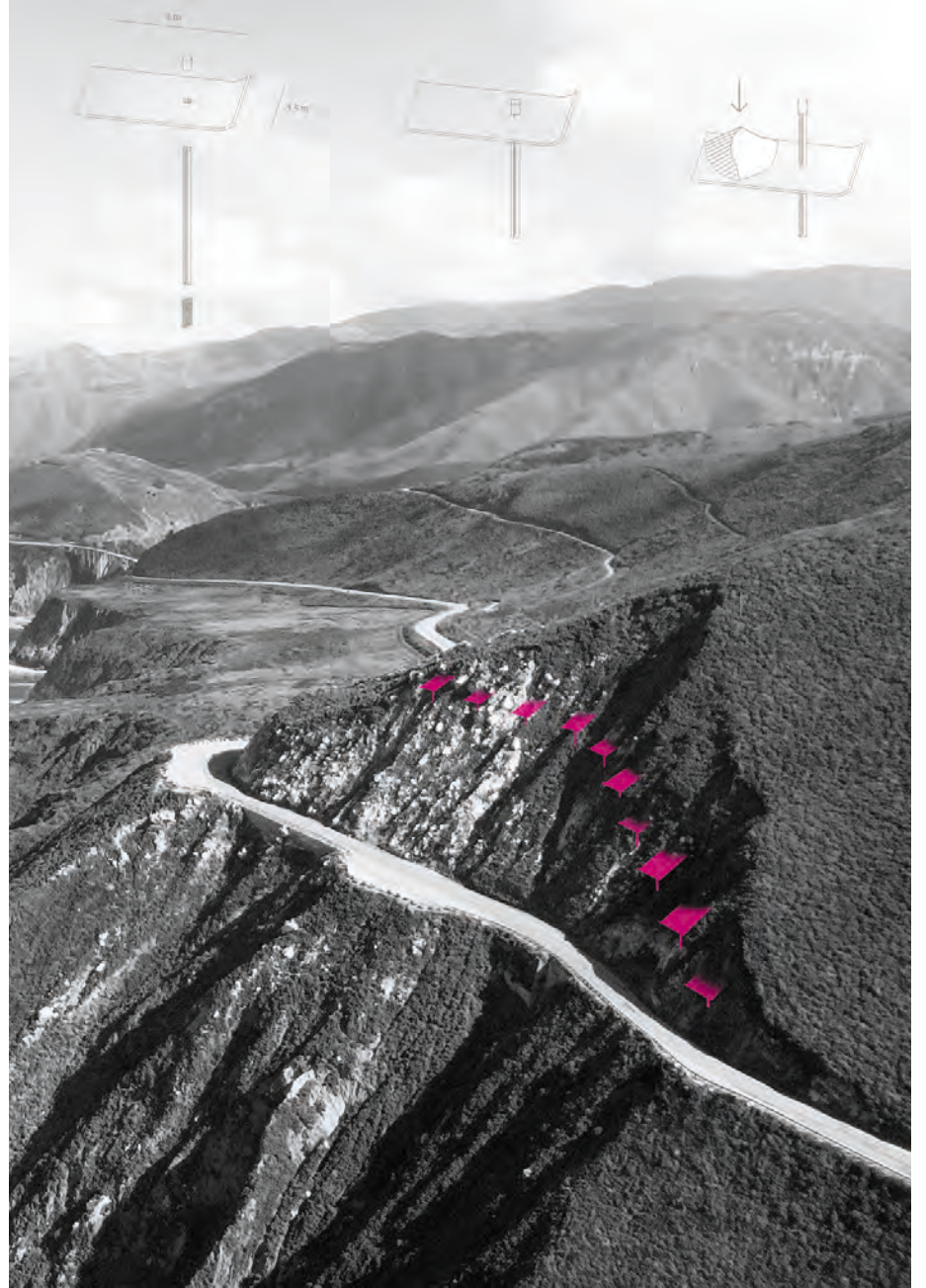
Hurricane Point is notably susceptible to landslides. The descent of dirt and rocks down the slopes not only deposits sediments on the roads but also causes considerable and potentially severe damage, making it crucial to navigate this terrain with caution.



Concept-Falling Platforms

This installation draws its inspiration from contour lines, which exhibit smoothness on a stable and normal slope but take on a zigzag pattern in the event of a landslide. Along a chosen contour line, I strategically placed a series of platforms, all initially aligned at the same level, creating the appearance of a straight line.

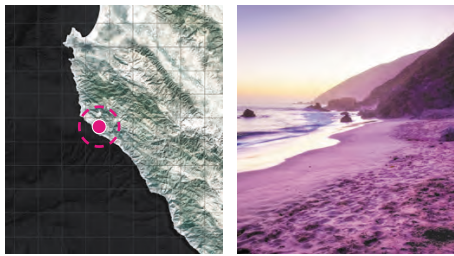
However, in the event of a landslide, the falling dirt would accumulate on these platforms, exerting weight that pushes them down proportionally. As a result, the once straight line of platforms becomes dynamically altered, reflecting the impact of the natural forces at play.



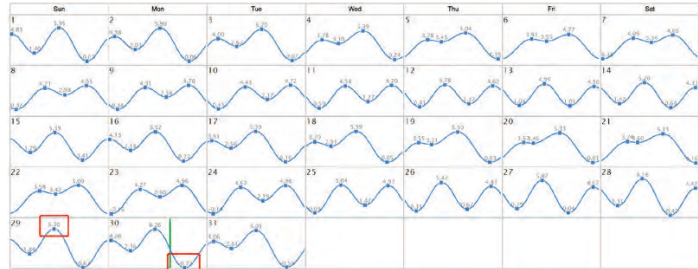
Tide

Pfeiffer Beach

In this part, the tide is the central element of my design. I aim to artistically shape the sediments to visually represent the fluctuations in tide levels over a specific time frame. This approach allows me to capture the essence of the tide's dynamic nature in a tangible manner.



Pfeiffer Beach Tide Times and Heights (Oct. 2023)



Highest tide over October: 6.3ft/1.92m

Lowest tide over October: -0.7 ft/-0.21m

Height Difference: 7 ft/2.13m

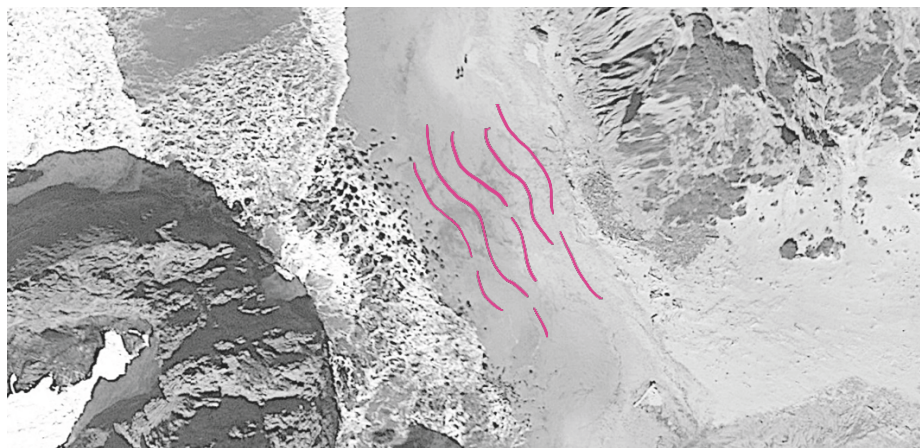
Concept-Sand Stairs



Normal Scenario: Tide goes up and down along the beach

After inserting a retaining wall, a stair is formed by tide

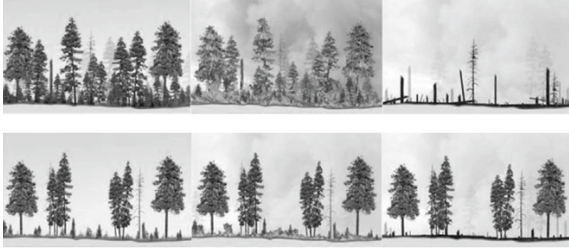
After inserting a series of retaining walls, stairs are formed by tide



Fire

Pfeiffer Big Sur State Park

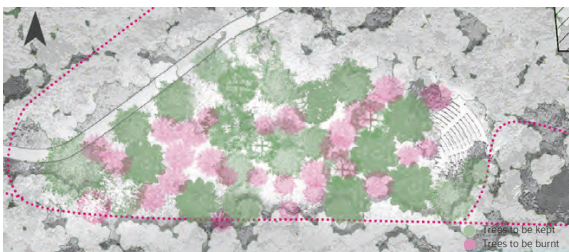
Situated within Pfeiffer Big Sur State Park, the site is surrounded by redwood trees and lush bushes. Its proximity to notable facilities like the Big Sur Lodge, Redwood Deck, and Campfire Center adds to its appeal, making it easily accessible and drawing visitors to this captivating location.



The intentional use of controlled fires by Native Indian communities has demonstrated effectiveness in fire control. By thoughtfully selecting trees for controlled burns, this practice not only diminishes the potential for wildfires but also enhances the available open space, contributing to a safer environment.



Dynamic processes



1. Tree Ring



2. Burnt tree segments



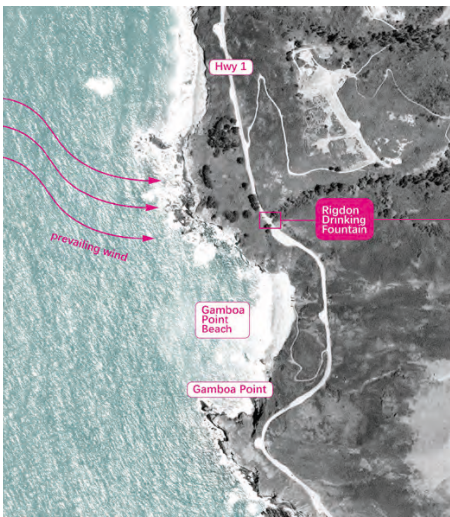
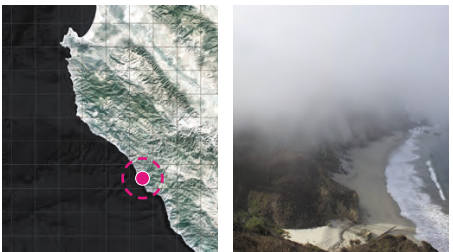
3. Vegetation takeover



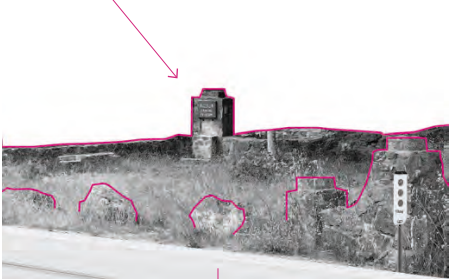
Fog

Rigdon Drinking Fountain

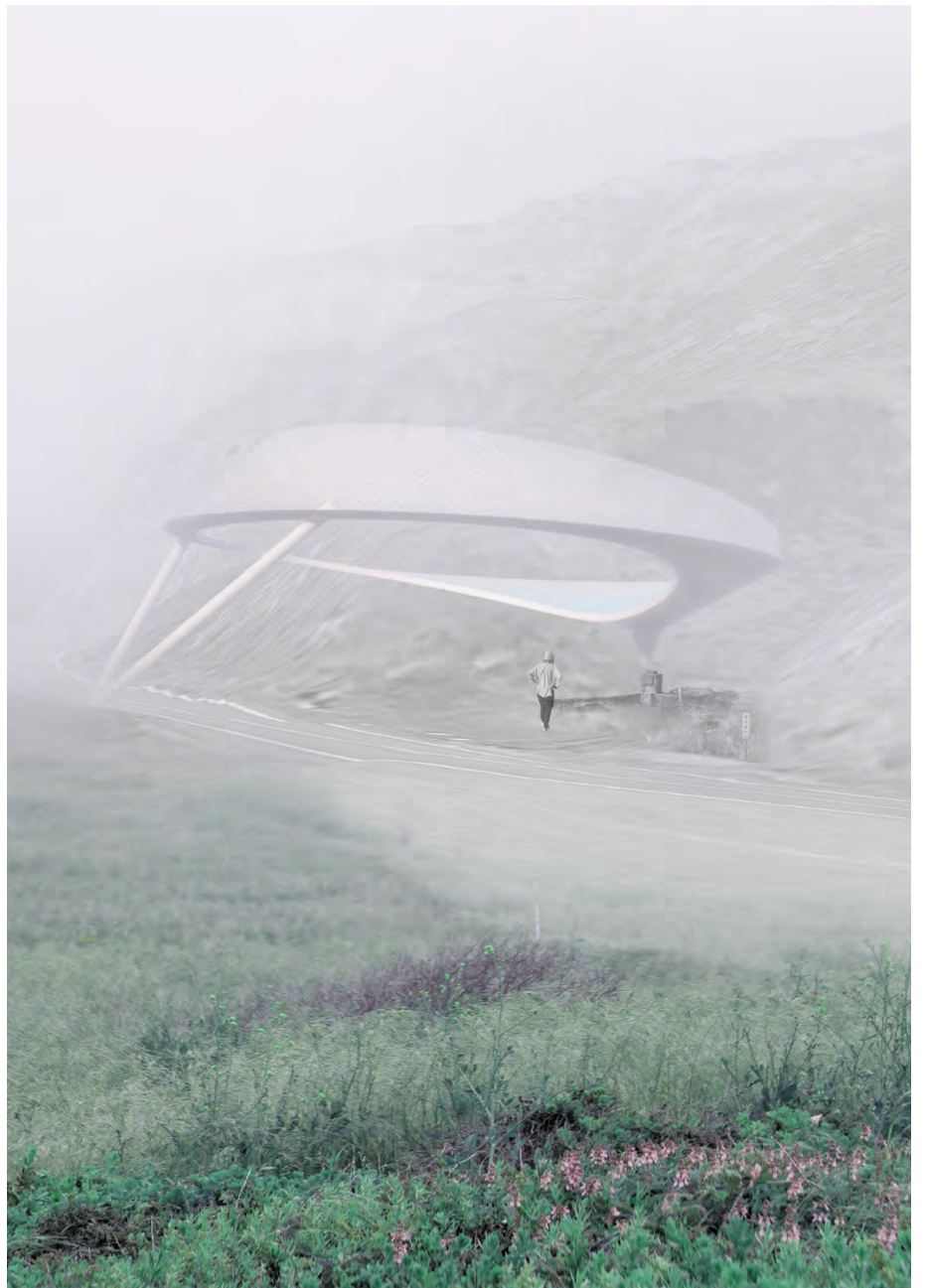
Fog is frequent Big Sur, manifesting suddenly and dissipating just as quickly. Inspired by this ever-changing natural phenomenon, I conceived the notion of transforming fog into tangible water, creating a visual representation that captures the dynamic essence of the landscape.



The Rigdon Drinking Fountain is an invigorating hydration station designed to cater to the needs of hikers and bikers traveling along Highway 1.



The rationale behind the setup involves utilizing a fog net to condense the fog into water, which is then stored in a sink for future use.

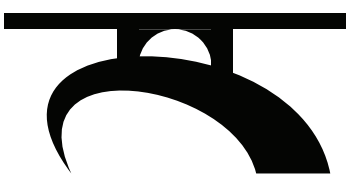


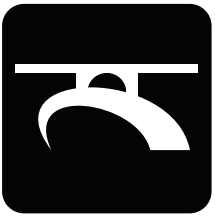


The Big Sur

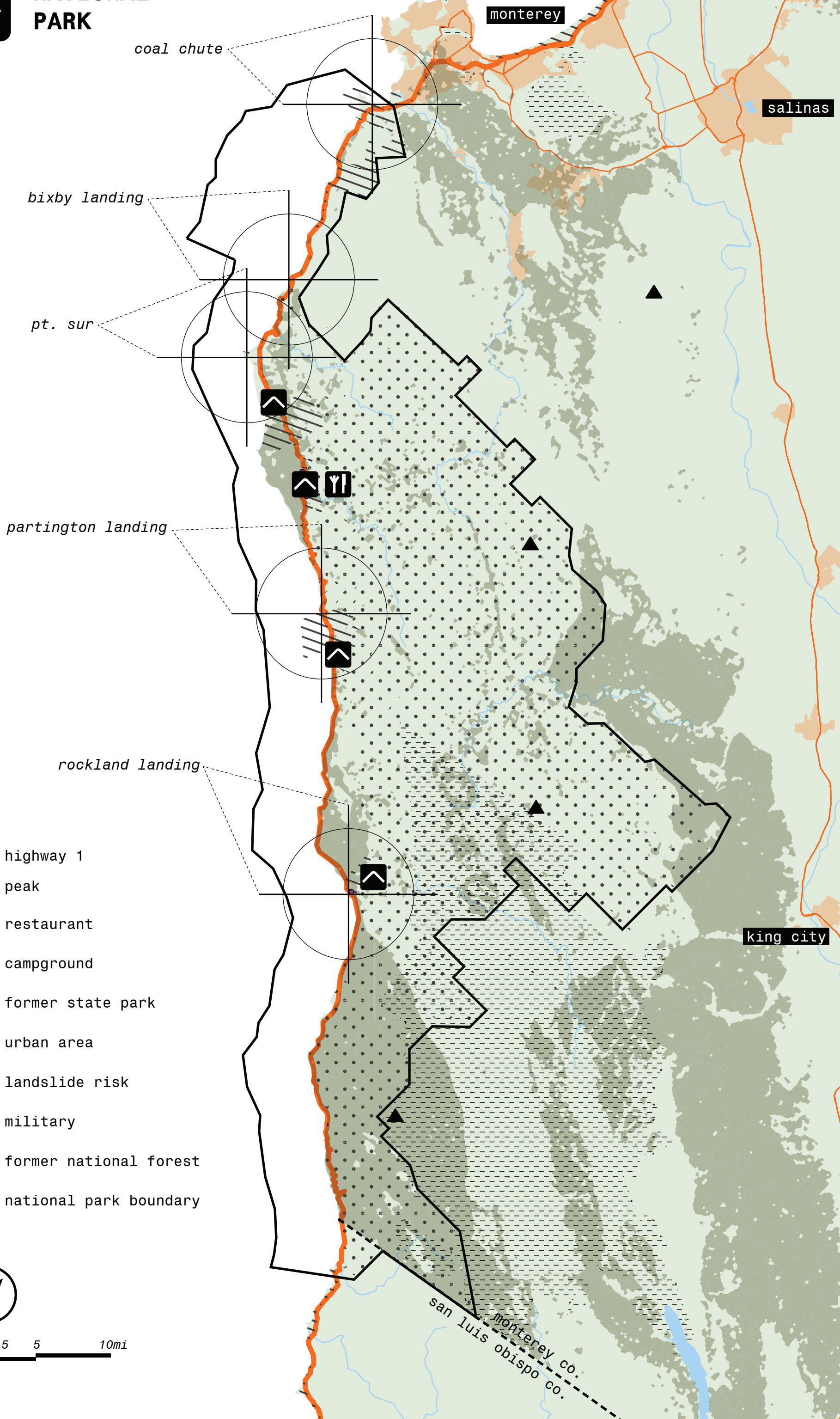
National Park

Big Sur has 4.5 to 7 million visitors annually, equivalent to Yosemite National Park. Big Sur has far less funding and tourist infrastructure as it is a loose collection of state parks, national forest, and private land. This project envisions a National Park in Big Sur that unifies the region and sets up a system better equipped to deal with millions of visitors.

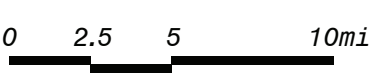
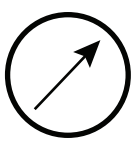


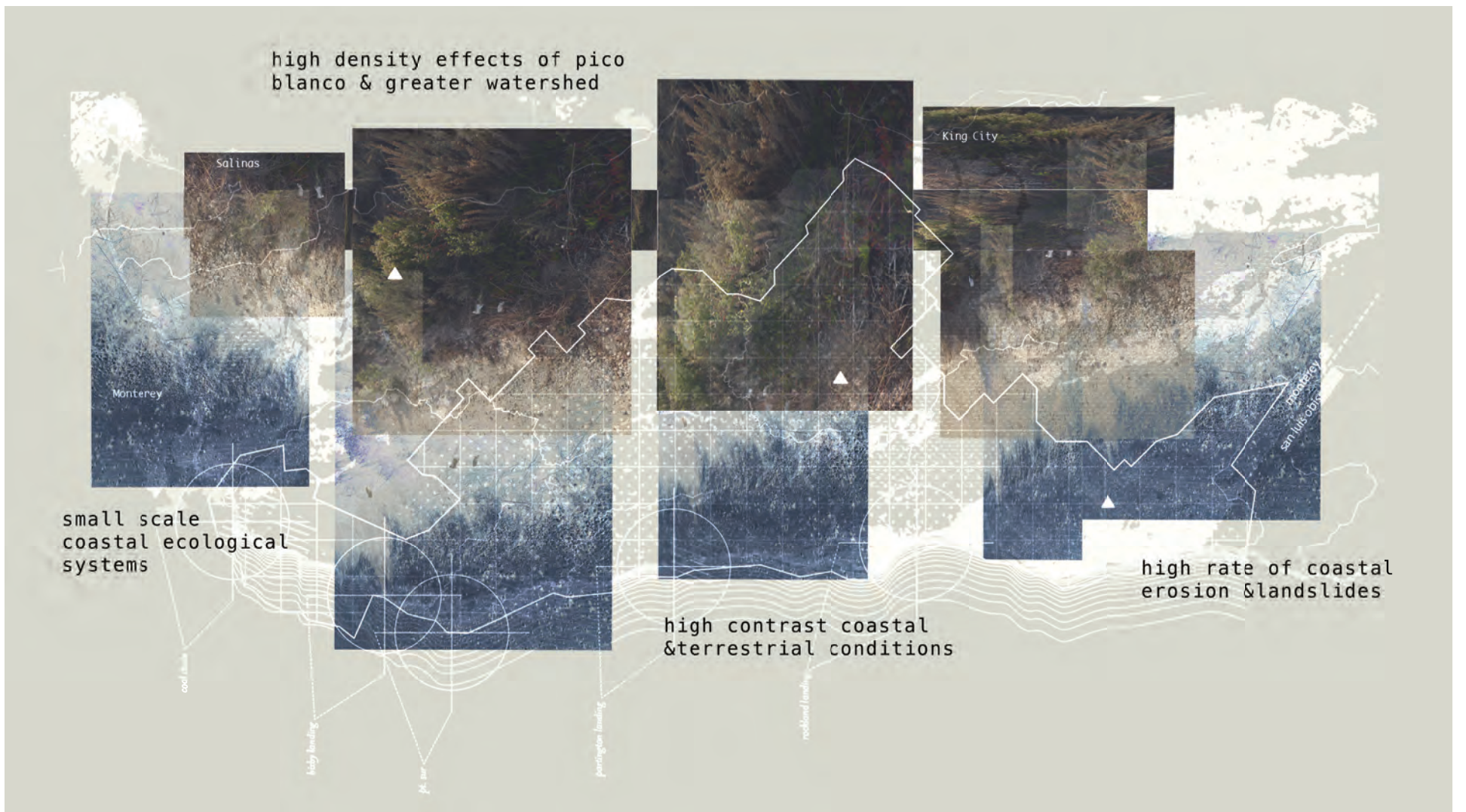
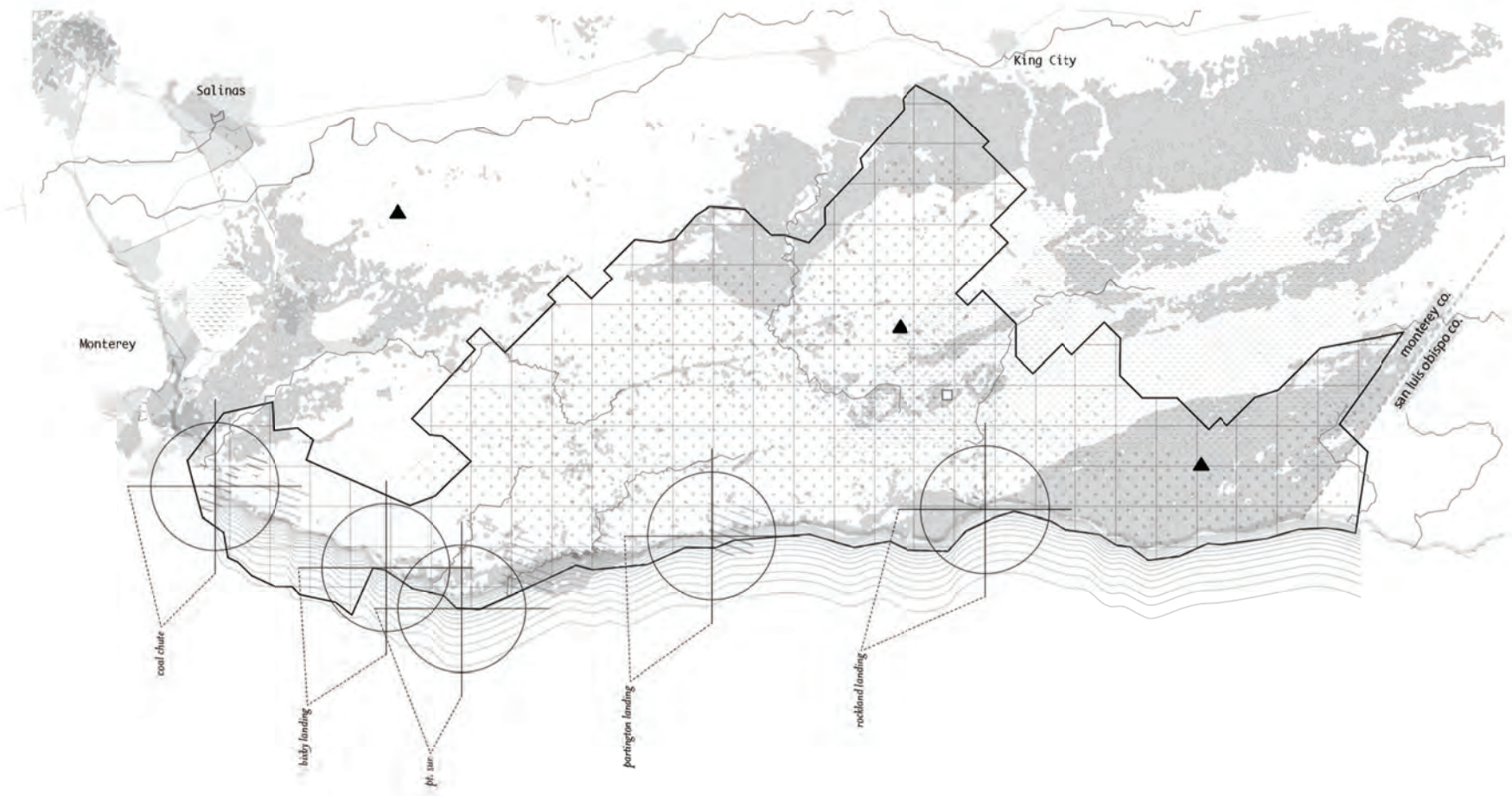


BIG SUR NATIONAL PARK



-  highway 1
-  peak
-  restaurant
-  campground
-  former state park
-  urban area
-  landslide risk
-  military
-  former national forest
-  national park boundary

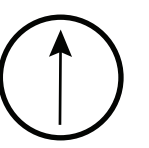
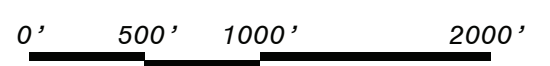
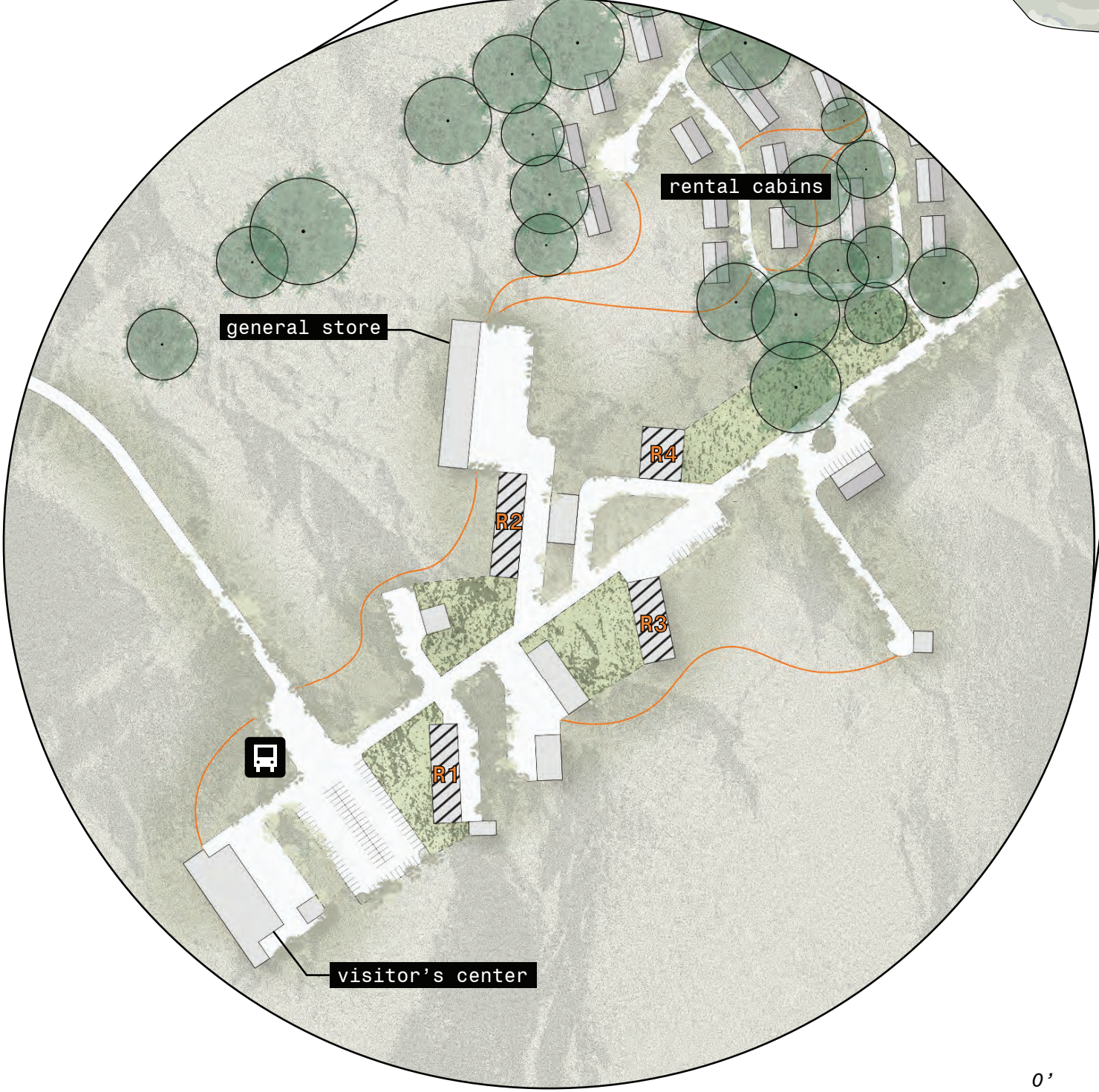
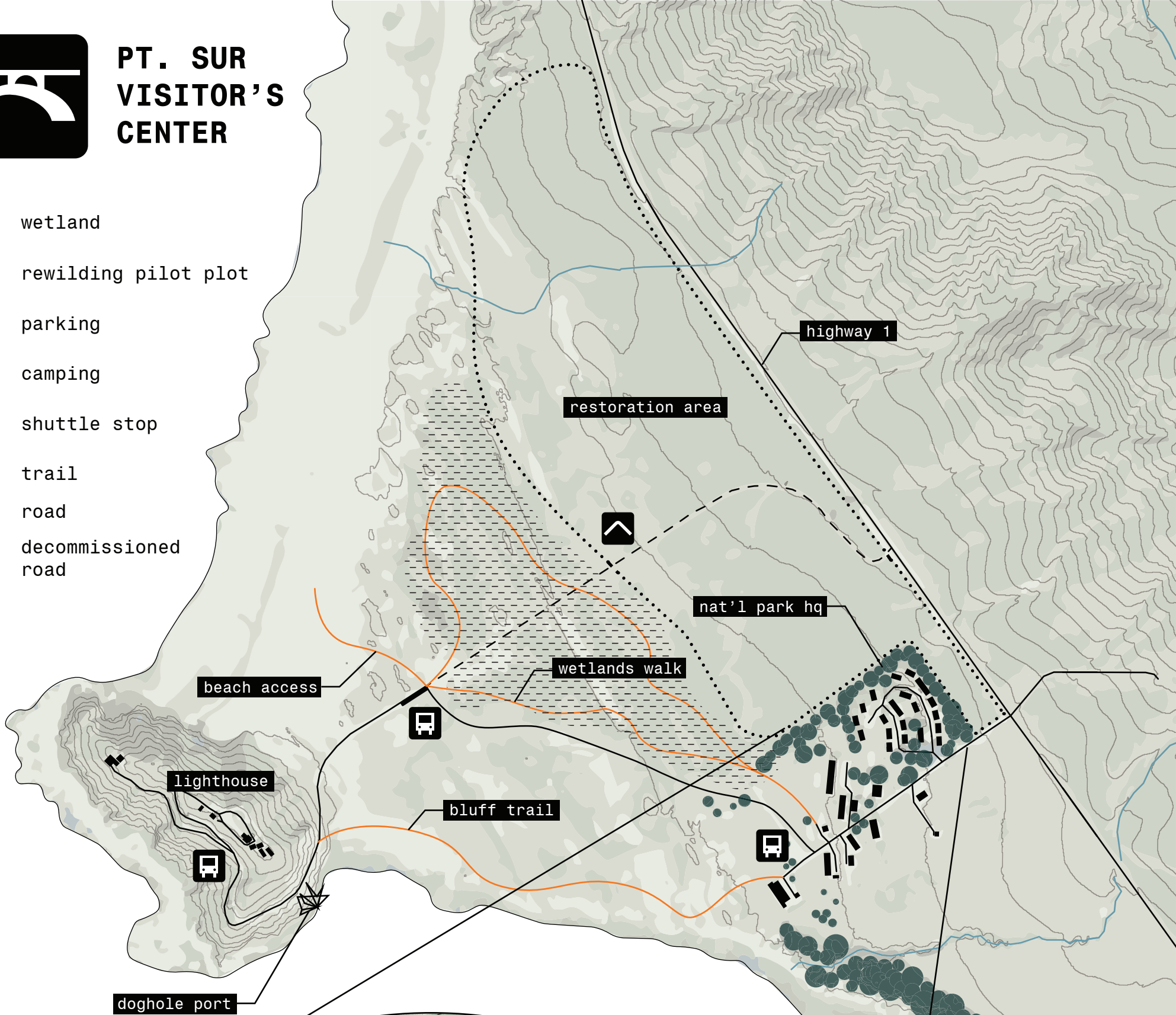






PT. SUR VISITOR'S CENTER

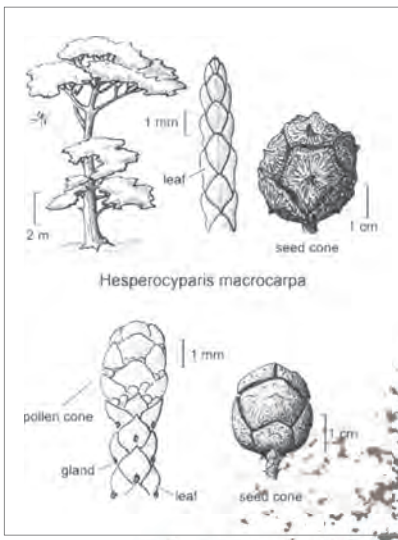
-  wetland
-  rewilding pilot plot
-  parking
-  camping
-  shuttle stop
-  trail
-  road
-  decommissioned road



Pinus radiata
Monterey Pine

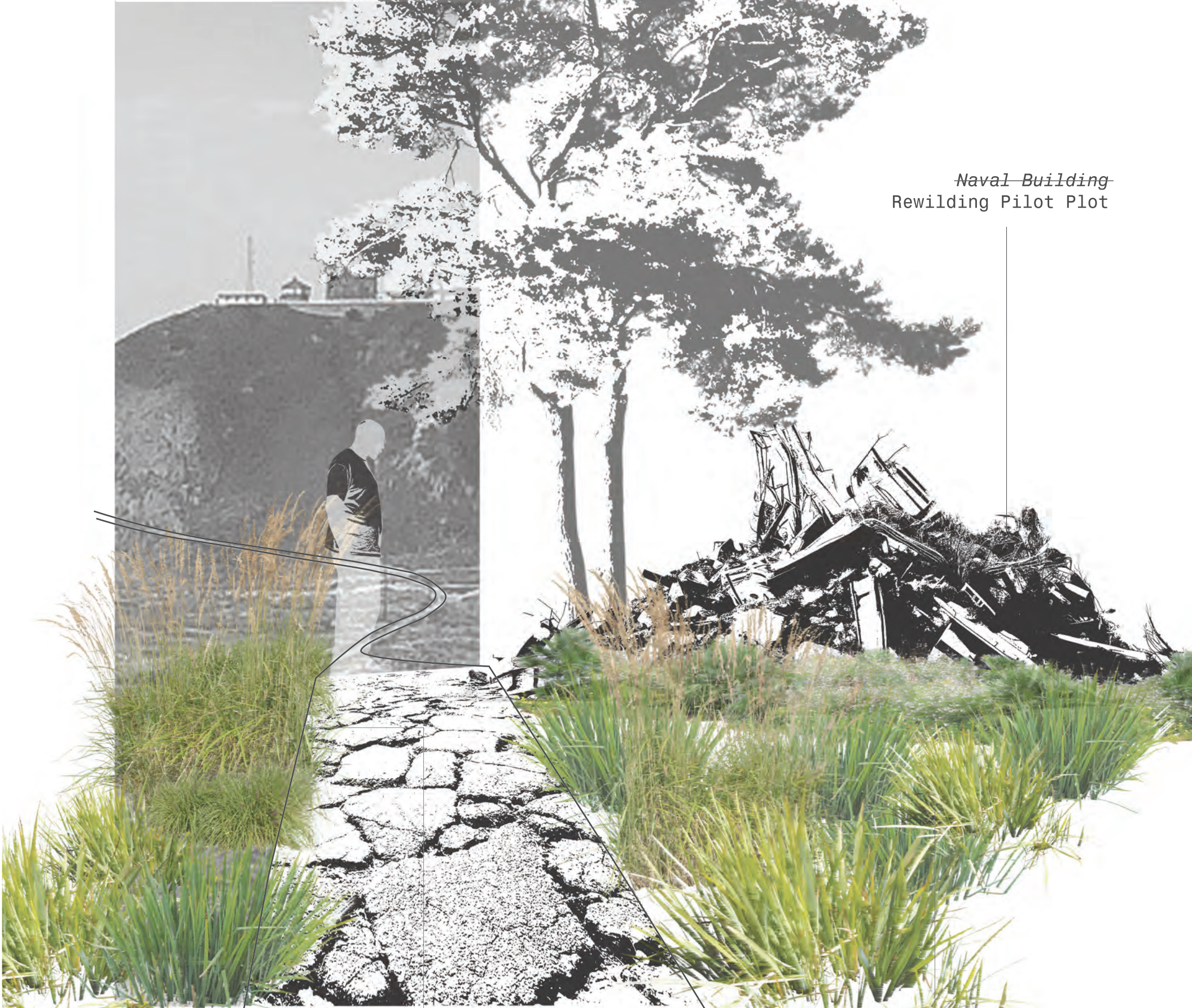
Stem: trunk < 38 m, < 2.1 m wide, in youth < 2 m growth per year; mature bark black, deep-grooved; mature crown irregular, round-topped.

Ecology: Closed-cone-pine forest, oak woodland



[Visitor's Center Experience]
A former naval base is deconstructed and natural processes are allowed to occur.

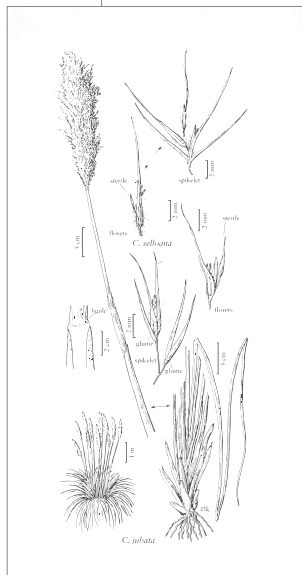
Naval Building
Rewilding Pilot Plot



Cortaderia jubata
Pampas Grass

Habit: Plants pistillate only, producing fruit asexually. Stem: 2--7 m.

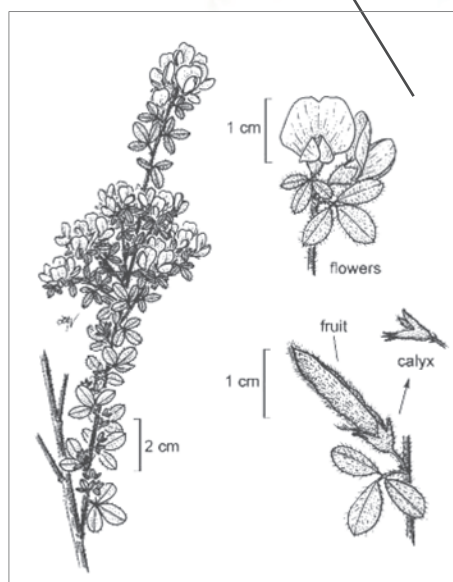
Ecology: **Disturbed** sites, many habitats, especially coastal



Genista monspessulana
French Broom

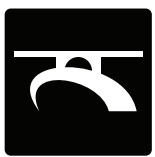
Habit: Shrub < 3 m. Stem: twigs silvery-silky-hairy, at least in youth.

Ecology: Common. **Disturbed** places





[Animal Exposure] Families and tourists embrace the natural processes of Big Sur.



SIGNAGE & WAYFINDING



Trail Markers



Directional



Interpretive



Master Map

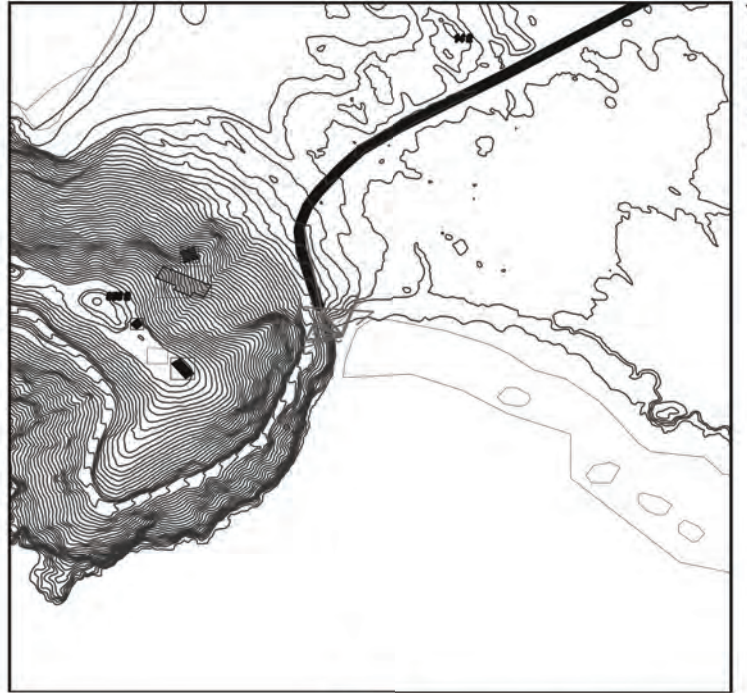
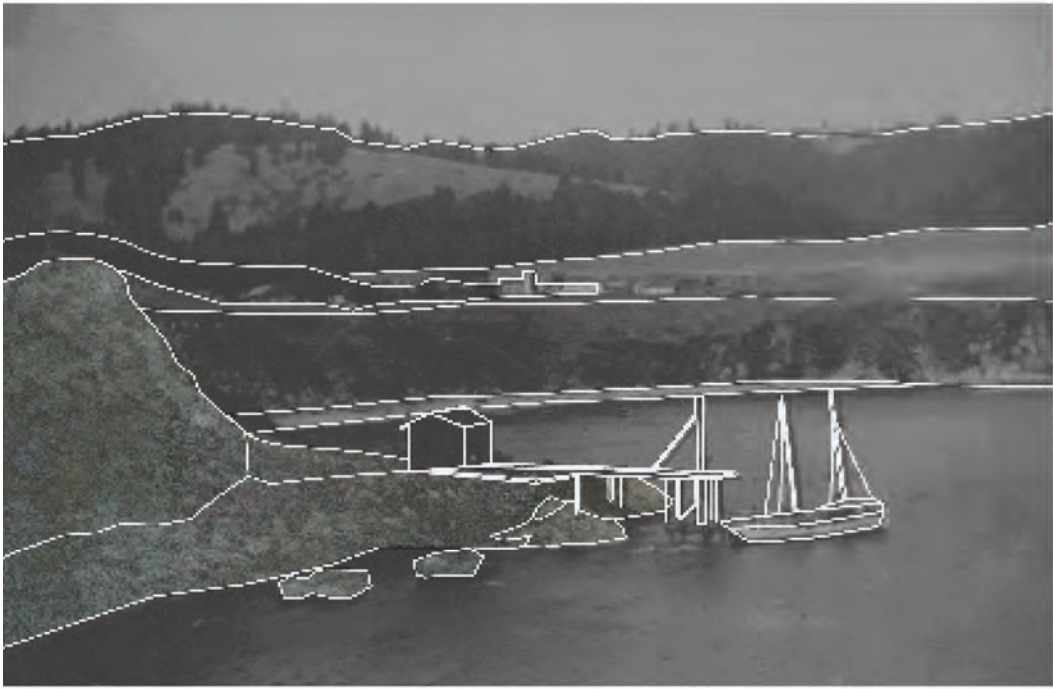


**HISTORICAL
DOGHOLE
PORTS**

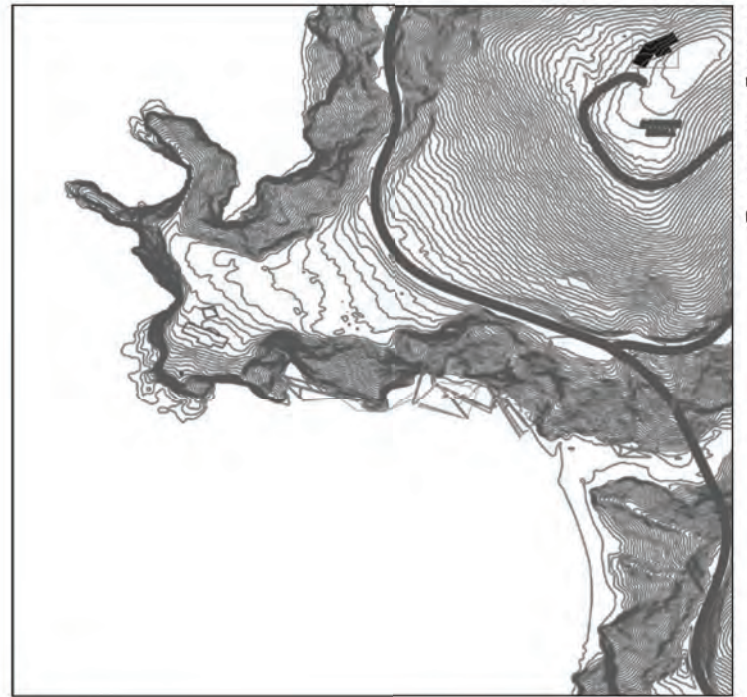
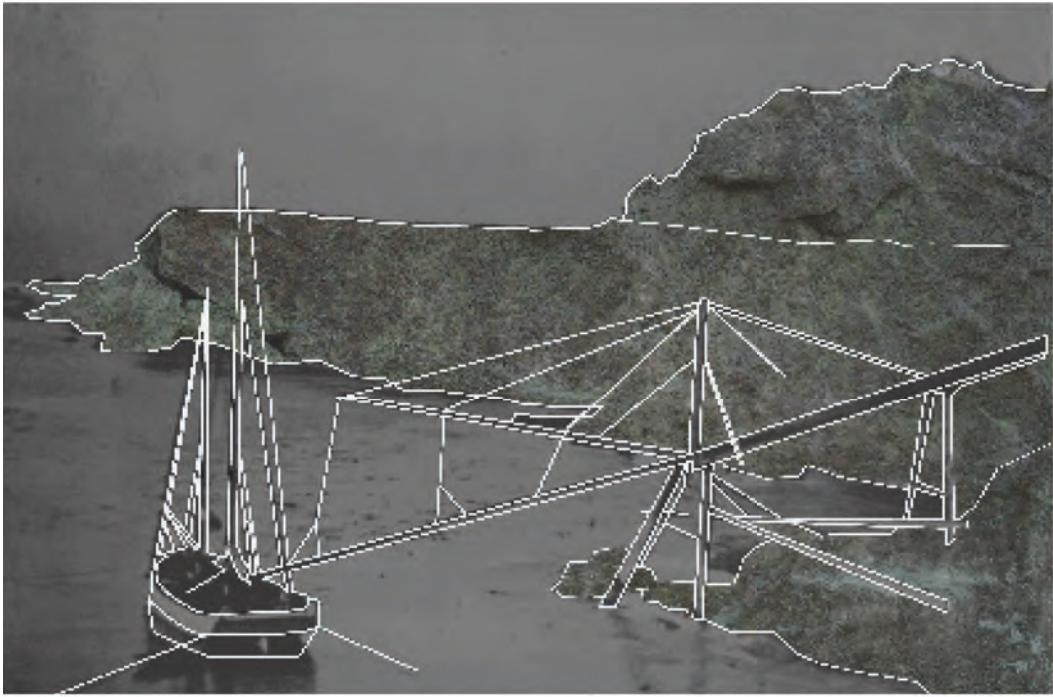
Historical doghole ports of Big Sur serve as a source of inspiration for the redesign and expansion of the region. The original location of each doghole port is the site of a new tourist infrastructure. The footprints of Big Sur's doghole ports present opportunities for land-sea connection and programmatic development.



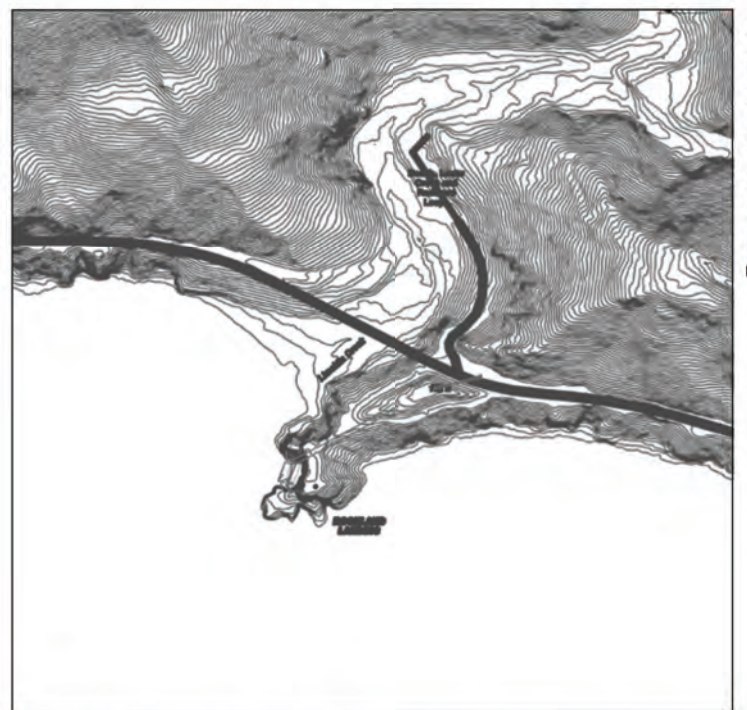
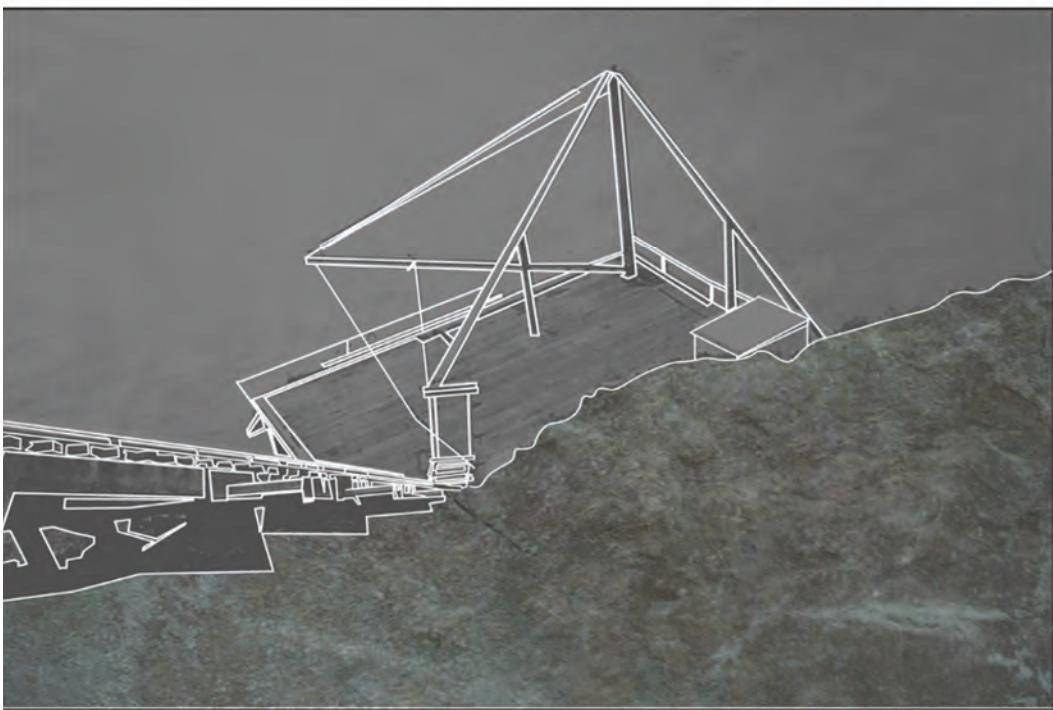
[Doghole Ports] Site Analysis



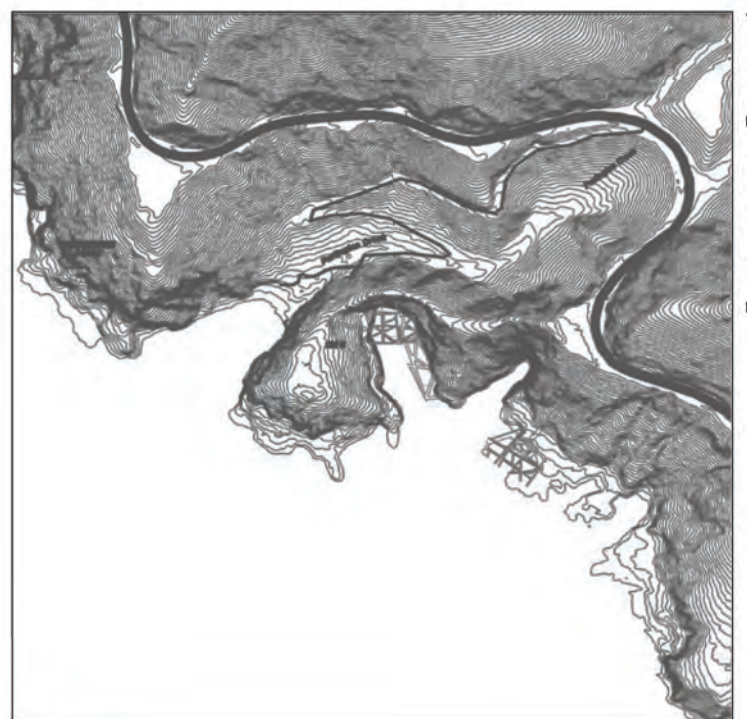
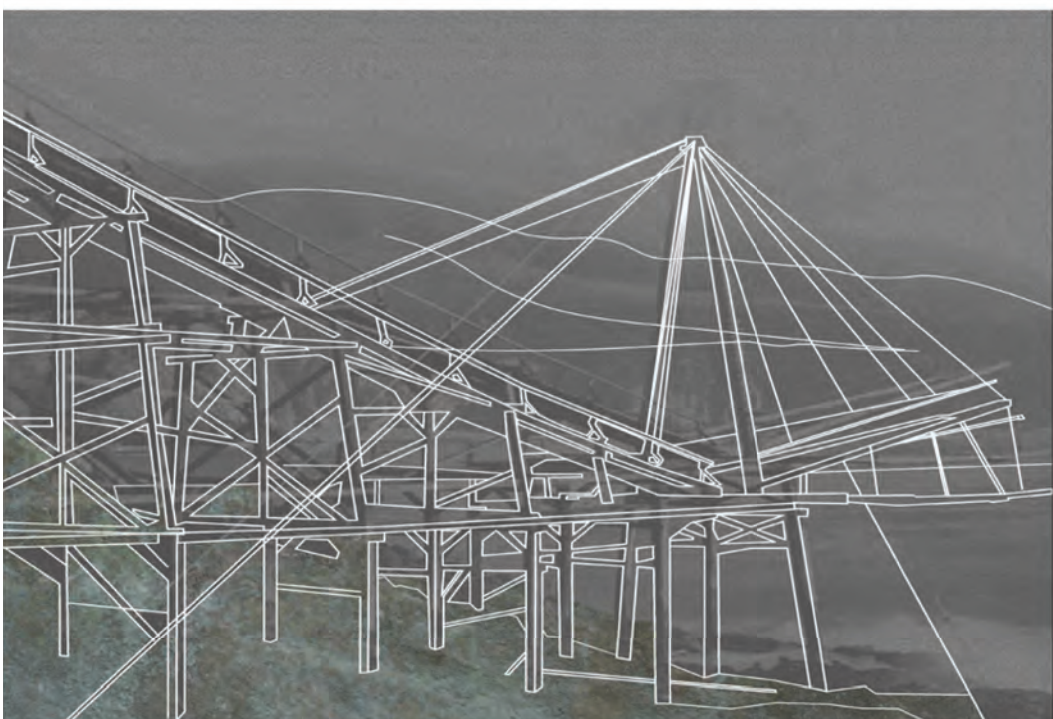
point sur



bixby landing



rockland landing

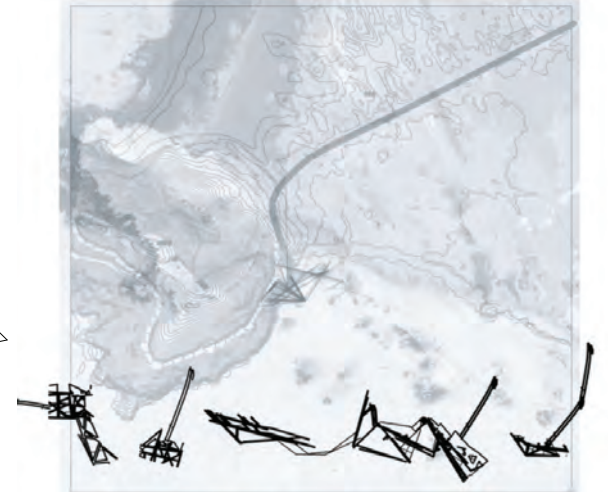
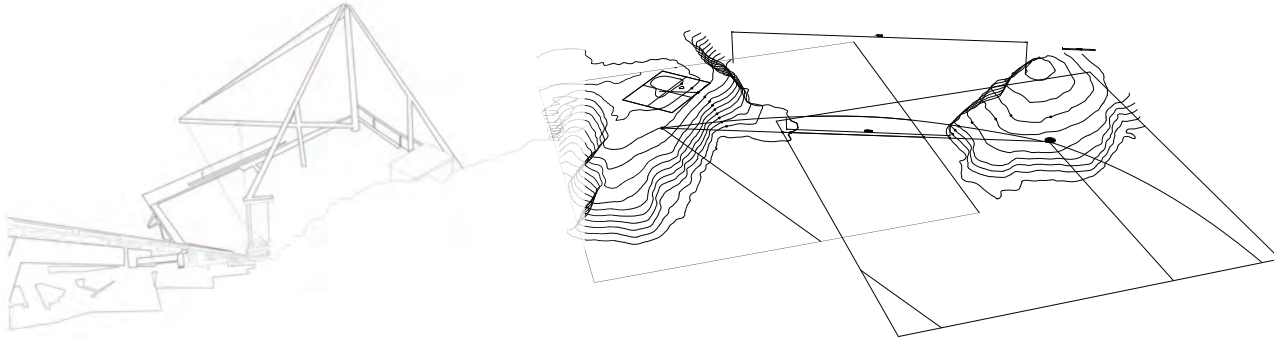


partington landing



DOGHOLE PORT INTERVENTIONS

The exploration of doghole ports as architectural precedent plays an essential role in this master plan proposal. How can users best engage with the natural processes? How can a conservation-based approach to design inspire new programming?



formal processing of historic typologies



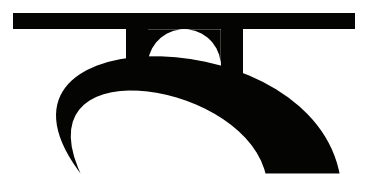
speculative intervention footprints bridging land and sea





The [end of the] Big Sur National Park

Using the palimpsest of the doghole ports presents a logic to reorganize Big Sur as a new National Park. The new ports as tourist infrastructure allow for a greater connection to the Pacific Ocean. This will reduce pressure on overburdened and underfunded facilities along Highway 1.





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INQUIRIES DIRECTED TO
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