

SHERIFF'S OVERLOOK

UCLA Extension Landscape Architecture Charrette at King Gillette Ranch, 2023



Project Introduction

On April 1, 2023, the UCLA Extension Landscape Architecture program resumed our annual design charrette. Hosted by California Trout (CalTROUT) and their partners, the goal of the charrette was to provide several design solutions for the Sheriff's Overlook, overlooking Malibu Creek, located on Malibu Canyon Road in the Santa Monica Mtns. Sheriff's Overlook is currently one of few sites to observe the Rindge Dam and will be the best place to view the dam removal process and the restored creek ecosystem project.

Three design teams, led by 3rd year students, gathered at King Gillette Ranch in the Santa Monica Mountains to brainstorm, conceptualize, and begin designs for the overlook. Each team provided ideas on interpretation of the ecology of the creek, trout migration patterns and changes from fresh to ocean waters, dam and area history, and traditional knowledge from indigenous communities, incorporated into the site designs.

Prior to the charrette day, a pre-charrette research team provided background history, maps, and other pertinent area documentation for the three onsite design teams.

The day started at 8:15 a.m. with CalTROUT South Coast Project manager, Russell Marlow, welcoming the students. Barbara Tejada, Supervisor of the Cultural Resources Program at State Parks presented the historical background of the site for students to incorporate into the designs. Science and Policy Director Katherine Pease from Heal the Bay and Watershed Scientist Tevin Schmitt from Wishtoyo Chumash Foundation discussed the ecological significance of the watershed.

Throughout the day Russell, from CalTROUT, shuttled team members to the project site, for site analysis. Teams then worked to provide a concept plan, sections, and drawings. The day wrapped with each team presenting their concepts to all in attendance.

This booklet, prepared by a student led post-production team, is the culmination of the charrette research, design, and final deliverable to the Malibu Creek Ecosystem Restoration Project partners! We are grateful to CalTROUT for hosting the charrette.

The UCLA Extension Landscape Architecture program looks forward to future collaborations on this amazing project.

-Stephanie V. Landregan, FASLA, Program Director,
UCLA Extension Landscape Architecture Program

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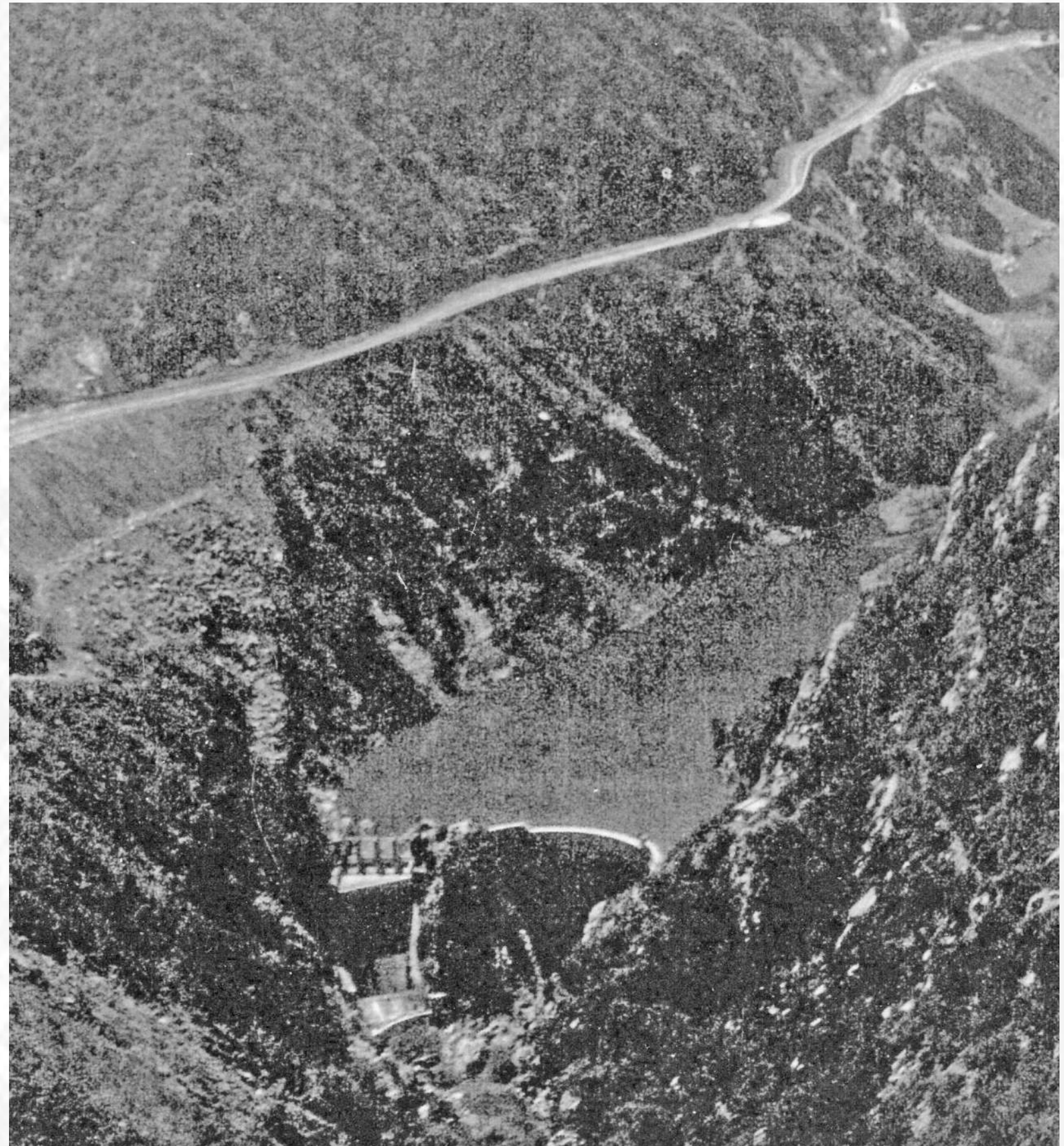
History of Rindge Dam

The 100ft dam was constructed by Mary Kay Rindge, owner of Malibu Ranch, in 1926 with the purpose of providing a water supply for local ranching and agriculture. This ultimately proved unsuccessful as the dam filled with sediment over several decades, and was decommissioned in 1967. The land was subsequently purchased by State Parks.

This Malibu Creek watershed encompasses 110 square miles, and is an important regional ecological corridor and recreation area. It links Santa Monica Bay, Malibu Lagoon, and riparian systems from the immediate coastal plain with interior plains and valleys.

The obsolete dam in Malibu State Park falls within the Santa Monica Mountains National Recreation Area which receives 300,000 visitors per year to enjoy the beautiful vistas, plentiful hiking trails, and many recreational activities. The canyons and valleys also support a rich diversity of wildlife and plants. The riparian area is an important mobility corridor and supports many endangered species including tidewater goby, Southern California steelhead trout, southwestern willow flycatcher, least Bell's vireo, California red-legged frog, and western pond turtles.

D. Lefer, T. Gaines, S. Jacobson, J. Turrini (2021) Rindge Dam Removal, Director's briefing





<http://www.natashasadikin.com/blog/2015/9/25/exploring-hidden-malibu-at-rindge-dam>

Need for Dam Removal

Rindge Dam altered the natural geomorphic, hydrologic, riparian and aesthetic character of Malibu Creek. The dam has trapped >780,000 cubic yards of sediment that was naturally destined for the coastline to support beach nourishment and prevent coastal erosion. Key ecosystem threats that will be remediated by the removal of Rindge Dam are:

- Impaired sediment transport and hydrologic connectivity due to dam

Reduction of natural sediment delivery during storms, and altered hydrologic connectivity, throughout Malibu Creek and tributaries have inhibited sediment deposition into Malibu Lagoon, the Pacific Ocean shoreline, and nearshore environments for over 90 years. The loss of coastal resilience is manifest in coastal erosion, loss of beach and shoreline, property and road damage via inundation impacts, and loss of viability and range for multiple species.

- Disrupted habitat connectivity

Loss of connectivity to high-quality aquatic spawning and rearing habitat for migratory species blocks completion of the anadromous life history and leads to reproductive isolation, population decline and habitat fragmentation. Limited mobility to other habitat patches increases vulnerability to stochastic events of fire, drought, predation, disease, and water quality impacts.

- Incongruous aesthetics

The juxtaposition of a 100-ft tall concrete dam emerging out of a rugged coastal canyon steeped in cultural history of the Tongva and Chumash people, and used as an urban refuge today, is a constant reminder that our understanding of the magnitude and scope of disruption to ecosystems of these large dams has been slow to realize and slow to reverse.

D. Lefer, T. Gaines, S. Jacobson, J. Turrini (2021) Rindge Dam Removal, Director's briefing

need for dam removal

Benefits of Dam Removal

- **Removing Rindge Dam will restore access to critical steelhead habitat.**

The lower Malibu Creek is home to the Southern California steelhead, and a part of it has been designated as a critical habitat for their survival. Unfortunately, the Rindge Dam poses a significant challenge to the steelhead's migration within this critical habitat. The NOAA National Marine Fisheries Service has recognized that removing the Rindge Dam is a crucial step towards the recovery of Southern steelhead. Once the Rindge Dam and up to eight upstream fish passage barriers are removed, the steelhead will have access to approximately 18 miles of habitat, restoring their natural habitat and supporting their long-term survival.

- **Removing Rindge Dam will restore wildlife habitat connectivity.**

Malibu Creek is known for its distinct qualities that enable it to provide a conducive environment for numerous native plant and wildlife species, including the Pacific lamprey and Western pond turtle. However, the presence of the Rindge Dam and other upstream barriers has disrupted the natural connectivity between habitats that these species depend on for spawning and rearing. As a result, this loss of habitat connectivity has led to population declines, reproductive isolation, and habitat fragmentation. By removing the Rindge Dam and other upstream barriers, the habitats will be reconnected, allowing these species to flourish once again and re-establishing their natural way of life.

- **Removing Rindge Dam will benefit the recreational community.**

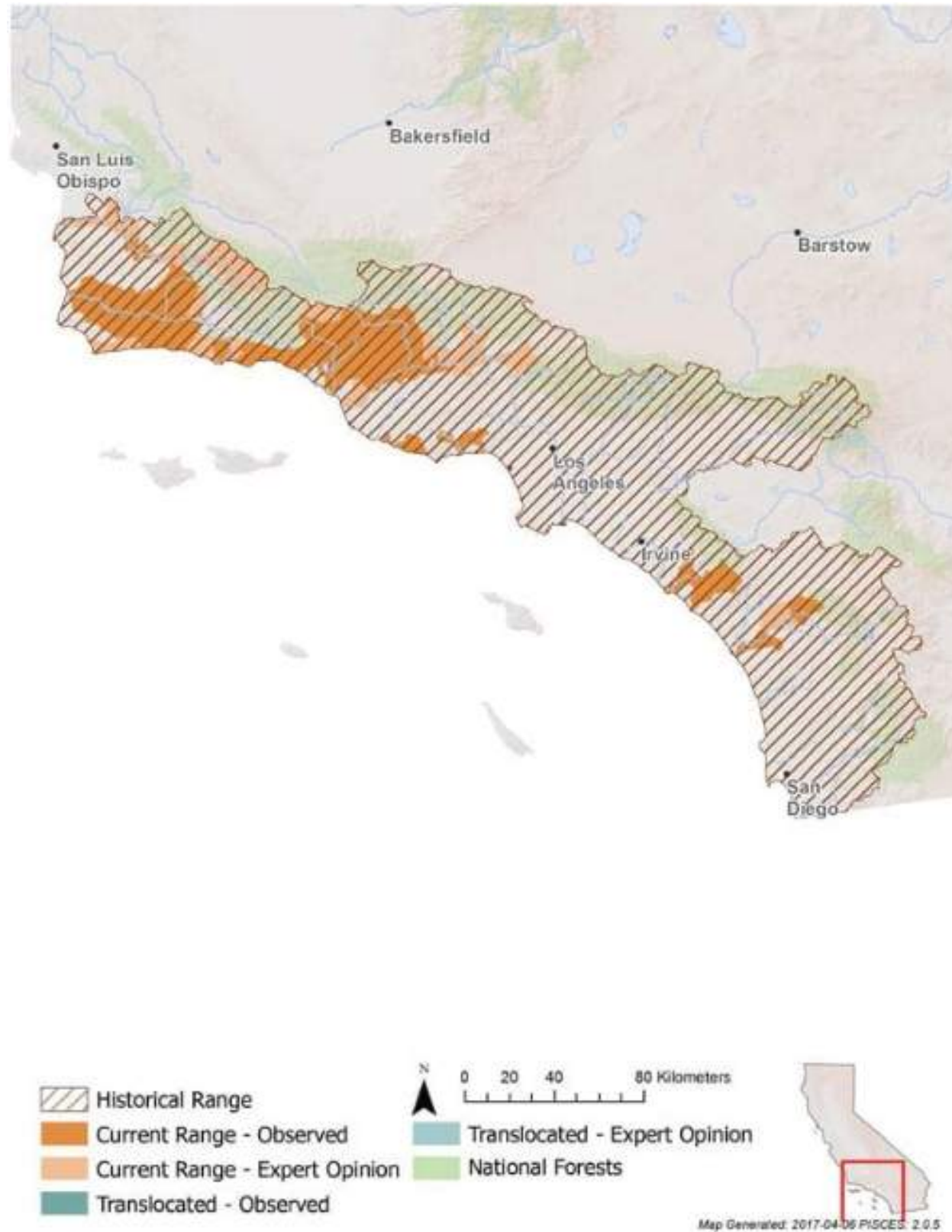
By restoring the natural beauty of the canyon area, both the safety of wildlife and the public recreation opportunities will be improved. Upon the project's completion will also have a positive impact on Southern California's prized possessions, namely, the Malibu Creek State Park and the Santa Monica Mountains National Recreation Area. Removing the dam will address a public safety issue by eliminating the popular jumping point into Malibu Creek.

Cal Trout (2019, April) Rindge Economic Fact Sheet



B Yin, Malibu Creek. <https://restoremalibucreek.org/>

benefits of dam removal



<https://caltrout.org/sos/species-accounts/steelhead/southern-steelhead>

Southern Populations Are In Danger

Characteristics

Southern steelhead generally have longer, more streamlined bodies than their northern counterparts to facilitate passage through southern California's characteristic low, flashy streams

Abundance

In the 19th Century, the Santa Ynez probably supported the largest runs of Southern steelhead throughout their range, likely between 20,000 to 30,000 adults per year, while the other large watersheds likely supported runs of a few thousand adults per year. In the last five years, the number of adult anadromous steelhead has declined significantly, to the point that it is now rare to see them in the wild.

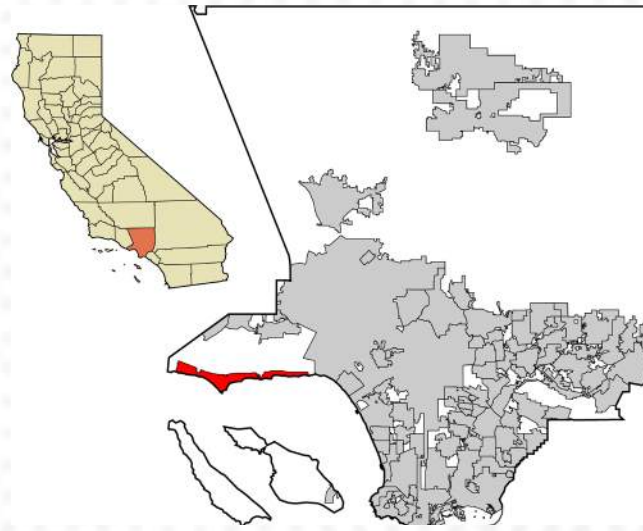
Level of Concern: Critical

Southern steelhead populations are in danger of extinction within the next 25-50 years due to anthropogenic and environmental impacts threatening their recovery. Since its listing as an endangered species in 1997, Southern steelhead abundance has continued to decline to precariously low levels.

Current Efforts to Save Them

- Reduce surface water diversions and groundwater pumping, increase use of recycled water, and expand conservation measures to improve habitat for Southern steelhead.
- Manage native resident Rainbow trout with Southern steelhead as part of the DPS to acknowledge that resident fish can produce smolts and anadromous offspring under favorable environmental conditions.
- Remove fish passage barriers and expedite dam removal projects including Matilija Dam (Ventura River), Rindge Dam (Malibu Creek), and other passage barrier remediation projects.
- Remove non-native aquatic species in prime trout habitat.

steelhead trout



Top Left

Southwestern U.S. map shown for context, project site is located near the greater Los Angeles area in Southern California.

Top Center

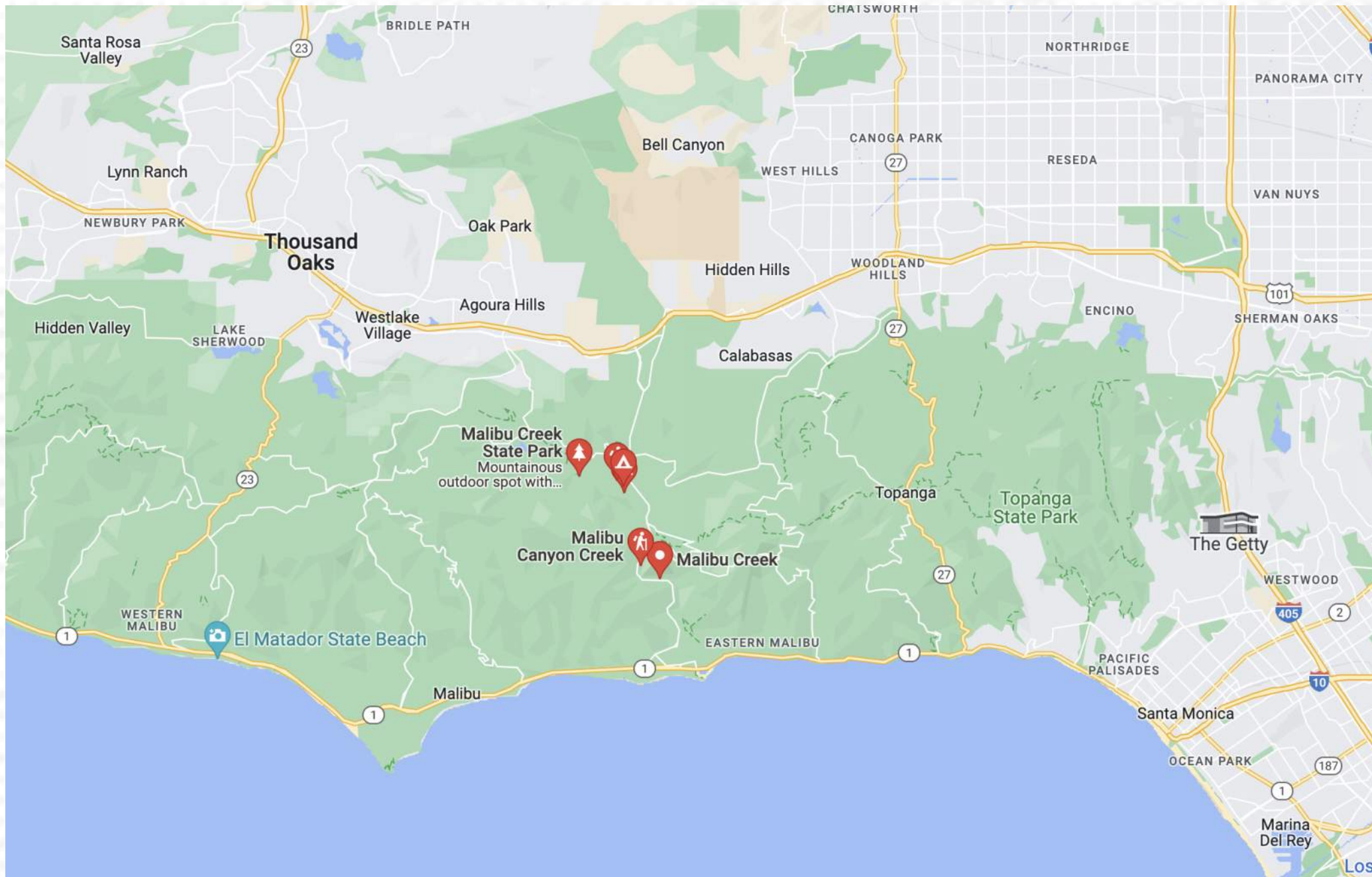
Detailed map of Los Angeles County, project site is located within the Santa Monica Mountain Range shown in red.

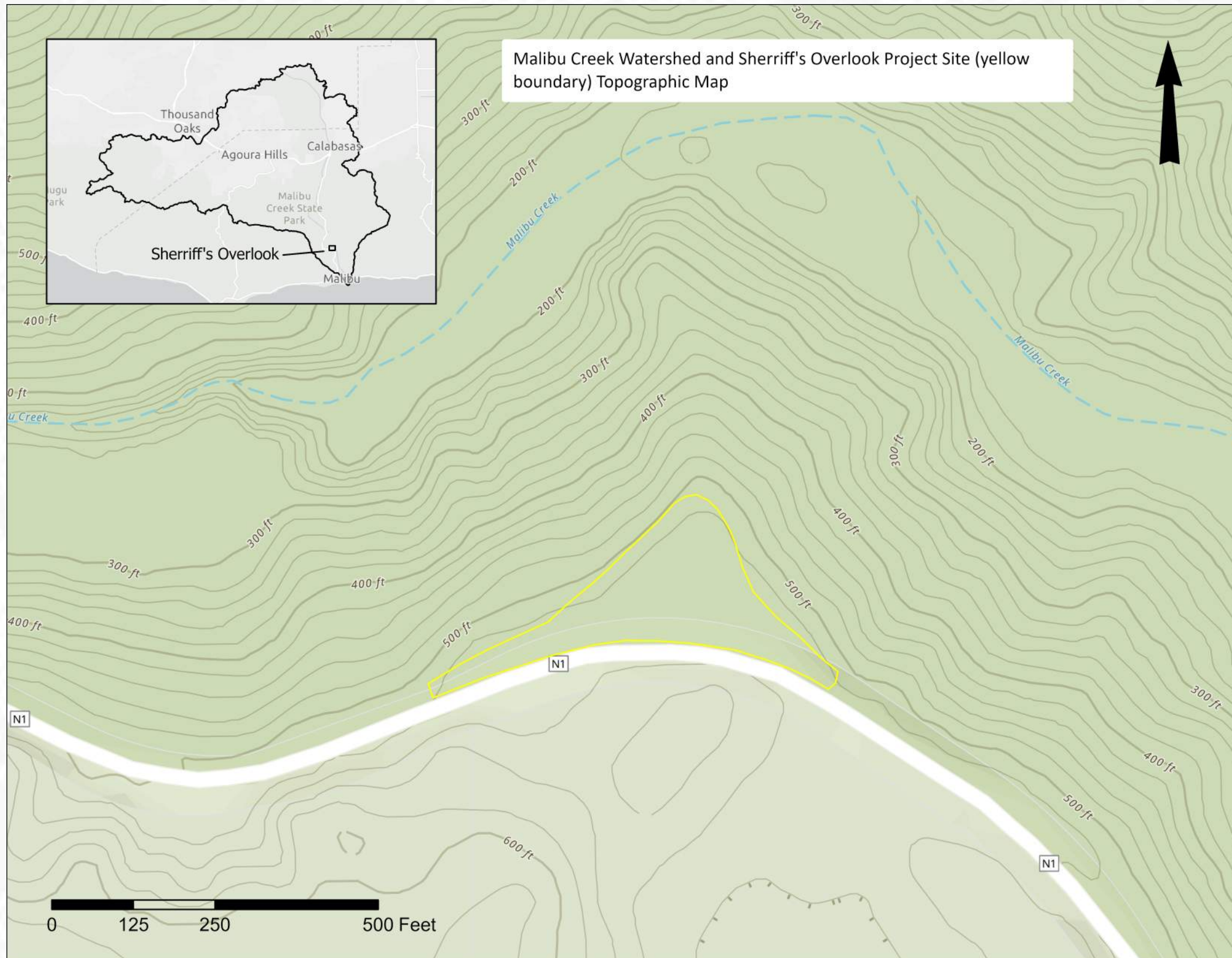
Top Right

Red star indicates the project site, Malibu Creek Watershed, located within the Santa Monica Mountain Range.

Bottom

Detailed view of the Santa Monica Mountains containing the Sherriff's Overlook project site within the Malibu Creek Watershed, surrounding highways, and adjacent cities.

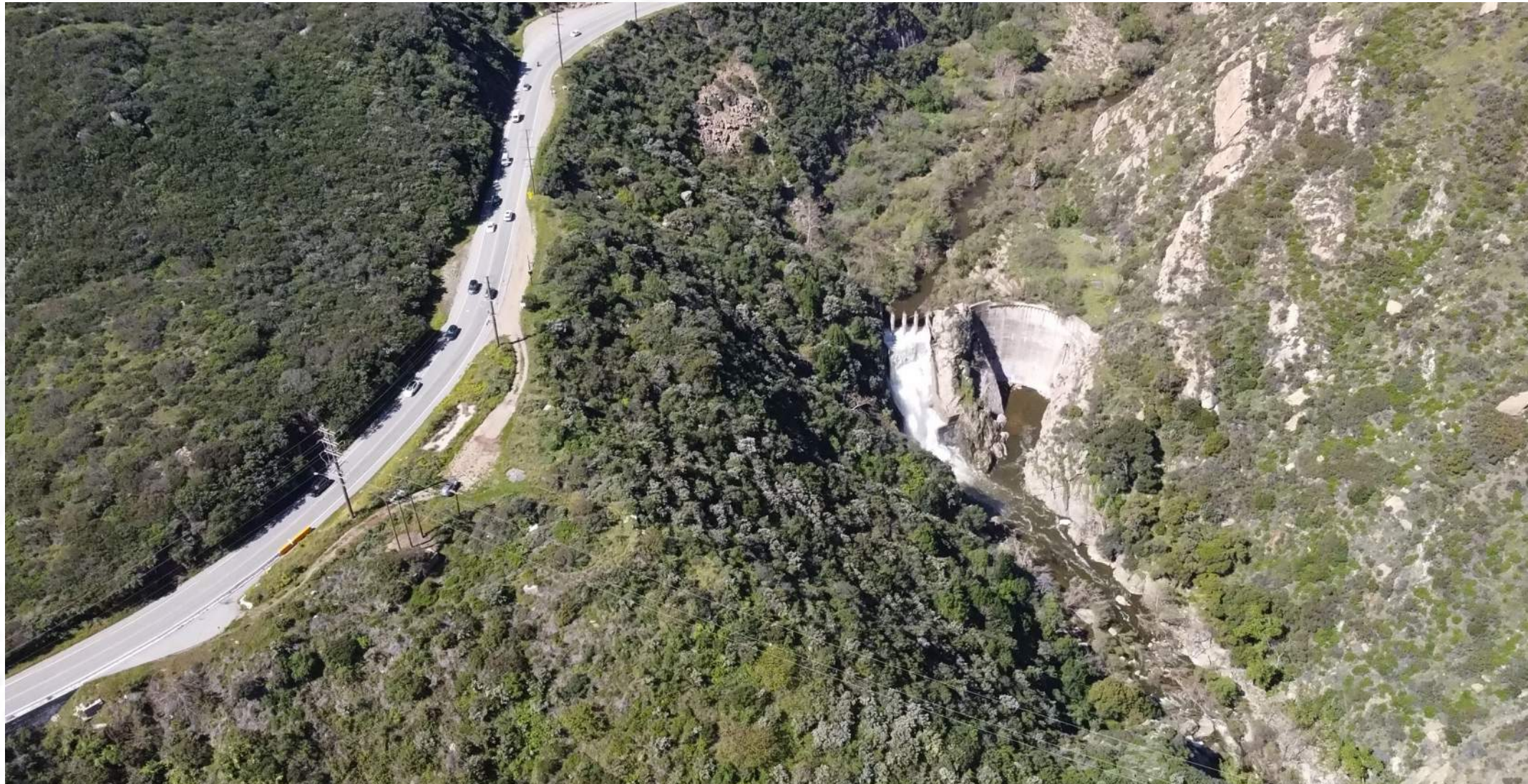




Sherriff's Overlook

Close up view of the Sherriff's Overlook project site including, Malibu Creek, Malibu Canyon Road, and site topography.

site map



Top

Aerial view of project site, Rindge dam, and Malibu Canyon Road.

Bottom Left

Aerial view of project site and Malibu Canyon Road.

Bottom Right

View of Rindge dam.





Sherriff's Overlook Project Site

Aerial view of group visiting Sherriff's Overlook project site including the view of the dam and creek from the site.



team a



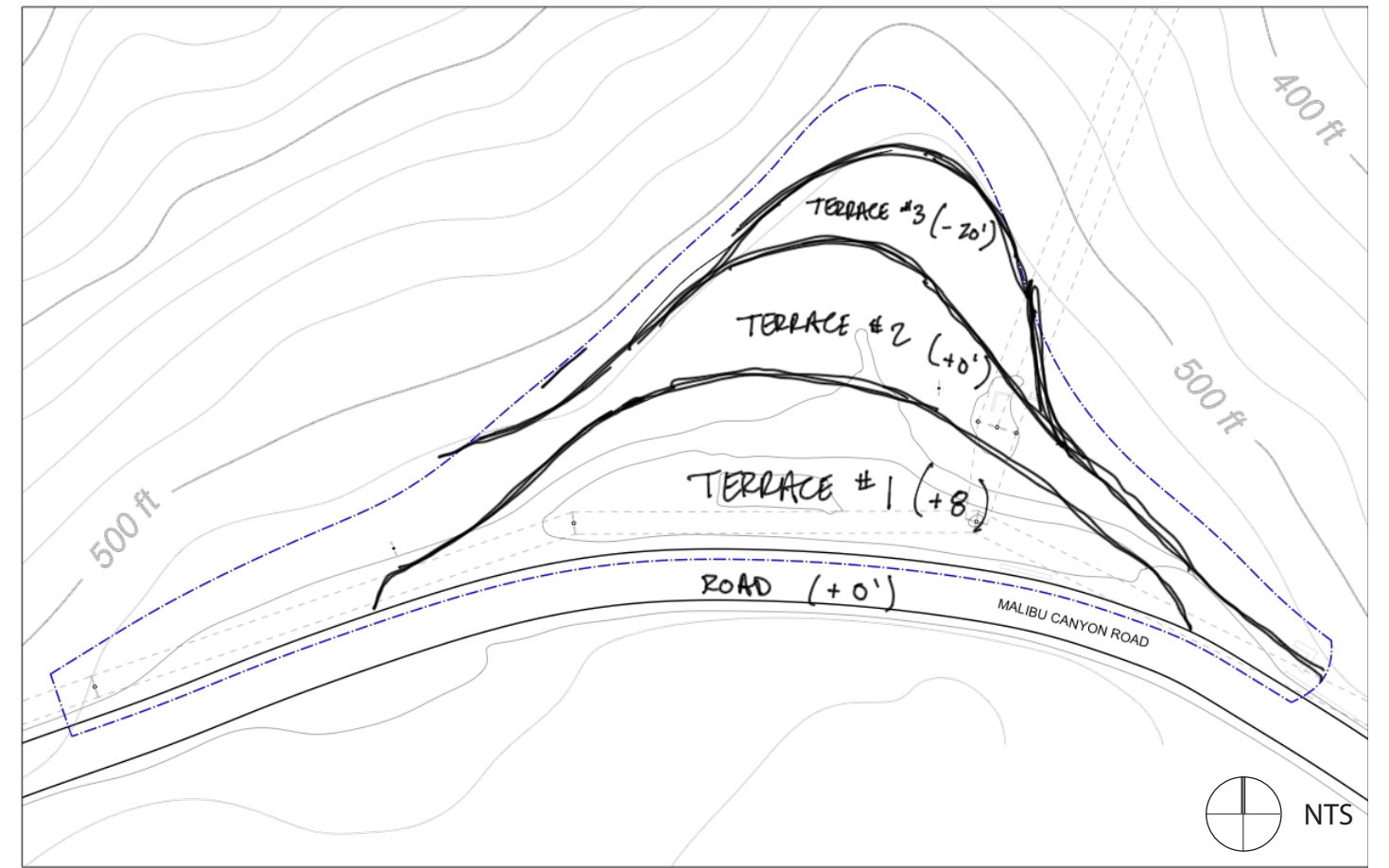
team a | team photos



VEGETATION

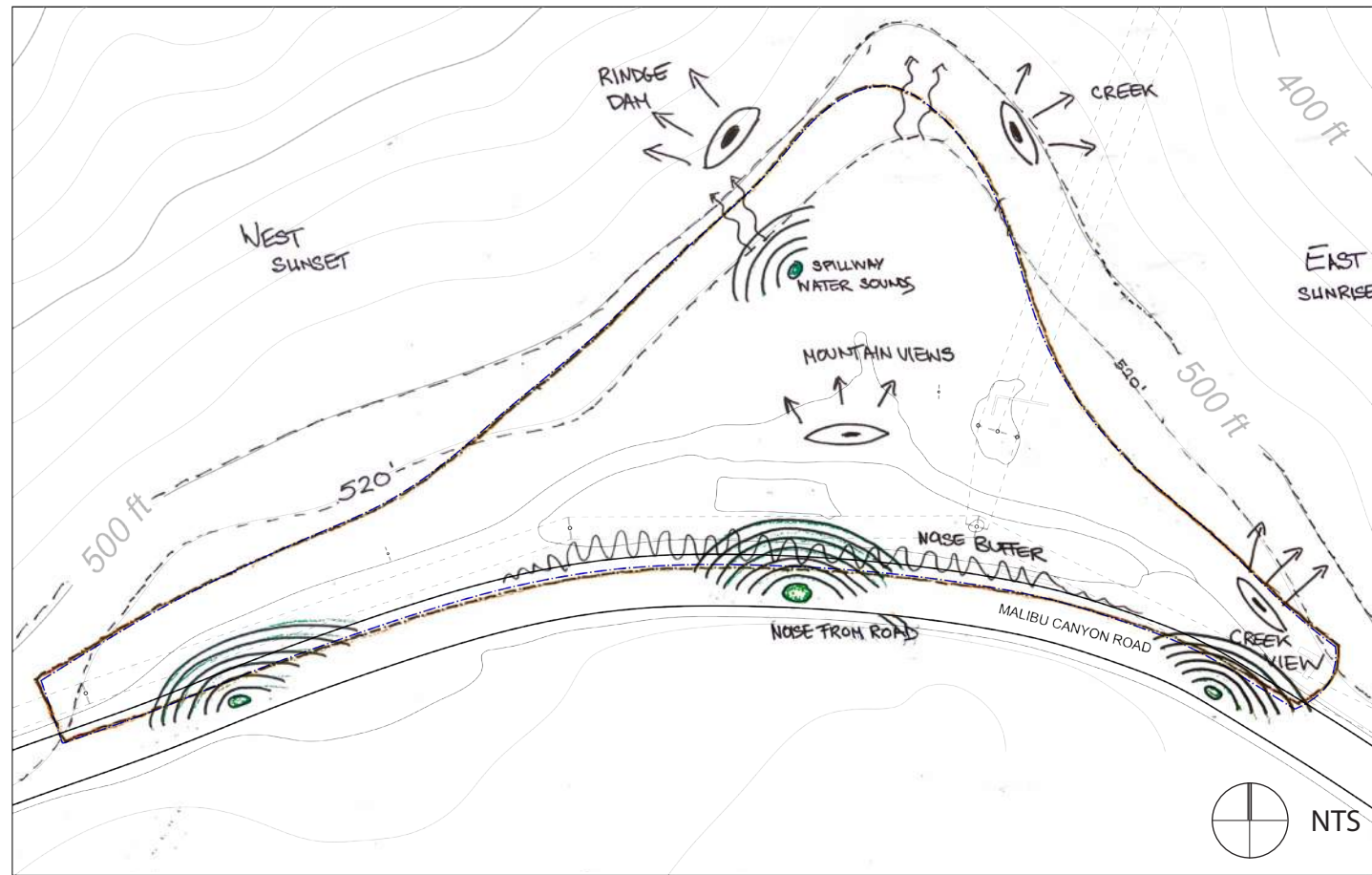


Vegetation density is thinner around the middle of the site area and becomes denser along slopes as you descend toward the creek

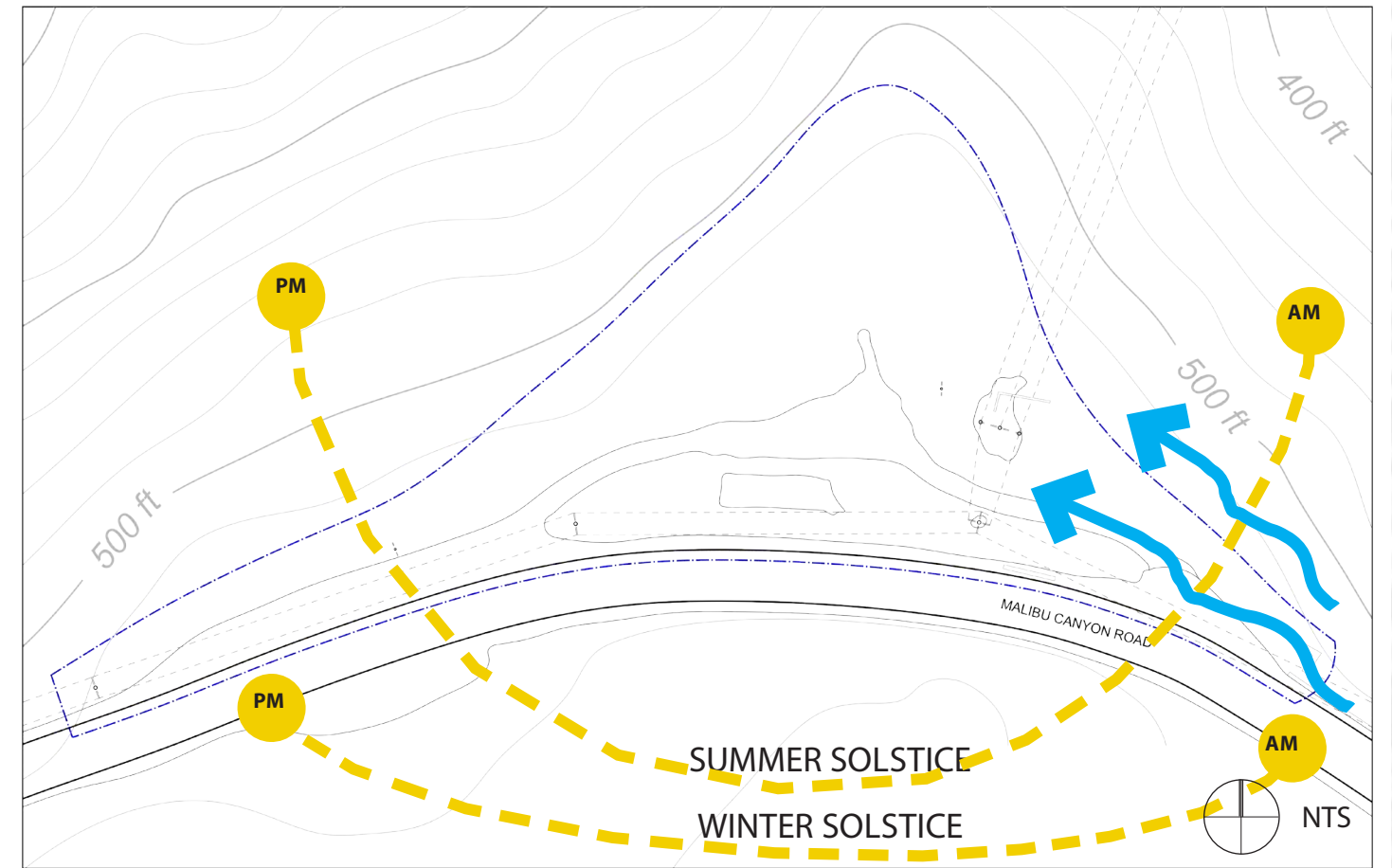


SUN AND WIND

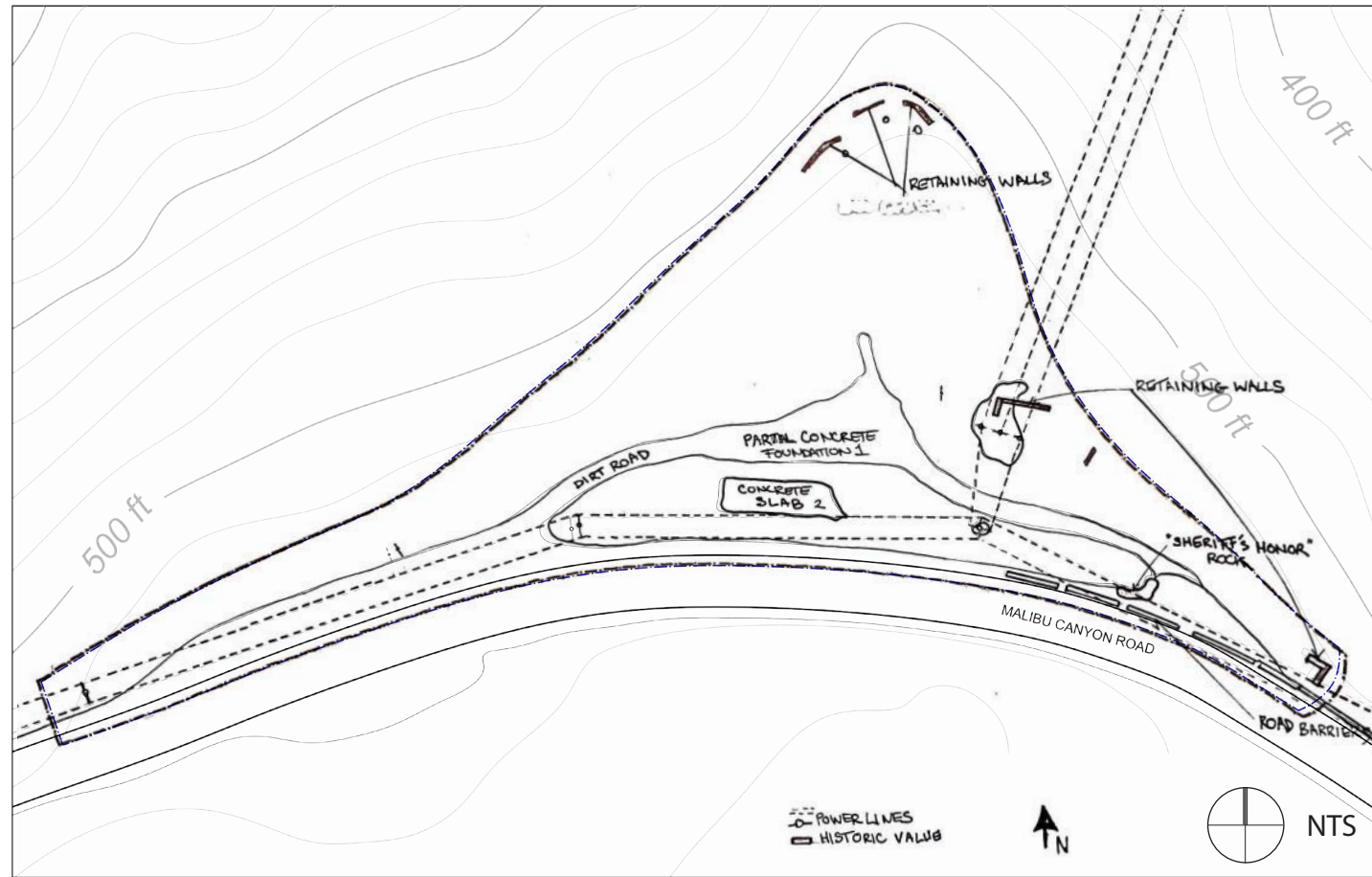
Topography is terraced around the site, with three primary levels, with steep drops toward the creek



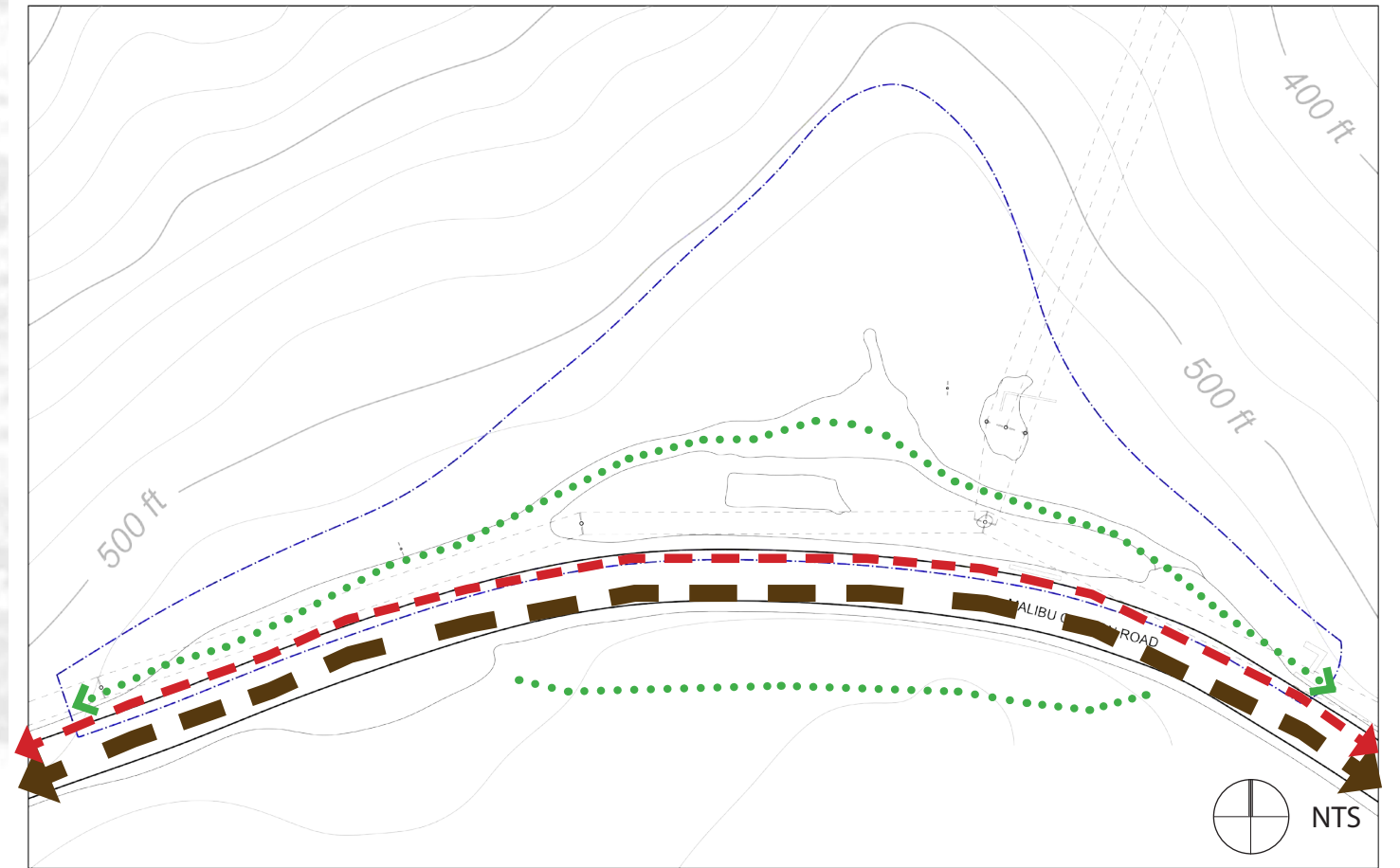
SENSORY EXPERIENCE



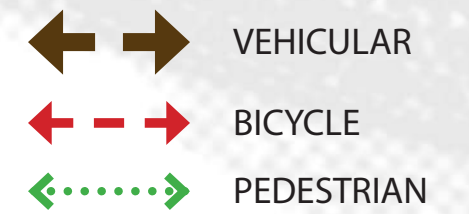
SUN AND WIND



EXISTING FURNISHINGS



CIRCULATION



PLANT MATERIAL

Quercus dumosa



Sambucus nigra



Artemisia californica



Eriogonum fasciculatum



Malacothamnus fasciculatus



Elymus triticoides



Juglans californica



Malosma laurina



Baccharis pilularis



Salvia mellifera



Phacelia tanacetifolia



Ceanothus spp.



HARDSCAPE MATERIAL

Concrete Footings



Decomposed Granite



Asphalt Paving



Concrete Dam



FURNISHINGS

Sherrif's Overlook Sign

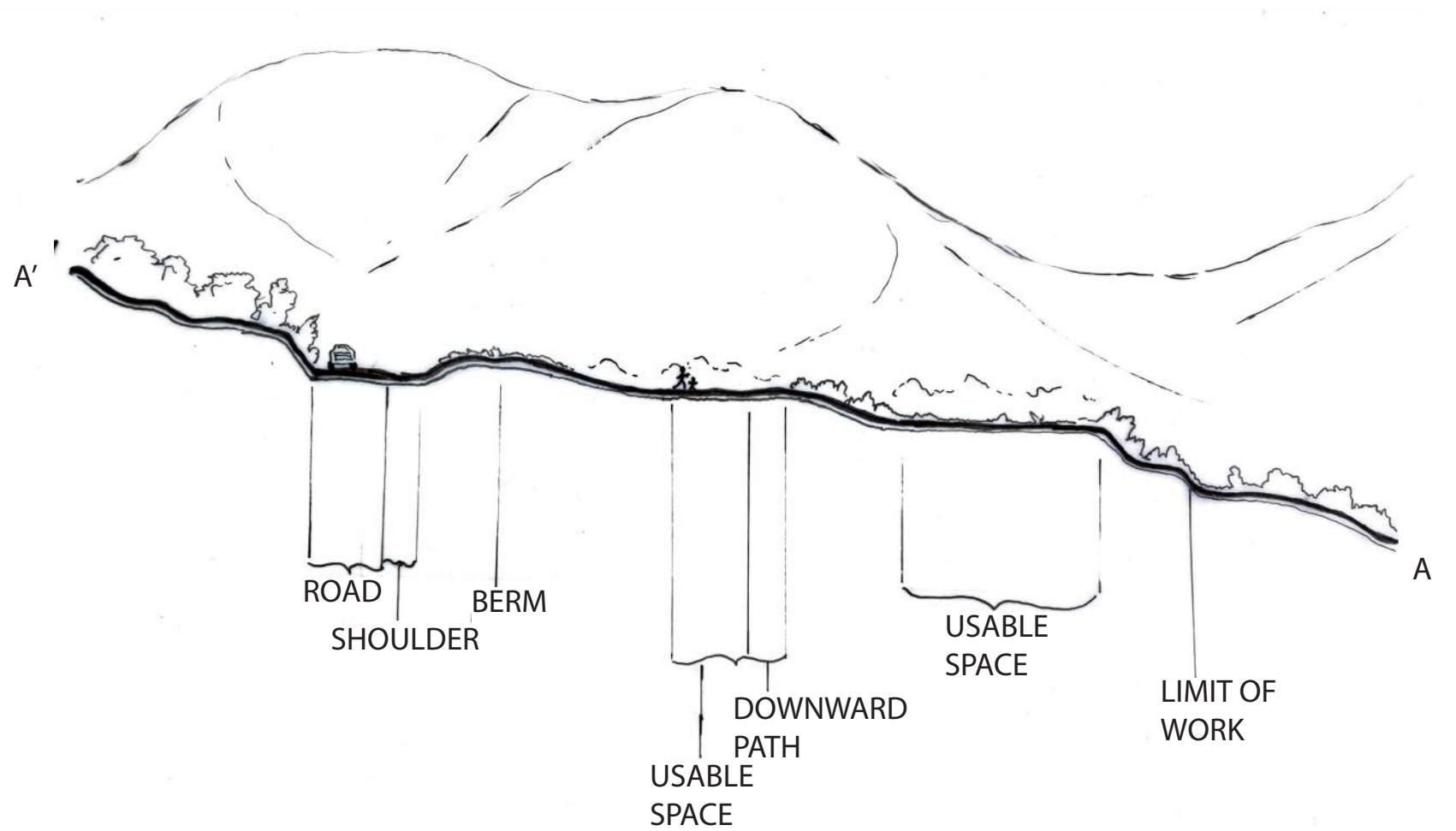


Historical Retaining Wall



Power Lines



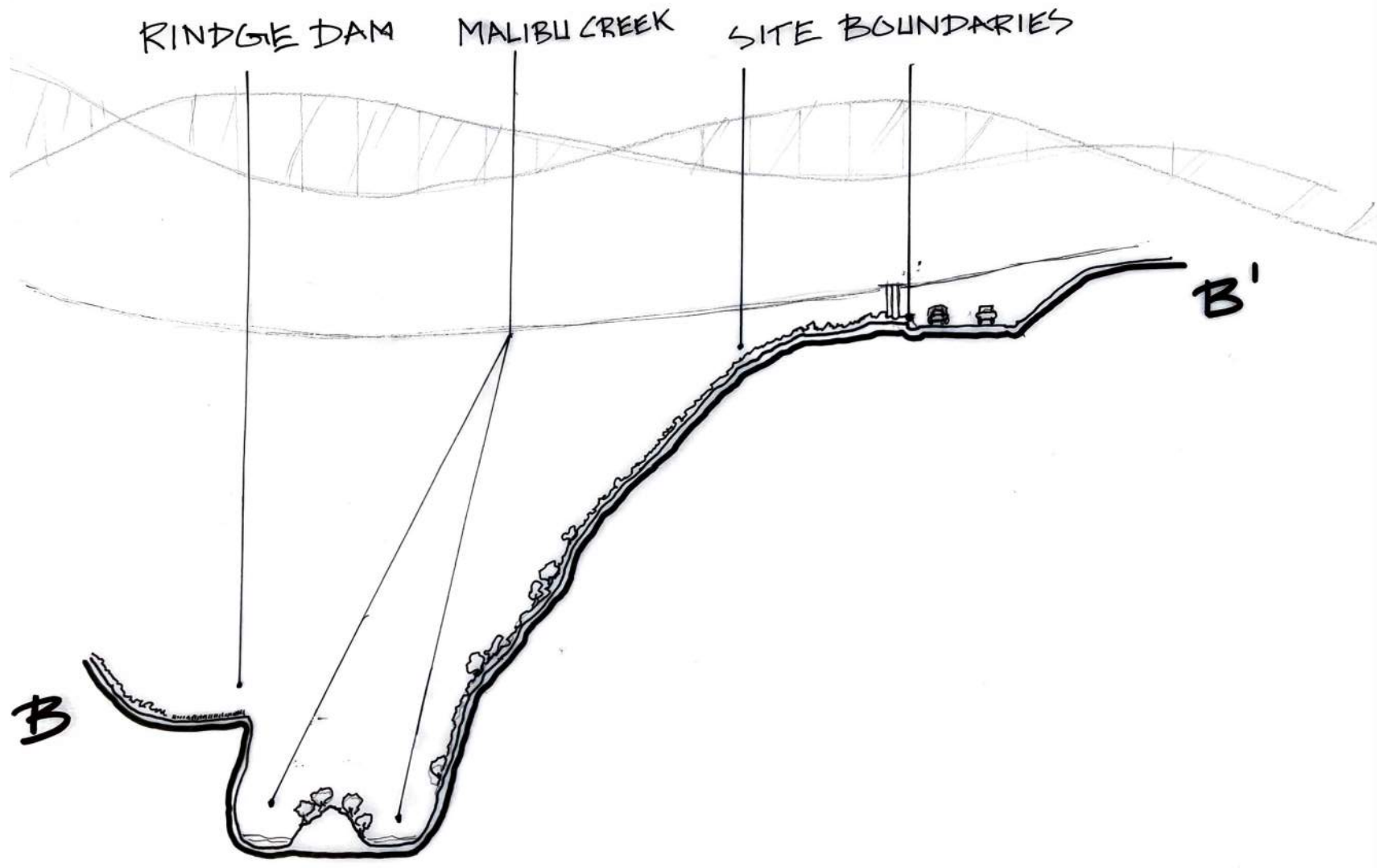


EXISTING SECTION - ELEVATION A

NTS

KEY MAP





EXISTING SECTION - ELEVATION B

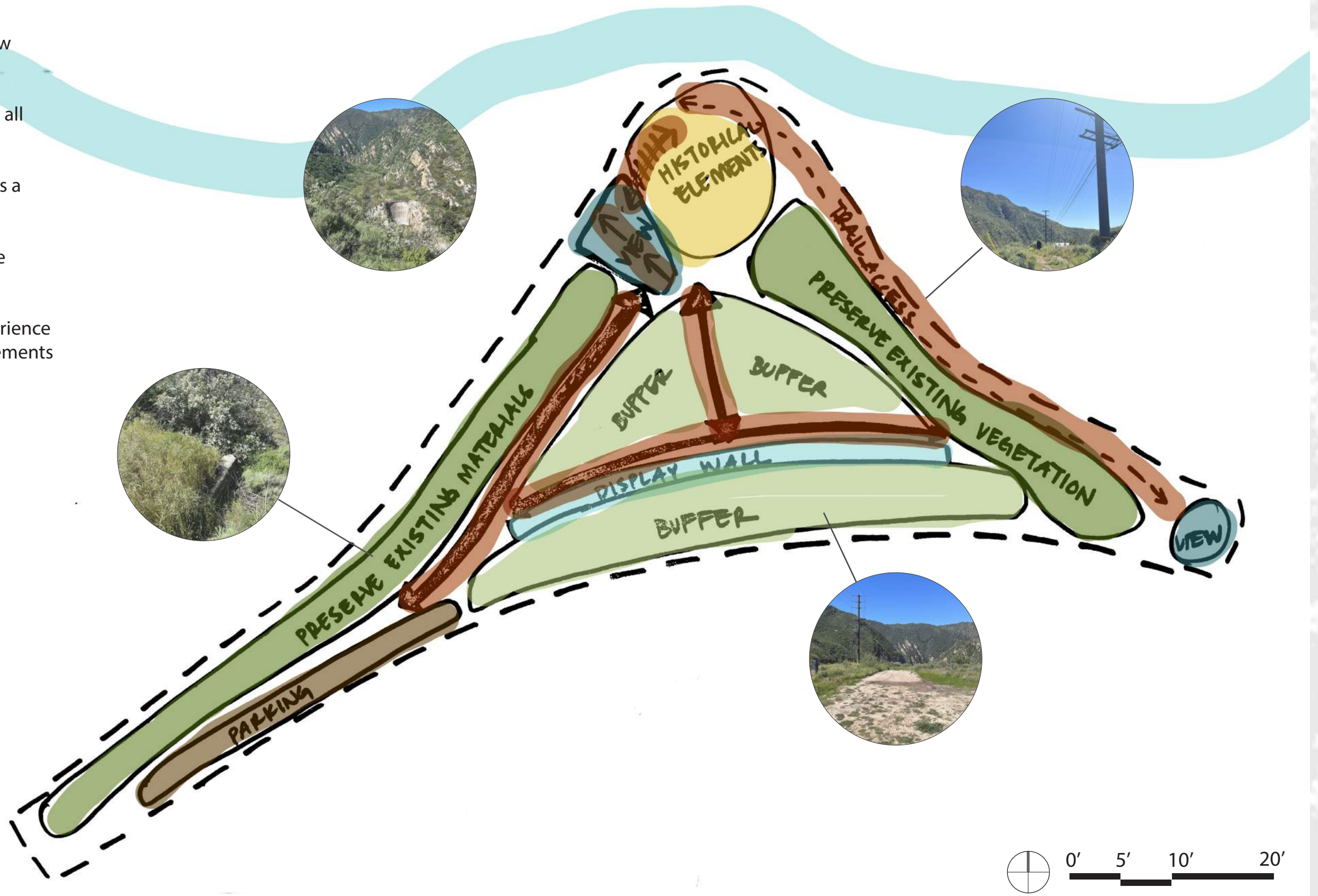
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KEY MAP

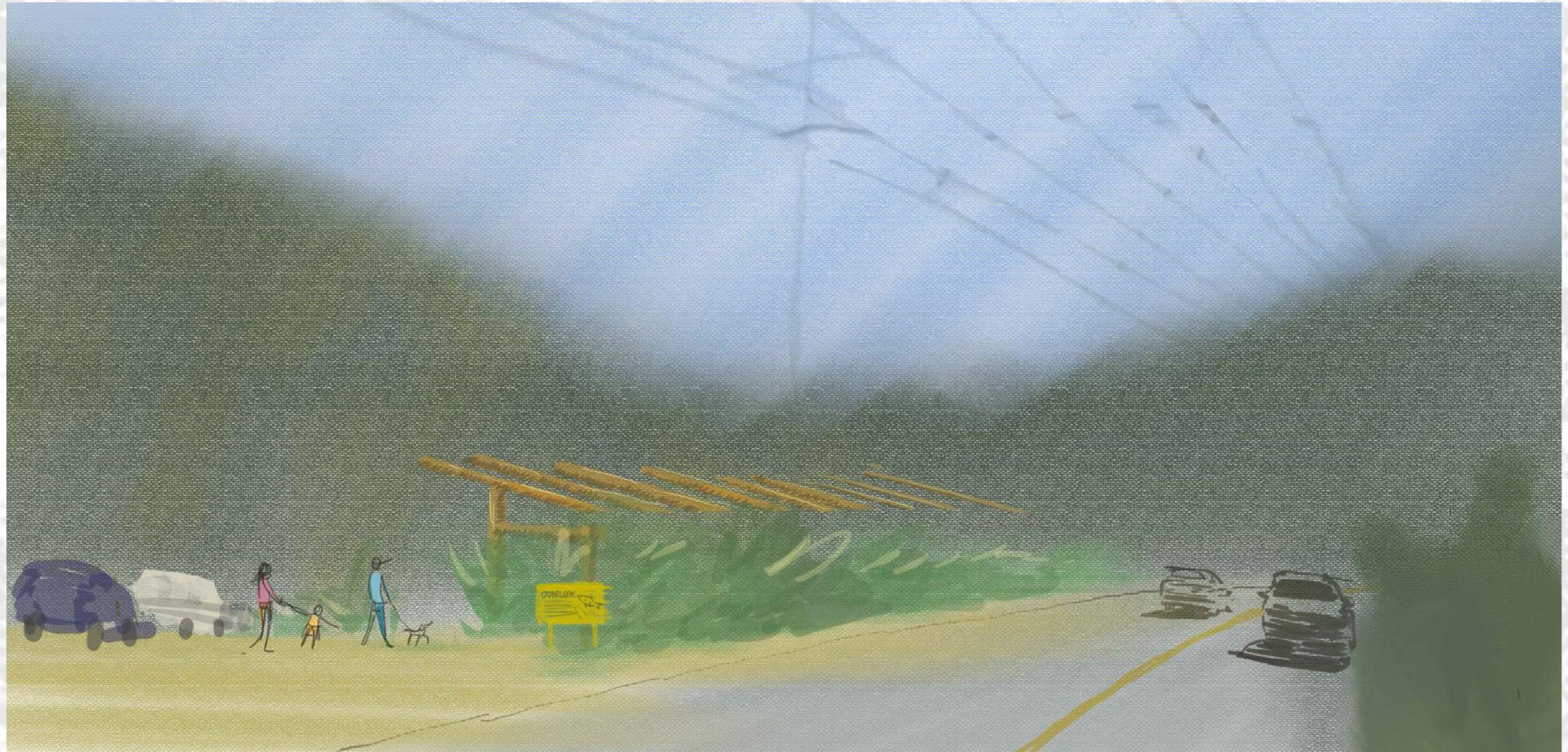


LIGHT ON THE LAND

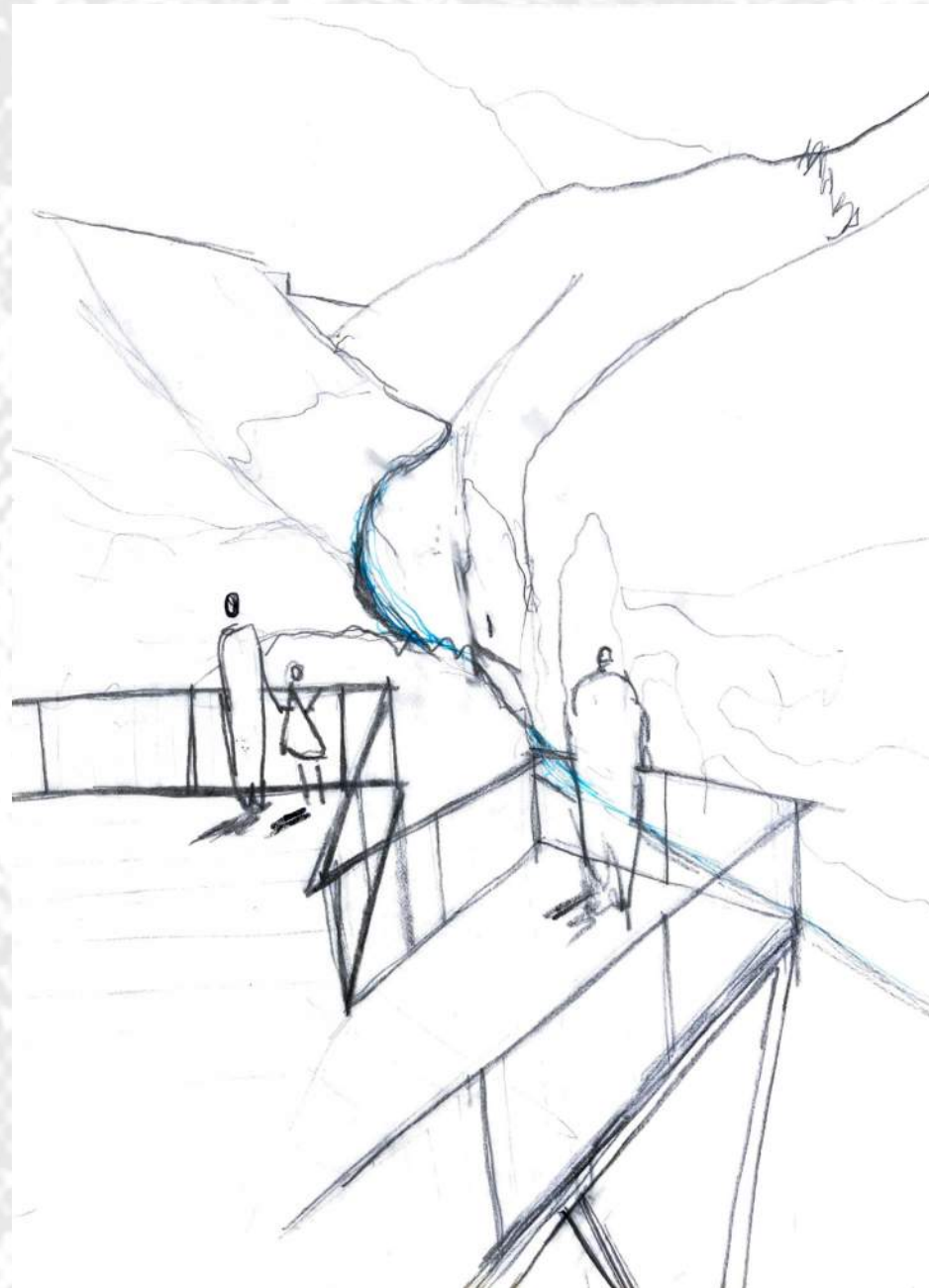
- This concept was developed with a low impact approach at the center
- Prioritized access to view corridors for all parties
- Preserves existing native vegetation as a site feature
- Offers trail access to the lowest terrace (currently inaccessible)
- Educational signage and guided experience addresses historical and ecological elements



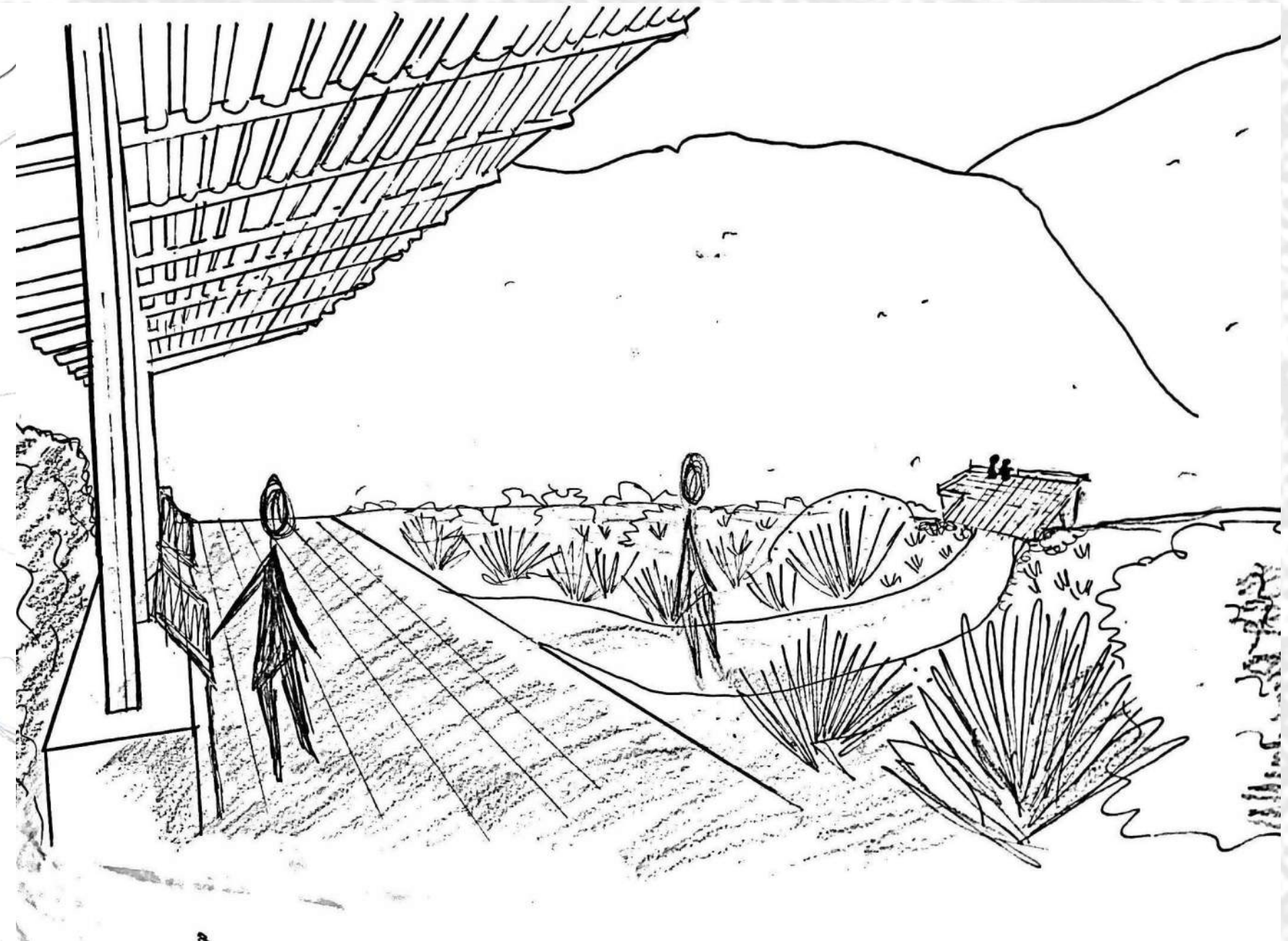
ENTRANCE PERSPECTIVE

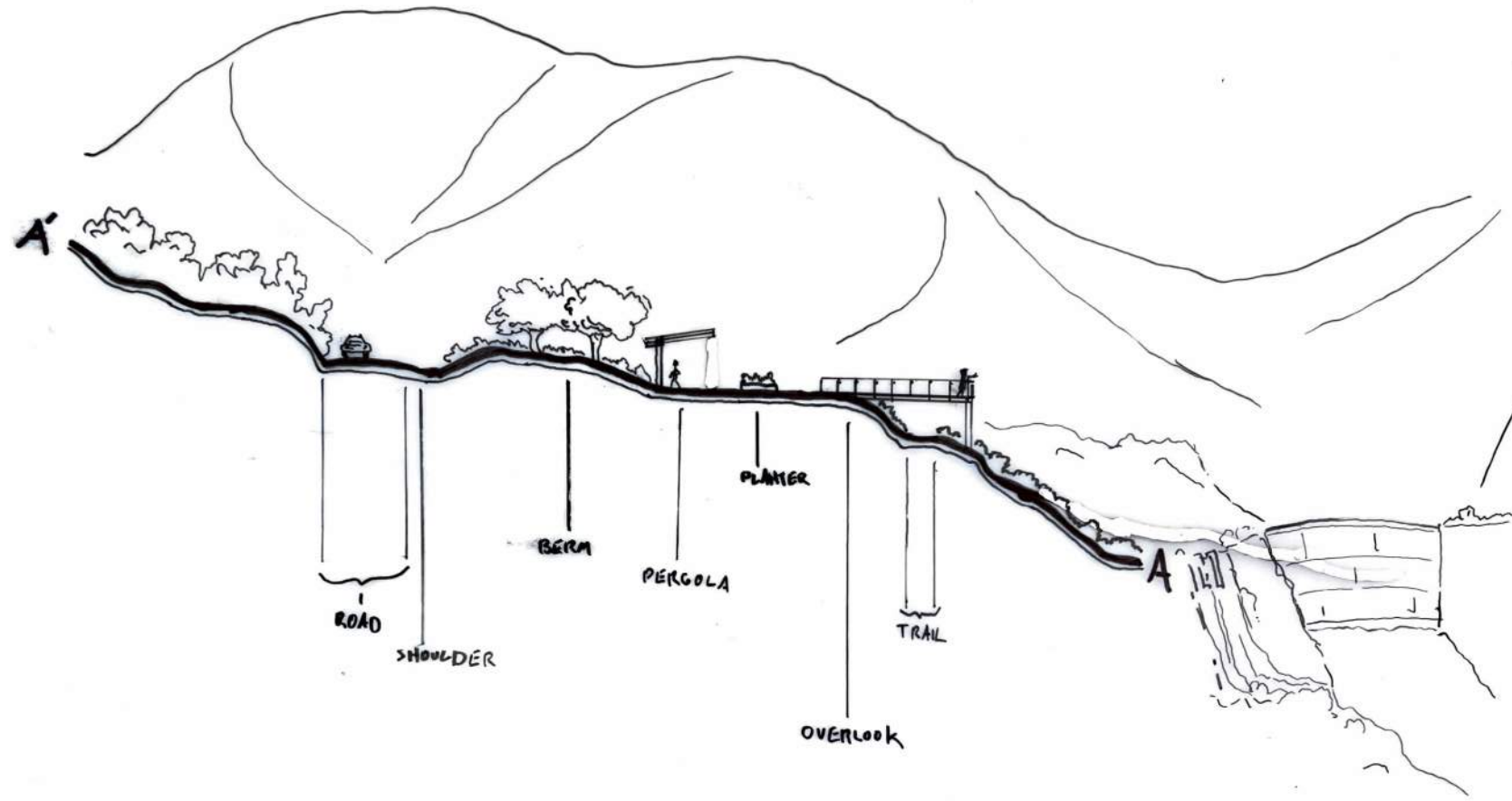


OVERLOOK PERSPECTIVE



SHADE STRUCTURE PERSPECTIVE



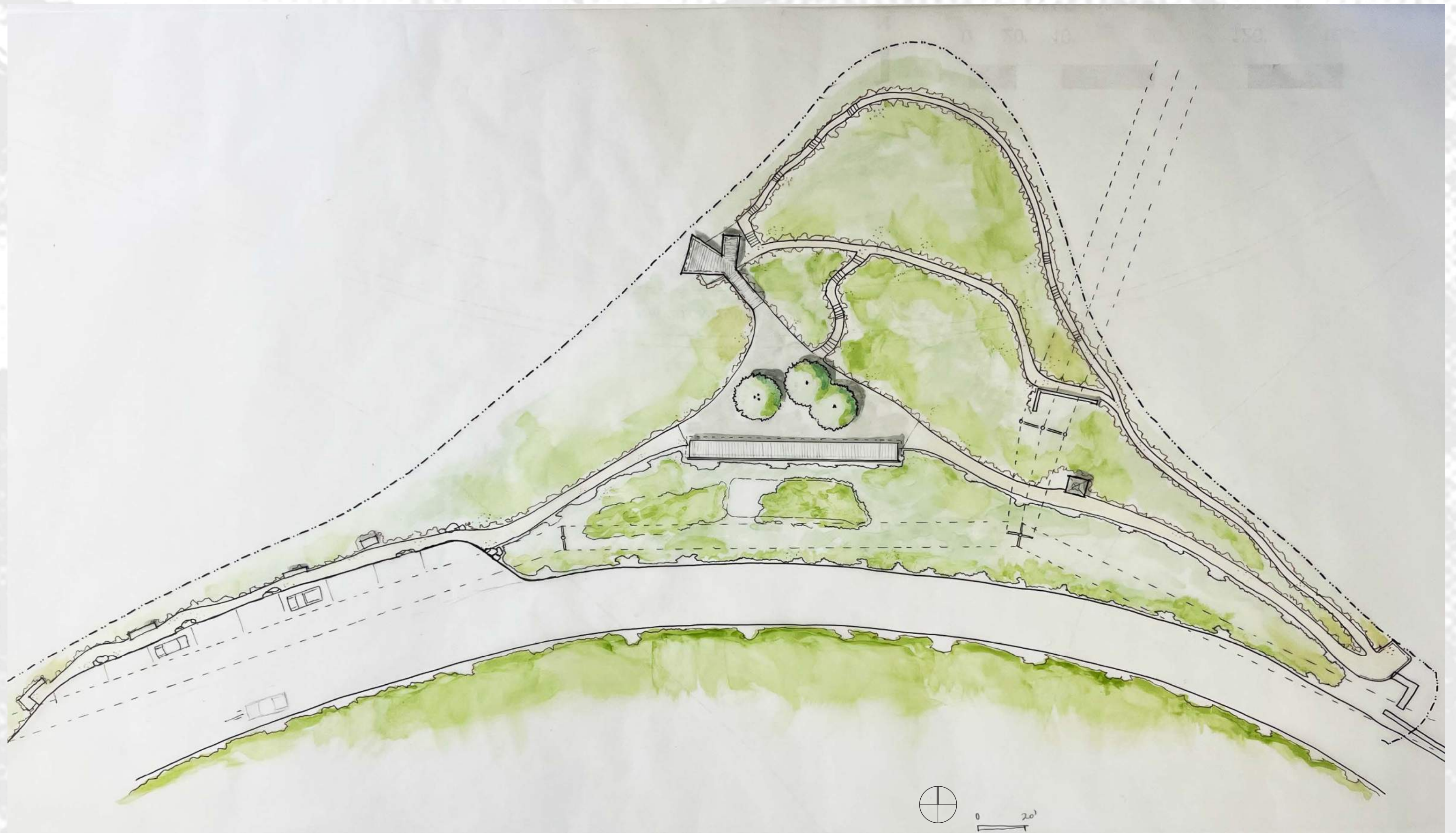


NTS

EXISTING SECTION - ELEVATION A

KEY MAP







team b



team b | ridge dam removal overlook design | team photos

SITE HISTORY

7,000-2,500 BC: The Chumash Indians settled present-day Malibu and established the large town of Humaliwo ("where the mountains meet the sea and the surf sounds loudly"), as well as the villages of Kats'ikinhin ("pine tree") and Ta'lopop a few miles inland, on Las Virgenes Creek. The historic locations of these three heavily interconnected settlements are encompassed within the present-day Malibu State Park

1542: Juan Rodríguez Cabrillo, the first Spanish conquistador in California, moored at Malibu Lagoon and claimed the surrounding region for the King of Spain.

1565: The Spanish empire began utilizing the Manilla Galleon trade routes, which established major ports in Baja Mexico.

1769: The Spanish crown began actively colonizing Alta California through mission settlements.

1775: Juan Batista de Anza led an expedition from Mexico to present-day Malibu Creek. One of the younger members of this expedition was a boy named José Bartolomé Tapia.

1804: José Joaquin de Arrellaga, Spanish military governor of California, grants permission to José Bartolomé Tapia to settle on Rancho Topanga Malibu Sequit.

1821: Mexico gained independence from Spain.

1824: Tapia dies and bequeaths Rancho Malibu to his wife, Maria.

1833: The Mexican government secularized the missions.

1848: Shortly after the United States acquired California from Mexico, Maria Tapia sold Rancho Malibu to her grandson-in-law and trusted friend of the family, Leon Victor Prudhomme.

1857: Financially reeling from the post-Gold Rush Panic, Prudhomme sold Rancho Malibu to Matthew Keller.

1881: Henry Keller inherited Rancho Malibu after his father's death.

1891: Keller sold 1,856.75 acres in the eastern section of the ranch to Rhoda May (née Knight) Rindge.

1892: Keller sold the remaining acreage (totalling 13,315 acres) to her husband, Frederick Hastings Rindge.

1905: May Rindge took over managing the property and ranching operation, as the Marblehead Land Company, after the death of her husband.

1924: Construction of Rindge Dam began without a state permit, although the California State Engineer periodically dispatched personnel to examine the site during the construction phase.

1925: May Rindge lost her litigious battle to keep the State of California from obtaining a right-of-way for a coastal highway across Rancho Malibu. To pay for her mounting legal fees, she was forced to lease, then subdivide and sell, parcels of her land through the Marblehead Land Company.

1926: The spillway was constructed under the supervision of Harry Hawgood, a consultant engineer.

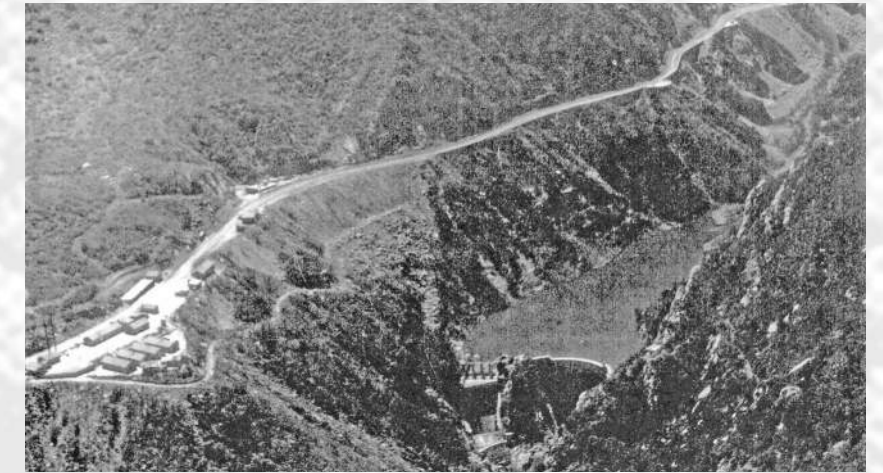
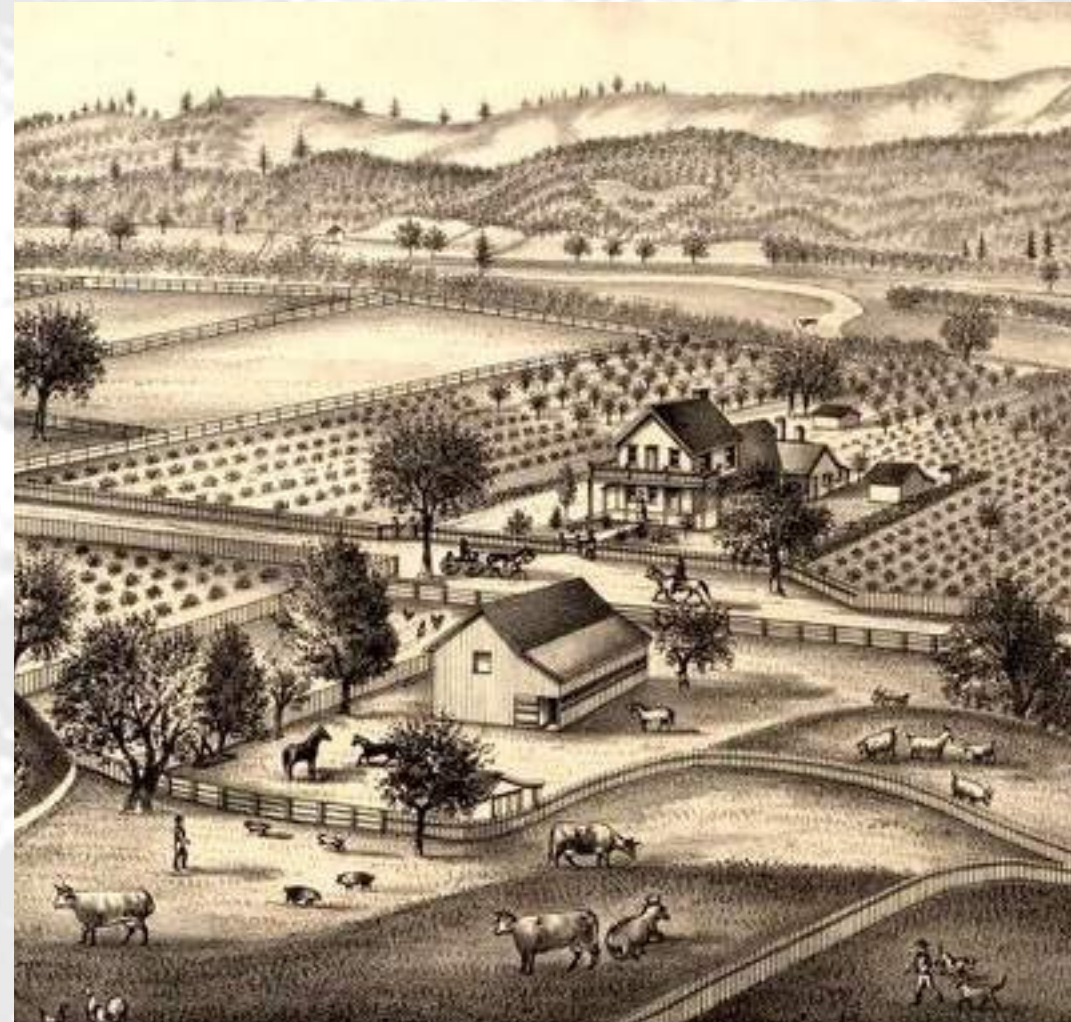
1929: An inspection by the State Engineer's Office notes damage to the soft rock backing of the spillway, likely caused by severe flooding two years prior. Increasingly silted. Eventually, the outflow valves got obstructed and major repairs were required.

1963: The dam is rendered inoperable as repeated floods fill the reservoir with additional silt, rock, gravel, and debris.

1966: The Malibu Water Company petitioned the Public Utilities Commission to discontinue its irrigation services.

1967: The request was granted and the dam was subsequently abandoned and unattended

1984: State of California purchased 960 acres in Malibu Canyon, including the dam and surrounding acreage, to create Malibu Creek State Park.



THESIS:

Develop a design solution that prioritizes safe and equitable access to “Sheriff’s Overlook”, a scenic overlook on Malibu Canyon Rd nestled into the chaparral of the Santa Monica Mountains where community members can view the decommissioning of a defunct dam and the restoration of Malibu Creek in real time, and future generations can view Malibu Creek and the surrounding watershed in its full glory while learning about the natural and cultural history of the site.



DILEMMA:

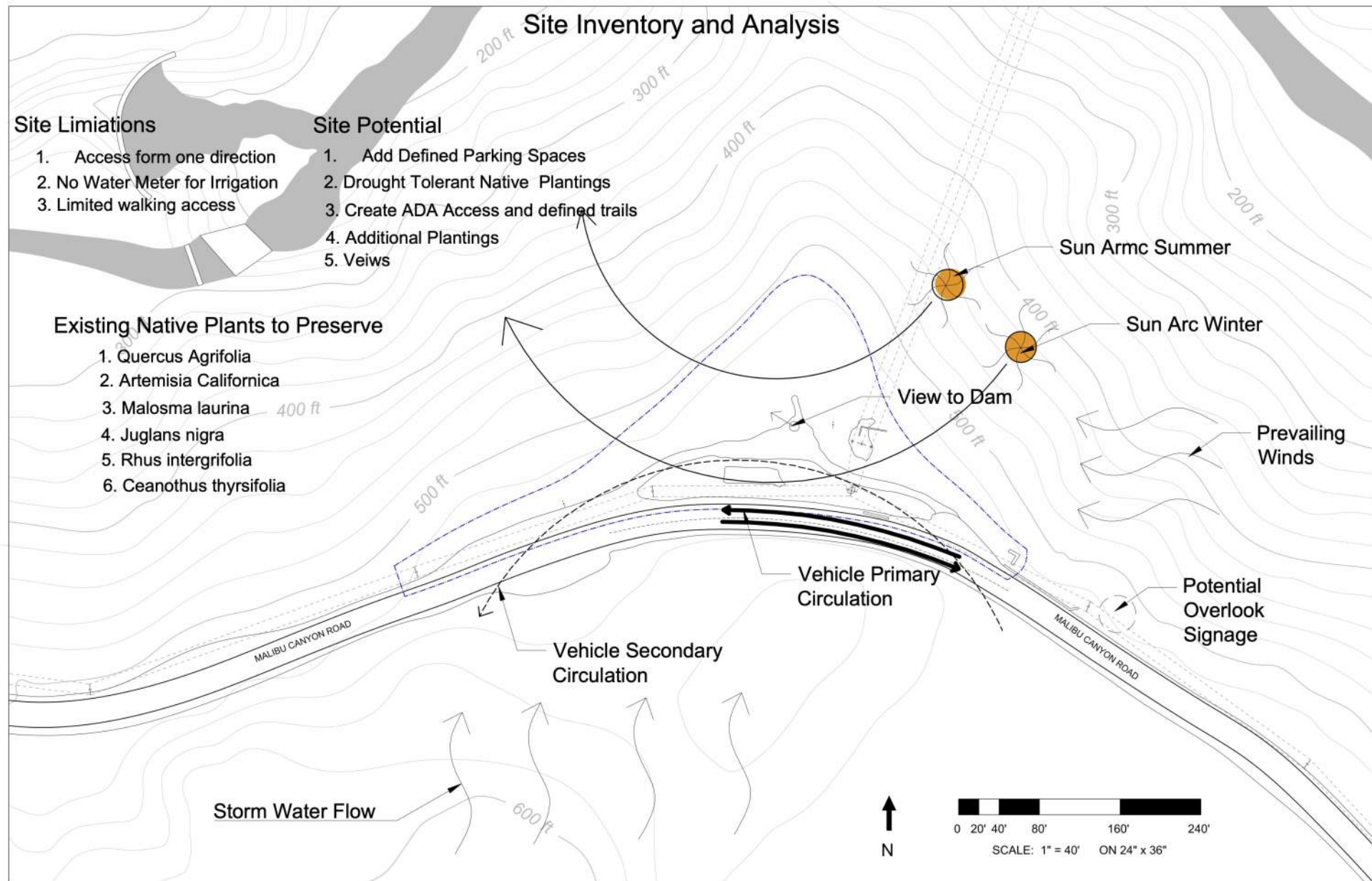
Safety Concerns: the site is adjacent to a busy road and on very steep terrain. The area is also subject to increasingly frequent wildfires, the vast majority of which are human caused.

Accessibility: Vehicular access is challenging due to the location on a blind curve and insufficient signage leading up to the site. The rugged terrain is difficult even for able-bodied pedestrians to traverse.

Visibility - the dam and the creek are hidden from view on the road, so there is limited awareness among users of Mullholand Dr that they can pull over and enjoy these views. We want to publicize the removal of the dam, but the public needs to know that its here in the first place for that to happen

Performance Objectives

Develop a design solution that prioritizes safe and equitable access to May K Rindge Scenic Overlook off of Malibu Canyon Rd where community members can view the decommissioning of a defunct dam and the restoration of Malibu Creek in real time, and future generations can enjoy sweeping views of the creek and canyon while learning about the natural and cultural history of the site



**Ridge Dam
Sheriffis Overlook**

Project Name

Zip Code

Phone

Email

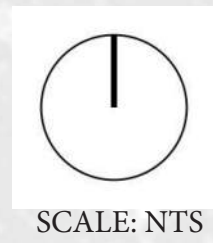
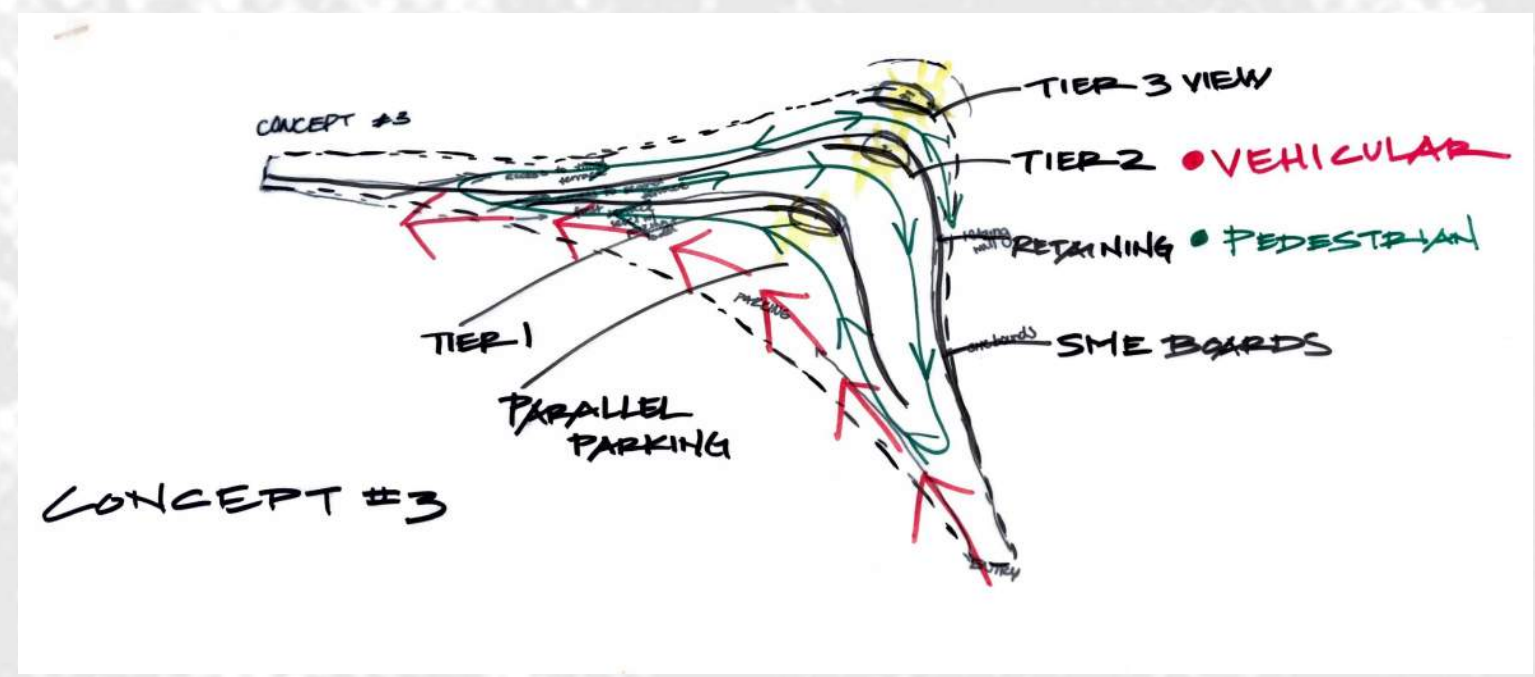
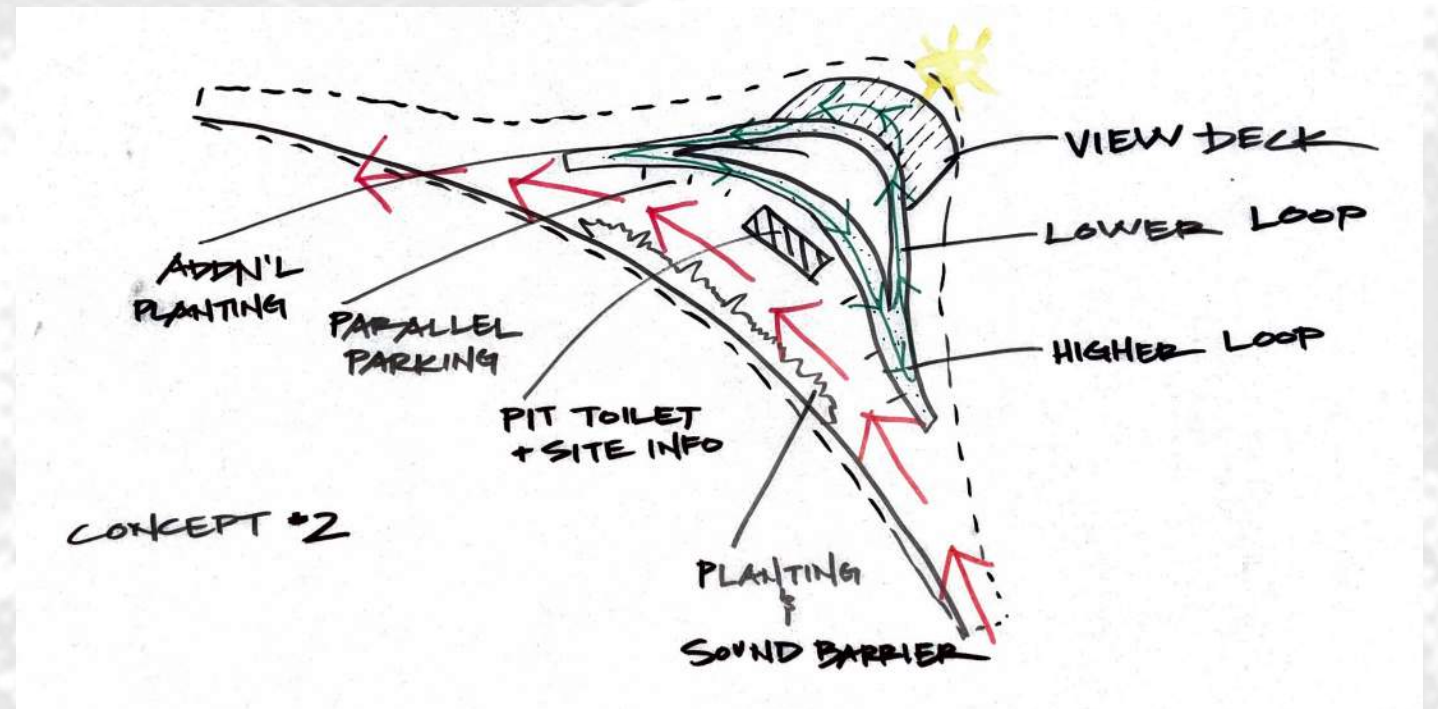
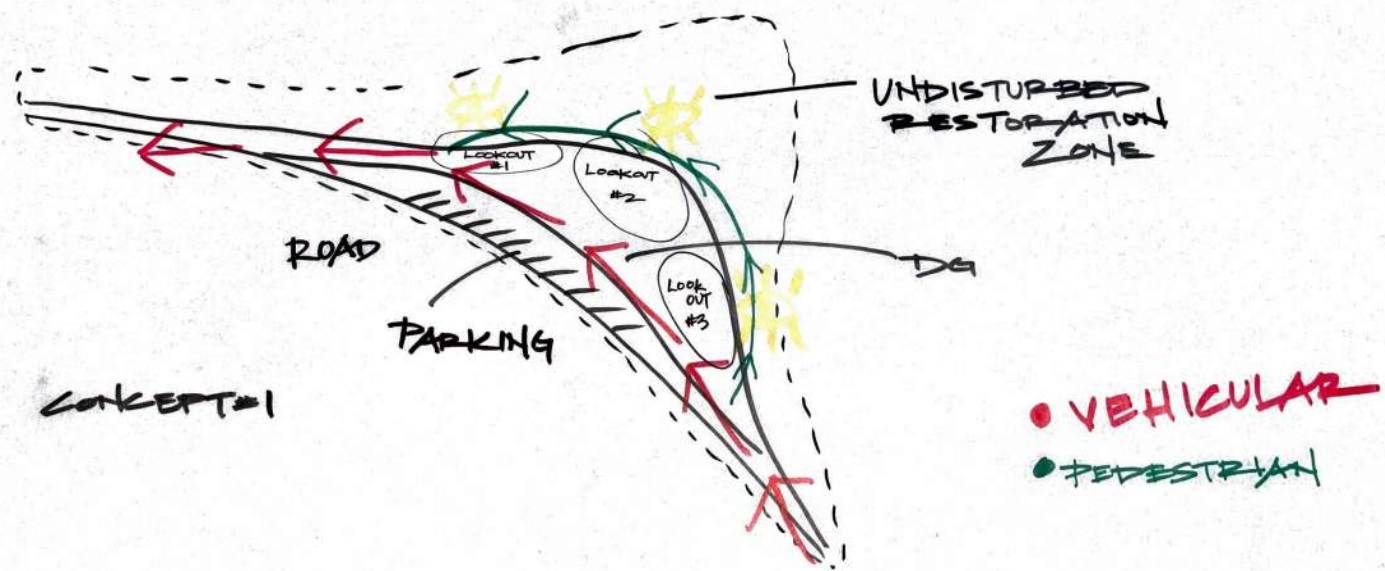
Team B
Designer

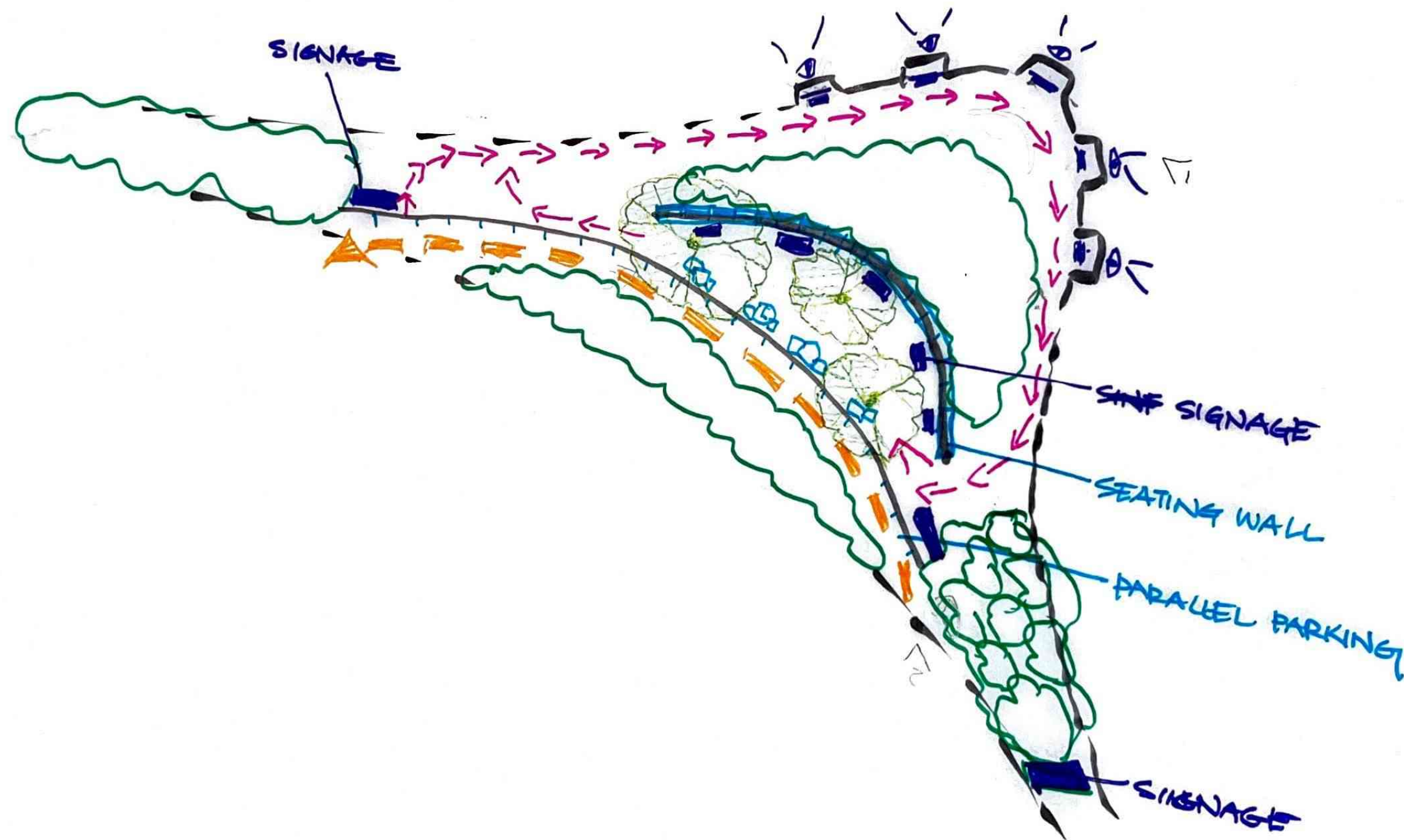
Site Inventory
and Analysis

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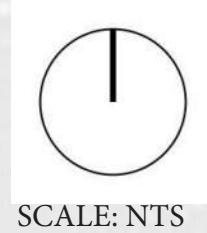
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Scale

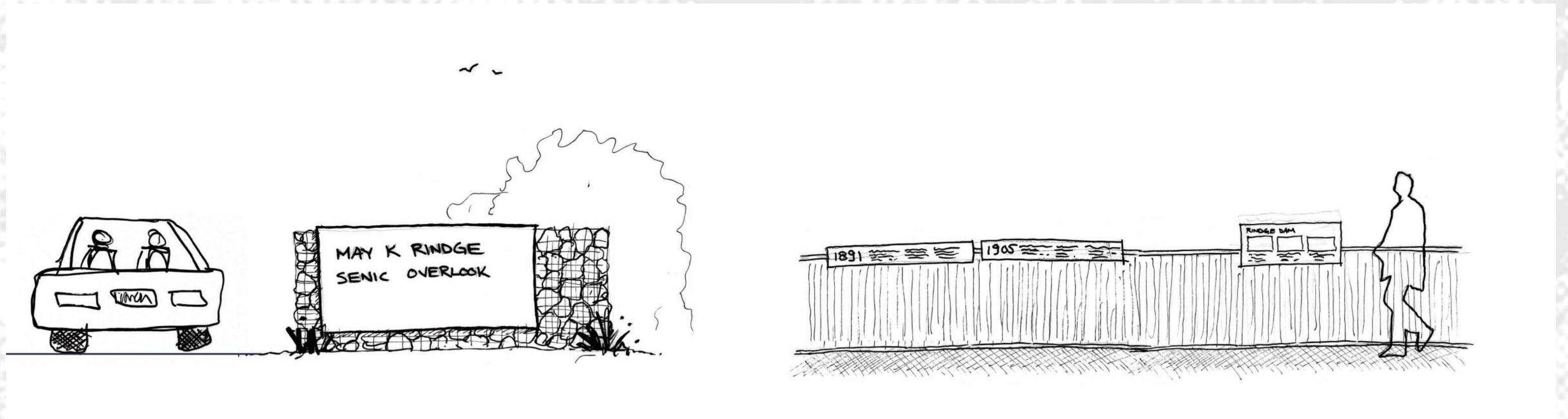
On 36x24
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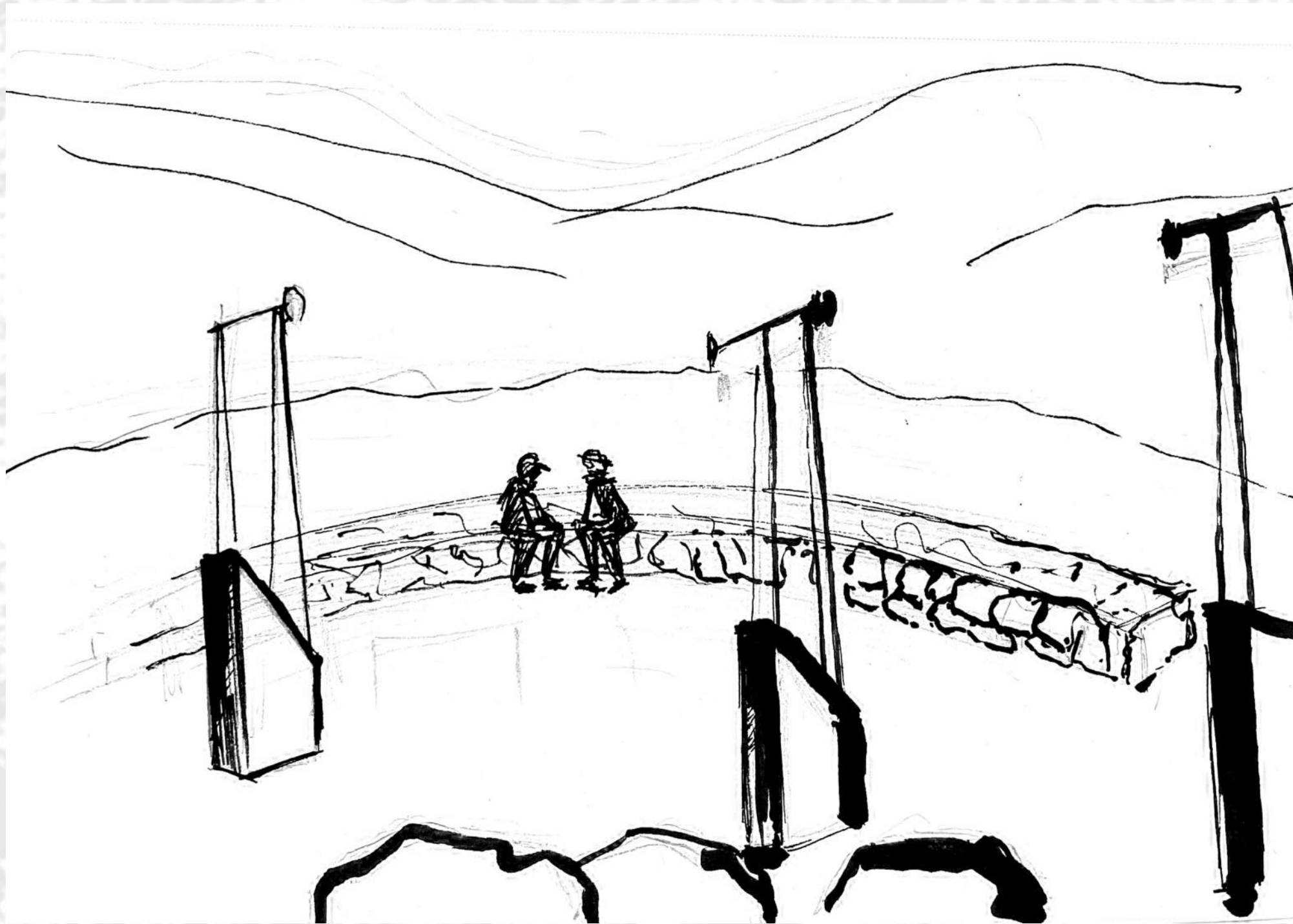


The road presents significant safety concerns. Our design retains the topographical buffer adjacent to the road as a physical barrier between the road and the parking area. We also added an array of boulders between the parking area and pedestrian use areas.





The entry signage is mounted on a gabion wall made out of urbanite from deconstructed dam. More urbanite from the dam is reused throughout the site in seat walls fashioned in a similar style of the historic rock walls, which are preserved on site.



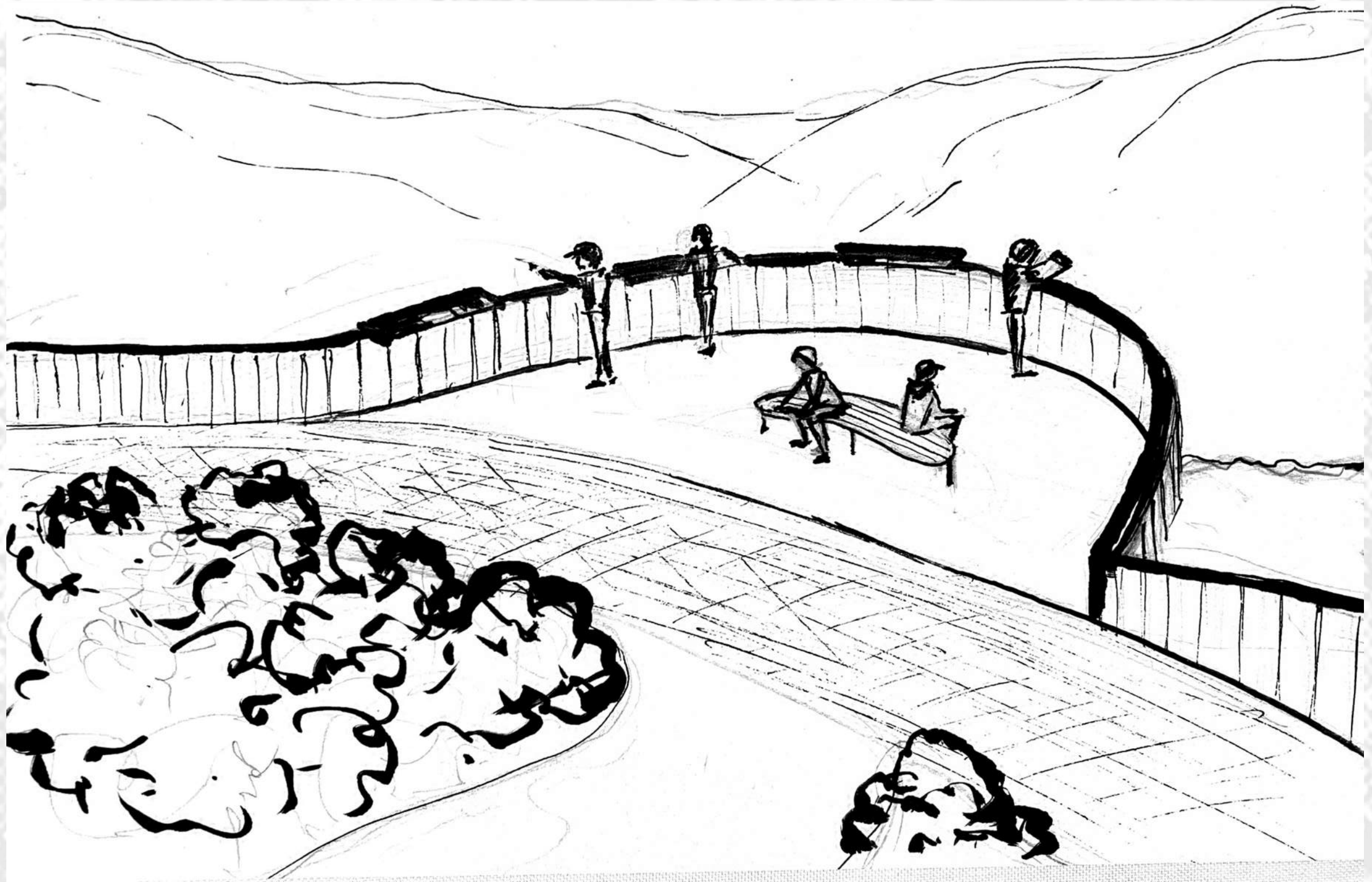
team b | ridge dam removal overlook design | vignettes



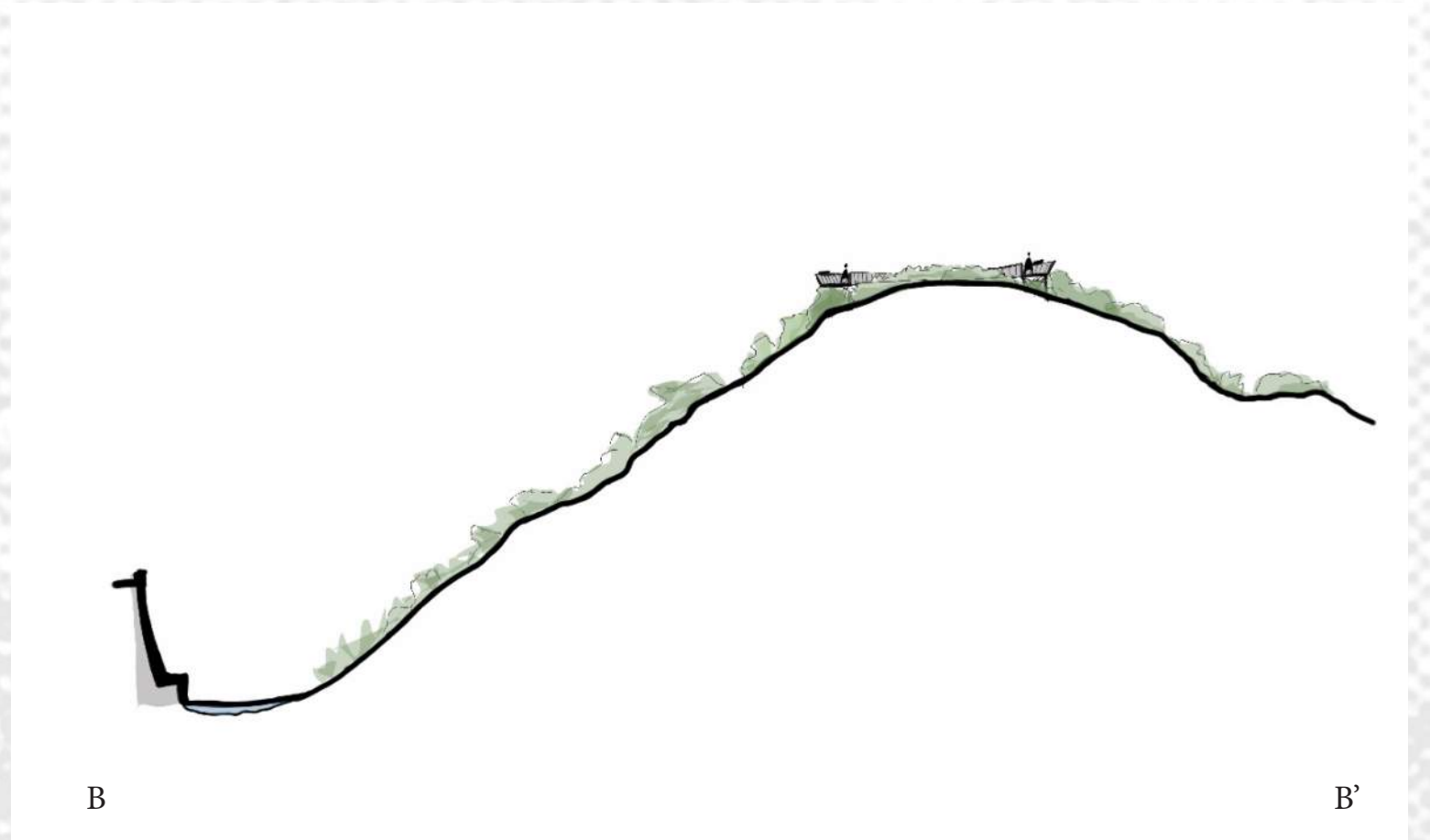
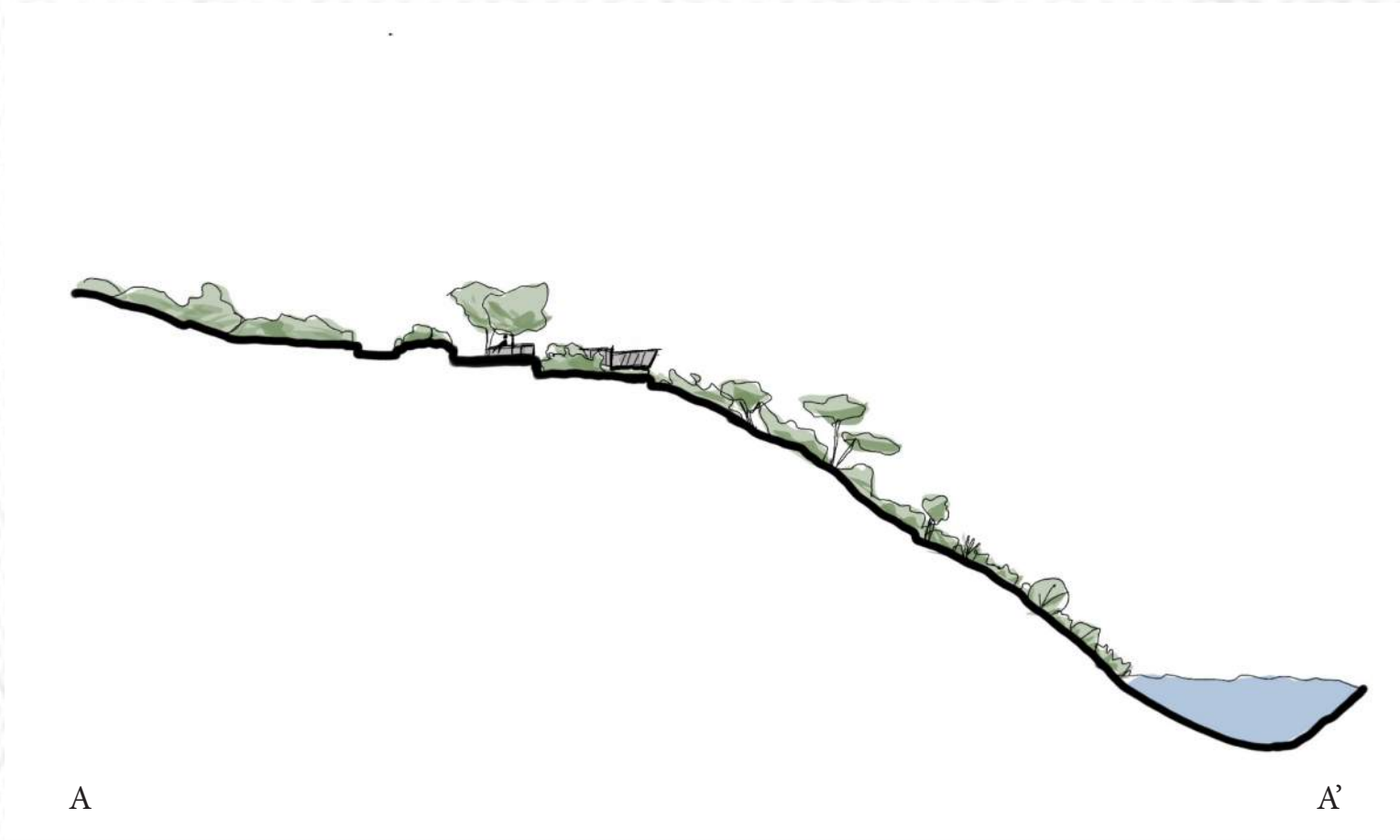
team b | ridge dam removal overlook design | vignettes



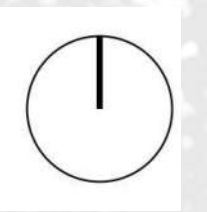
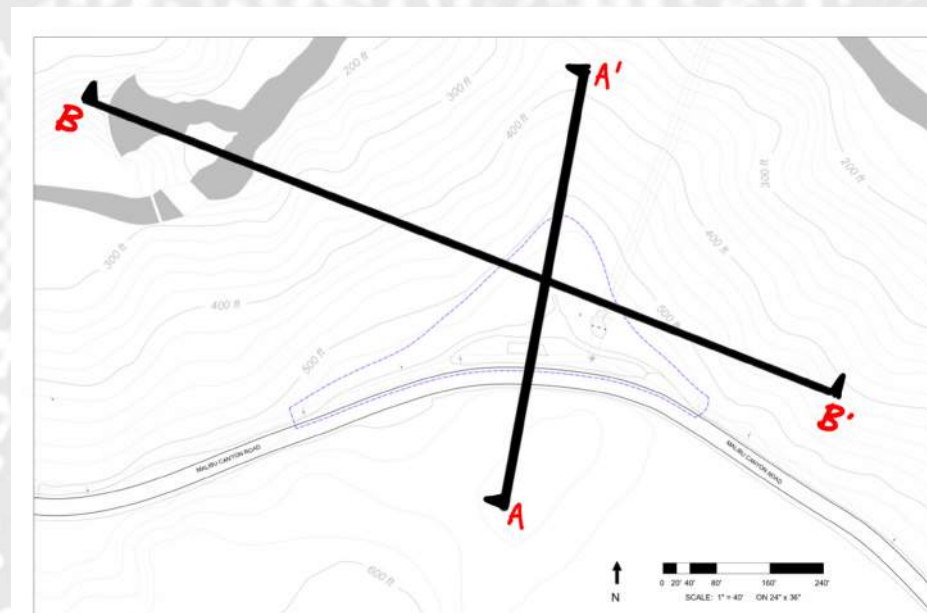
team b | ridge dam removal overlook design | vignettes



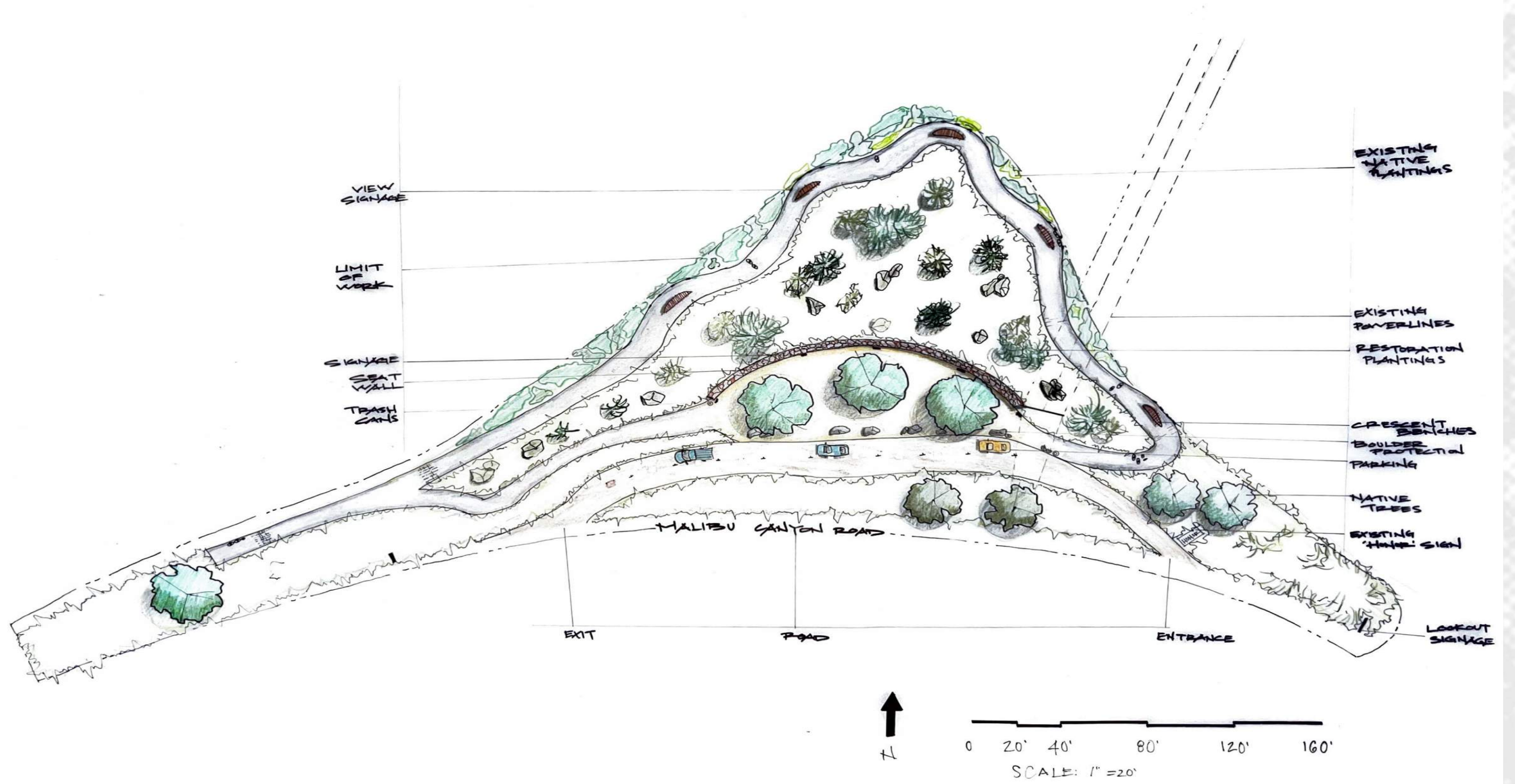
team b | ridge dam removal overlook design | vignettes



KEYMAP



SCALE: NTS



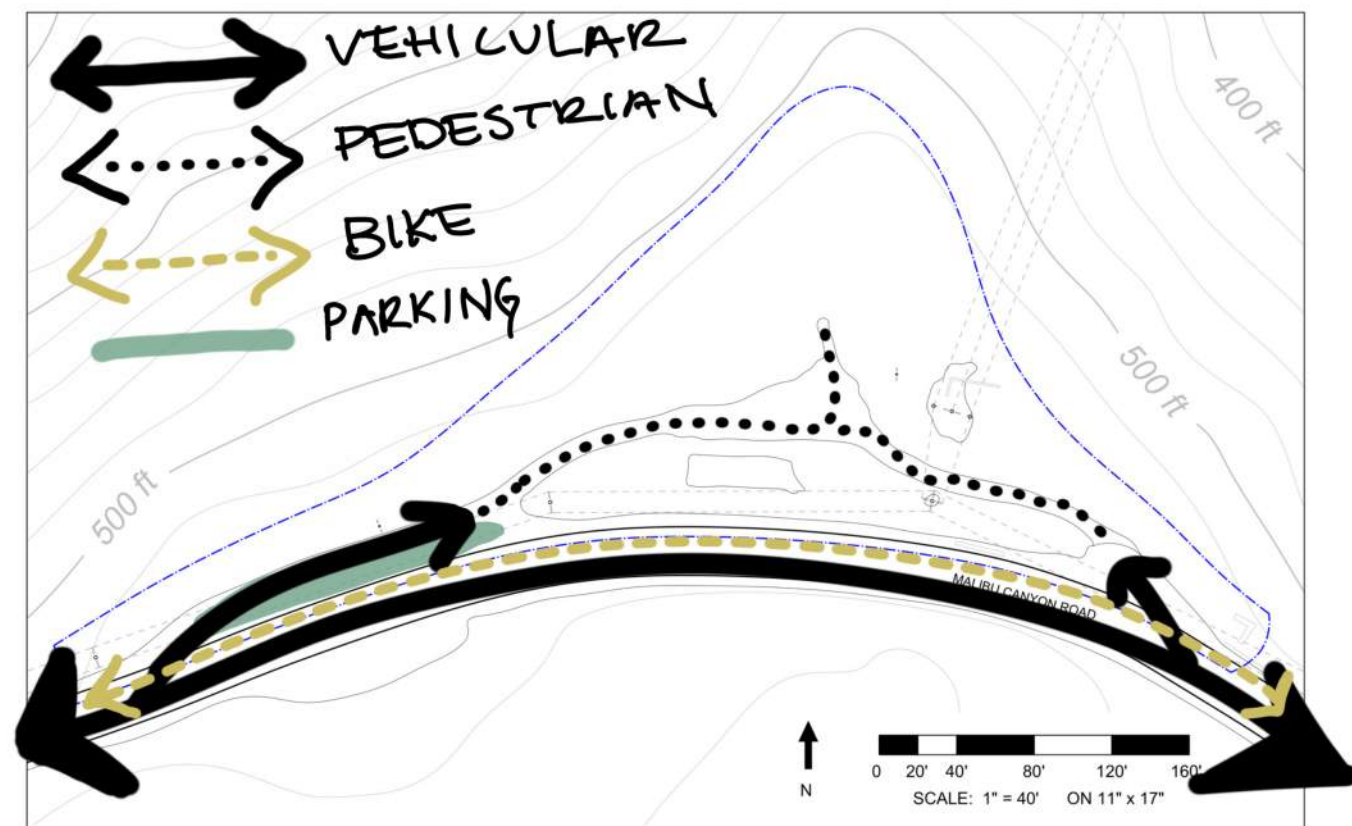
team b | ridge dam removal overlook design illustrative plan



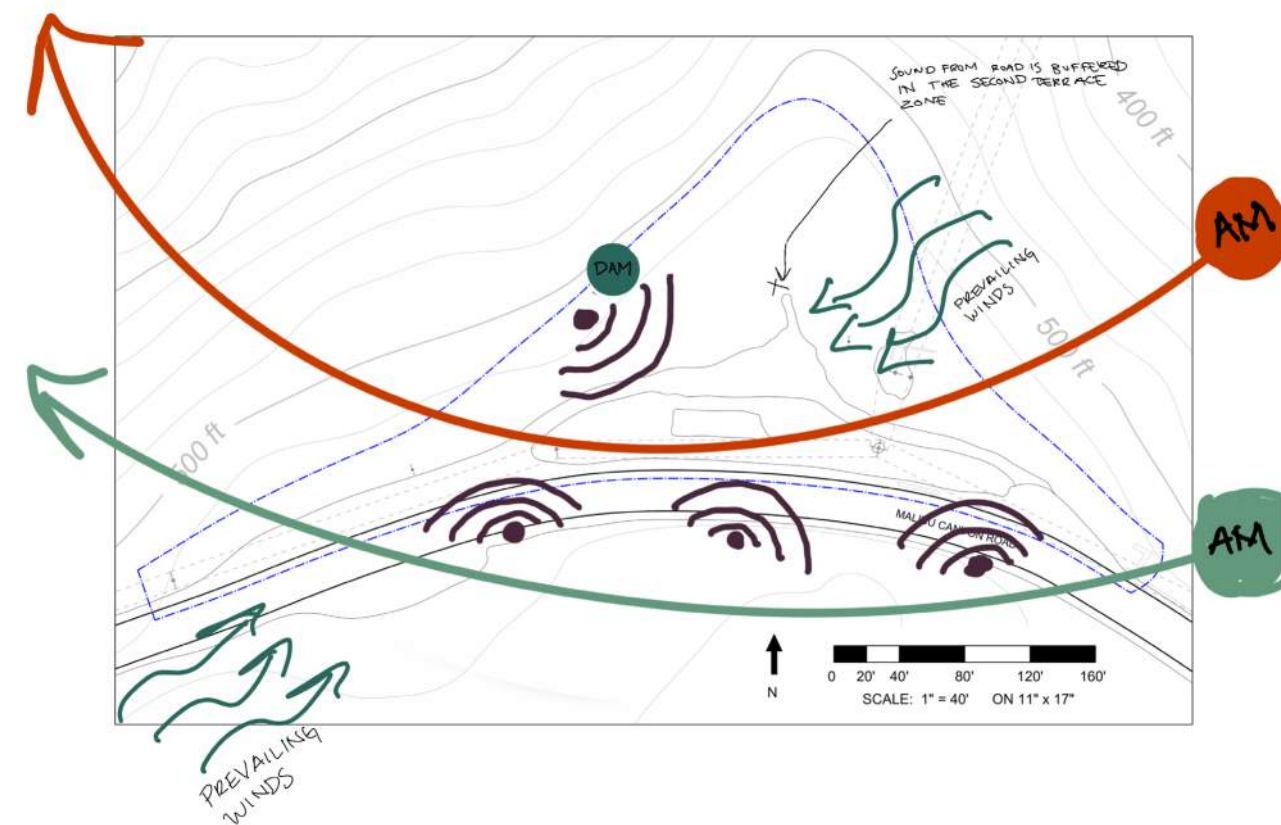
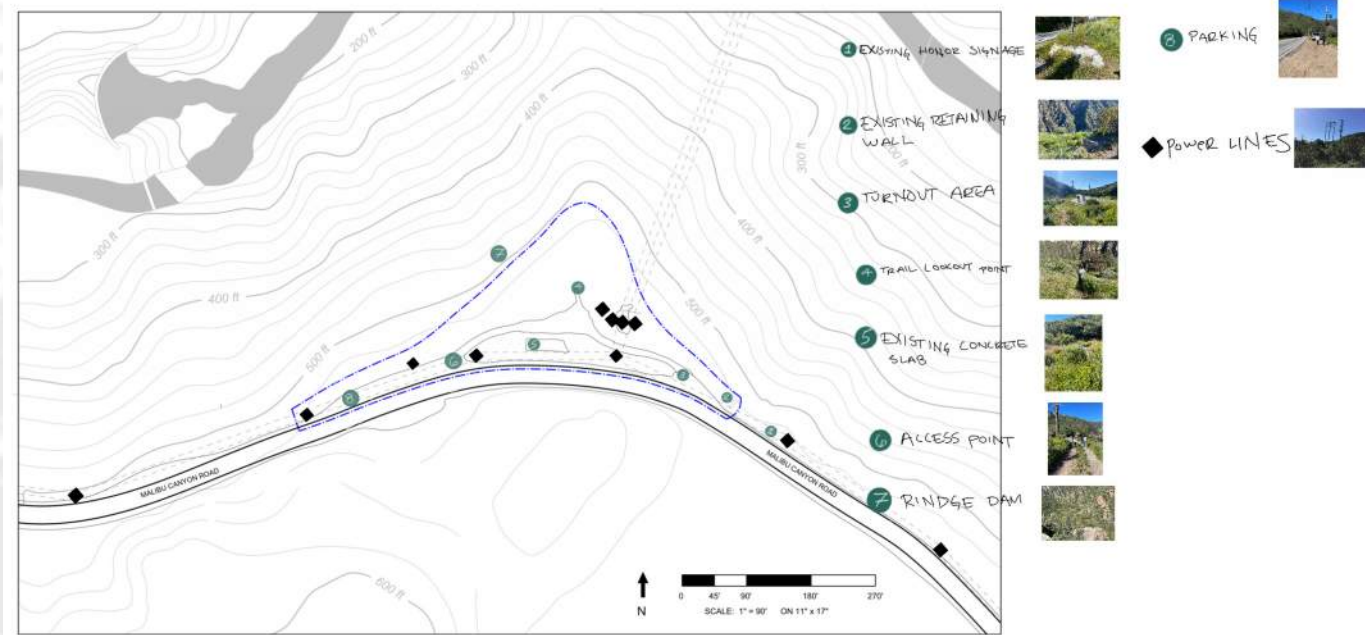
the steelhead

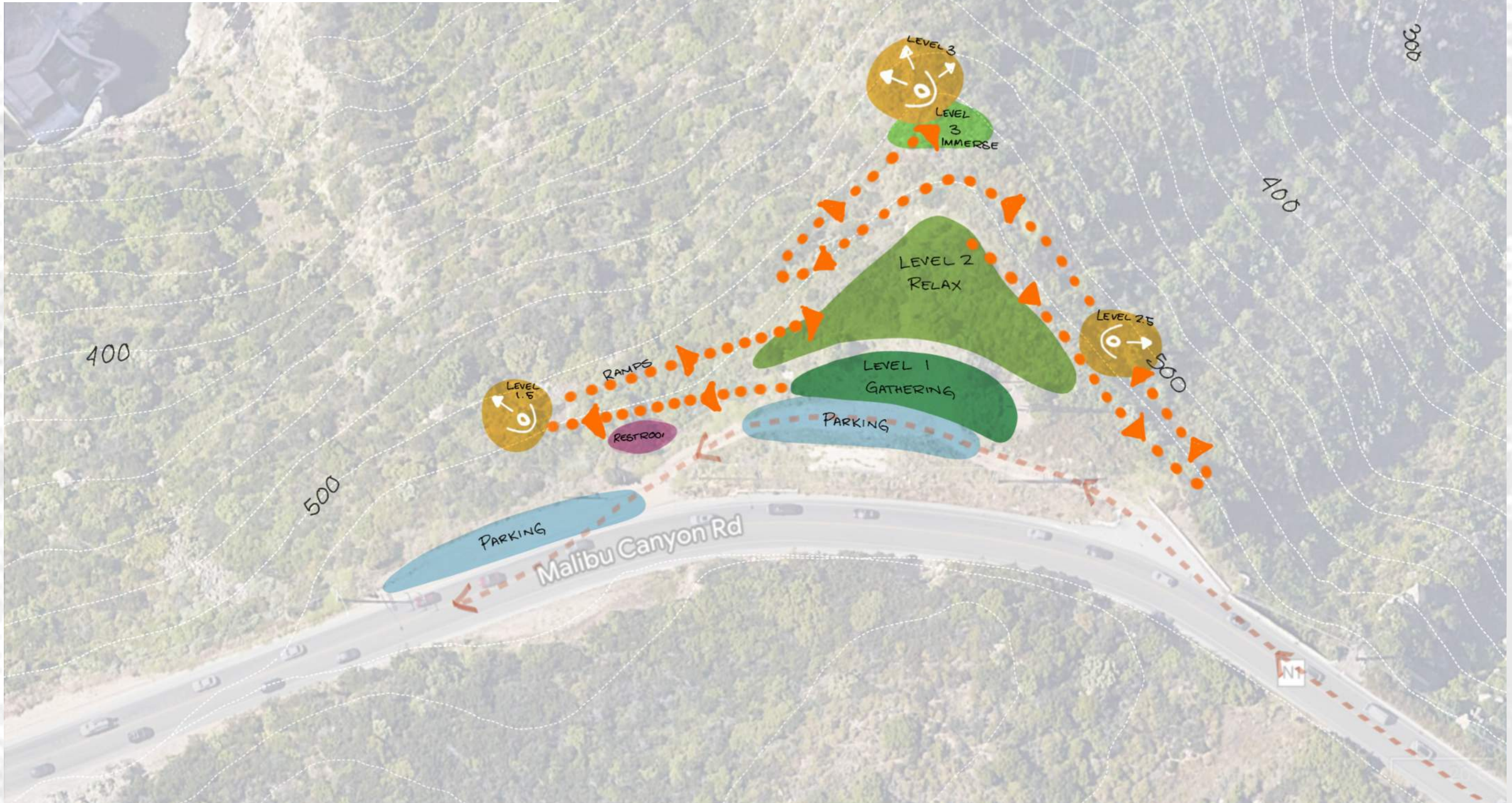


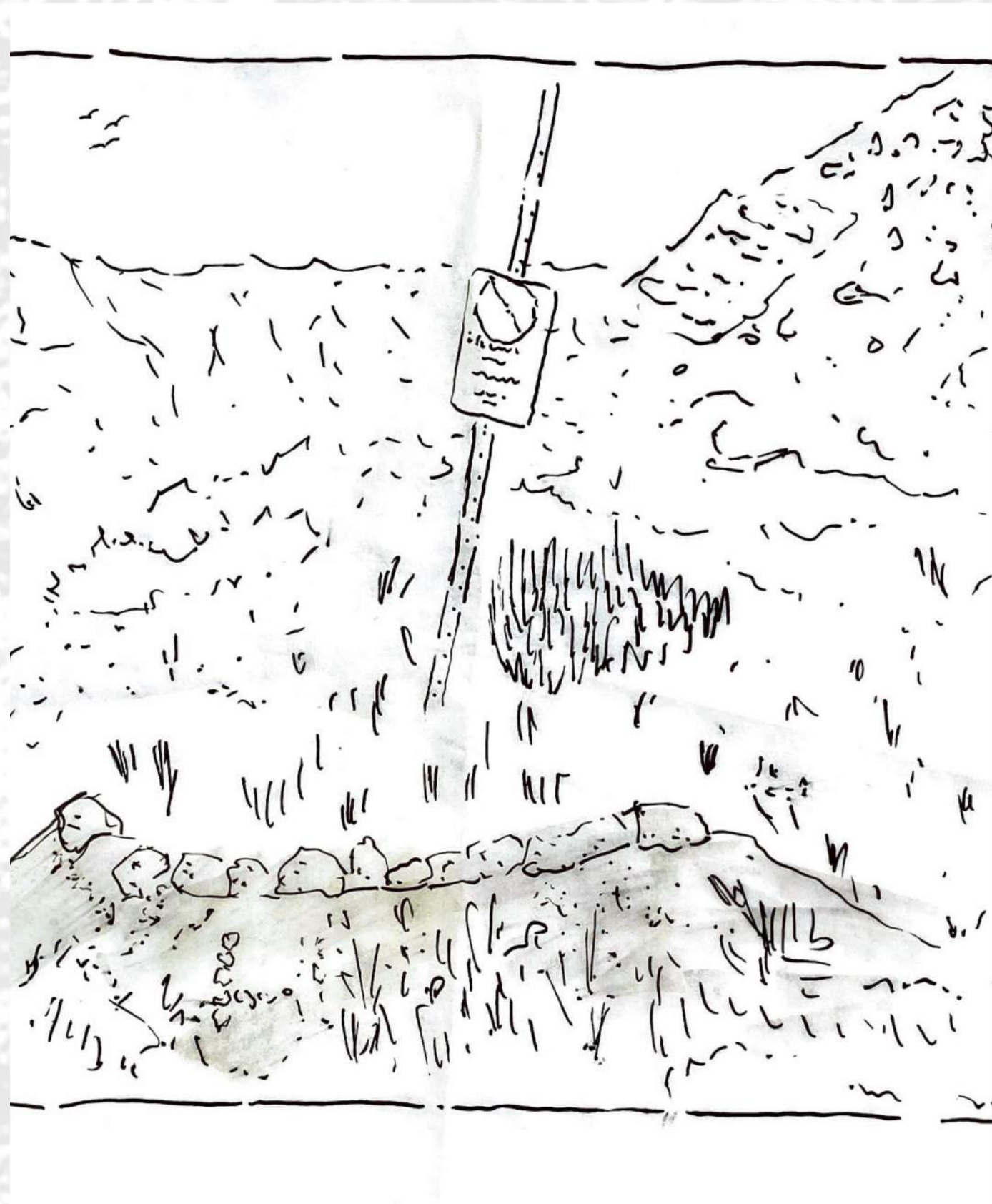
team c | team photo

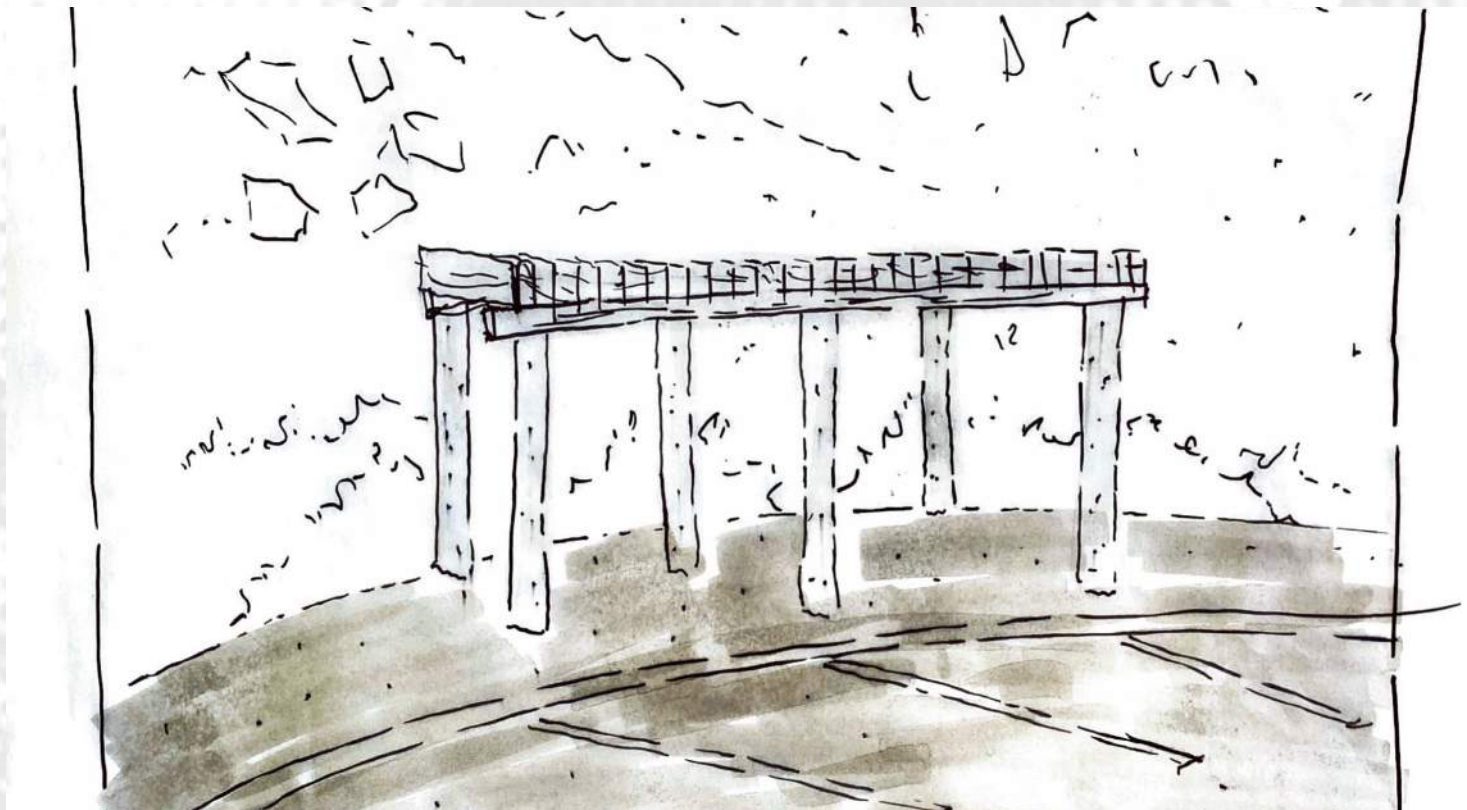
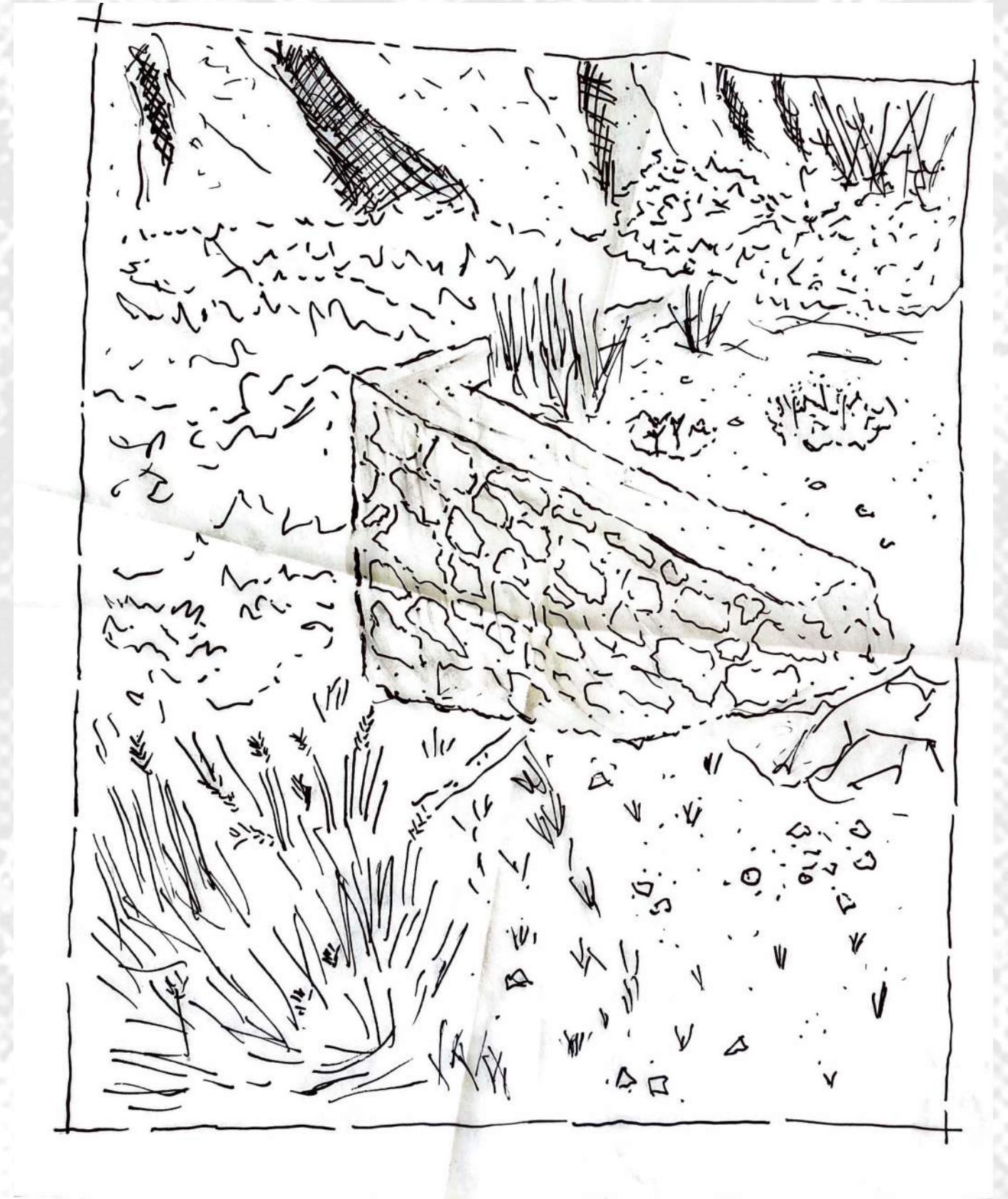
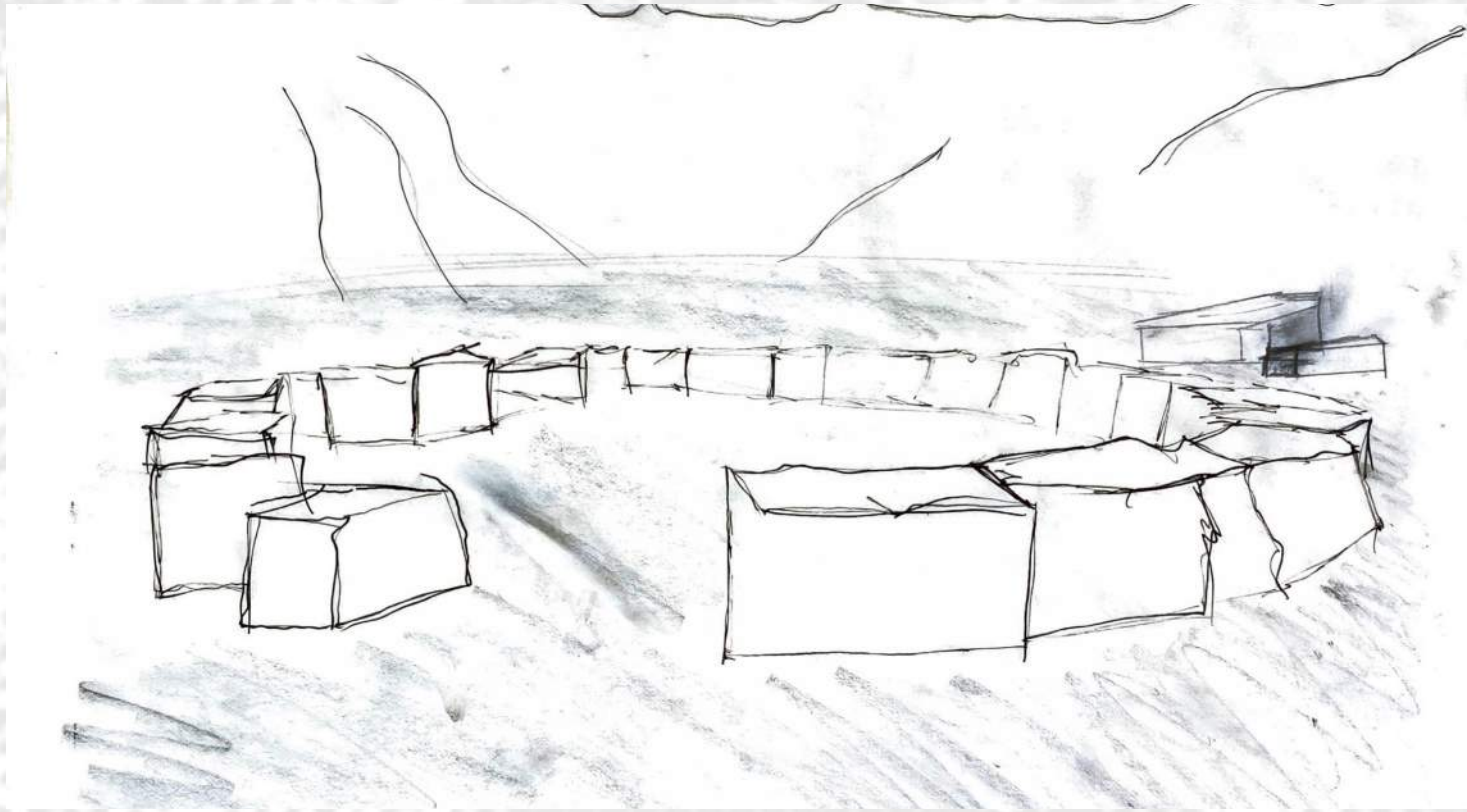


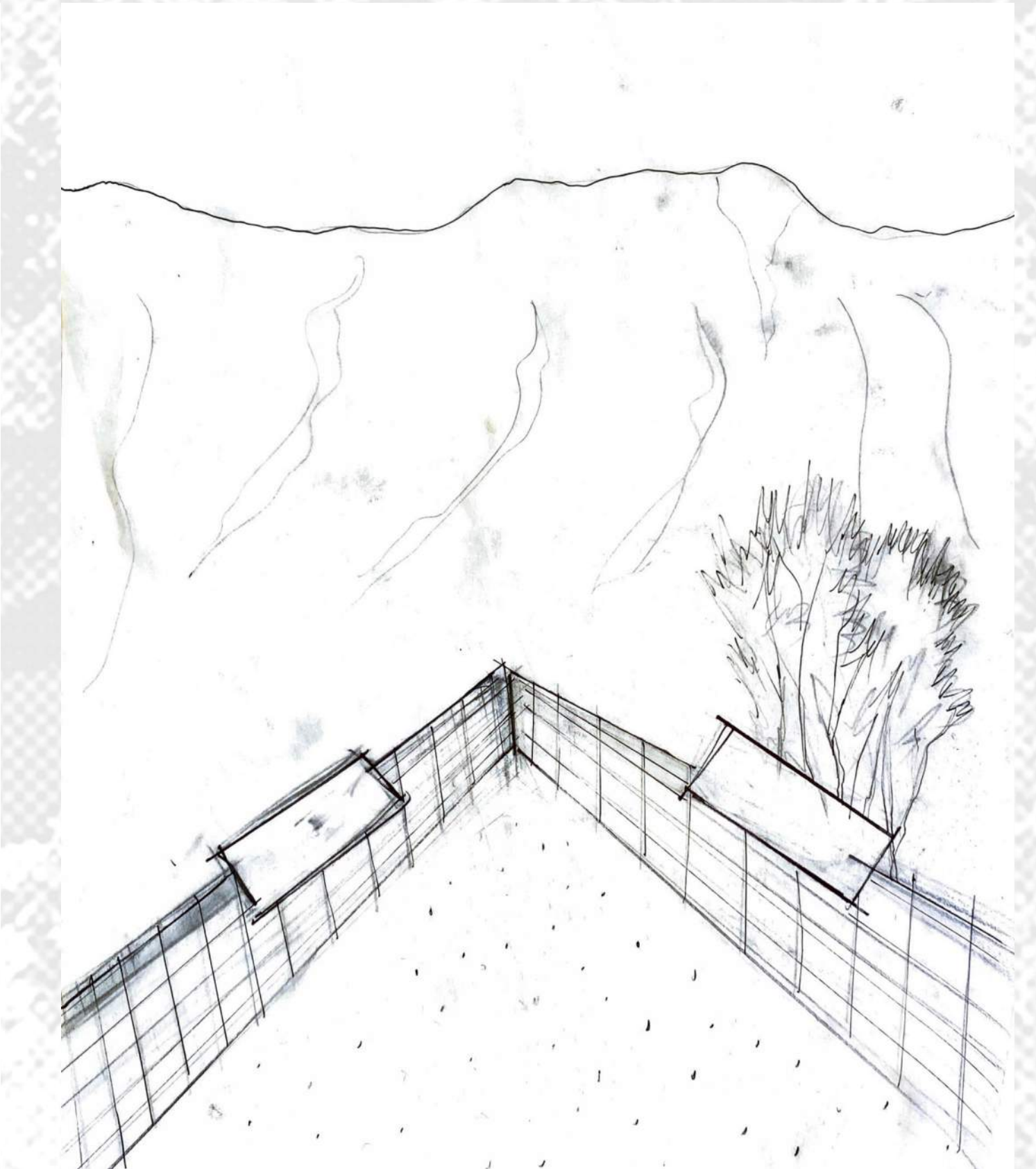
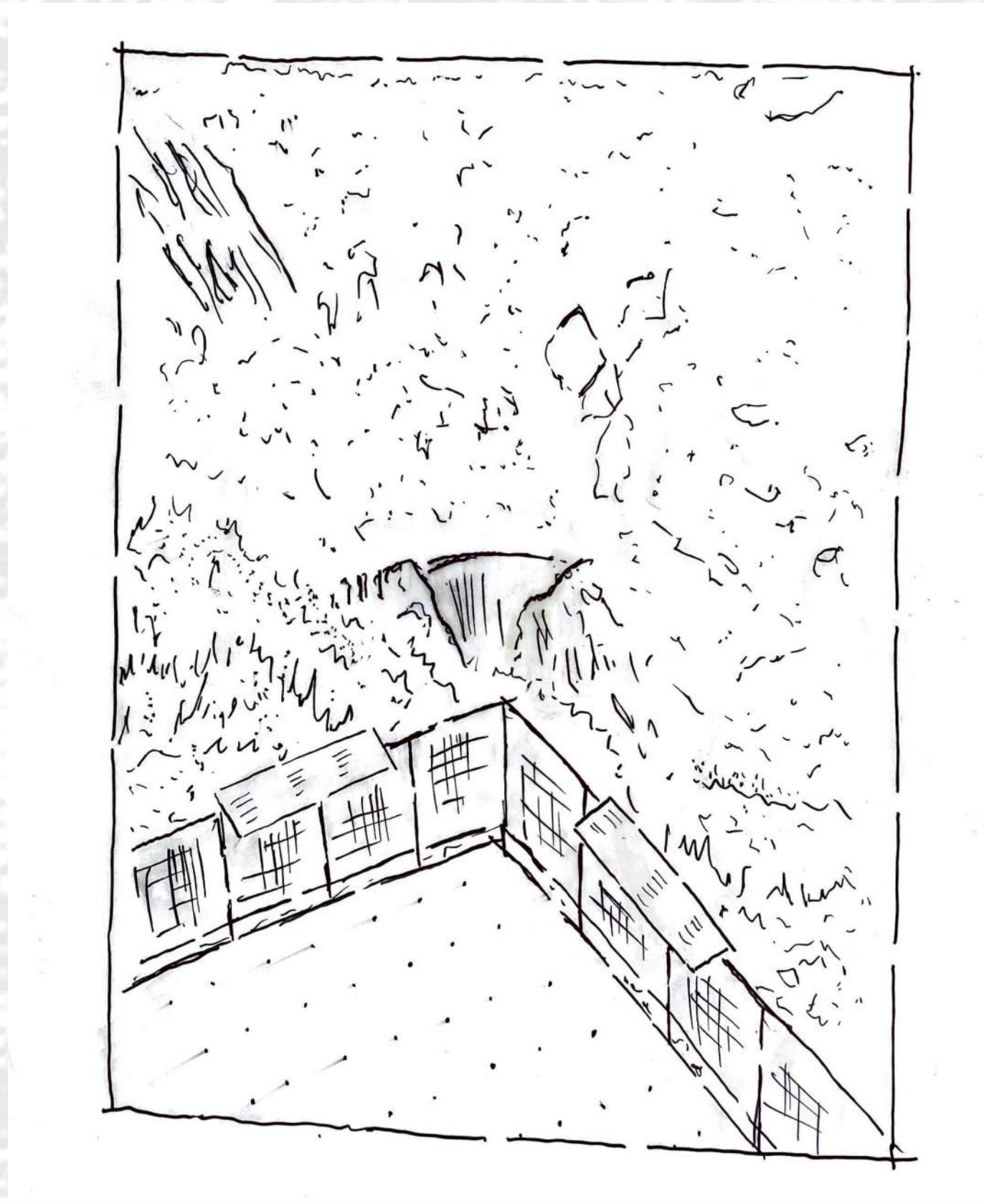
- Birds**
 - California Condor *Gymnogyps californianus*
 - Least Bell's Vireo *Vireo bellii pusillus*
 - Southern Willow Flycatcher *Empidonax traillii eximus*
 - Yellow-billed Cuckoo *Coccyzus americanus*
- Amphibians**
 - California Red-legged Frog *Rana draytonii*
 - Western Toad *Anaxyrus boreas*
- Fishes**
 - Three-spined stickleback *Gasterosteus aculeatus*
 - Tide water Goby *Eucylogobius newberryi*
 - Steel head trout *Oncorhynchus mykiss*
 - Pacific Lamprey *Entosphenus tridentatus*
- Insects & Arachnids**
 - Monarch Butterfly *Danaus plexippus*
 - California Scorpion *Paruroctonus simulatrix*
 - Western Black widow *Latrodectus hesperus*
 - Western Honey Bee *Apis mellifera*

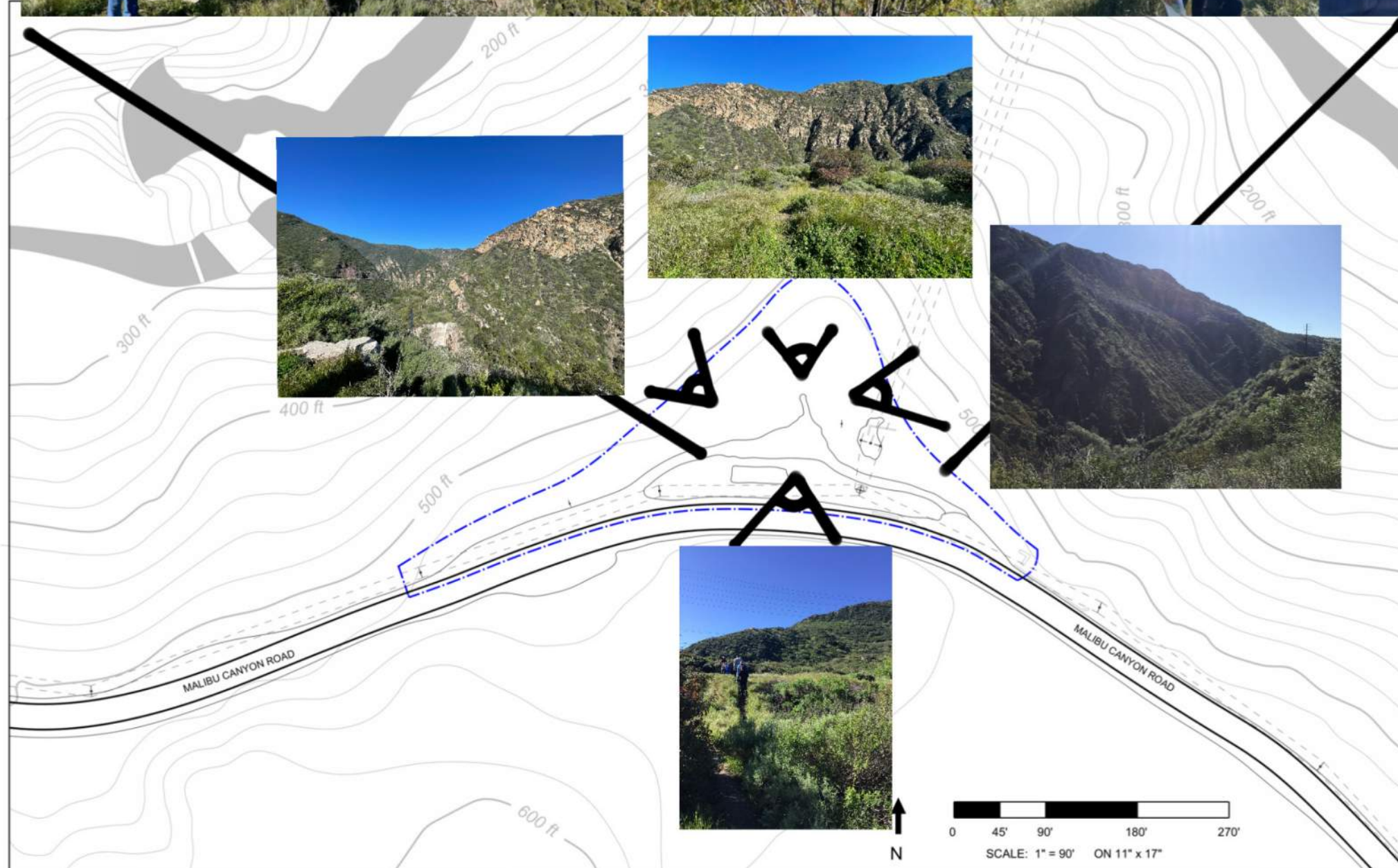


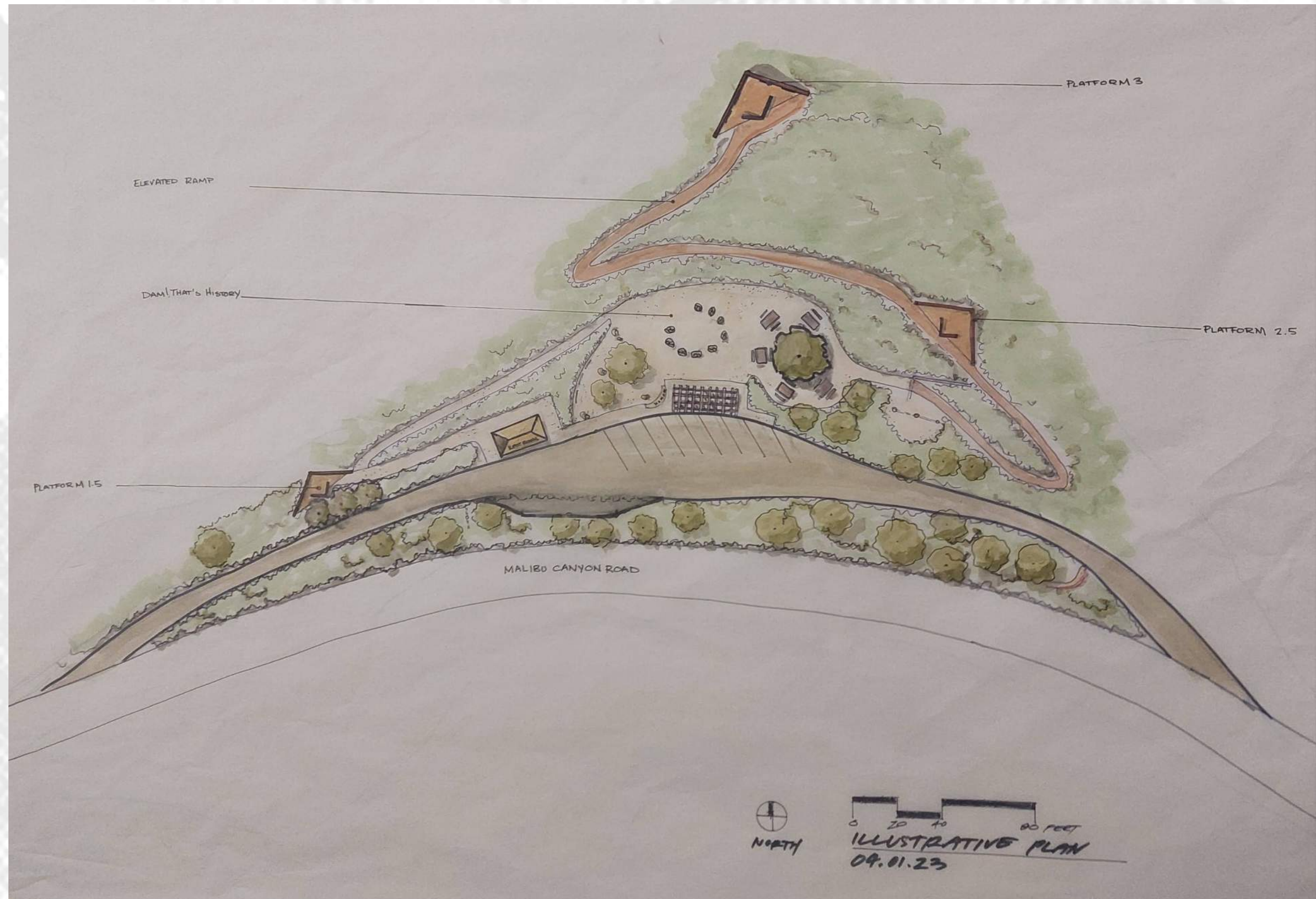












THE STEELHEAD:

A LIFE-CHANGING SUSTAINABILITY FIELD TRIP FOR LOCAL SCHOOLS

The removal of Rindge Dam is key in restoring 525 acres of habitat and 18 miles of aquatic habitat community.

Beyond the 6+ years of physical dam removal the Steelhead Outlook can provide ongoing educational opportunities for K-12 schools across Los Angeles and Ventura Counties.

Content can be delivered through embedded interpretive signage and expanded upon through potential partners including: CalTrout, California State Department of Parks and Recreation, California State Coastal Conservancy (SCC), Resource Conservation District of the Santa Monica Mountains (RCDSMM), The Bay Foundation (TBF), Heal the Bay, and Santa Monica Mountain Conservancy.

We imagine the field trip as linked to a visit to the recently re-established Malibu Lagoon, the Santa Monica Bay, and/or Wishtoyo's Chumash Village.



Educational Content and Themes:

- History of the Dam: Construction and Removal Implications
- Impact of Human Intervention on Waterways and Wildlife
- Multi-habitat Restoration (Ocean to Headwaters)
- Water Cycles, Ecosystem Cycles
- Indigenous Land Stewardship
- Marine Biology
- Life Cycles of Steelhead Trout and its importance in the Ecosystem
- California History

1. Tongva, Chumash, Tataviam territory

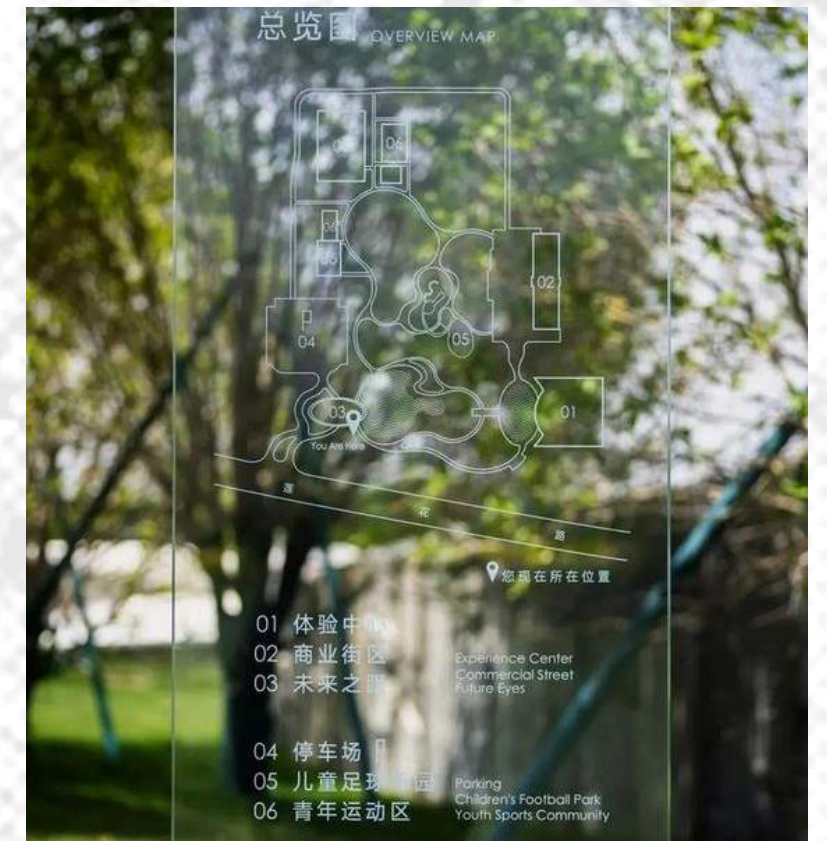
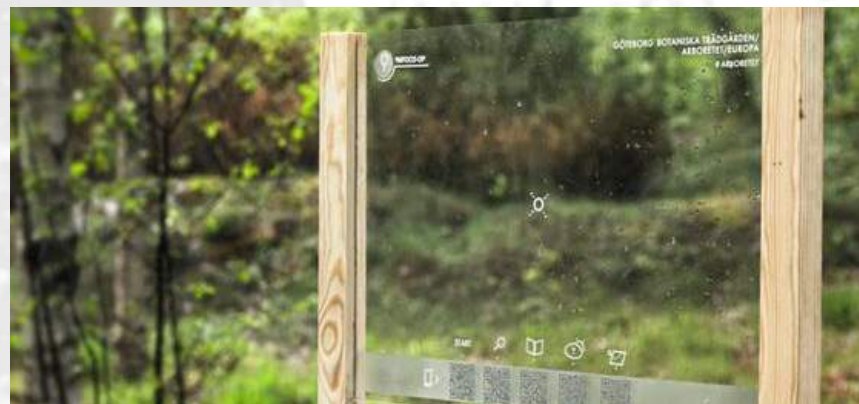
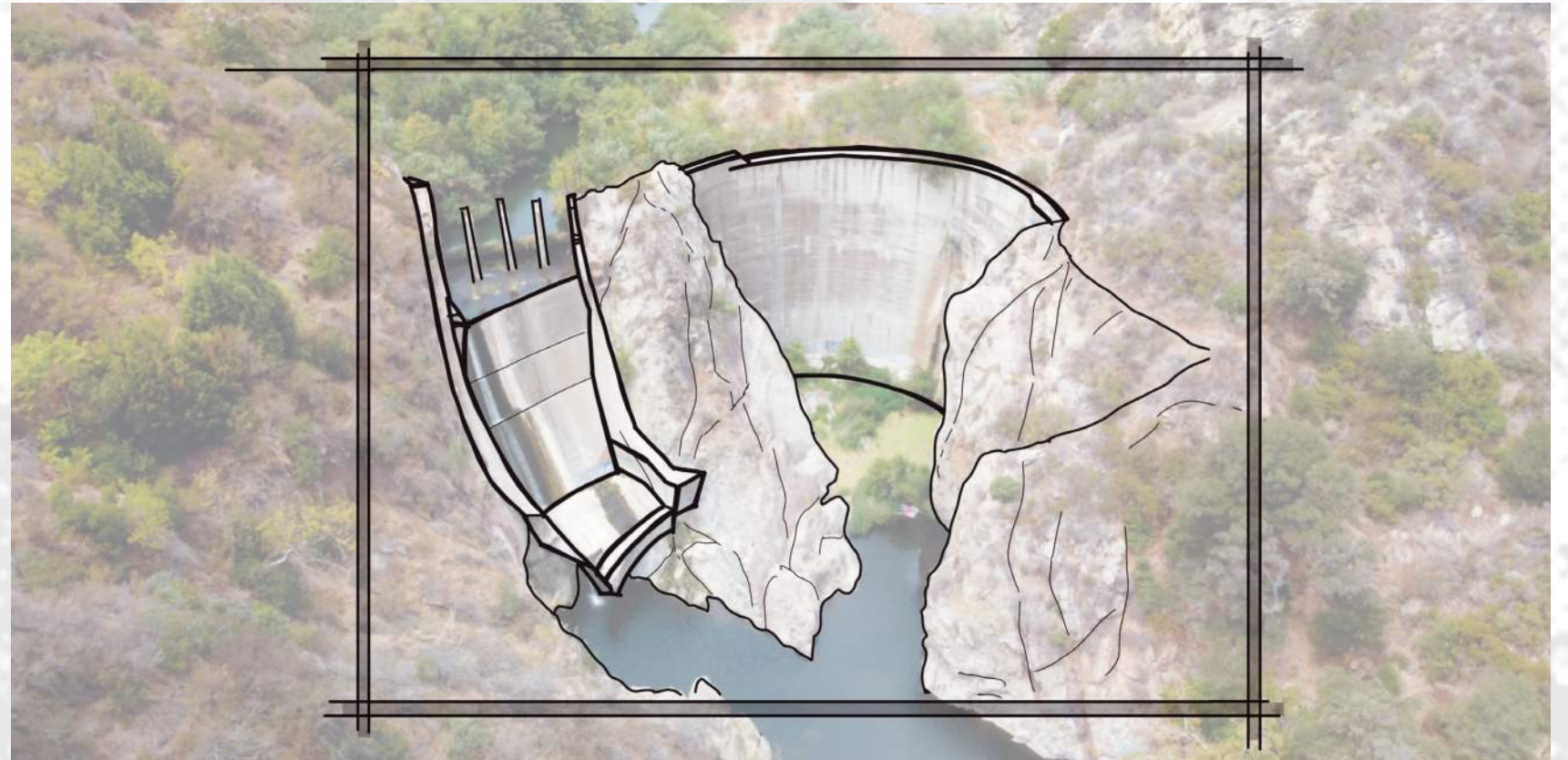
This site sits on the historical territories of the Tongva, Chumash and Tataviam people. This watershed has been a rich cultural resource of sustenance and spiritual power for thousands of years. Oral histories of Malibu creek from Chumash elders say that this stream was once so full of steelhead, that to look into the water during spawning season was to see 'a river running backwards' referencing the amount of fish moving upstream, against the current. Our hope is that one day this river will run backwards once again.

2. Dam removal context

You are witnessing history in the making. Decades of scientific research and environmental advocacy and legislative policy work have made possible this moment to remove old infrastructure to make way for our non human relatives - the Southern California Steelhead. Observe this dam as it is dismantled and the watershed restored to its natural free flowing state. Please enjoy this powerful moment, and know that soon this dam will be but a memory.

3. Isha'kowch / Oncorhynchus mykiss / 'southern california steelhead'

Southern California Steelhead are the southernmost population of steelhead on earth. They are key indicators in a healthy watershed system. Incredibly resilient and adaptable - this fish can literally transform its own biology into an ocean going version of itself. These powerful fish spend years in the ocean and return to their natal streams to spawn between November - May.



acknowledgements

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