

# San Gabriel River Wilderness Education Center

Landscape Design 7: Advanced Design Studio

UCLA Extension

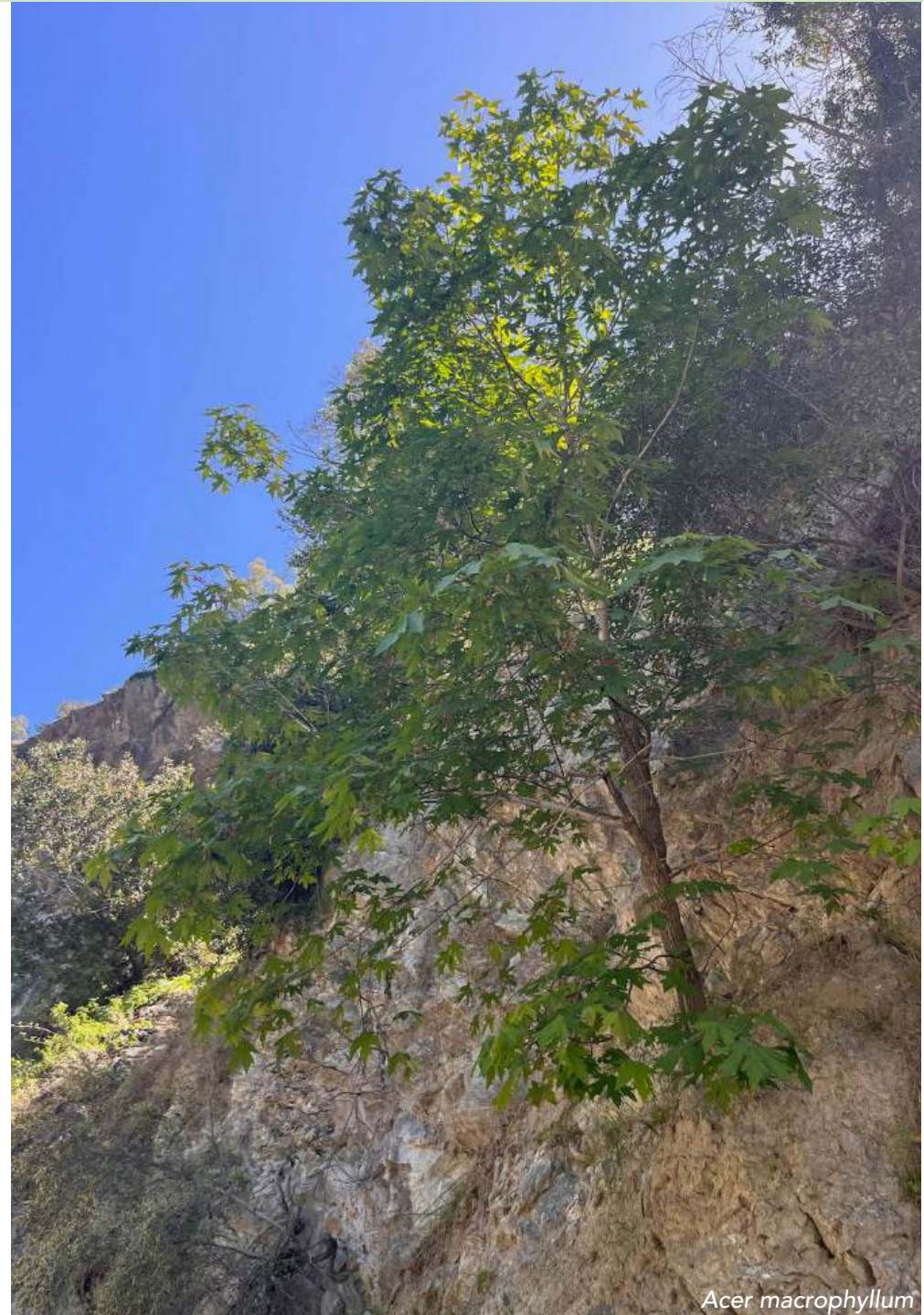
Spring 2025

Eddy Zhu



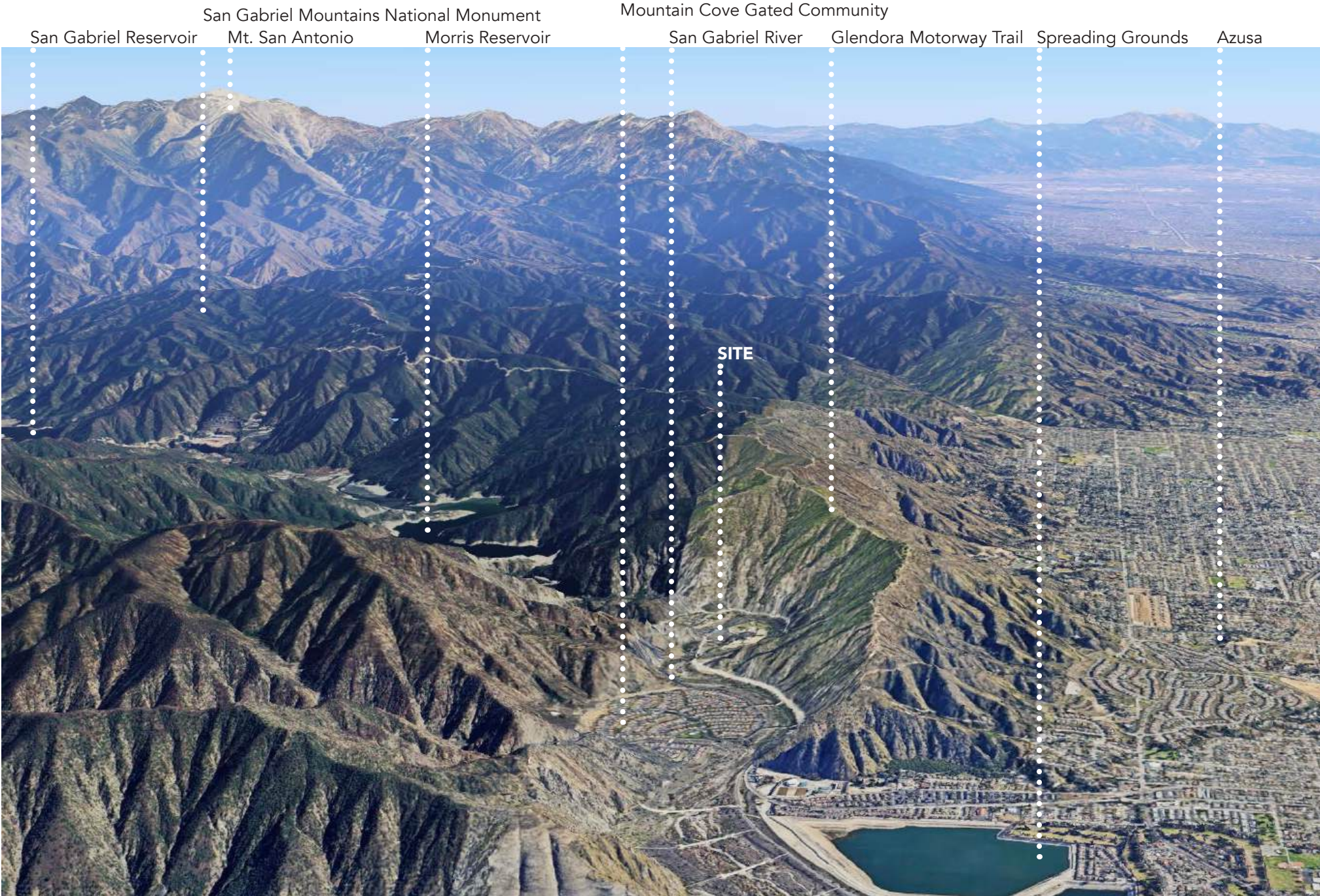
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*Acer macrophyllum*

# CONTEXT



San Gabriel Reservoir

San Gabriel Mountains National Monument

Mt. San Antonio

Morris Reservoir

Mountain Cove Gated Community

San Gabriel River

Glendora Motorway Trail

Spreading Grounds

Azusa

SITE

# GOALS AND OBJECTIVES



## CONNECT

- Establish connections between people with their **community, history, and land**
- Accessible pathways and opportunities for multi-modal transportation and recreation
- Provide linkages to nearby **hiking trails**
- Create a safe space for visitors to engage with and **access the river**



## EDUCATE

- Engaging exhibits and abundant signage
- Opportunities for visitors to learn about local **ecology and indigenous history**
- Space for youth to learn about modern science, sustainability, and **traditional ecological knowledge**



## HEAL

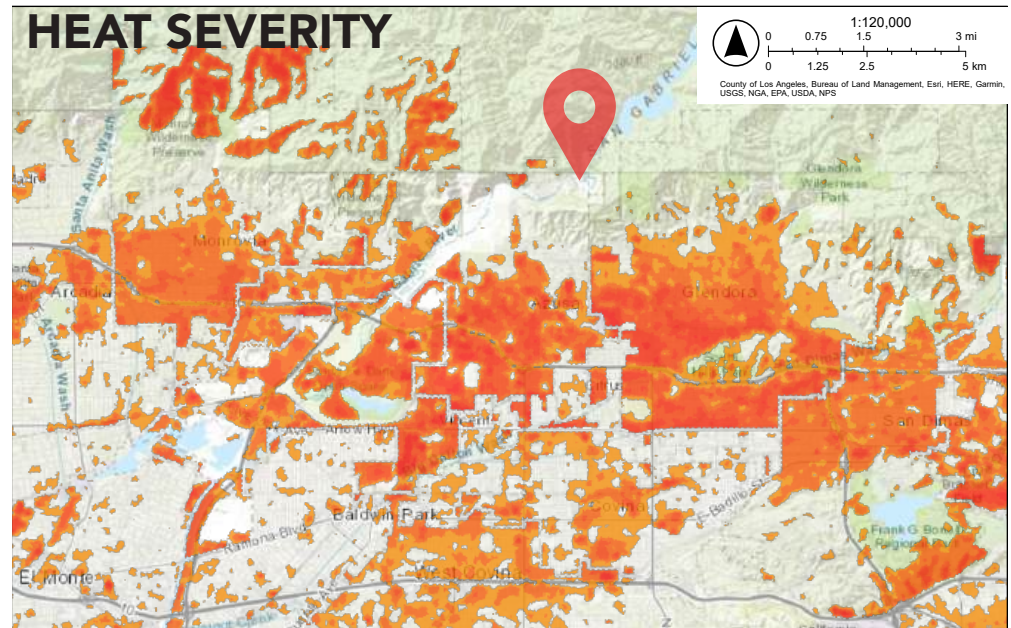
- Reconcile relationships with the Tongva people and the Ashuukshanga settlement
- Implement **co-management** of the land
- Restoration of native riparian habitats
- Provide access for indigenous plant gathering and **stewardship of the land**

# ANALYSIS



*Eschscholzia californica*

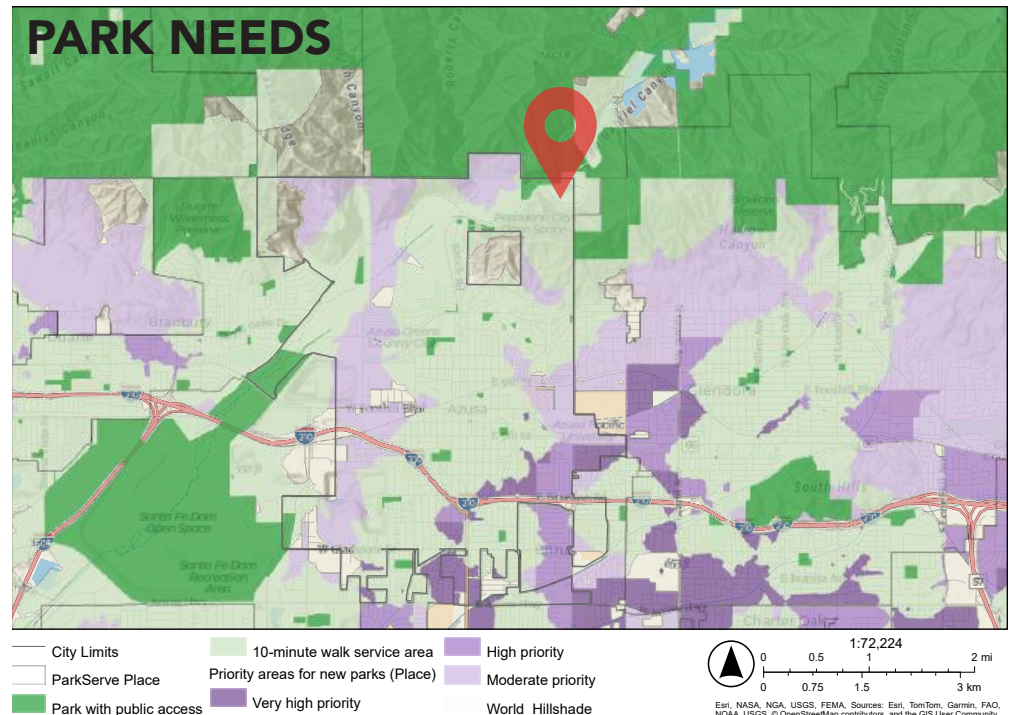
# ANALYSIS: Water, Heat, Parks



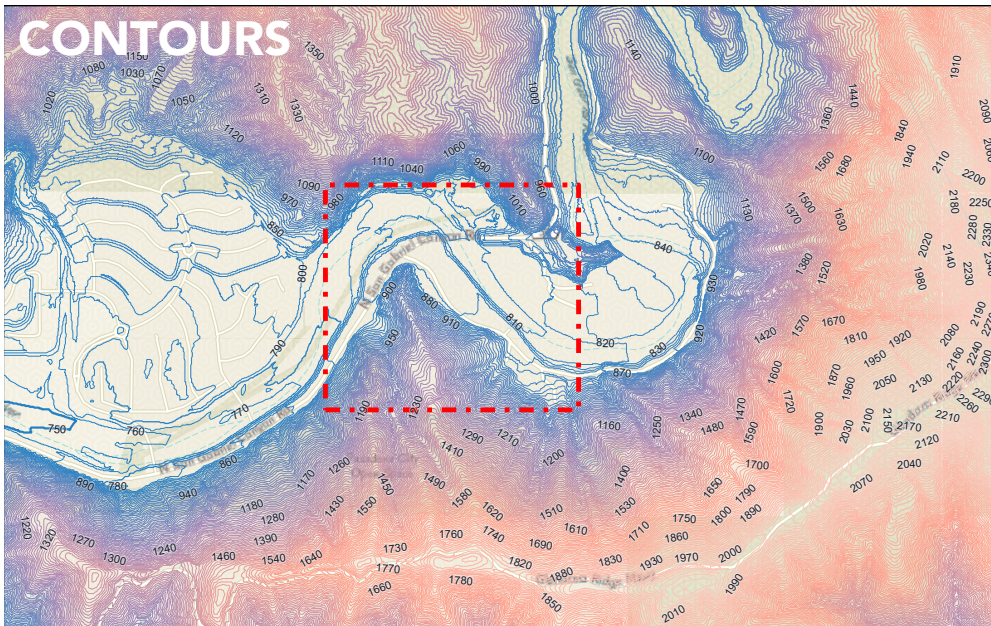
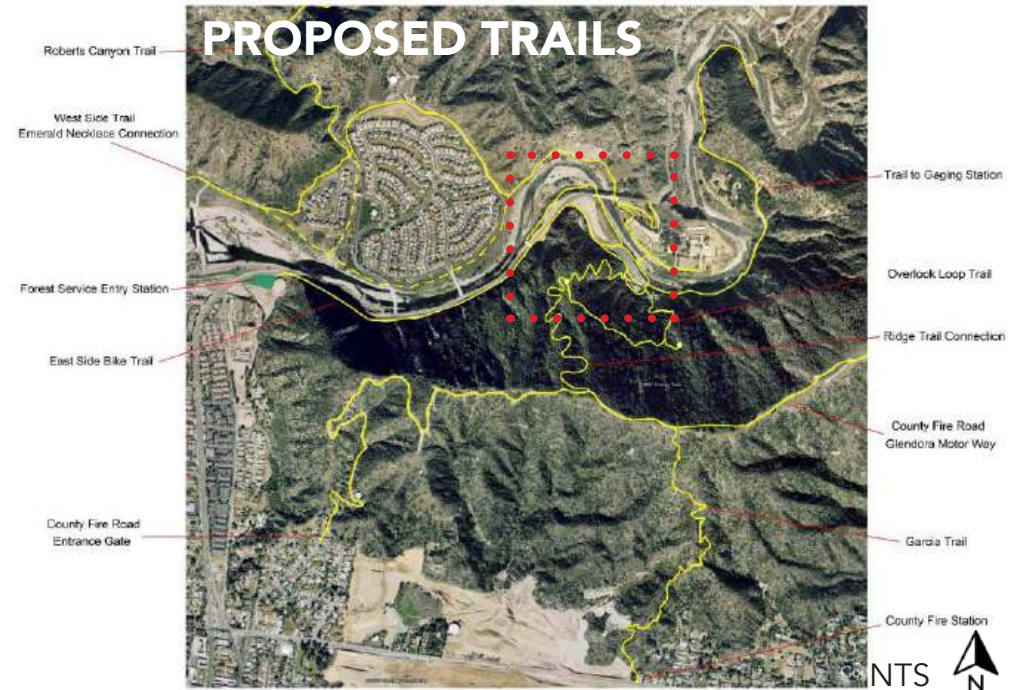
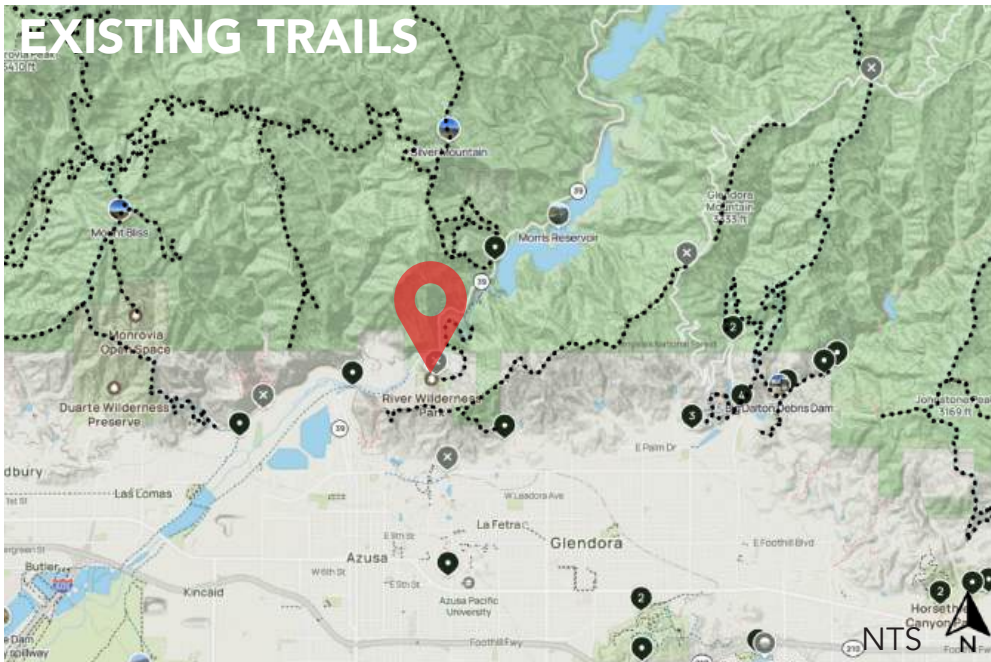
Located in the upper reaches of the San Gabriel River watershed, the project site is uniquely situated as a point of connection for the community to **access nature**.

As you go farther from the California coast, the risk of extreme heat increases, and since our site is over 30 miles from the Pacific Ocean, the severity of effects from the urban heat island are pronounced. Access to **wilderness, open space, and swimming** areas will become more important with climate change and the increased dangers posed by extreme heat.

The communities of the southern portion of Azusa have an especially high need for **access to parks** and this can be achieved through better bike and bus routes that can allow people greater access to areas such as our site.



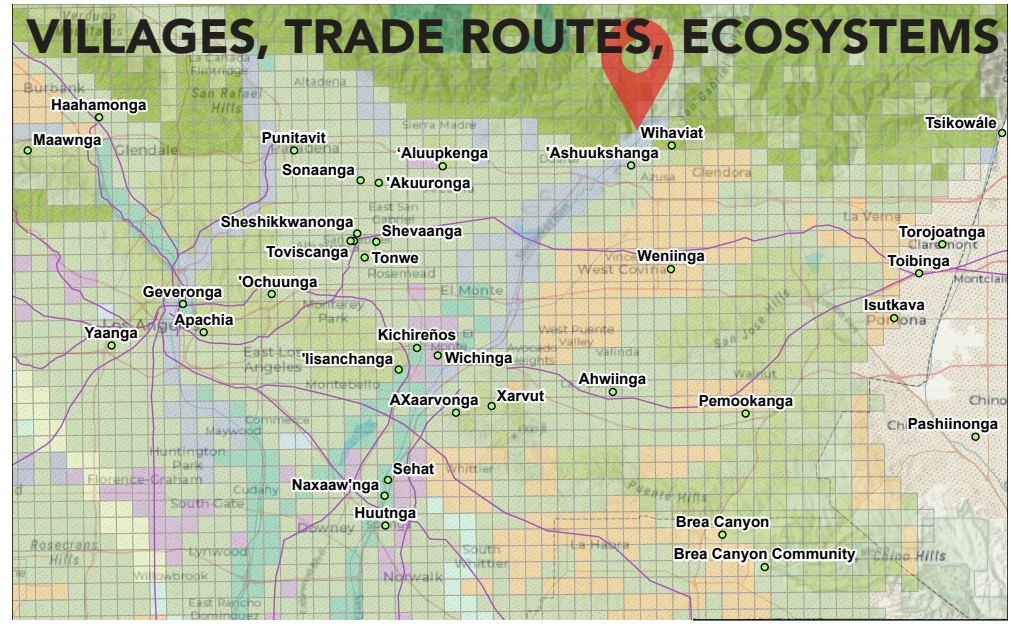
City Limits  
ParkServe Place  
Park with public access  
10-minute walk service area  
Priority areas for new parks (Place)  
High priority  
Moderate priority  
Very high priority  
World\_Hillshade



The map above displays the trail system envisioned in 2006 to connect the Watershed Conservation Authority's River Wilderness Park with the surrounding trail system. Since 2006, many of the trails shown on this map (including the only trail on our site) have been closed due to **erosion and safety issues**.

There are a number of existing trails in the San Gabriel National Monument but currently, the only trail on our site (2.6 mile long Old San Gabriel Canyon Road) does not connect with any of them. There is a great opportunity to **connect to the existing trail network** but we must consider the **steep slopes** and challenging topography that surround our site when selecting trail locations to prevent erosion, landslides, and trail steepness.

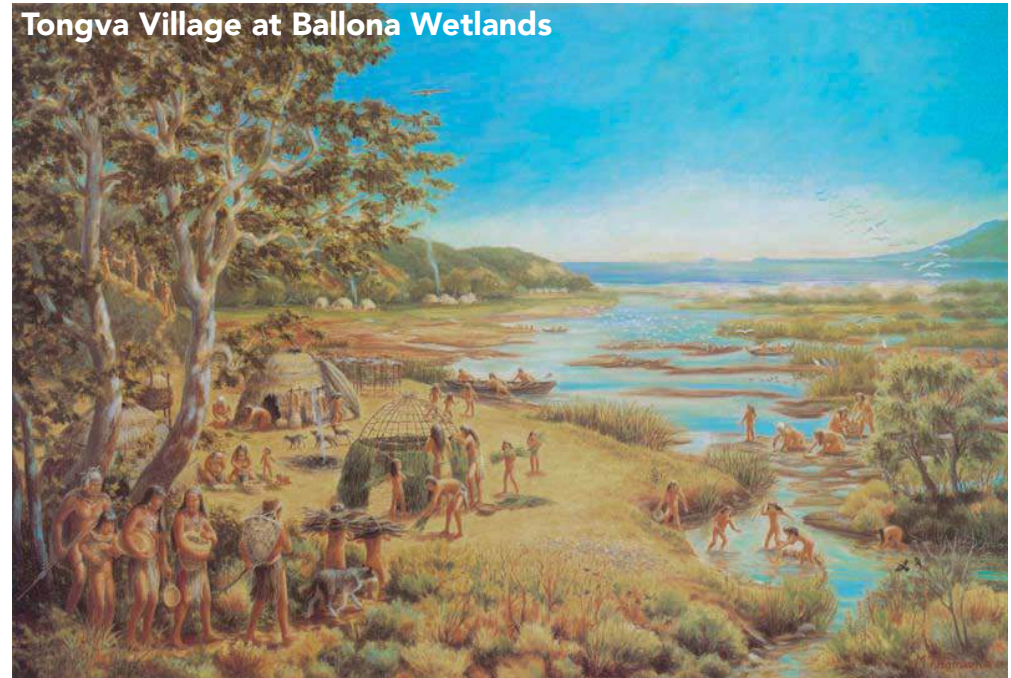
# ANALYSIS: Tongva Connections

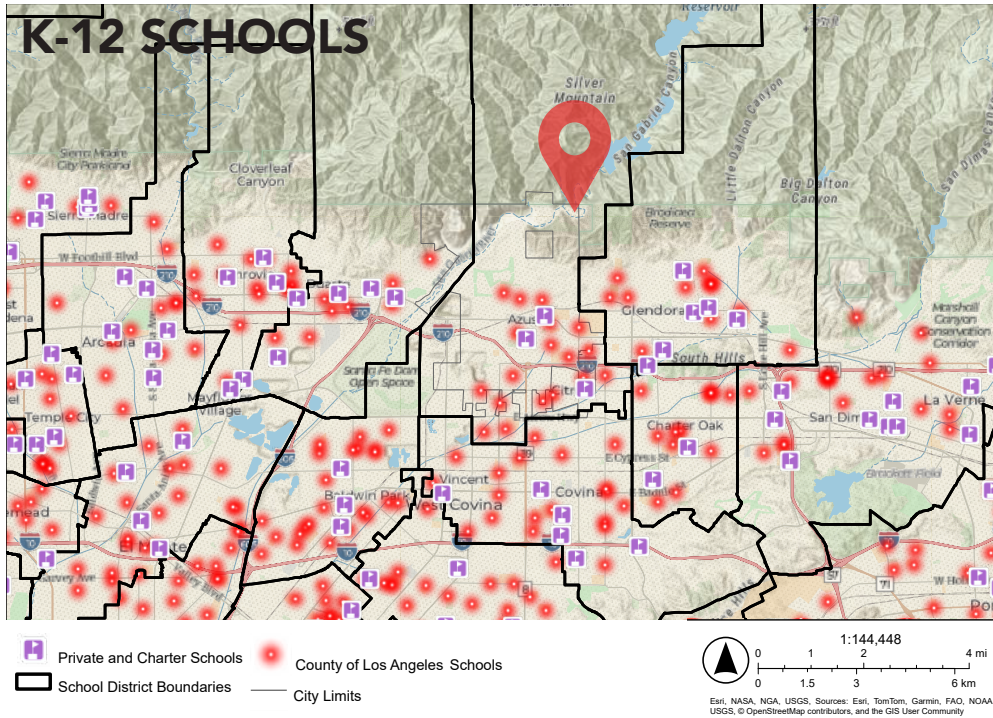


The Tongva people are the native people to the Los Angeles area, and they are referred to by the missions where they were detained by the names Gabrieleño and Fernandeno. They had **trade routes** that connected their villages in all directions including the islands, mountains, and deserts throughout what is now the southwestern US.

The closest village to our site is the **Ashuukshanga** village close to the present day city of Azusa. The neighboring gated community Mountain Cove was developed on a **sacred space**. Our site provides an opportunity to create a new space for native people to gather and perform important ceremonies.

The map on the top right also shows historical projected ecosystems, with our site falling within the categories of: river wash, coastal sage scrub, chaparral, foothill and valley forests and woodlands ecosystems.

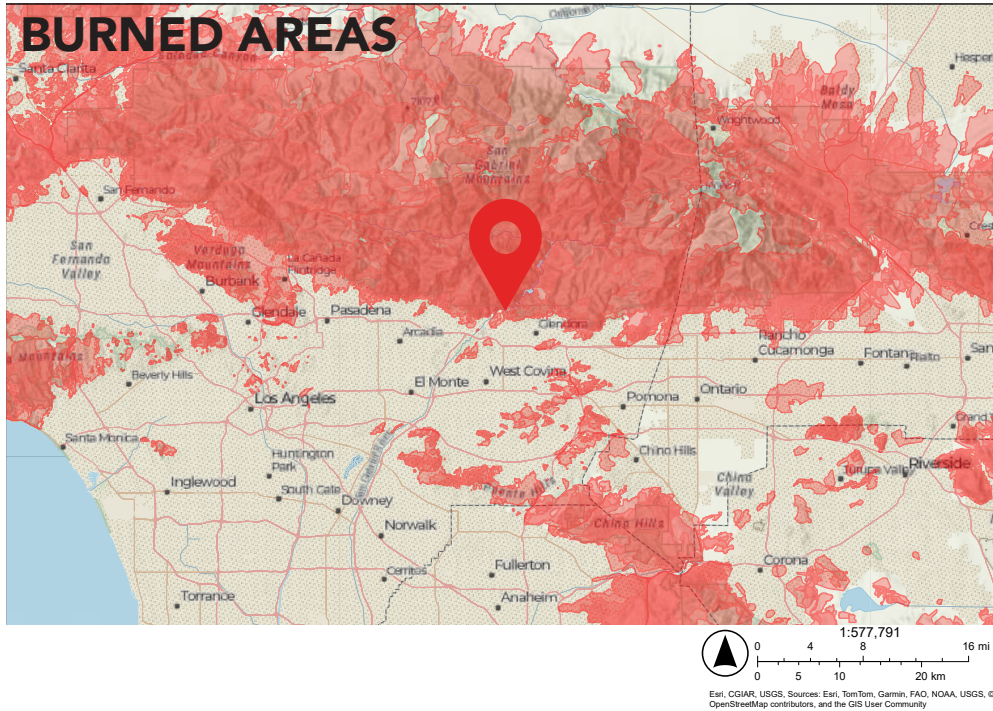




Our site is located in the Azusa Unified School District, with Duarte, Baldwin Park, West Covina, Covina Valley, Charter Oak, and Glendora school districts bordering (from west to east) and all within 6 miles of the site. Bringing school children to the site provides an opportunity to engage **the next generation** with the San Gabriel River watershed, local ecosystems, Tongva history, and land stewardship.

Additionally, Azusa Pacific University and Citrus Community college are also located in the city limits of Azusa. These institutions of higher education provide opportunities for **research** projects with our site that can help to inform **restoration** decisions as well as strategies for **climate change** mitigation and adaptation.

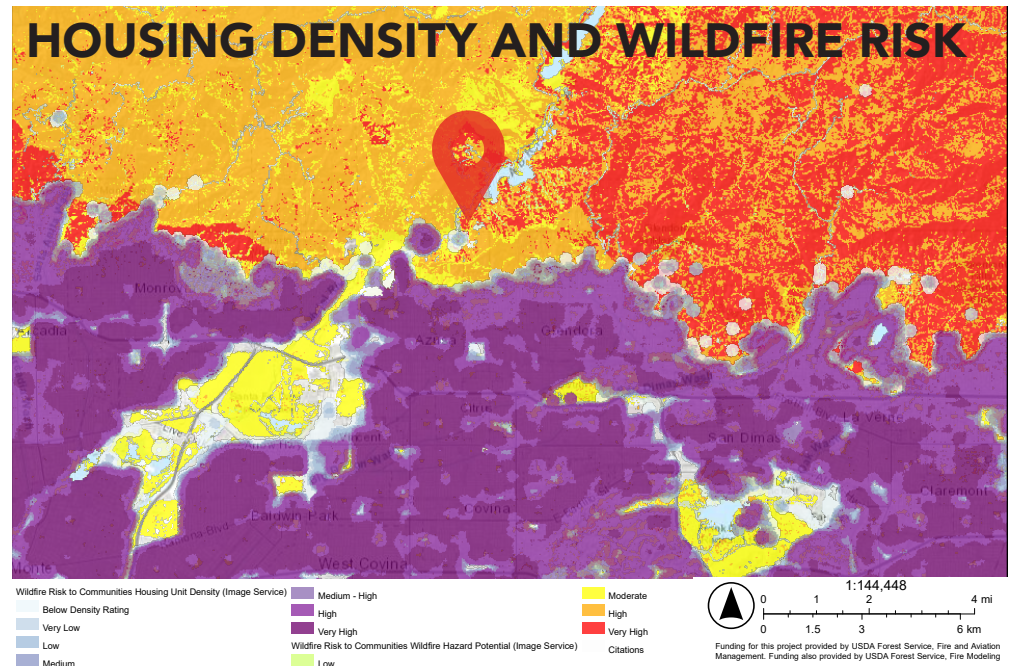




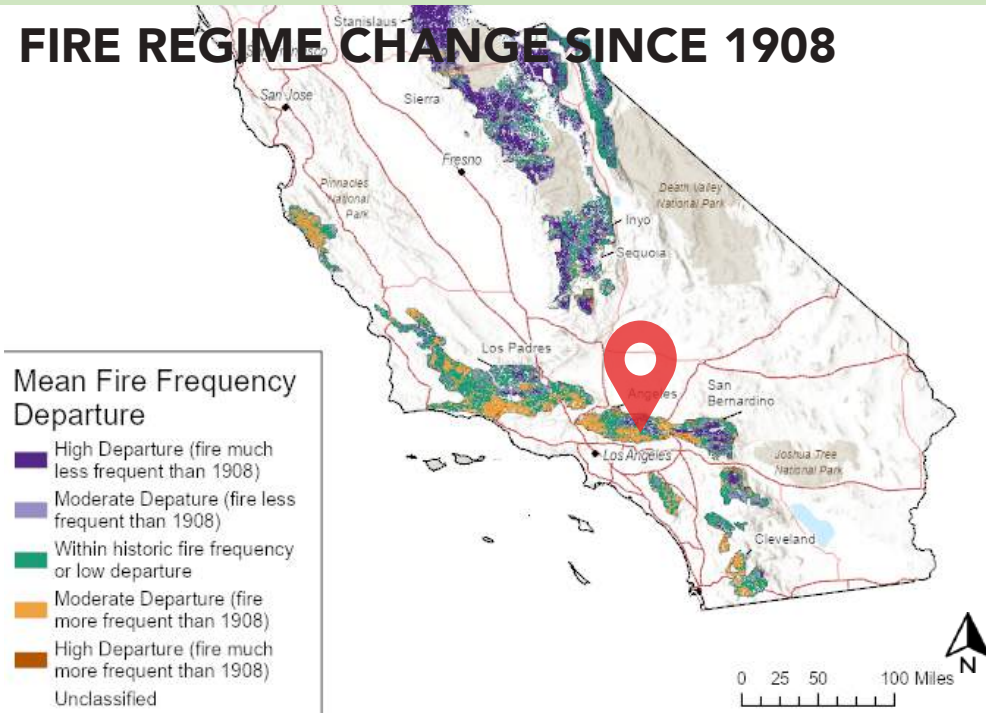
The **wildland-urban interface** is the ignition point for many wildfires and poses a great risk to both human and non-human communities. Our site is located in this transition area between urban and wildland and thus any development that occurs in this area must be cognizant of the potential risks from wildfire and how fire will interact with any structures or plant material that are placed on site.

While this is a risk for many communities throughout California, our site serves as a site where people can come to learn about fire and how it historically interacted with the land, and how they can create **hardened homes and defensible spaces** that not only are less likely to burn but can prevent the spread of wildfire.

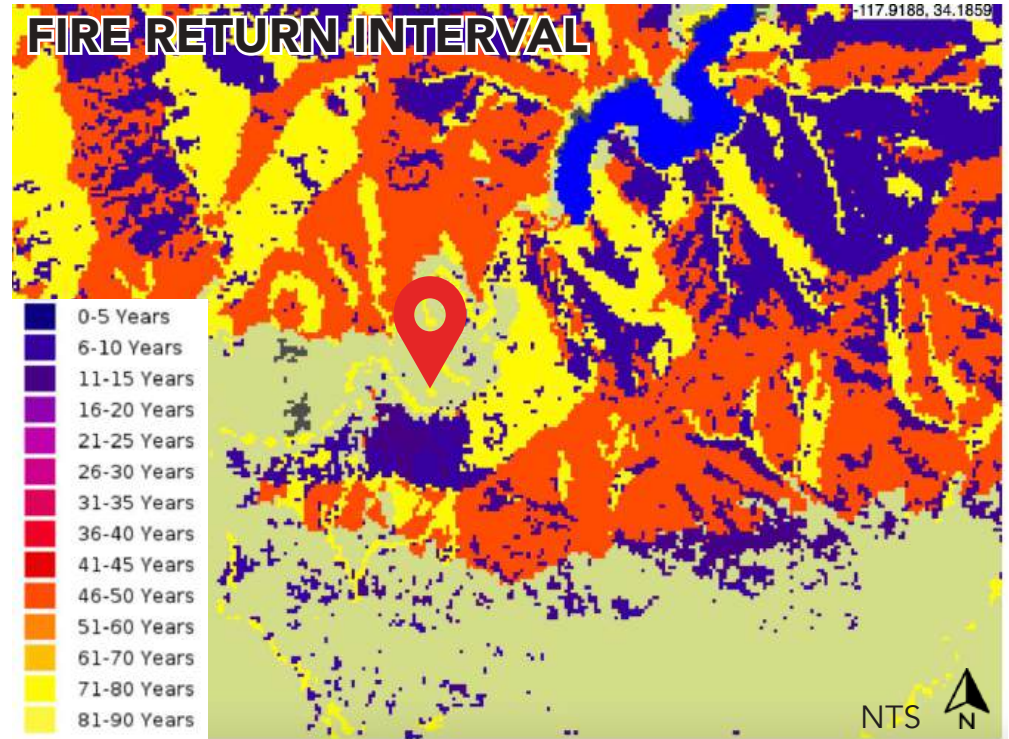
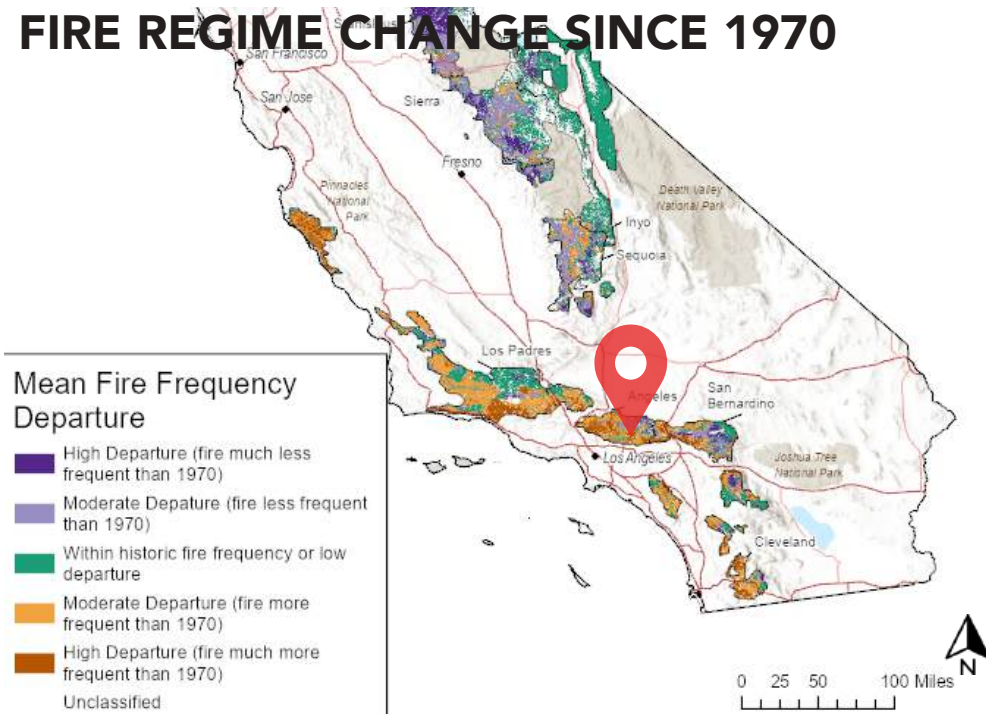
The risks of fire have also increased dramatically with more extreme weather events from **heat waves and droughts**, to the atmospheric rivers that may increase fuel loads by allowing invasive plants to grow more rapidly.



## FIRE REGIME CHANGE SINCE 1908



## FIRE REGIME CHANGE SINCE 1970



Since the Great Fire of 1910, fire suppression has been the policy of the U.S. Forest Service. This has severely altered fire regimes throughout the country from the times when indigenous peoples stewarded the land and set **beneficial fires** in certain ecosystems.

Fire return intervals have both increased and decreased for different ecosystems with many areas of the wildland-urban interface seeing increased fire frequency with the increase in urbanization and development in these sensitive transition areas. Conversely, many grasslands have been subject to **fire suppression** which has increased the growth of woody shrubs and trees which increases the severity of fires when they do occur.

The changes in fire frequency have a great impact on native ecosystems and have led to a proliferation of many **invasive species** which degrades the quality of habitat while increasing fire hazards.

# ANALYSIS: Opportunities **CONNECT** **EDUCATE** **HEAL**

1. Indigenous plant gathering, education, ceremonial space
2. Riparian habitat restoration
3. New museum/education center
4. Safe access to slower flow of braided river channel
5. Improved pedestrian access and circulation
6. More attractive entrance
7. Revenue-generating cafe and event spaces
8. Beautiful views of river
9. Azusa springs is inaccessible
10. Hiking and biking connections
11. Flat area with few trees, potential wildflower meadow



# ANALYSIS: Constraints

CONNECT

EDUCATE

HEAL

1. Steep terrain surrounds site with history of landslides
  2. Invasive plants degrade habitat and are highly flammable
  3. Dams upstream with potential for flooding
  4. Old restaurant building with structural issues\*
  5. River access limited
  6. Vehicular bridge without pedestrian access
  7. Existing equestrian center
  8. Existing Buddhist center
  9. Historic Taylor house\*
  10. Terraced mobile home pads\*
- \*Adaptive reuse opportunity



0' 400' 800'



# CASE STUDIES



*Hesperoyucca whipplei*

# CASE STUDY 1: Santa Ynez Chumash Museum and Cultural Center

## Overview

- The large welcome gallery is shaped like a traditional 'Ap, other buildings feature similar shapes, curvilinear forms throughout site
- A 3.5 acre cultural park and outdoor living museum has traditional plants that were used for food, medicine, and crafts
- LEED silver certified buildings incorporate terracotta tiles and exposed timber, landscaping uses recycled water
- Outdoor circular ramada as well as indoor circular spaces provide multiple venues for traditional ceremonies and gatherings

## Applications

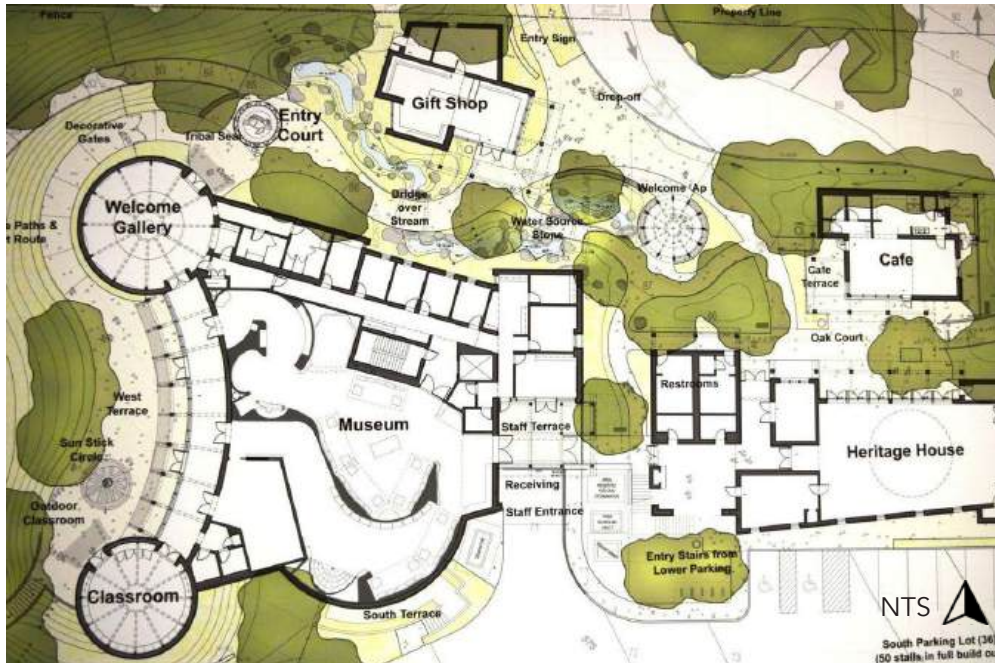
- Creating a place for cultural education at the museum with extensive exhibits and signage for both the public and tribe members
- Culturally-informed design of space to allow for many traditional uses
- Native plant restoration with a focus on culturally significant plant species
- Sustainability initiatives provide further educational opportunities

People: Chumash

Location: Santa Ynez, California

Architect: Jones & Jones Architects and Landscape Architects

Year: 2025



Aerial Render



Native Plantings



'Ap Welcome Gallery

# CASE STUDY 2: Limahuli Garden and Preserve

## Overview

- The 17-acre botanic garden is situated in a narrow valley within a 985-acre nature preserve on the north shore of Kaua'i
- Archaeological complexes, native forest and stream habitats, and conservation of soil, water, and rare plants
- Showcases ethnobotanical gardens in one of the last ahupua'a systems of traditional resource management
- Preservation of Hawaiian culture, in the agricultural products, irrigation, and traditional crafts

## Applications

- Working with indigenous people to cultivate the land for traditional uses
- Situated in a narrow river valley surrounded by steep mountainous terrain
- Conservation and education around native ecology

People: Hawaiian

Location: Kaua'i, Hawai'i

Established: Juliet Rice Wichman

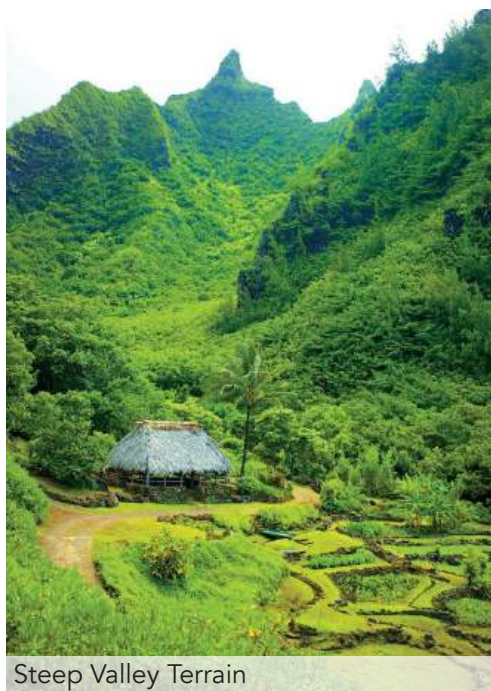
Year: 1967



Educational Signage

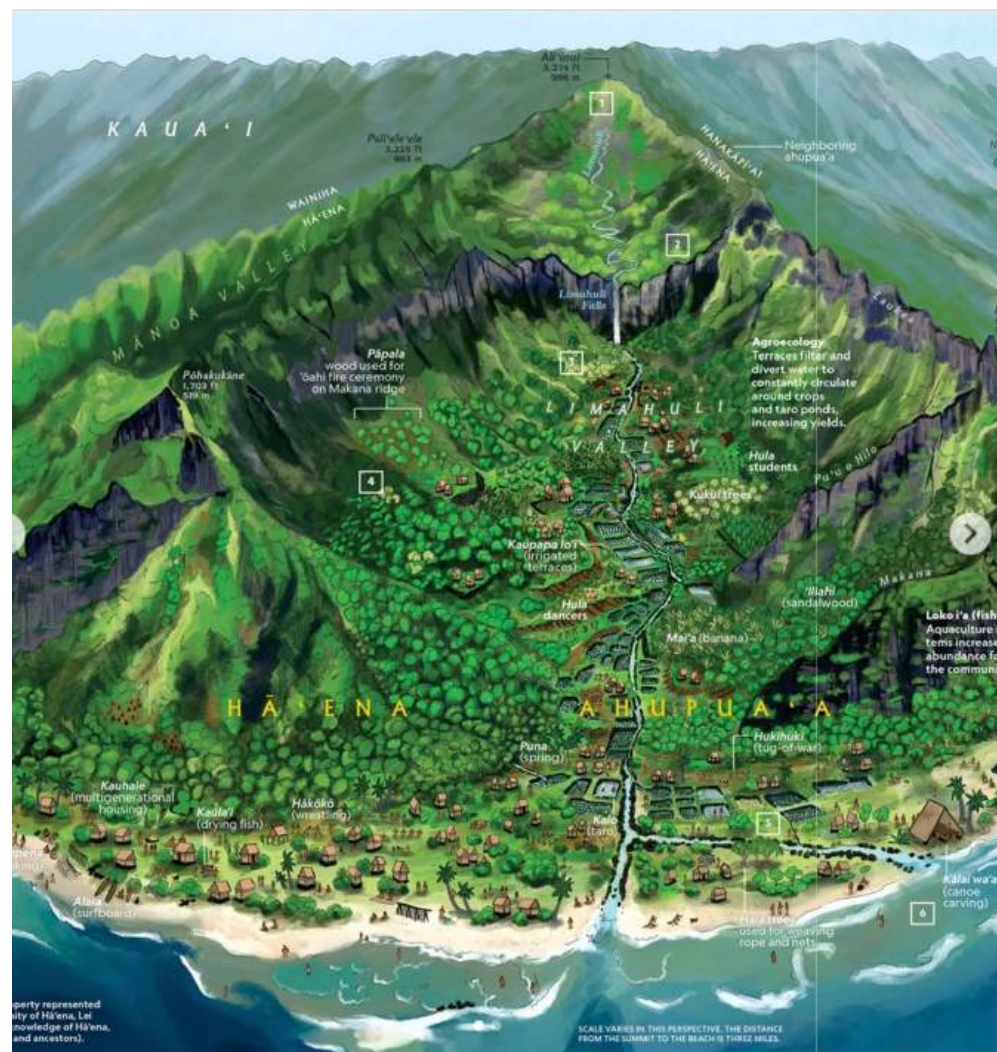


Agricultural Terraces



Steep Valley Terrain

16 / Eddy Zhu / LD7



property represented  
city of Hāhena. Let  
knowledge of Hāhena,  
and ancestors).

SCALE VARIES BY THIS PERSPECTIVE. THE DISTANCE  
FROM THE SUMMIT TO THE BEACH IS THREE MILES.

# CASE STUDY 3: Mount Umunhum Summit

## Overview

- Sacred peak to the Amah Mutsun tribe where they would perform ceremonies
- US Air Force Base occupied this summit from the 1950s until 1980 when it closed
- Landscape architects worked with tribal members to understand what specific needs for the ramada circle, including directional markers of each cardinal direction in the form of openings along the stone wall and natural substrate materials to stomp on with bare feet
- Restoration included removal of hazardous materials as well as reuse and recycling of concrete, asphalt, and wood

## Applications

- Working with tribal members to understand specific programming and material needs
- Restoration of native plant materials that would survive extreme climate conditions
- Design within a small space, surrounding mountain slopes are steep
- Low profile shade structures don't detract from dramatic views
- ADA access and connections to hiking trails

People: Amah Mutsun Ohlone

Location: Sierra Azul Open Space Preserve, California

Architect: Restoration Design Group

Year: 2017



Shade Structure



Ceremonial Ramada



Stairs to Trail



Plant Restoration

## MOUNT UMUNHUM PROJECT



An aerial view of Mount Umunhum looking east, in 2010. Except for the radar tower, the buildings have been torn down, and public access is planned to open next October. COURTESY OF FRANK SWEENEY



Source: Midpeninsula Regional Open Space District

BAY AREA NEWS GROUP

# CASE STUDY 4: གཞི་ཚལ་ལྗོངས་ཀྱི་འཕེལ་རྒྱུ་ - Jiuzhaigou National Park Visitor Center

## Overview

- This UNESCO world heritage site sees an average of 7,000 visitors a day is named after the 9 villages located along the valley
- Building designs incorporates curvilinear forms that draw on both the mountainous landscape as well as local Tibetan aesthetics
- Careful planning and use of space in a narrow valley landscape to frame views, direct circulation, and provide connectivity
- Many sheltered outdoor areas created with dendritic columns, forming the shape of the Tibetan word for water and the conch shell
- Landscaping inspired by Tibetan Lingka gardens

## Applications

- Using limited space in a valley landscape to provide access to a park
- Culturally-informed design of space and utilization of local materials
- Framing views and directing circulation in a high-traffic area
- Emphasis on providing views and appreciation of water

People: Tibetan

Location: Sichuan, China

Architect: THAD, Zhu Yufan, Tsinghua University

Year: 2021



Rendering of Stream Access



18 / Eddy Zhu / LD7



Dendritic Columns



Curvilinear Forms



Lingka Garden Area

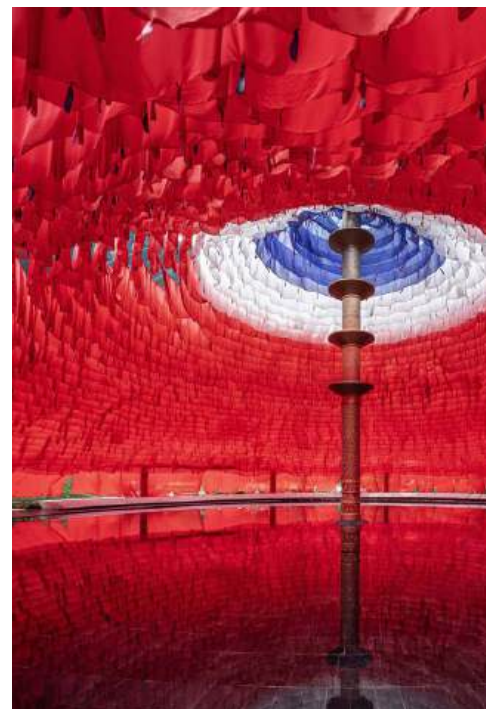
# CASE STUDY 4: གཞི་ཚུ་ལྗོངས་ཀྱི་འཕེལ་རྒྱུ་ - Jiuzhaigou National Park Visitor Center



Two-Level Bus Dropoff (No Parking Onsite)



Constellation Lighting Design Integrated into Hardscape



Tibetan Prayer Flags



Vernacular Architecture

# CASE STUDY 5: Karrgatup - Western Australian Botanic Garden

## Overview

- This botanic garden is 44 acres and features over 25,000 species of plants with 2,000 species native to Western Australia
- Situated in Kings Park which is a large (988 acre) urban park with hiking trails, native bushland, and more programmed areas
- Provides signage along the Boodja Gnarning walk explaining local Noongar culture, plant uses, and sacred sites
- Dramatic views of the Swan River to the south, City to the north, and Darling Range to the east

## Applications

- Clear circulation with accessible and more rustic trail conditions
- Diverse native plantings with themed areas
- Glass and corten steel bridge and overlooks take advantage of steep terrain to provide views and resting areas

People: Whadjuk Noongar

Location: Perth, Australia

Architect: John Oldham

Year: 1965



Noongar Art Overlook



Corten Steel Bridge



Educational and Directional Signage

20 / Eddy Zhu / LD7

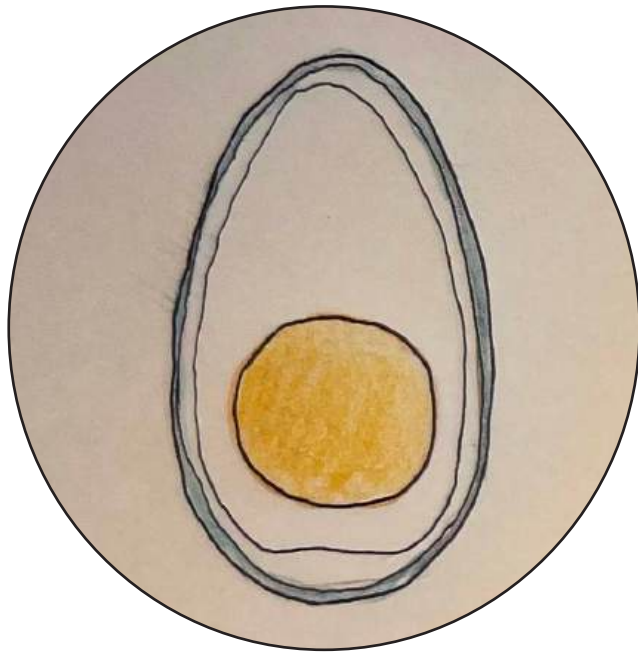


# DESIGN



*Fremontodendron californicum*

# PART I



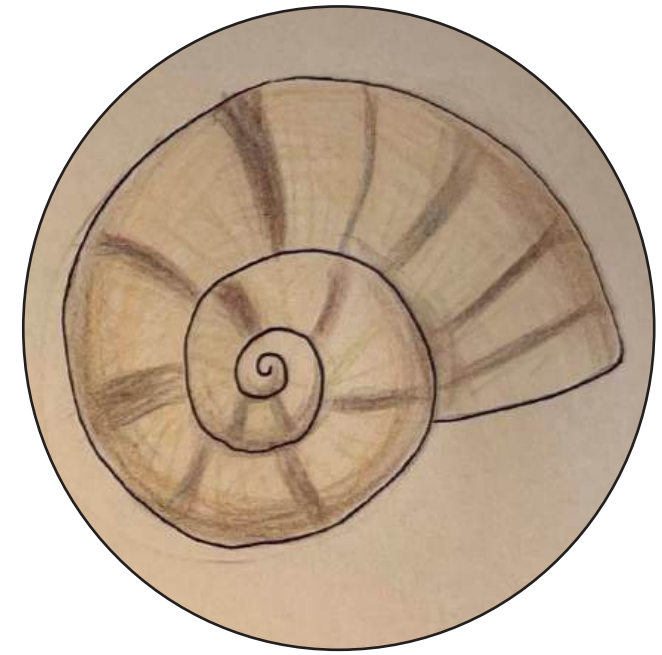
egg

The egg is symbolic because it represents the beginning of most animal life. Clearly defined **layers** include the hard exterior, liquid whites, and central yolky interior which work together to form the perfect encapsulation of genetic material from the **ancestors**, as well as the unlimited potential of the **future**.



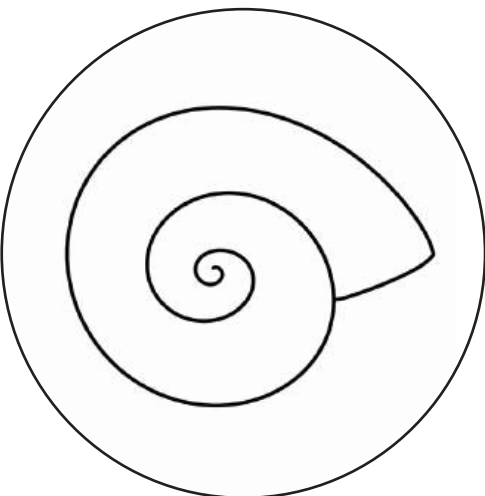
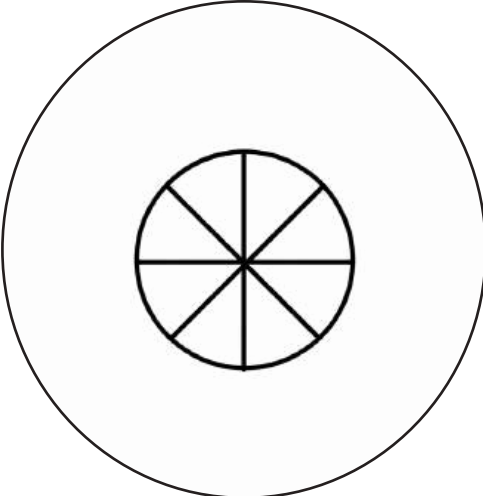
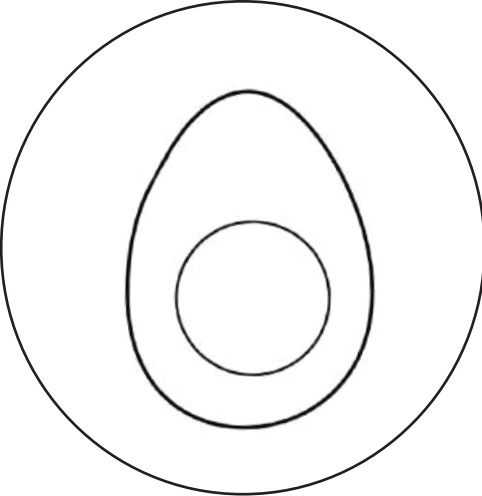
sunflower

The sunflower is a beacon, mirror, and child of the sun. The **radiating** petals surround fractals of seeds that form an explosion of life which calls to both pollinators and humans alike to **gather** and **appreciate** the bounty of nature. The connections and symmetry between the disk and ray flowers create a synergistic whole that is more than the sum of its parts.

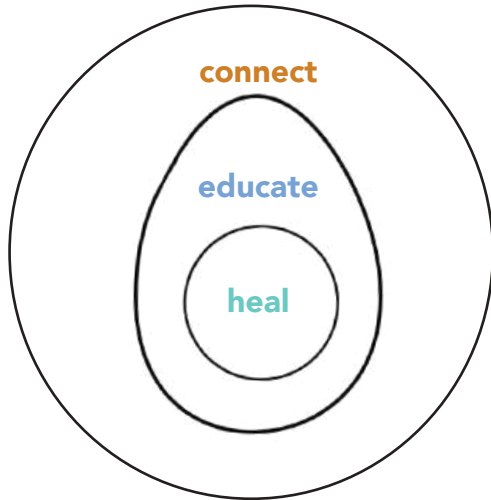


shell

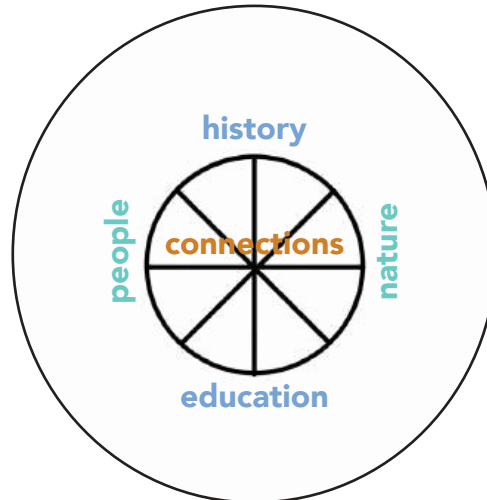
The shell of a snail and other gastropods creates a protective **home** that keeps safe the soft sacred interiors. From this safe abode the body and shell **spiral** out to the exit of the shell and the outside world that is ready to be **explored**. This metaphor shows that one can embody both softness and hardness and that neither can exist and thrive without the other.



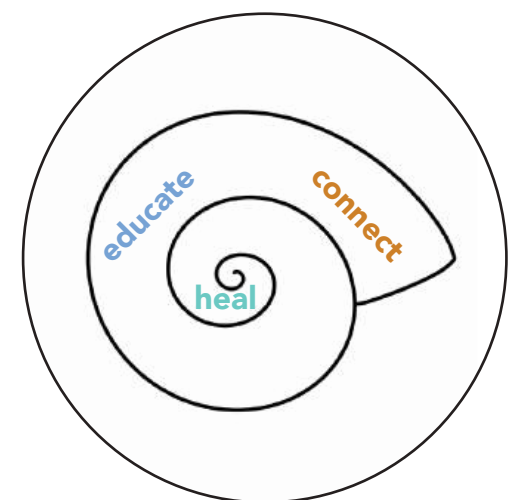
●		ADA pathways
●		Bike trail connection
●		Hiking trail connection
●	●	River access
●		Roundabout
●	●	Pedestrian bridge
●	●	Educational & way-finding signage
●	●	Observation areas with seating
●	●	Natural play areas
●	●	Camping areas
●	●	Cafe with indigenous foods
●	●	Science Lab
●	●	Outdoor classrooms and gathering spaces
●	●	Interpretive nature trail
●	●	Indigenous cultural center/museum
	●	Habitat restoration
	●	Native plant gathering area
	●	Invasive species removal
●	●	Native management of the land
●		Ramada ceremonial circle
		Storm water management
●		Creek daylighting
	●	Permeable paving



layers  
potential  
growth



attraction  
gathering  
connections  
synergy



continuum of time  
softness and hardness  
ingress and egress



# ILLUSTRATIVE PLAN

MOUNTAIN COVE GATED COMMUNITY



BUDDHIST CENTER

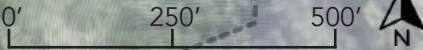
PHASE 1

EQUESTRIAN CENTER

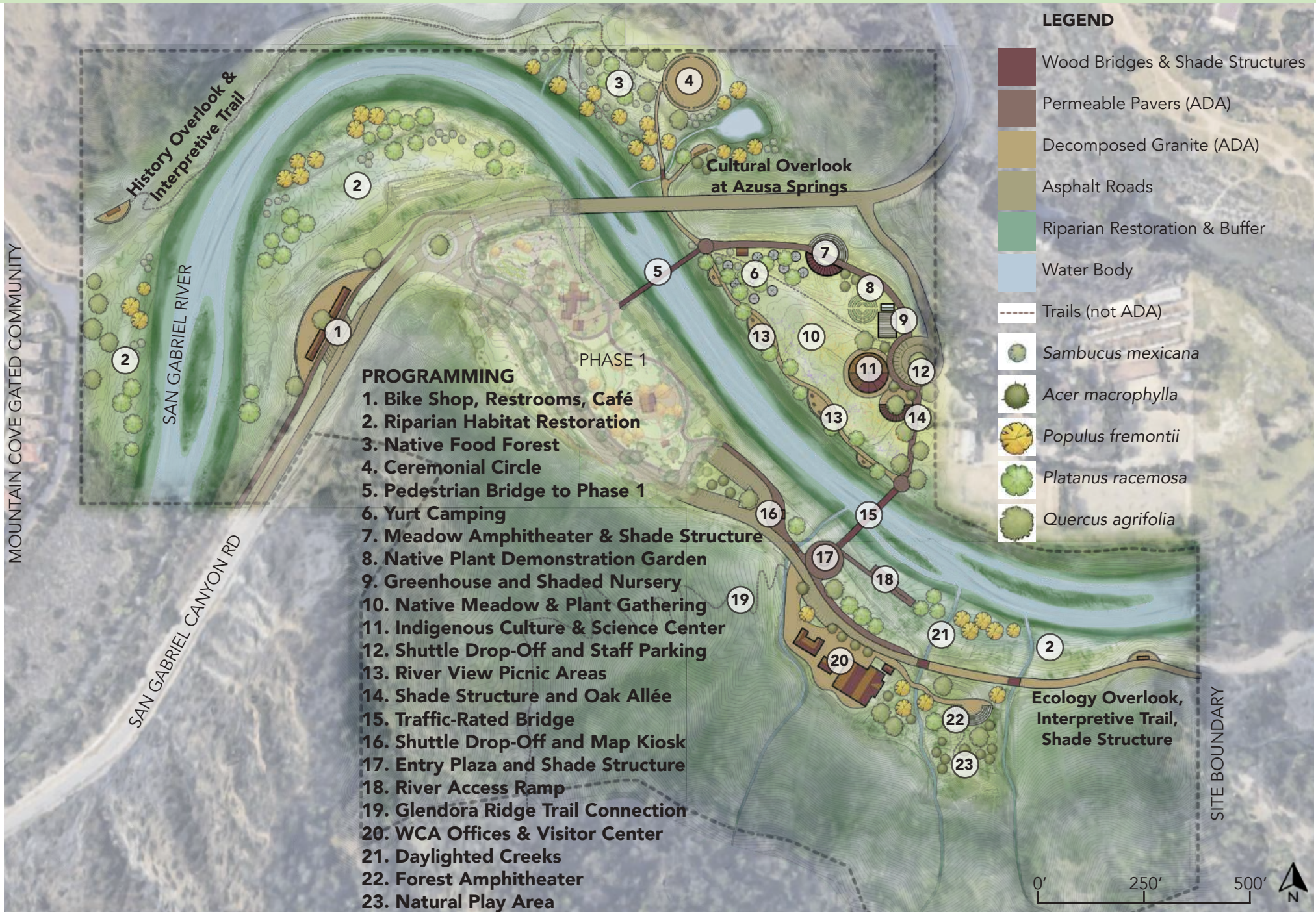
SAN GABRIEL CANYON RD

SAN GABRIEL RIVER

SITE BOUNDARY



# ILLUSTRATIVE PLAN



# ENLARGEMENT AREAS



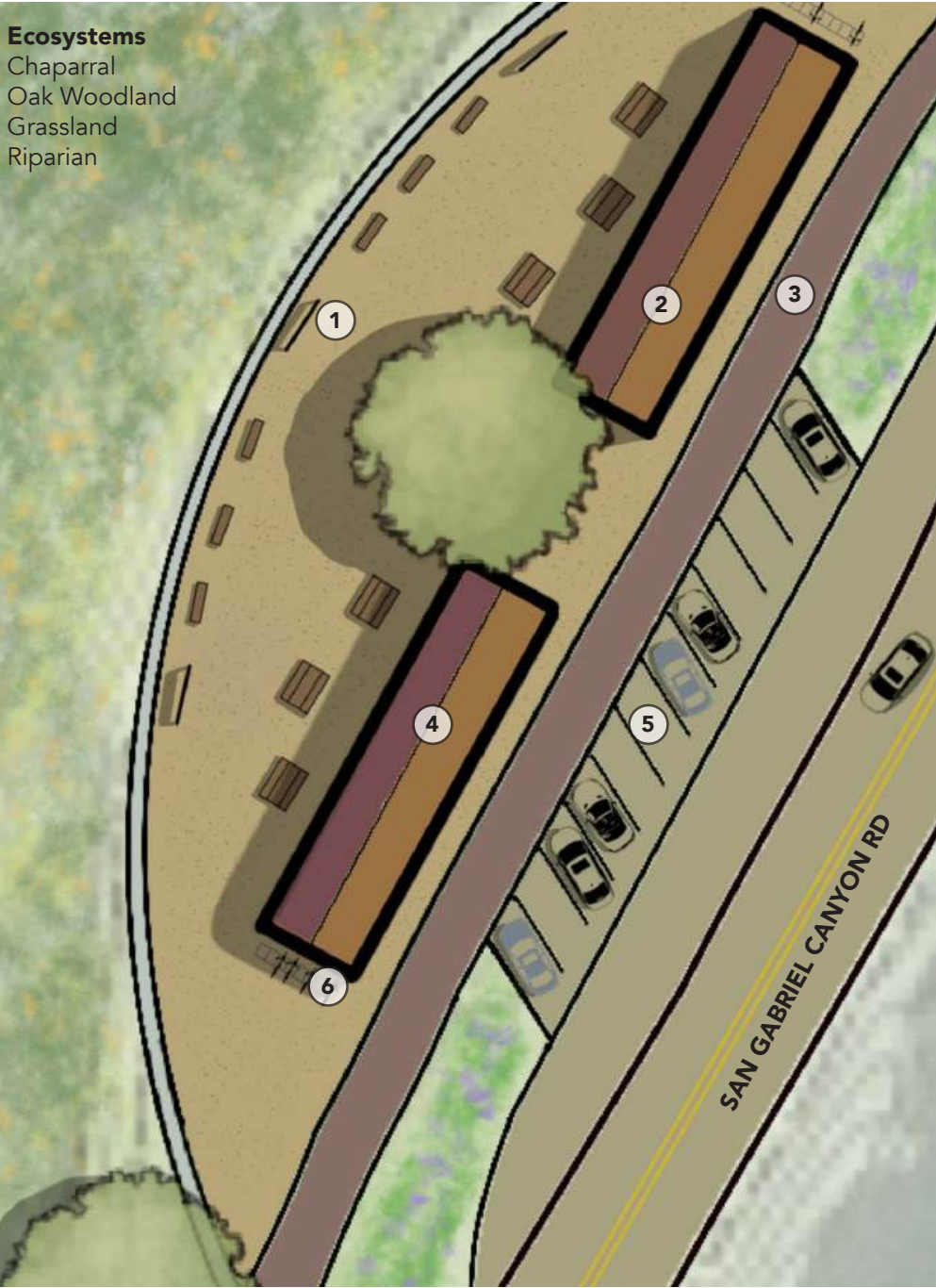
Natural Climbing Area



Forest Amphitheater

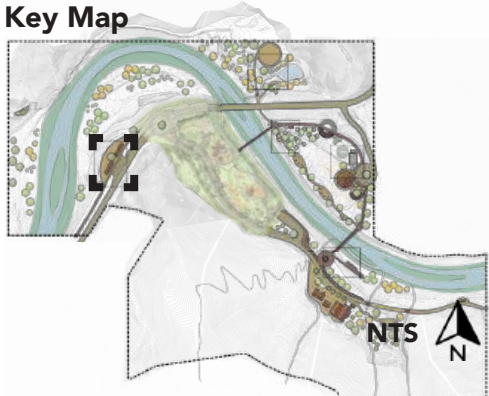
# REST STOP: Bike Shop, Restrooms, Café

**Ecosystems**  
 Chaparral  
 Oak Woodland  
 Grassland  
 Riparian

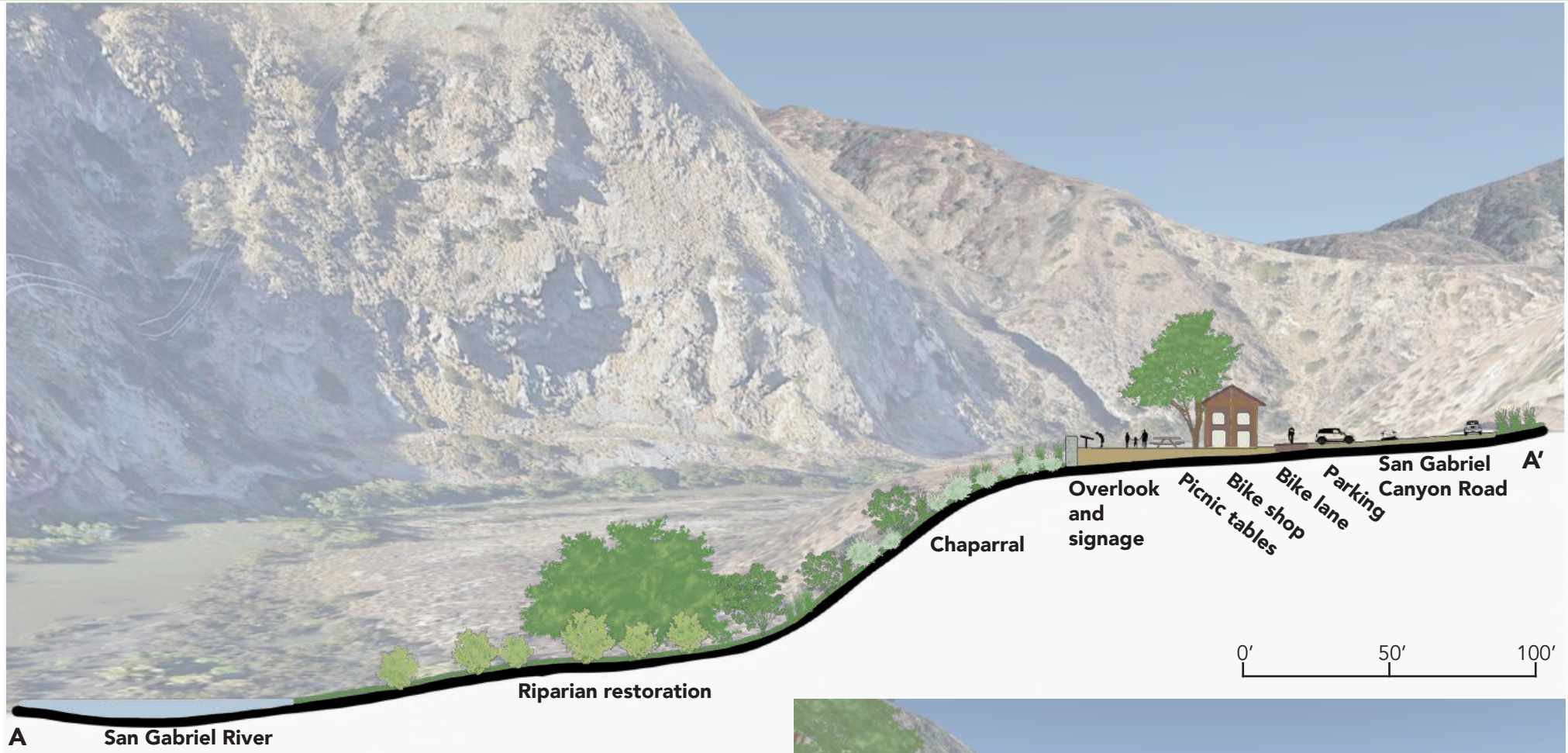


**LEGEND**

- 1. Educational signage
- 2. Cafe, convenience store
- 3. Protected bike lane
- 4. Bike shop: repairs, rentals, sales
- 5. Angled permeable parking
- 6. Bike parking

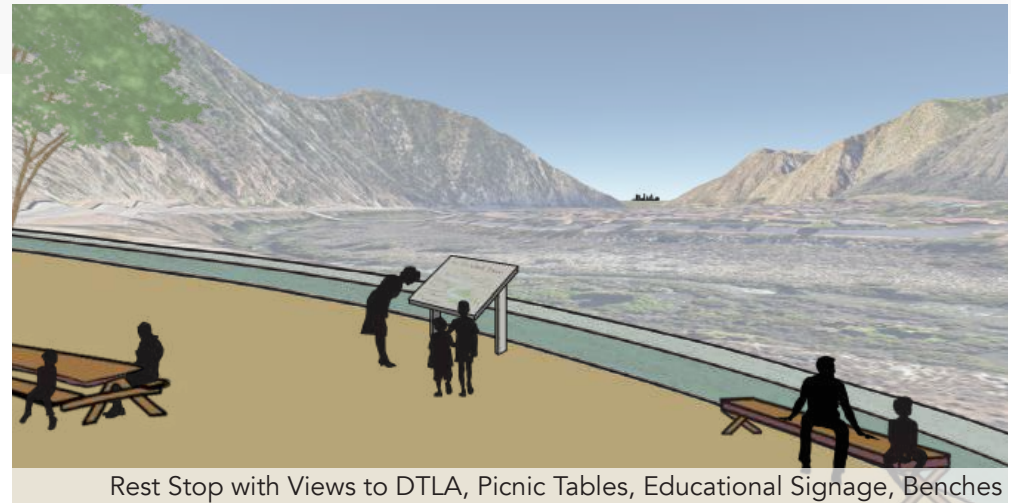
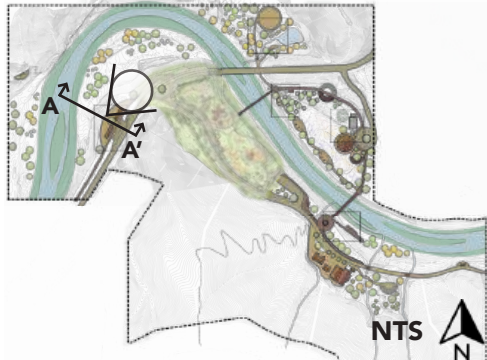


# SECTION-ELEVATION: Riparian Restoration, Bike Rest Stop, Overlook



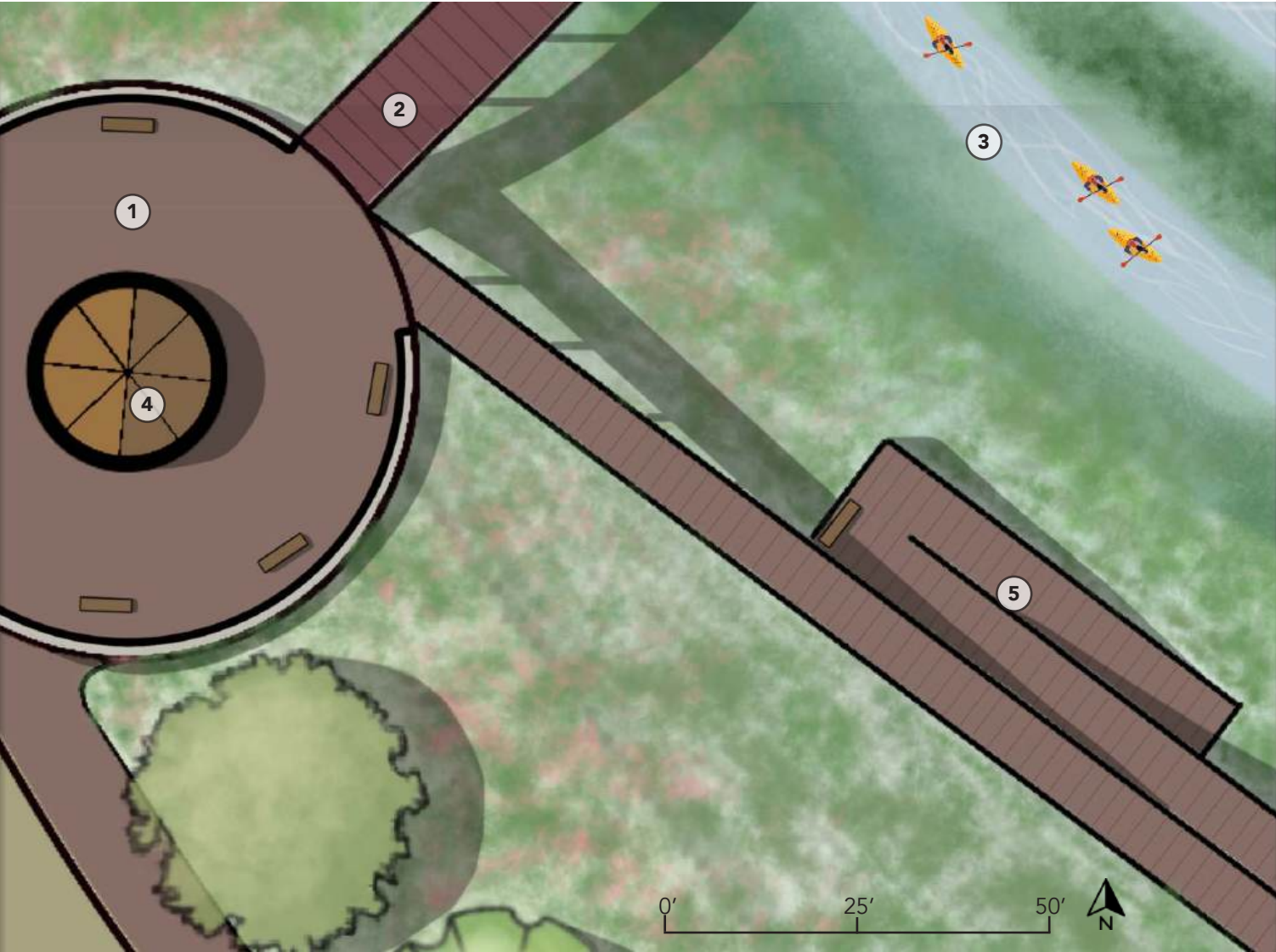
A San Gabriel River

## Key Map



Rest Stop with Views to DTLA, Picnic Tables, Educational Signage, Benches

# ENTRY PLAZA: Shaded Seating, River Access Ramp, Bridge



**LEGEND**

- 1. Entry plaza
- 2. Traffic-Rated Bridge
- 3. Kayaking in braided channel
- 4. Shade structure
- 5. River access boardwalk ramp

**Ecosystems**

Riparian  
Oak Woodland



Kayaking

**Key Map**



*Rosa californica*



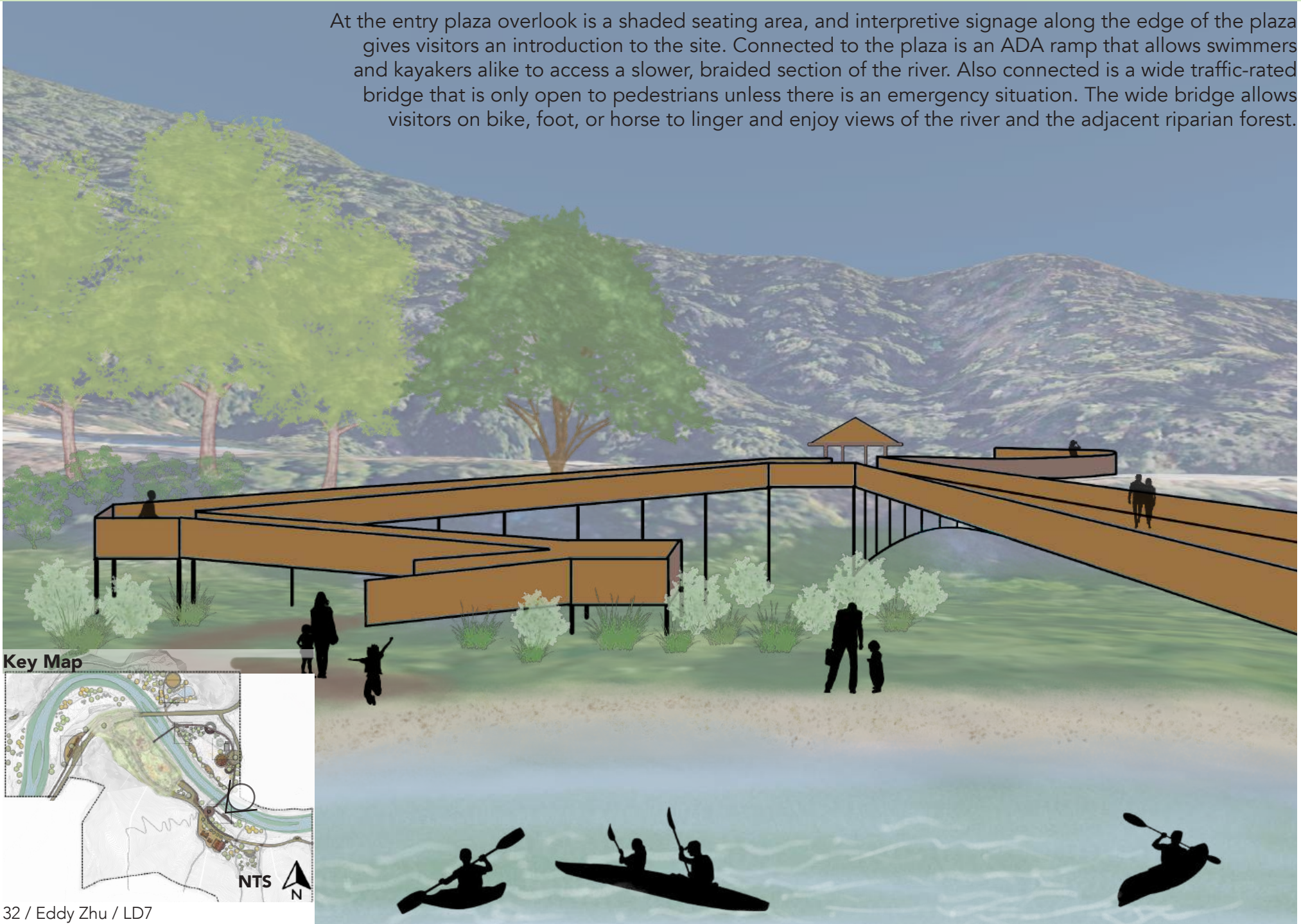
*Salix lasiolepis*



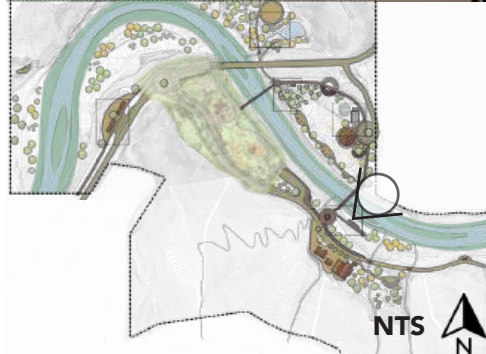
Boardwalk

# PERSPECTIVE: River Access

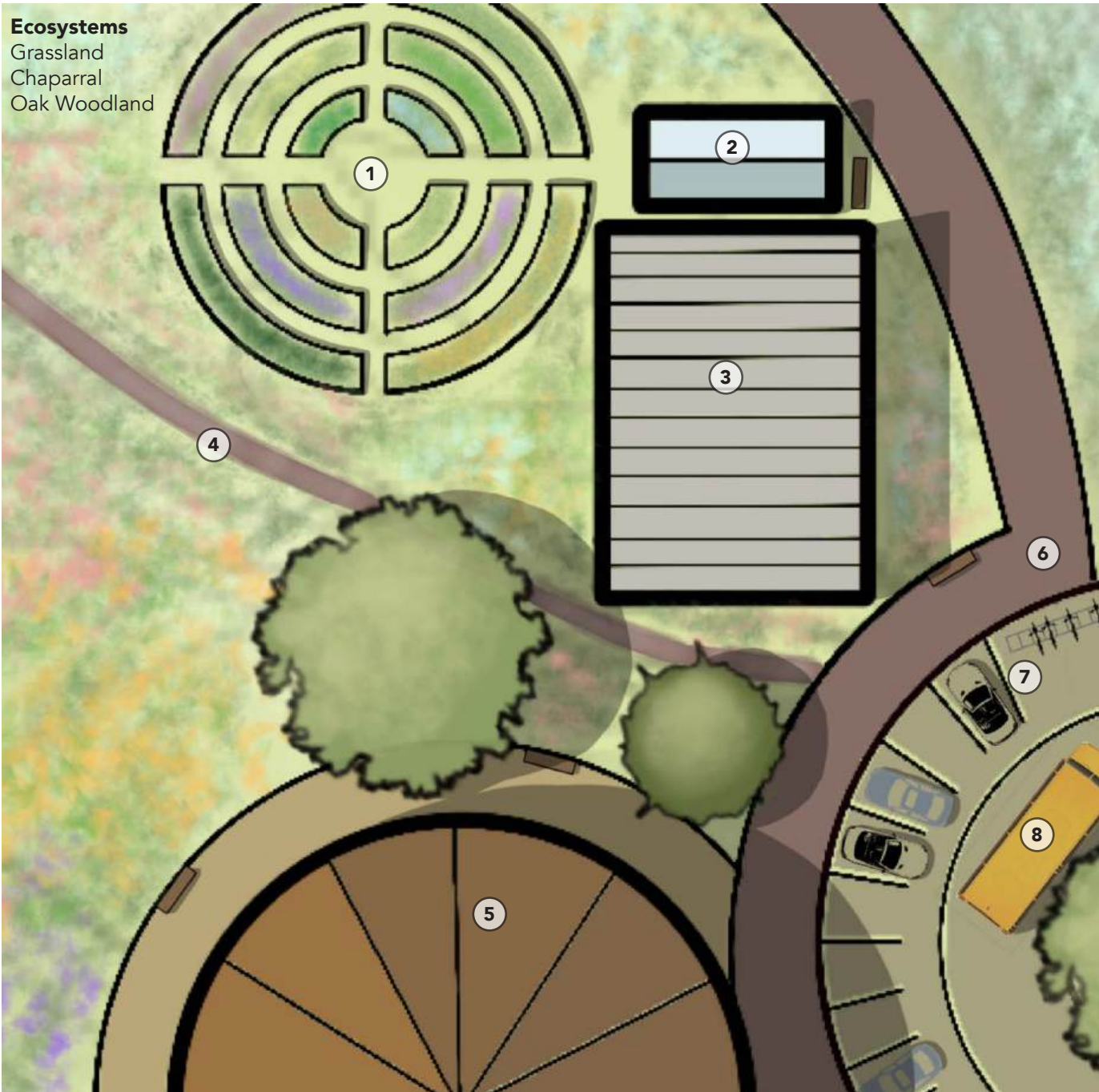
At the entry plaza overlook is a shaded seating area, and interpretive signage along the edge of the plaza gives visitors an introduction to the site. Connected to the plaza is an ADA ramp that allows swimmers and kayakers alike to access a slower, braided section of the river. Also connected is a wide traffic-rated bridge that is only open to pedestrians unless there is an emergency situation. The wide bridge allows visitors on bike, foot, or horse to linger and enjoy views of the river and the adjacent riparian forest.



Key Map



# CULTURAL CENTER: Museum, Education, Science Lab



**Ecosystems**  
Grassland  
Chaparral  
Oak Woodland

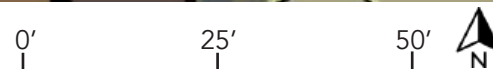
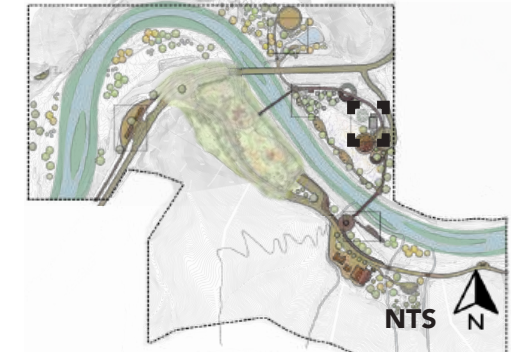
## LEGEND

1. Demonstration garden
2. Restoration greenhouse
3. Shade structure: nursery production, retail area, underground cistern
4. Native meadow trail
5. Cultural center, museum, TEK restoration ecology lab
6. Service road
7. Permeable staff vehicle and bike parking
8. Shuttle bus dropoff

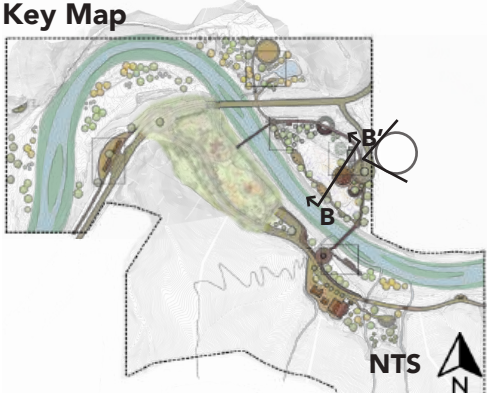
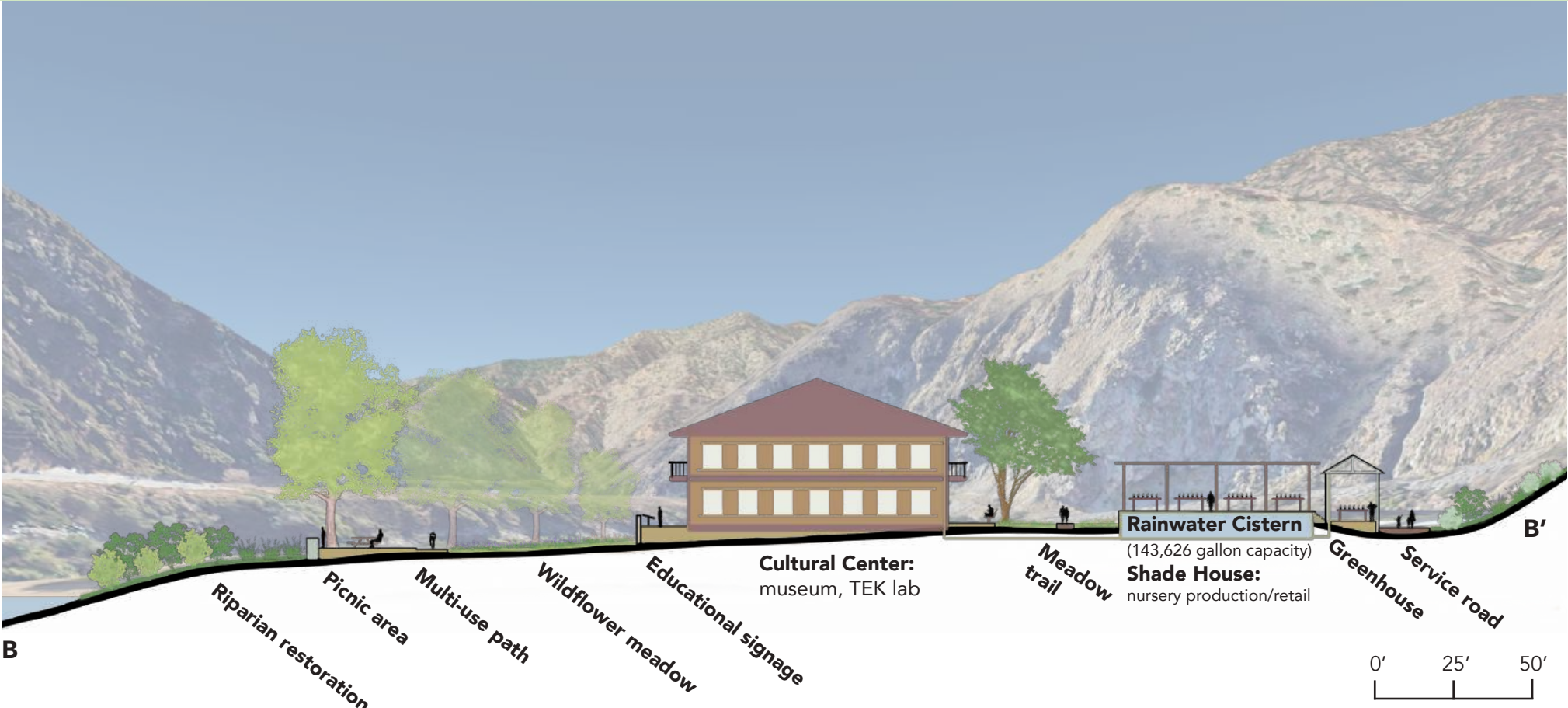


Native Meadow

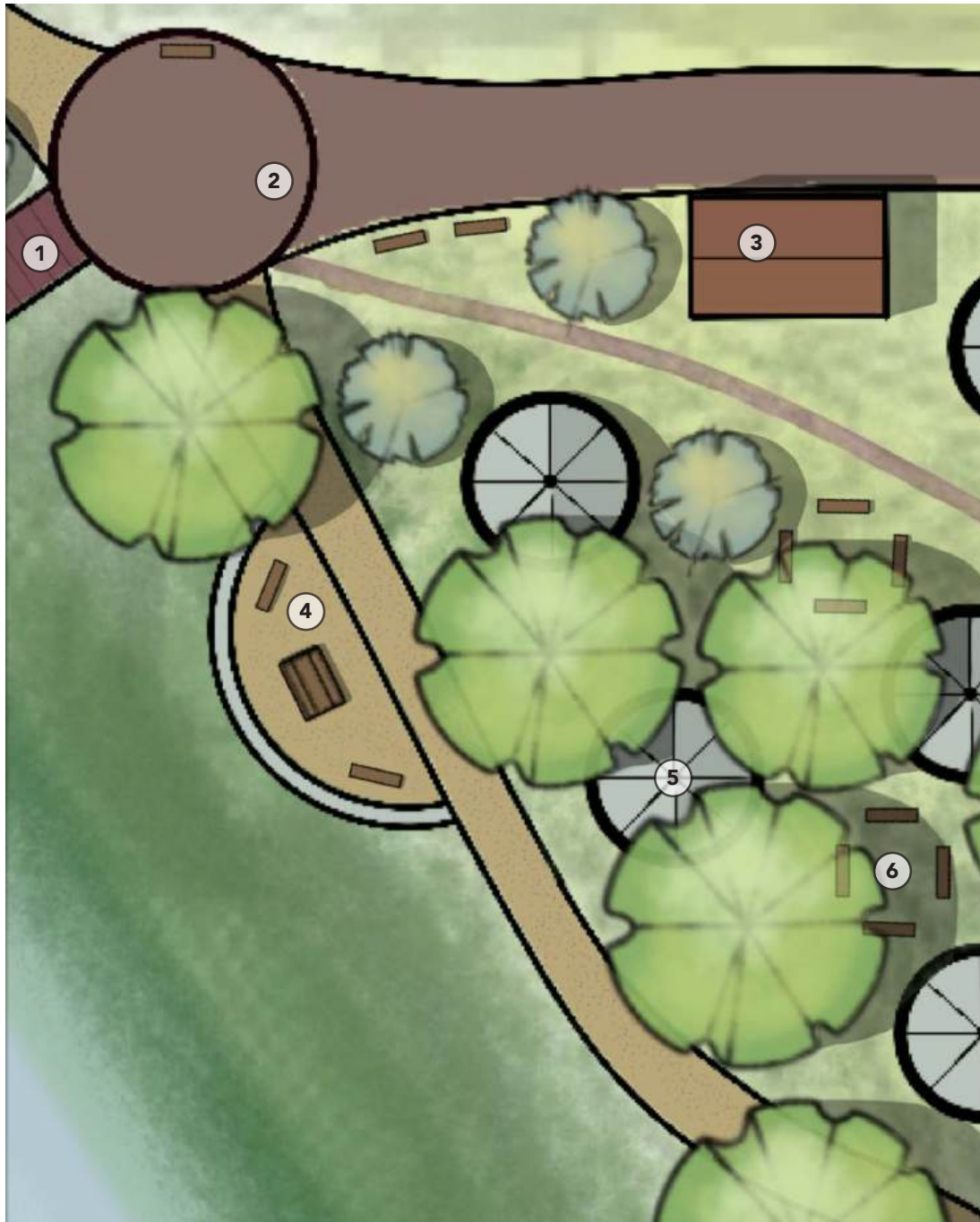
## Key Map



# SECTION-ELEVATION: Cultural Center, Meadow, Native Nursery



# CAMPING: Yurts, Restrooms, Bridge, River View Picnic Overlook



Yurts



*Platanus racemosa*



*Sambucus mexicana*

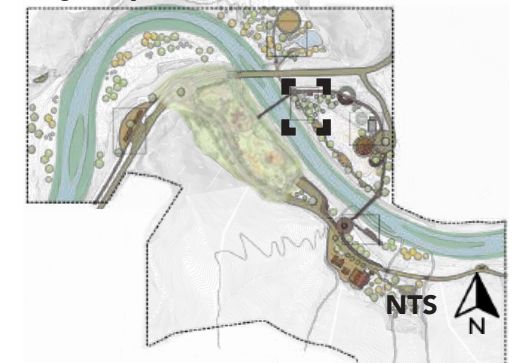
## LEGEND

1. Pedestrian bridge
2. Access and maintenance road
3. Pit toilets
4. River overlook and picnic table, decomposed granite
5. Yurt tents with bunk beds
6. Log seating circle
7. River view trail

## Ecosystems

- Grassland
- Riparian
- Sycamore alluvial woodland

## Key Map

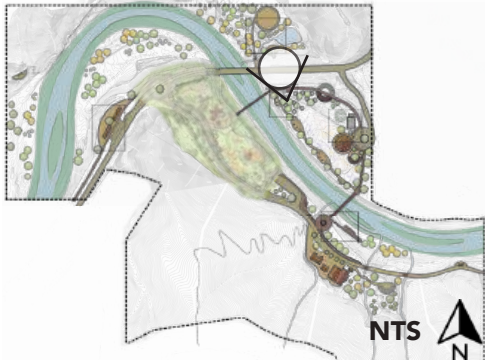


# PERSPECTIVE: Camping, Log Circle, River View Picnic Area

In the midst of the shady **Sycamore Alluvial Woodland** ecosystem, bunk beds in yurts house school groups and retreats where people from all ages can get closer to the natural world and learn about **Traditional Ecological Knowledge**: how to tend the land, the different uses of native plants, as well as the complex web of relationships that exists between all living things. These practices and wisdom can be observed throughout the site in the plants, design, and educational signage that one can read while resting at a **river overlook**. Everyone leaves with a greater appreciation and understanding of the more than human world.



Key Map



# CEREMONIAL SPACE: Azusa Springs, Cultural Overlook, Food Forest



**LEGEND**

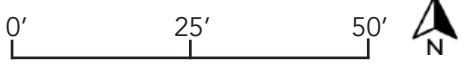
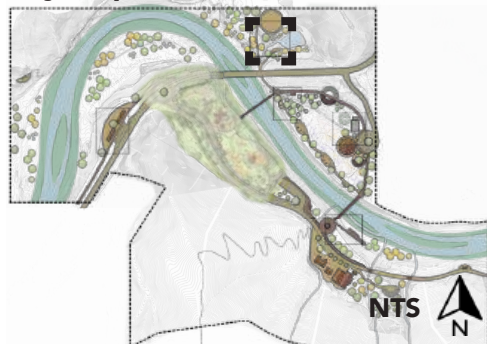
- 1. ADA trail, decomposed granite
- 2. Stone seat walls
- 3. Ceremonial space, decomposed granite
- 4. Native food forest
- 5. History interpretive trail
- 6. Cultural overlook at Azusa springs with signage and shade structure

**Ecosystems**

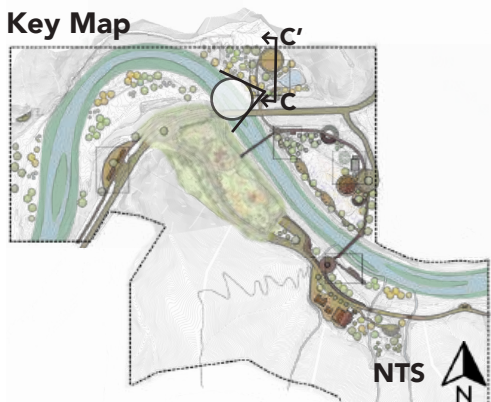
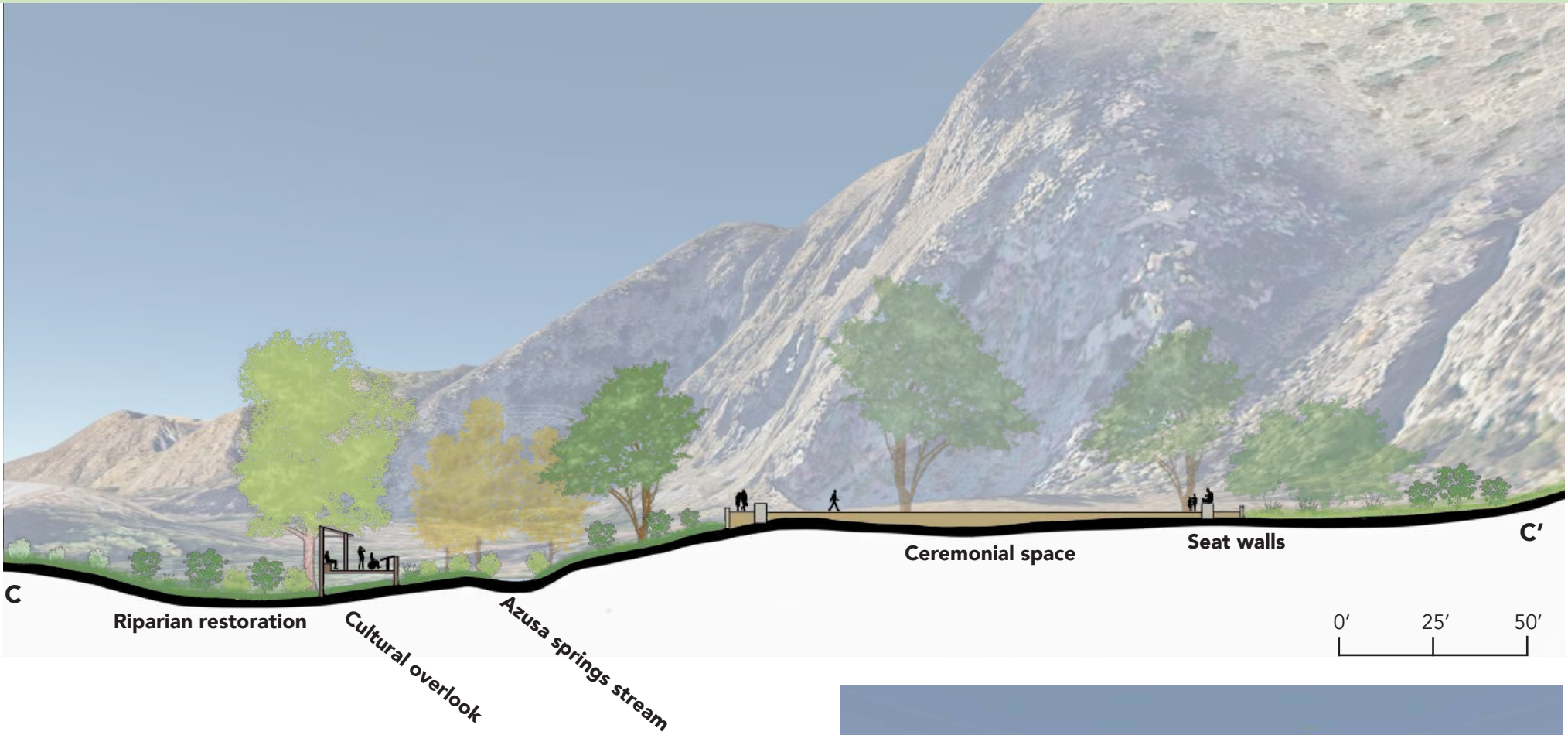
- Riparian
- Oak woodland
- Grassland
- Chaparral



**Key Map**



# SECTION-ELEVATION: Ramada, Azusa Springs, Cultural Overlook,



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