

Re-Membering, Re-Imagining, & Re-Connecting The Arroyo Seco Canyon

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Table of Contents

Introduction

Project Statement.....	3
Project Justification.....	4-5

Site Inventory & Context

Site Location.....	6
Site Context.....	7-8
Special Designations.....	9-10
What is a Spreading Basin?.....	11
Historical Overview.....	12-13
Local Agencies and Affiliations.....	14
User Demographics.....	15-18
Local Wildlife.....	19

Conceptual Research

Design Methodologies.....	20-21
Case Studies.....	22-27
Goals and Objectives.....	28
Project Program and Elements.....	29
Base Map & Photos.....	30-31
Site Analysis.....	32
Site Circulation.....	33
Site Constraints.....	34
Site Opportunities.....	35
Native Tree & Plant Palette.....	36-37

Design Development

Design Concept 1 - Re-Membering.....	38-39
Design Concept 2 - Re-Imagining.....	40-41
Design Concept 3 - Re-Connecting.....	42-43
Design Metaphor & Expressions.....	44-47
Final Design Concept.....	48

Final Design

Master Plan.....	49
Enlargement - Re-Membering.....	50
Section A-A.....	51
Perspectives.....	52-53
Enlargement - Re-Imagining.....	54
Section B-B.....	55
Perspective.....	56
Section C-C.....	57
Enlargement - Re-Connecting.....	58
Section D-D.....	59
Perspectives.....	60-61

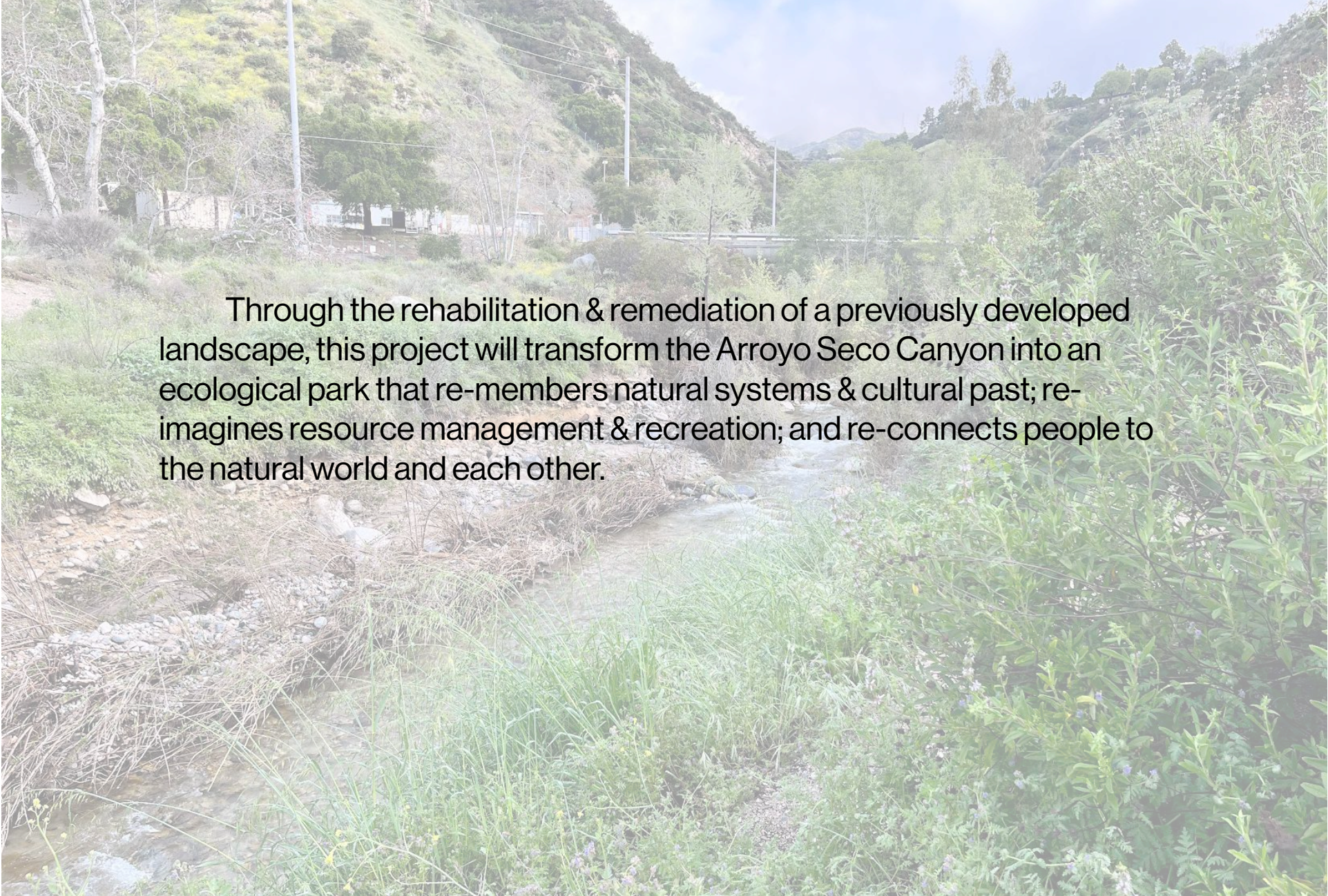
Conclusion

Conclusion Statement.....	62
Master Plan.....	63
Acknowledgements.....	64

References

Reference List - Photos.....	65
Reference List - Photos & Websites.....	66
Reference List - Books & Documents.....	67

Project Statement

A photograph of a river flowing through a valley. The river is in the foreground, surrounded by lush green vegetation and some dry brush. In the background, there are hills with sparse trees and a few buildings on the left side. The sky is overcast.

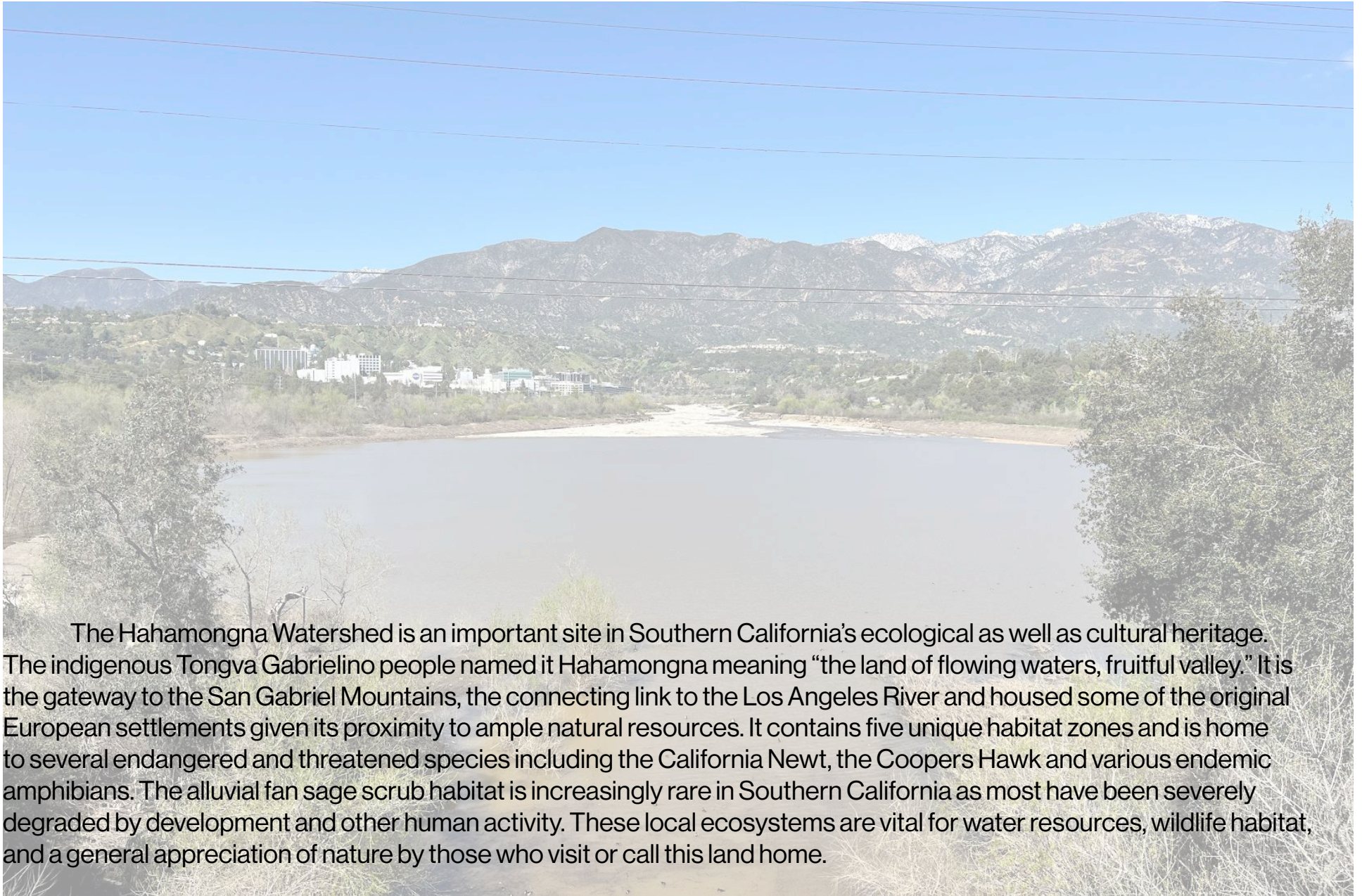
Through the rehabilitation & remediation of a previously developed landscape, this project will transform the Arroyo Seco Canyon into an ecological park that re-members natural systems & cultural past; re-imagines resource management & recreation; and re-connects people to the natural world and each other.

Project Justification

The former 1,000 space Jet Propulsion Lab Parking lot is located in the heart of the Arroyo Seco Canyon, just East of the historic Arroyo Seco. It is roughly 8.5 acres of uninhabitable paved concrete, compacted dirt and alluvium, adjacent to roughly 10 acres of spreading basins. The current spreading basins have occupied the alluvial scrub zone at the mouth of the Arroyo since the late 1940s, and the former parking lot has sat mostly empty and barren since JPL's lease with the city of Pasadena expired in 2013.

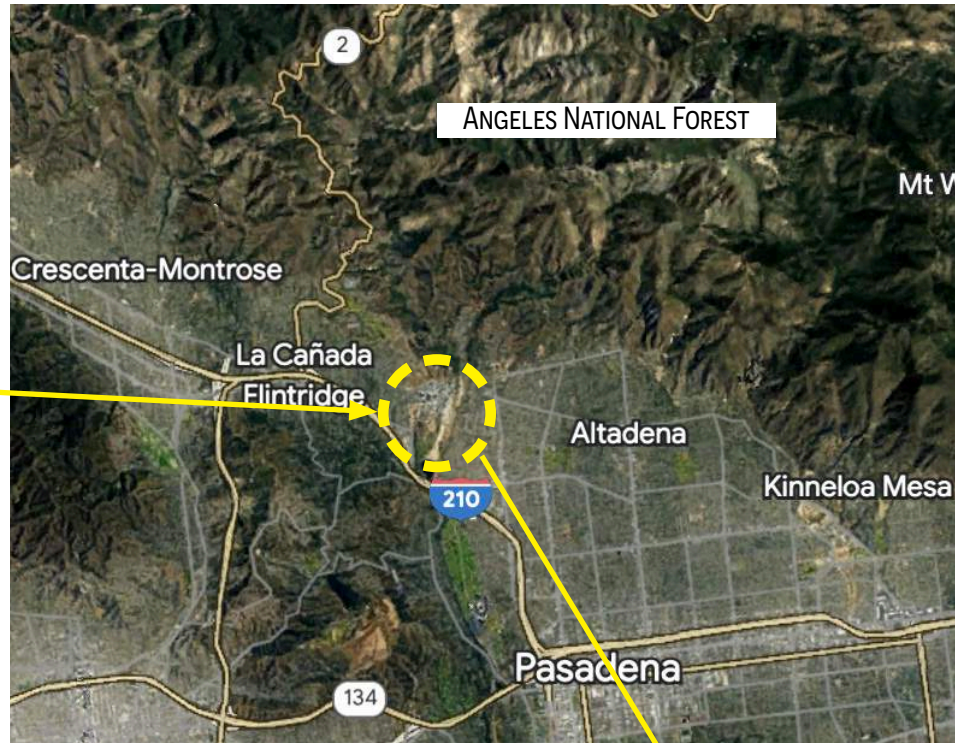
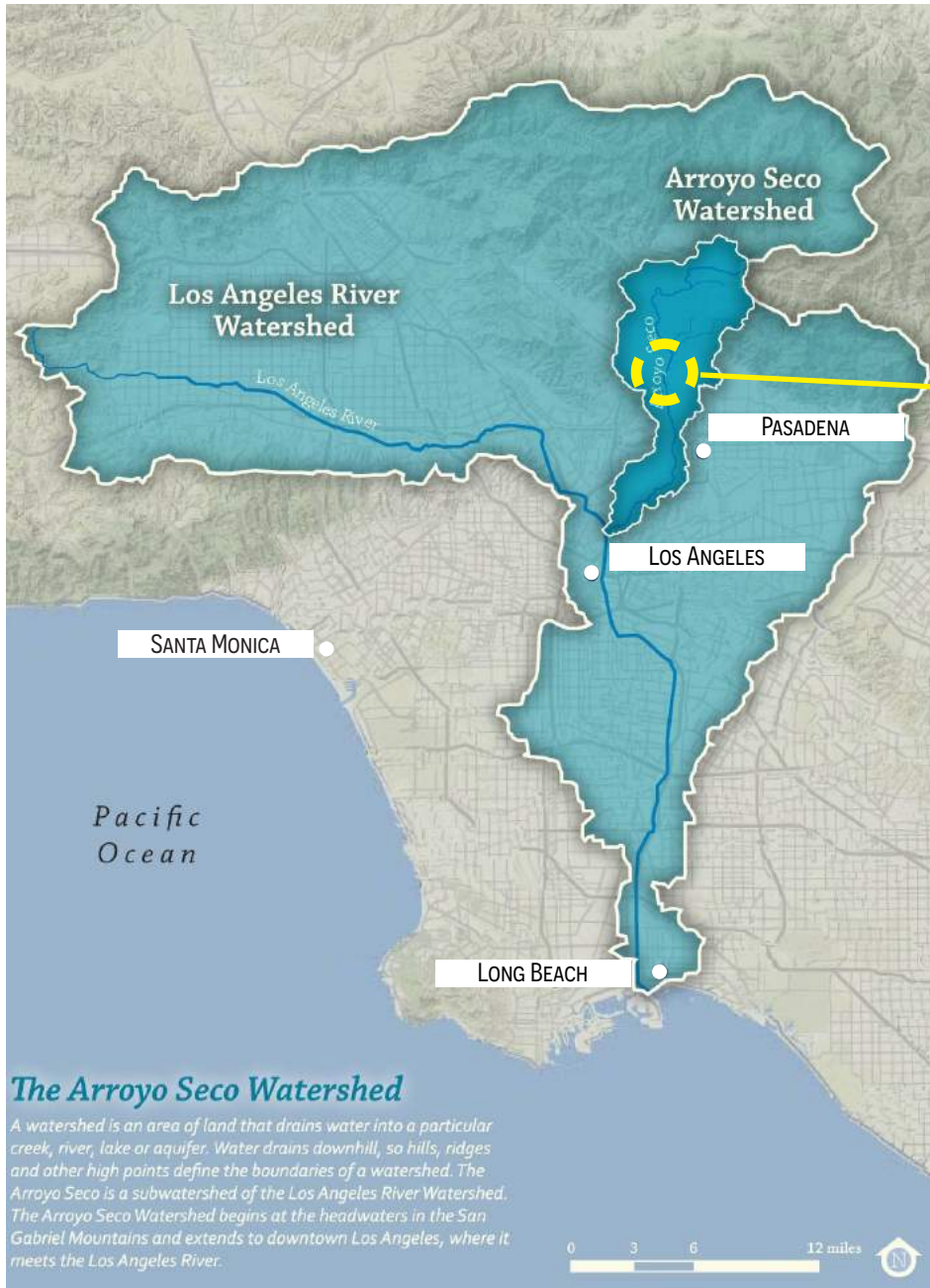


Project Justification



The Hahamongna Watershed is an important site in Southern California's ecological as well as cultural heritage. The indigenous Tongva Gabrielino people named it Hahamongna meaning "the land of flowing waters, fruitful valley." It is the gateway to the San Gabriel Mountains, the connecting link to the Los Angeles River and housed some of the original European settlements given its proximity to ample natural resources. It contains five unique habitat zones and is home to several endangered and threatened species including the California Newt, the Coopers Hawk and various endemic amphibians. The alluvial fan sage scrub habitat is increasingly rare in Southern California as most have been severely degraded by development and other human activity. These local ecosystems are vital for water resources, wildlife habitat, and a general appreciation of nature by those who visit or call this land home.

Site Location



Full Site and Local Context



Master Plan Statement

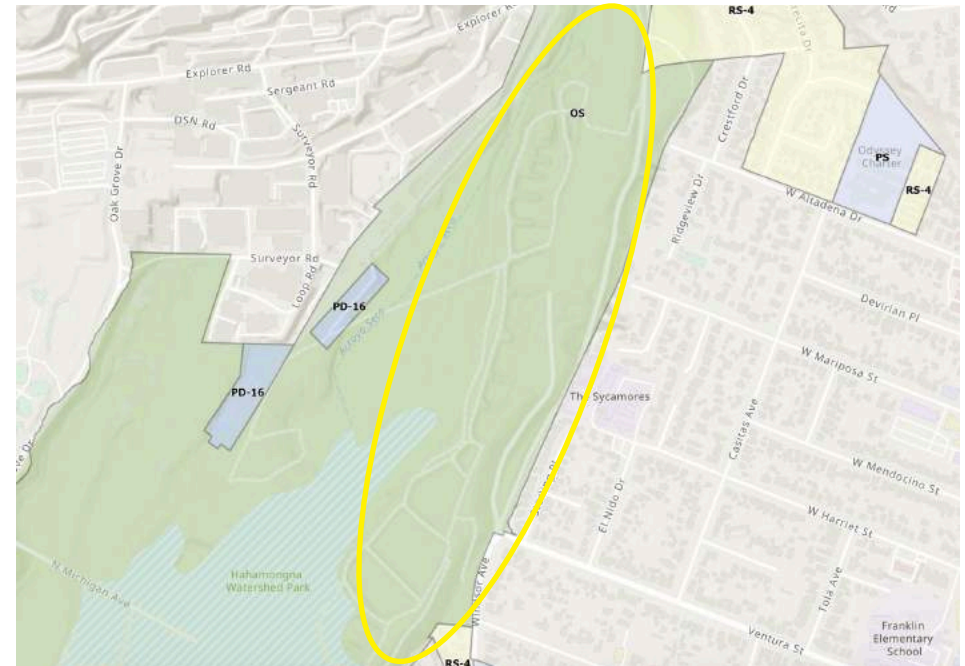
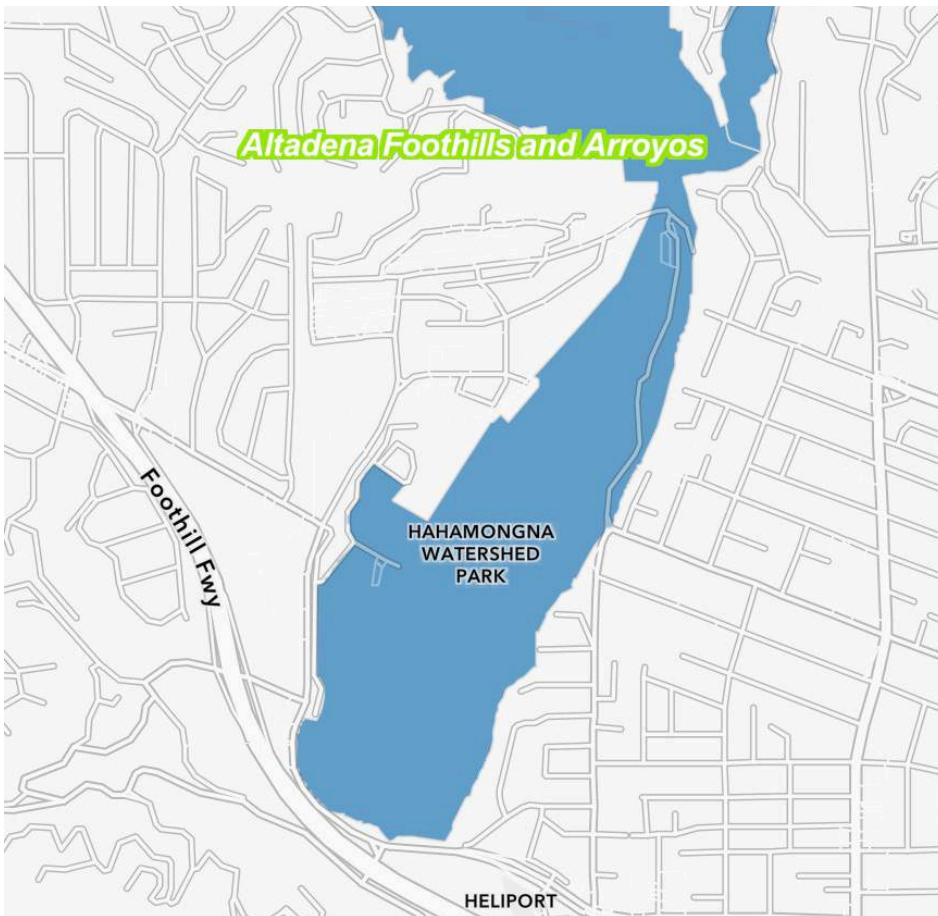


Starting with the implementation of design Phase 1 on the northern half of the site, we will take lessons learned from similar conditions and areas of influence - mainly spreading basins - that can be repeated successfully on the site of Phase 2









Site Zoning and Land Designation

Significant Ecological Area (SEA)

Significant Ecological Area (SEA) means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan or a city's general plan.



Zoning Designation

-  Single-Family Residential
-  Multi-Family Residential
-  Commercial
-  Industry
-  Public, Semi-Public
-  Planned Development
-  Open Space
-  Specific Plan

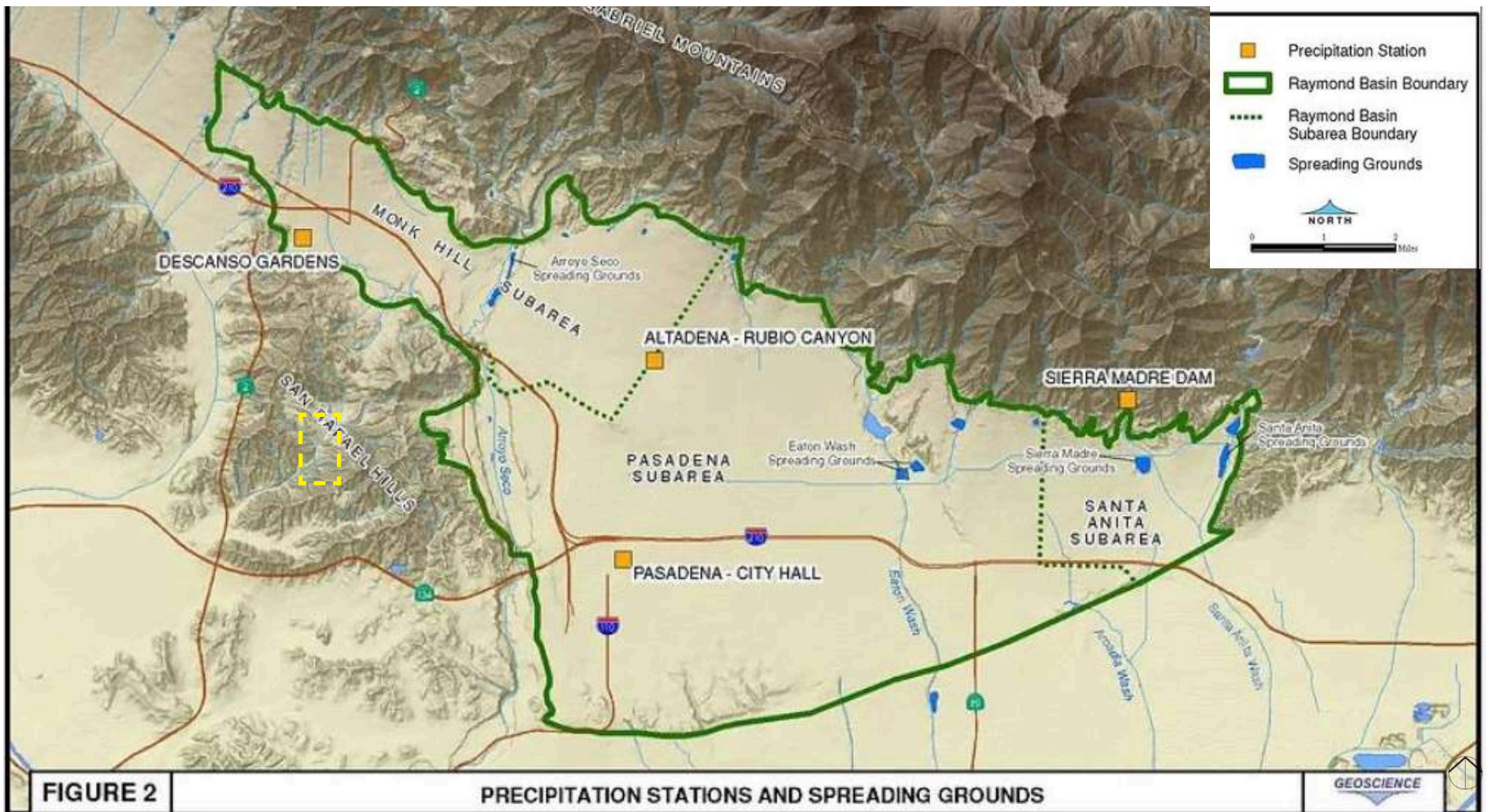
Open Space (OS)

The OS district is applied to sites with open space, parks, and recreational facilities of a landscaped, open character having a minimum contiguous site area of two acres. The OS zoning district is consistent with and implements the Open Space land-use designation of the General Plan.

Special Designation

Groundwater Recharge for Raymond Basin

The Raymond Basin is a 40-square-mile groundwater aquifer beneath Pasadena and its surrounding communities. The basin is a massive bowl of sand and gravel that is filled up by the flows of the Arroyo Seco coming from the upper watershed in the San Gabriel Mountains and by rainfall from throughout the watershed that slowly seeps into the ground. The rich alluvial soils in the foothills are like a sponge soaking up rainfall and percolating it down into the aquifer.



What is a Spreading Basin?

A spreading basin is an **Engineered** zone intended to allow **Diverted Water** to percolate into the **Groundwater** beneath. Mainly used for flood control and large stormwater events.



Historical Overview



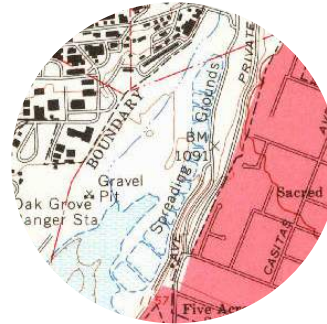
Pre 1700s

Gabrielino Tongva and other Indigenous nomadic tribes live in relationship with this land for centuries



1919-1920

Area above "Devils Gate" annexed to the city of Pasadena. Devils Gate Dam Built



1948-1953

The Los Angeles County Department of Public Works (LACDPW) constructs 131 acres of spreading grounds and a two-acre overflow basin on the northeast edge of the flood basin.



1993

Area named Hahamongna Watershed Park - Hahamongna means "Flowing Water, Fruitful Valley"

1769

Spanish Settlers Colonize "Alta California"



1936

Jet Propulsion Laboratory Founded on the east side of the Arroyo Seco



1987

On the west side of the basin, 121 acres were leased to JPL for parking. This resulted in an asphalt lot with 214 spaces.



1999

Responsibility for operating and maintaining the 131 acres of spreading grounds on the northeast edge of the flood basin was turned over to the City of Pasadena.



Historical Topography

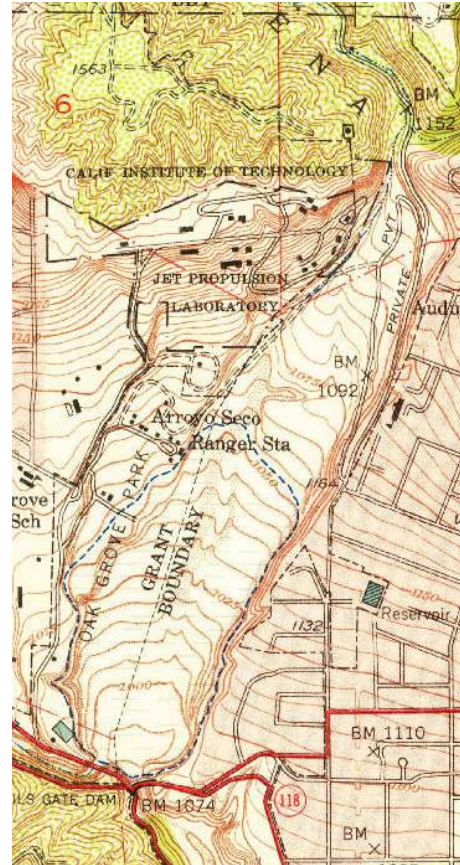
1894

River in its natural state...Large area for natural spreading and water permeation into the ground from the mouth of the river down to Devils Gate



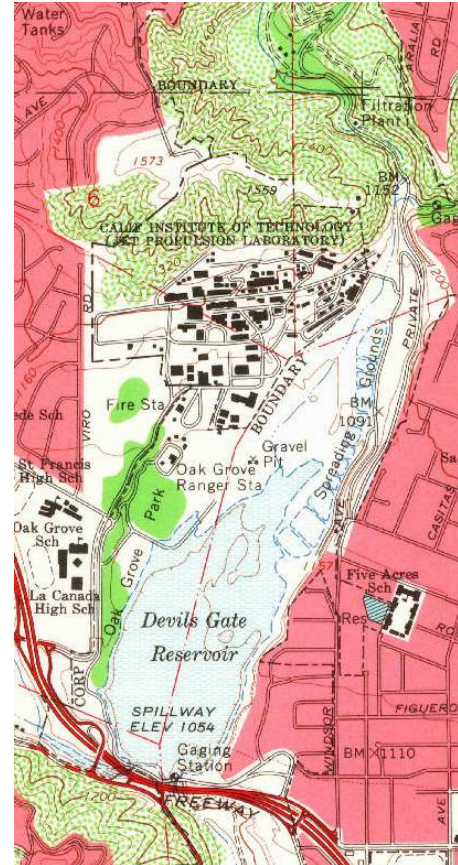
1934

Devils Gate damn built after severe flooding to lower areas of Arroyo Seco. JPL now constructed on the adjacent hillside. Topography still mostly natural but some man made trails begin to form as Oak Grove Park



1953

JPL now occupies a much larger area and spreading grounds are formed. The natural river is mostly diverted into these during large rain events and the current existing parking lot is built. Surrounding residential becomes more dense



2022

The remaining portion of the alluvial fan adjacent to spreading basins is formally designated as a habitat restoration area. Natural river flows during large rain events are still mostly diverted to spreading basins. Heavily populated surrounding areas.



Local Agencies and Affiliations



PASADENA
Water & Power



User Demographics - Pasadena

Pasadena, CA

Place in: Los Angeles County, CA, Los Angeles-Long Beach-Anaheim, CA Metro Area, California, United States

135,745
Population

23 square miles
5,911.7 people per square mile

Census data: ACS 2021 1-year unless noted

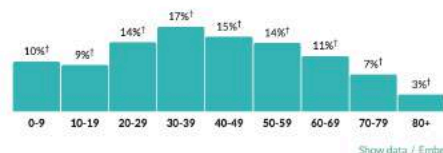


Age

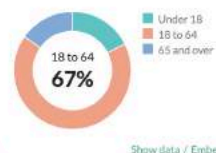
40.1
Median age

a little higher than the figure in the Los Angeles-Long Beach-Anaheim, CA Metro Area: 38.1
about 10 percent higher than the figure in California: 37.6

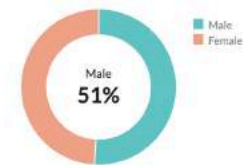
Population by age range



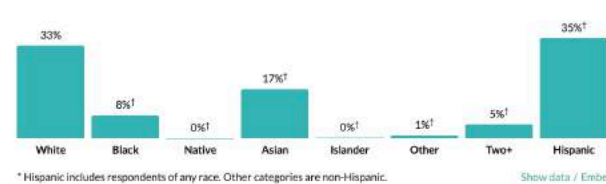
Population by age category



Sex



Race & Ethnicity %



Income

\$55,847
Per capita income

about 1.4 times the amount in the Los Angeles-Long Beach-Anaheim, CA Metro Area: \$40,569

about 1.3 times the amount in California: \$42,396

\$86,677
Median household income

a little higher than the amount in the Los Angeles-Long Beach-Anaheim, CA Metro Area: \$82,503

about the same as the amount in California: \$84,907

Household income



Poverty

11.9%
Persons below poverty line

about 90 percent of the rate in the Los Angeles-Long Beach-Anaheim, CA Metro Area: 13.1%
a little less than the rate in California: 12.3%

Children (Under 18)



Seniors (65 and over)



Households

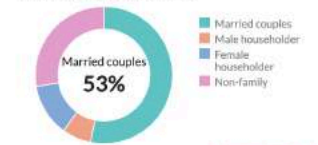
56,992
Number of households

the Los Angeles-Long Beach-Anaheim, CA Metro Area: 4,452,780
California: 13,429,063

2.3
Persons per household

about 80 percent of the figure in the Los Angeles-Long Beach-Anaheim, CA Metro Area: 2.9
about 80 percent of the figure in California: 2.9

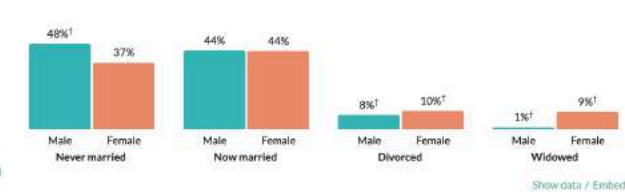
Population by household type



Marital status



Marital status, by sex

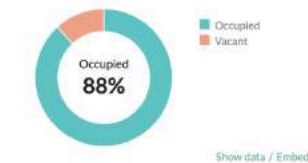


Units & Occupancy

64,644
Number of housing units

the Los Angeles-Long Beach-Anaheim, CA Metro Area: 4,759,244
California: 14,512,149

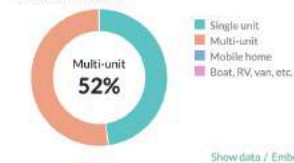
Occupied vs. Vacant



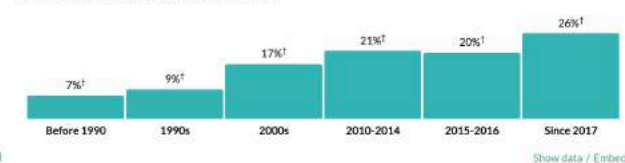
Ownership of occupied units



Types of structure



Year moved in, by percentage of population

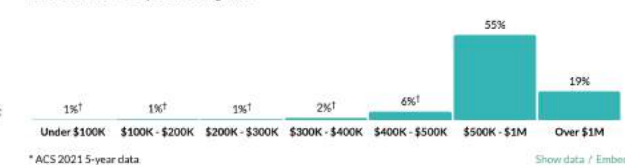


Value

\$905,900 ±\$33,049
Median value of owner-occupied housing units

about 20 percent higher than the amount in the Los Angeles-Long Beach-Anaheim, CA Metro Area: \$748,700 ±\$4,588
about 1.4 times the amount in California: \$648,100 ±\$2,021

Value of owner-occupied housing units



User Demographics - Altadena

Altadena, CA

Place in: [Los Angeles County, CA](#), [Los Angeles-Long Beach-Anaheim, CA Metro Area](#), [California](#), [United States](#)

43,384
Population

8.5 square miles
5,125.1 people per square mile

Census data: ACS 2021 5-year unless noted

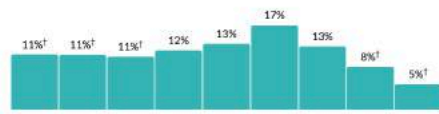


Age

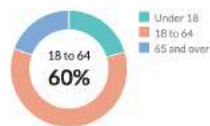
43.9
Median age

about 20 percent higher than the figure in the Los Angeles-Long Beach-Anaheim, CA Metro Area: 37.4
about 20 percent higher than the figure in California: 37

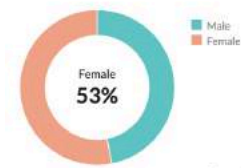
Population by age range



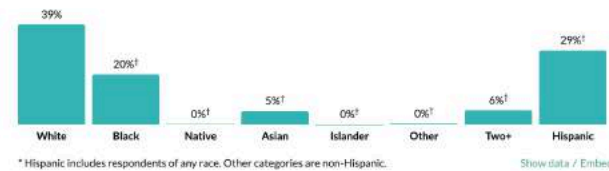
Population by age category



Sex



Race & Ethnicity



Income

\$54,378
Per capita income

about 1.4 times the amount in the Los Angeles-Long Beach-Anaheim, CA Metro Area: \$39,895
about 1.3 times the amount in California: \$41,276

\$109,743
Median household income

about 1.3 times the amount in the Los Angeles-Long Beach-Anaheim, CA Metro Area: \$81,652
about 1.3 times the amount in California: \$84,097

Household income

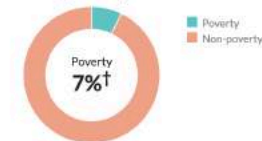


Poverty

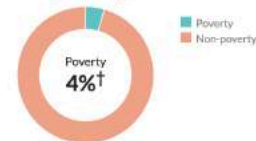
5.9% ±1.7% (2,549 ±723)
Persons below poverty line

about half the rate in the Los Angeles-Long Beach-Anaheim, CA Metro Area: 12.9% 1,677,838 (±0.1%/±17,047)
about half the rate in California: 12.3% 4,741,175 (±0.1%/±11,074)

Children (Under 18)



Seniors (65 and over)



Households

14,789
Number of households

the Los Angeles-Long Beach-Anaheim, CA Metro Area: 4,400,403
California: 13,217,586

2.9
Persons per household

about the same as the figure in the Los Angeles-Long Beach-Anaheim, CA Metro Area: 3
about the same as the figure in California: 2.9

Population by household type



Show data / Embed

Marital status



Marital status, by sex



Show data / Embed

Units & Occupancy

15,860
Number of housing units

the Los Angeles-Long Beach-Anaheim, CA Metro Area: 4,700,554
California: 14,328,539

Occupied vs. Vacant

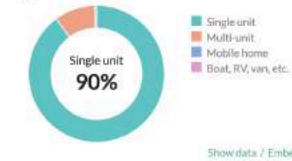


Ownership of occupied units



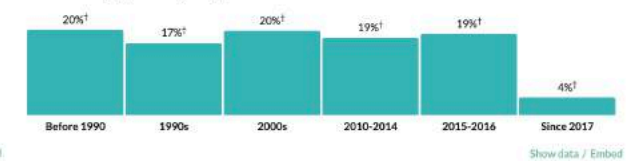
Show data / Embed

Types of structure



Show data / Embed

Year moved in, by percentage of population



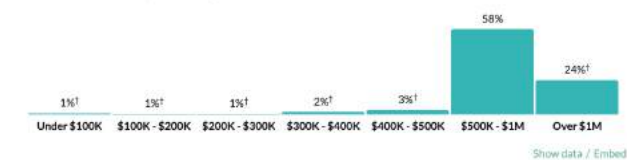
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Value

\$879,600 ±\$25,817
Median value of owner-occupied housing units

about 1.3 times the amount in the Los Angeles-Long Beach-Anaheim, CA Metro Area: \$671,700 ±\$1,430
about 1.5 times the amount in California: \$573,200 ±\$1,125

Value of owner-occupied housing units



Show data / Embed

User Demographics - La Canada Flintridge

La Cañada Flintridge, CA

Place in: Los Angeles County, CA, Los Angeles-Long Beach-Anaheim, CA Metro Area, California, United States

20,613

Population

8.6 square miles

2,388.8 people per square mile

Census data: ACS 2021 5-year unless noted



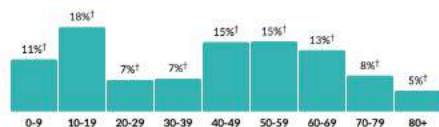
Age

44.5

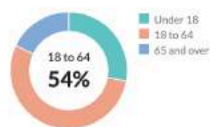
Median age

about 20 percent higher than the figure in the Los Angeles-Long Beach-Anaheim, CA Metro Area: 37.4
about 20 percent higher than the figure in California: 37

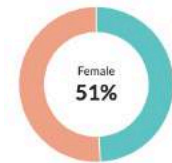
Population by age range



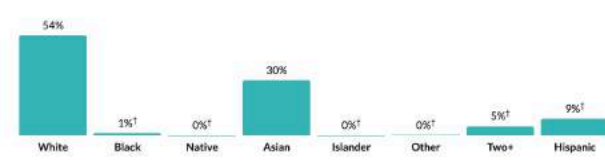
Population by age category



Sex



Race & Ethnicity



Income

\$87,725

Per capita income

more than double the amount in the Los Angeles-Long Beach-Anaheim, CA Metro Area: \$39,895
more than double the amount in California: \$41,276

\$187,384

Median household income

more than double the amount in the Los Angeles-Long Beach-Anaheim, CA Metro Area: \$81,652
more than double the amount in California: \$84,097

Household income



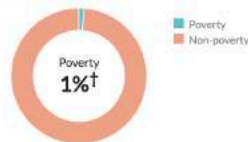
Poverty

3.2%

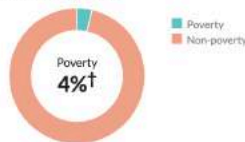
Persons below poverty line

about one-quarter of the rate in the Los Angeles-Long Beach-Anaheim, CA Metro Area: 12.9%
about one-quarter of the rate in California: 12.3%

Children (Under 18)



Seniors (65 and over)



Households

6,444

Number of households

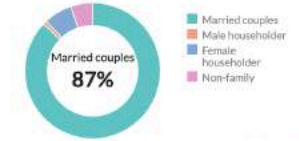
the Los Angeles-Long Beach-Anaheim, CA Metro Area: 4,400,403
California: 13,217,586

3.2

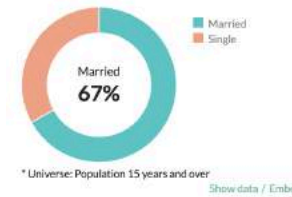
Persons per household

about 10 percent higher than the figure in the Los Angeles-Long Beach-Anaheim, CA Metro Area: 3
about 10 percent higher than the figure in California: 2.9

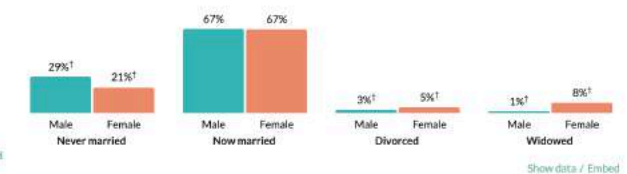
Population by household type



Marital status



Marital status, by sex



Units & Occupancy

6,898

Number of housing units

the Los Angeles-Long Beach-Anaheim, CA Metro Area: 4,700,554
California: 14,328,539

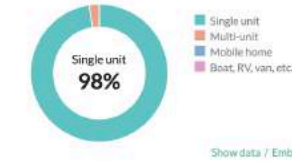
Occupied vs. Vacant



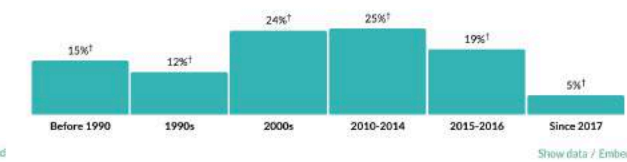
Ownership of occupied units



Types of structure



Year moved in, by percentage of population



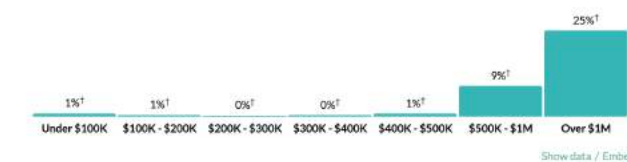
Value

\$1,671,400

Median value of owner-occupied housing units

more than double the amount in the Los Angeles-Long Beach-Anaheim, CA Metro Area: \$671,700
more than double the amount in California: \$573,200

Value of owner-occupied housing units



User Demographics

Pasadena

23 sq miles

Population : 135,745

Median Age : 40

Median Income (household) : \$86,677

Below Poverty Line : 11%

Median Value (housing unit) : \$905,900

Altadena

8.5 sq miles

Population : 43,384

Median Age : 44

Median Income (household): \$109,743

Below Poverty Line : 6%

Median Value (housing unit) : \$879,600

La Canada Flintridge

8.6 sq miles

Population : 20,613

Median Age : 45

Median Income (household) : \$187,384

Below Poverty Line : 3%

Median Value (housing unit) :

\$1,671,400

Jet Propulsion Laboratory

Employees : 6,000

Sex: 31% Women, 69% Men

Ethnicity : 49% White, 23% Hispanic Latino

15% Asian

Avg Salary : \$67,698

Avg Stay : 6 years

Active Users

Bikers, Hikers, Walkers/Joggers



Animal Friends Dogs and Horses



Nature Enthusiasts

Educators

Non-Local Visitors



Local Wildlife



Western Scrub-Jay



Nuttalls Woodpecker



Red-Tailed Hawk



Cooper's Hawk



California Thrasher



Desert Cottontail



California Ground Squirrel



Coyote



California Quail



California Striped Racer

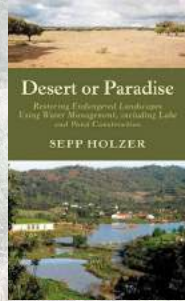
Design Methodologies

Landscape Architectural Principles



Habitat Rehabilitation and Restoration

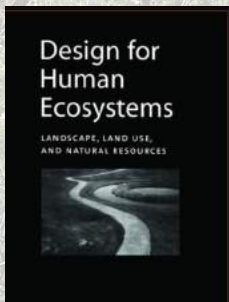
- Protect and restore native flora and fauna that have been negatively affected by human development to their former natural state or a new re-imagined state that honors the connection between human and non-human interdependencies
- Repairing missing linkages between fragmented habitat



Desert or Paradise - Sepp Holzer

Honoring Water Resources And Ground Water Recharge

- Water is the basis of all forms of life and we should return as much moisture as possible, as responsibly as possible, back into the ground
- Low impact development will play a major role in successfully returning water to the Raymond Basin Aquifer while considering all surrounding ecological factors



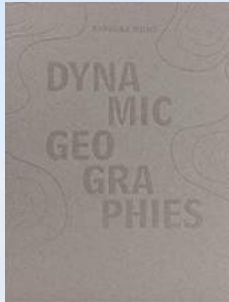
Design for Human Ecosystems - John Tillman Lyle

Creating Conditions Conducive to Life / Ecological Design

- Working with natural systems provides opportunities for each living part of those systems to thrive
- Every ecosystem has certain motivating processes that define its essential character and that provide us with a key for understanding and working with it
- Merging and interacting of human and natural processes not only the visible form of the landscape but its inner workings. What is the flow of energy driving this landscape?

Design Methodologies

Landscape Architectural Principles



Dynamic Geographies - Barbara Wilkes

- LANDSCAPES ARE NOT STATIC OR FIXED ENTITIES, THEY ARE EVOLVING OVER GENERATIONS AS LIVING ECOLOGY
- PROVIDE PEOPLE WITH CONTINUED ENCHANTMENT AT A RENEWED EXCHANGE WITH THE NATURAL WORLD AND ITS “MESSY” VITALITY
- DESIGNING INTO OUR LANDSCAPES NON HUMAN AS WELL AS HUMAN AGENCY BY CREATING WITH MULTIPLE SCALES OF TIME
- EXPERIENCING CHANGE HELPS PEOPLE TO ENVISION



Julie Bargmann & D.I.R.T Studios

“Dump It Right There”

- HOW CAN WE HONOR THE SITE’S CULTURAL AND ECOLOGICAL HISTORY WHILE LAYERING LANDSCAPES THAT CREATIVELY RE-USE ON SITE MATERIALS?
- LOWERING OUR CARBON FOOTPRINT AND OUR ENVIRONMENTAL IMPACT

Case Study 1 - Alumnae Valley Landscape Restoration

MICHAEL VAN VALKENBURGH ASSOCIATES INC - WELLESLEY, MA

WITH THE ALUMNAE VALLEY **RESTORATION**, MVVA REWORKED 13.5 ACRES OF THE WELLESLEY COLLEGE CAMPUS. FOR DECADES AFTER WELLESLEY'S FOUNDING IN 1870, THE SITE HAD BEEN A PASTORAL GLACIAL VALLEY. BUT DEVELOPMENT CHOICES DURING THE TWENTIETH CENTURY, INCLUDING THE CONSTRUCTION OF THE COLLEGE'S PHYSICAL PLANT, TRANSFORMED THE VALLEY INTO A TOXIC BROWNFIELD COVERED BY A VAST PARKING LOT. THE 1997 MASTER PLAN RELOCATED THE PARKING FACILITY TO A NEW GARAGE, ALLOWING THE VALLEY TO BECOME THE LOCUS OF NEW CAMPUS DEVELOPMENT AND A RESTORED LANDSCAPE. FOR DECADES, THE LIQUID BYPRODUCTS OF NATURAL GAS PROCESSING WERE COLLECTING IN THE ANCIENT WATERSHED BENEATH THE PARKING LOT. TREATING THE TOXIC RESIDUE REQUIRED IMPORTING PUMPING INFRASTRUCTURE. THE CONTAMINATION OF THE SOIL CAUSED MANY PROBLEMS, EACH OF WHICH INSPIRED A CREATIVE SOLUTION. THE DESIGN CALLED FOR THE **REMOVAL OF HAZARDOUS MATERIAL AND THE CREATION OF SYSTEMS FOR IN-SITU TREATMENT** (ACTIVATING SUBSURFACE MICROORGANISMS TO CLEAN WATER AND SOIL WITH LOW ENVIRONMENTAL IMPACT) .



<https://mvvainc.com/projects/alumnae-valley-landscape-restoration>



2001

<https://mvvainc.com/projects/alumnae-valley-landscape-restoration>



2020

<https://mvvainc.com/projects/alumnae-valley-landscape-restoration>

Case Study 1 - Alumnae Valley Landscape Restoration



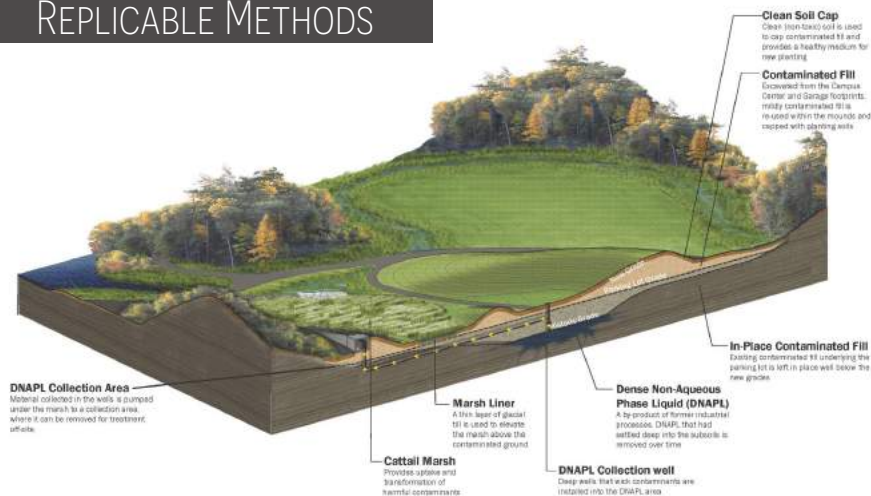
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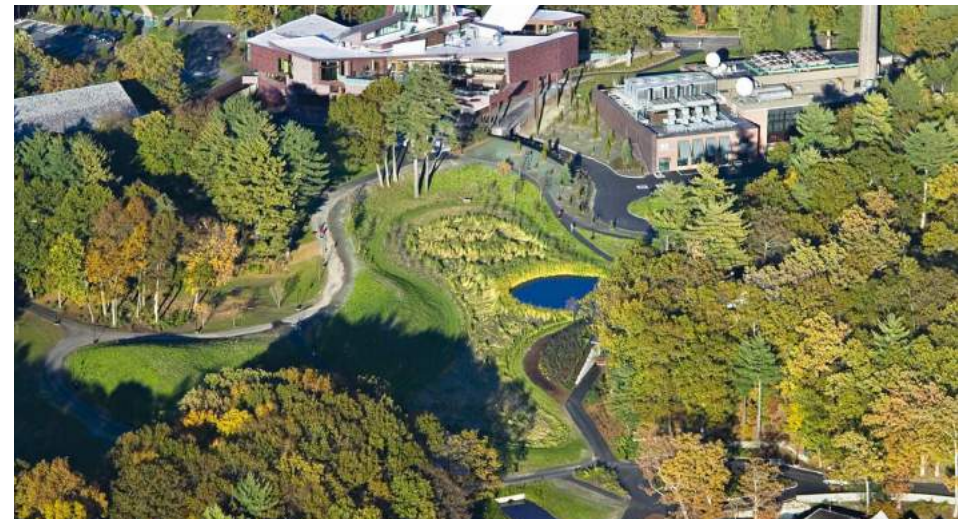
ECOLOGICAL PARK

<https://mvvainc.com/projects/alumnae-valley-landscape-restoration>

REPLICABLE METHODS



<https://mvvainc.com/projects/alumnae-valley-landscape-restoration>



<https://mvvainc.com/projects/alumnae-valley-landscape-restoration>

Case Study 2 - Glenstone

PWP LANDSCAPE ARCHITECTURE - POTOMAC, MD

GLENSTONE IS A CONTEMPORARY ART MUSEUM IN POTOMAC, MARYLAND, THAT BRINGS TOGETHER ART, ARCHITECTURE, AND LANDSCAPE. THIS MULTI-YEAR PROJECT HAS TRANSFORMED FORMER RESIDENTIAL PROPERTIES INTO A CONTEMPLATIVE, INTEGRATED EXPERIENCE OF UNIQUE ARCHITECTURE, ROLLING TOPOGRAPHY, **NATIVE MEADOWS**, AND SITE-SPECIFIC SCULPTURE. GLENSTONE EXISTS WITHIN A FORMERLY AGRICULTURAL RURAL LANDSCAPE IN THE UNDULATING TOPOGRAPHY OF THE POTOMAC RIVER VALLEY. OVER THE LAST CENTURY, THE AREA WAS TRANSFORMED INTO AN ASSEMBLAGE OF 1- TO 5-ACRE SUBURBAN RESIDENTIAL PLOTS THAT WEAKENED THE FUNCTION AND PERCEPTION OF THE NATURAL TOPOGRAPHY OF THE REGION. OVER 15 YEARS OF DESIGN AND IMPLEMENTATION, MORE THAN A DOZEN SUBURBAN HOME SITES WERE ACQUIRED, ASSEMBLED, AND TRANSFORMED INTO GLENSTONE, WHICH KNOTS TOGETHER 230 ACRES OF **FORMERLY DISPARATE, RESOURCE-INTENSIVE** SUBURBAN LOTS INTO AN **ECOLOGICALLY AND SOCIALLY PRODUCTIVE LANDSCAPE EXPERIENCE** THROUGH A MULTI-YEAR MASTER PLAN. PHASE 1 OF THE PROJECT REGRADED, **REFORESTED**, AND CREATED A SCULPTURE WALK THROUGH THE ORIGINAL 150-ACRE ESTATE. PHASE 2 EXPANDED THE SITE TO 230 ACRES, INTEGRATING A NEW MUSEUM BUILDING, PARKING GROVES, WALKING PATHS, SUSTAINABLE MEADOWS, AND OUTDOOR MUSEUM SPACES. THE DESIGN AND IMPLEMENTATION OF THE LANDSCAPE IN BOTH PHASES EMPHASIZES **A SYSTEMS APPROACH** TO LANDSCAPE MAINTENANCE, WATER MANAGEMENT, REFORESTATION, AND MEADOW REGENERATION.



<https://www.landscapeperformance.org/case-study-briefs/glenstone>



<https://www.landscapeperformance.org/case-study-briefs/glenstone>



WINDING PATHS

<https://www.landscapeperformance.org/case-study-briefs/glenstone>

Case Study 2 - Glenstone



LIGHT ON THE LAND

<https://www.landscapeperformance.org/case-study-briefs/glenstone>



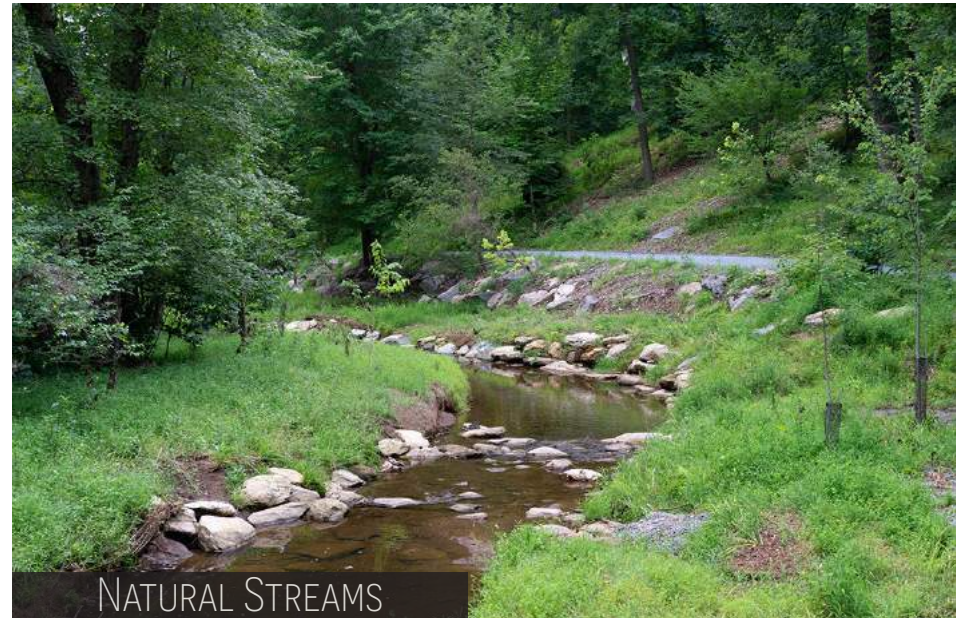
RE-IMAGINING

<https://www.landscapeperformance.org/case-study-briefs/glenstone>



COMMUNAL GATHERING

<https://www.landscapeperformance.org/case-study-briefs/glenstone>



NATURAL STREAMS

<https://www.landscapeperformance.org/case-study-briefs/glenstone>

Case Study 3- Daybreak Star Cultural Center Master Plan

TIM LEHMAN - FORT LAWTON, WA

THE DAYBREAK STAR INDIAN CULTURAL CENTER AND ITS SURROUNDING FOREST AND WETLANDS HAVE SERVED AS AN IMPORTANT RESOURCE FOR NATIVE AMERICANS OF ALL AGES IN THE SEATTLE AREA. THE CENTER OFFERS EVENTS, **INDIGENOUS ART**, PROGRAMS ON TEACHING TRADITIONAL MEDICINE, SOCIAL AND COMMUNITY SERVICES, AND AN INDOOR-OUTDOOR PRESCHOOL. THE MOST MEANINGFUL DEVELOPMENT, HAS BEEN WORKING WITH JERNIGAN AND OTHER COMMUNITY MEMBERS TO **RESTORE THE SURROUNDING WETLANDS AND FOREST**. OVER THE PAST TWO YEARS, LEHMAN AND MEMBERS OF THE LOCAL INDIGENOUS COMMUNITY, ALONG WITH GROUPS SUCH AS THE GREEN SEATTLE PARTNERSHIP, HAVE **REMOVED THOUSANDS OF INVASIVE YELLOW FLAG IRISES** FROM WETLAND AREAS AND REPLACED THEM WITH NATIVE FERNS, AS WELL AS CAMAS AND WAPATO BULBS, IMPORTANT TRADITIONAL FOODS. MORE THAN 10,000 PLANTS, INCLUDING SALAL BERRY, ELDERBERRY, AND SALMONBERRY, AND TREES INCLUDING WILLOW AND ALDER, HAVE BEEN PLANTED AROUND THE PONDS OR AS PART OF A **FORAGING FOREST AND MEDICINAL GARDEN**.



<https://landscapearchitecturemagazine.org/2023/03/02/a-star-on-the-horizon>



RE-MEMBERING

<https://landscapearchitecturemagazine.org/2023/03/02/a-star-on-the-horizon/>



<https://landscapearchitecturemagazine.org/2023/03/02/a-star-on-the-horizon/>

Case Study 4 - Bending the River

LAUREN BON - METABOLIC STUDIO - LOS ANGELES, CA

THE CONCRETE-LINED LA RIVER WAS BUILT ON TOP OF A SPRAWLING FLOODPLAIN, WHICH THE LAND ARTIST LAUREN BON SEEKS TO REVEAL THROUGH A LARGE-SCALE INFRASTRUCTURAL PROJECT CALLED "BENDING THE RIVER BACK TO THE CITY". BY DIVERTING A SMALL AMOUNT OF WATER FROM THE RIVER, LIFTING IT, CLEANSING IT, AND SPREADING IT TO LOS ANGELES STATE HISTORIC PARK AND THE ALBION RIVERSIDE PARK, (ITS FORMER FLOODPLAIN), SHE RENDERS THE UTILITARIAN WATER MANAGEMENT SYSTEM AS AN ACCESSORY OF PUBLIC DELIGHT AND EDUCATION, AND BEGINS THE LONG PROCESS OF **RESTORING THE FLOODPLAIN TO ITS NATURAL STATE**. BENDING THE RIVER BACK INTO THE CITY WILL DIVERT WATER FROM THE LOS ANGELES RIVER THROUGH A WETLAND AND CLEANING FACILITY AND INTO METABOLIC STUDIO ON NORTH SPRING STREET. ONCE THE WATER MEETS REGULATORY REQUIREMENTS FOR CLEANLINESS, IT WILL BE DISTRIBUTED THROUGH SUBTERRANEAN IRRIGATION. THIS PROJECT AIMS TO UTILIZE LOS ANGELES'S FIRST PRIVATE WATER RIGHT TO DELIVER 106-ACRE FEET OF WATER ANNUALLY FROM THE LA RIVER TO OVER 50 ACRES OF LAND IN THE HISTORIC CORE OF DOWNTOWN LA. THIS MODEL CAN BE REPLICATED TO REGENERATE THE 52-MILE LA RIVER, RECONNECT IT TO ITS FLOODPLAIN, AND FORM A CITIZENS' UTILITY.



<https://www.metabolicstudio.org/about>



Goals & Objectives



Re-Membering

- Regenerating and restoring high habitat value ecosystems
- Removing concrete and rebuilding the soil
- Returning the hydrological cycle and natural processes by allowing more water into the natural stream bed



Re-Imagining

- Natural resources management with recreational needs
- Creating park signage with learning moments
- Outdoor rooms for classes and nature hikes



Re-Connecting

- A barren landscape back to its natural form with restoration of native flora
- People to each other and to the natural world with new trails
- The arroyo to its surrounding context by repairing fragmented habitat
- Encouraging participation in the natural processes of the local ecosystem

Program and Project Elements

RE-MEMBERING



Cultural Acknowledgment

- Art Installations
- Built Environment Features
- Hyperlocal Planting Areas

RE-IMAGINING



Amenities / Low Impact Development

- Walking Trails
- Nature Play
- Restrooms (+/- 200 sq ft)
- Seating and Picnic Opportunities
- Shade Elements
- Viewing Areas
- Permeable Parking Lot (+/-30,000 sq ft)

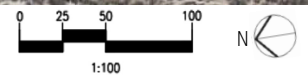
RE-CONNECTING



Educational Opportunities

- Educational Signage
- Interactive exhibits
- Historical Center (+/-8,000 sq ft)

Base Map and Site Photos



1 Main access road and parking



2 The Arroyo Seco and natural surroundings



3 Spreading basin holding water



4 Existing path adjacent to parking

Base Map and Site Photos



5 View towards the San Gabriel Mountains



6 Crossing to and from the Gabrielino Trail

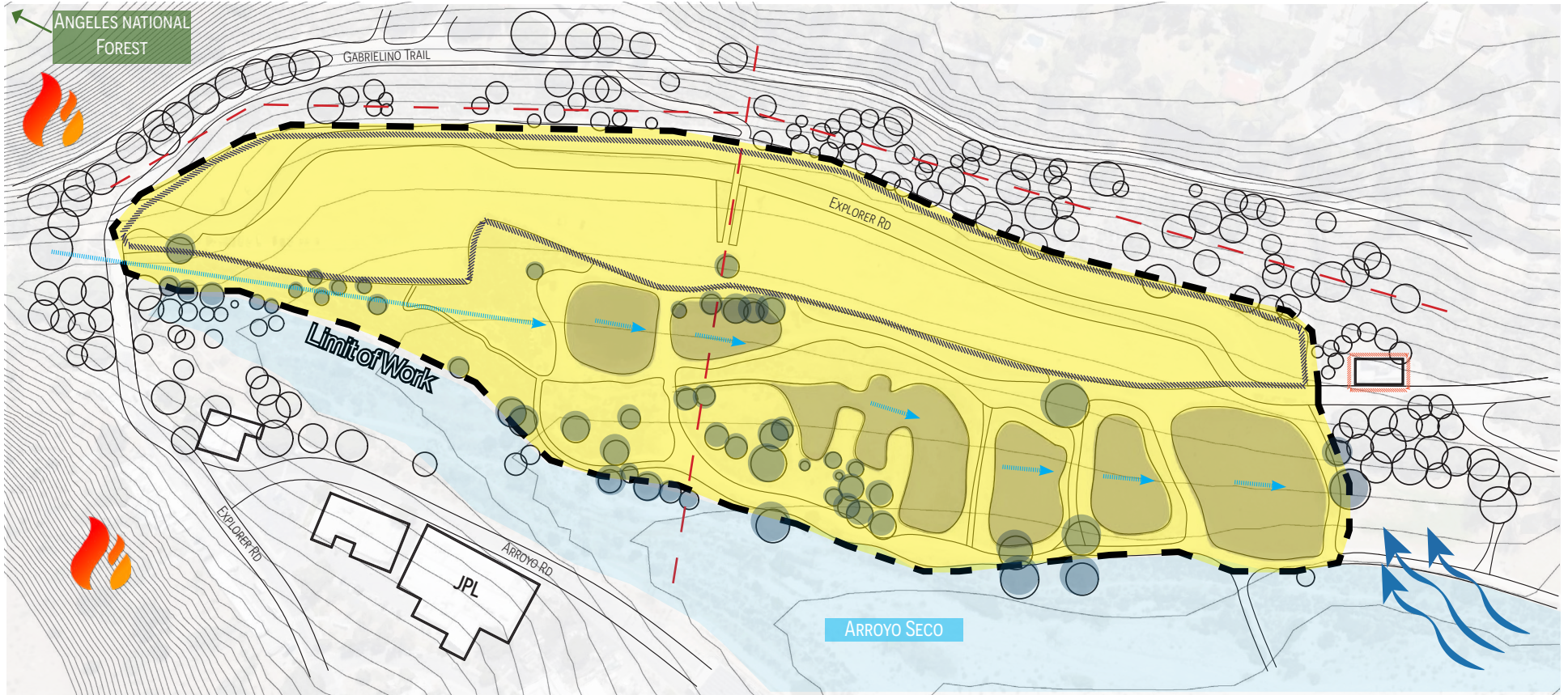


7 Existing road and concrete parking area












8 Largest spreading basin area with berms

Site Analysis











Legend

- | | | | | | |
|---|---------------------------|---|-------------------------|---|----------------------|
|  | High Fire Severity Zone |  | Pockets of Shade |  | Maintenance Building |
|  | Full Sun Zone |  | Overhead Powerlines |  | Existing Parking Lot |
|  | Existing Spreading Basins |  | Direction of Water Flow |  | Prevailing Winds |

Trail Connections & Circulation



Legend

- | | | | | | |
|---|------------------|--|-----------------------|---|--------------------------------------|
|  | Bike Path |  | Arroyo Seco Trail |  | Main Vehicular Entry |
|  | Gabrielino Trail |  | Altadena Crest Trail |  | Access nodes
(From Neighborhoods) |
|  | Maintenance Path |  | Vehicular Circulation | | |



Site Constraints



Re-Membering

- 1 Habitat Restoration in Alluvial Plain by City of Pasadena (in progress)
- 2 JPL Superfund Site (Hazardous waste mitigation (in progress))

Re-Imagining

- 3 Parking requirements : 1 space per 1/2 acre per LA County municipal code = 40 spaces minimum
- 4 Possible hazardous material under former parking lot concrete
- 5 Overhead Power lines may require height limits of planting
- 6 Spreading basins and maintaining infrastructure holding capacity

Re-Connecting

- 7 Multiple forms of movement through the space (hiking, walking... dogs, biking, horses)
- 8 Singular Vehicular Access. (Entry and exit to JPL)

Site Opportunities



Re-Membering

- 1 Utilize adjacent natural areas as inspiration & guidance. Re-member the Genus Loci.
- 2 Honor Gabrielino Tongva People

Re-Imagining

- 3 Program acres of open space for amenities, new parking & reclamation
- 4 Provide restrooms and water fountains
- 5 Creative reuse of on site materials (if concrete is not hazardous)
- 6 Creative reuse of spreading basins while maintaining capacity

Re-Connecting

- 7 Scenic views to the Arroyo
- 8 Educational and Wayfinding signage
- 9 Utilize existing Mature Oak Woodland



Native Tree & Plant Palette



Quercus agrifolia



Platanus racemosa



Sambucus mexicana



Malosma laurina



Baccharis salicifolia



Encelia californica



Salvia mellifera



Frangula californica



Hesperoyucca whipplei



Quercus berberidifolia

Native Tree & Plant Palette



Phacelia tanacetifolia



Salvia columbariae



Lonicera subspicata



Eriogonum fasciculatum



Artemisia californica



Ribes aureum



Rhamnus ilicifolia



Rhus ovata

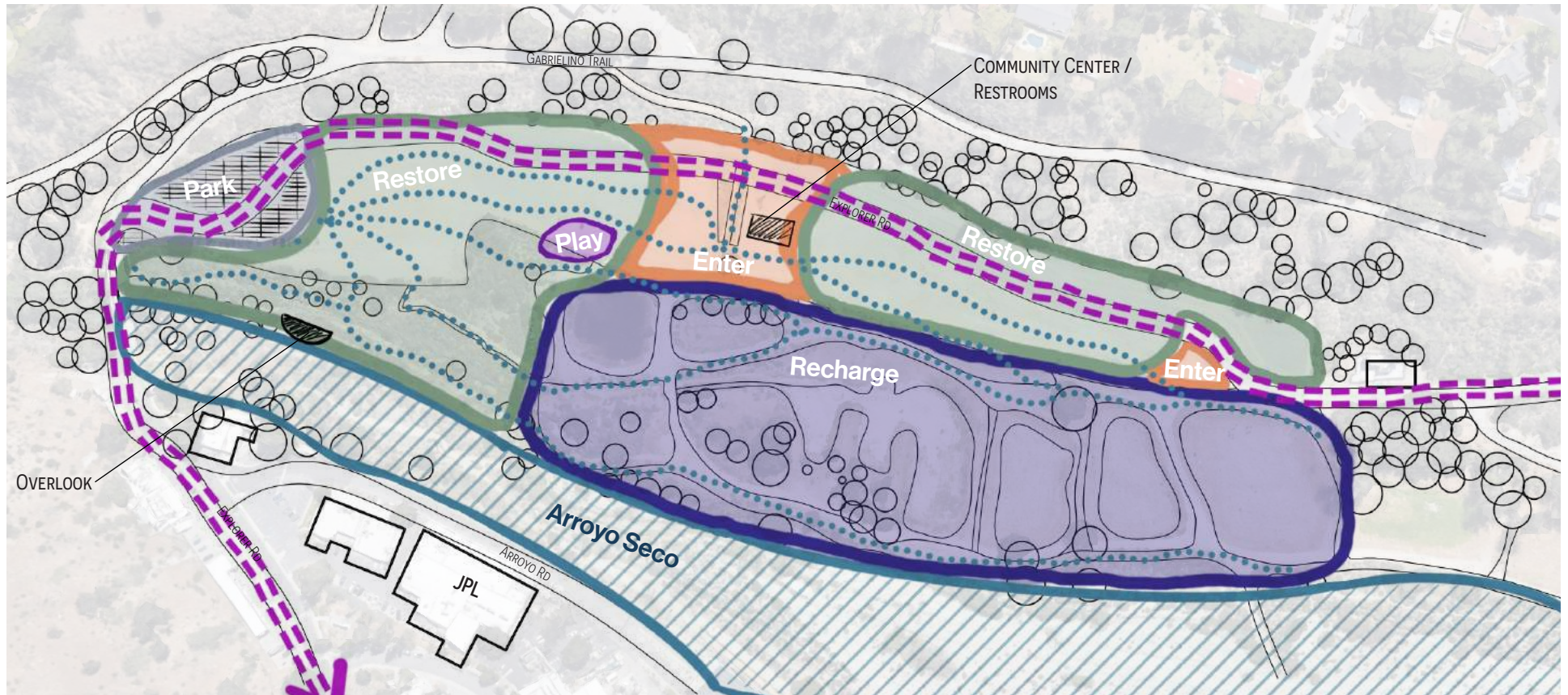


Acmispon glaber



Diplacus aurantiacus

Concept 1



<https://study.com/learn/lesson/alluvial-fan-overview-formation.html>



<https://i.pinimg.com/564x/4e/33/30/4e33303f0227f551b457ef55da60d-6dc.jpg>



<https://www.mvvainc.com/projects/gathering-place2>

SCALE 1:250 N

Re-Membering

GENUS LOCI

- High habitat value ecosystems
- Local biodiversity



FUNCTION

- Hydrological cycle and natural processes
- Local watershed



CULTURE

- Land Acknowledgment
- Built Structures & Art Installations



Diplacus aurantiacus

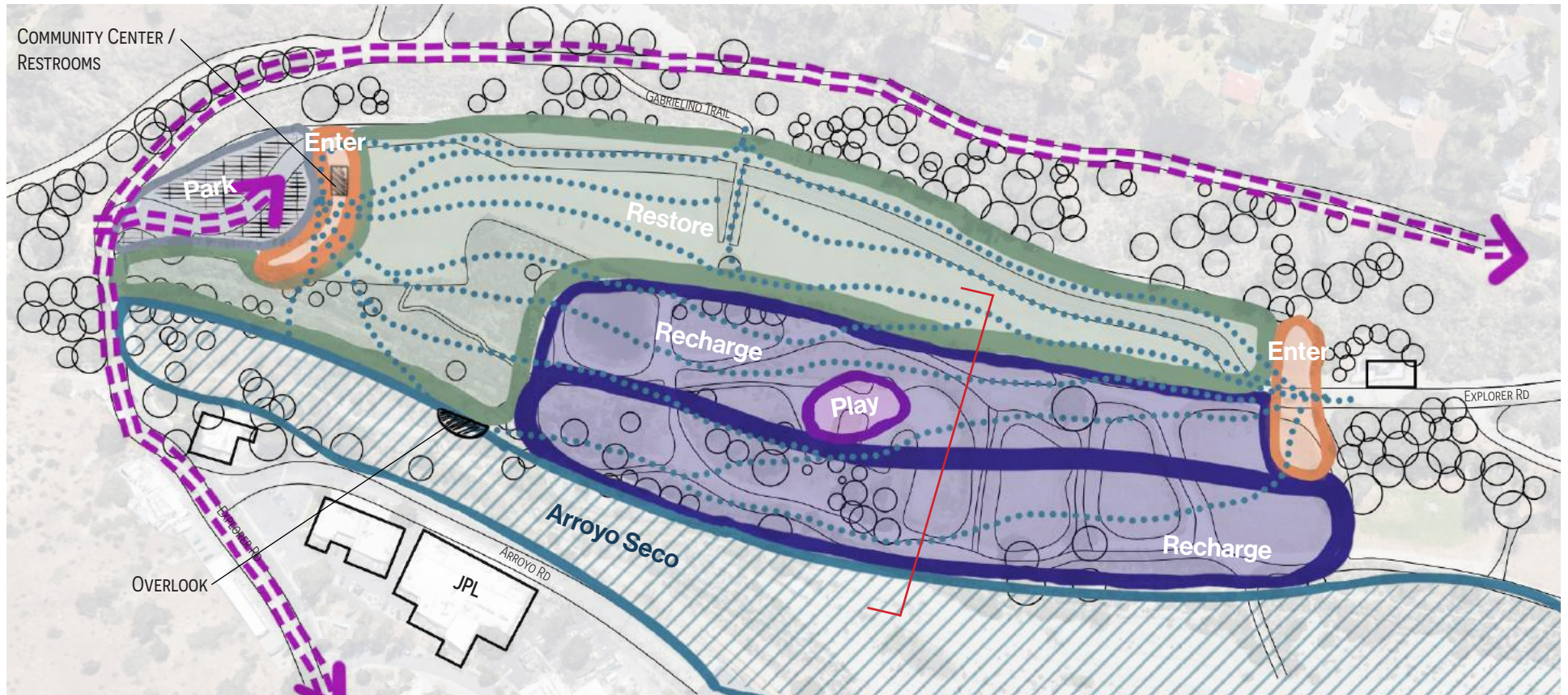


Salvia mellifera

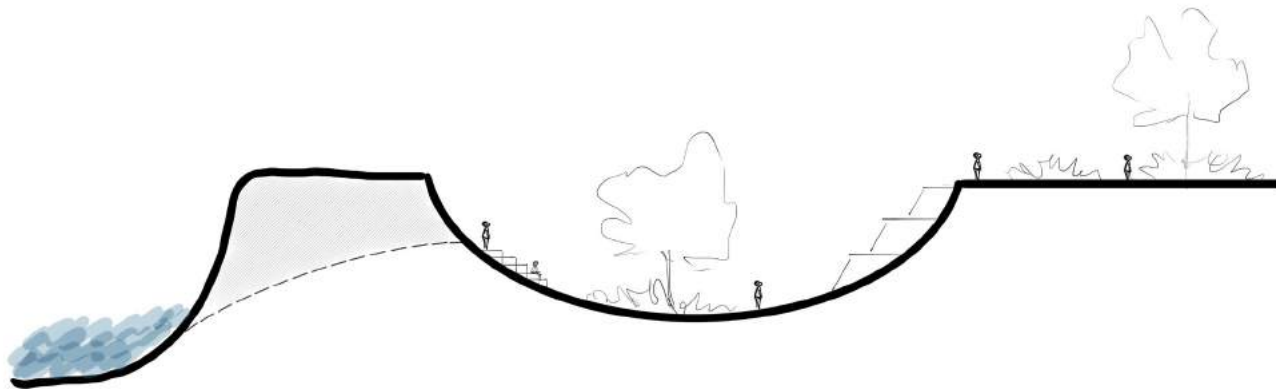


Baccharis salicifolia

Concept 2



SCALE 1:250 N



<https://worldlandscapearchitect.com/feng-river-park-seeks-to-be-a-catalyst-for-rich-environmental-and-cultural-remediation/>

Re-Imagining

RESOURCE MANAGEMENT

- Restoring Natural Flows
- Reclaimed and Re-purposed Local Materials



- Shade Elements
- Viewing Areas
- Trails

RECREATION

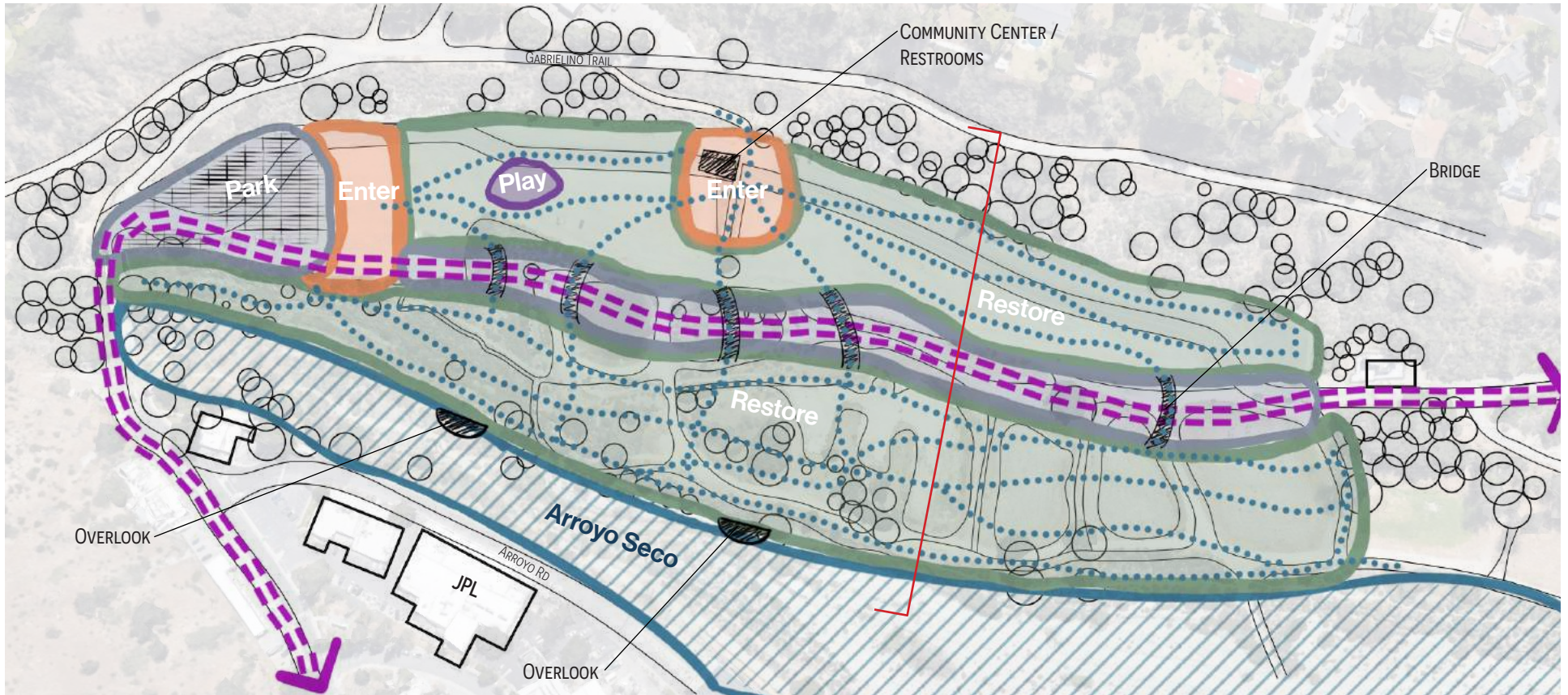


- Permeable Parking

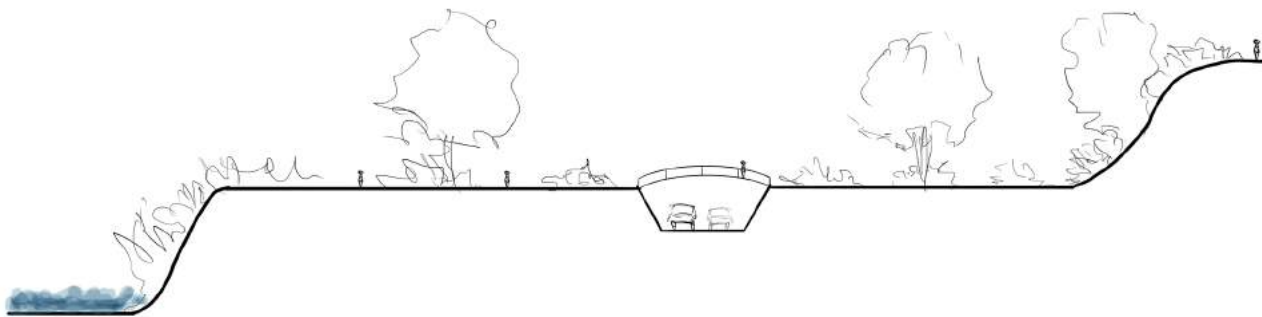


WAYFINDING

Concept 3



SCALE 1:250 N



<https://www.flickr.com/photos/jag9889/2428077620/in/photostream/>

Re-Connecting



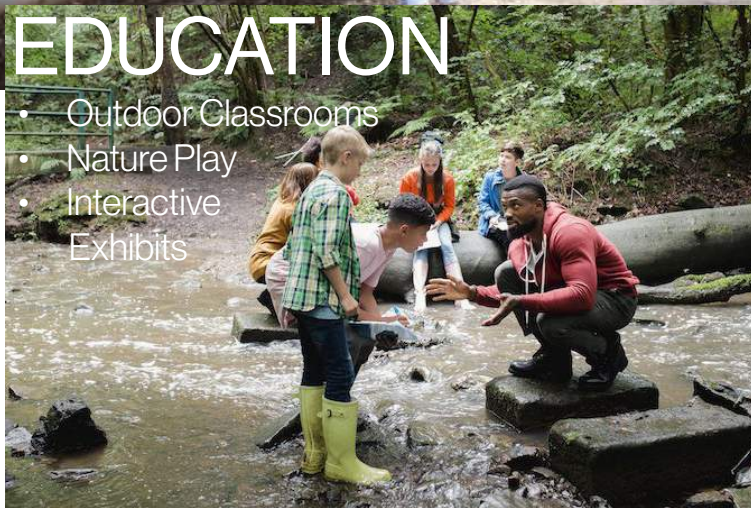
PEOPLE & PLACE



- Ecological Park to its Surrounding Context
- Participation in Natural Processes

EDUCATION

- Outdoor Classrooms
- Nature Play
- Interactive Exhibits

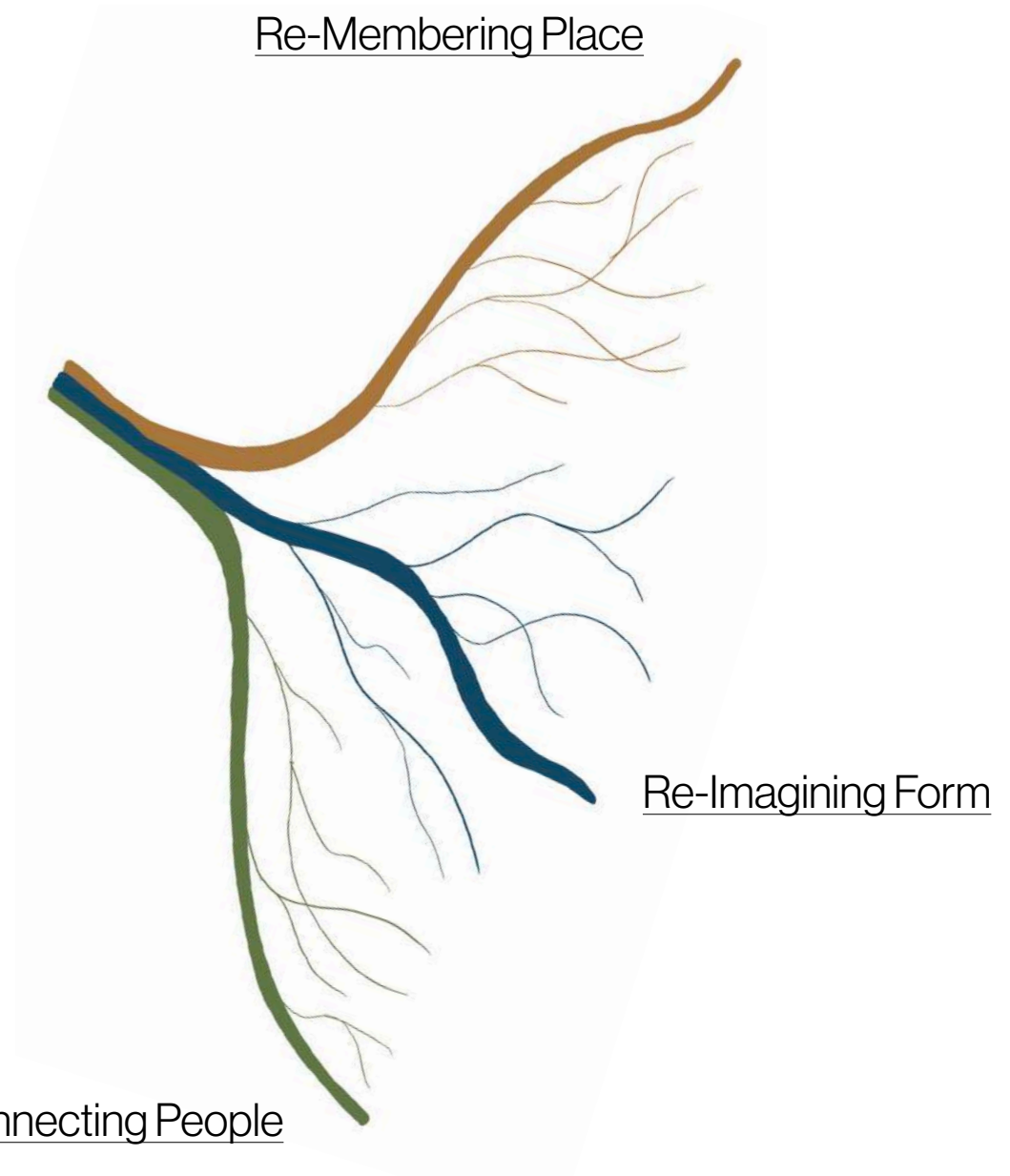


Design Metaphor - The Alluvial Fan



Alluvial fans form as a result of mountain erosion, where a swiftly flowing stream or river flows from an apex onto a comparatively level plain. As the water slows down and seeps into the ground, the sediment it carries is deposited, enriching the soil with essential nutrients. This process fosters a diverse habitat of life in the vicinity of the alluvial fan, including deeply rooted plants and a variety of seasonal wildlife.

The purpose of this park is to focus on the restoration and celebration of the local natural ecosystems, while providing an opportunity for visitors to pause, unwind, and fully immerse themselves in the surrounding world through the experience of their senses.



Design Metaphor Expressions



Braided Paths



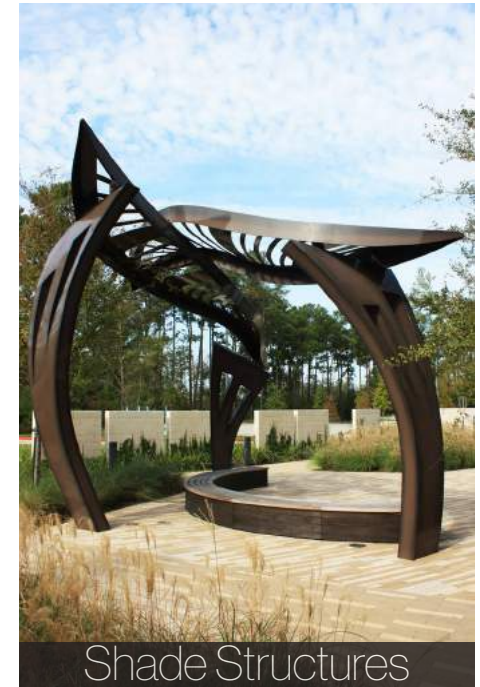
Interactive Play



Art Installations

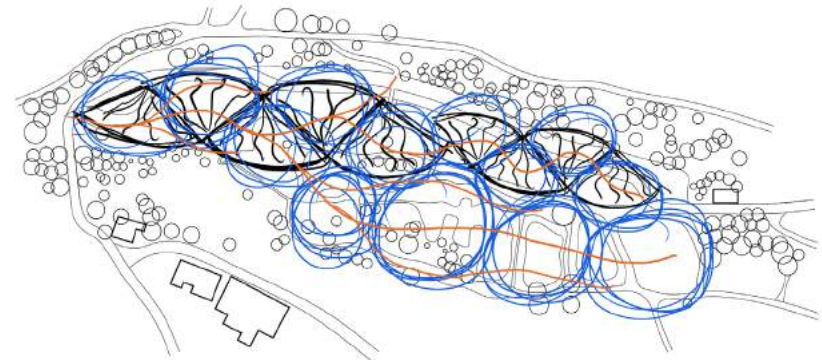
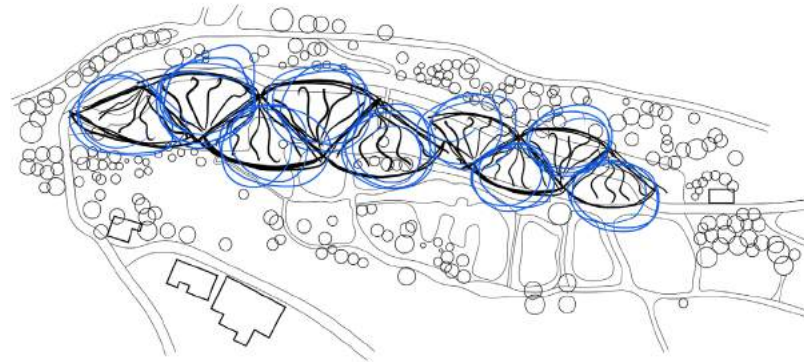
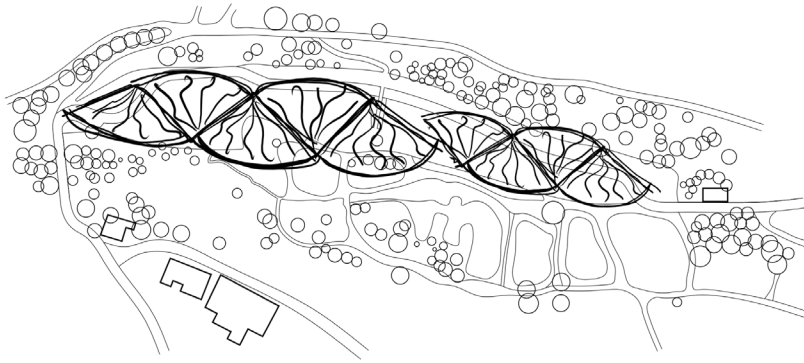


Gathering Space

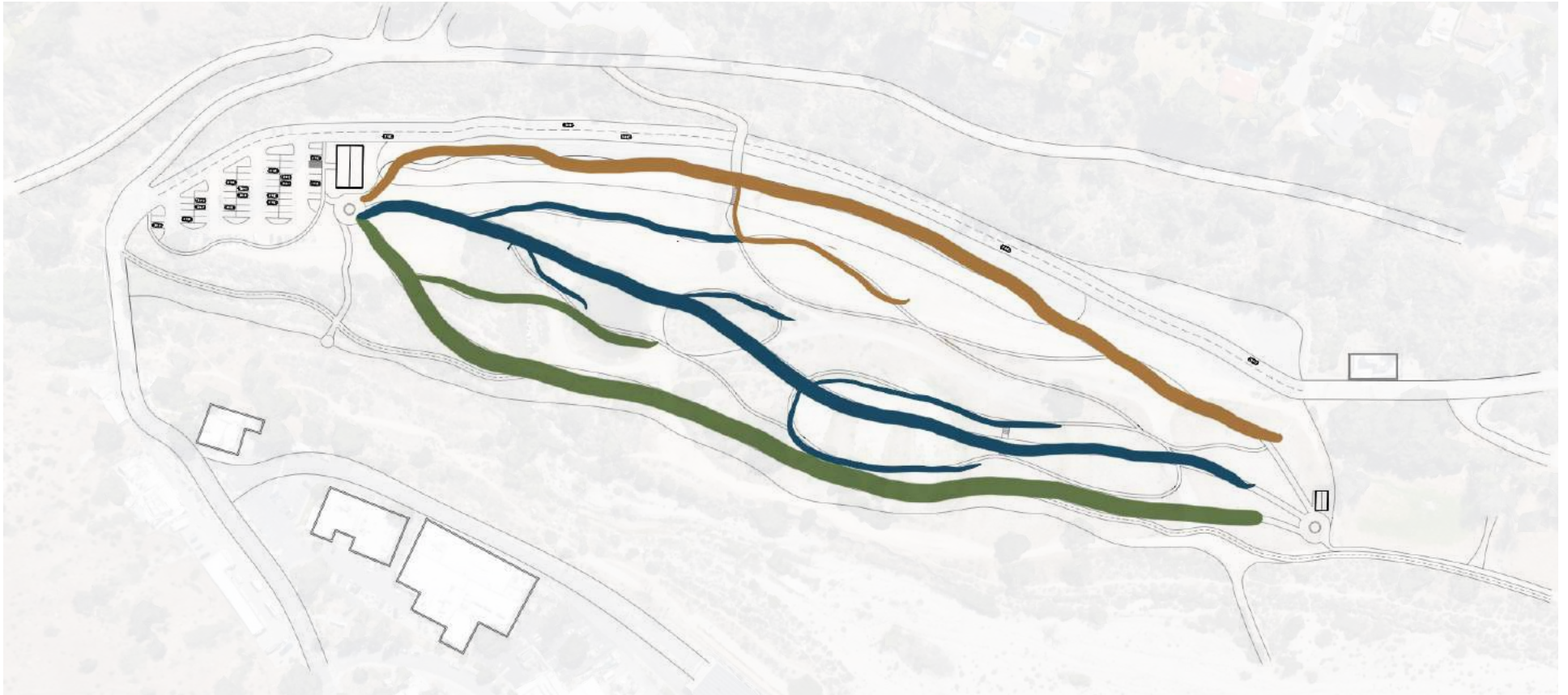


Shade Structures

Design Metaphor - Early Expressions



Design Metaphor - Final Expression



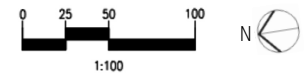
Re-Membering

Re-Imagining

Re-Connecting



Final Concept



Master Plan



Re-Membering

- 1 Entry Plaza
- 2 Education Center / Restrooms
- 3 Arroyo Seco Overlook
- 4 Local Art Installations
- 5 Gabrielino Bridge

Re-Imagining

- 6 Permeable Parking Lot
- 7 Remediation Berm
- 8 Bike Path
- 9 Lower Basin Area
- 10 Expanded Arroyo Seco

Re-Connecting

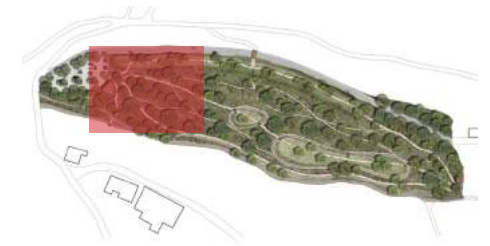
- 11 Oak Woodland Extension
- 12 Entry Road
- 13 Lower Entry Plaza / Restrooms



Enlargement - Re-Membering

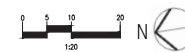


KEY MAP



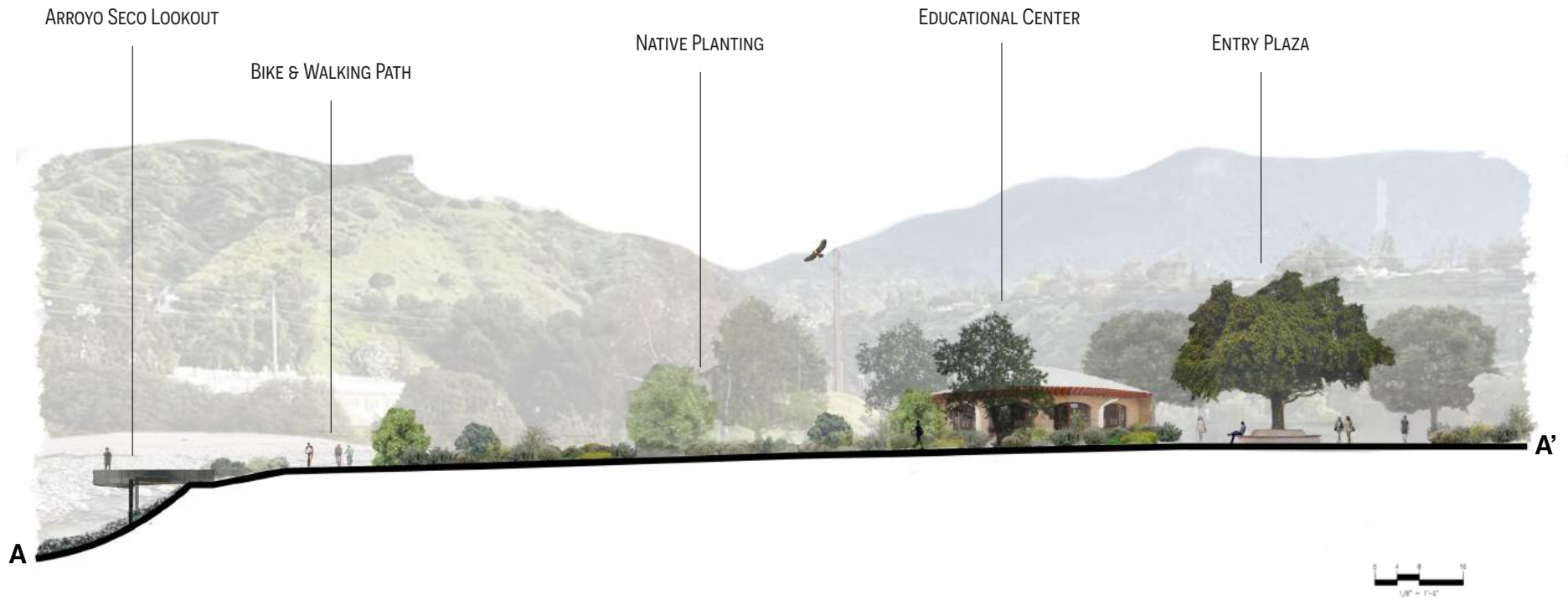
LEGEND

- 1 Entry Plaza
- 2 Education Center / Restrooms
- 3 Arroyo Seco Overlook
- 4 Local Artist Installations
- 6 Permeable Parking Lot



Section A-A'

KEY MAP



Perspective



KEY MAP



Perspective



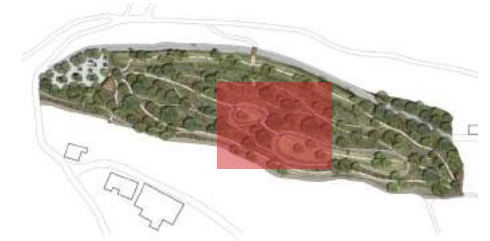
KEY MAP



Enlargement - Re-Imagining

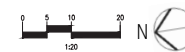


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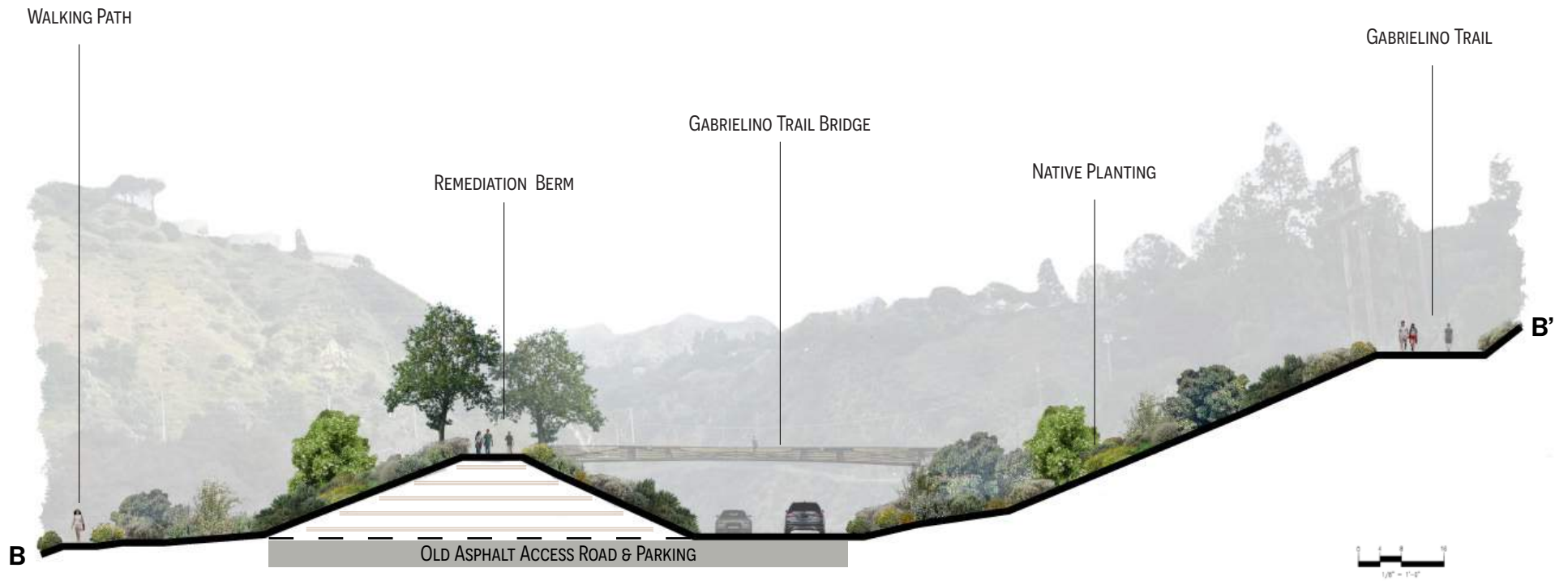
LEGEND

- 7 Remediation Berm
- 8 Lower Basin Area
- 9 Bike Path
- 10 Expanded Arroyo Seco



Section B-B'

KEY MAP



Perspective

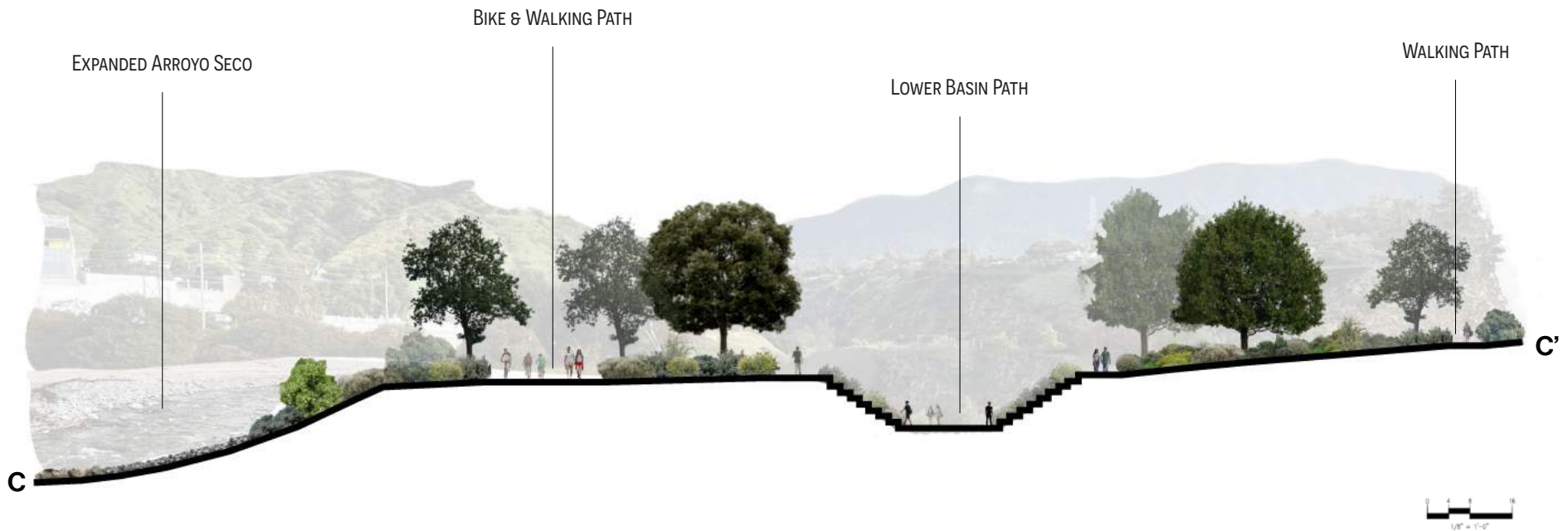


KEY MAP



Section C-C'

KEY MAP



Enlargement - Re-Connecting

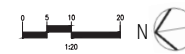


KEY MAP



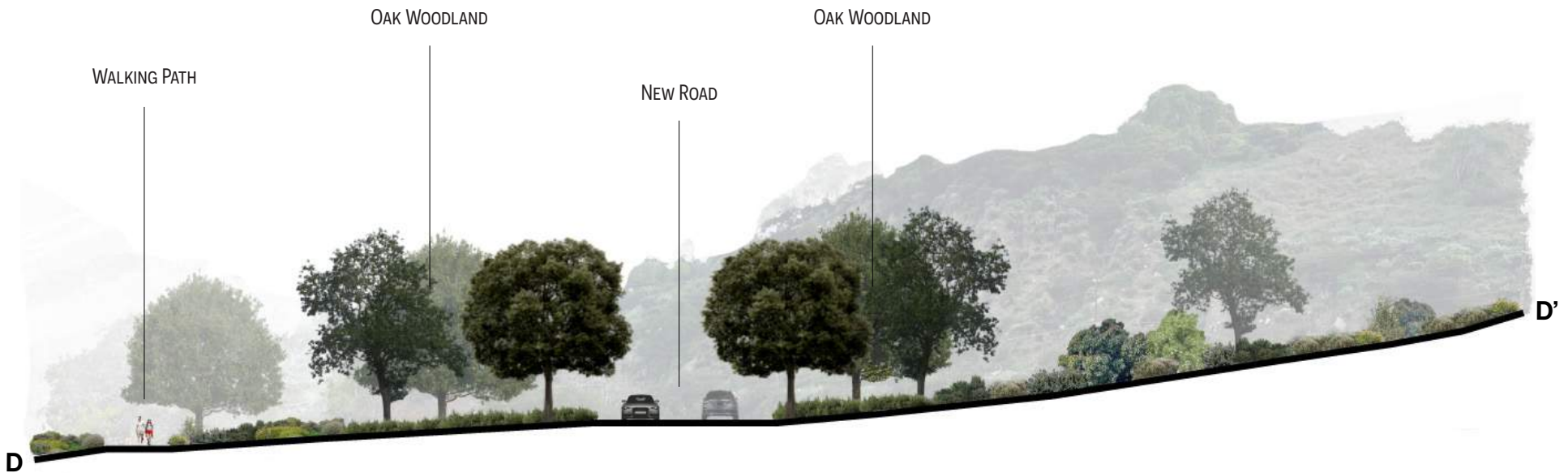
LEGEND

- 11 Oak Woodland Extension
- 12 Entry Road
- 13 Lower Entry Plaza / Restrooms



Section D-D'

KEY MAP



Perspective



KEY MAP



Perspective



KEY MAP



Conclusion



Re-Membering



Re-Imagining



Re-Connecting

My original intention to rehabilitate and remediate this previously developed landscape into a biodiverse ecological park has been achieved through my 3 main goals of remembering where we are located and who was here, reimagining how form is creatively adapted to existing conditions as well as natural processes and finally by reconnecting people to each other and the surrounding natural world through tangible experiential moments.

Master Plan



Re-Membering

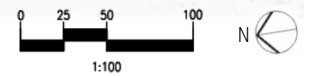
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- 5 Gabrielino Bridge

Re-Imagining

- 6 Permeable Parking Lot
- 7 Remediation Berm
- 8 Bike Path
- 9 Lower Basin Area
- 10 Expanded Arroyo Seco

Re-Connecting

- 11 Oak Woodland Extension
- 12 Entry Road
- 13 Lower Entry Plaza / Restrooms



Acknowledgements

THANK YOU! To everyone that has been on this journey with me over the past 3 years. My wife for your unweilding support from the very start, my two amazing boys for understanding daddy's absence on nights and weekends. My instructors for always caring and providing valuable, tangible and realistic feedback. All of those family and friends who have been a continued support system along the way. Through long nights, early mornings, exhaustion and excitement, you have all helped me will myself to the finish line. I made it! Time to keep moving forward...

Reference List - Photos

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Page 10

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