01 HABITAT PARK introduction to site and project

SITE LOCATION

CA

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LOS ANGELES

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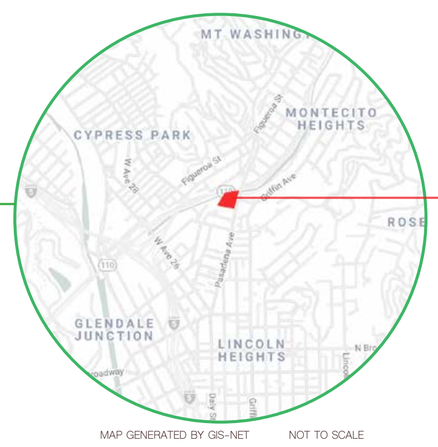
LINCOLN HEIGHTS



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SITE

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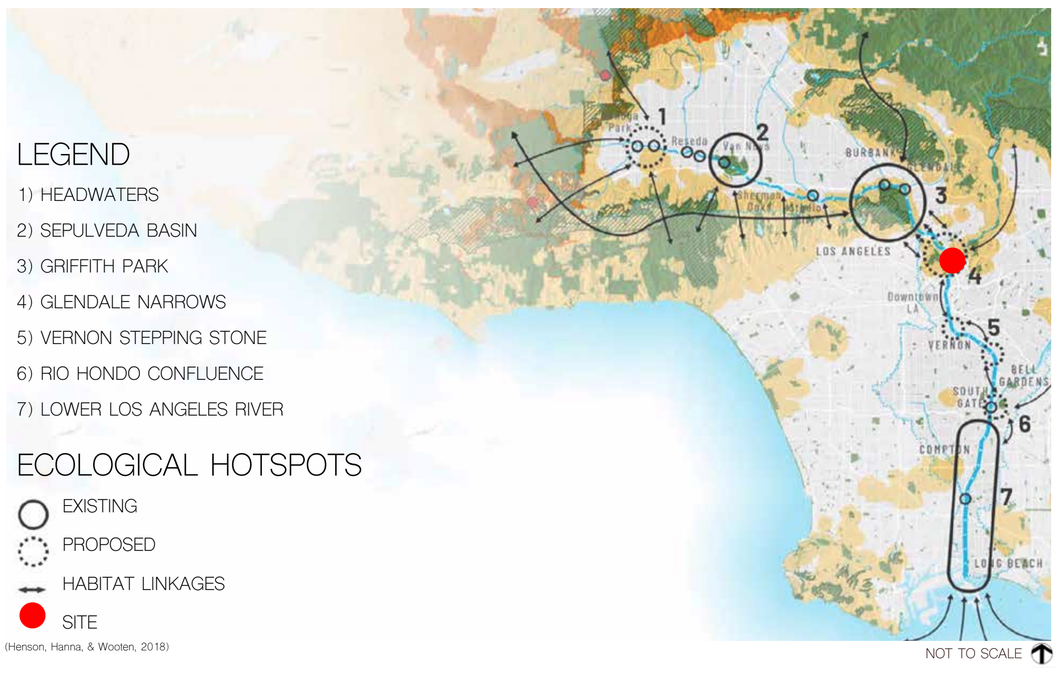
SITE CONTEXT

The location is in Northeast Los Angeles, in the neighborhood of Lincoln Heights, which is one the oldest neighborhood in Los Angeles, founded in the 1870s. The vacant site is nestled between industrial, residential, and commercial. On the east border of the site is a major throughway's, Pasadena Avenue. On the west perimeter of the site is the goldline metro rail, followed by industrial parcels. To the east side of Pasadena Avenue is a handful of commercial parcels followed by residential neighborhood. The south edge is bordered by industrial parcels, while the north is bound by the Arroyo Seco, followed by the 110 freeway. There is an adjacent goldline metro linkage north on Pasadena Ave. The closest park is over a quarter mile away, this neighborhood is park poor. There is a post-secondary school directly adjacent to the site and seven elementary and post-secondary schools within a one mile radius.

ECOSYSTEMS & LINKAGES

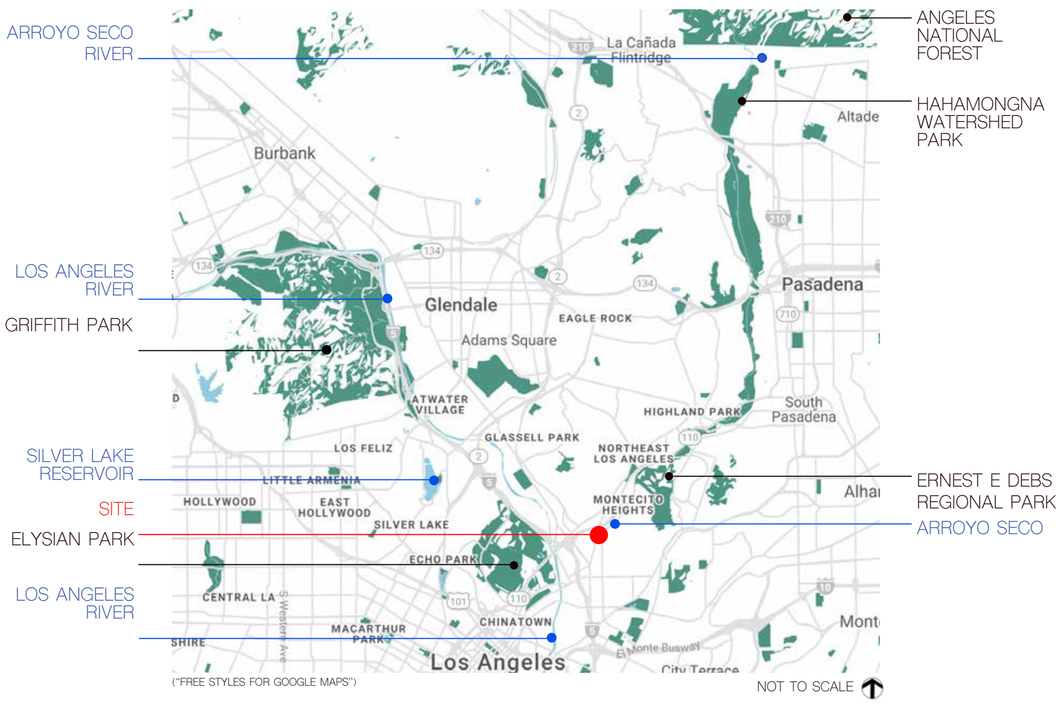
REGIONAL



(Henson, Hanna, & Wooten, 2018)

NOT TO SCALE

LOCAL



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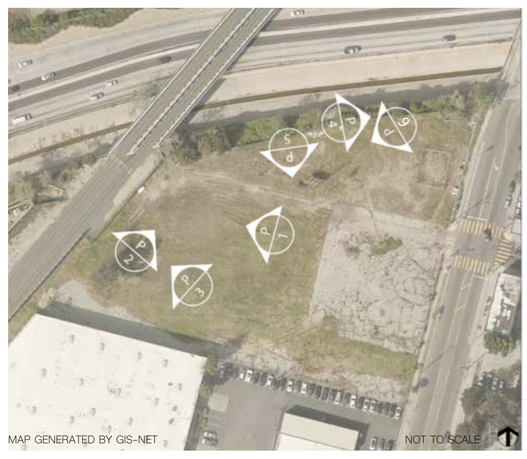
SITE PHOTOS

KEY MAP



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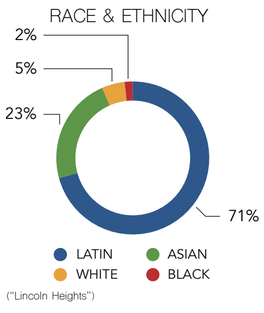
PARK USERS

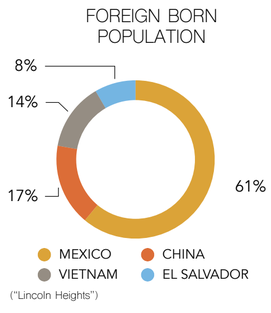
COMMUNITY DEMOGRAPHICS

RACE & ETHNICITY



("Lincoln Heights")

FOREIGN BORN POPULATION



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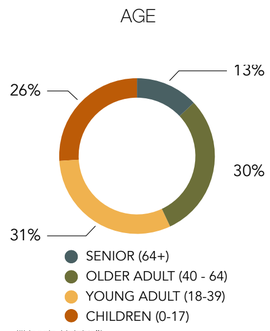
AGE

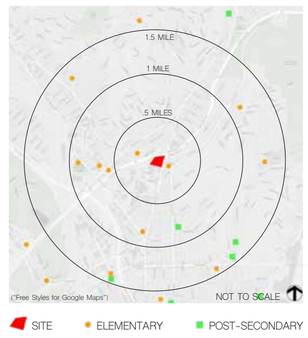


("Lincoln Heights")

STAKEHOLDERS

- CALIFORNIA NATIVE PLANT SOCIETY
- THEODORE PAYNE FOUNDATION
- ARROYOS & FOOTHILLS CONSERVANCY
- ARROYO SECO FOUNDATION
- DEPARTMENT OF CITY PLANNING
- LA SANITATION & ENVIRONMENTAL PROTECTION AGENCY
- DEPARTMENT OF TOXIC SUBSTANCES
- CITY OF LOS ANGELES MAYORS OFFICE OF SUSTAINABILITY
- LOS ANGELES AUDUBON SOCIETY

LOCAL SCHOOLS



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SITE HISTORY

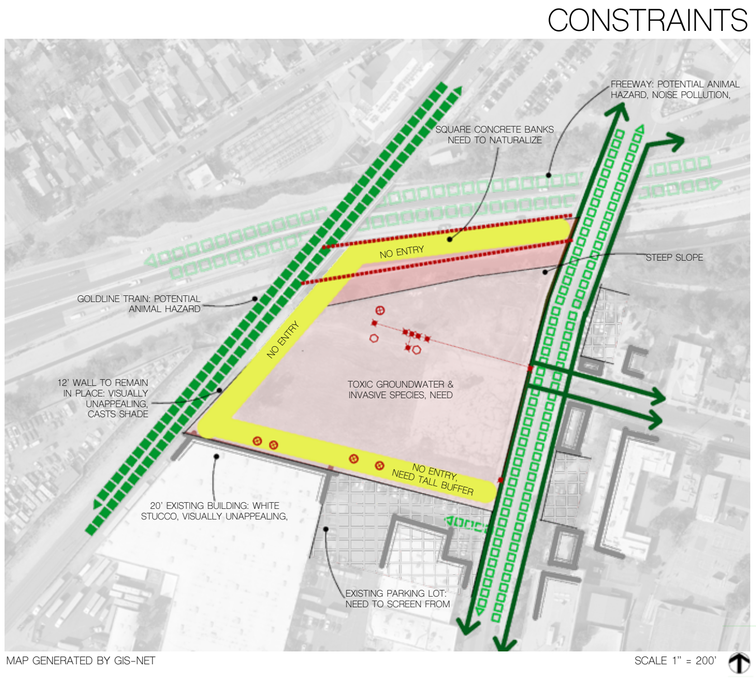
The site was formerly the Weltch's Uniform Facility, a commercial line, apparel laundering and delivery service established circa 1920 and operated until 1988. All buildings were removed in 1993, and today the site sits as a vacant parcel. Still owned by the original owners, now a subsidiary of Aramark Corporation. (California, 2020). The Site is enrolled in a Voluntary Cleanup Agreement executed in 2007 between the owners and the Department of Toxic Substances Control. In 2016 the soil vapor extraction wells on site were decommissioned because testing indicated that all concentrations were below the respective soil vapor clean up goal. In addition, the cumulative soil vapor risk was evaluated and determined to be below the established risk level. However, the site does continue to monitor activity through testing wells, the primary contaminant being trichloroethane (PERC). During the last groundwater monitoring event in 2018, the highest PERC concentration at the site was .013 milligrams per liter (California, 2020). To provide reference, the Environmental Protection Agency determined that .05 milligrams per liter of PERC is the maximum contaminant level allowed in national drinking water (2015).

SITE ANALYSIS

CONCLUSIONS

- limited access from sites edges, east entry only
- potential wildlife hazards on site must be addressed
- need a solution to mitigate the future success of invasive species
- existing adjacent industrial elements create shade, visual obstacle, and need for buffer

CONSTRAINTS

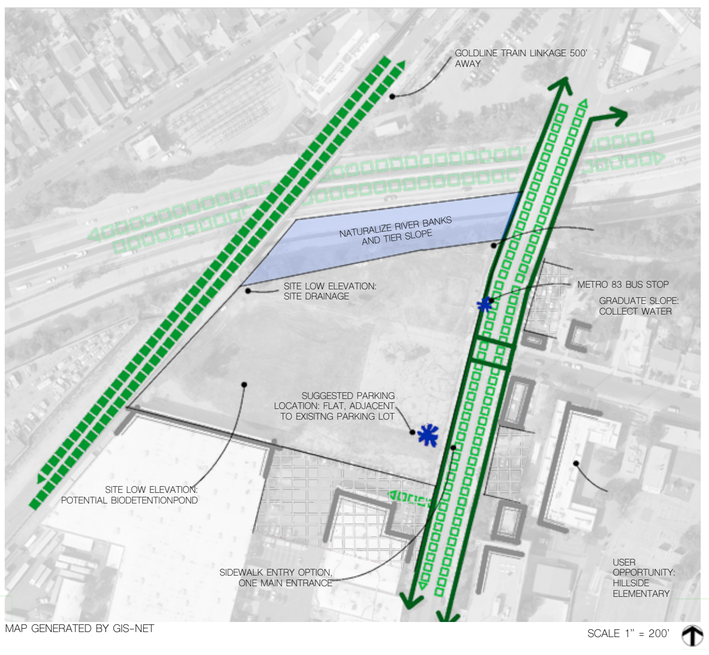


MAP GENERATED BY GIS-NET SCALE 1" = 200'

CONCLUSIONS

- naturalize arroyo seco banks
- existing topography indicates location of biodetention basin and water movement
- limited site accessibility and context indicated entrance/exit location
- connected to adjacent gold line metro & Hillside Elementary school

OPPORTUNITIES



MAP GENERATED BY GIS-NET SCALE 1" = 200'

LEGEND

EXISTING FEATURES TO REMAIN
- TEST WELL, NEED ACCESS
- MANHOLE, NEED ACCESS
- TELEPHONE POLE & WIRE
- 35' DROP, CONRETE WALLS

EXISTING CIRCULATION
- NO ENTRY FROM EDGE
- PEDESTRIAN CIRCULATION
- VEHICUALAR CIRCULATION
- GOLDLINE TRAIN
- 110 FREEWAY

CONTEXT
- BUILDINGS
- PARKING LOT

LEGEND

CIRCULATION
- PEDESTRIAN CIRCULATION
- VEHICUALAR CIRCULATION
- GOLDLINE TRAIN
- 110 FREEWAY

CONTEXT
- BUILDINGS
- PARKING LOT

PROJECT JUSTIFICATION

Why now? Wildlife populations are in steep decline and biodiversity is at risk. For example, in the United States 37% of native bird populations are in decline (2015).

Why do birds matter? The state of birds is a good indicator of the general state of biodiversity (2004).

Why does biodiversity matter? Can't humans live without birds and animals? The answer is no.

"Losses to biodiversity are a clear sign that our own life-support systems are failing. The ecosystems that support us - that determine the carrying capacity of our Earth and our local spaces - are run by biodiversity. It is biodiversity that generates oxygen and cleans water, creates topsoil out of rock, buffers extreme weather events like droughts and floods, pollinates our crops, and recycles the mountains of garbage we create every day" (Tallamay, 2009).

Why here? Los Angeles leads all United States counties in nationwide bird count (2015). The site location was chosen with this in mind. The sites unique location, adjacent to the Arroyo Seco River, acts as a buffer to the Arroyo Seco wildlife corridor, in addition to creating a needed linkage between nearby but disconnected wildlife areas.

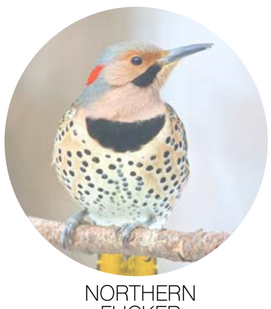
PROJECT STATEMENT

This project takes a post-humanist approach to landscape architecture, ecologically restoring a toxic, degraded and vacant site into a lively wildlife habitat. The ultimate goal in to increase biodiversity in the area. The methodology of this project includes first establishing which existing species in the area are a priority and in turn identifying these species unique habitats. The result, a habitat program, will be thoughtfully constructed and arranged in the park's master plan. Emphasis will be placed on birds. Creative solutions will significantly limit human access while simultaneously creating an experience that both protects, educates and builds appreciation for native plants and wildlife.

02 PROJECT GOALS & METHODOLOGY

INCREASE BIODIVERSITY

The primary goal of this project is to increase biodiversity. The first step in achieving this goal includes indentifying which species are of priority. In the process of choosing species, research revealed three distinct criterea for selection, status, population, and ecological engineering. According to Greiner (2010), “rare or vulnerable species and habitats should receive high priority to preserve a region’s biodiversity”, in other words species which exist in the area, however are rarely seen (status) and/or species whose populations are in decline or endangered (population) ought to be prioritized over species who do not fit this criterea. In addition to these two criterea, research revealed that species who are ecological engineers ought to also be prioritized in the process of managing wildlife habitat. Ecological engineers, “can alter the distribution and abundance of large numbers of plants and animals, and significantly modify biodiversity” (Haemig PD, 2012). The audobon center at Debs Park, provided a list of every species of bird, butterfly, amphibian, reptile, and mammal cited in the adjacent area including and surrounding Ernest E Debs park. I narrowed down the priority species selection to four which best fit the three criteria, these include the Northern Flicker, the Willow Flycatcher, the Monarch Butterfly, and the Western Screech Owl. The Northern flicker acts as an ecological engineer, excavating holes in trees which create homes for other animals, including the selected Western Screech Owl (Haemig PD, 2012). After selecting the four species, the specific habitat requirements for nesting, feeding, foraging, and breeding of each species was defined. The northern flicker, a transient species, can be found in almost any habitat with trees especially willows, however they require some open ground for foraging, they eat many fruits and berries (Kaufman, 2019). The willow flycatcher often nest in native Willow species, they require dense riparian vegetation near surface water or wet saturated soil, in patches usually larger than 10 meters wide. The willow flycatcher is a transient species (“Southwestern Willow Flycatcher”). A year round resident, the western screech-owls live mainly in forested habitats, especially in bands of deciduous trees or oaks along canyons and other drainages or stream side vegetation (Johnson & Calhoun, 2004) (Western Screech-Owl Life History, 2019). Winter is the season of the monarch butterfly. Milkweed plants are a necessity, as without them they cannot reproduce. For food, a variety of nectar plants with staggered bloom times is recommended (Monarch Butterfly Habitat Needs, n.d.).



NORTHERN FLICKER

STATUS: Common
POPULATION: Declining
ECOLOGICAL ENGINEER: yes

WILLOW FLYCATCHER

STATUS: Uncommon
POPULATION: Endangered
ECOLOGICAL ENGINEER: no

MONARCH BUTTERFLY

STATUS: Occasional to Rare
POPULATION: Declining
ECOLOGICAL ENGINEER: no

WESTERN SCREECH OWL

STATUS: Common
POPULATION: Declining
ECOLOGICAL ENGINEER: yes

HABITAT PROGRAM

OPEN FORAGING GROUND
TARGET SPECIES:
Northern Flicker

HARDWOOD WOODLAND
TARGET SPECIES:
Western Screen Owl
& Northern Flicker

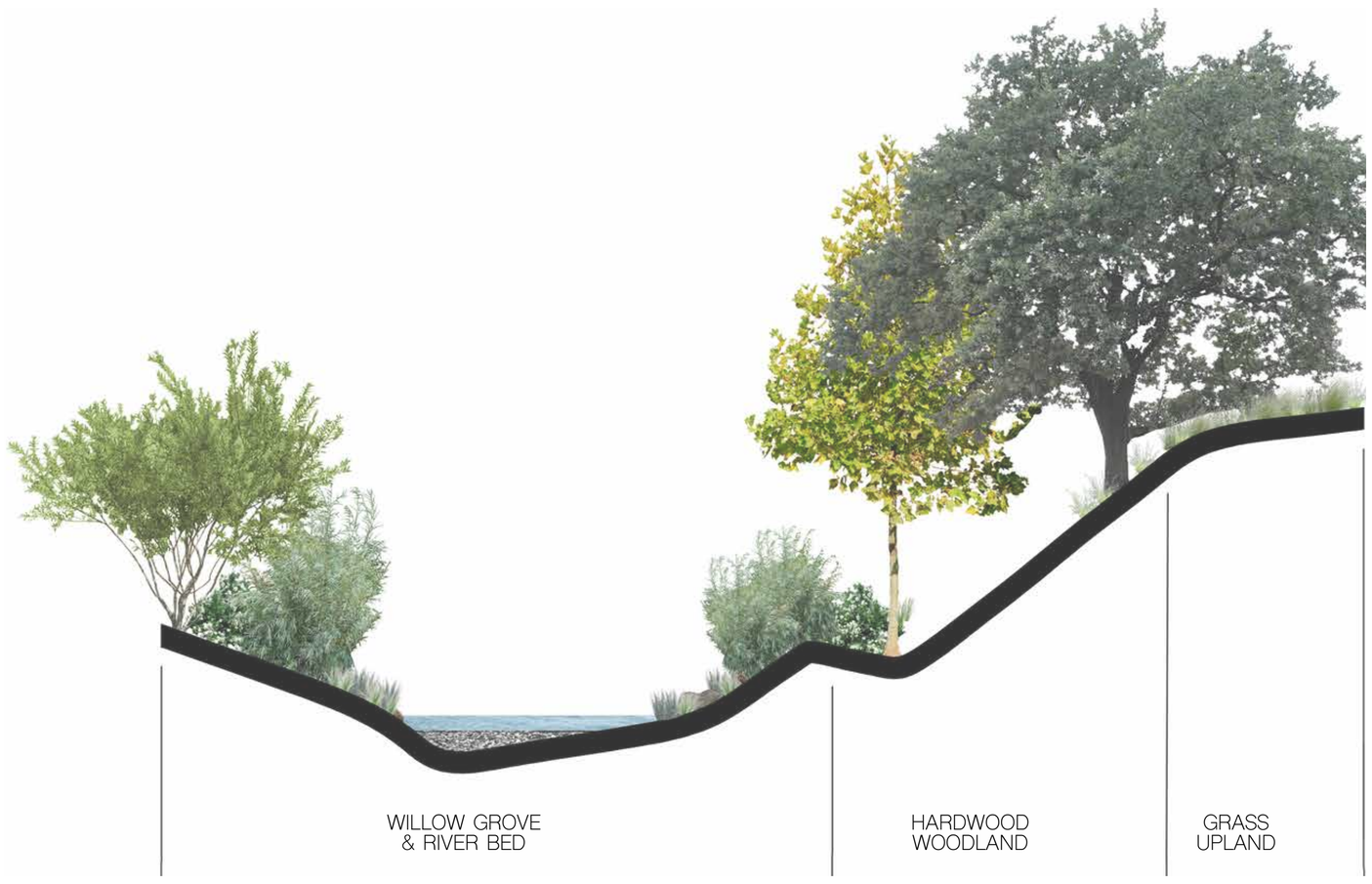
BUTTERFLY GARDEN
TARGET SPECIES:
Monarch Butterfly

WILLOW GROVE
minimum 10 meters wide
TARGET SPECIES:
Willow Flycatcher
& Northern Flicker

GRASS UPLAND
TARGET SPECIES:
Northern Flicker

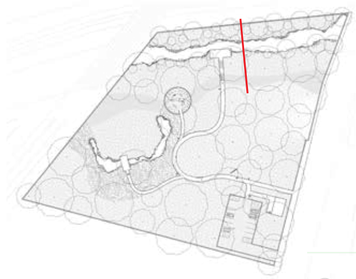
SCALE = 1” = 80’

RIPARIAN COMPOSTION



ECOLOGICAL RESTORATION

The ecology of the park will be restored through the developement of a habitat program emerging from the habitat needs of the selected priority species. The habitat program will include the planting of 77 native trees that are historically found in the Lower Arroyo Seco according to the Arroyo Seco Foundation (n.d.). In addition, the master plan includes hundreds of shrubs, grasses, and trees that are historically found in the the Lower Arroyo Seco.



NOT TO SCALE

WATERSHED REHABILITATION

The watershed will be restored by composing a riparian forest according to the Natural Resources Conservation Design Criteria. The riparian forest will be composed of three distinct zones. The first, the willow grove and river bed, consists of water loving trees and shrubs. The second starts at the upland edge of zone one, and will be a hardwood woodland. The third zone is grass upland, comprised of tall residual grasses (Johnson & Calhoun, 2004).

STORM WATER MANAGEMENT

Stormwater will be managed by implementing the Environmental Protection Agencys best practices. This includes the creation of a biodetention area at the existing lowest topography on site. The Arroyo Seco will be naturalized and buffered by riparian vegetation, see watershed rehabilitation. In addition all materials on site for both ground cover and seating will be composed of sustainable, natural, and permeable materials including wood raised pathways, mulch ground cover throughout the entire site, and gravel in the parking lot and outdoor classroom.

RIPARIAN BUFFER

BIODETENTION BASIN

PERMEABLE MATERIALS

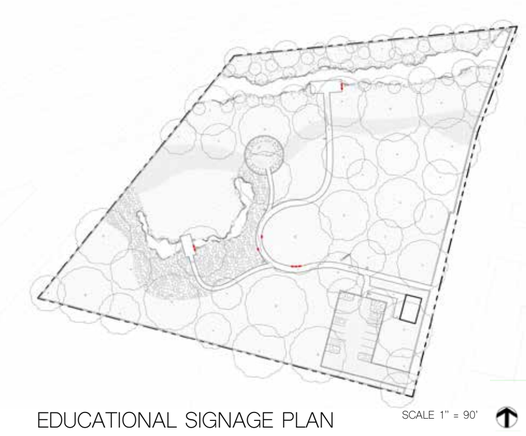
GRAVEL

MULCH

WOOD

ENGAGE THE PUBLIC

The park engages the public providing a program that aims to educate and build appreciation for native species including two wildlife observation decks, nine educational signs, an outdoor classroom, and nature walking trails. Upon entry into the site guests are welcomed with a monument sign followed by three educational signs including a site map and information about the parks fauna and flora. Moving through hardwood woodland there is an option to stay on the primary pathway or take the path left. The pathway left goes through butterfly garden to the observation deck overlooking the biodention basin, which includes educational signage about the storm water management on site. Continuing on the primary pathway leads to a second divergence with an option to take the pathway left to the outdoor classroom or continue on the main pathway. The outdoor classroom features a 935 square foot raised gathering space with informal seating for up to 26 people. Continuing down the primary pathway leads down a stairway, through multiple habitat zones and ends at a last stop, the second observational outlook, which features a large observation deck amidst riparian vegetation and raised above the Arroyo Seco river. Purposefully, access outside of designated pathways, decks, and gathering areas and seating comfortability is restricted by design as to ensure protection of wildlife and to limit guests length of stay.

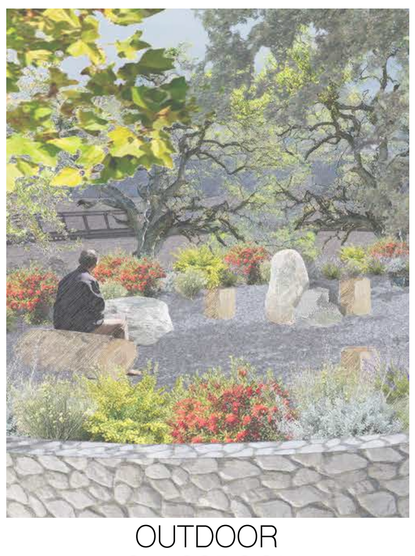


EDUCATIONAL SIGNAGE PLAN

SCALE 1” = 90’

WILDLIFE OBSERVATION

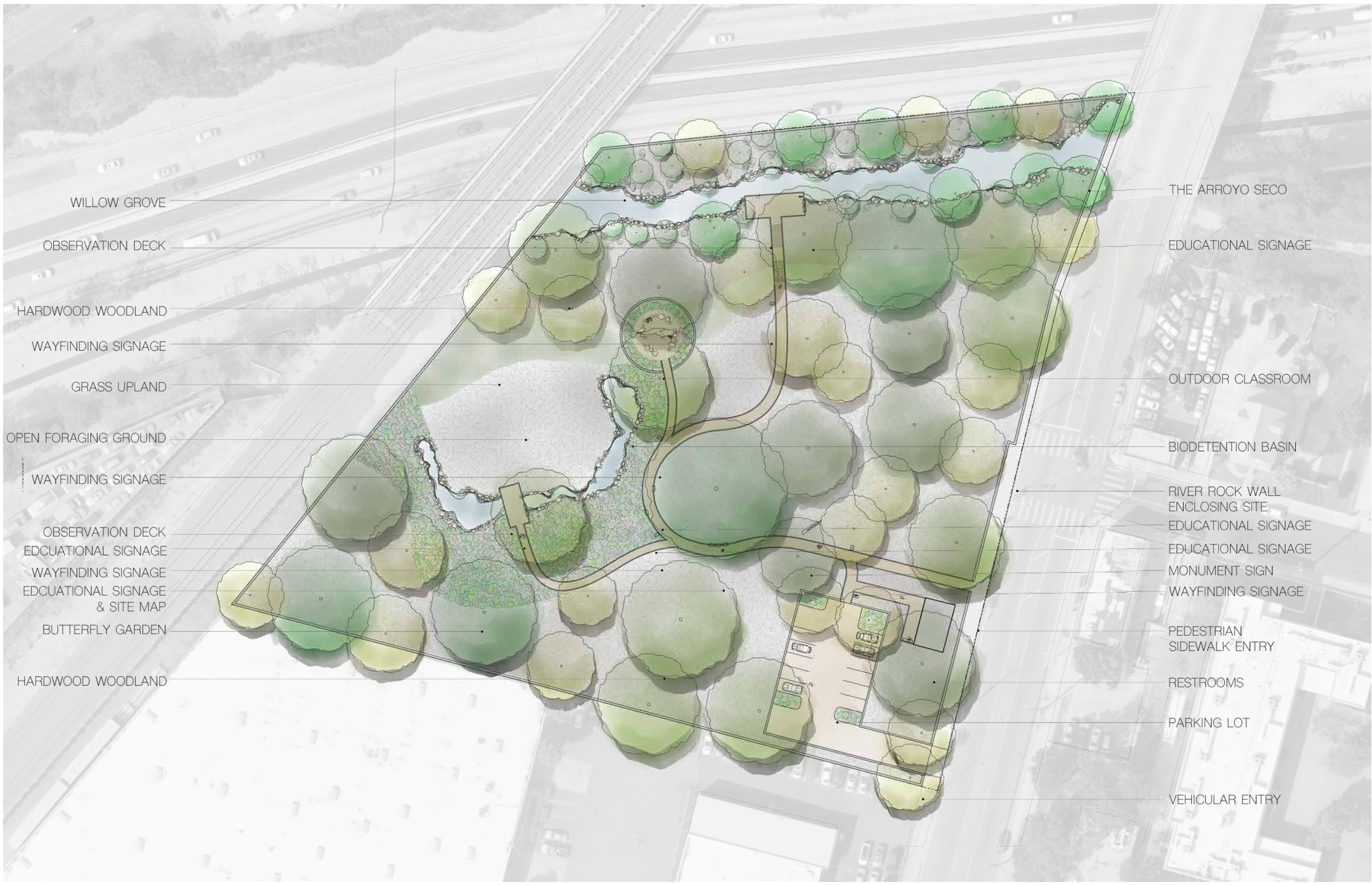
EDUCATIONAL SIGNAGE



OUTDOOR CLASSROOM

NATURE WALKING TRAILS

03 MASTER PLAN



PLANTING PLAN

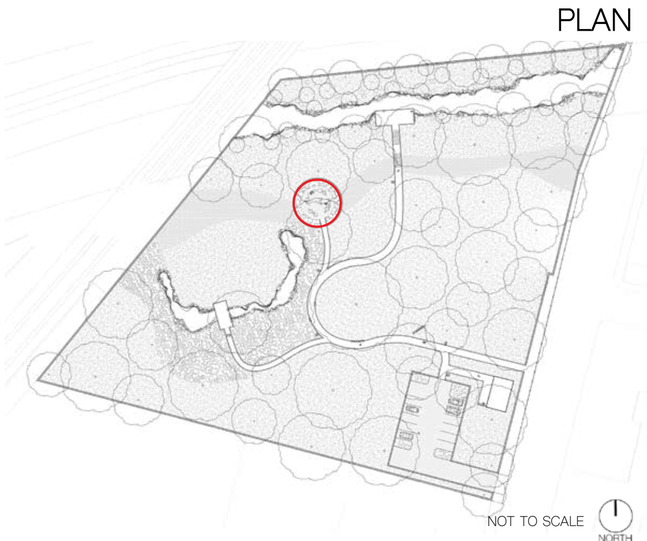
The planting plan is designed with both the wildlife and human experience in mind with an exclusively native palette. The arrangement of planting areas allows for the human user to move throughout the site experiencing every habitat zone with distinct transitions, creating a dynamic sensory experience. Trees are placed to enhance desirable views, limit undesirable views, and provide a balance of sun, shade, and dappled sunlight along pathways and gathering spaces. Plant species were chosen according to the planting historically found there and to accommodate the specific needs of the selected priority species. Seasonal blooming was achieved to provide feeding grounds year round. Willow species were chosen to attract and provide habitat for the northern flicker and willow flycatcher, while the hardwood oaks, sycamores, and california black walnut provide for hundreds of different wildlife species including the western screech owl. The toyon and golden currant provide edible berries for the northern flicker among other wildlife species. The butterfly garden features milkweeds, necessary for Monarch Butterfly reproduction, and shrubs that provide nectar with staggered bloom times for butterfly feeding.

OUTDOOR CLASSROOM INFORMAL ROCK SEATING

INSPIRATION

LAWRENCE HAPRIN

PLAN



SITE ENCLOSURE & RETAINING WALLS

INSPIRATION

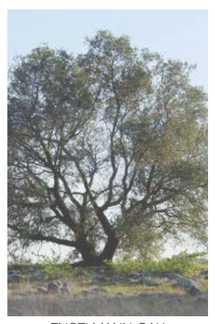
1897 LUMMIS HOUSE constructed with river rock from the arroyo seco

PLAN

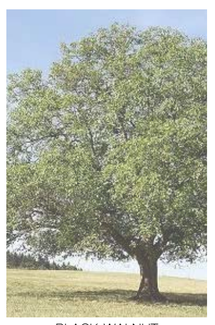
PLANTING PALETTE

HARDWOOD WOODLAND

COAST LIVE OAK
Quercus agrifolia



ENGELMANN OAK
Quercus engelmannii



BLACK WALNUT
Juglans californica

FREMONT COTTONWOOD
Populus fremontii

CALIFORNIA SYCAMORE
Platanus racemosa

OPEN FORAGING GROUND

TOYON
Heteromeles arbutifolia

GOLDEN CURRANT
Ribes aureum

FOOTHILL SEDGE
Carex tumulicola

MULCH

WILLOW GROVE

ARROYO WILLOW
Salix lasiolepis

NARROWLEAF WILLOW
Salix exigua

BUSH ANEMONE
Carpenteria californica

CALIFORNIA GREY RUSH
Juncus patens

LONG LEAF RUSH
Juncus macrophyllus

GRASS UPLAND

CALIFORNIA FESCUE
Festuca californica

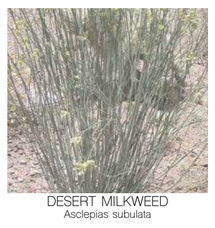
BLUE GRAMA
Platanus racemosa

PURPLE NEEDLEGRASS
Bouteloua gracilis

FOOTHILL SEDGE
Carex tumulicola

BUTTERFLY GARDEN

CALIFORNIA MILKWEED
Asclepias californica



DESERT MILKWEED
Asclepias subulata

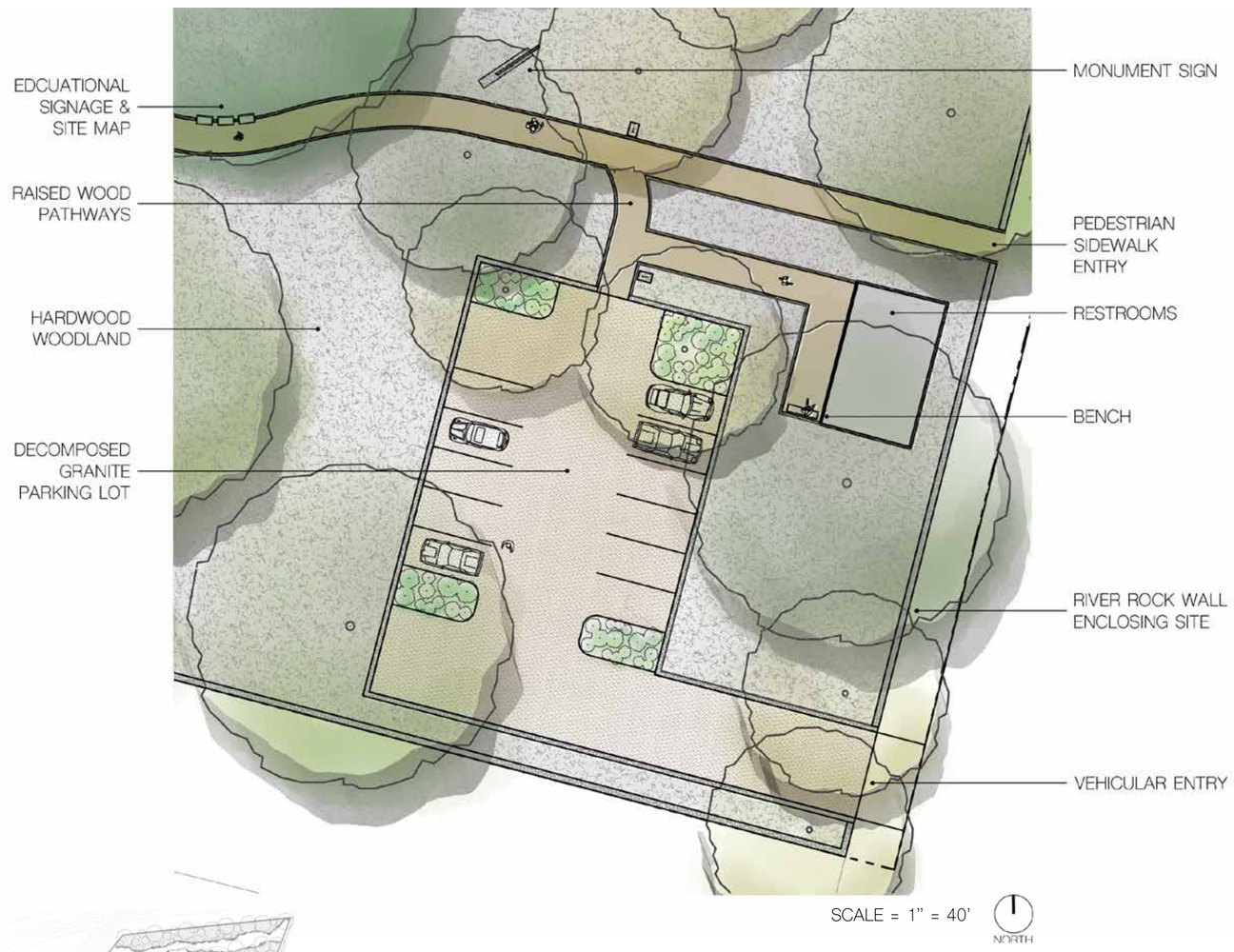
CALIFORNIA FUSHCIA
Epilobium canum

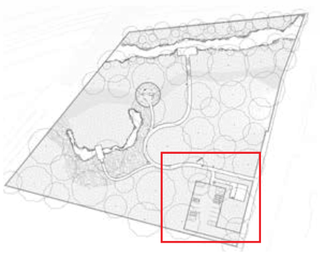
WHITE SAGE
Salvia apiana

WOOLLY BLUE CURLS
Trichostema lanatum

04 PLAN ENLARGEMENTS

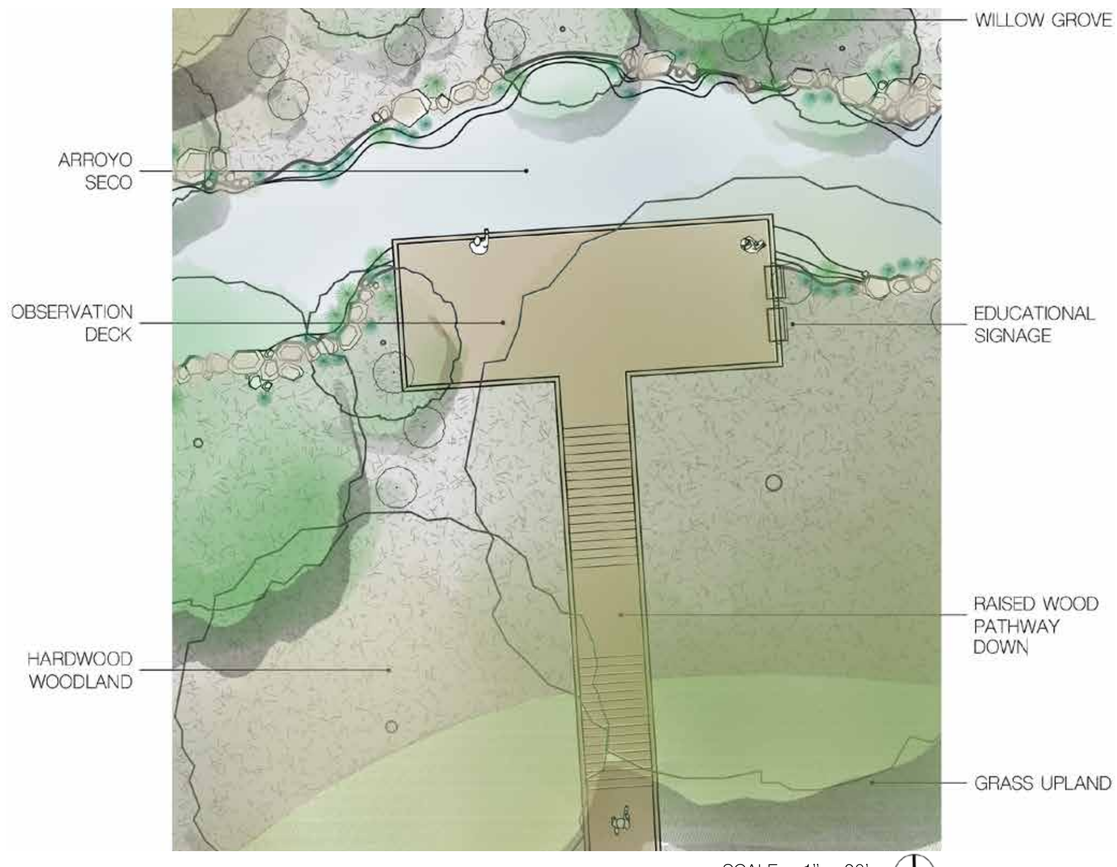
PARK ENTRANCE

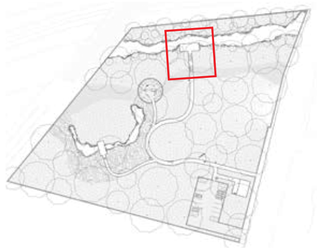




Upon entering by vehicle there is a gentle slope up which takes you to the parking platform, which accommodates twelve total spaces, one of which is handicap accessible. Circulation moves pedestrians towards the center of the parking lot and move north to enter onto the raised wood pathways which merges with the pedestrian entry pathway from the sidewalk on Pasadena Ave. Views upon entry face north and west framing views into the hardwood woodland of the park. A monument sign marks entry into the park, followed by a short walk to the first park signage stop which includes a site map and guides to the parks wildlife.

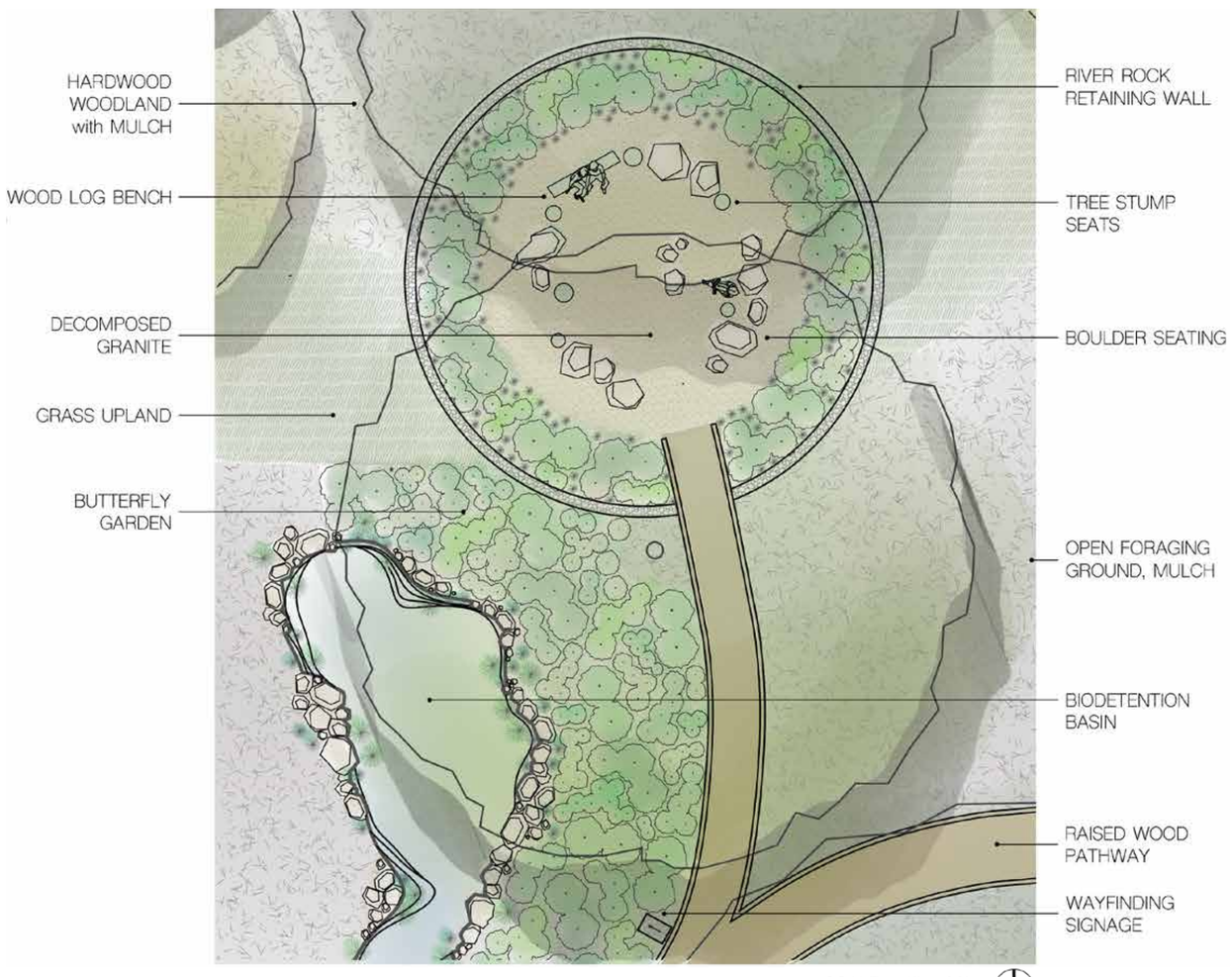
RIPARIAN OBSERVATION DECK





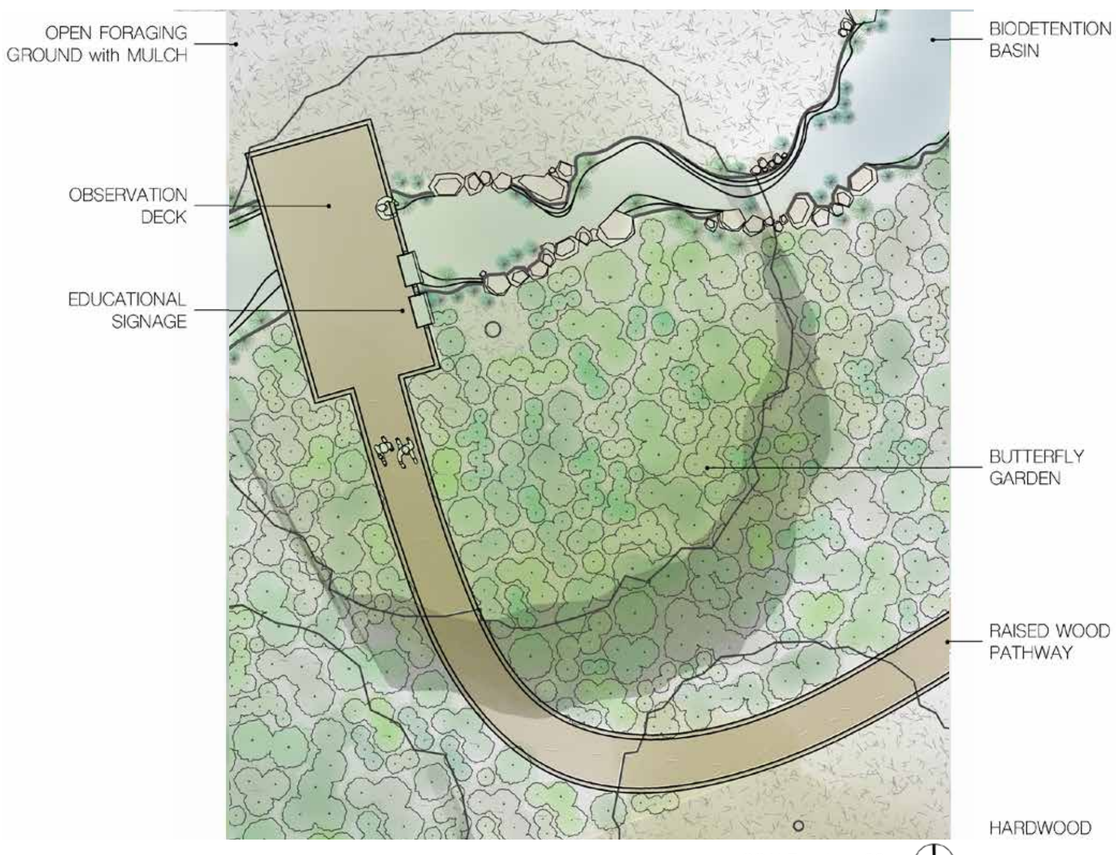
A threshold occurs at the beginning of the riparian buffer with the introduction of a strip of tall grassland, which is followed by hardwood woodland and willow grove interspersed with shrubs and grasses. The Arroyo Seco river is the parks final destination, featuring a 640 square foot deck over looking the river and surrounding riparian habitat.

OUTDOOR CLASSROOM



The pathway segways off of the primary circulation and passes the biodetention basin and butterfly gardens onto a raised platform flush with the wood circulation pathways. The center features boulders and wood seating with room to circulate behind and in between seating groupings and situated to accommodate an outdoor classroom. On the perimeter of this informal space is 8' of planting which functions to aesthetically frame the space, create enclosure, and simultaneously sufficiently deter entry into the parks habitat areas.

BIODETENTION BASIN OBSERVATION DECK



The biodetention observation deck is the first segway option off of the main pathway of the park. the pathway moves through dense garden shrubs and then opens onto a deck which is situation over the seasonally wet pond. The end of the deck north opens to an expansive view of open land which also functions as foraging grounds for the Northern Flicker bird. Educational signage situates views facing east onto an intentional view over the pond.

ACHIEVING PROJECT GOALS

1. PARK ENTRY – sustainable and manages stormwater by using all natural and permeable surfaces, protects biodiversity within the park by limiting parking and situating this active area on the sites perimeter
2. RIPARIAN OBSERVATION DECK – an ecological restoration, restoring this stretch of arroyo seco wildlife corridor to its historic form, in turn providing habitat for native species and river access and outlooks for the community
3. OUTDOOR CLASSROOM – engages the public in providing local schools with access to an outdoor classroom, protects biodiversity by limiting human access to park habitat areas, sustainable design features only materials found in nature
4. BIODETENTION BASIN – provides wildlife viewing and educational signage for the public, provides a second source of water on site for wildlife while simultaneously functioning to manage stormwater on site

05 SECTIONS & PERSPECITVES

DESIGN CONSIDERATIONS

Habitat park has transformed a vacant and degraded parcel into a park for the community in area which lacks sufficient park access. The circulation of pathways in the park intentionally avoided the creation of loops in order to prioritize the well being of non-human park users. The logic of the decision is based on two points, firstly loops in circulation could create a sense of entrapment for wildlife and secondly the lack of loops in the circulation design acts to limit the duration of park stay as to best limit the given number of people in the park at any given time. Similarly, the absence of seating and lack of seating comfort was purposeful. The implementation of raised wood pathway acts to restrict human access to potentially sensitive habitat areas while allowing for unobstructed wildlife passage. The controlled pathways furthermore guide the park guests on a curated experience of habitat areas and site features. Stormwater management acts as a destination opportunity, directed the stormwater to designated areas created site features for viewing while also functioning as a vital wildlife resource. The placement of planting, signage, and pathways was methodically placed as to create desirable views within the park while minimizing undesirable views. While the river rock walls that surround the site create visual enclosure and allow for necessary control over hours of access to the park.

RIPARIAN OBSERVATION DECK

OUTDOOR CLASSROM

MONUMENT SIGN

ENTRY EDUCATIONAL SIGNAGE

BIODETENTION BASIN