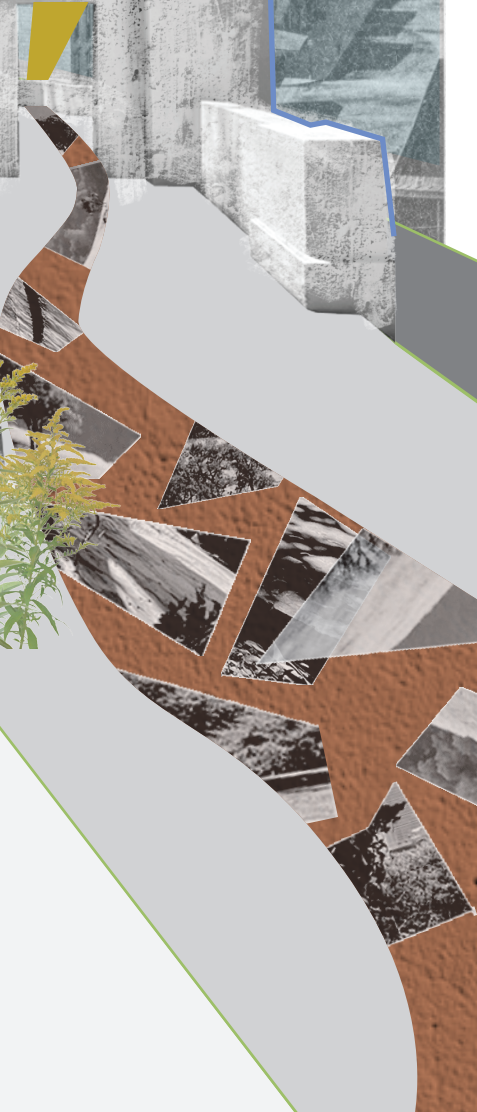
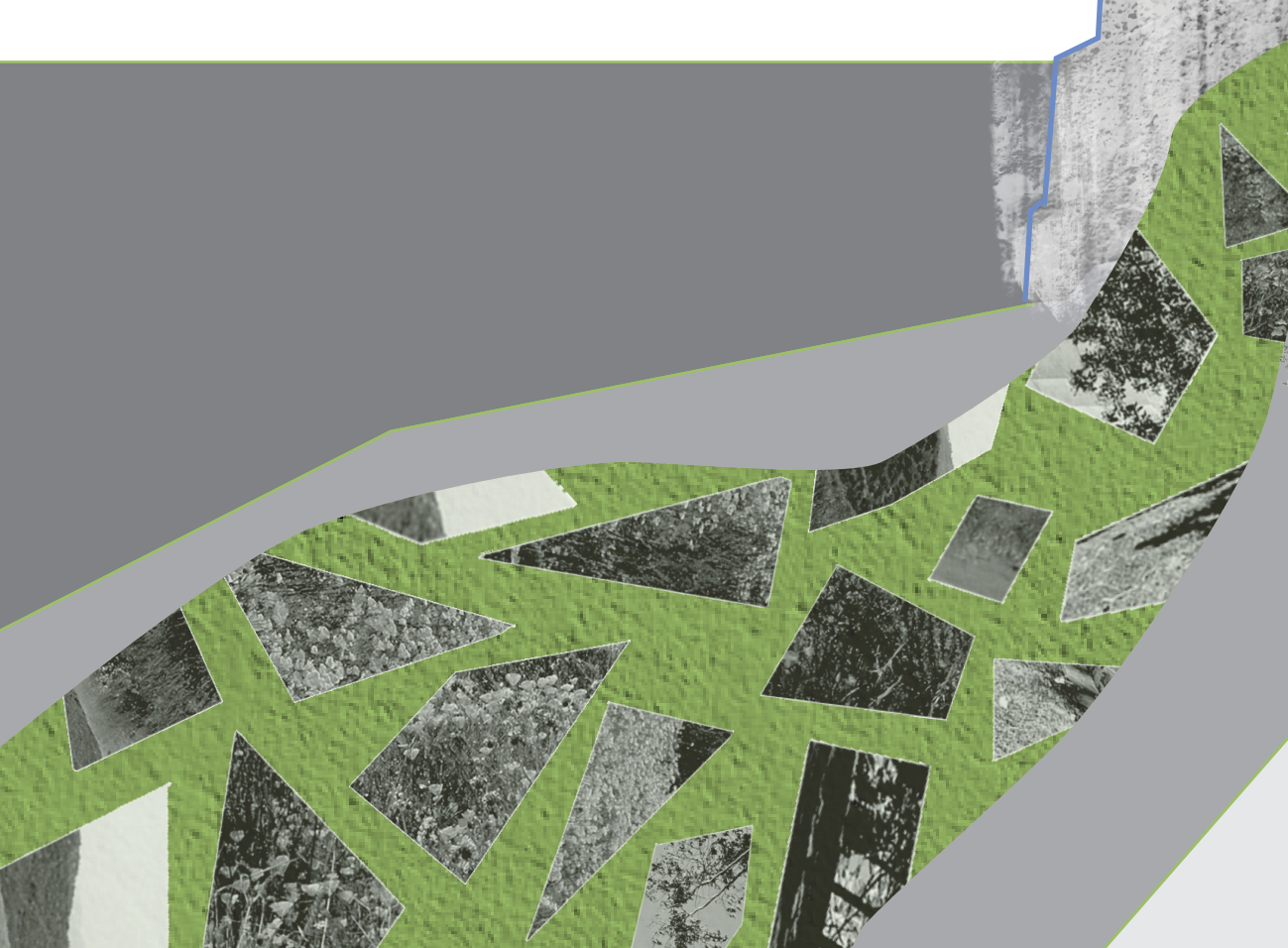
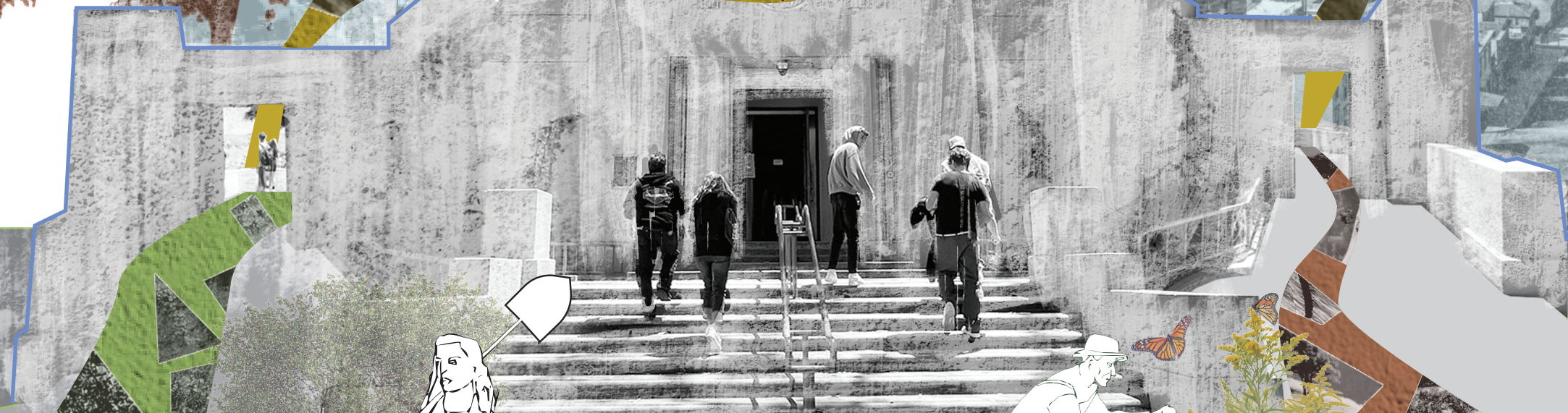
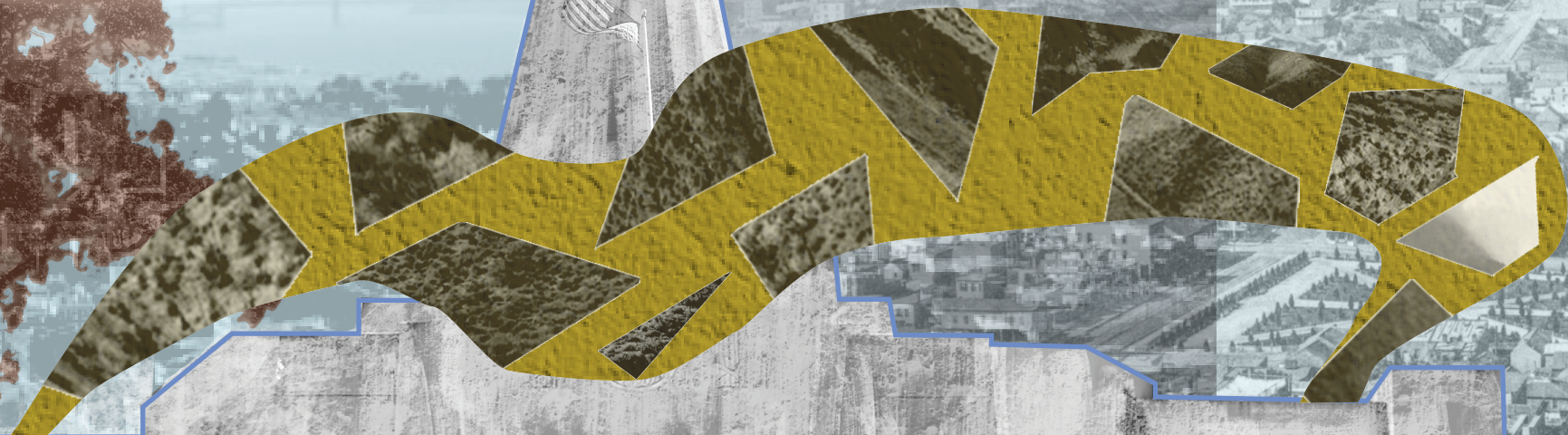
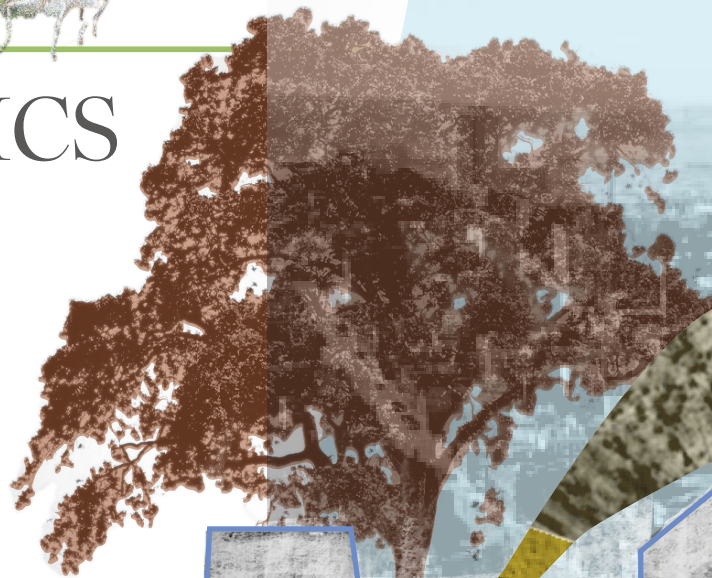


MIGRATING

MOSAICS



MIGRATING MOSAICS

At an historic site like Coit Tower, which can attract up to one hundred and fifty thousand visitors per year, our design team wants to use this opportunity to draw attention to the historic ecosystems of California. These communities of plants and animals are iconic and beloved. However, in a changing and increasingly unstable climate, we want to provoke visitors to imagine how changing ecologies can still be vibrant, biodiverse, and beautiful places.

In order to do this, our design focuses on three ecotypes: oak woodland, California grasslands, and chaparral. These ecosystems exist across the landscape like a mosaic, supporting different types of flora and fauna. California native species like coast live oak, goldenrod, and manzanita are keystone organisms for these communities, and they serve a similar role in our designed ecosystems for Pioneer Park.

By engaging with biodiversity, drought resilience, and new plant communities, we hope Pioneer Park can be a place where everyone can learn. In order to understand how landscapes are changing more clearly, our design embraces an experimental approach. The environmental mosaic of California is shifting to the north, which has many different effects. We have included species from as far south as Baja. If historically native species are no longer suited for this climate, these garden beds will be experiments in how to create climate adapted ecologies for the future. In other words, our planting design looks to the past to show the ecologies that made California what it is today, and looks to the future to understand how we can make it healthier for the next generation.

Chaparral

California Sagebrush
Artemisia californica

Manzanita
Manzanita spp.

California Buckwheat
Eriogonum fasciculatum

Silver Lupine
Lupinus albifrons

Point Sierra California Lilac
Ceanothus maritimus 'Point Sierra'

Blue Grama Grass
Bouteloua gracilis

California Bumblebee
Bombus californicus

Lark Sparrow
Chondestes grammacus

Hummingbird Sage
Salvia spathacea

Monarch Butterfly
Danaus plexippus

Hairy-leaved Ceanothus
Ceanothus oliganthus

California Fuchsia
Epilobium canum

Anna's Hummingbird
Calypte Anna

Garry Oak
Quercus garryana

Acorn Woodpecker
Melanerpes formicivorus

Coyote Mint
Monardella villosa

California Scrub Jay
Aphelocoma californica

Coast Buckwheat
Eriogonum latifolium

Idaho Fescue
Festuca idahoensis

Seaside Daisy
Erigeron glaucus

Grasslands

Coastal Aster var. Purple Haze
Symphyotrichum chilense 'Purple Haze'

Common Yarrow
Achillea millefolium

California Goldenrod
Solidago californica

Oak Woodlands

Elegant Clarkia
Clarkia unguiculata

Golden Currant
Ribes aureum

Western Houndstongue
Adelina grandis

SITE PLAN *Pioneer Park at Coit Tower*

Overview of ecotype zones and site context

KEY

Planting Areas

Existing Structures

Paving

5 ft. Contour

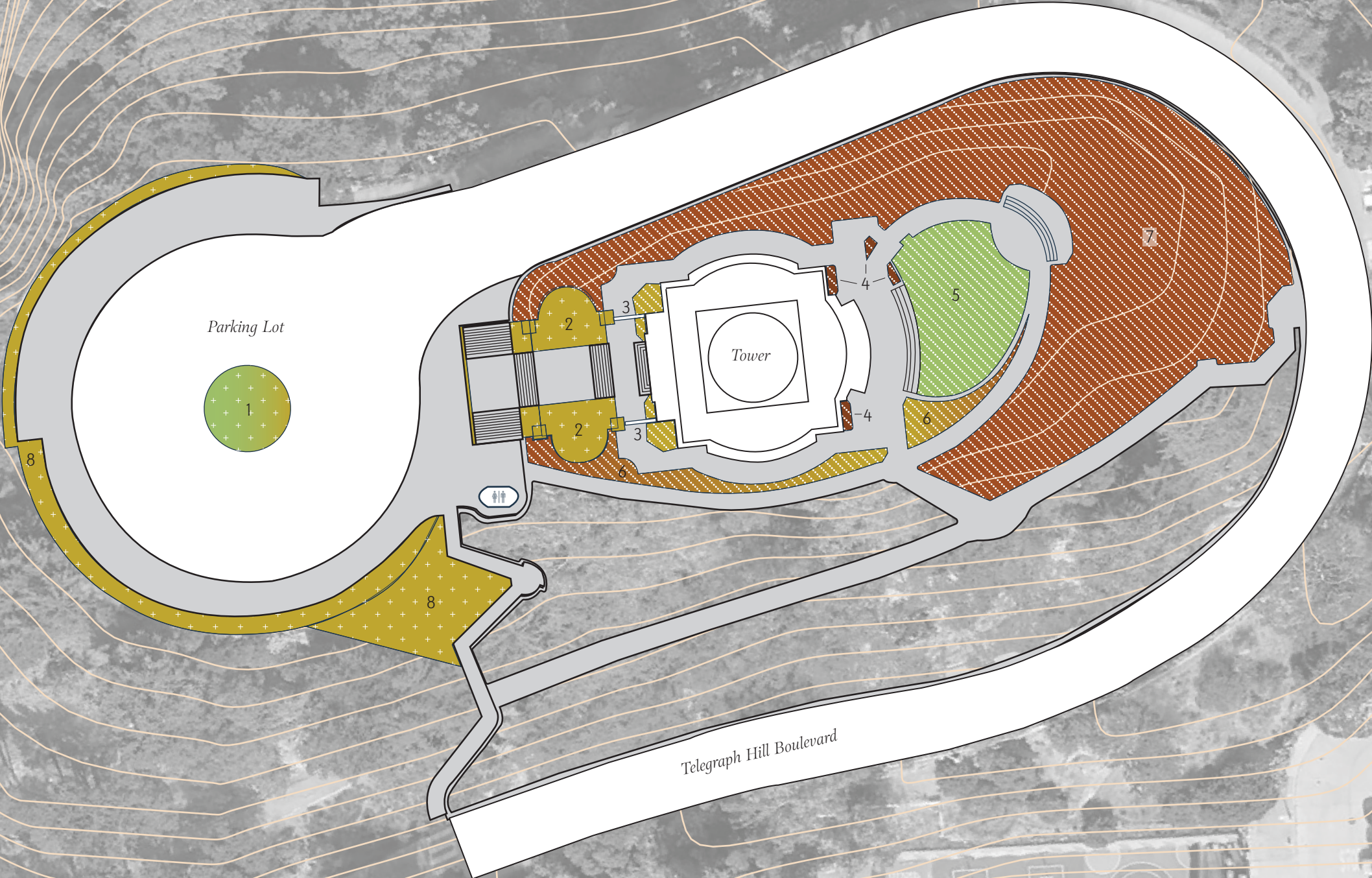
Chaparral

Grasslands

Oak Woodlands

Part Sun/Shade

Full Sun



Telegraph Hill Boulevard

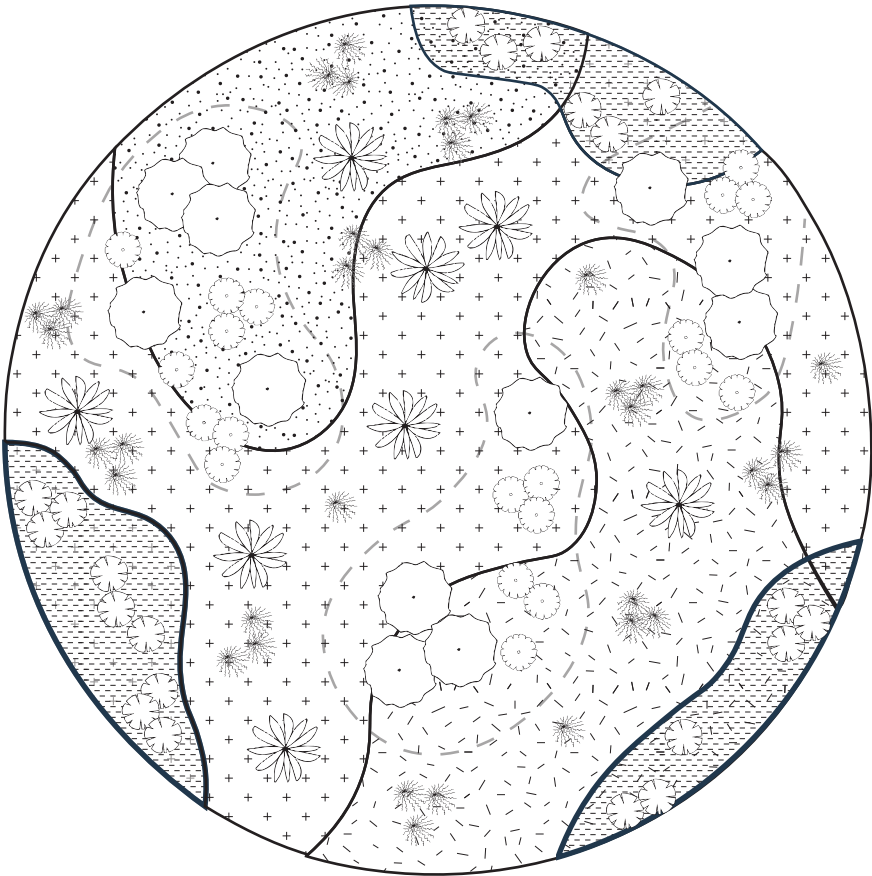
1"=0" = 40'

SITE 1 *Parking Lot Circle*

Inspiration for this site came from California's native grasslands, of which only 1% are still intact. Textured grasses of various heights were mixed with flowering perennials from both grassland and chaparral ecotypes.



Rendering



Planting Plan

- Short**
 - Eriogonum cinereum*
 - Erigeron glaucus*
 - Bouteloua gracilis*
- Medium**
 - Festuca idahoensis*
 - Corethrogyne filaginifolia*
- Tall**
 - Solidago californica*
 - Stipa pulchra*
- Scatter Plants**
 - Lupinus albifrons*
 - Achillea millefolium*

Plant Profiles



Stipa pulchra
● ● ● ● ●



Solidago californica
● ● ● ● ●



Eriogonum latifolium
● ● ● ● ●



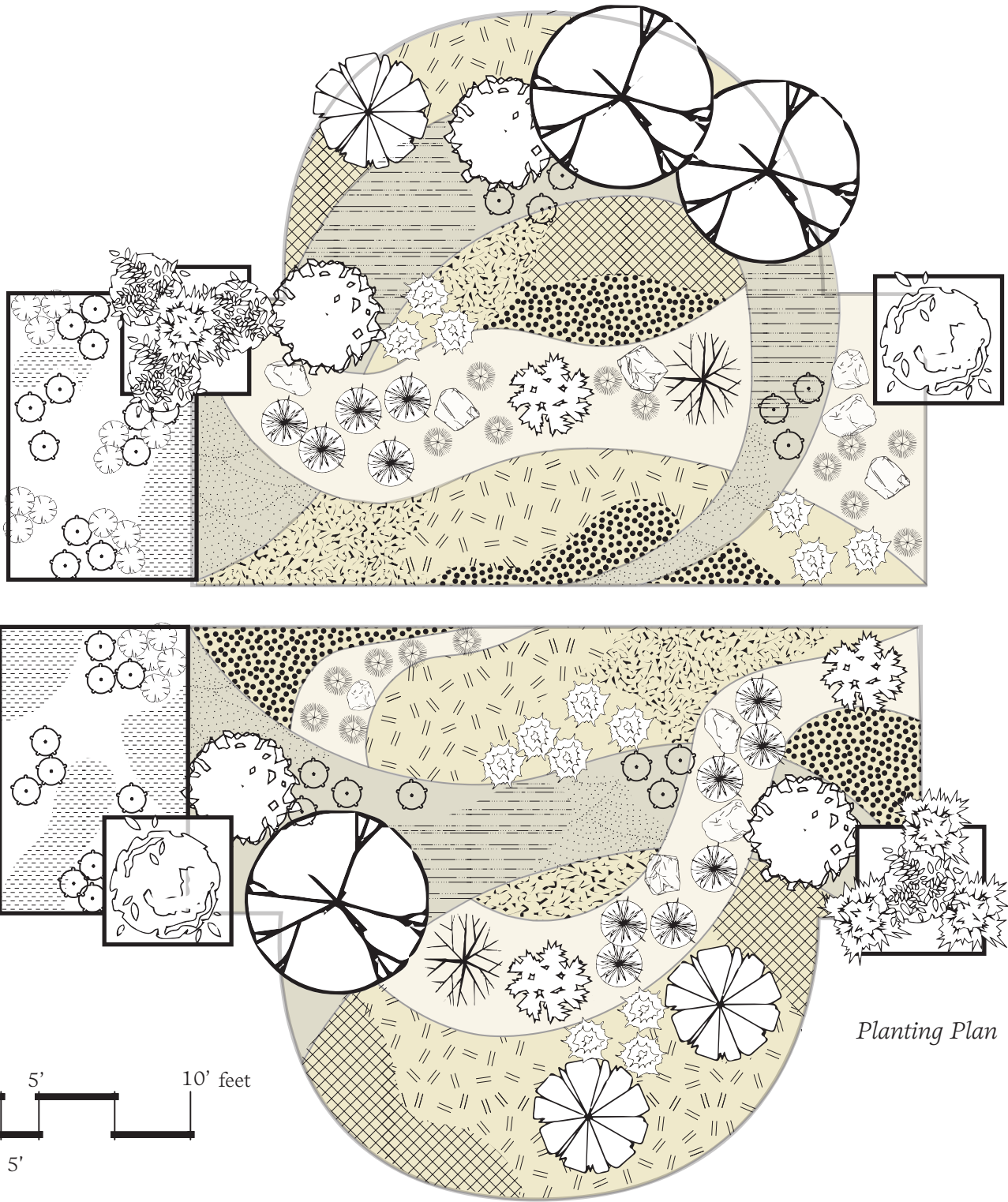
Erigeron glaucus
● ● ● ● ●



Lupinus albifrons
● ● ● ● ●

SITE 2 Front Entry Beds

The front entry creates a mixed mosaic of the coastal scrub (chaparral) three subtypes found through California from the Northern border down to lower San Diego, they include Northern coastal scrub, coastal sage scrub, and maritime succulent scrub. Substrate changes throughout the planting to reflect these plant communities and informs the shape of the planting beds.



North Coast Chaparral / Scrub

- Arctostaphylos densiflora* 'Harmony'
- Ceanothus maritimus* 'Point Sierra'
- Corethrogyne filaginifolia* 'Silver Carpet'
- Monardella villosa* ssp. *villosa*
- Eriogonum latifolium*
- Keckiella cordifolia*
- Arctostaphylos uva-ursi* 'Point Reyes'
- Ceanothus griseus* var. *horizontalis*
- Allium unifolium*
- Erigeron glaucus*

Substrate

- Fine rocky (gravelly) soil with organic matter*
- Dry, sandy soil with slightly more organic matter*
- Well draining rocky, sandy soil with larger rocks*

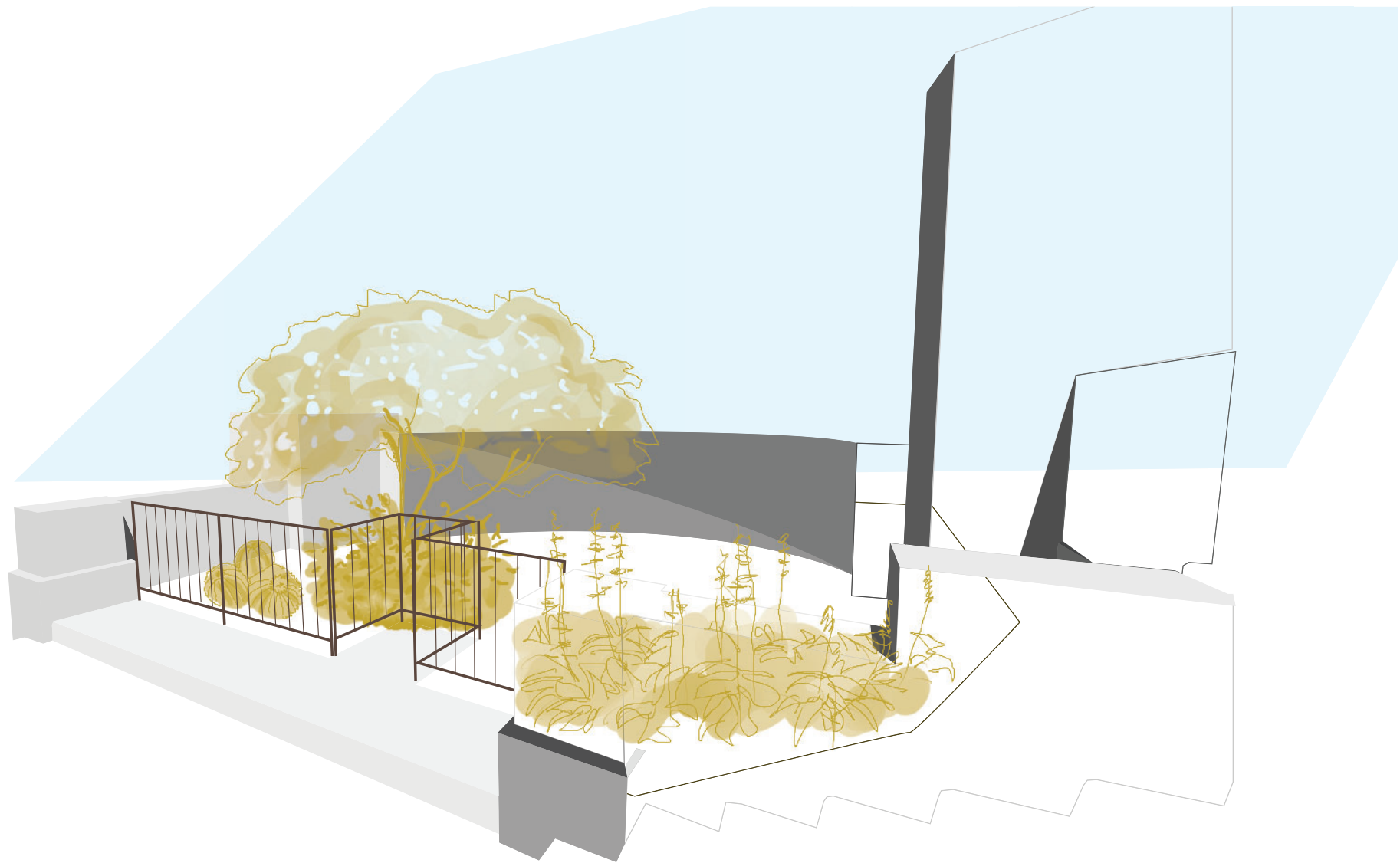
Central Coast Chaparral / Scrub

- Artemisia californica*
- Penstemon centranthifolius*
- Eriogonum grande* var. *rubescens*
- Eriogonum fasciculatum*
- Salvia spathacea*
- Salvia mellifera*

South Coast / Baja Maritime Succulent Chaparral / Scrub

- Bergerocactus emoryi*
- Sphaeralcea ambigua*
- Ferocactus viridescens*
- Dudleya lanceolata*

SITE 2 *Front Entry Beds*



Rendering

Plant Profiles



Ceanothus maritimus
'Point Sierra'



Penstemon centranthifolius



Salvia spathacea



Sphaeralcea ambigua



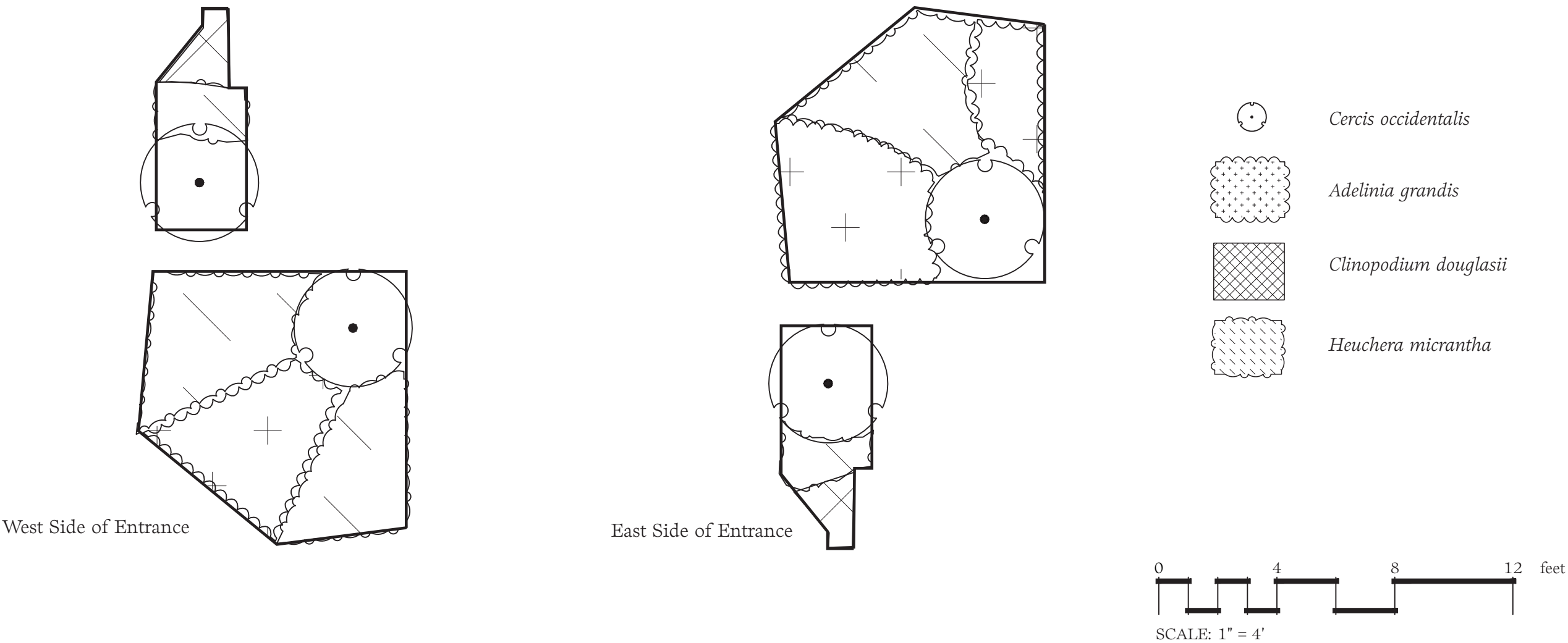
Bergerocactus emoryi



Ferocactus viridescens

SITE 3 *Entrance Door Beds*

Butterfly attractive plants frame the entrance to the tower, providing a novel experience with visitors as they encounter butterflies while walking through the site.



Plant Profiles



Adelinia grandis
● ● ● ●



Clinopodium douglasii
● ● ● ●

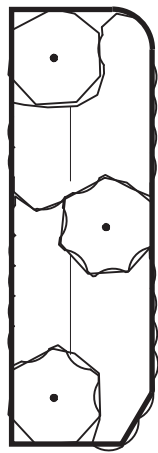


Heuchera micrantha
● ● ● ●

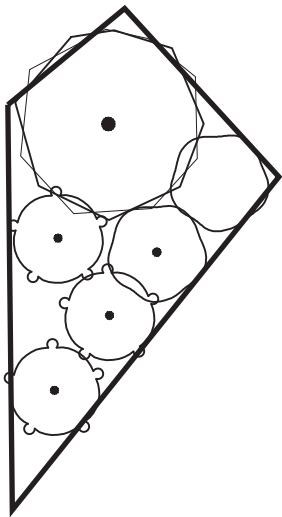
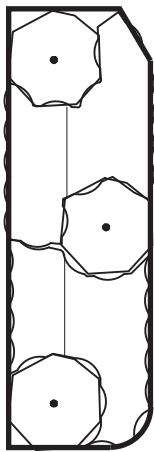


Cercis occidentalis
● ● ● ● ● ●

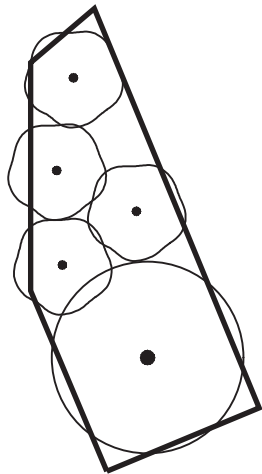
SITE 4 *Rear Tower Beds*



South Facing Rear Beds



Rear Beds Along Stairs and Pathway



Allium unifolium



Clarkia unguiculata



Baccharis pilularis var. consanguinea Pozo Surf



Monardella villosa



Ribese malvaceum



Sisyrinchium bellum



Plant Profiles



Ribes malvaceum
● ● ● ● ● ● ● ●



Clarkia unguiculata
● ● ● ● ● ● ● ●



Monardella villosa
● ● ● ● ● ● ● ●












Allium unifolium
● ● ● ● ● ● ● ●



Heteromeles arbutifolia
● ● ● ● ● ● ● ●

SITE 5 *Lawn*

In this site, lawn is reclaimed as a small woodland glade that mixes woodland and grassland plants to create a semi-wild space that evolves over the season through selective mowing.

- *Bouteloua gracilis*
- *Festuca californica*
- *Festuca rubra 'Molate'*
- *Monardella villosa*
- *Delphinium variegatum*
- *Elegant Clarkia*
Clarkia unguiculata
- *Achillea millefolium*
- *Aster chilensis 'Purple haze'*
- *Allium unifolium*

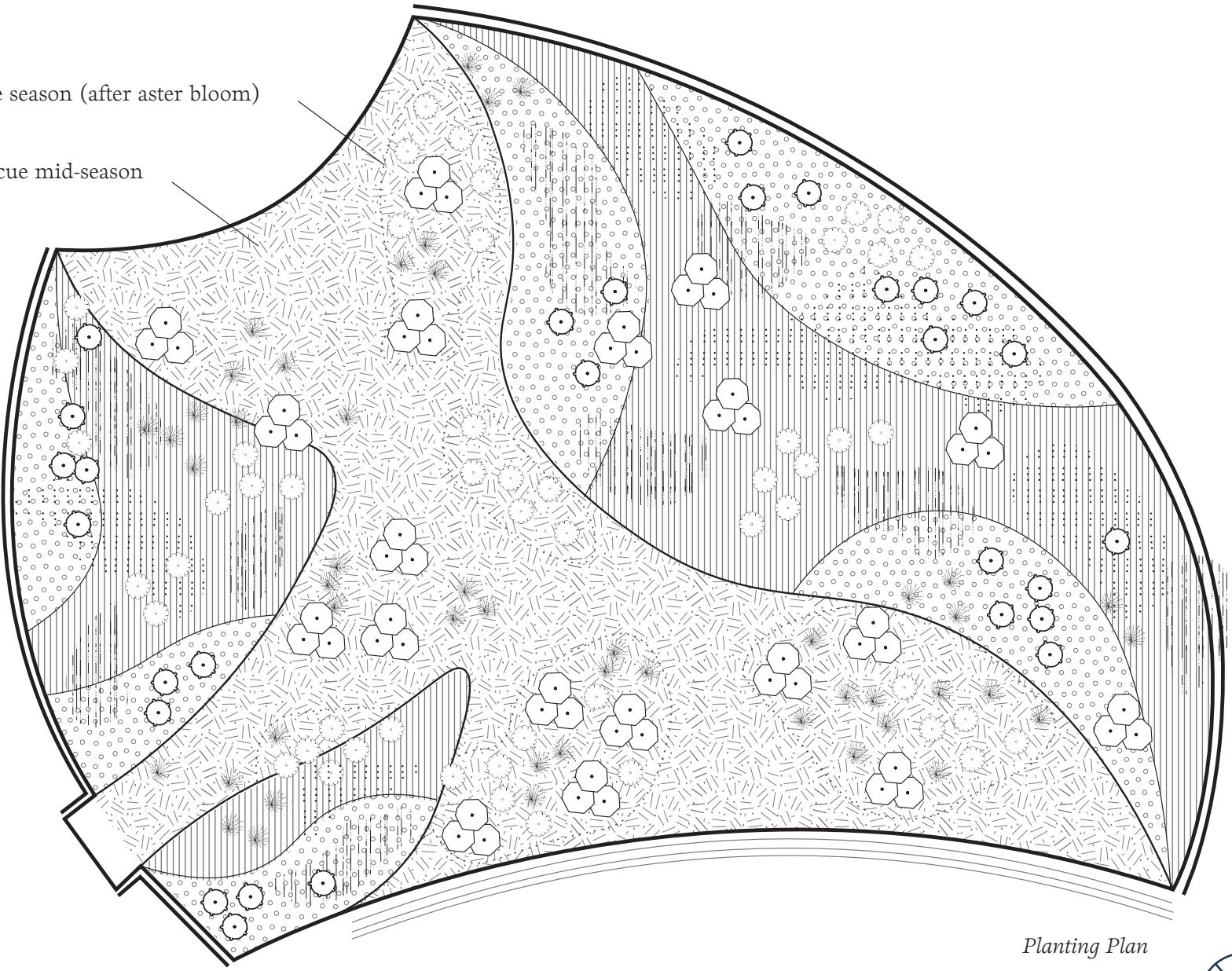
*sow fast growing annuals to fill space while perennials are establishing (Eschscholzia californica, Phalacia spp., Clarkia spp., Lupinus succulentus)

*Mow Festuca rubra during the mid-season to allow wandering pathways and impromptu gathering spaces. Leave flower islands off Aster chilensis until after they bloom

*Plant grass and perennial matrixes on 10-12” inch centers

Mow late season (after aster bloom)

Mow red fescue mid-season



Planting Plan



Plant Profiles



Festuca californica
  



Festuca rubra 'Molate'
  



Delphinium variegatum
    



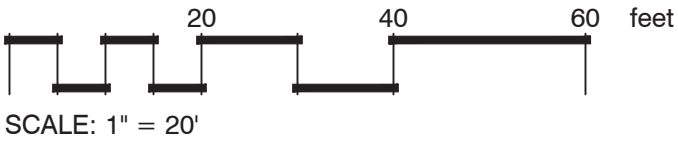
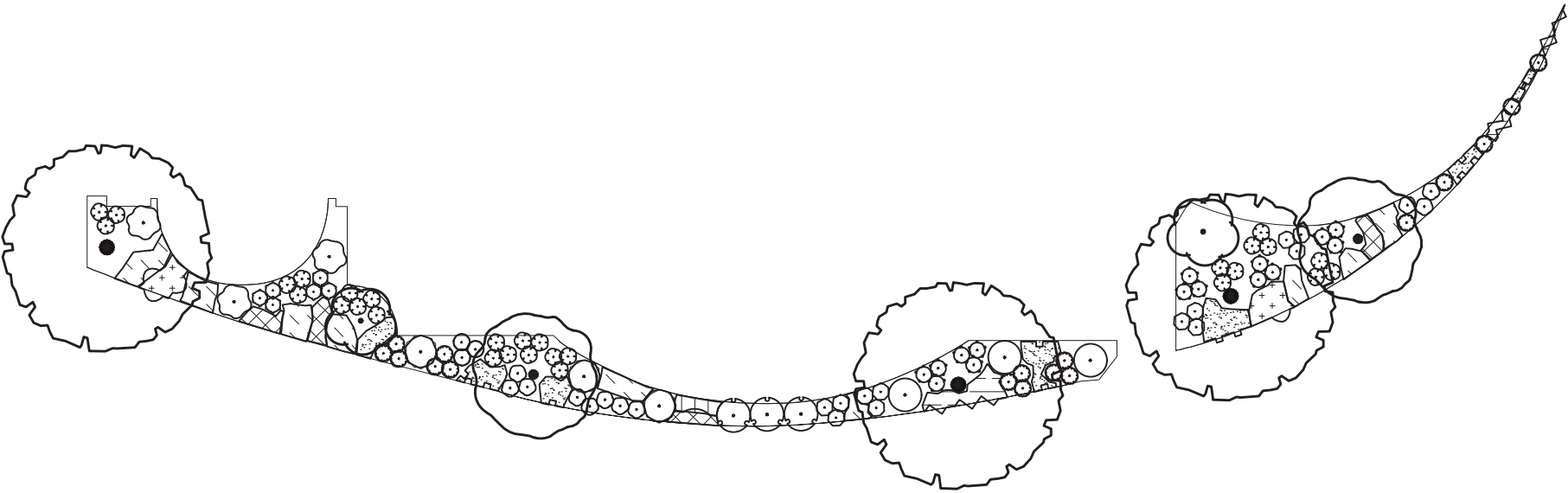
Bouteloua gracilis
   



Aster chilensis 'Purple haze'
  

SITE 6 *ADA Ramp Beds*

Plants from the chaparral and woodland ecotypes throughout the beds to create a colorful and textured experience



Planting Plan

Trees

- Quercus berberidifolia*
- Quercus garryana*

Shrubs

- Ribes aureum*
- Baccharis pilularis var. consanguinea* Pozo Surf
- Heteromeles arbutifolia*
- Ribes sanguineum*
- Ribese malvaceum*
- Sambucus mexicana*

Perennials

- Allium unifolium*
- Clarkia unguiculata*
- Epilobium canum*

Perennials

- Erigeron glaucus*
- Iris innominata* 'Ed Wood'
- Monardella villosa*

Perennial Areas

- Adelinia grandis*
- Clinopodium douglasii*
- Corethrogyne filaginifolia* 'Silver Carpet'
- Eriogonum latifolium*
- Heuchera micrantha*
- Sisyrinchium bellum*

Plant Profiles



Quercus garryana



Sambucus mexicana



Symphyotrichum chilense



Iris innominata 'Ed Wood'



Sisyrinchium bellum


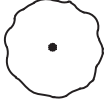
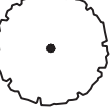

SITE 7 South Area Bed

The existing trees around the site are complemented with native woodland understory and oaks to create a functional habitat for wildlife.


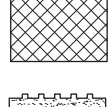
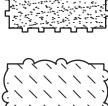




Planting Plan










Trees

-  *Aesculus californica*
-  *Quercus berberidifolia*
-  *Quercus garryana*
-  *Ribes aureum*

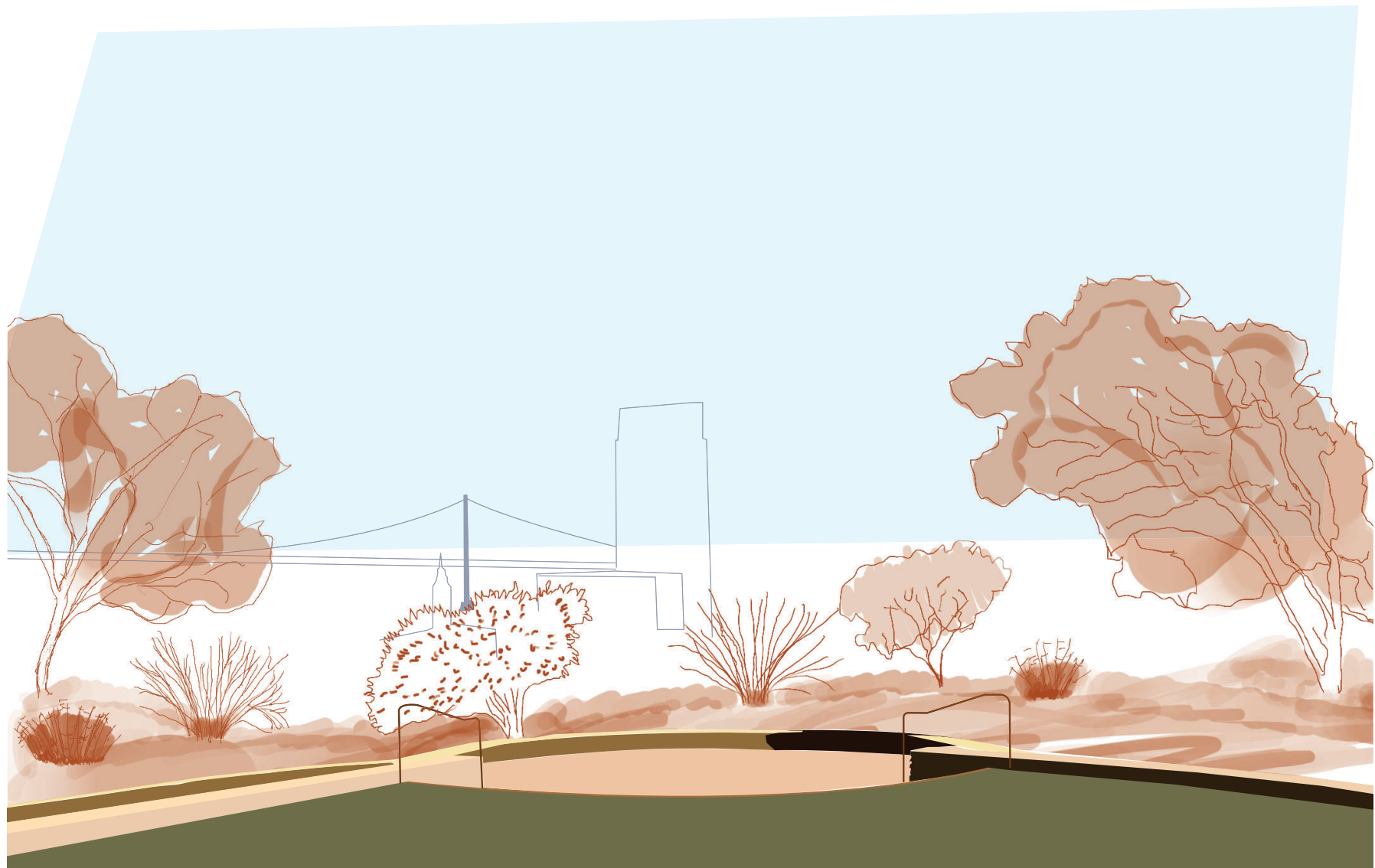
Shrub Areas

-  *Adelinia grandis*
-  *Clinopodium douglasii*
-  *Corethrogyne filaginifolia* 'Silver Carpet'
-  *Heuchera micrantha*
-  *Sisyrinchium bellum*

Shrubs

-  *Arctostaphylos pajaricensis* 'Lester Rowntree'
-  *Cercis occidentalis*
-  *Clarkia unguiculata*
-  *Epilobium canum*
-  *Heteromeles arbutifolia*
-  *Iris innominata* 'Ed Wood'
-  *Monardella villosa*
-  *Ribese malvaceum*
-  *Sambucus mexicana*

SITE 7 *South Area Bed*



Rendering

Plant Profiles



Quercus berberidifolia
● 🦋 🐦 🐦 🐦



Aesculus californica
● 🦋 🐦



Epilobium canum
● 🦋 🐦 🐦 🐦



Ribes aureum
● 🦋 🐦 🐦 🐦

SITE 8 *Parking Lot Outer Bed*

Among the boundaries of the site native chaparral plants blend into the surrounding landscape while providing structure and color along with wildlife benefits to local fauna.

Trees

Ribes aureum

Shrubs

Ribese malvaceum

Shrubs

Artemisia californica

Sambucus mexicana

Baccharis pilularis

Shrub Areas

Clinopodium douglasii

Erigeron glaucus

Sisyrinchium bellum

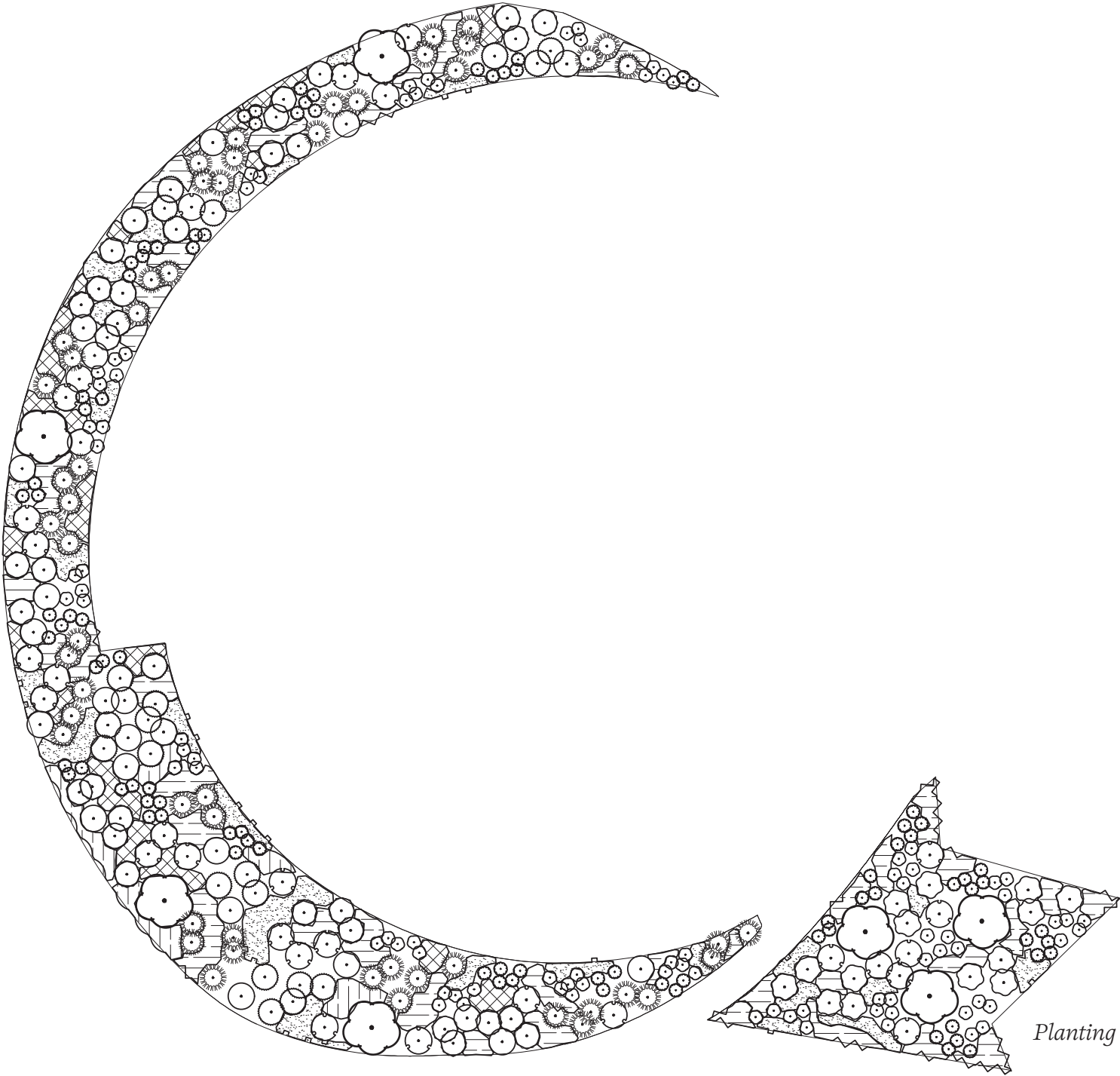
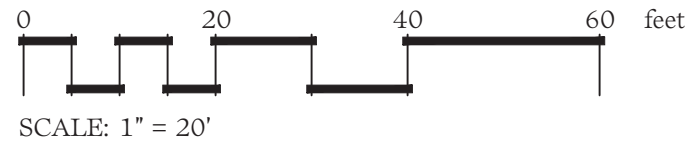
Heteromeles arbutifolia

Eriogonum latifolium

Monardella villosa

Ribes sanguineum

Corethrogyne filaginifolia 'Silver Carpet'



Planting Plan

Plant Profiles



Baccharis pilularis
● ● ● ● ● ●



Artemisia californica
● ● ● ● ● ●

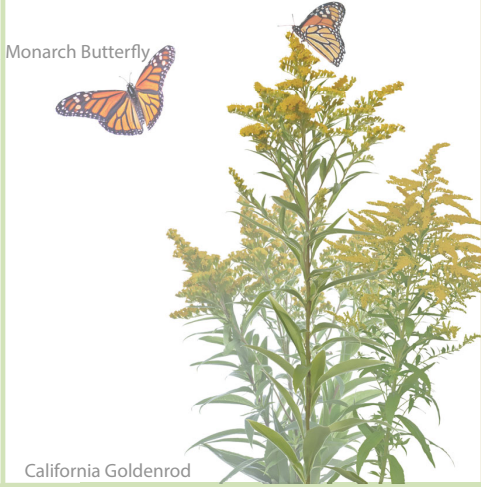


Ribes sanguineum
● ● ● ● ● ●

2 Grassland Pollinators and Plants



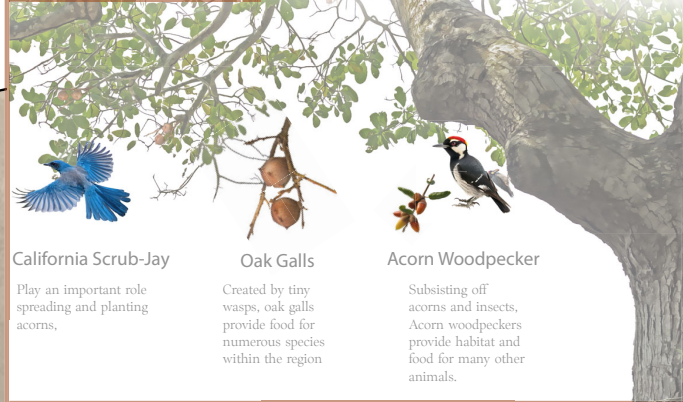
3 Grassland Food and Habitat



5 Grassland Root Structures



1 Coast Live Oak Relationships



4 Chaparral Recovery



1 Oak woodlands and the oaks characteristic of them are keystone plants that provide a myriad of connections and habitats, more than any other plant community in the region.

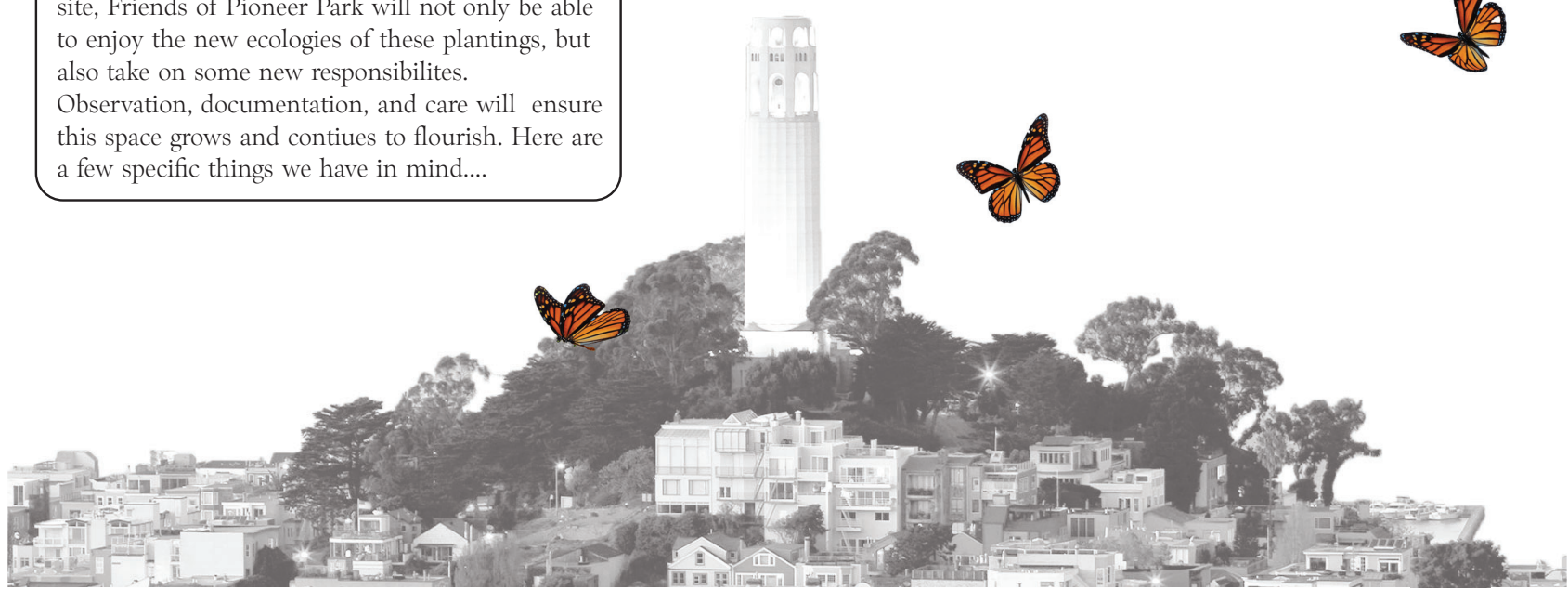
2 Bee pollinators can be categorized as specialist or generalist. Specialist bees have evolved a particular relationship with distinct plant species and the pollen they provide for the bee's reproduction. A large variety of blooming plants within the landscape and flowering throughout the season will ensure ideal habitat for a wide spectrum of pollinators.

3 The Monarch butterfly overwinters in habitats around San Francisco. Landscape connections, like the creation of nectar way-stations can assist these butterflies as they migrate back and forth from their overwintering groves. Plants that bloom in the fall, winter, and spring are particularly important

4 The locally-endangered Costal Green Hairstreak butterfly relies on specific native plants for survival. To support the recovery of this species, plants like coastal buckwheat and seaside daisy from the coastal scrub habitat are included in our design to serve as butterfly host and nectar plants.

5 California has lost 99% of its native grasslands. These landscapes provide benefits that will become invaluable during climate change. The root systems of many native grasses are able to soak up, filter, and store water. Additionally, they can store enormous amounts of carbon in their roots, and anchor soil in place.

As the current and future stewards of this site, Friends of Pioneer Park will not only be able to enjoy the new ecologies of these plantings, but also take on some new responsibilities. Observation, documentation, and care will ensure this space grows and continues to flourish. Here are a few specific things we have in mind....



For perennial flowering plants like aster, there are different options for dealing with seasonal changes.

Not deadheading dried flowers them will allow plants to self seed and fill out the beds more.

If deadheading is desirable for aesthetic reasons, cutting lower on the plant can allow insects to nest inside of stems



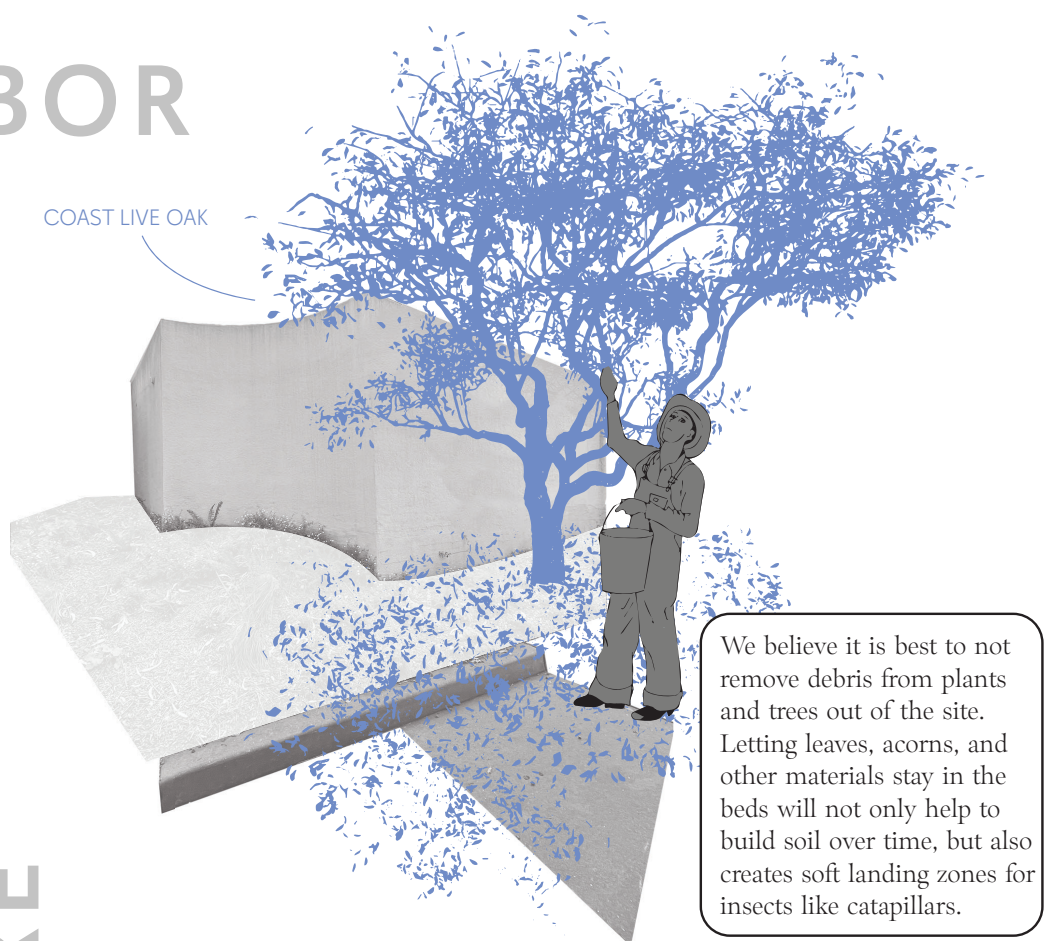
LABOR

MAINTENANCE

In a changing climate, new plants may be better suited to the Bay Area. By incorporating plants from similar ecosystems further south in California, we can understand how our local flora and fauna are changing.

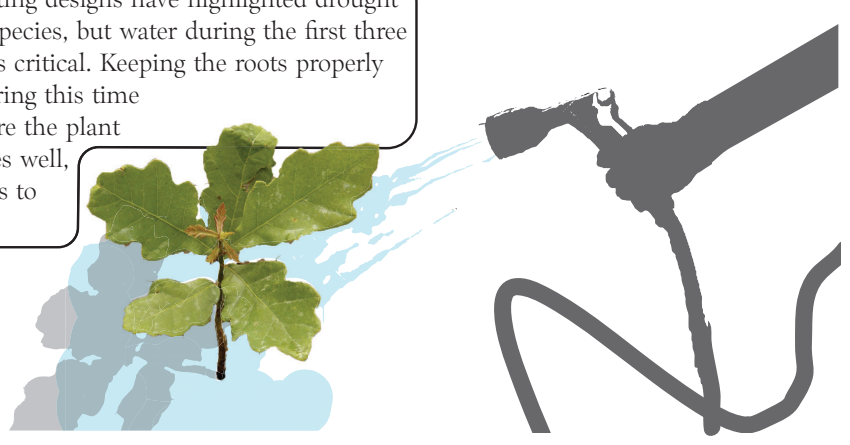
If a plant establishes well, attracts pollinating insects, and doesn't become too dominant, we'll know that this plant could be an adaptive species to bolster native ecologies.

If a plant requires intensive maintenance to grow to maturity, or isn't being used for habitat or food, maybe this isn't the right environment. Failures like this are where the most valuable learning happens



CARE

Our planting designs have highlighted drought tolerant species, but water during the first three months is critical. Keeping the roots properly moist during this time will ensure the plant establishes well, and grows to maturity.



CREDITS AND SOURCES

Design by:

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-  Chris Copeland
-  Liz Forelle
-  Matt Jernigan

*All students of the MLA program at
University of Washington in Seattle*



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