# STEAMBOAT MOUNTAIN SCHOOL

***FINAL CAMPUS REDESIGN*** BY MAX FAUST ELLA LAPELLO AND JACK JENSEN

LAND 3100:GREEN SCHOOLYARDS OF THE FUTURE

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Detail Plan

Section

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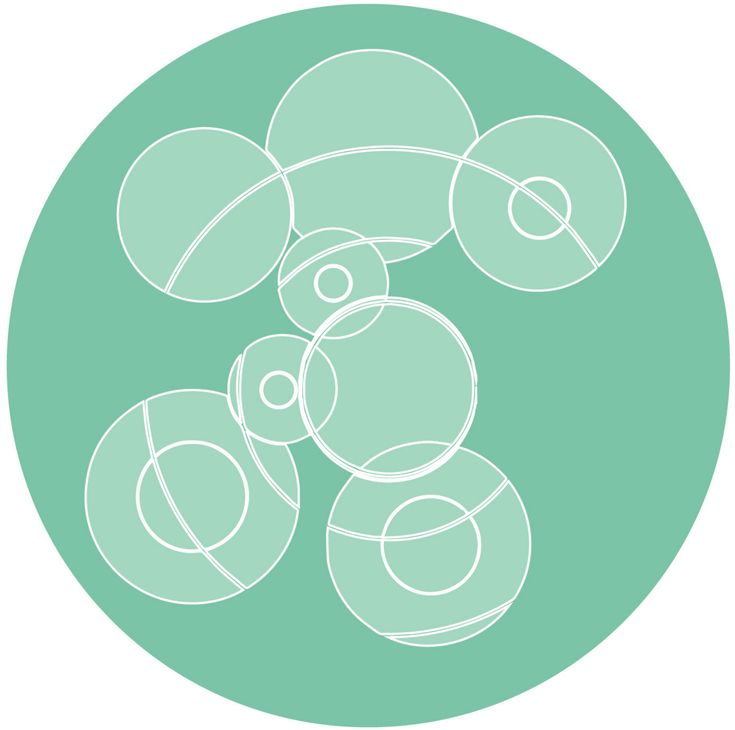
# Goals

## Unity

Create unity and cohesion throughout campus



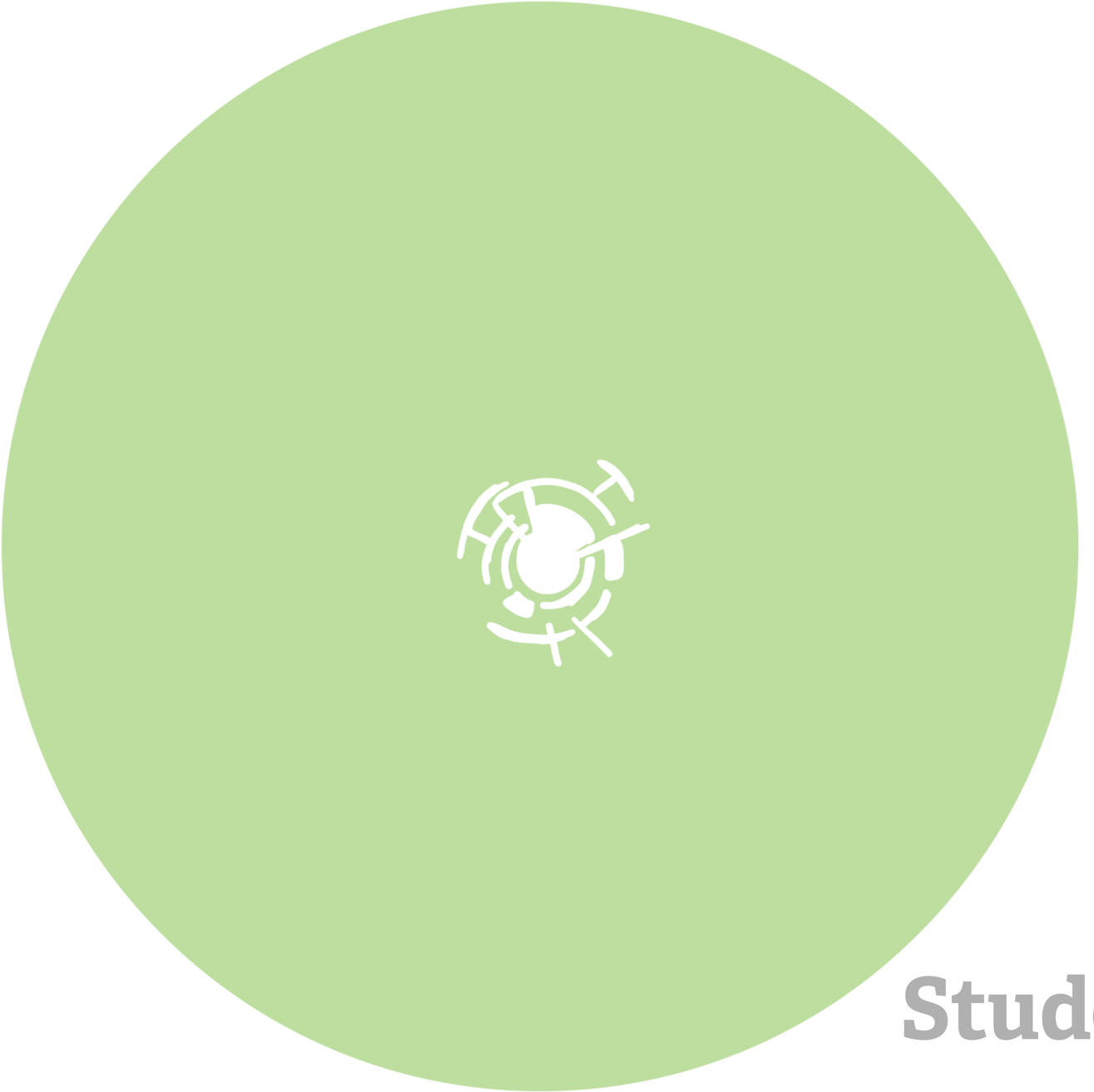
## Program

Implement activities and programed space for students

## Vegetation

Introduce a robust ecosystem of vegetation

Concept

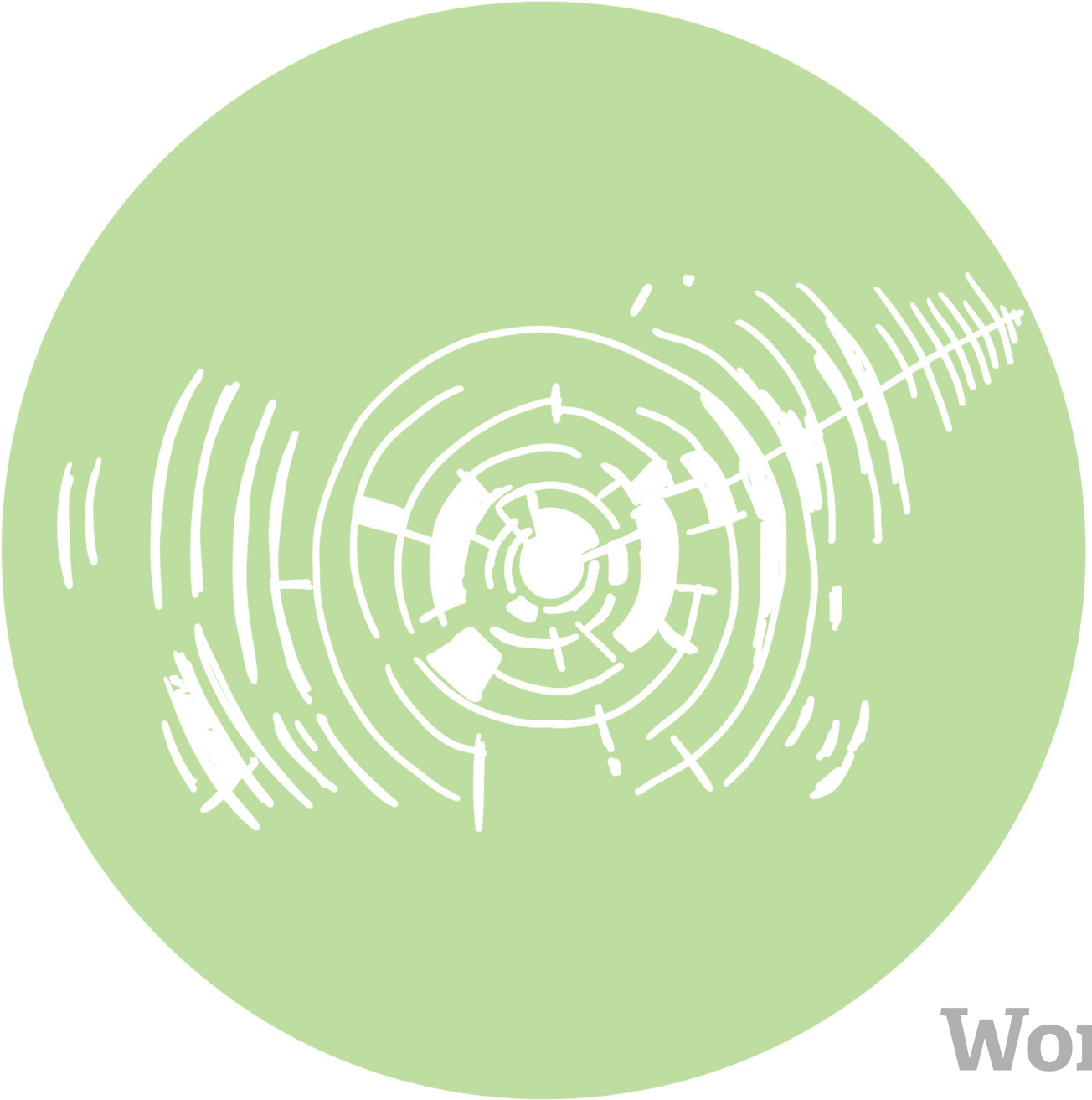


Student

Concept

School

Concept



World

# Program

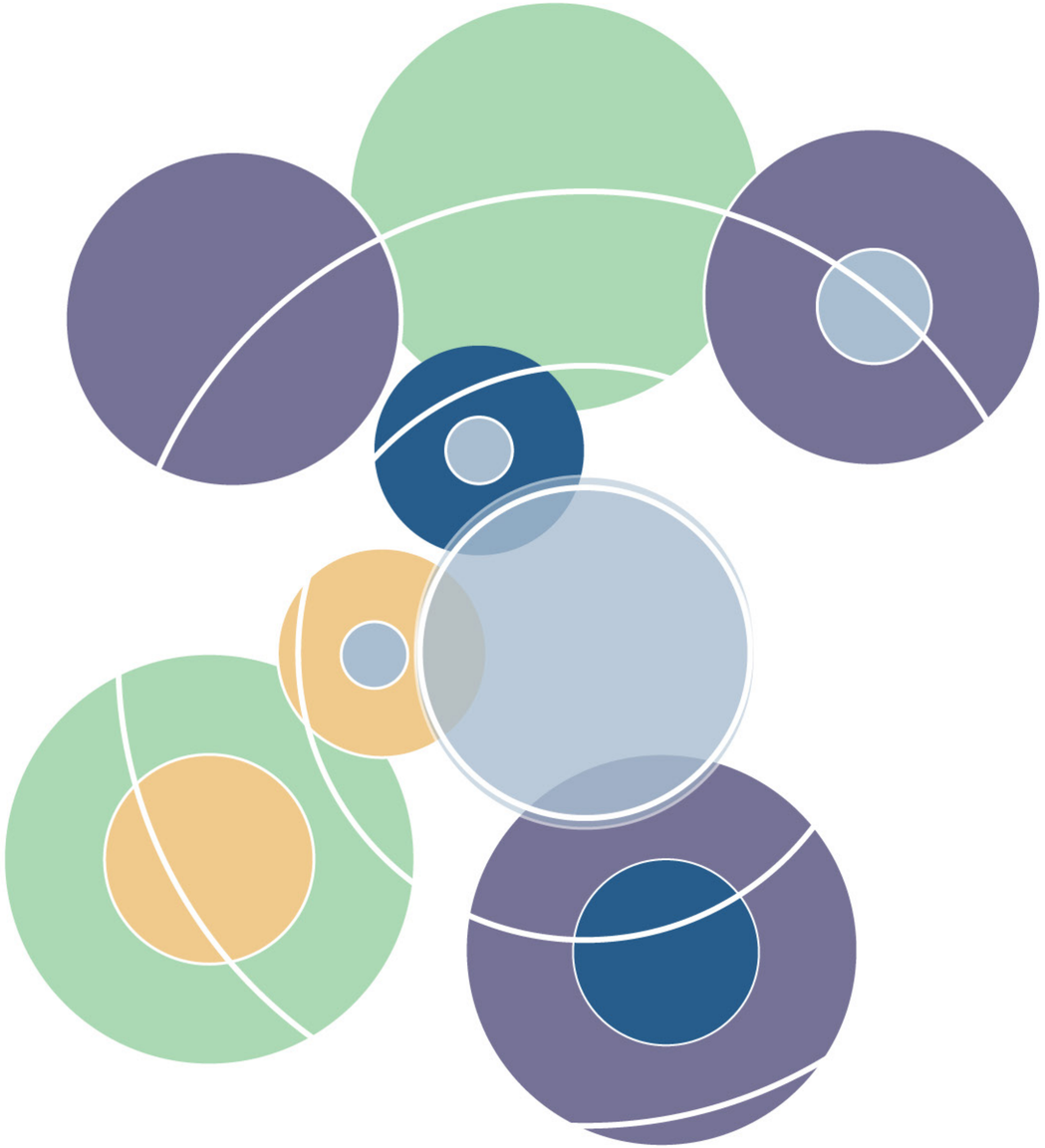
Social Space

Active Space

Educa -tion

Tranquil Space

Flexible Space



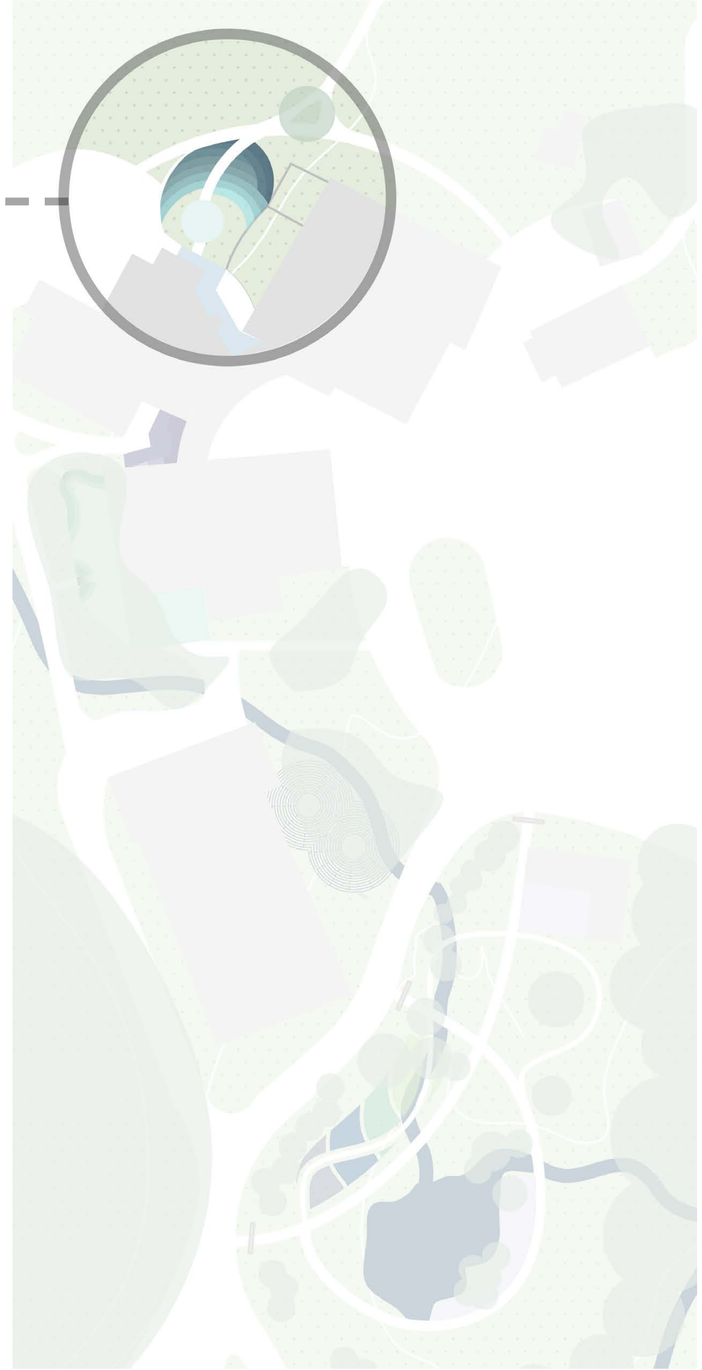
# Site Layout Plan

Site Layout Plan

# Amphitheater

*Opportunities:*

- Introduce new stormwater management
- **Implement covered outdoor space for enjoyment all year**
- **Create an extension to new student center**
- Rework pathways for optimal circulation
- Utilize existing slope
- Create space for various sized gatherings

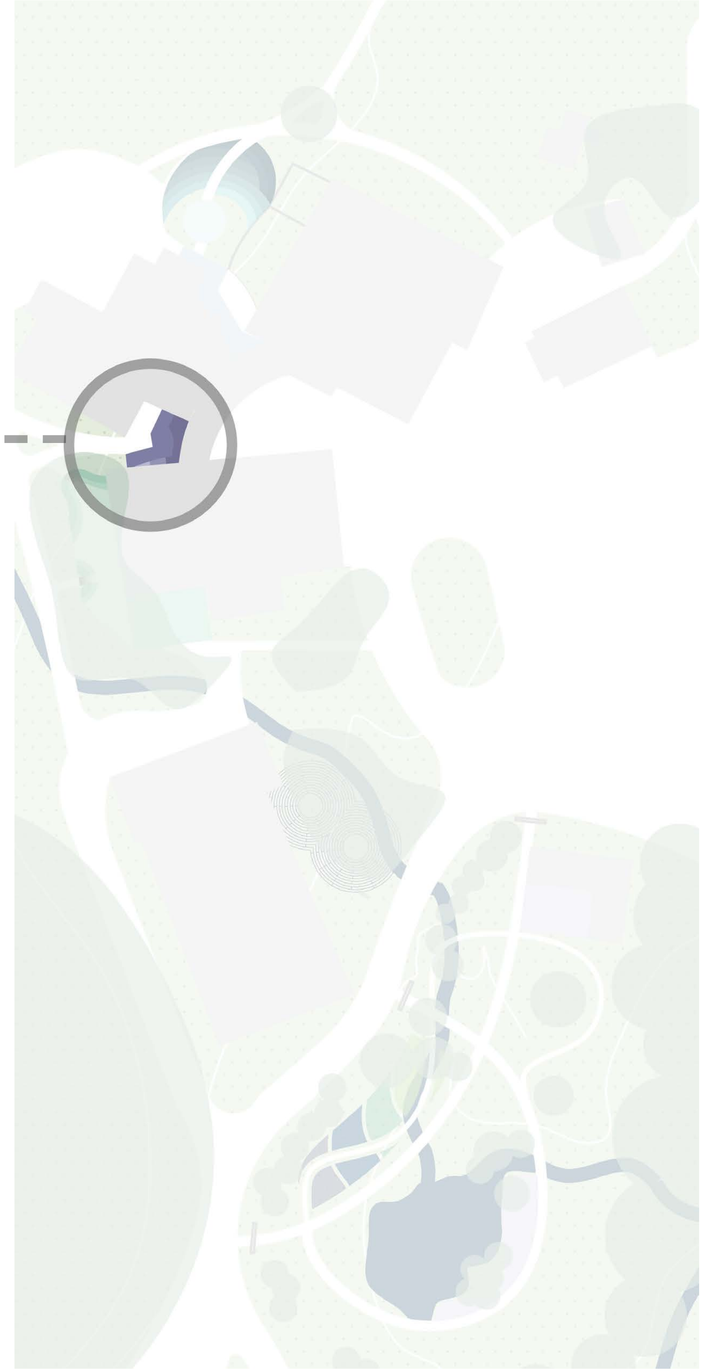


Site Layout Plan

# Climbing Wall

*Opportunities:*

- Add programming to center of campus
- **Provide activity for students**
- Expand on existing indoor climbing wall
- Collect and mitigate roof runoff
- Introduce permeable groundcover
- **Add outdoor dining space adjacent to dining hall**
- Provide space for socialization



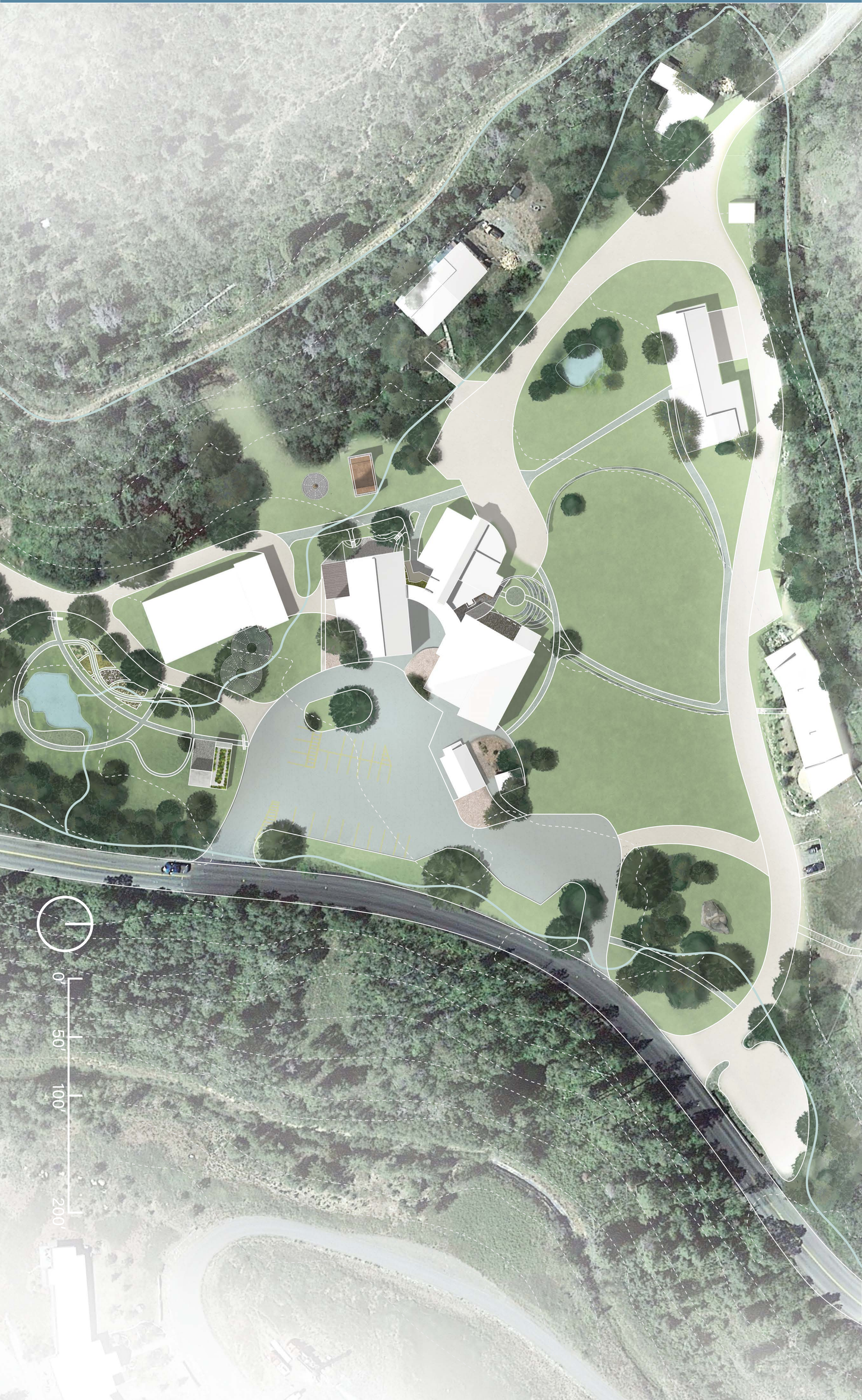
# Site Layout Plan

*Opportunities:*

- Provide space for elementary students to visit
- **Implement larger greenhouse and outdoor classroom space.**
- **Introduce a robust landscape that lends itself to educating students**
- Capitalize on the serenity of the south pond on campus

## Learning Garden

# Site Plan



# Planting Diagram


## CLIFF GARDEN
***SA. Sedum*** Autumn Joy
***SS.Sedum spurium*** Voodoo Stonecrop
***DA. Delosperma ashtonii*** Ice Plant

## HIGH ALPINE
***KH. Kniphofia hirsuta*** Torch Lily
***LP. Liatris punctata*** Dotted Blazing Star
***PP. Pulsatilla patens*** Eastern Pasqueflower
***FP. Fallugia paradoxa*** Apache Plume

## POLLINATOR
***SC. Sphaeralcea coccinea*** Scarlet Globemallow
***RH. Rudbeckia hirta*** Black Eyed Susan
***PP. Pulsatilla patens*** Eastern Pasqueflower
***AM. Achellia millefolium*** Yarrow

## INFILTRATION GARDEN
***SP. Salix planifolia*** Tealeaf Willow
***AC. Anenome canadensis*** Canada Anenome
***AA. Angelica atropurpurea*** American Angelica
***PV. Physostegia virginiana*** Obedient Plant
***CB. Carex Bicknelli*** Copper Shouldered Oval Sedge
***CV. Carex vulpinoidea*** Fox Sedge

## SHADE GARDEN
***AQ. Aquilegia coerulea*** Colorado Columbine
***SB. Stachys byzantina*** Lambs ear
***PU. Prunus Pumilla*** Sand Cherry

## NATIVE GRASSES
***BG. Bouteloua gracilis*** Blue Grama
***SN. Sorghastrum nutans*** Yellow indiangrass
***PI. Panicum virgatum*** Switchgrass
***AG. Adropogon gerardii*** Big Bluestem
***SS. Schizacyrium scoparium*** Little Bluestem

# Materials

**Primary Path:**
1 1/4” Crushed Gravel

**Secondary Path:**
Trail

**Pavers:**
Flagstone

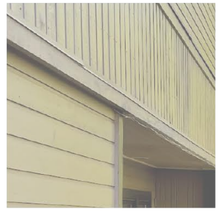
**Pavers:**
Circular cut brick

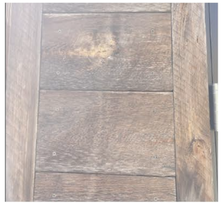
**Primary Wood:**
Untreated Redwood

**Secondary Wood:**
Burnt Cedar

**Retaining Wall:**
Silver quartzite

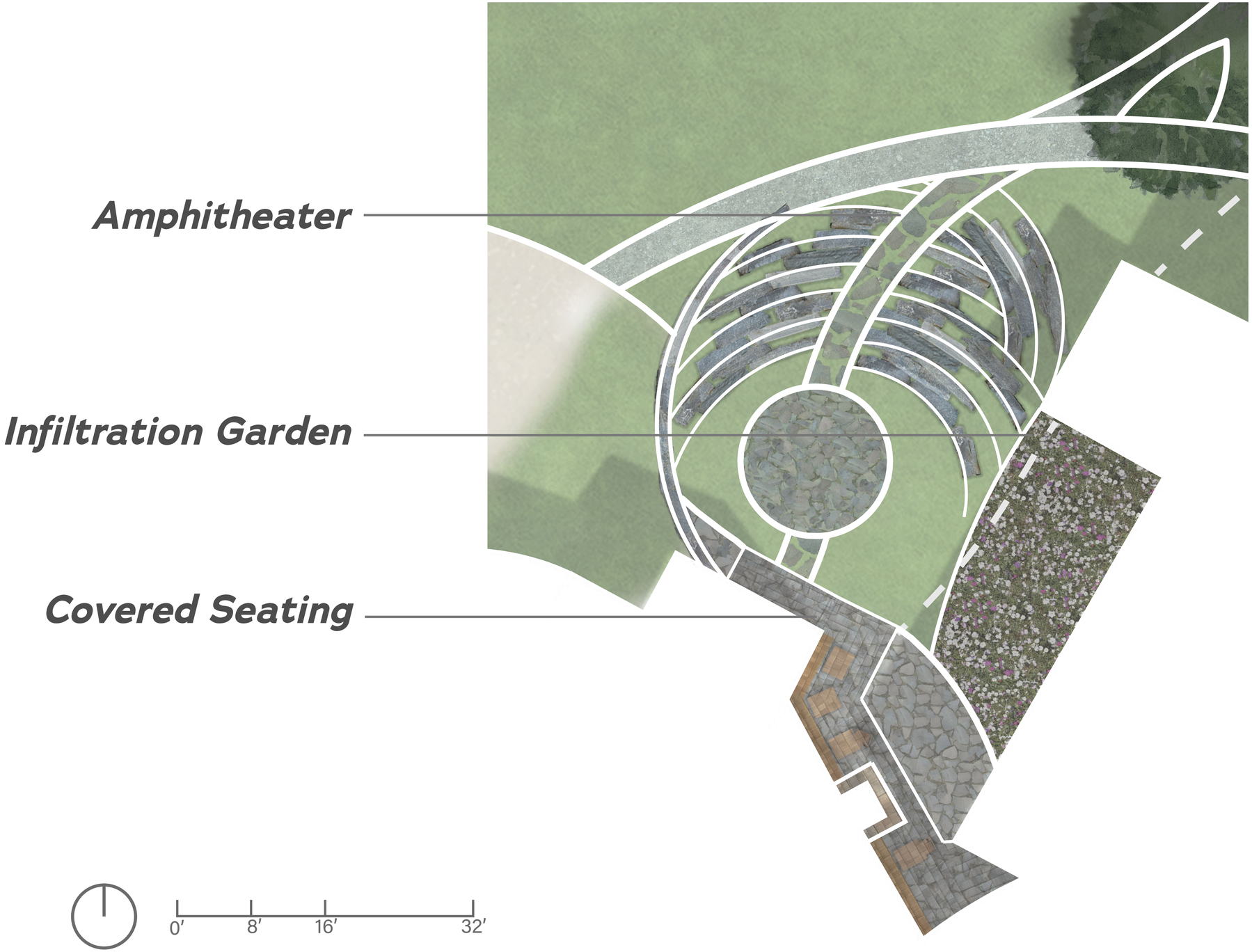
**Amphitheater:**
Set stone slabs



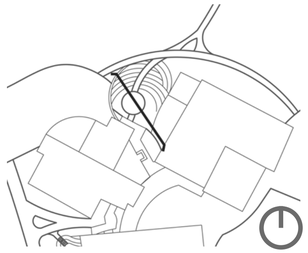


**Existing Materials on Campus**

# Amphitheater

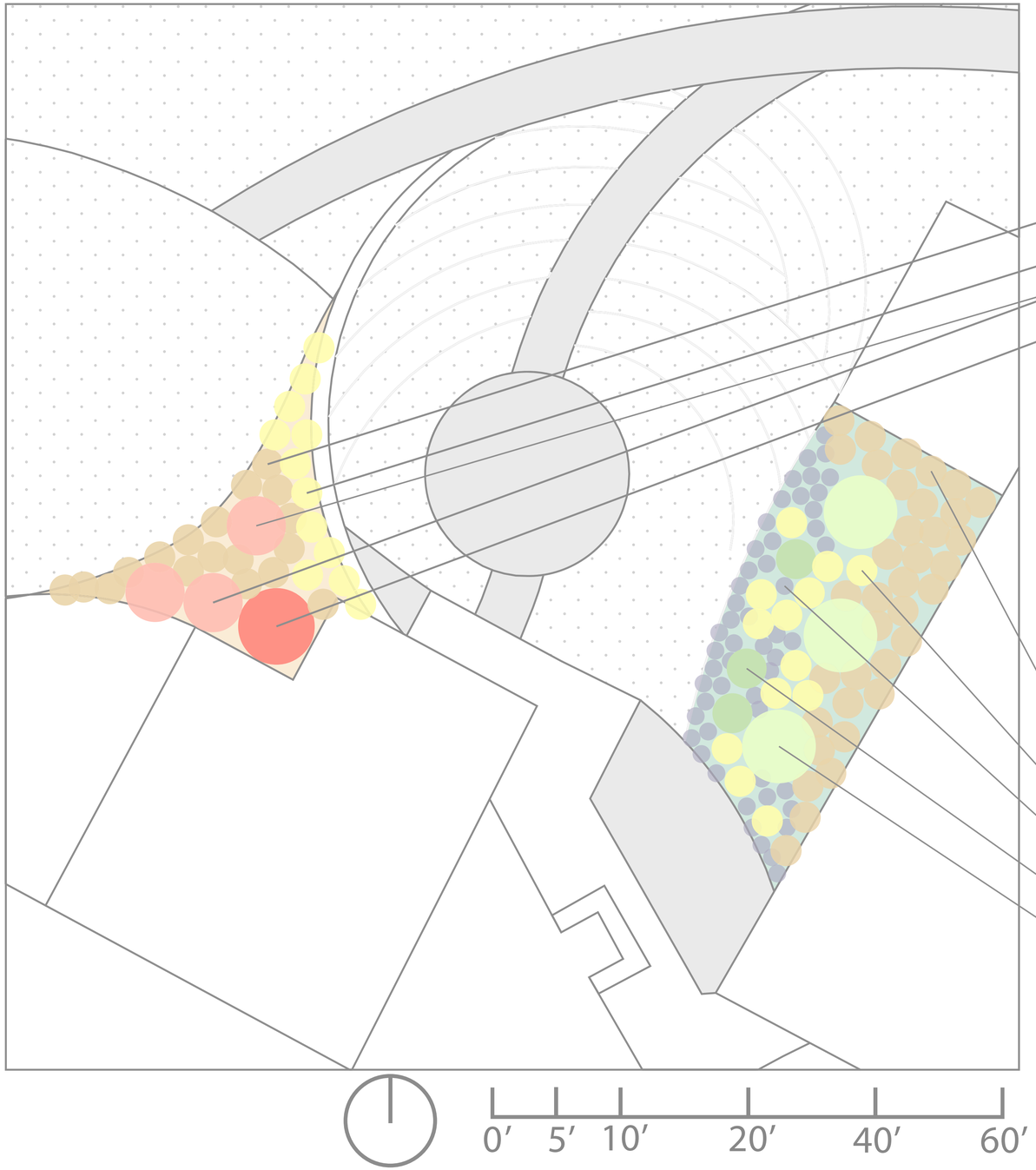


# SECTION CUT OF AMPHITHEATER



0′ 2.5′ 5′ 10′

# Planting Plan

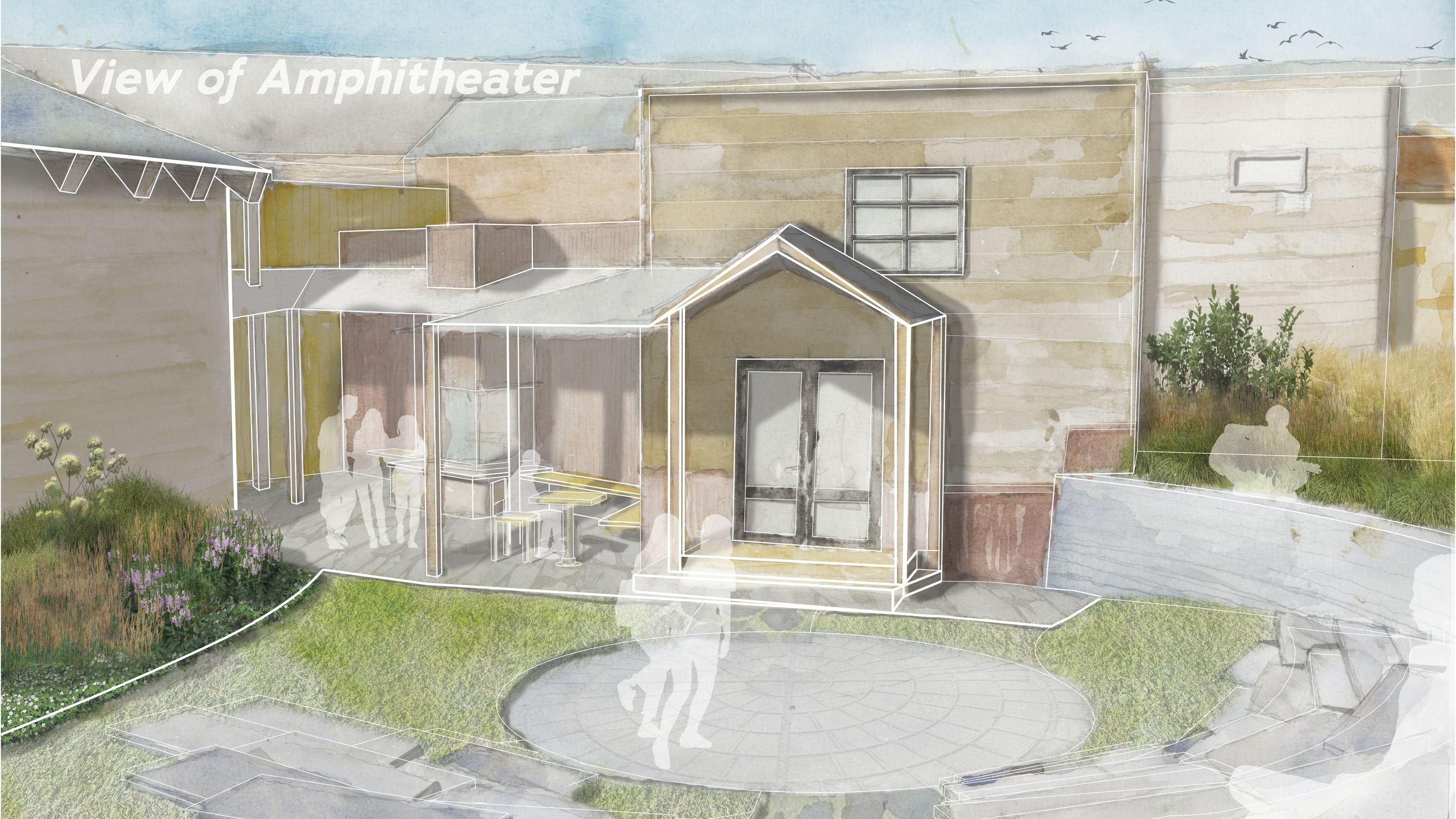



## NATIVE GRASSES

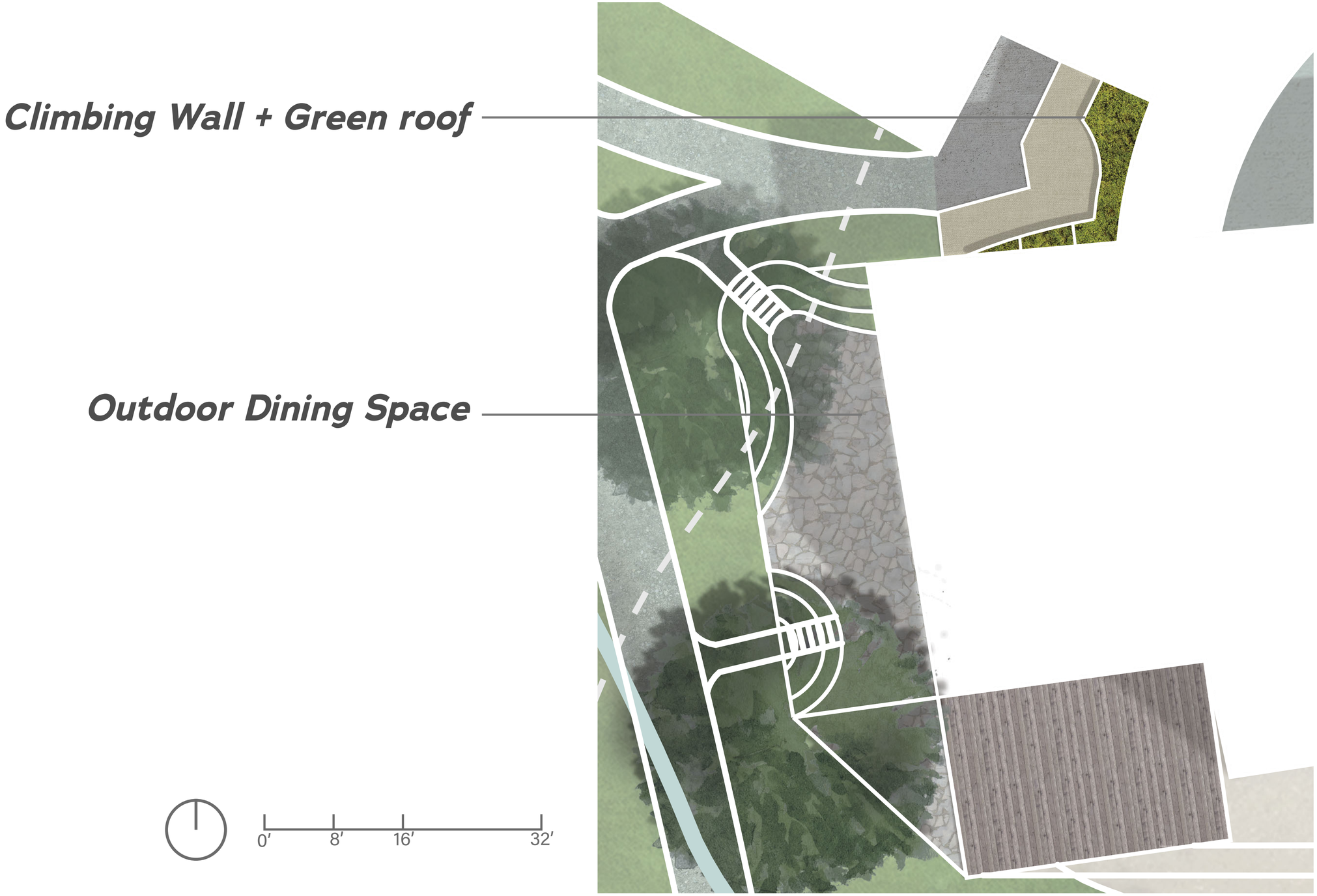
| | |
|---|---|
| ***CB. Carex bicknelli*** Copper Shouldered Oval Sedge | 18 |
| ***CV. Carex vulpinoidea*** Brown Fox Sedge | 12 |
| ***PE. Panicum vergatum*** Switchgrass | 3 |
| ***PP. Prunus pumila*** Sand Willow | 1 |

## INFILTRATION GARDEN

| | |
|---|---|
| ***CB. Carex bicknelli*** Copper Shouldered Oval Sedge | 36 |
| ***CV. Carex vulpinoidea*** Brown Fox Sedge | 13 |
| ***AC. Anenome canadensis*** Canada Anenome | 53 |
| ***PV. Physostegia virginiana*** Obedient Plant | 3 |
| ***A. Angelica atropurpurea*** Angelica | 3 |


View of Amphitheater

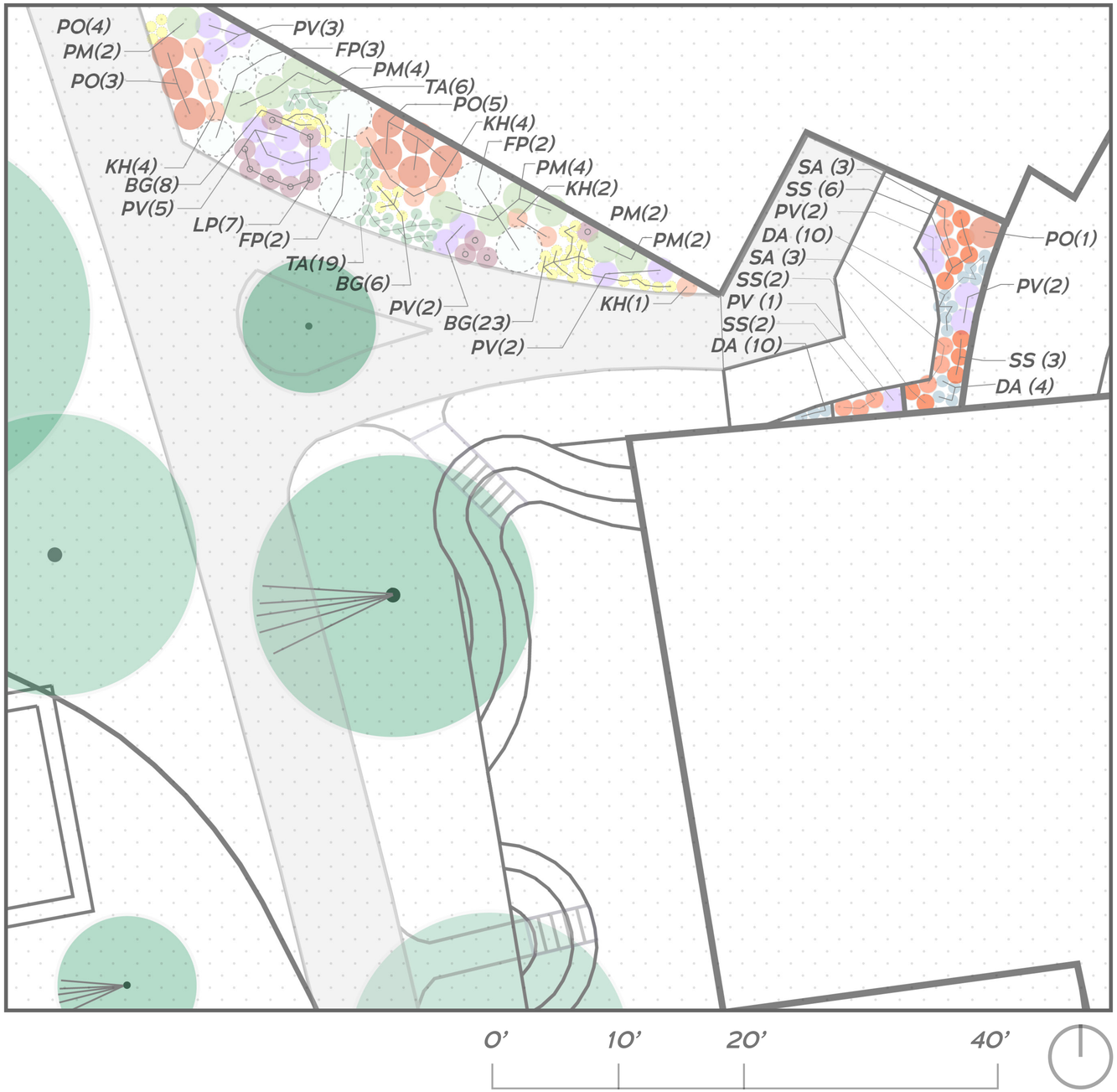
# Climbing Wall



Section

# SECTION CUT OF CLIMBING WALL

# Planting Plan




## CLIMBING WALL GREEN ROOF

***SA. Sedum*** Autumn Joy
***SS. Sedum spurium*** Voodoo Stonecrop
***DA. Delosperma ashtonii*** Ice Plant
***PM. Pyhsocarpus Opulipholius*** Red Mtn Ninebark
***PM. Pyhsocarpus monogynus*** Mountain Ninebark
***PV. Physostegia virginiana*** Obedient Plant

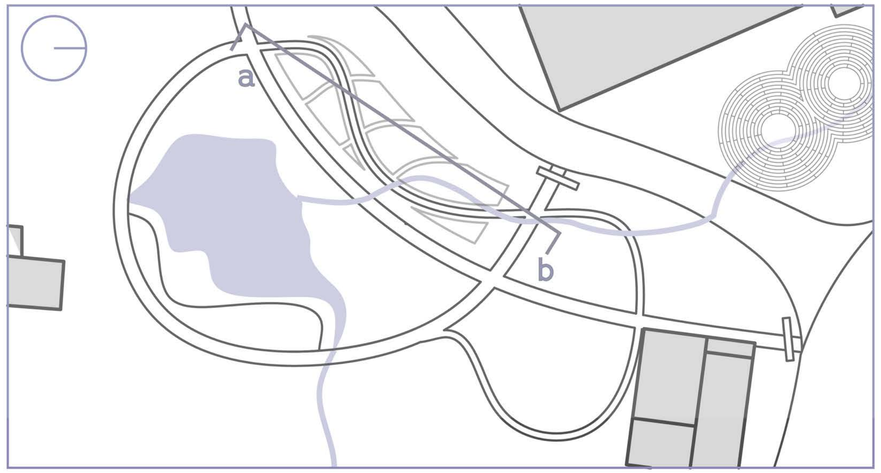
## HIGH ALPINE

***KH. Kniphofia hirsuta*** Torch Lily
***LP. Liatris punctata*** Dotted Blazing Star
***TA. Thymus Albiflorus*** White Creeping Thyme
***FP. Fallugia paradoxa*** Apache Plume
***BG. Bouteloua gracilis*** Blue Grama

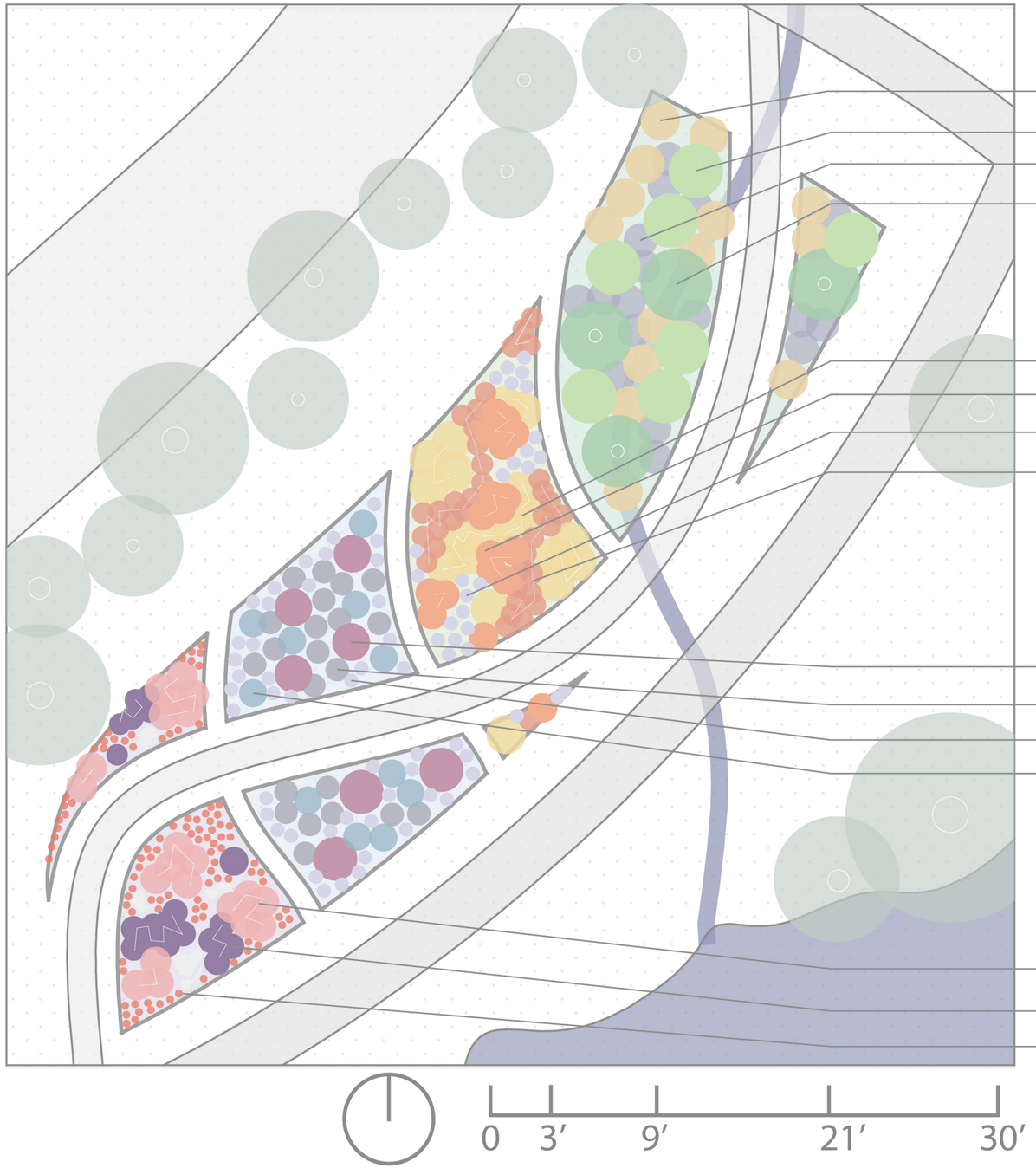

View of Climbing Wall

# Learning Garden

# SECTION CUT OF TIERED LEARNING GARDEN




# Planting Plan




## INFILTRATION GARDEN

| | |
|---|---|
| ***CB. Carex Bicknelli*** Copper Shouldered Oval Sedge | 14 |
| ***AC. Anenome canadensis*** Canada Anenome | 7 |
| ***PV. Physostegia virginiana*** Obedient Plant | 17 |
| ***SP. Salix planifolia*** Tealeaf Willow | 4 |

## POLLINATOR

| | |
|---|---|
| ***SC. Sphaeralcea coccinea*** Scarlet Globemallow | 39 |
| ***RH. Rudbeckia hirta*** Black Eyed Susan | 19 |
| ***PP. Pulsatilla patens*** Eastern Pasqueflower | 15 |
| ***AM. Achellia millefolium*** Yarrow | 10 |

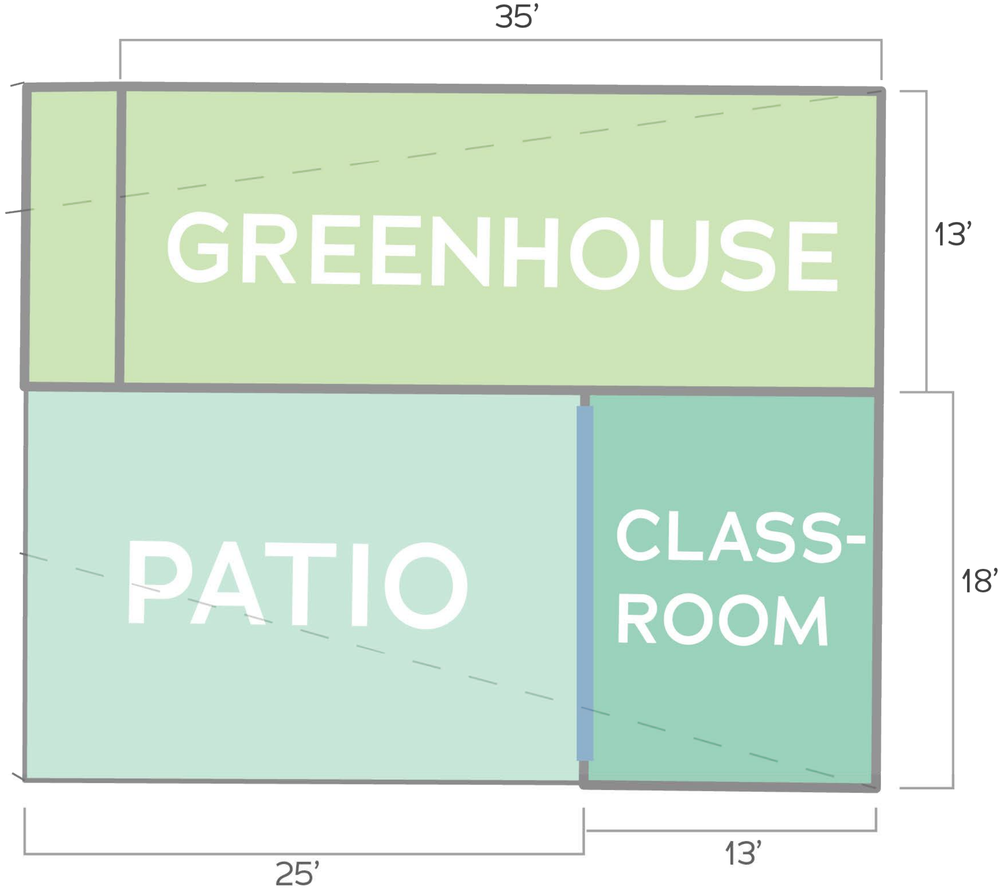
## HIGH ALPINE

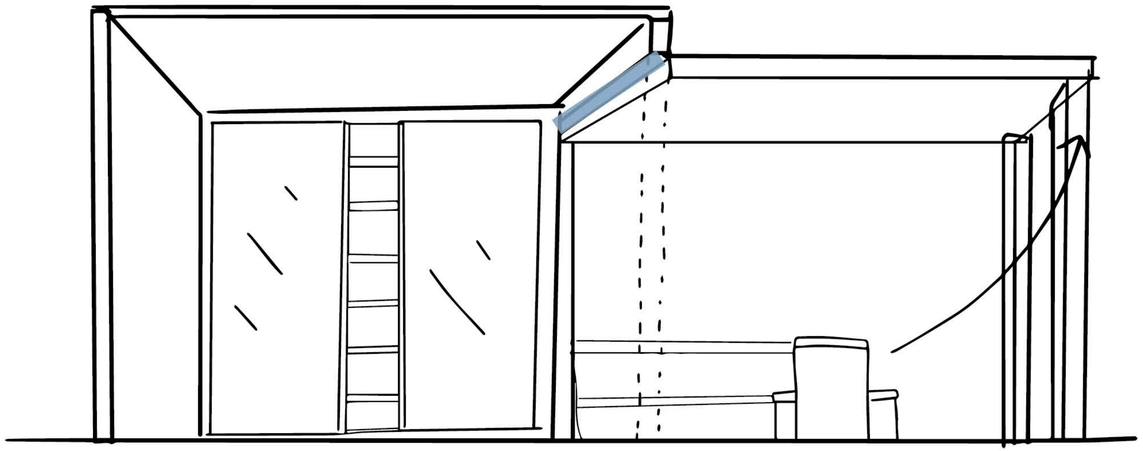
| | |
|---|---|
| ***KH. Kniphofia hirsuta*** Torch Lily | 7 |
| ***LP. Liatris punctata*** Dotted Blazing Star | 22 |
| ***PP. Pulsatilla patens*** Eastern Pasqueflower | 66 |
| ***FP. Fallugia paradoxa*** Apache Plume | 11 |

## CLIFF GARDEN

| | |
|---|---|
| ***SA. Sedum*** Autumn Joy | 20 |
| ***SS. Sedum spurium*** Voodoo Stonecrop | 18 |
| ***DA. Delosperma ashtonii*** Ice Plant | 50 |

# Outdoor Classroom

Classroom Extension


View from Learning Garden
Classroom

# Native Bees

## EXAMPLES OF NATIVE BEES IN ROUTT COUNTY

*Andrena brevipalpis F*

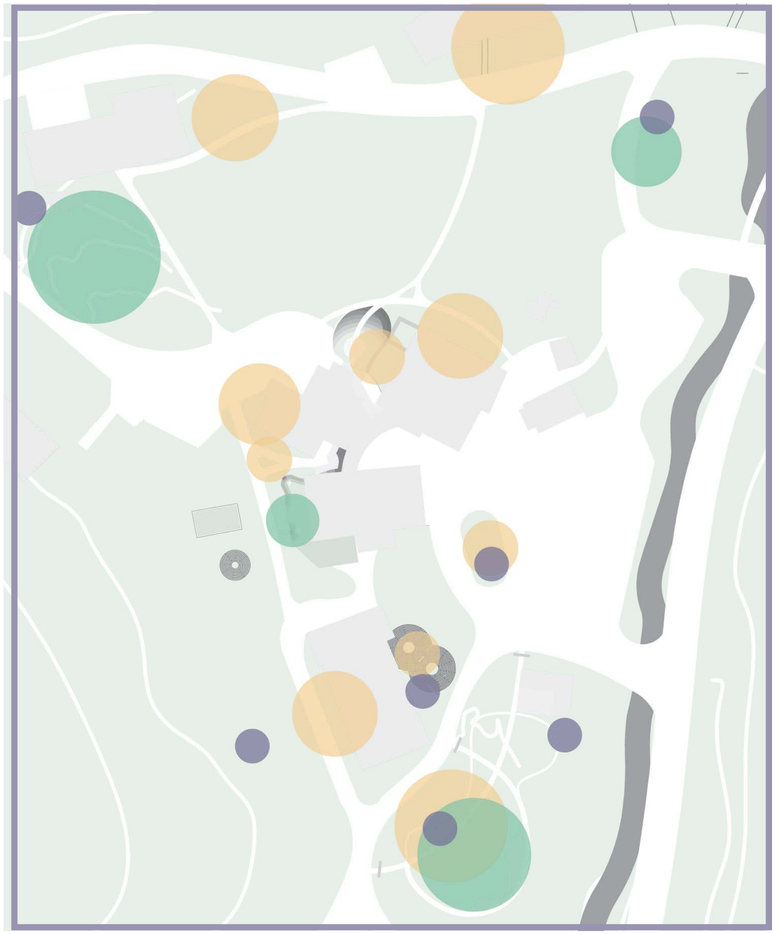
*Colletes brevicornis F*

*Hylaeus leptocephalus*

*Agapostemon sericeus M*

*Dufourea holocyanea M*

*Colletes consors F*

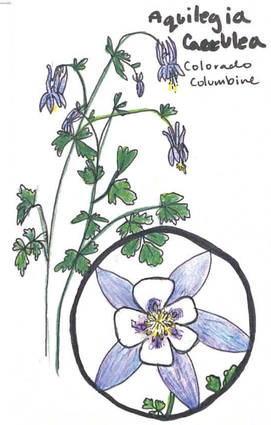


*Pollinator plants*

*Water Source*

*Native Bee Nursery*



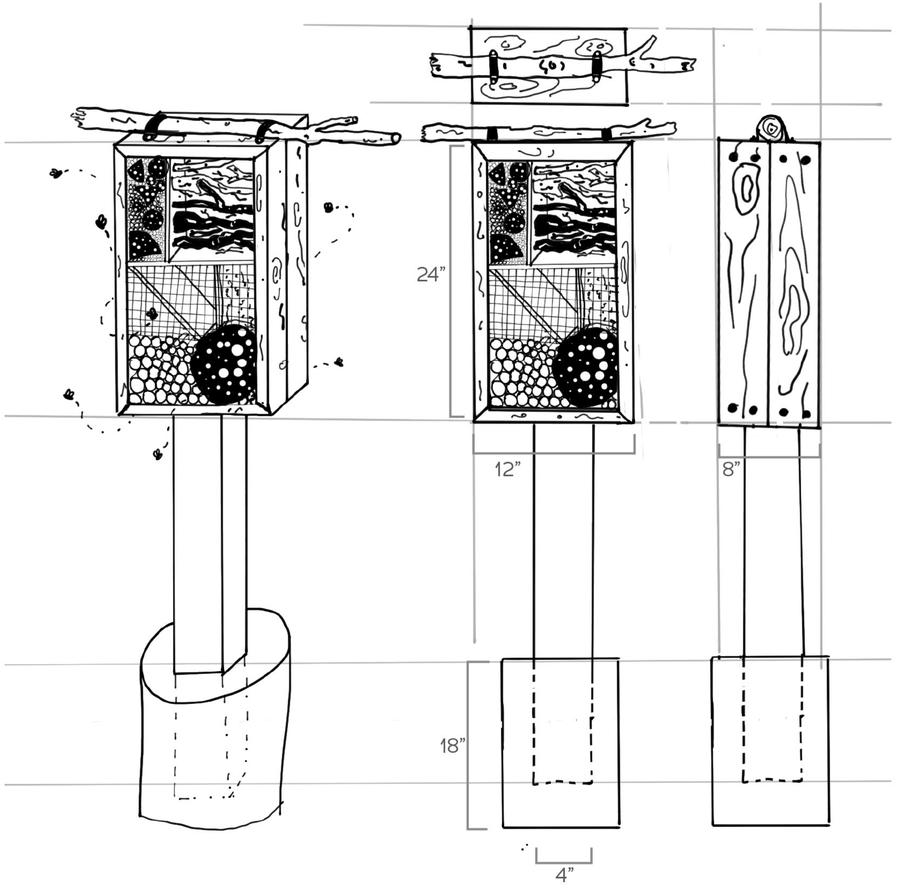


# Construction Documents

## *NATIVE BEE NURSERY:*

We have proposed implementing DIY Bee habitat boxes throughout campus to create a robust network of shelter, water and nectar for the community of local bees.

***MATERIALS***



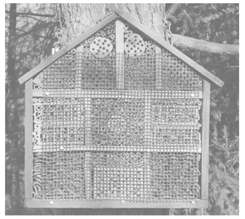

***CONSTRUCTION INFO:***

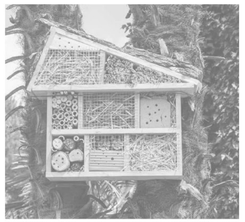
The boxes themselves are an open rectangular shape created with 2x4” dimensional lumber and wood screws.

The boxes may vary in shape depending on material availability and location of bee box.

The boxes are perched on a 4x4” timber log, and sunk into the ground 1.5’ into a quick-crete filled hole.

The boxes contain multiple cells of downed wood and natural material. Logs can be slices into sections or ‘cookies’ at least 3” in depth and up to 8” in depth. Holes can then be drilled into the pieces without going all the way through, providing habitat for native bees to nest. Other elements can be sticks and twigs, Pieces of bark, hollow stems and other debris. The unit is enclosed with chicken wire to contain all of the pieces within.



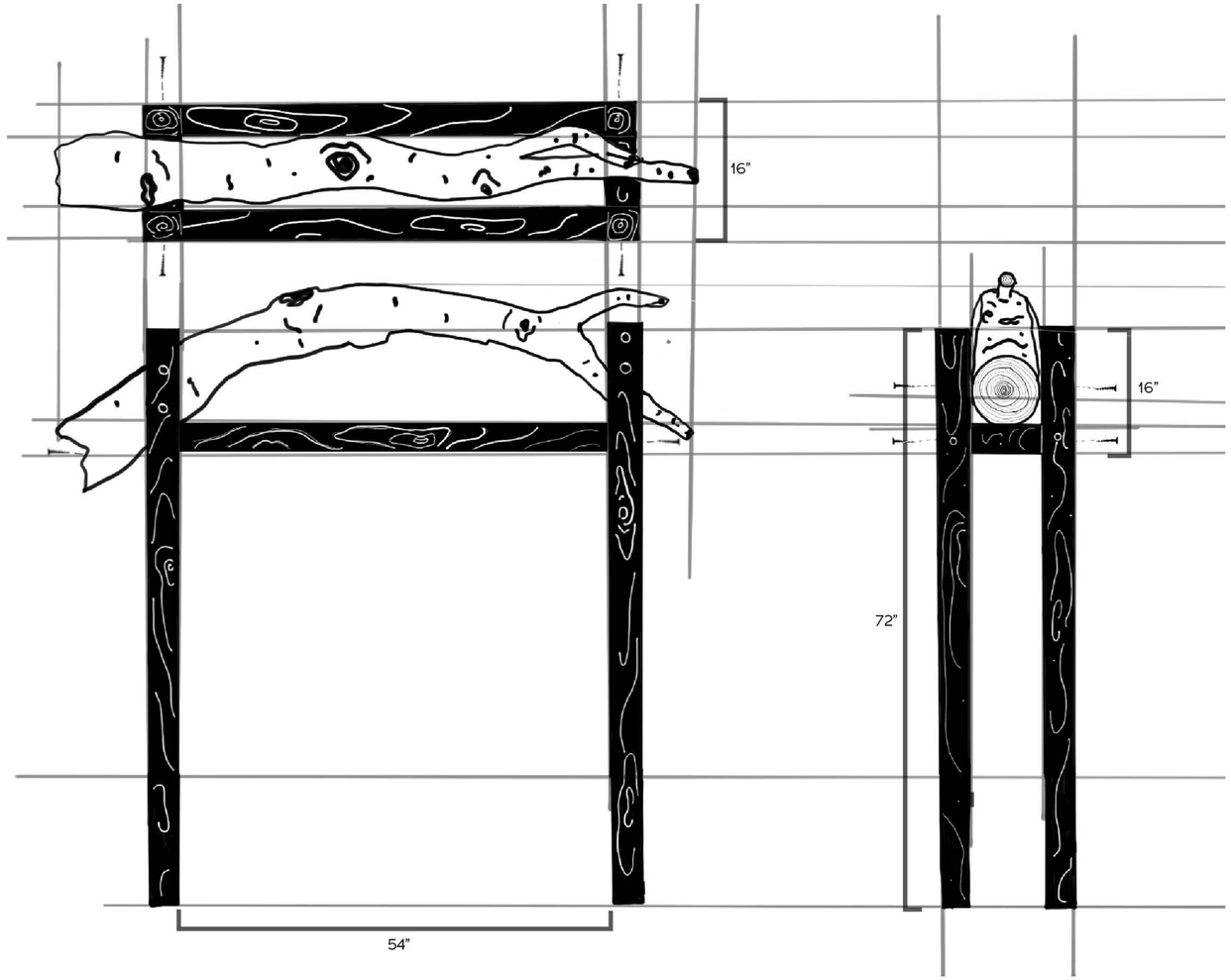


Construction Documents

## *ARCHWAYS:*

Featured throughout campus are timber archways to delineate space and create unity.

*MATERIALS*




*CONSTRUCTION INFO:*

The arches are constructed with 4x4” dimensional lumber fastede with wood screws.

The wood will be burnt using the Japanese technique of *Shou Sugi Ban* to both preserve the wood and give it a charcoal finish for aesthetic purposes.

The ‘arch’ itself is created with a curved aspen log. It allows natural materials to be sourced from campus, and continues the circular motif from the design concept and formal organization.

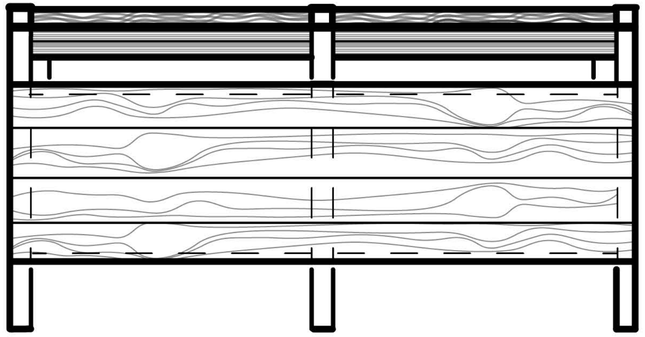
The arches are 5’ wide and 7’ tall

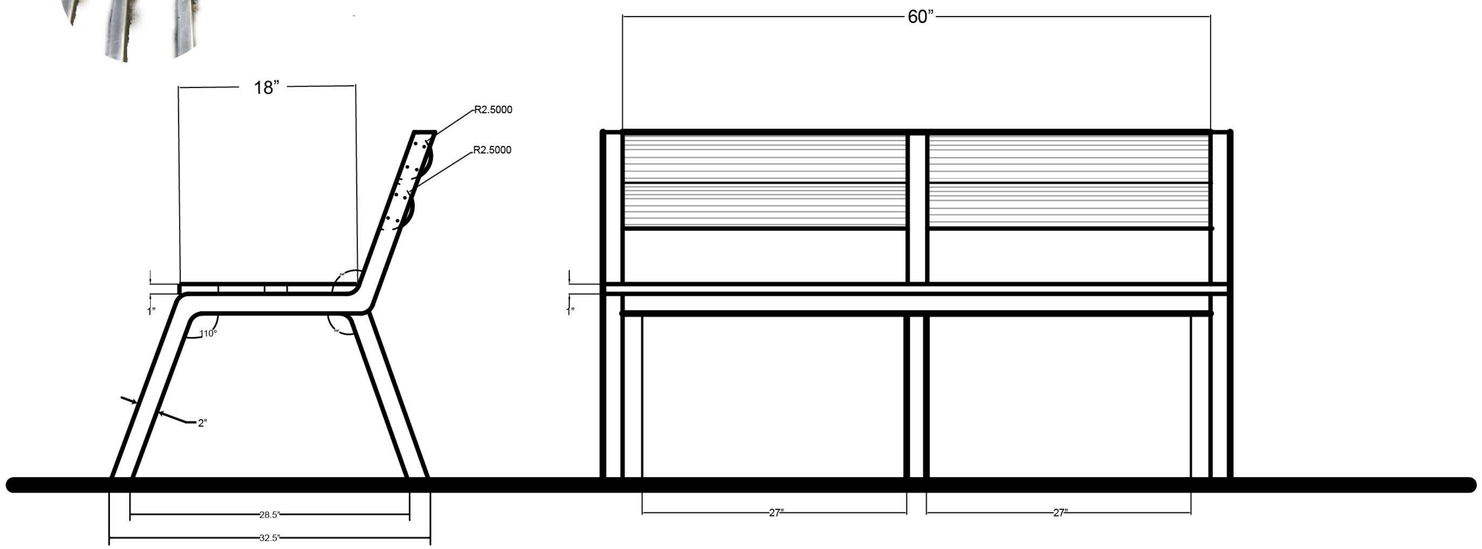
# Construction Documents

## *BENCHES:*

To give students a resting point we developed a simple bench design that is comfortable and uses easily replacable parts.

### *MATERIALS*






### *CONSTRUCTION INFO:*

The benches are a comfortable and consistent part of the design.
The frames are meant to be built from 2”x2“ square steel pipes bent to the shape below.
The backs of the benches are to be sourced from campus and cut to 27” long, with varying widths.
The logs are then horizontally cut to reveal a flat face. This log is secured to the frame with 4“ long stcrews to frames made of bent steel.
Wooden planks 1” thick are cut to 60” widths are placed on the seat part of the frame. These are attached with screws that go through the frames and secured by nuts.

# Secondary Spaces

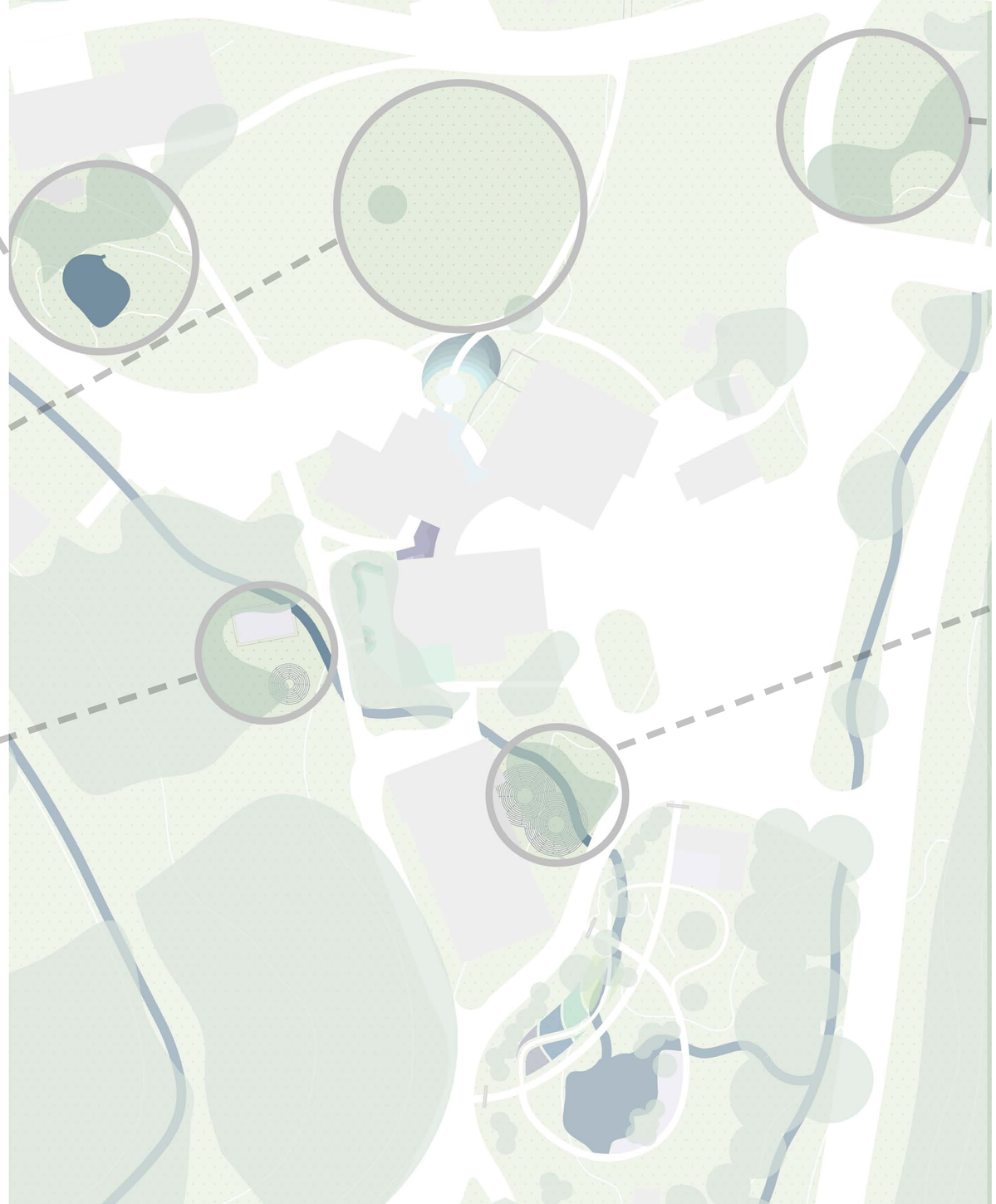
*Elizabeth Pond*

# Secondary Spaces

***Elizabeth Pond***
Implement seating and native bee hotels

***Open Space***
Regrade the slight slope to create two distinct flat fields

***Fire pit***
Create intention with circle of pavers



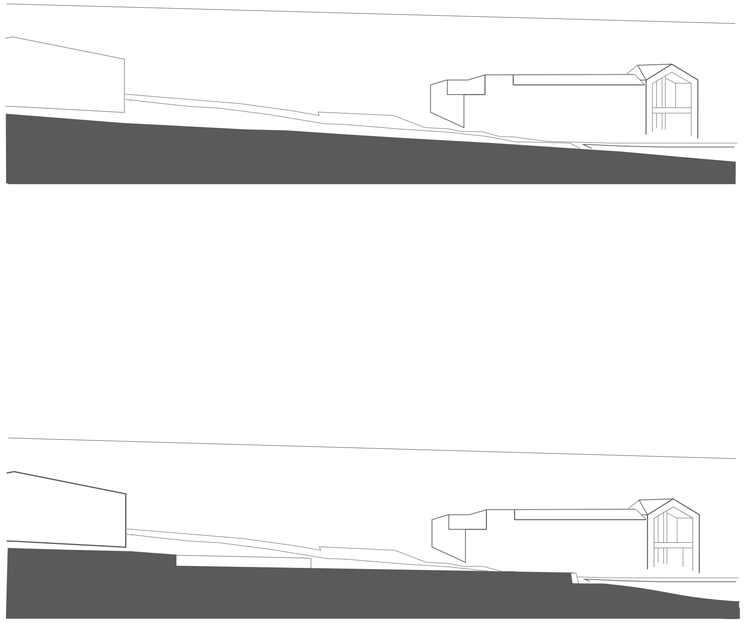
***Eastern Grove***
Provide a relaxing space away from the heart of campus, implement additional climbing boulder

***Advisory Space***
Provide more intentional seating, introduce circular pavers and native bee hotels

# Open Space

# Open Space


7290
7280
7270
7268
7266
7264
7262
7260
7258
7256
7254
7250


0′
80′
160′
320′

# Eastern Grove

# Fire Pit

Advisory Area

# Implementation Phase 1

# Implementation Phase 2

# Implementation Phase 3

# *THANK YOU*

Steamboat Mountain
School