

Allison J. Shahidi
Columbia GSAPP 2022

Studios

4 Oncuts and Offcuts

20 Thermal Autonomy

36 Reading Garden and Garden Reading

50 Pervious LA

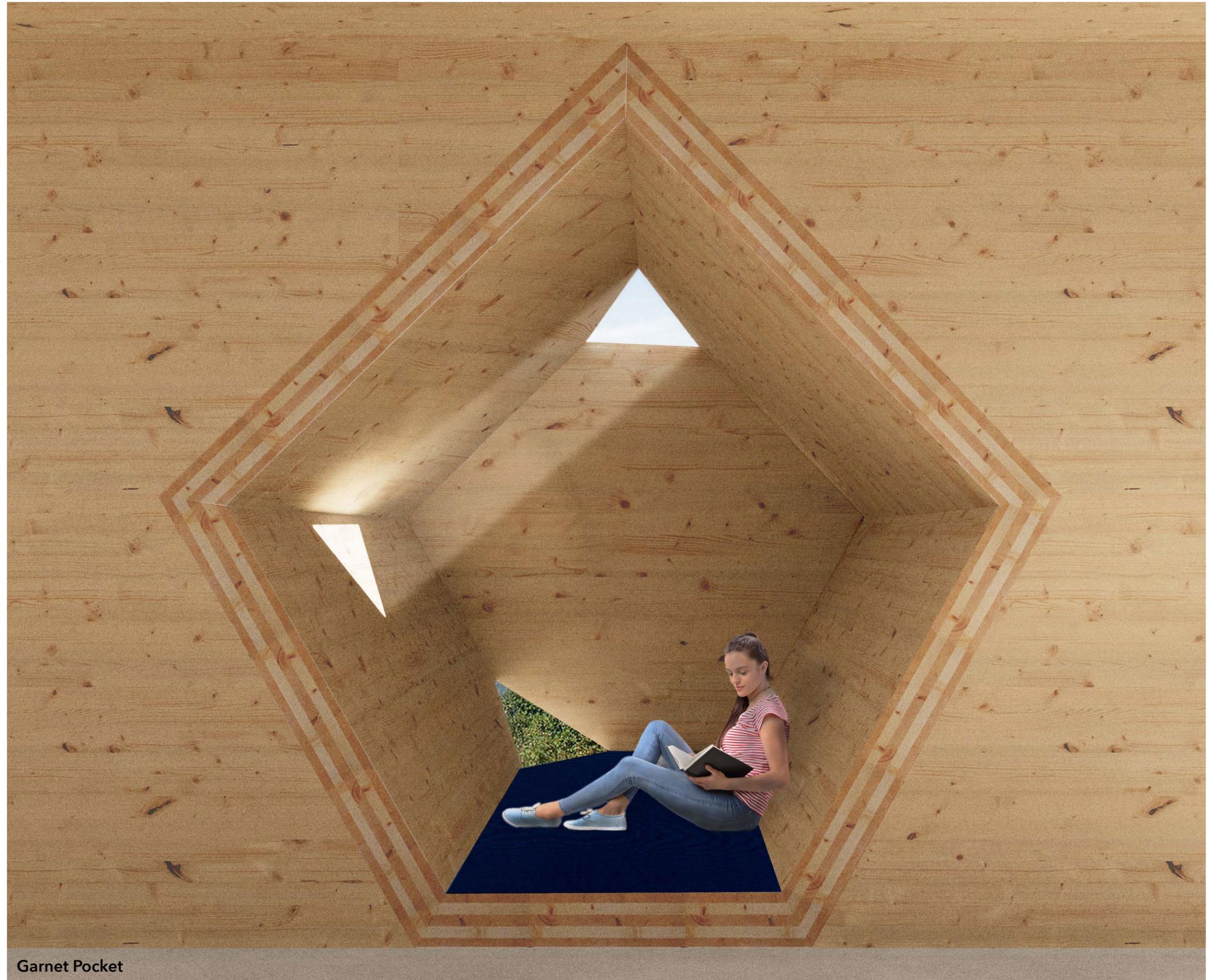
62 The School for Rainwater Resilience

70 Visible Obscurity

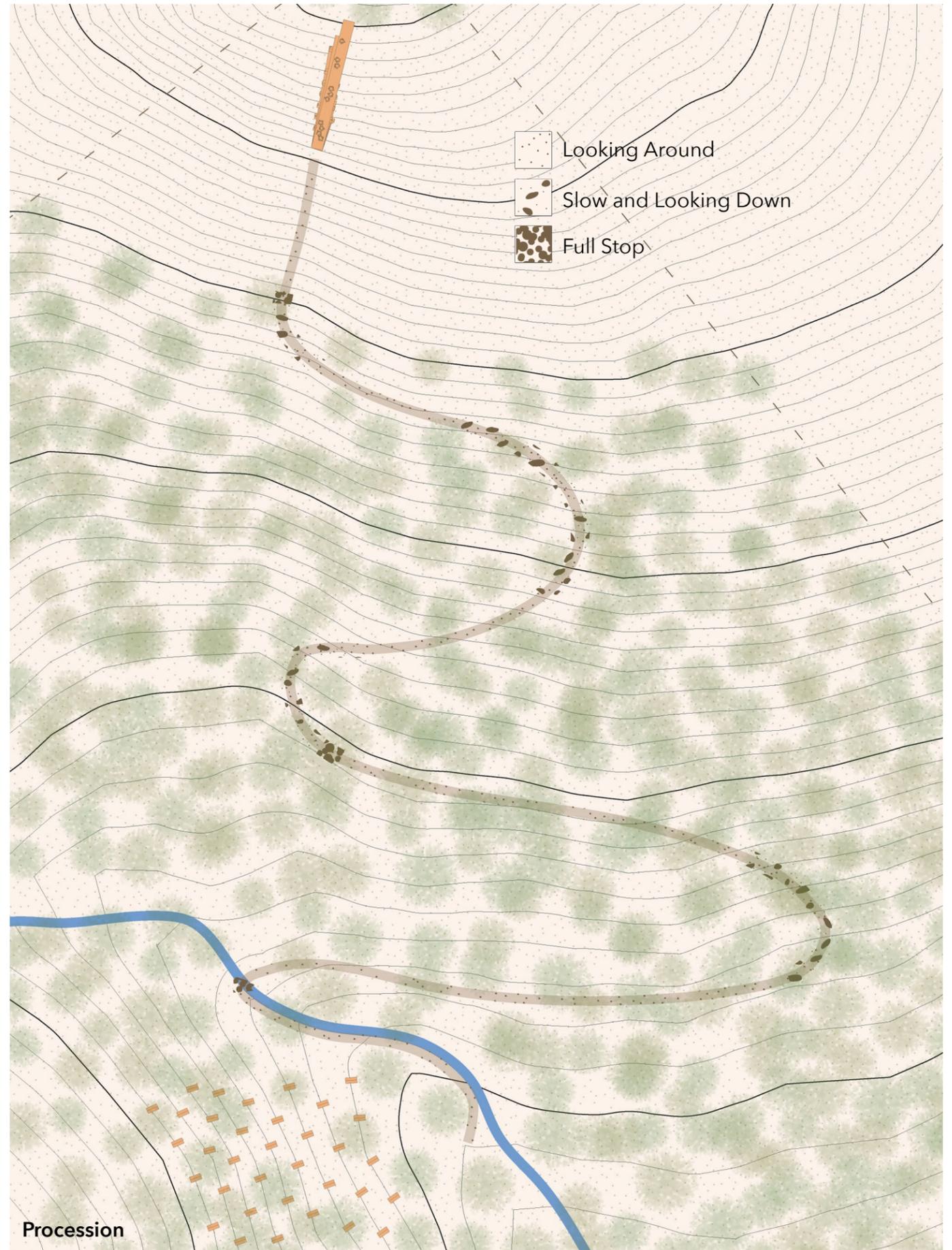
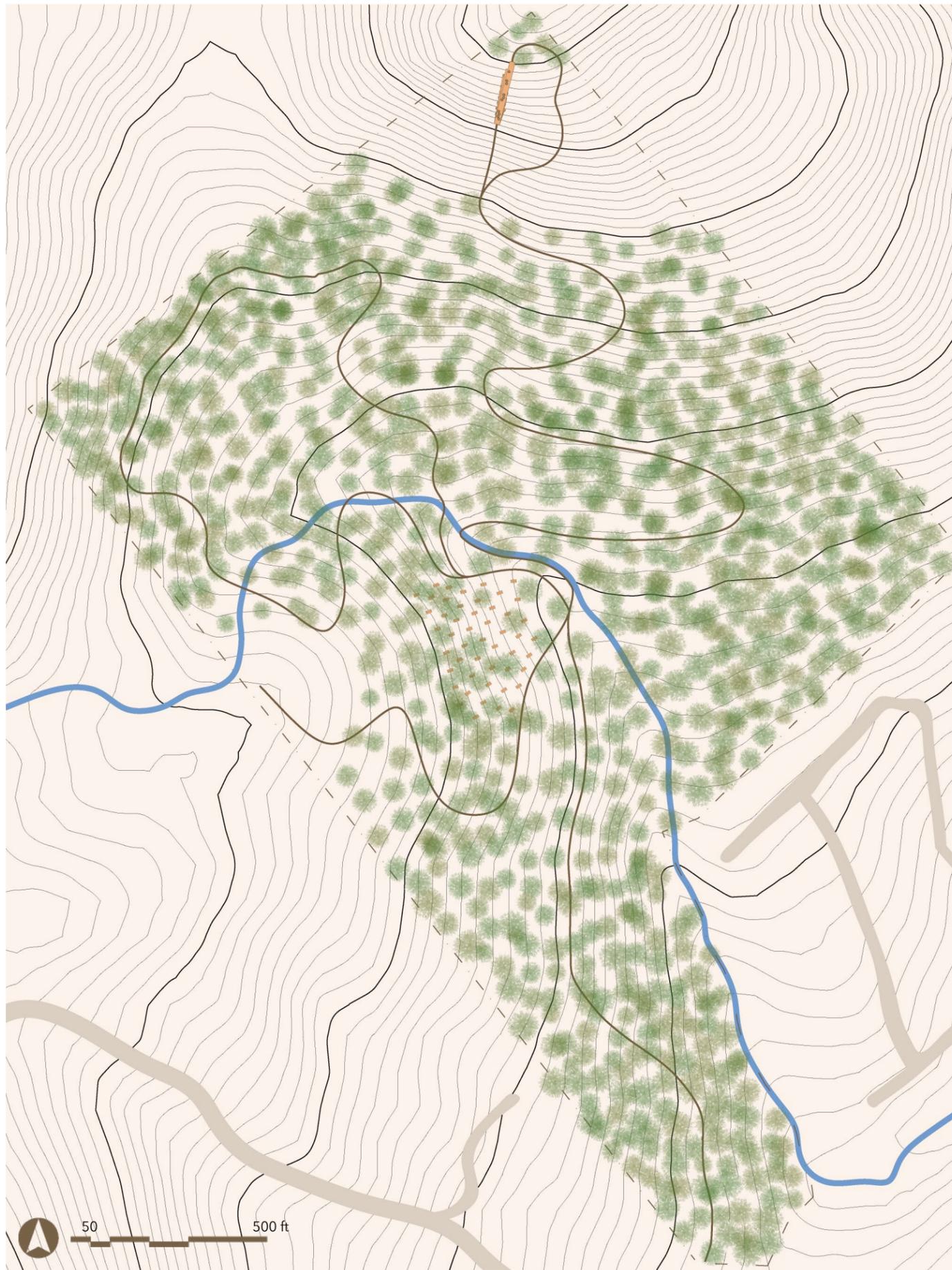
Oncuts and Offcuts

Advanced IV
Professor Lindsey Wikstrom
Spring 2021

This project proposes a design for the Center for Earth Ethics as a place that is about the accumulation and preservation of knowledge by both trees and people: built from coppiced CLT and providing a space for researchers to explore and collaborate with one another as they accumulate knowledge about the natural world. The facade is inspired by the local geology and imitates the way that garnet forms in mica schist on the adjacent Gore Mountain. The use of both the oncuts and offcuts on the site means that the curved panels which mimic these geological forms are made without producing scrap. There are eight floors in the tower, and each ties back to the landscape, allowing the tower to also become an outcropping. At each of the floors where research takes place, small pockets of space mimicking the form of garnet insert themselves into the patterning of the mica schist facade. While the tables on each of the research floors provide places for working and collaboration, the informal and flexible pockets of space provided by the garnet encourage exploration. The Center for Earth Ethics is not about the production of knowledge but rather the accumulation and preservation of knowledge that comes from collaboration and exploration.



Garnet Pocket





Ritual Diagram



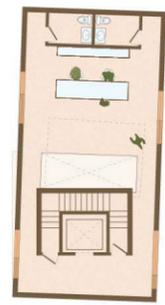
Center for Earth Ethics



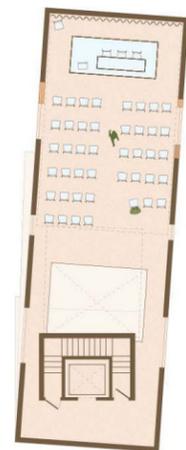
Stacks



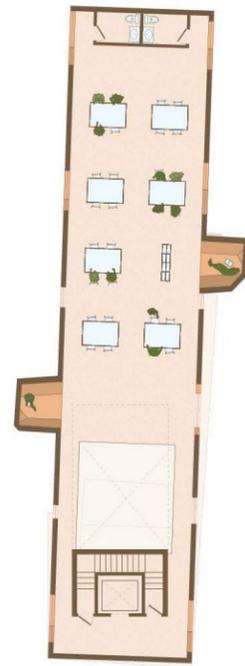
1. Entry



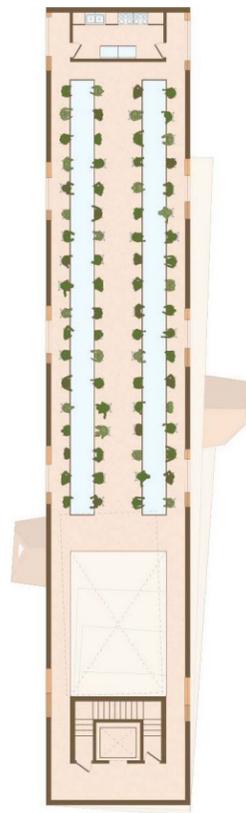
2. Reception



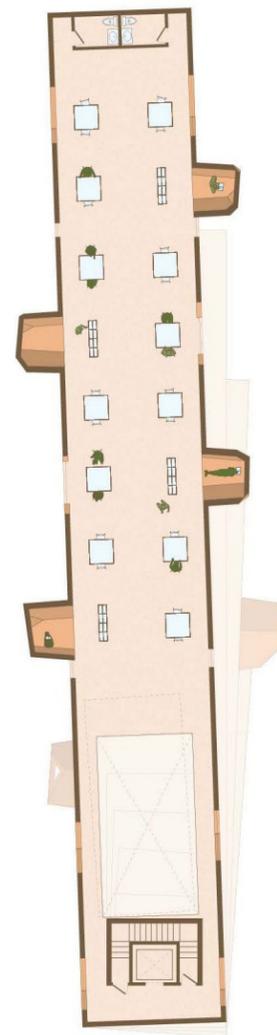
3. Event Space



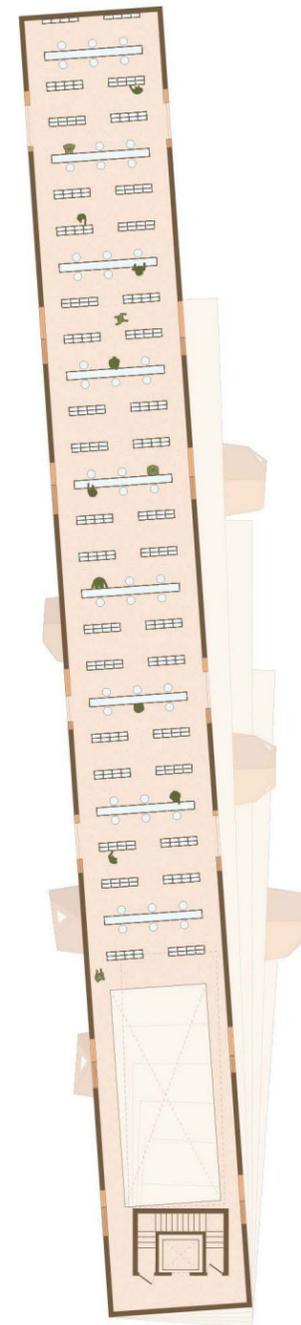
4. Collaborative Work Space



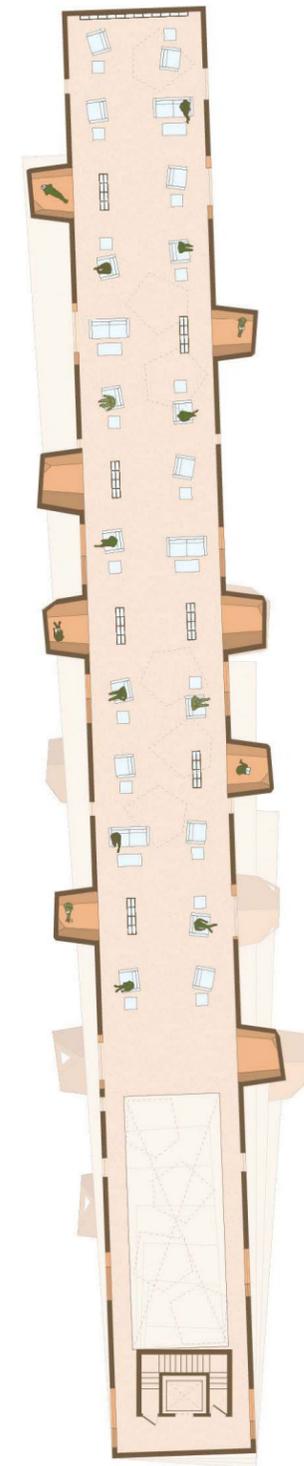
5. Dining



6. Pairs Work Space



7. Stacks



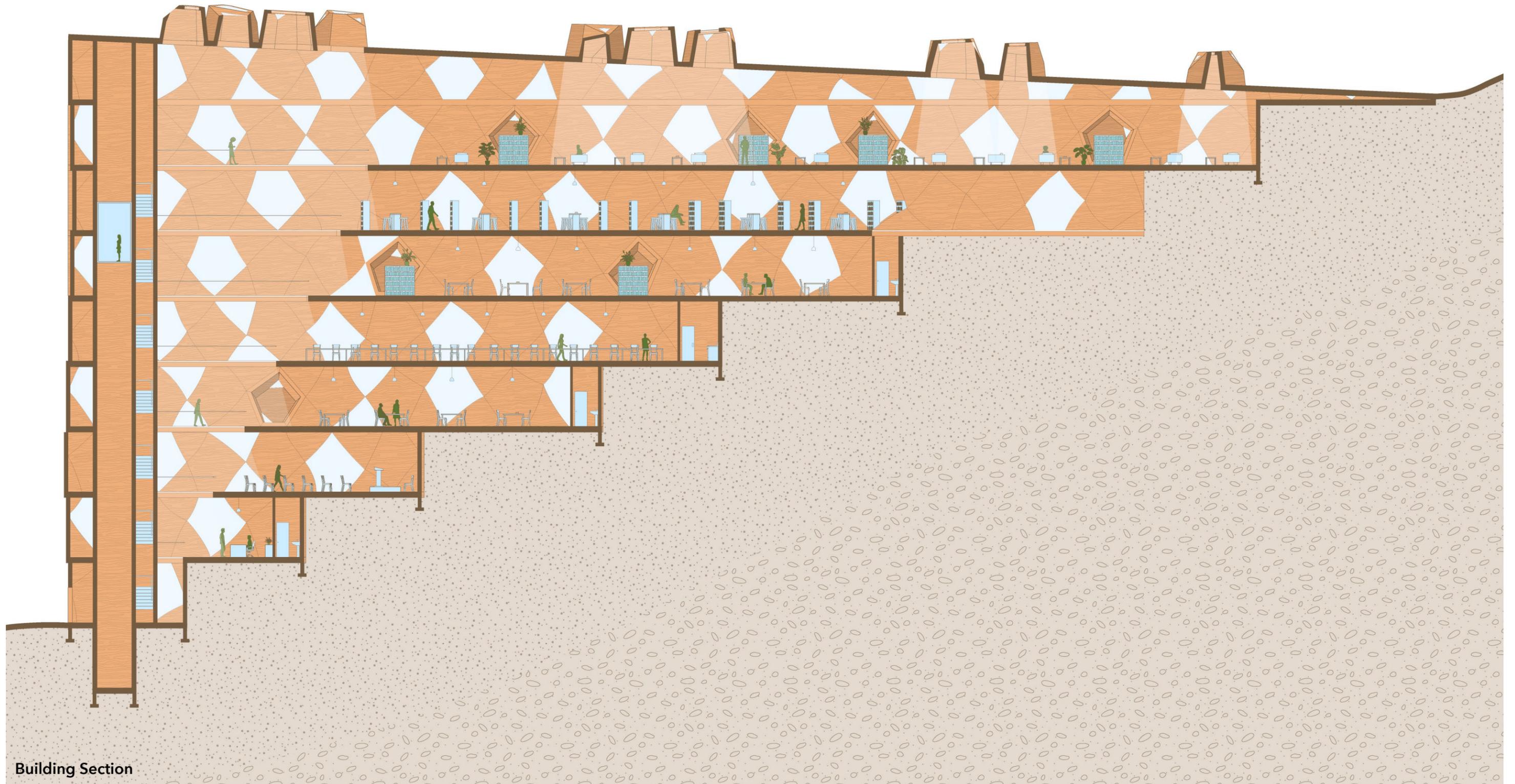
8. Reading Room



9. Roof



Reading Room



Building Section



Thermal Autonomy

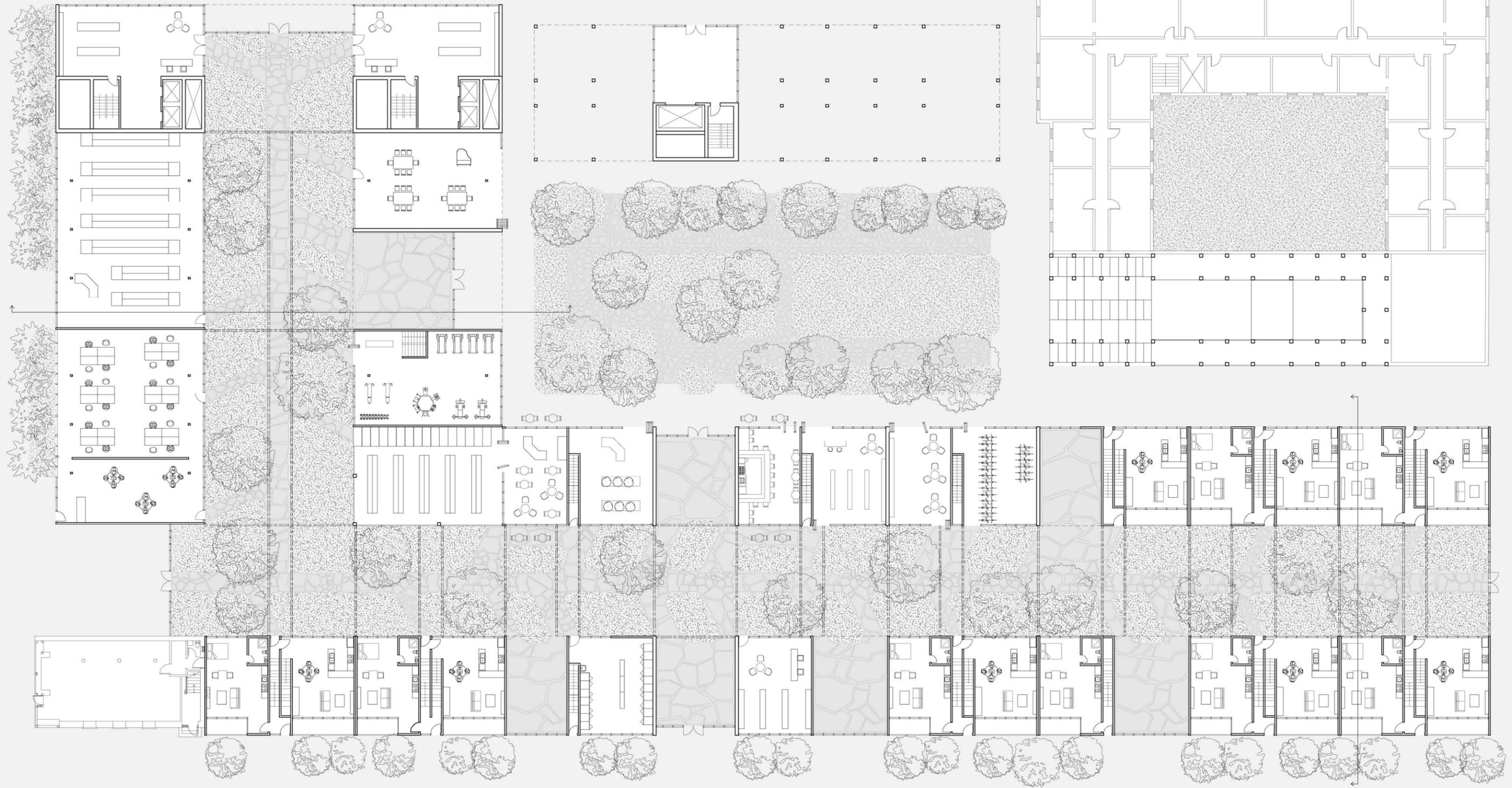
Core III
Partner Bisher Tabbaa
Professor Erica Goetz
Fall 2020

In this project air is used to sustainably provide thermal comfort as both a means for heating when confined and natural ventilation when allowed to flow freely. At the site scale, the breezeway takes the form of a public greenhouse which is naturally ventilated in the summer and serves to provide heat to the adjacent masses in the winter. At the unit scale, access to exterior and greenhouse facing terraces, as well as control of operable windows, allow the resident to take control of their thermal comfort. The embodied cultural and environmental energy of the site is preserved by restoring and adding to the existing structures. The careful additions to the existing buildings carry the same design strategies and language that is used in the new buildings, and these strategies are also incorporated at an urban scale to create a new park. The project aims to provide residents with a holistic meaning of sustainability.



Apartment Living Room and Terrace

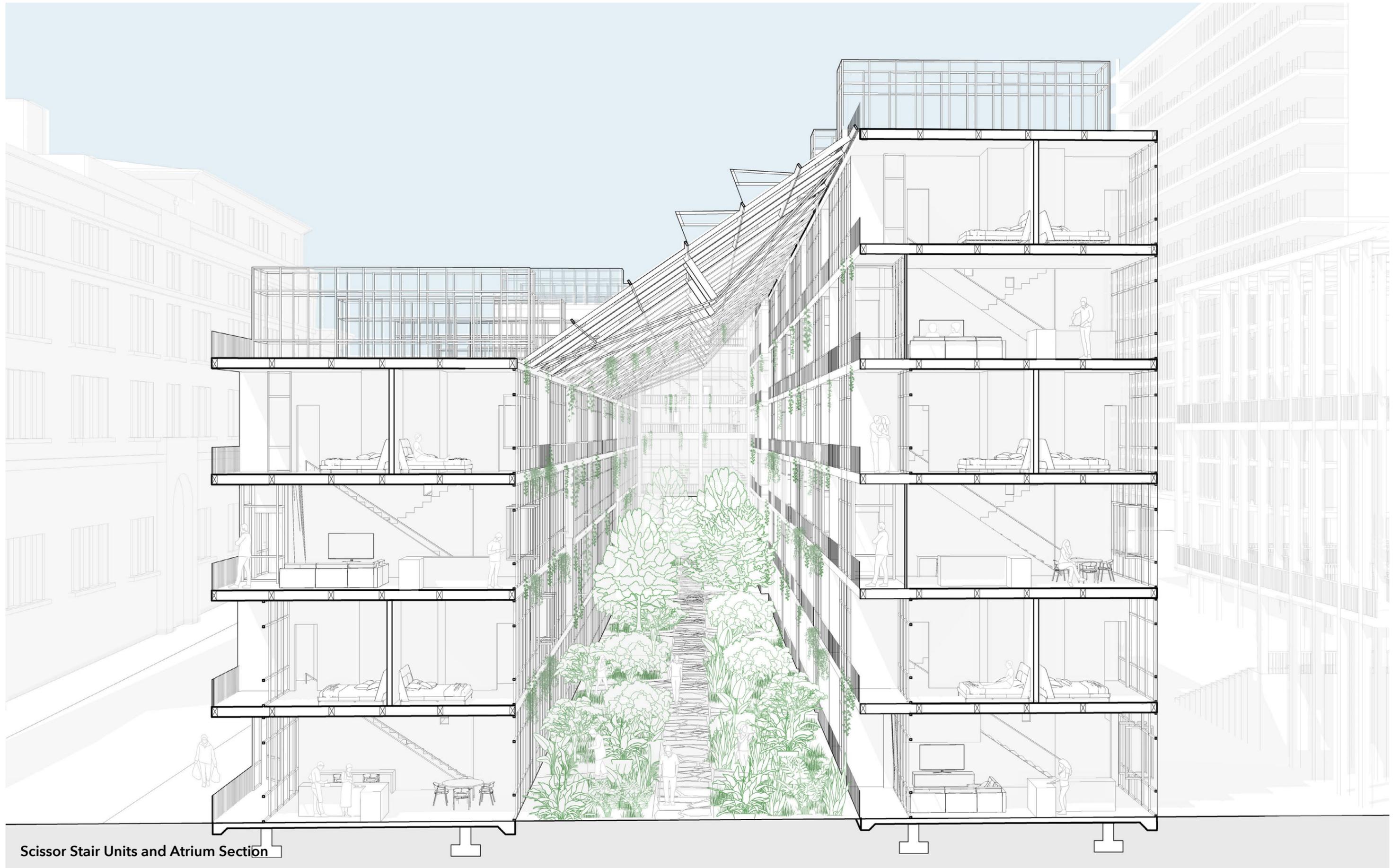
East 152nd Street



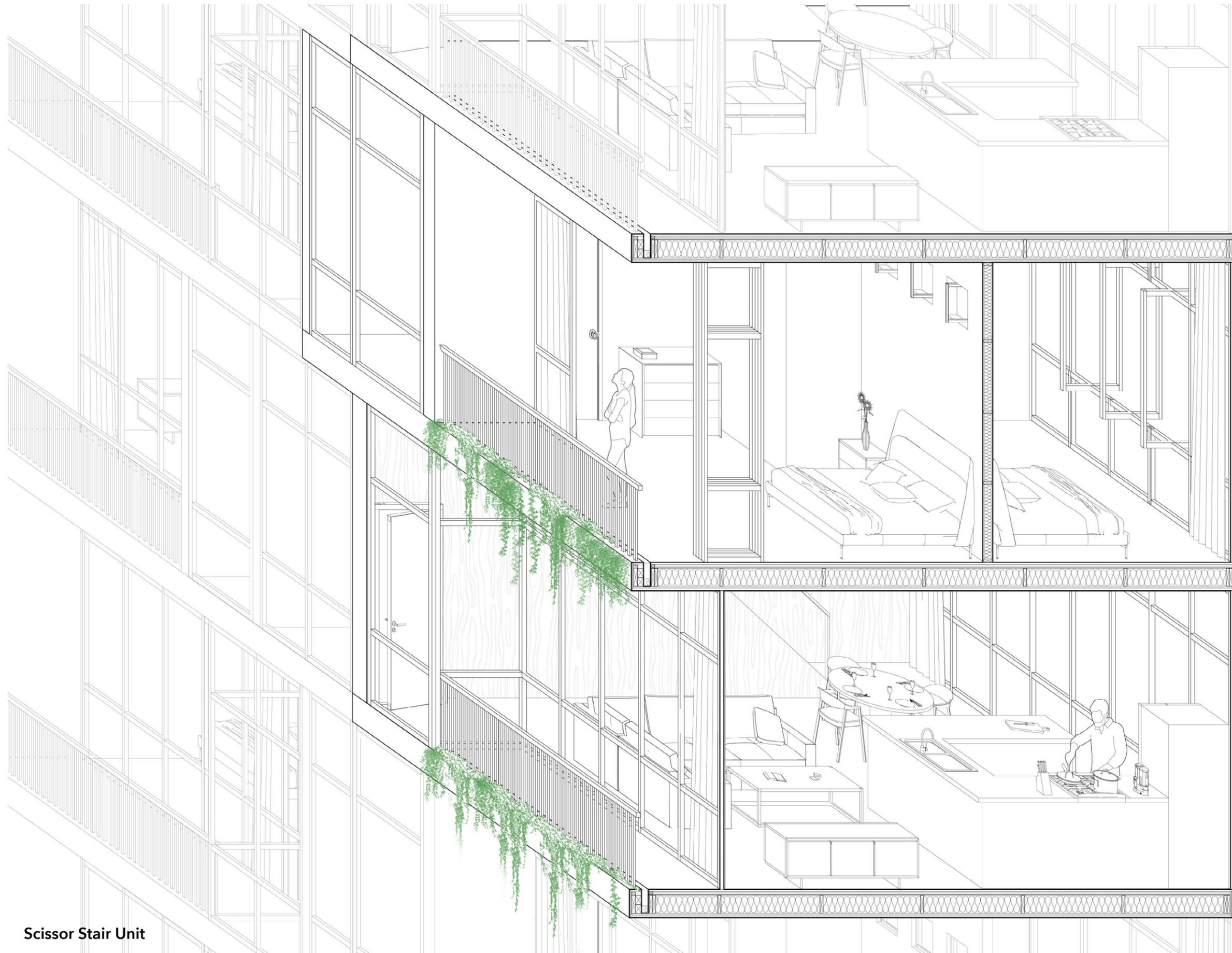
East 151st Street



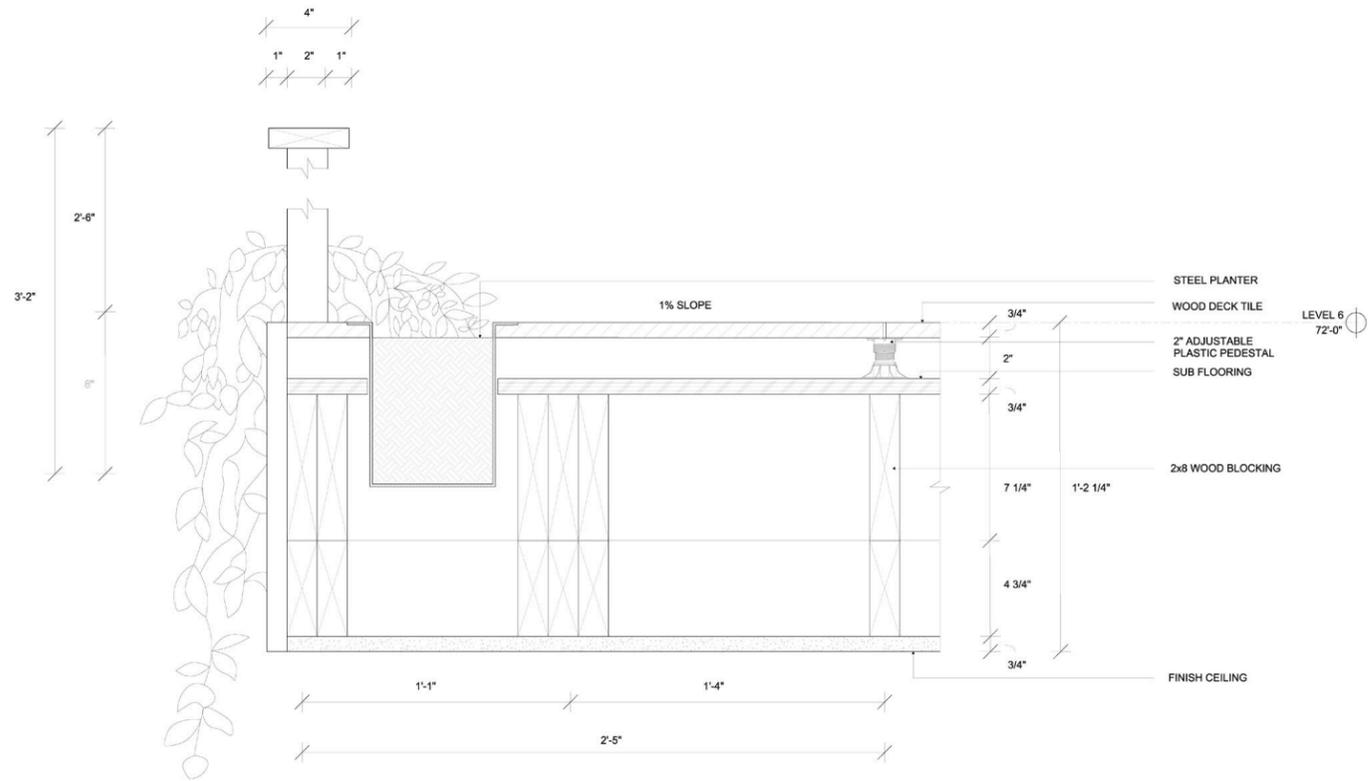
Site Model



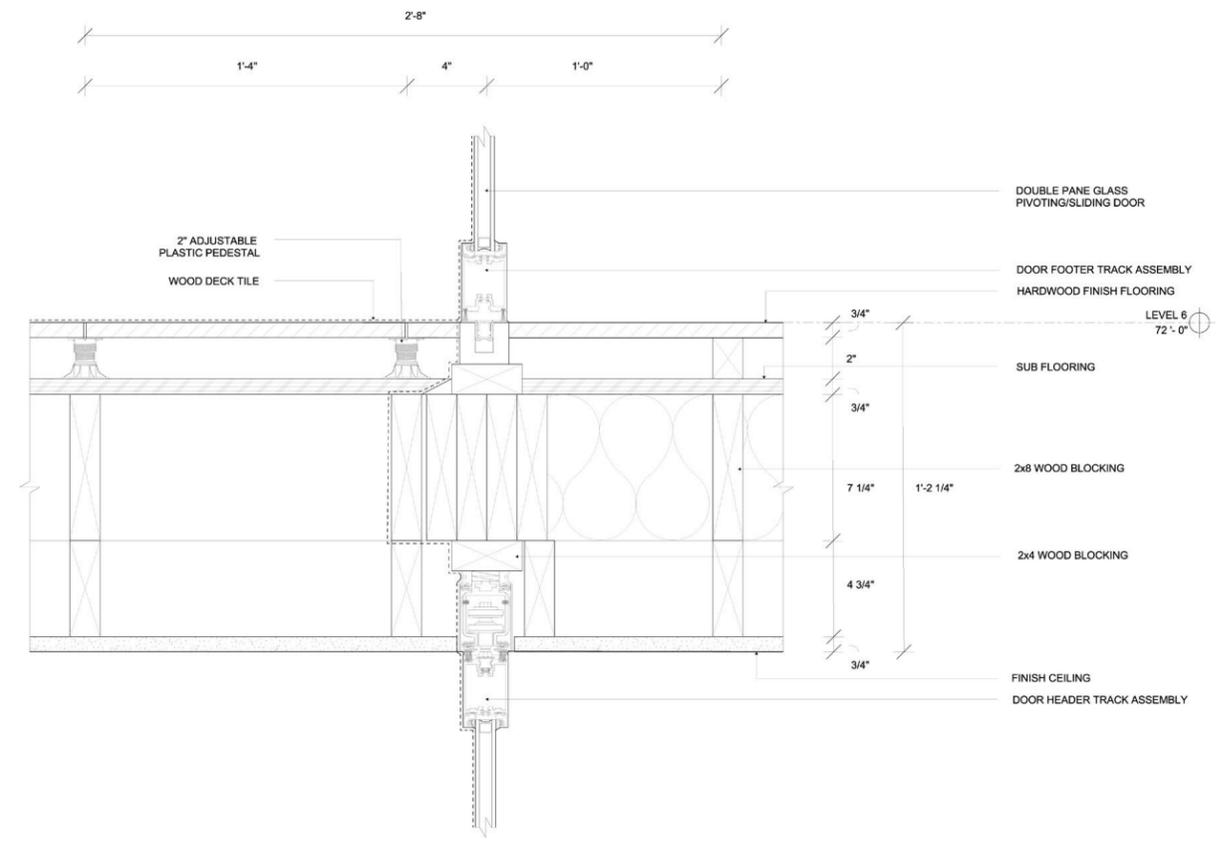
Scissor Stair Units and Atrium Section



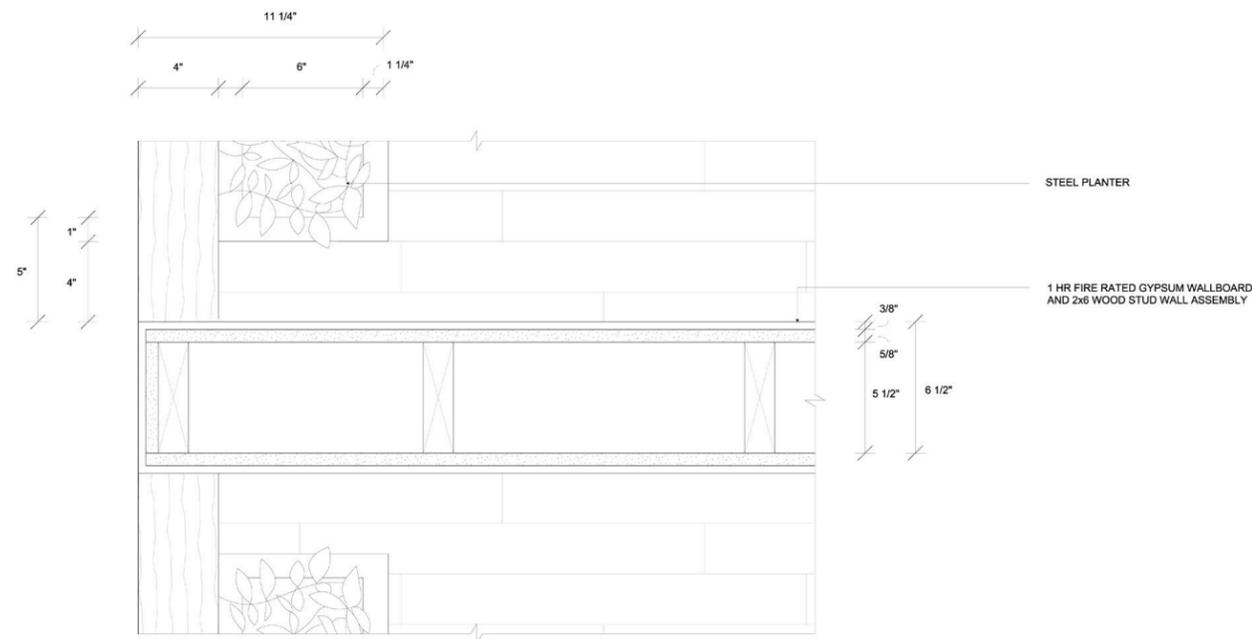
Scissor Stair Unit



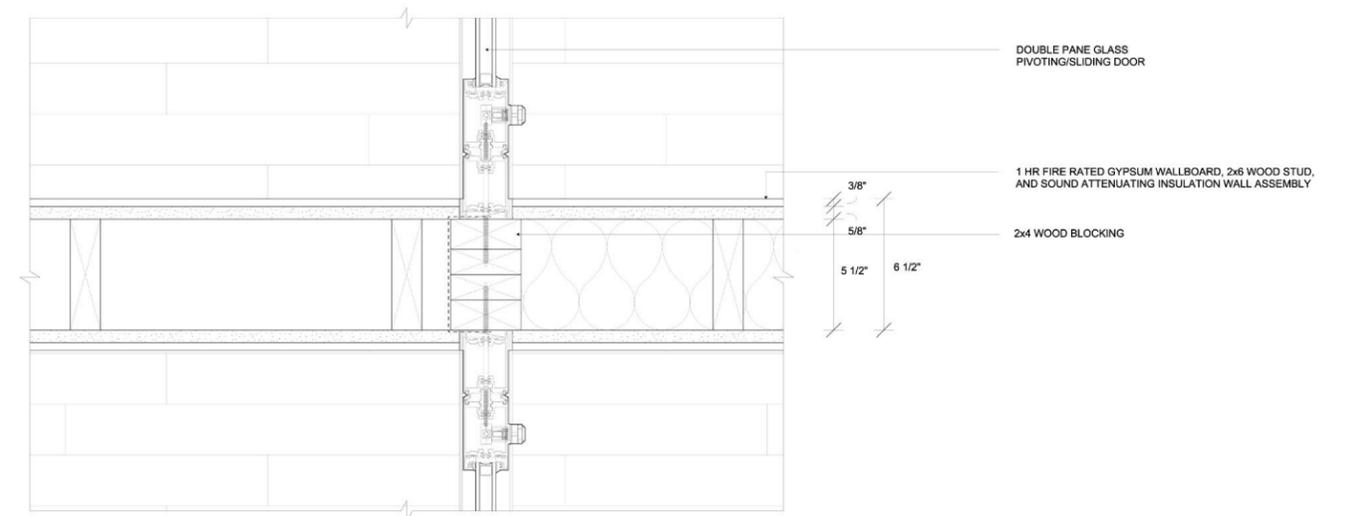
A4.01 Balcony Section
3" = 1'-0"



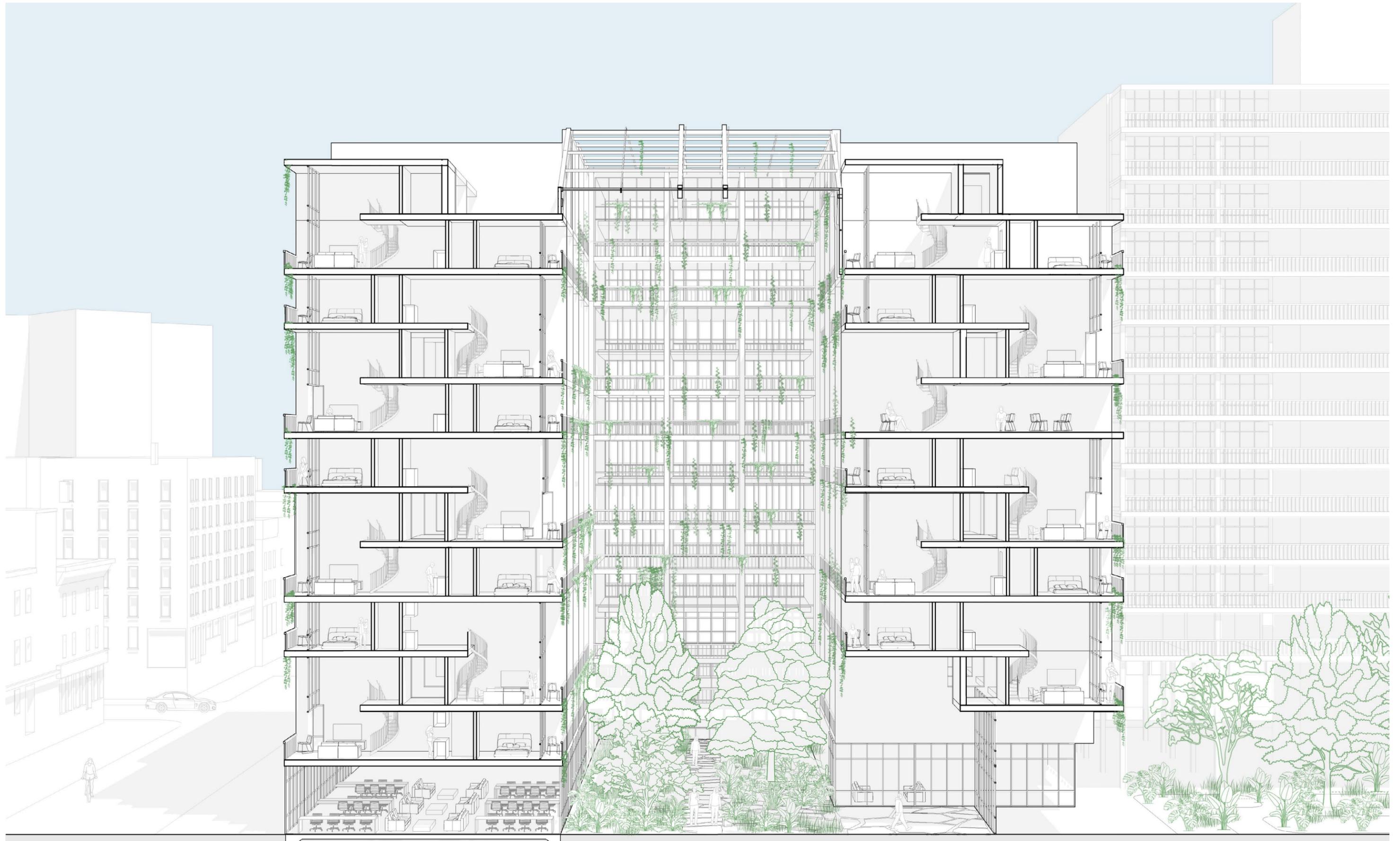
A4.02 Facade Section at Floor
3" = 1'-0"



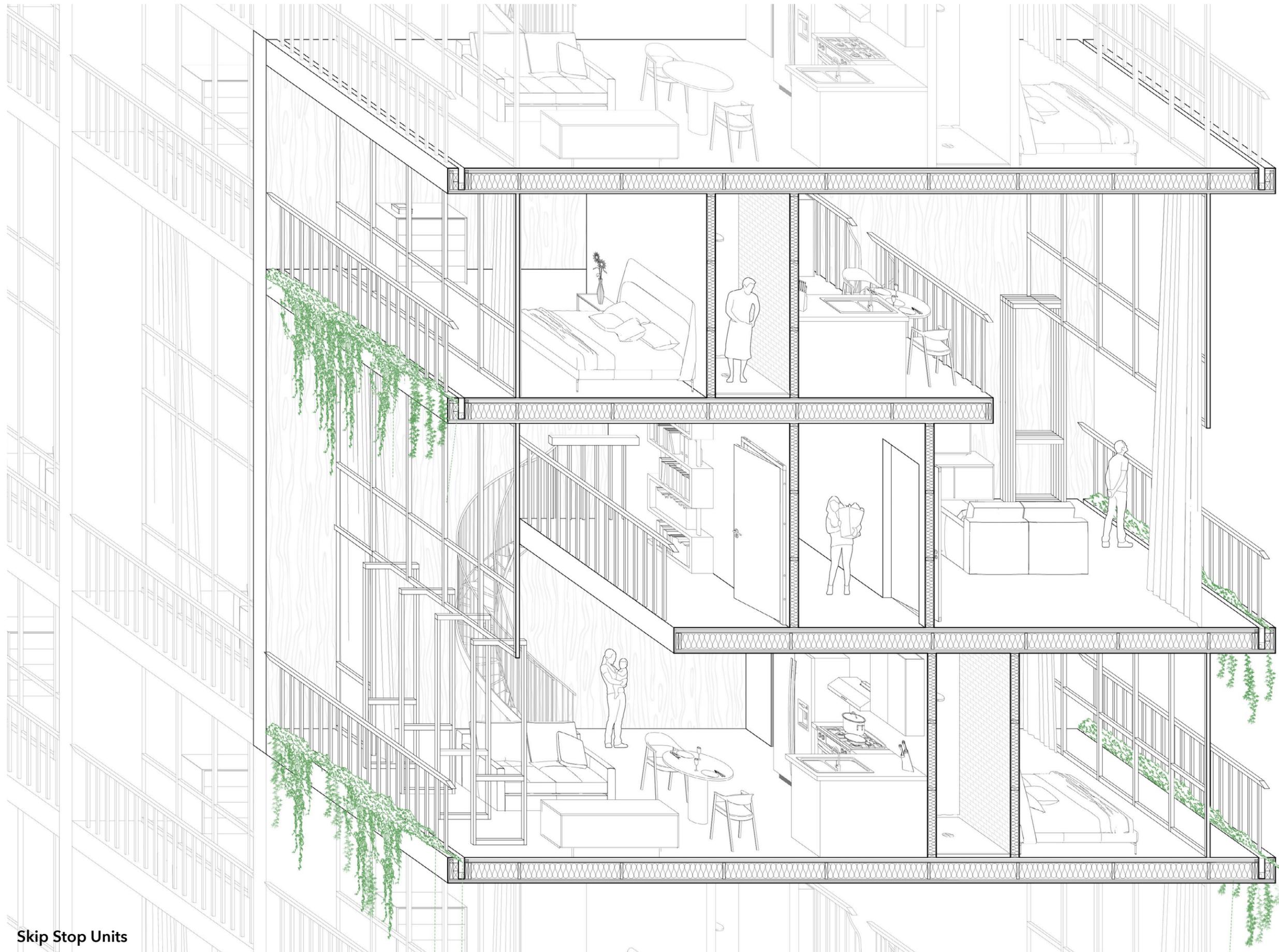
A1.01 Plan Detail at Balcony
3" = 1'-0"



A1.02 Plan Detail at Facade
3" = 1'-0"



Skip Stop Units and Atrium Section



Skip Stop Units

Reading Garden and Garden Reading

Advanced V
Professor Bryony Roberts
Fall 2021

This project proposes the integration of the George Bruce Library and adjacent garden with a focus on sensory experience. Fractal patterning is used to blend the boundary between library and garden. Three materials create this pattern: The first is plants, which have a number of desirable qualities including visual texture, scale, density, rhythmic motion, sound, texture, and change over time, all of which are beneficial for creating a dynamic space. Plants also provide a valuable range of choice: their colors can be bright or muted, their textures prickly or soft, their densities light filtering or shelter providing. The second is stone, which provides both variation in texture and temperature, as it is cool when in the shade and warm after sitting in the sun. The third is cork, a warm colored, sustainable material that gives when walked on. Changes to the physical form of the facade also aim to blend the boundary between library and garden: a combination of interior and exterior balconies capture a part of the library within the garden and a part of the garden within the library. In addition to the perforations created by the balconies, glass brick creates new zones in the currently all brick facade. The glass brick not only lets more light into the library but changes its level of transparency depending on the closeness of the viewer.

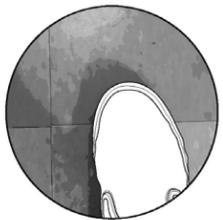


Reading Corner

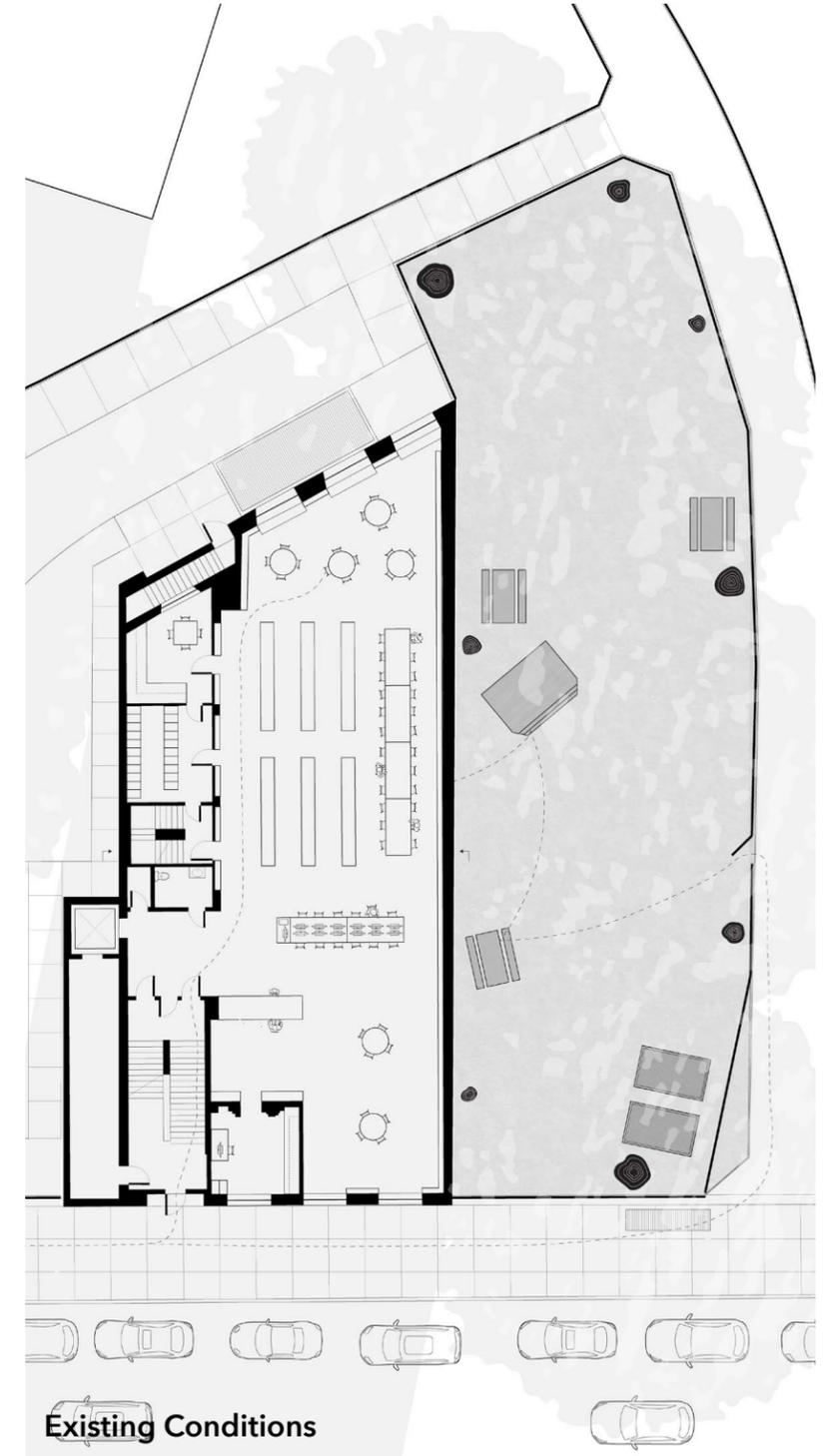
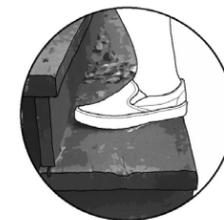
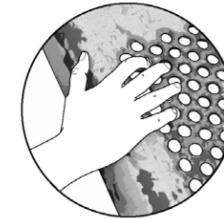
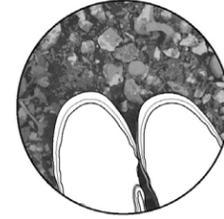
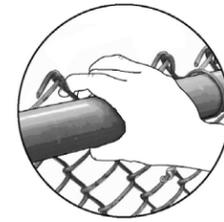


George Bruce Library

Entering the Library



Entering the Garden

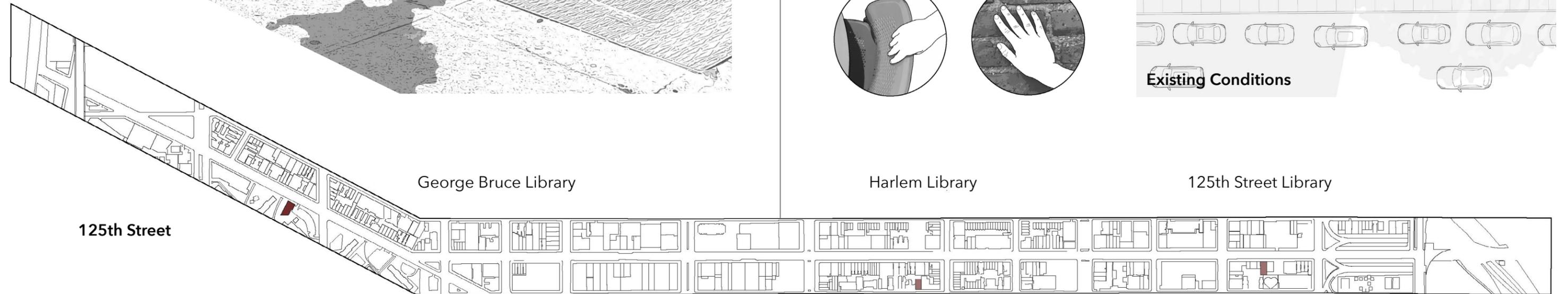


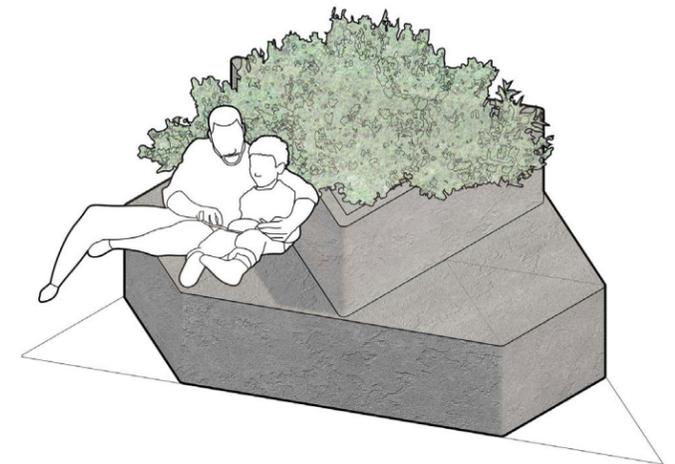
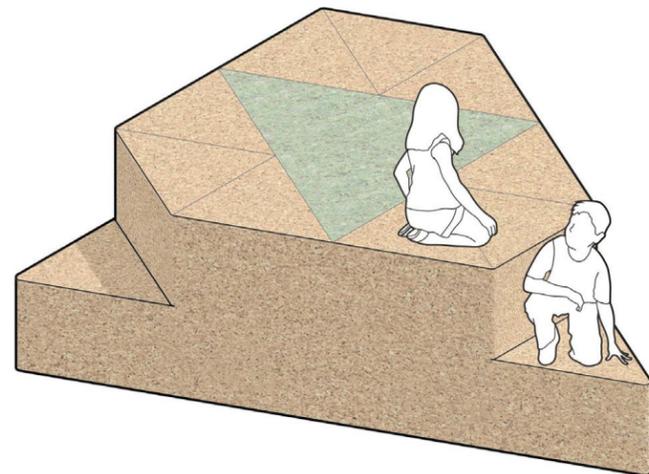
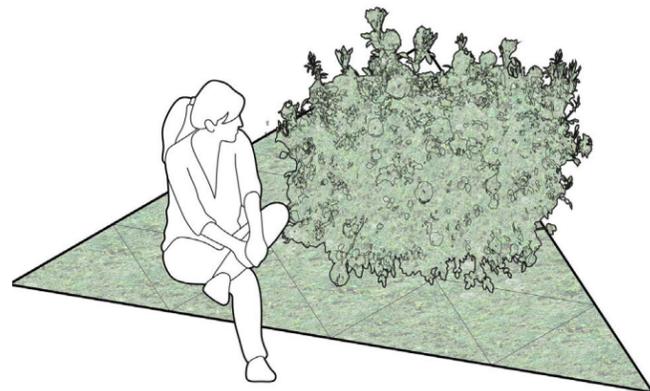
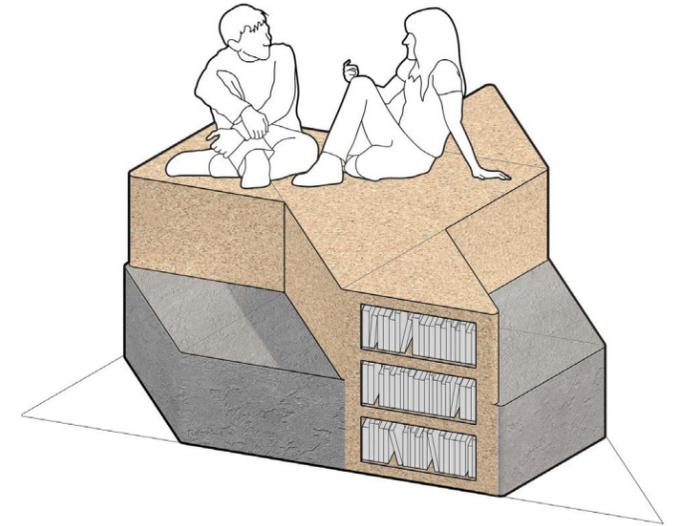
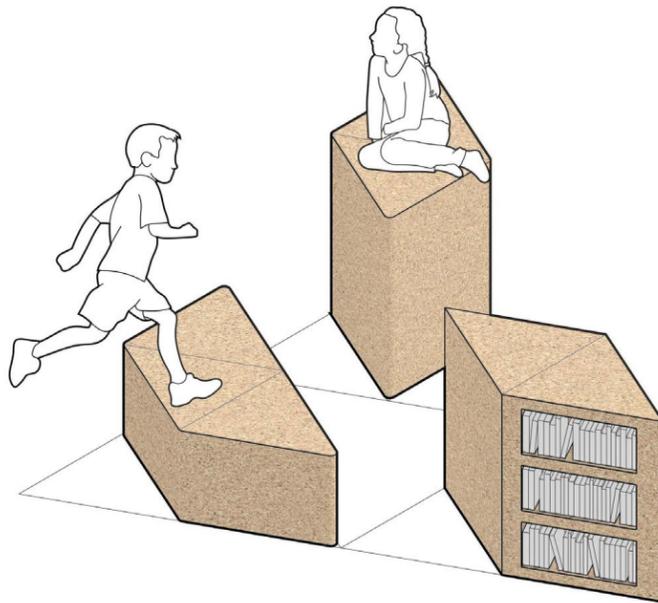
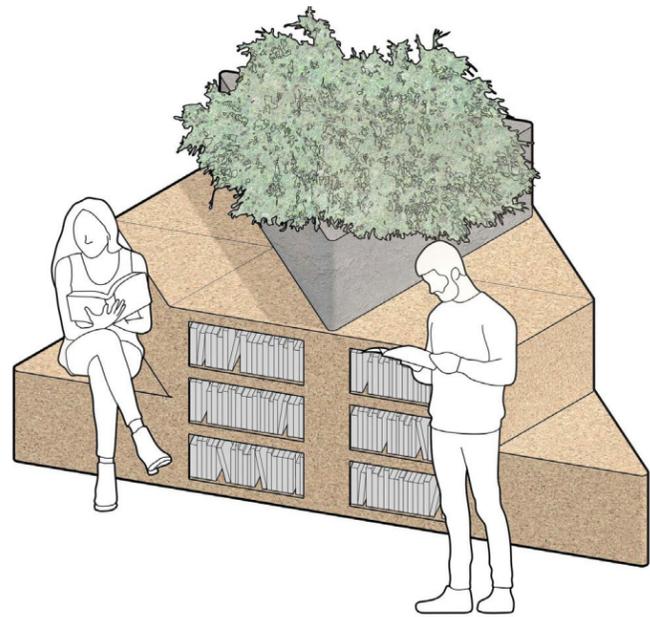
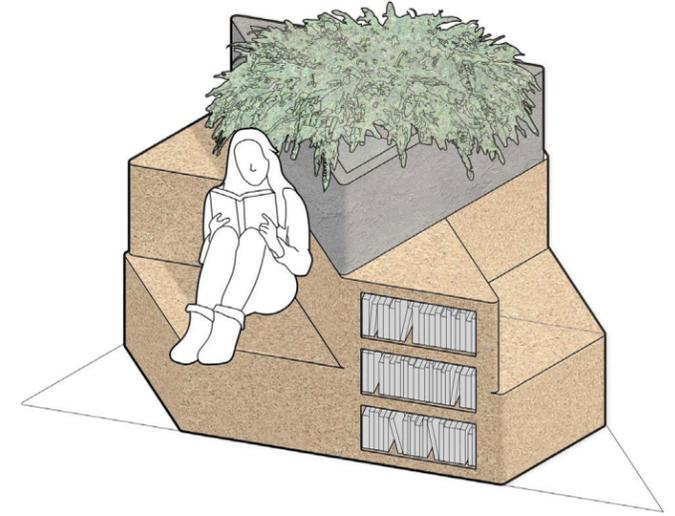
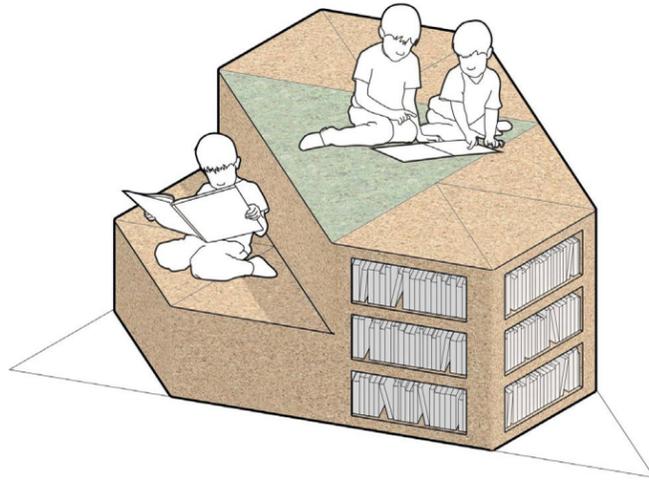
Existing Conditions

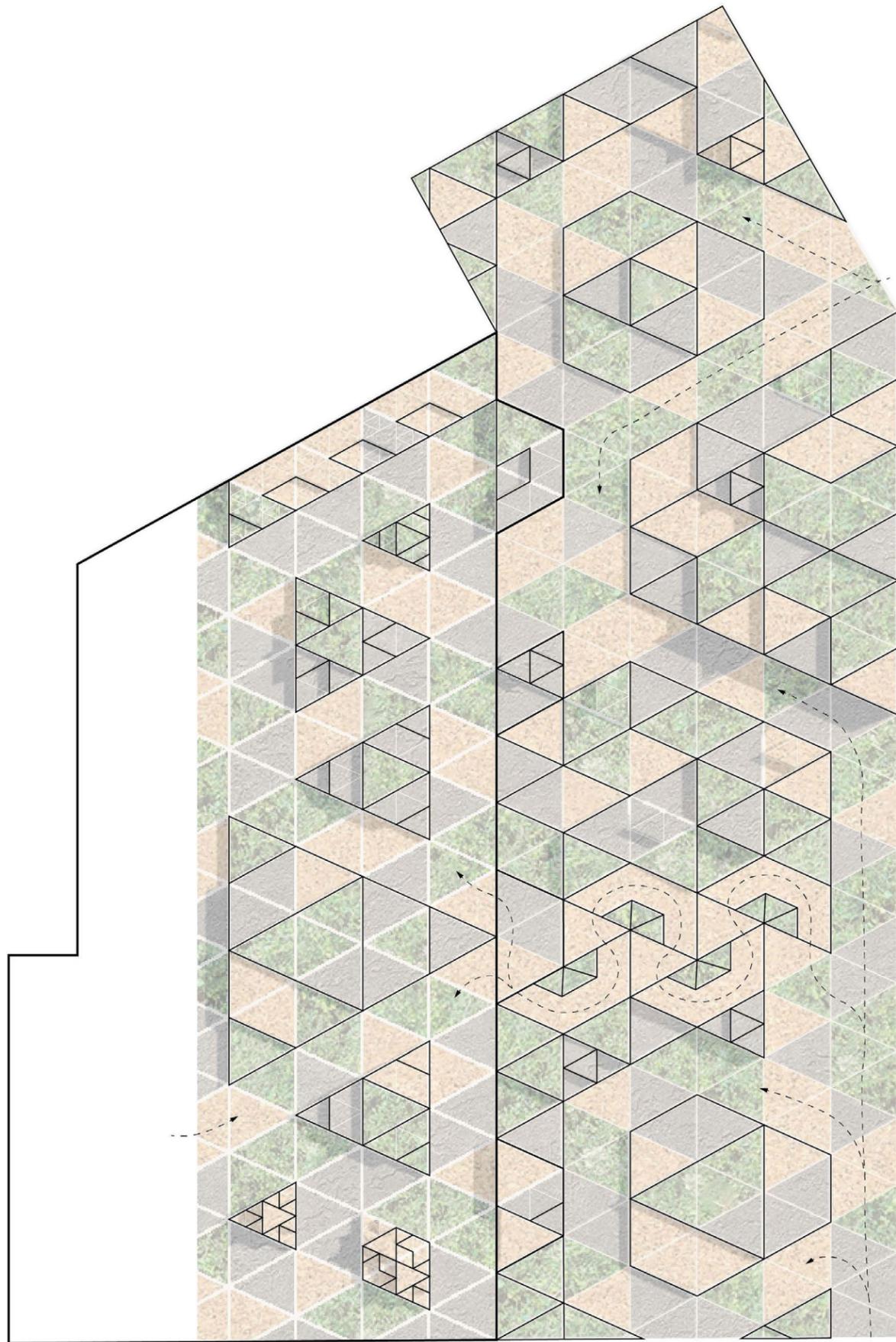
Harlem Library

125th Street Library

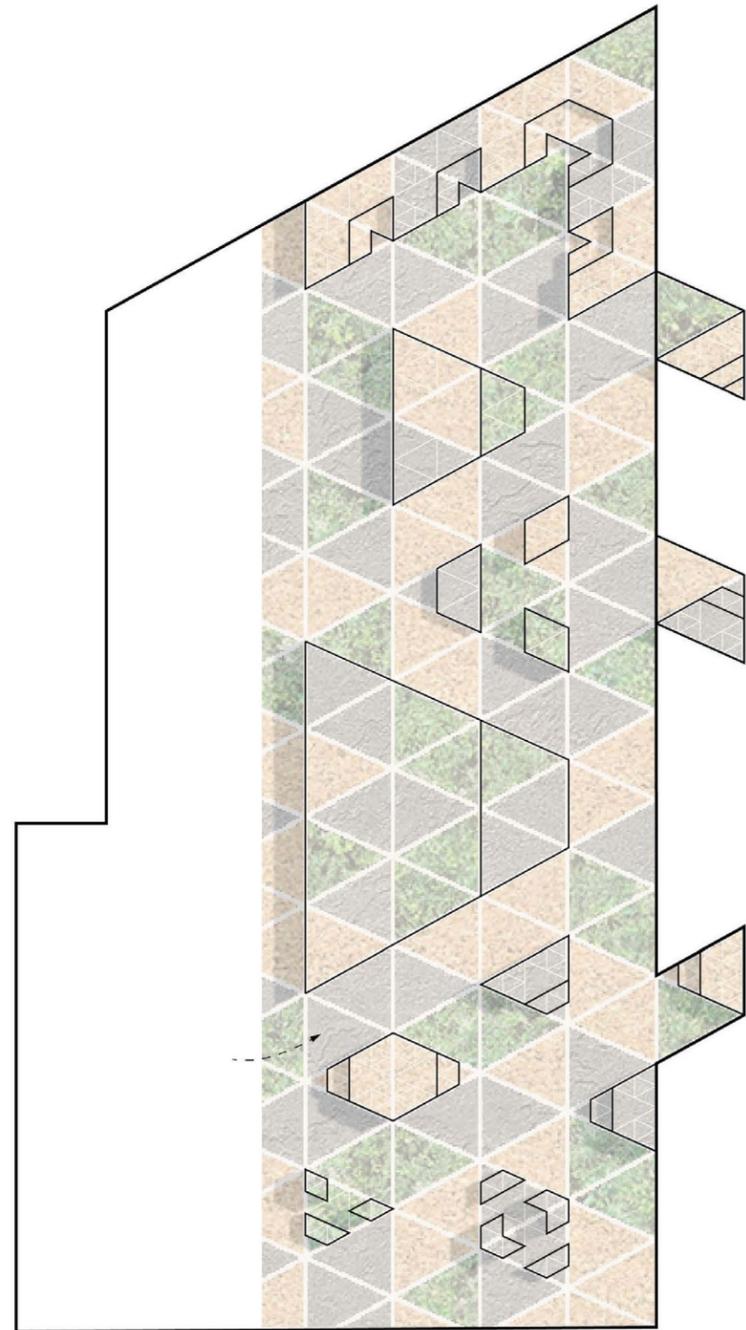
125th Street



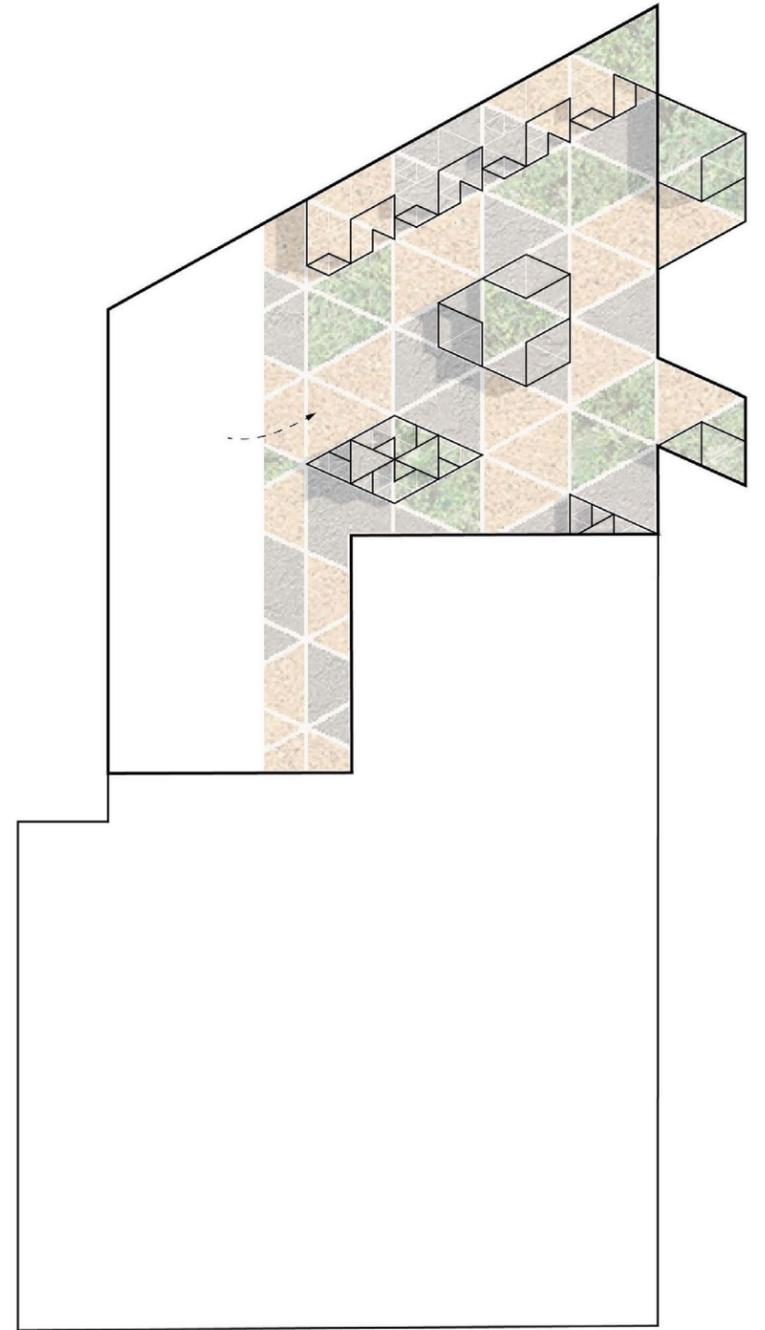




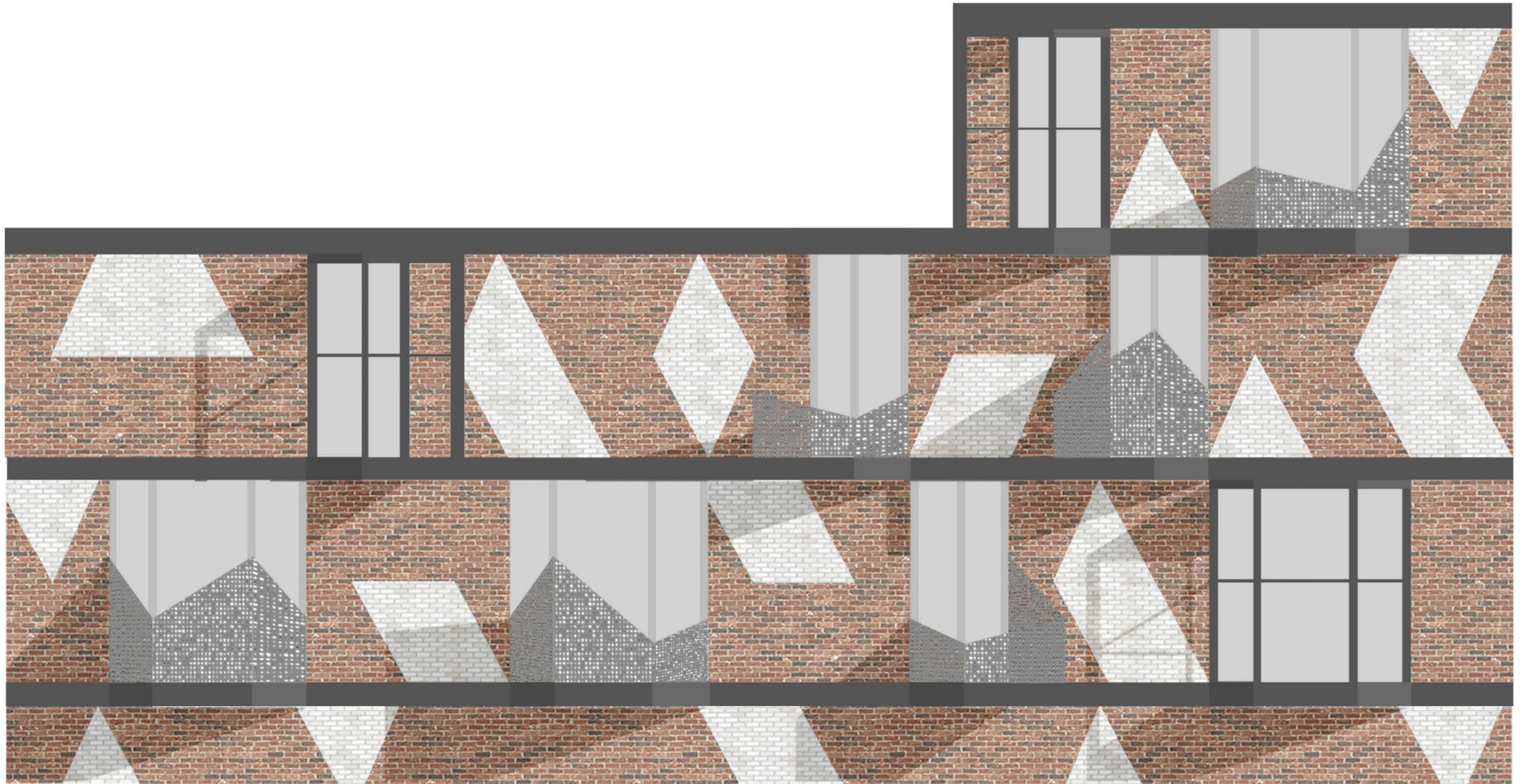
1. General Resources and Garden



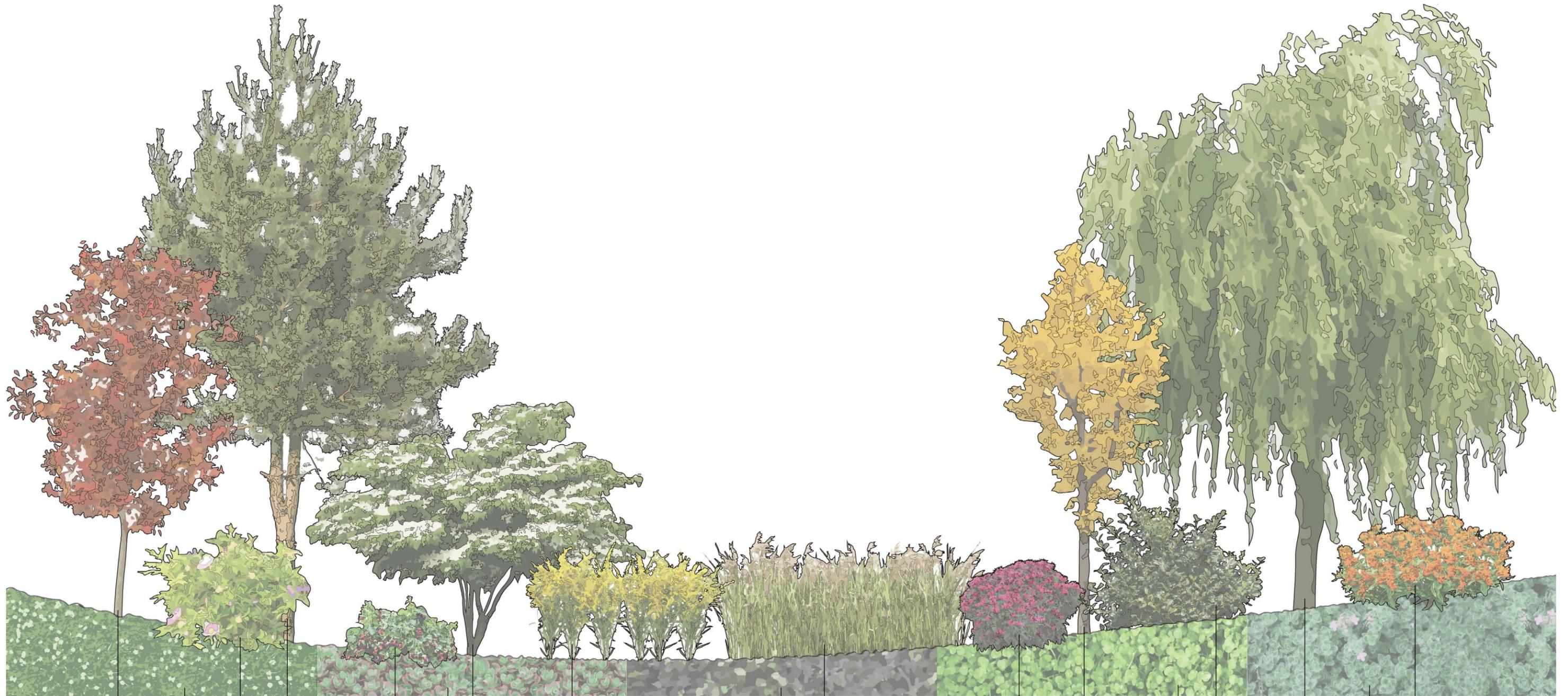
2. Children's Floor



3. Teen Floor



Garden Facing Facade Material Elevation



Native Trees

Northern Red Oak
Temporal
Visual

Eastern White Pine
Tactile
Temporal

Dogwood
Smell
Temporal
Visual

Ginkgo
Tactile
Temporal
Visual

Black Willow
Motion
Sound
Tactile

Native Plants

Virginia Rose
Smell
Visual

Wild Blackberries
Taste

Anise Scented Goldenrod
Smell
Tactile
Visual

Common Wood Reed
Density
Motion
Sound

Scarlet Bee Balm
Motion
Visual

American Holly
Tactile
Temporal

Butterfly Milkweed
Smell
Visual

Stepables

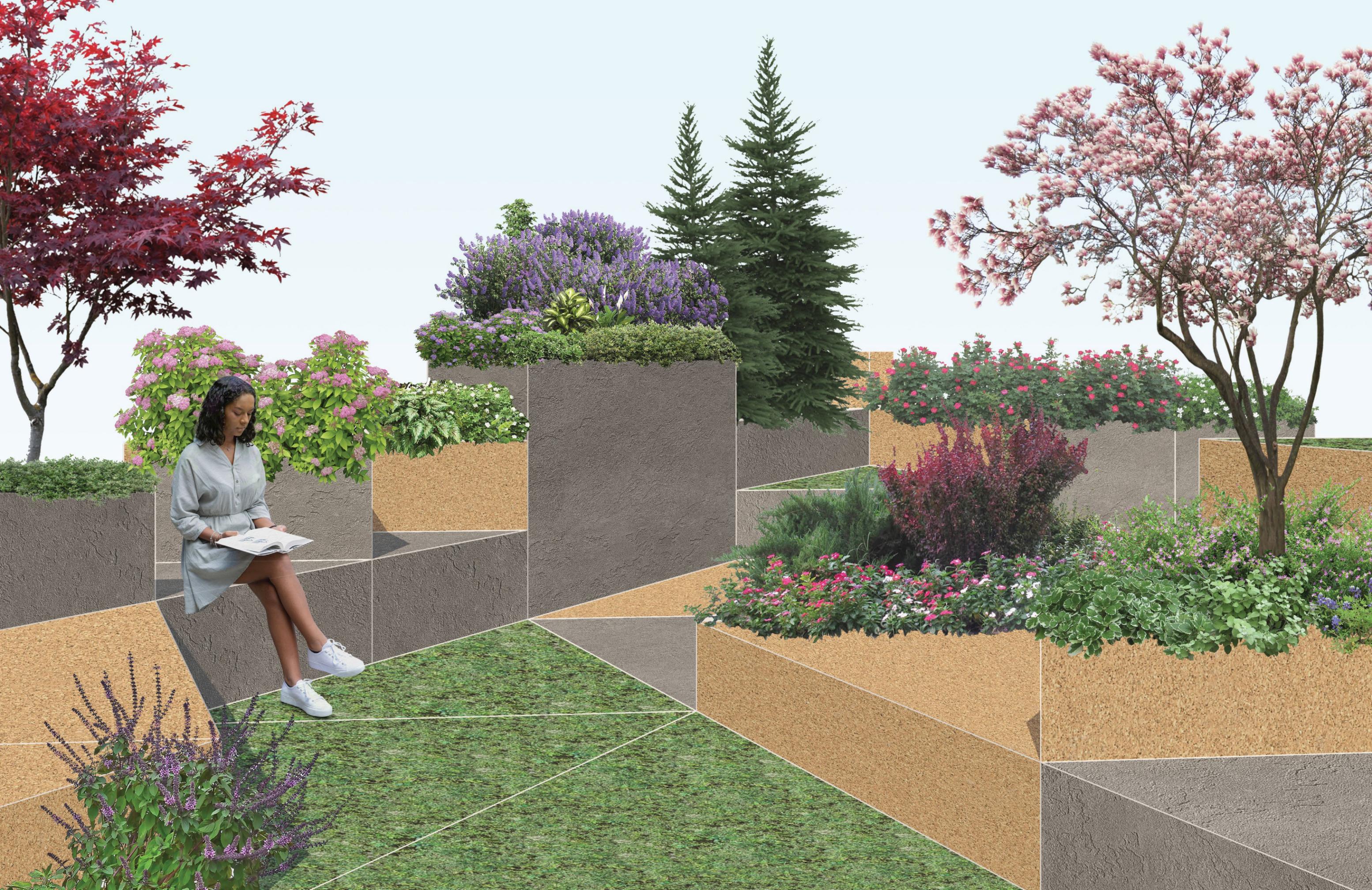
Carrageen Moss
Tactile

Creeping Sedum
Tactile

Black Brass Buttons
Visual

Corsican Mint
Smell

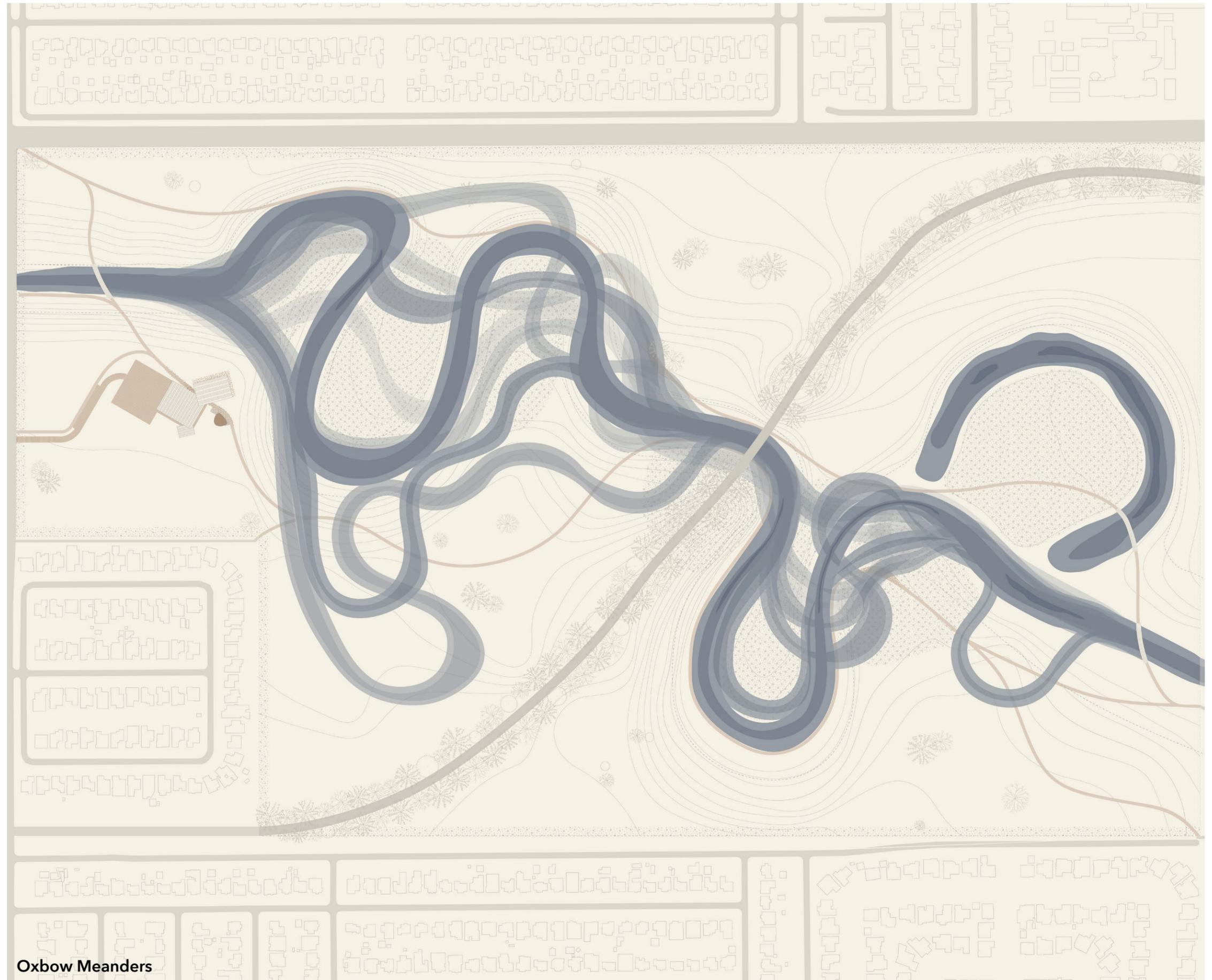
Woolly Thyme
Smell
Tactile



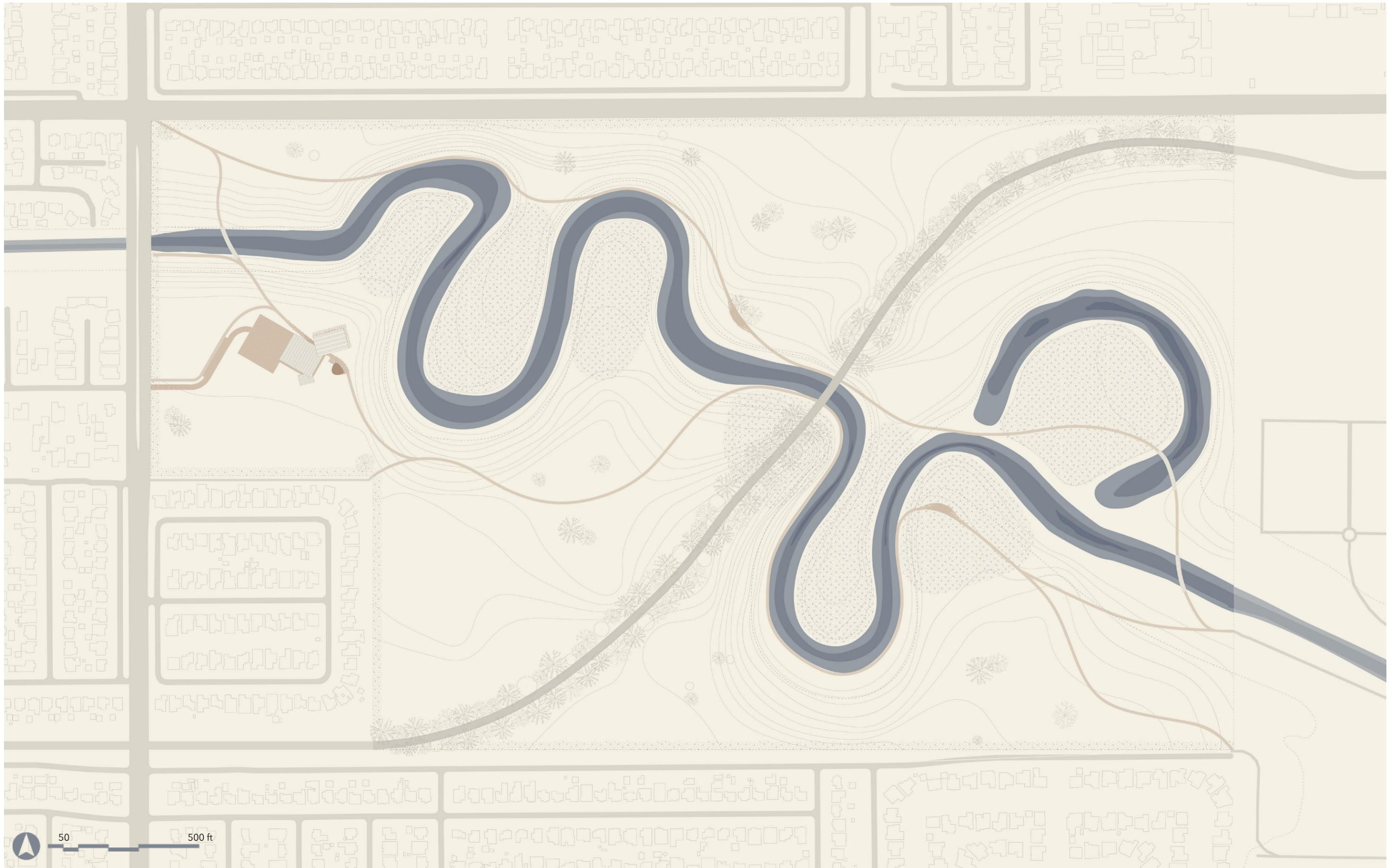
Pervious LA

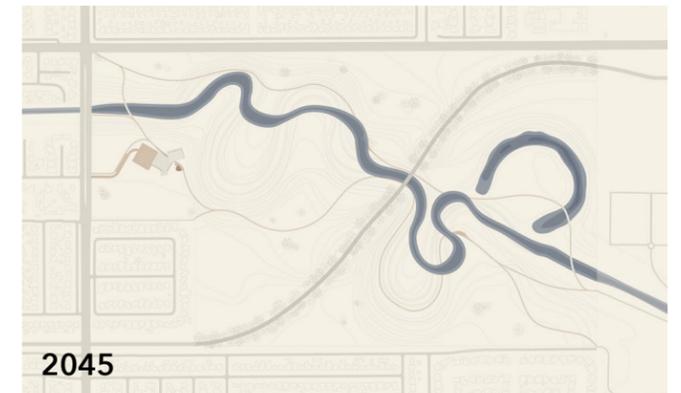
Advanced VI
Professor Laurie Hawkinson
Spring 2022

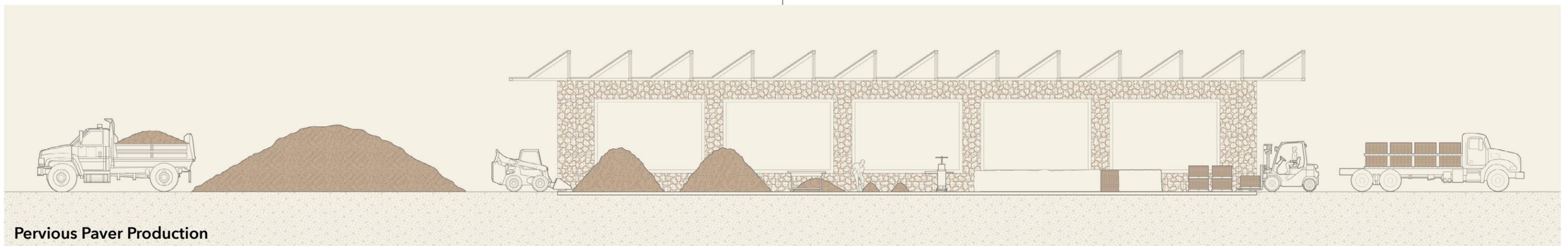
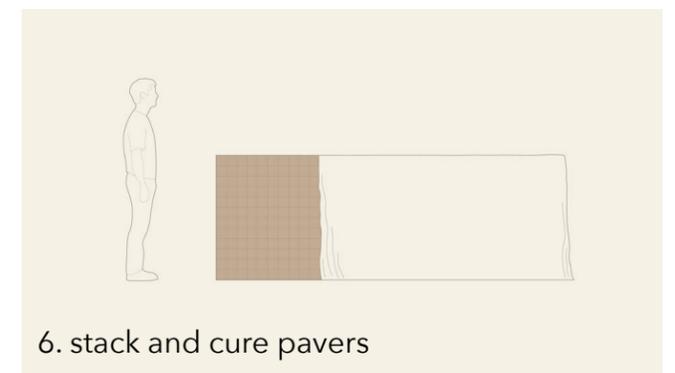
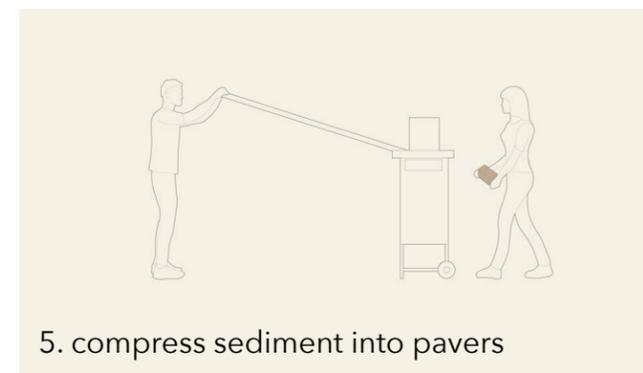
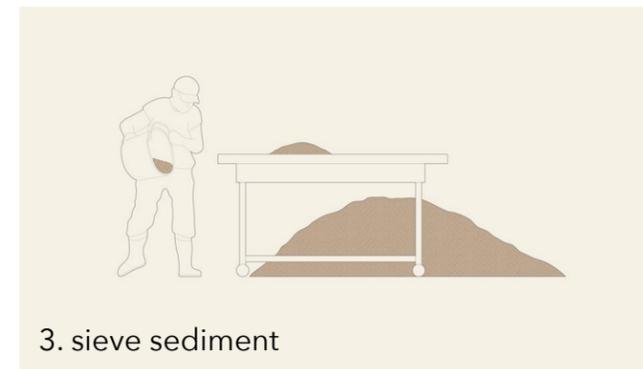
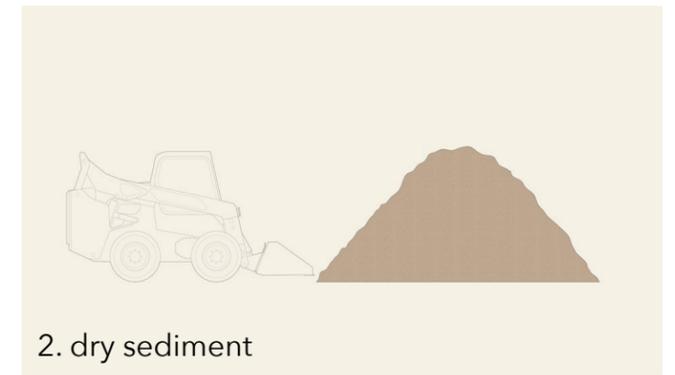
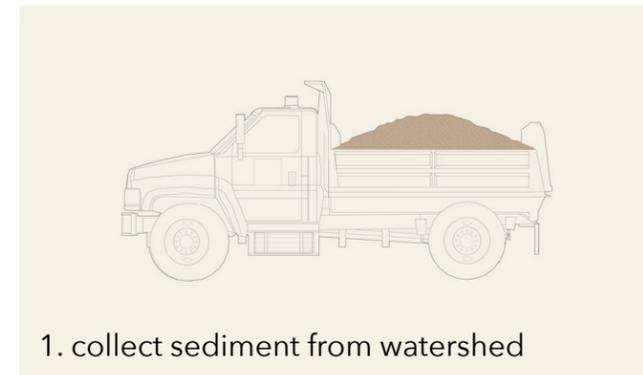
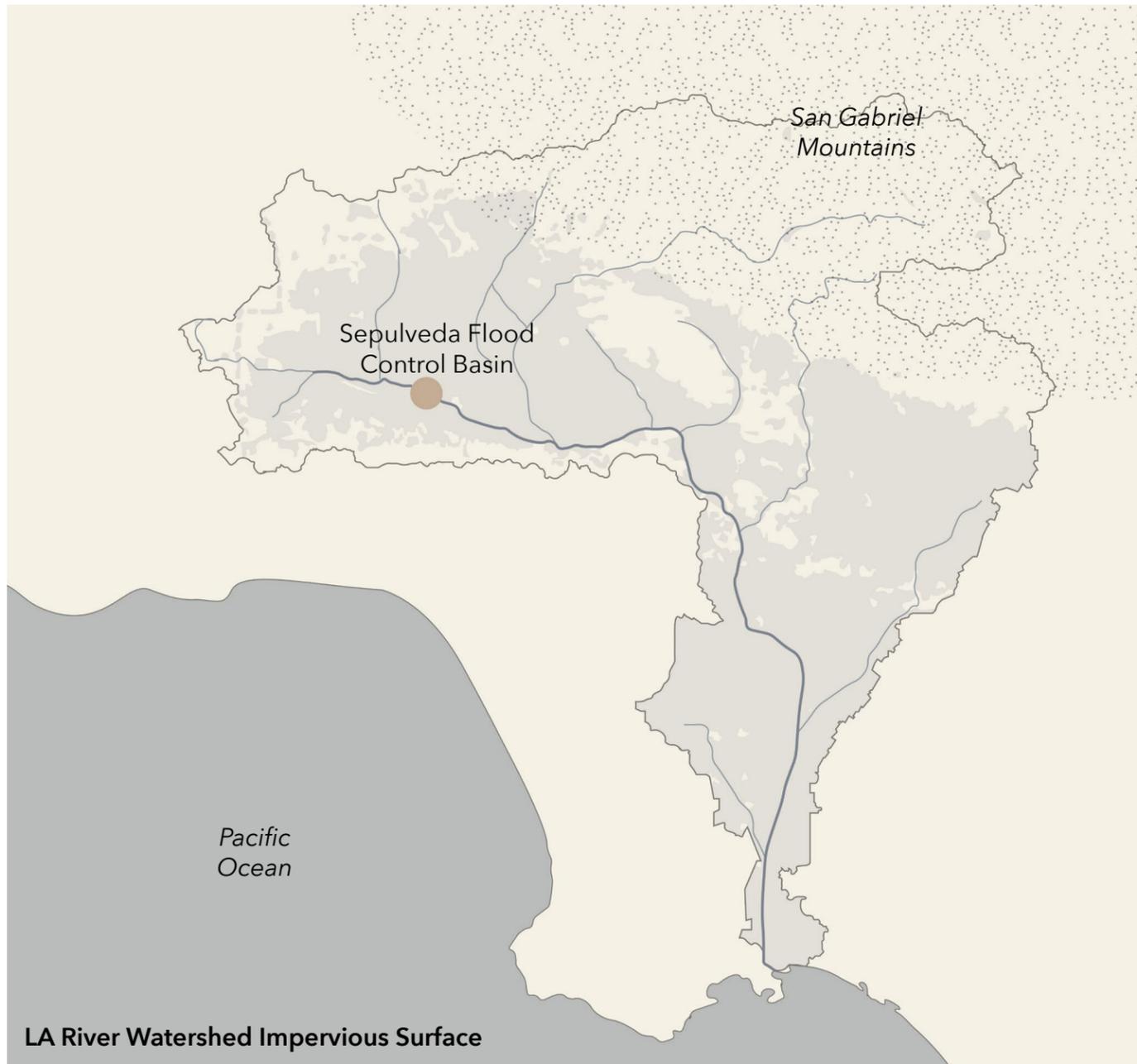
This project implements the production of pervious pavers at the Sepulveda Flood Control Basin in Los Angeles. The pavers are produced using sediment from the LA River in order to increase the permeability of the LA River watershed and lessen the impact of major storm events. The river in this section of the flood control basin is naturalized and lengthened in a series of oxbows in order to increase the basin's ability to mitigate the impact of major storm events further downstream. While for most of the year the site experiences drought, the topography is designed so that during major storm events much of the water running through the site is retained in the area at the center of the oxbow lake. Circulation through the landscape mimics the meandering river. At moments these meandering dirt paths become more formalized, hardscaped using the pervious pavers made in the factory at the west end of the site. As time goes on, the naturalized river is left to meander, and undisturbed at its higher elevation in the basin, the paver factory continues to improve the permeability of the watershed.

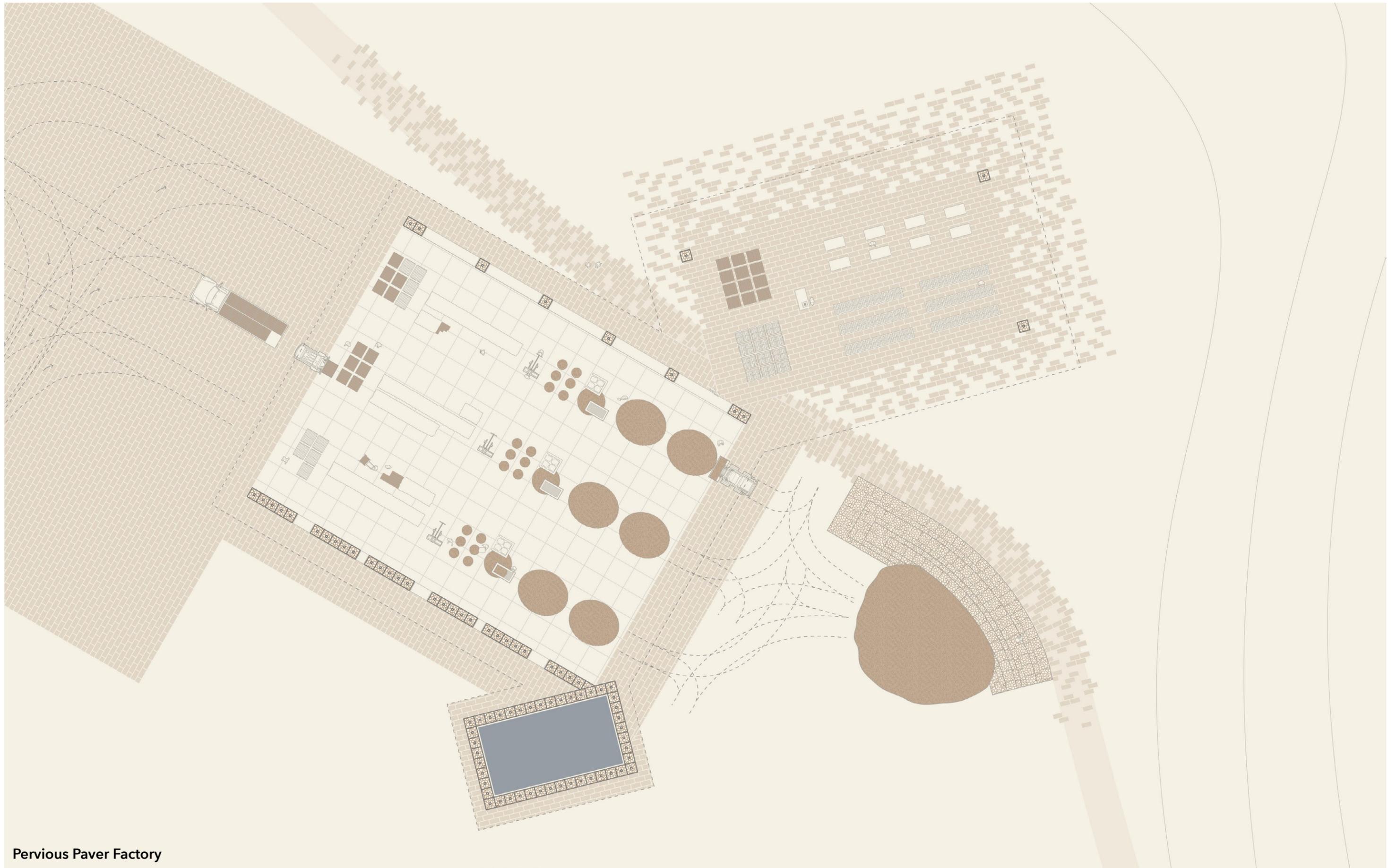


Oxbow Meanders

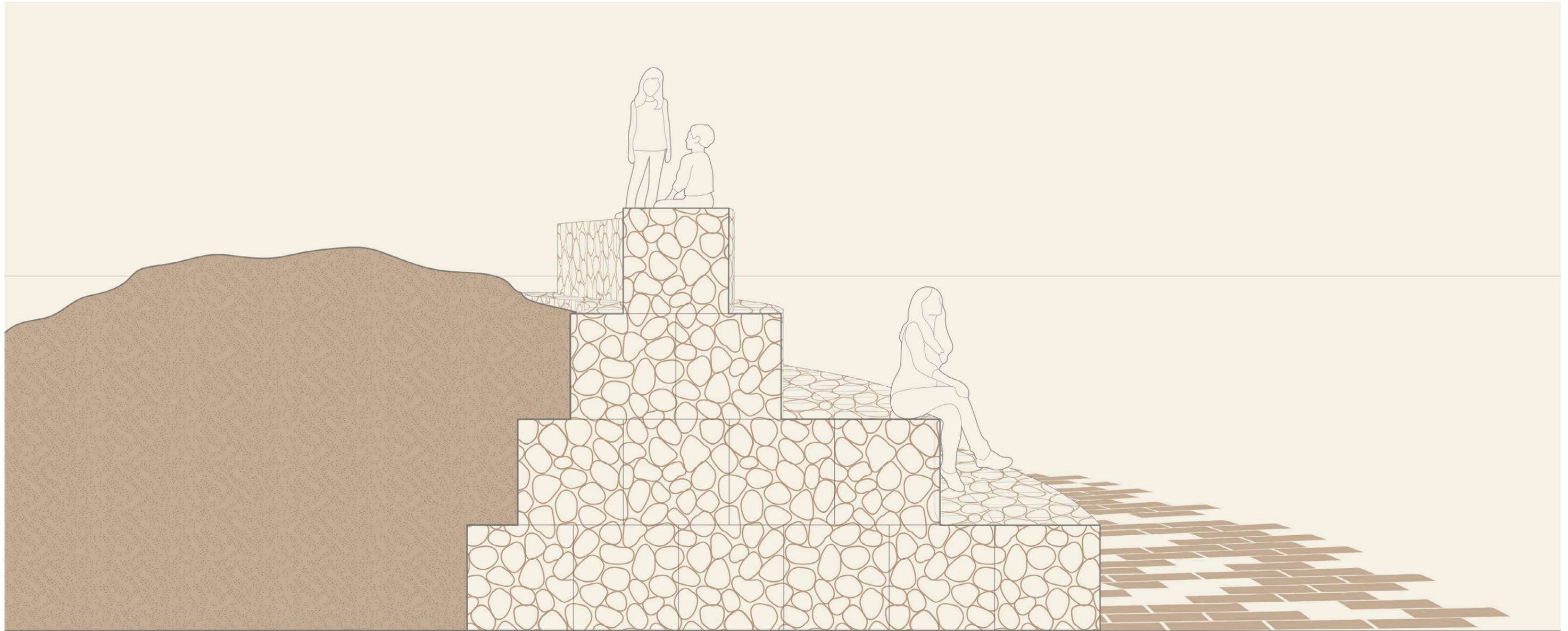




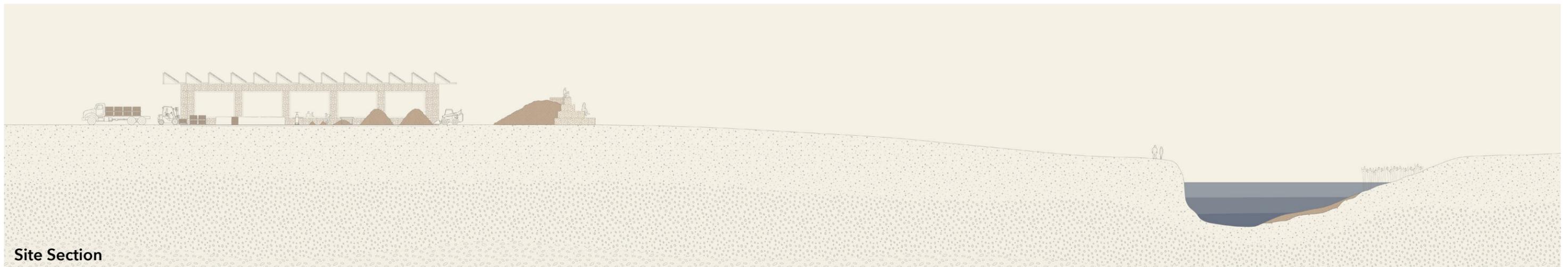




Pervious Paver Factory



Sediment Mound and Gabion Retaining Wall



Site Section

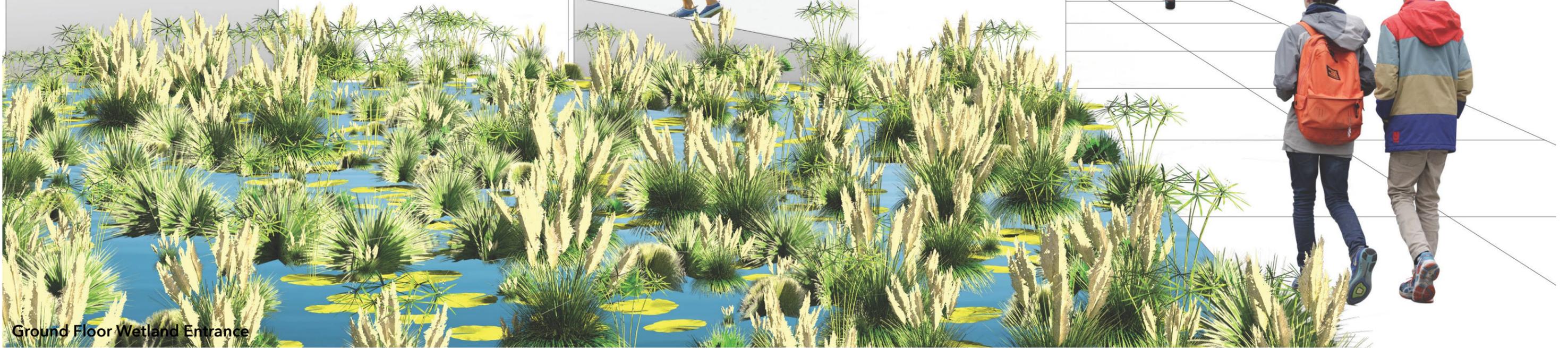
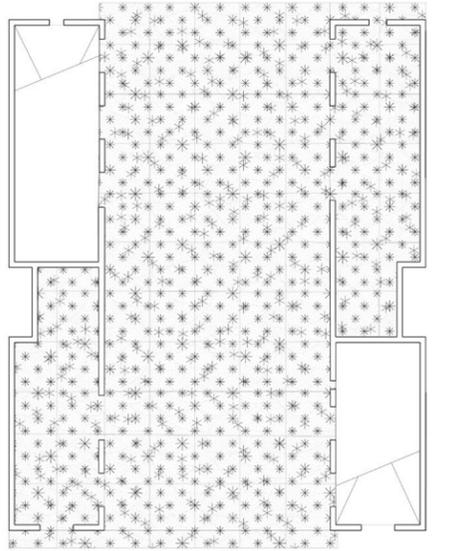
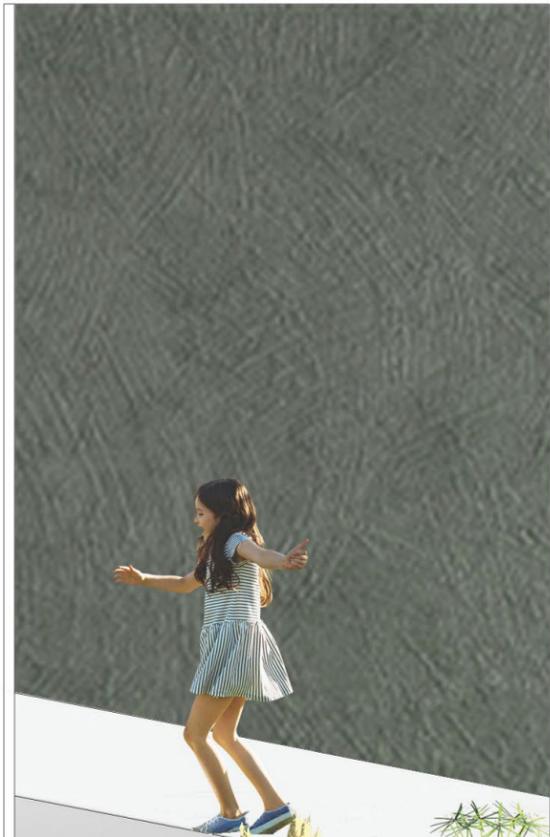
The School for Rainwater Resilience

Core II
Professor Gordon Kipping
Spring 2020

In this project, water is the consideration which determines the form of the school. A rainwater capture system, urban farm, and wetland serve both educational and functional purposes. The rainwater capture system on the roof, elevated as a series of captures which provide shade to the outdoor learning spaces, collects enough rainwater to meet the school's non-potable water need. The wetland at the ground plane acts as a sponge and collects water during major storm events, benefiting both the school and the surrounding neighborhood.

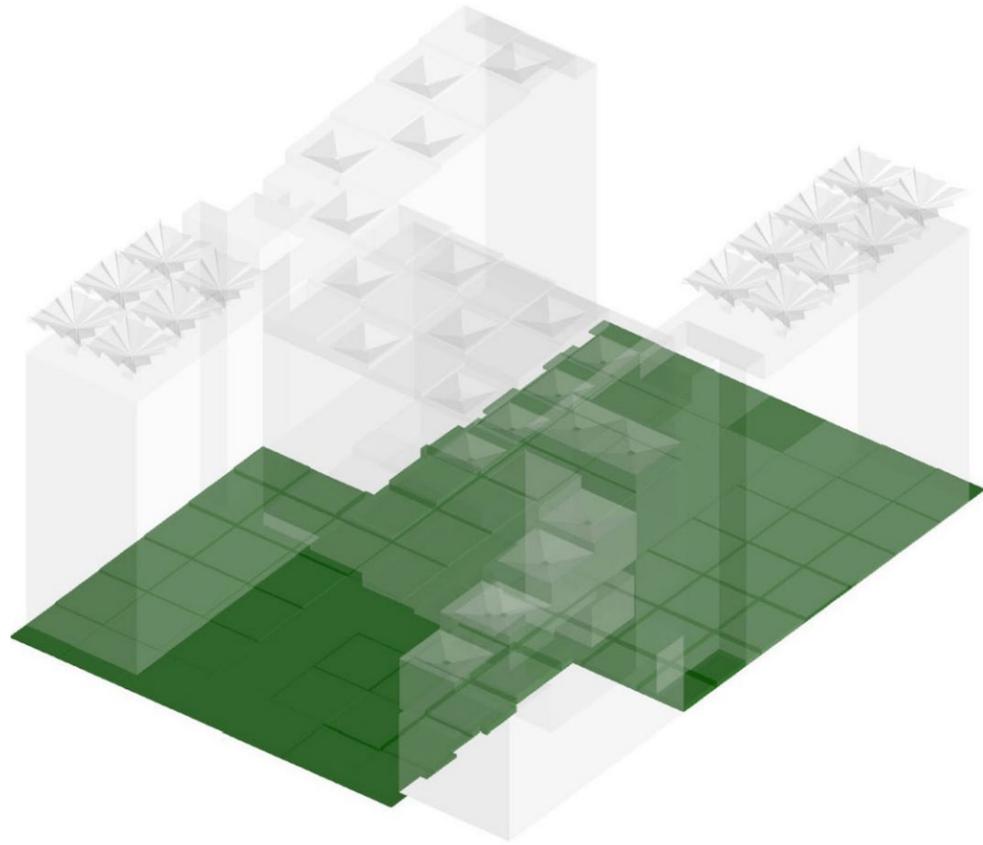


Rainwater Capture

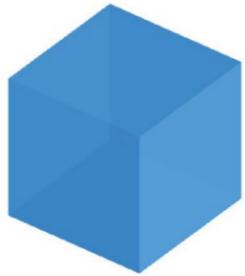


Ground Floor Wetland Entrance

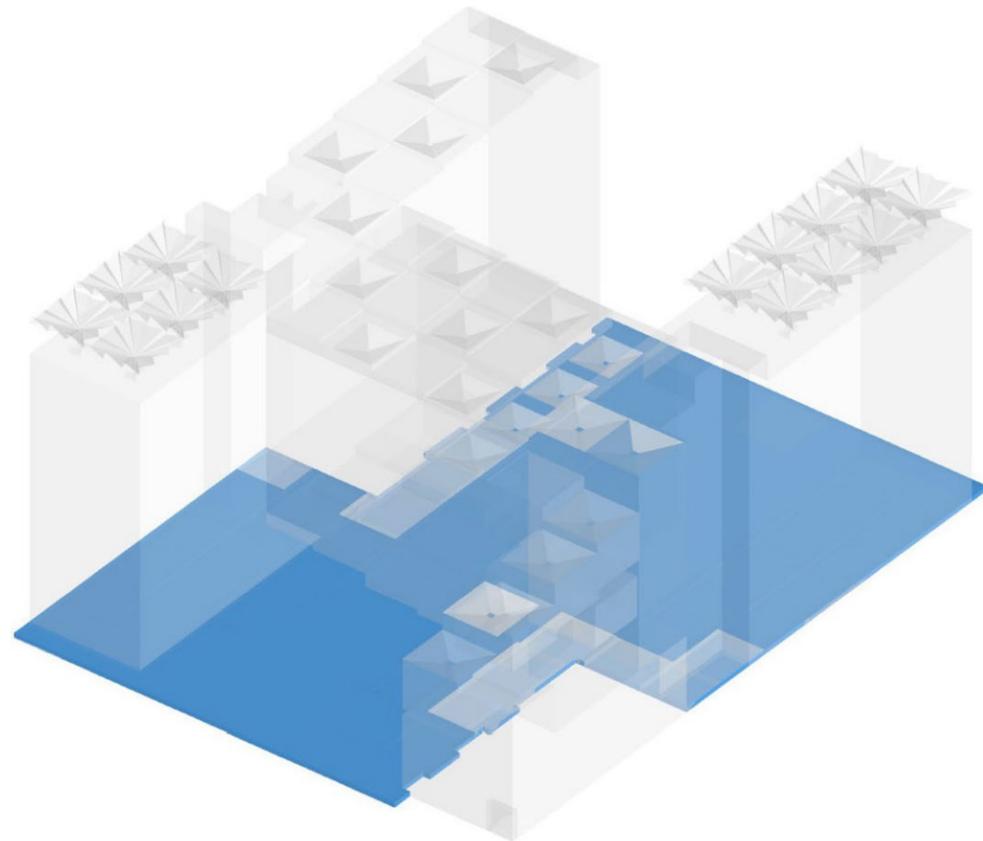
Wetland Surface
27,000 ft²
= 82% of ground plane



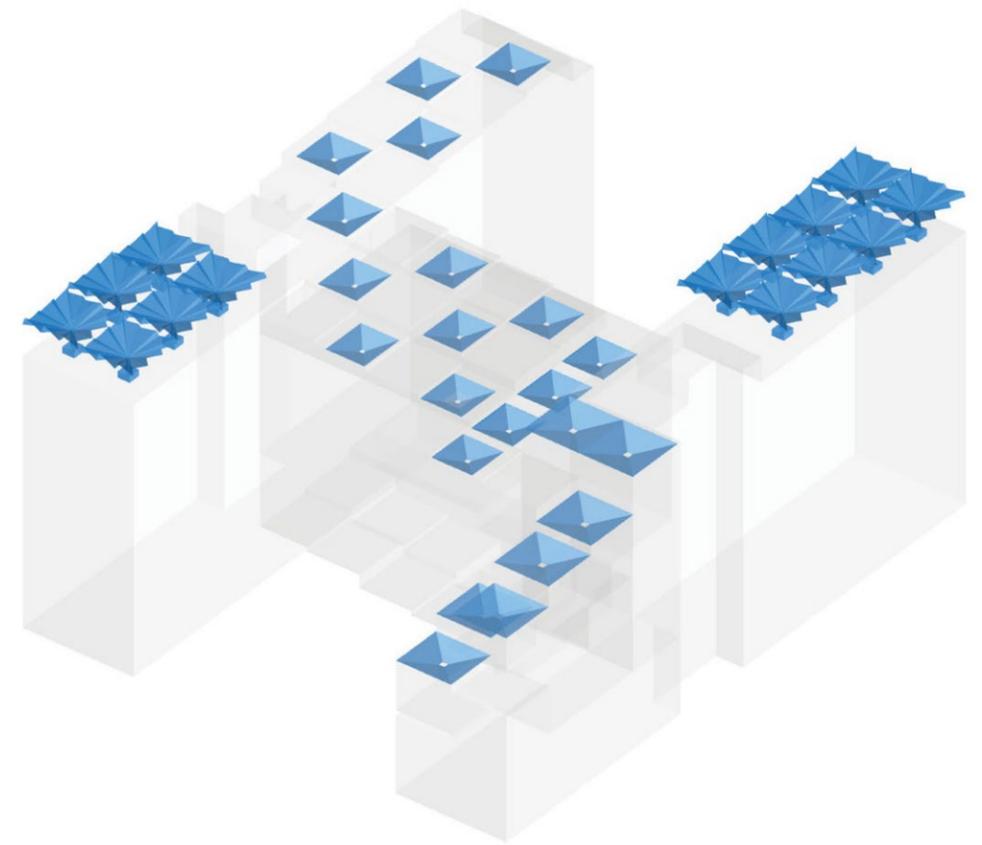
Water Retention



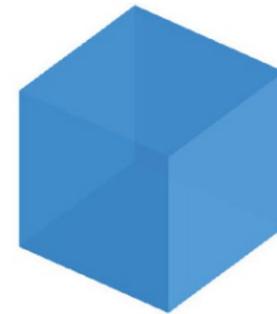
209,000 gallons/event
= 12 inches of rain
= 100 year storm



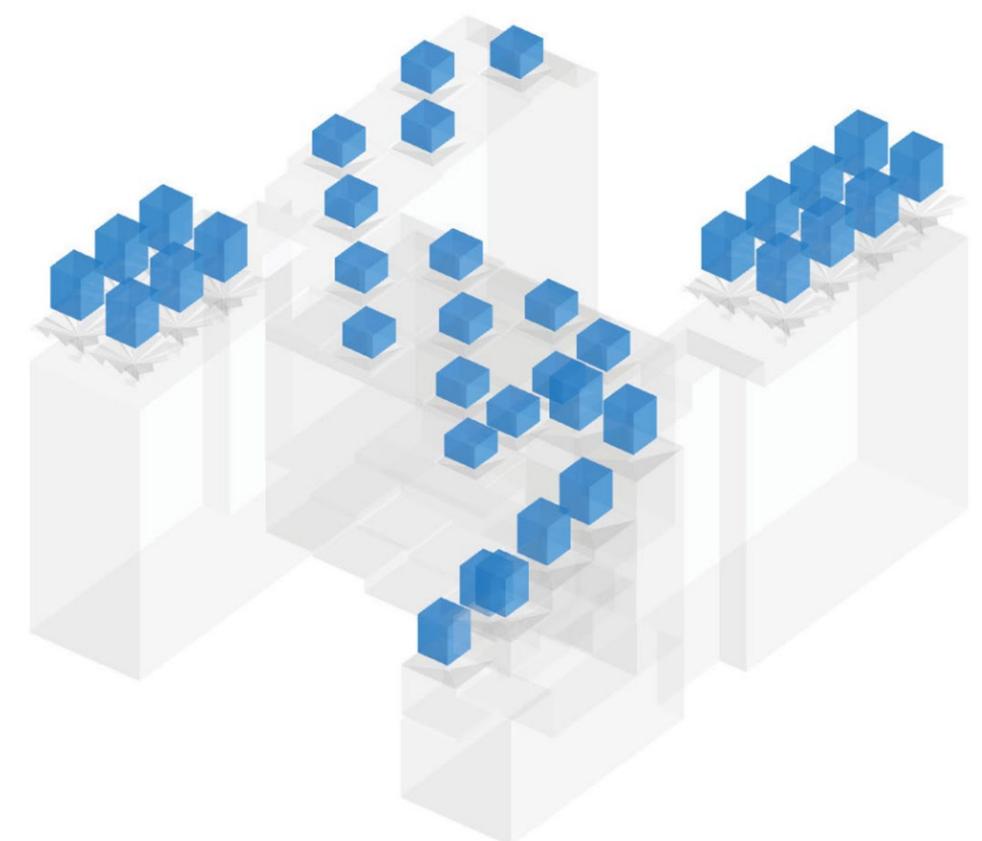
Rainwater Capture
8,700 ft²
= 44% of roof plane



Rainwater Capture



295,000 gallons/year
= 75% Need
= 100% Non-Potable





Rooftop Urban Farm and Rainwater Capture

Visible Obscurity

Core I
Professor Jaffer Kolb
Fall 2019

This design for the facade of The Dorothy McGowan Apartments, a Homeless Services building providing supportive housing, aims to negotiate the boundary between maintaining the privacy of the homeless services residents and having a connection to public space in order to maximize the potential of adjacent lots owned by the Department of Parks and Recreation and Department of Homeless Services. The use of a facade system in which elements that usually make the domestic interior legible from the exterior of the building are reorganized to shift legibility preserves the privacy of the homeless service residents. Louvers give the residents control over the views into and out of the units.



Park Facing Facade



1:1 Facade Operable Louver Detail



1:1 Facade Detail at Floor