



SEAN O'BRIEN
A PORTFOLIO



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Education:

Oklahoma State University 2009 - Present
Completing B. Arch in May of 2015

Relevant Experience:

Oklahoma State University 2015 - Present
Project Management Teaching Assistant
Evaluate student performance
Proctor exams

The Reserve on Perkins
Leasing Professional 2014 - Present
Develop and execute marketing programs
Execute leases
Maintain relationships with competitors
Manage office functionality

Senior Community Assistant 2013 - 2014
Manage Community Assistant staff
Scheduling
Lead weekly staff meetings

Community Assistant 2012 - 2013
Customer service
Property awareness
Sales
Emergency management

Proficiencies:

Revit Architecture	Adobe Premier
Rhinoceros	Adobe After Effects
SketchUp	Final Cut Pro Studio
AutoCAD	Physical Modeling
Adobe Photoshop	Carpentry
Adobe Illustrator	Drawing
Adobe InDesign	Digital Photography
Adobe Lightroom	Videography





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Boston Air Rights Master Plan

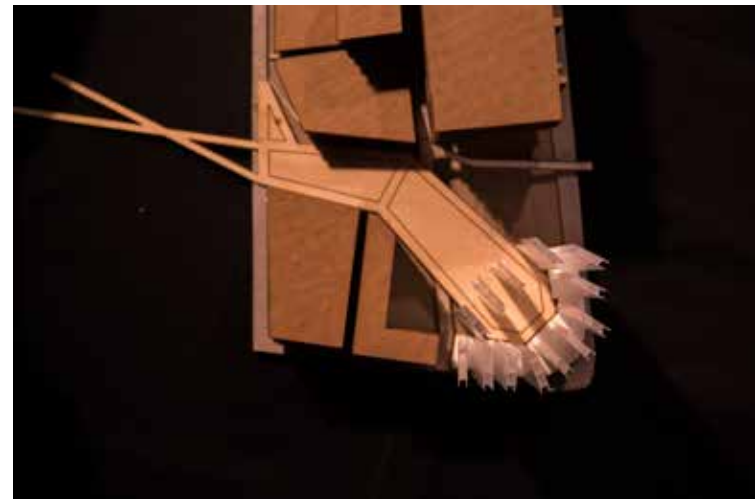
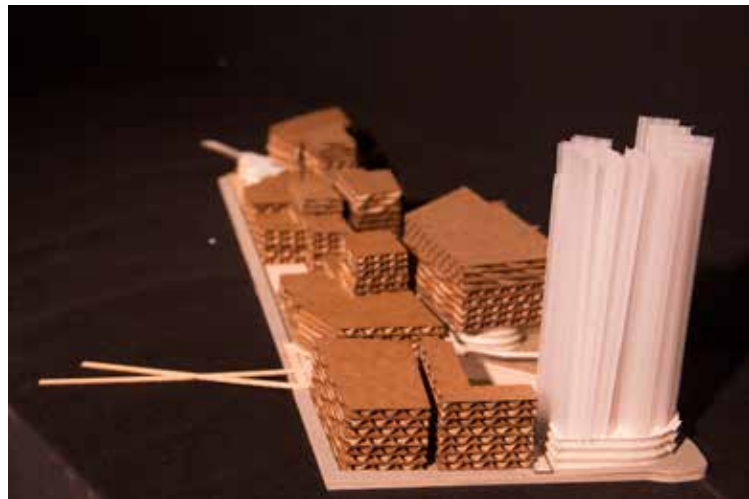
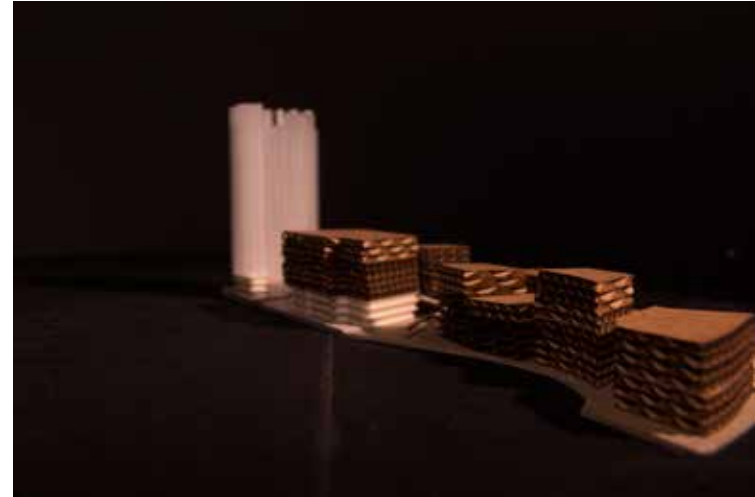
Boston, Massachusetts

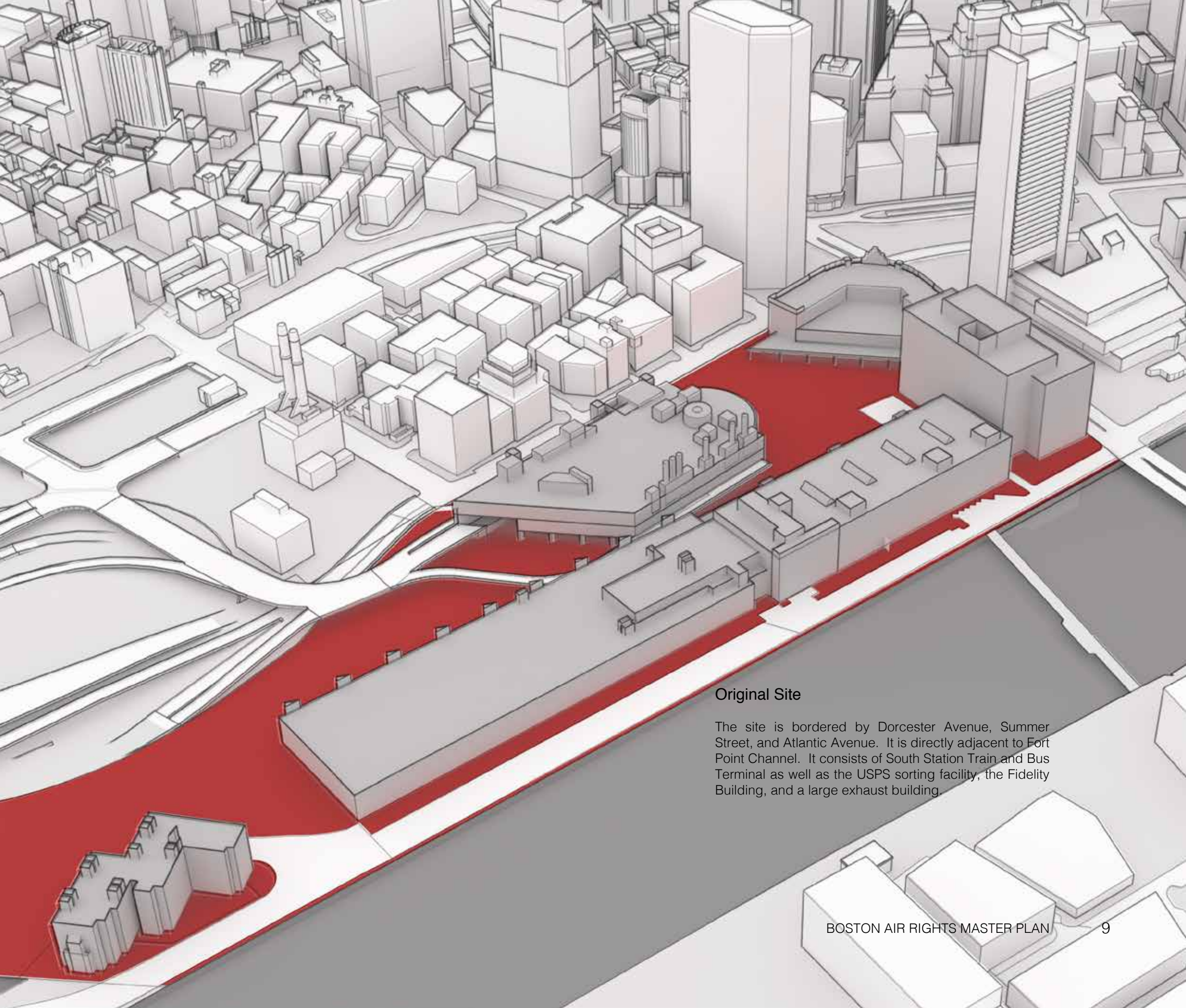
S. O'Brien, M. Malone, A. Krone, C. Freeman, J. Bradshaw
2014

The Boston Air Rights Master Plan is an attempt to rejuvenate a neglected and unwalkable part of downtown. When Massachusetts Department of Transportation decided to double the number of train tracks at South Station, the Boston Redevelopment Authority asked for master plan proposals for the site bound by Dorchester Avenue, Summer Street, and Atlantic Avenue.

The South Station Master Plan creates physical and visible connections with Boston's 100 Acre Plan. Additionally, the South Station Master Plan supports other artistic districts around the Boston Metro by making room for a new opera house and theatre. The site will be divided by a road in effort to break the site into a scale more suitable for Boston while emphasizing pedestrian penetration of the site.

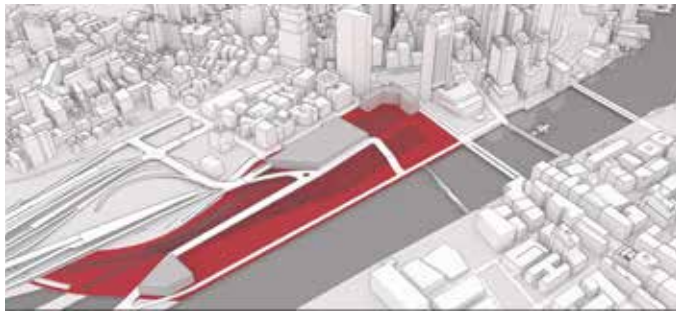






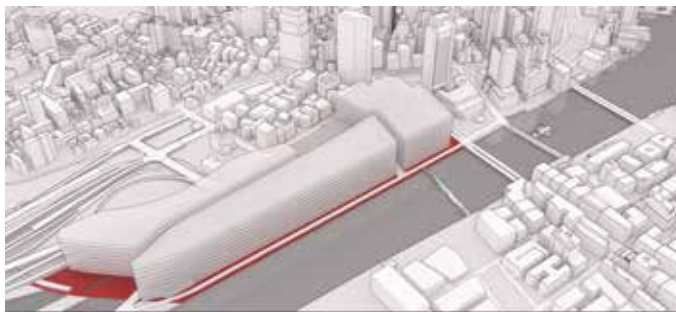
Original Site

The site is bordered by Dorchester Avenue, Summer Street, and Atlantic Avenue. It is directly adjacent to Fort Point Channel. It consists of South Station Train and Bus Terminal as well as the USPS sorting facility, the Fidelity Building, and a large exhaust building.



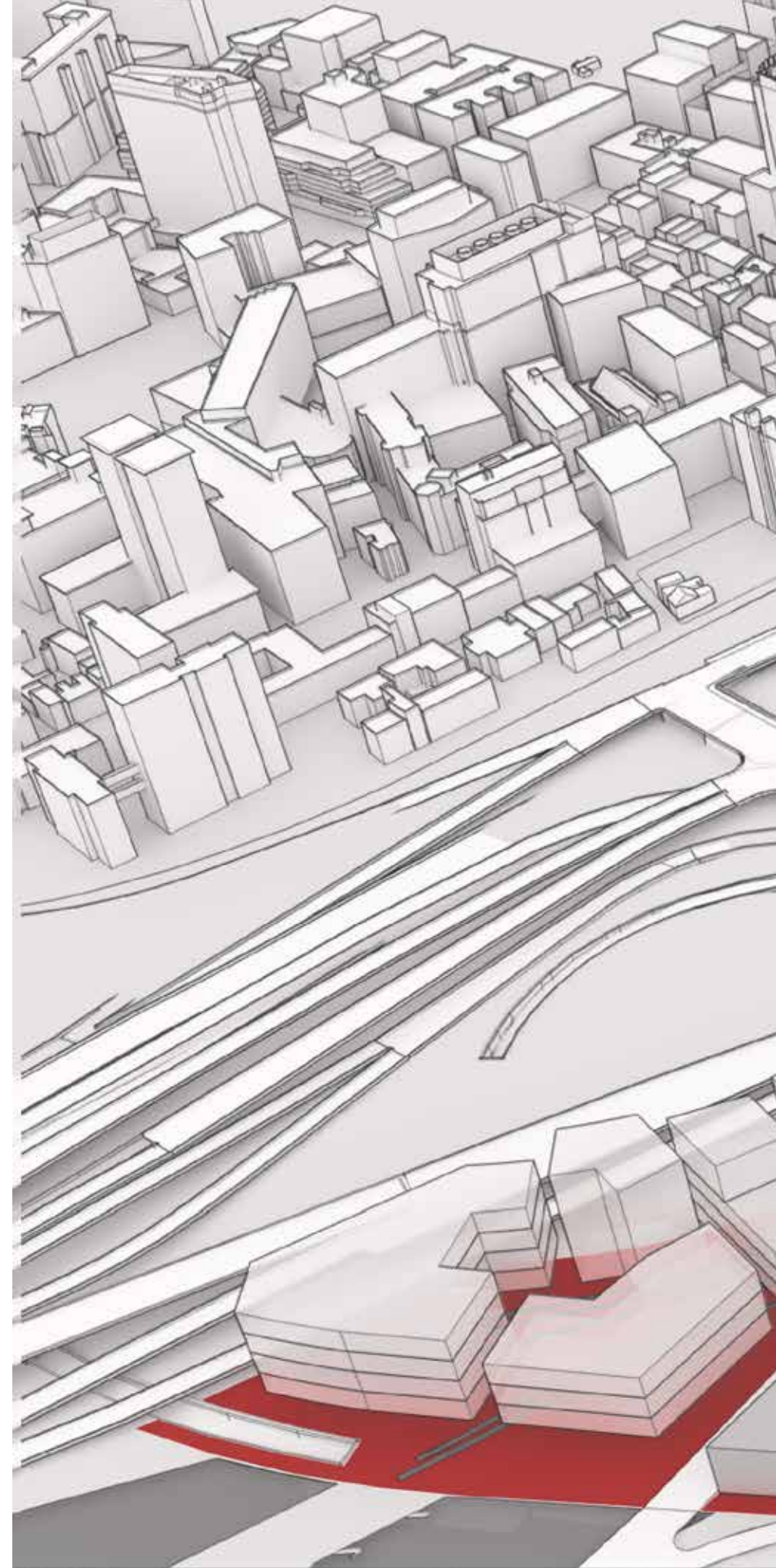
Demolition

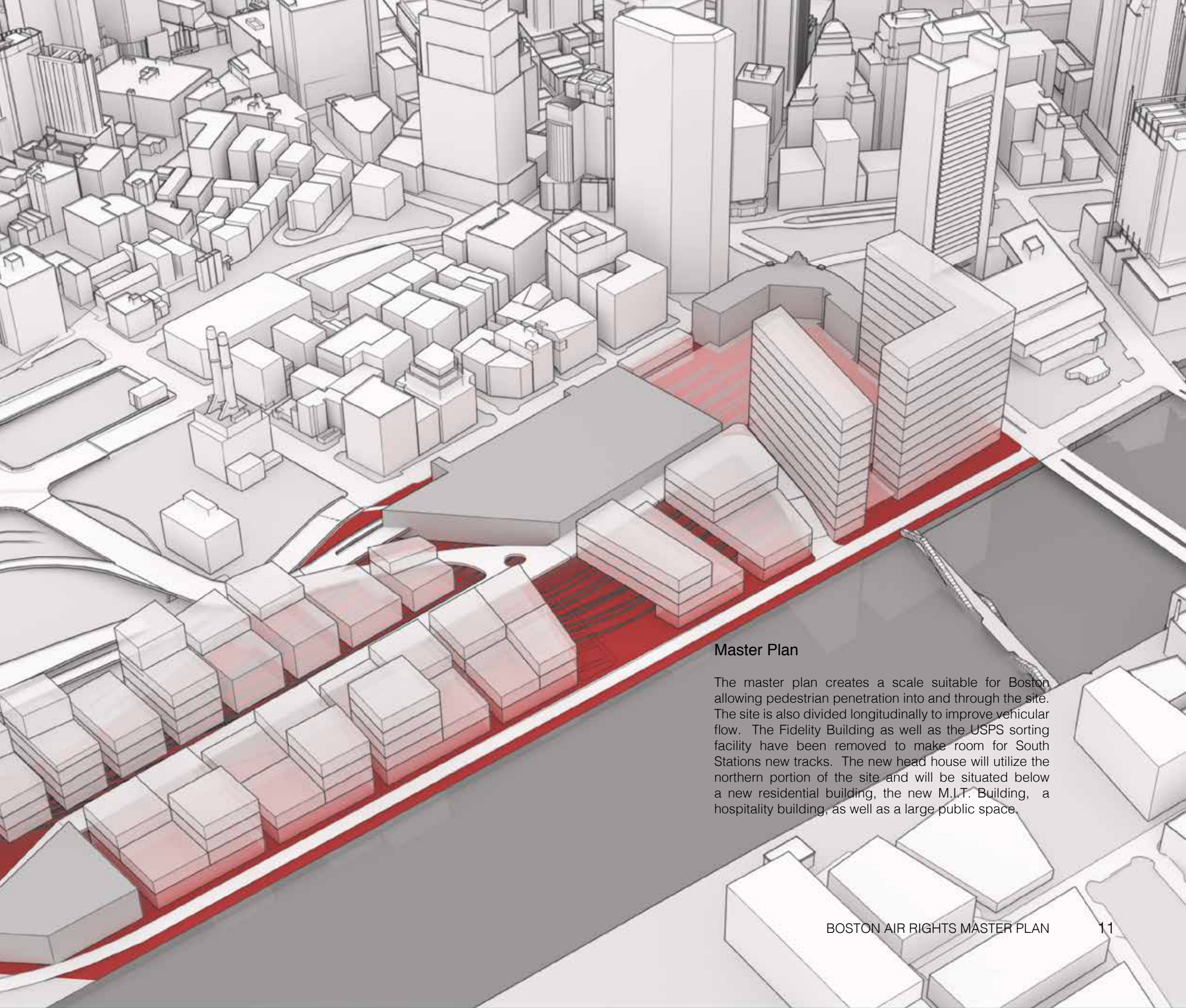
The USPS sorting facility and the Fidelity Building will be demolished to create room for the new train track additions. The exhaust building will be demolished and rebuilt, ultimately reducing its size and conforming it to code.



Buildable Area

The buildable area is affected by FAA restrictions due to the airport located just across the bay as well as codes set forth by the City of Boston concerning waterfront property.





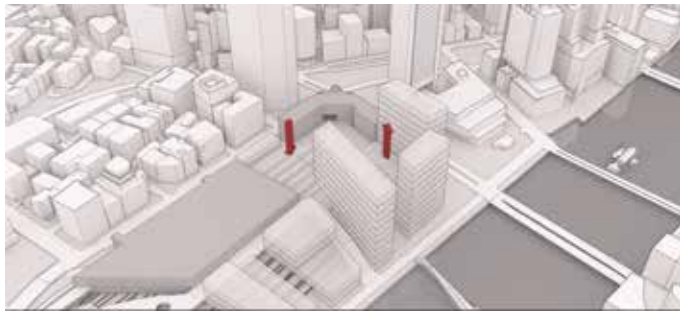
Master Plan

The master plan creates a scale suitable for Boston allowing pedestrian penetration into and through the site. The site is also divided longitudinally to improve vehicular flow. The Fidelity Building as well as the USPS sorting facility have been removed to make room for South Stations new tracks. The new head house will utilize the northern portion of the site and will be situated below a new residential building, the new M.I.T. Building, a hospitality building, as well as a large public space.



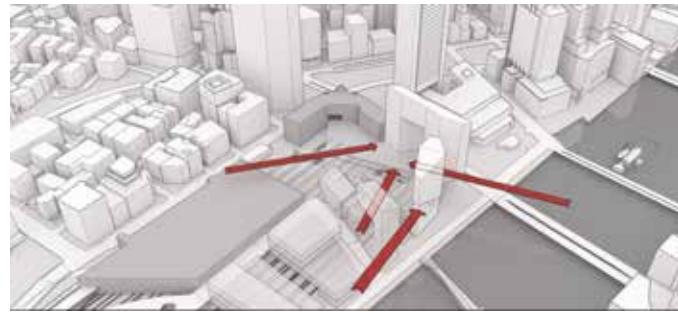
Focus Area

The northern area of the site was chosen as a focus for this project. The operation of the new head house, residential building, M.I.T. Building, hospitality building, as well as the large public space was important to understanding the project realistically.



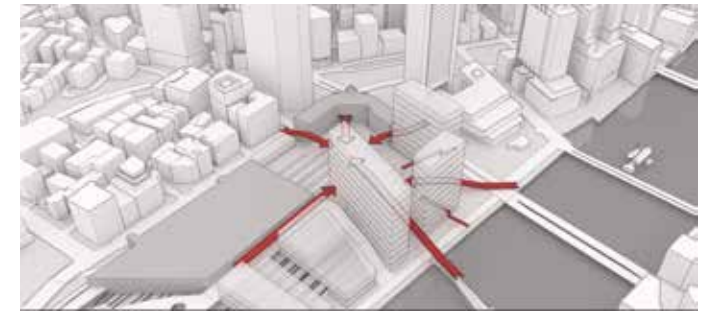
Vertical Shift

Spaces were shifted vertically to provide privacy, allow light into spaces below, and to encourage exploration.



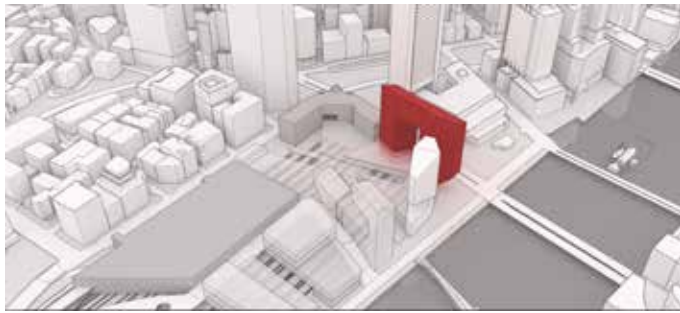
Sunlight

The buildings and green space were shaped by using sun lines to provide optimal light into the new head house during peak hours.



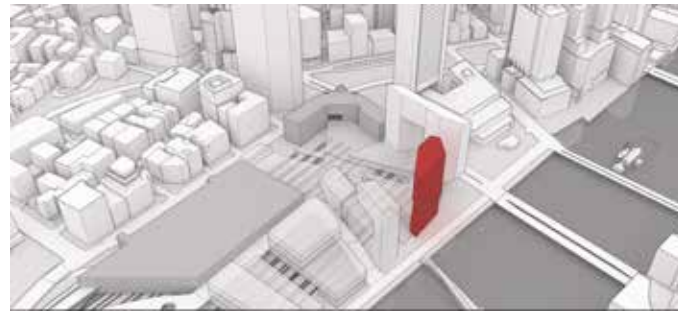
Porosity

Porosity was created to provide sufficient circulation into the public space as well as other functions as well as provide access to pedestrians moving across the site.



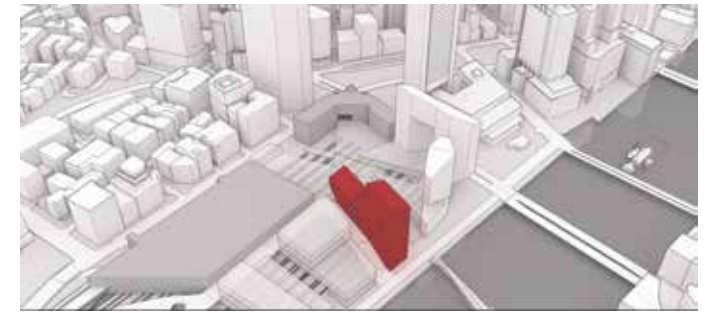
Residential

The residential building is the northern most building on the site to provide for optimal views as well as day lighting.



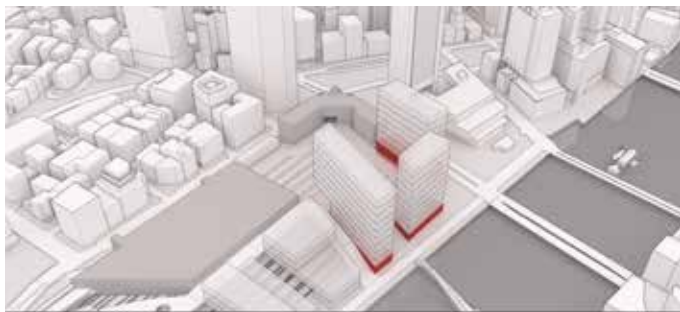
M.I.T.

The M.I.T. Building is situated between the public space and the Fort Point Channel. This provides views of the Innovation District to the east, the public space below, and the Theatre District to the west.



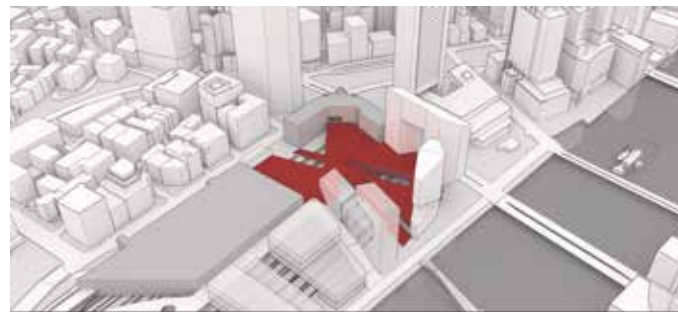
Hospitality

The hospitality building will function primarily as a hotel building. Its location was chosen because of its proximity to the train station as well as waterfront recreation.



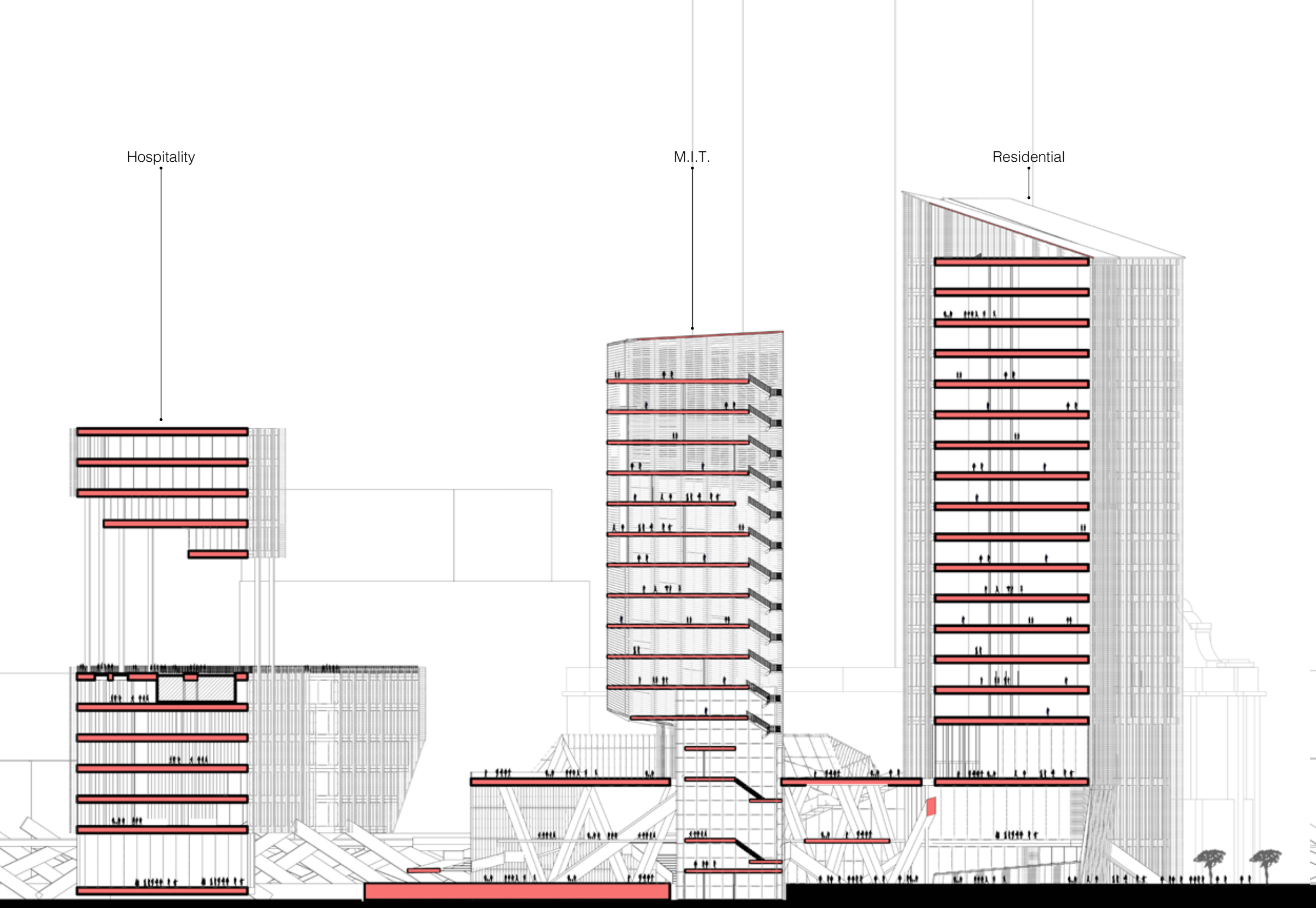
Retail/Galleries

Retail and galleries will fill the ground and second floors of each building to provide shopping for patrons in the South Station area. The galleries will provide space for artists to show and sell their work while providing communal activities.



Public Space

The public space is split into three distinct spaces including an amphitheater, outdoor market, and sculpture garden. On a larger scale the public space acts as an arboretum that extends the green way and the urban forest.

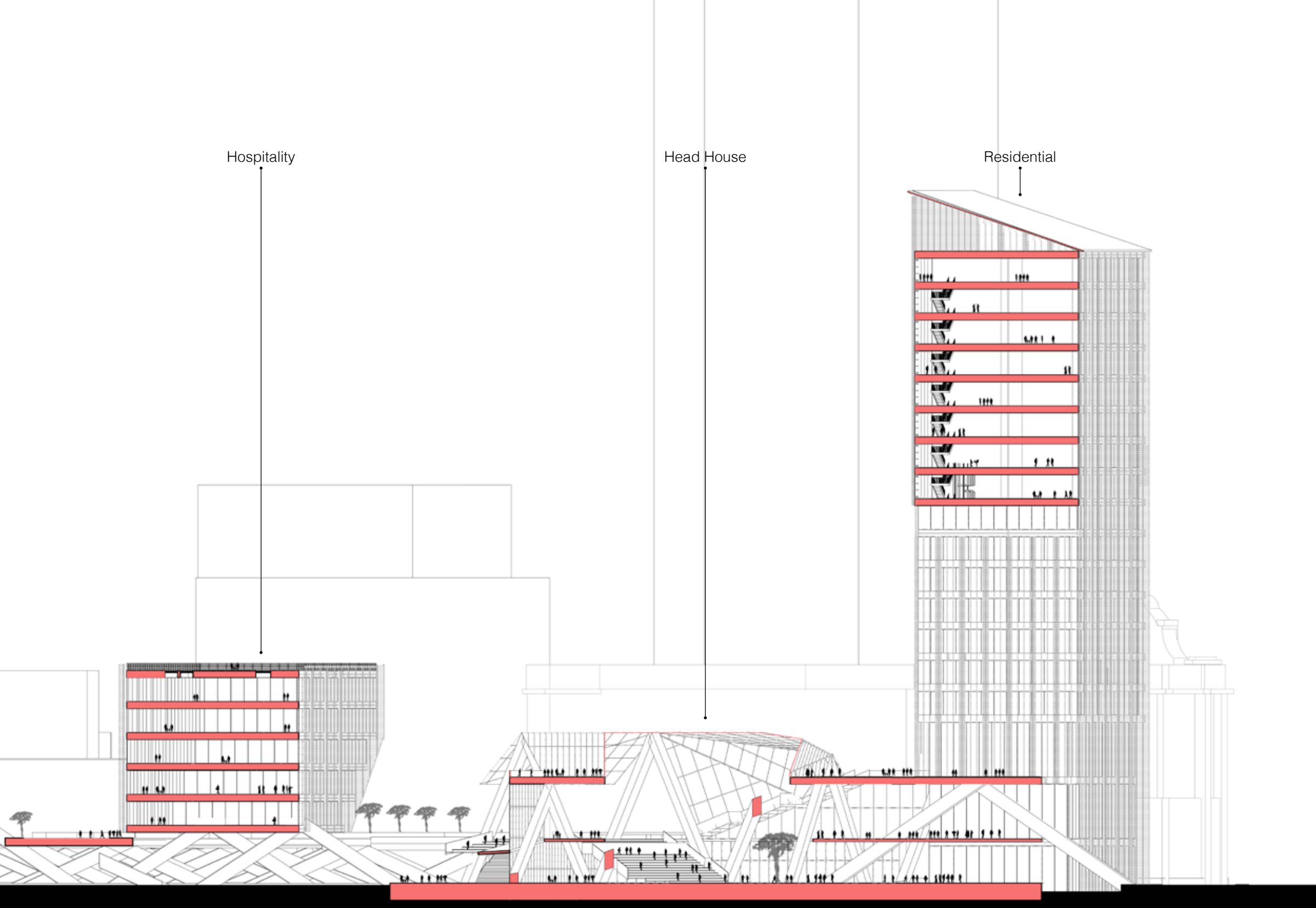


Hospitality

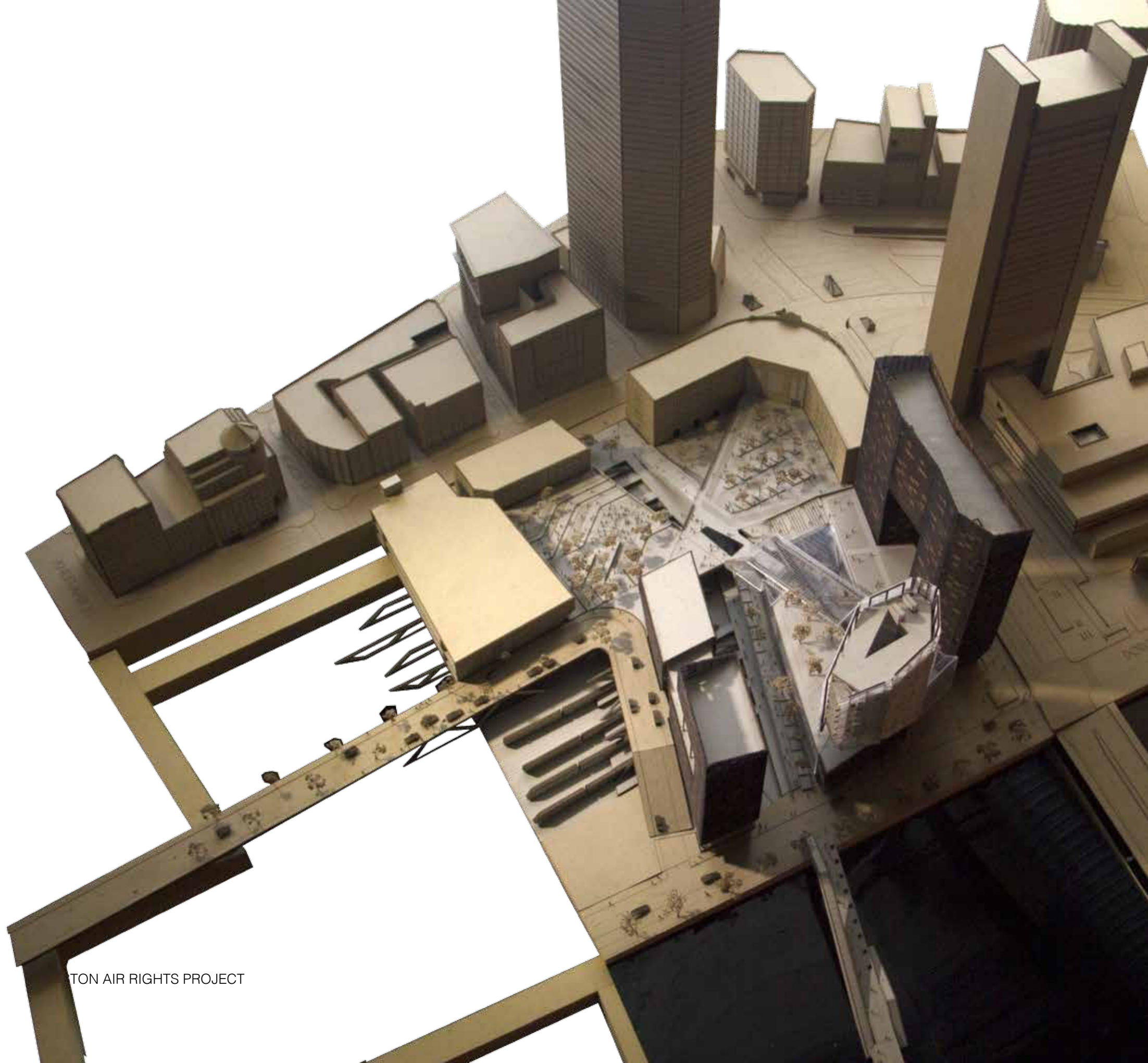
M.I.T.

Residential

1. Section A



1. Section B







Oklahoma State University Museum of Art

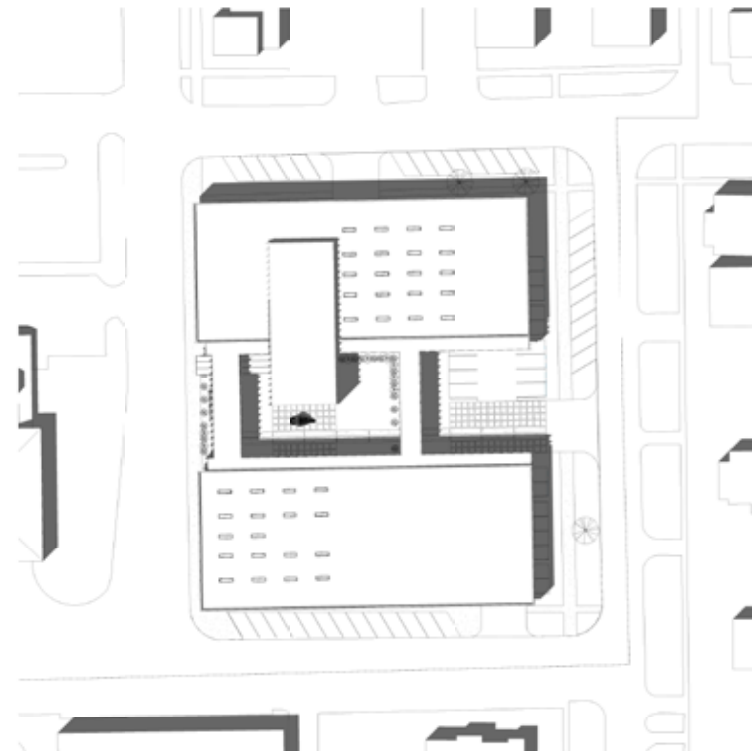
Stillwater, Oklahoma

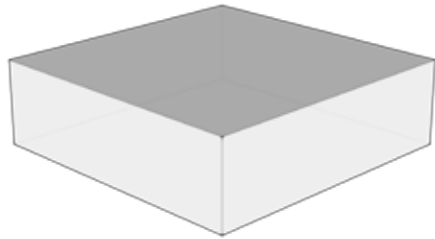
S. O'Brien

2014

The Oklahoma State University Museum of Art quickly outgrew their brand new building. They requested proposals for a new museum that would function as a permanent location and could carry them into the future.

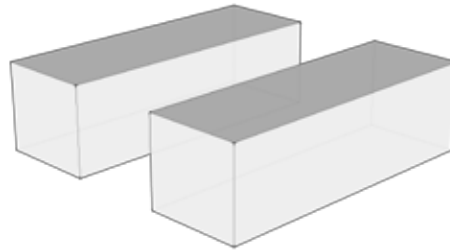
The premise of this project is to provide a flexible economical solution to their requests. The is meant to save the museum capital that can be better utilized in the growing and preserving of its art collection.





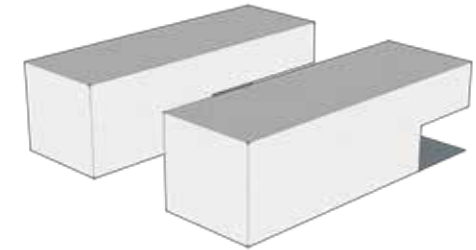
1.

The building began as a box to increase area while minimizing surface area. It also maximizes roof area for sunlight via skylights.



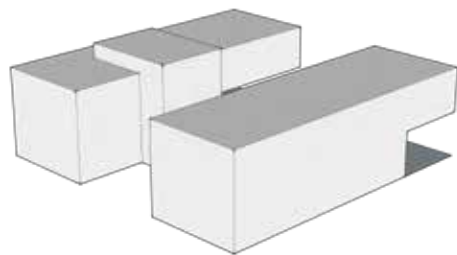
2.

The box was split into three rectangular prisms and the middle prism was removed to maintain pedestrian circulation already in use by the community. Furthermore, it provides a central location for the sculpture garden.



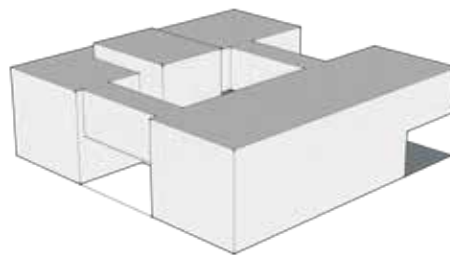
3.

Voids were created in the prisms to provide on-site parking for museum patrons and providing security from severe Oklahoma weather.



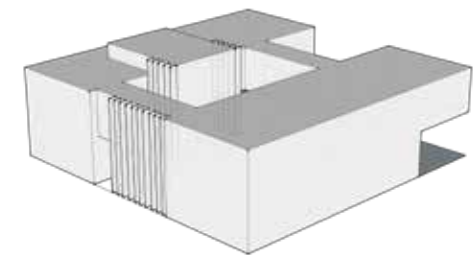
4.

A taller rectangular prism was partially inserted into the northern prism to provide an easily identifiable entry point for museum patrons.



5.

Two bridges, bounding the sculpture garden, were added to connect the two prisms while maintaining sight lines through the site.

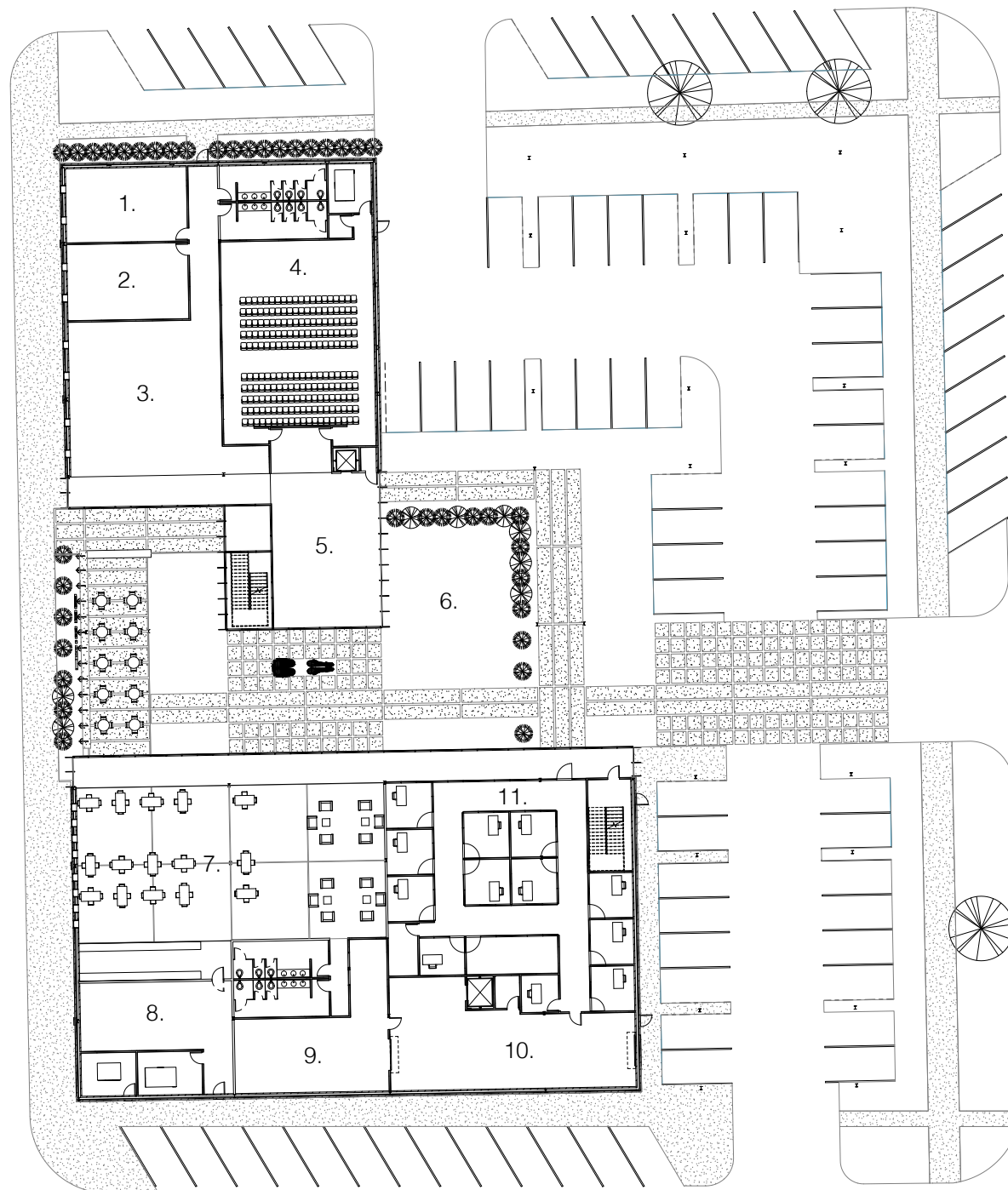


6.

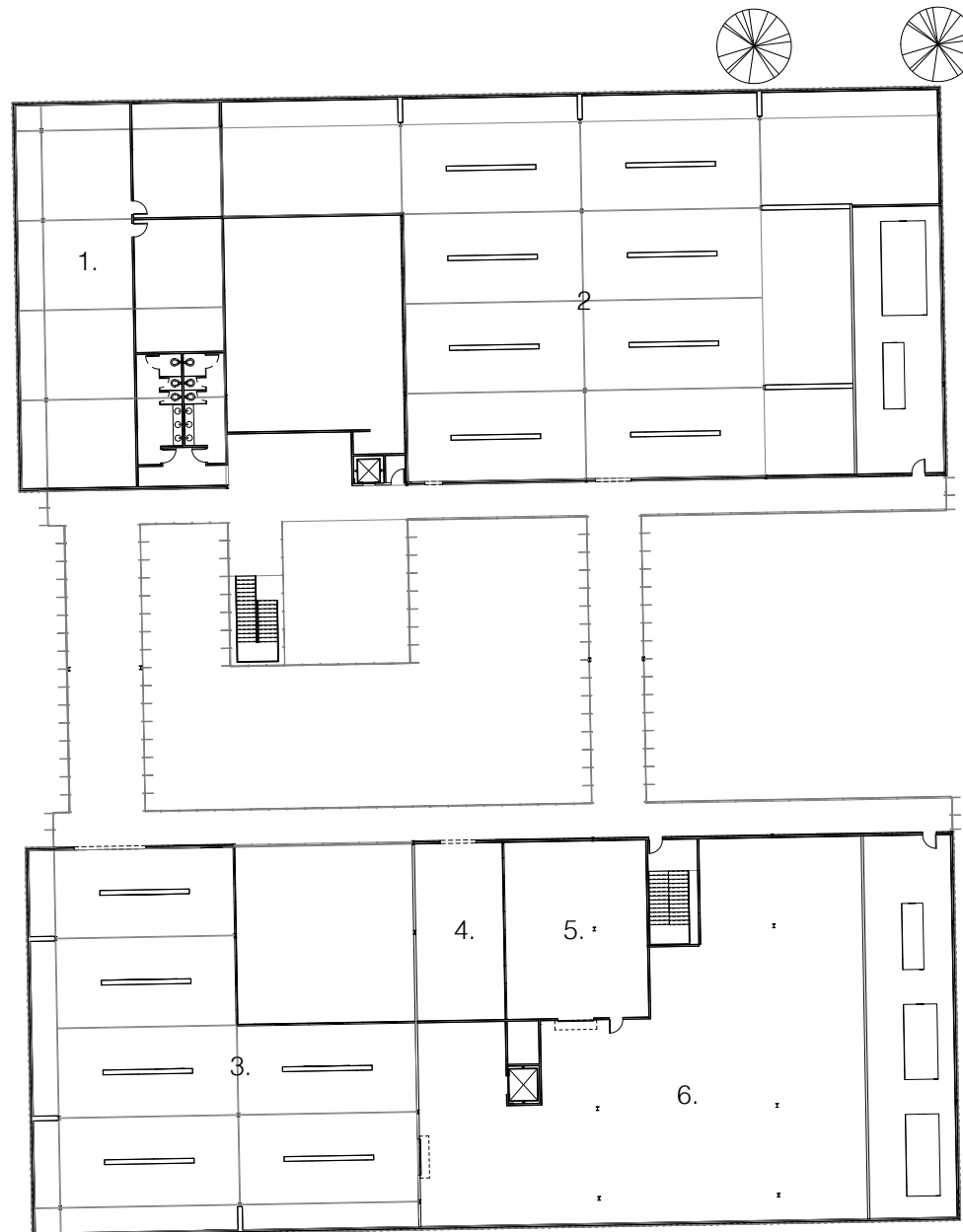
Louvres were added to eastern and western exposures to control daylight. Louvers on the western bridge we allowed to meet the ground plane to create an urban edge while maintaining views to the sculpture garden and across the site.



- 1. Catering Kitchen
- 2. Studio Classroom
- 3. Multipurpose Room
- 4. Auditorium
- 5. Lobby
- 6. Sculpture Garden
- 7. Cafe
- 8. Cafe Kitchen
- 9. Workshop
- 10. Loading/Receiving
- 11. Administration



1. Ground Floor Plan



- 1. Retail
- 2. Permanent Gallery
- 3. Temporary Gallery
- 4. Print Study
- 5. Matting and Framing
- 6. Storage

1. Second Floor Plan

1. Polycarbonate

Polycarbonate was chosen for its aesthetic quality as well as its functionality in filtering light. Polycarbonate ceiling is used to filter skylights as well as diffuse artificial lighting in gallery areas. Polycarbonate fins on eastern and western exposures create a continuity in material in an otherwise dissimilar expression of façade.



2. Corrugated Steel

Corrugated steel was selected to clad the gallery and storage functions of the museum due to its economy. Corrugated steel reflects vernacular Oklahoma architecture as well as creates a material link with the nearby Strip, a popular entertainment district among university students and locals.



3. Brick

Brick was chosen for its connection with the adjacent Oklahoma State University. Its roughness and color creates contrast with the polished steel above. It also provides an aesthetically firm base for the cantilevering steel forms above.



4. Polished Concrete

Polished concrete was selected for its economy when compared to other floor finishes. It also helps to diffuse light throughout space. The polish creates an aesthetic connection with the corrugated steel, while the hardness creates a connection with the brick.





1. West Elevation 2. East Elevation 3. North Elevation



Artificial Lighting Study



Artificial Lighting

Artificial lighting is provided with direct/indirect pendants in gallery spaces that are diffused with a polycarbonate drop ceiling system to provide even light throughout the space.

Pendant spot lights provide lighting above dining tables in the cafe space to create an intimate environment while allowing it to be open to other museum functions.



Day lighting Study

Materials and day lighting strategies were tested for efficiency and code compliance using the Day lighting Lab at Oklahoma State University.

Daylight is provided to the galleries through a system of skylights and polycarbonate ceilings that diffuse direct sunlight and provide light evenly throughout the space.

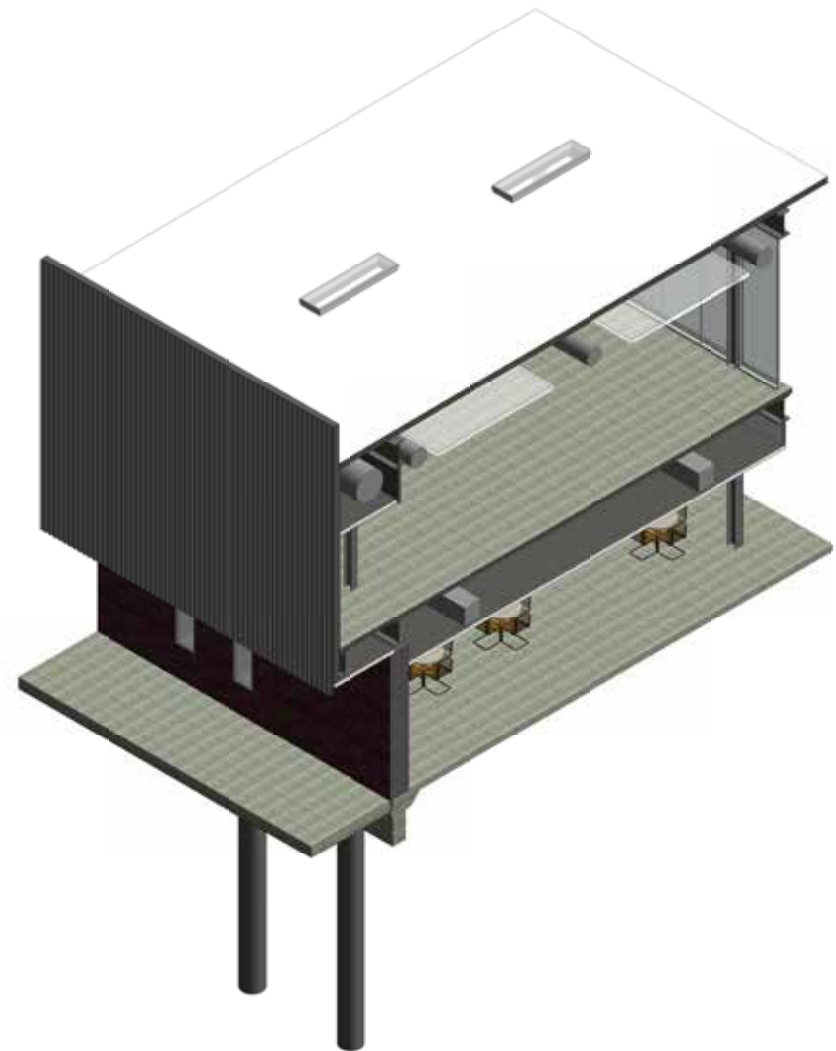
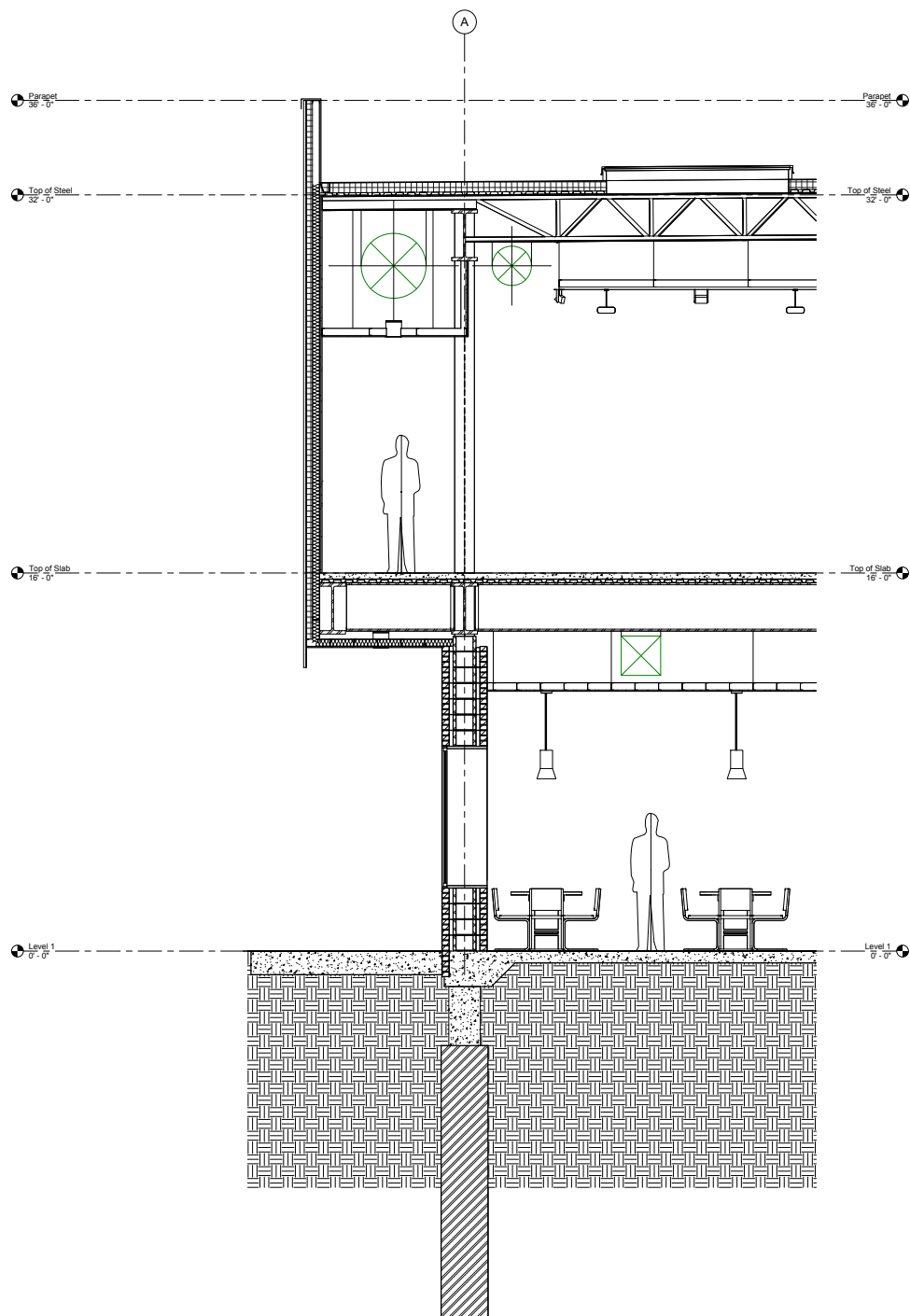




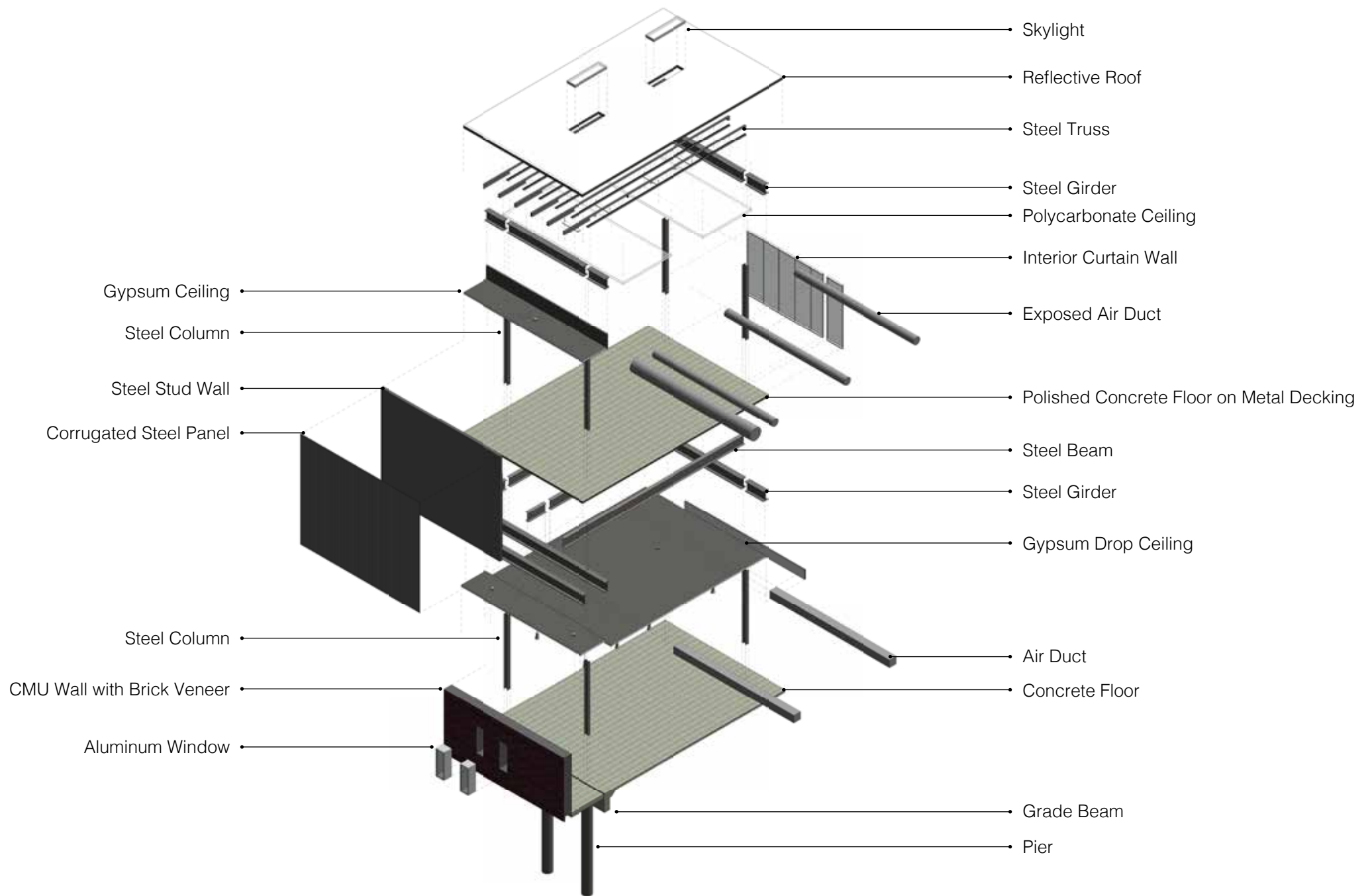
Day lighting

Day lighting is allowed into gallery spaces through skylights. The daylight is filtered through a polycarbonate drop ceiling system that diffuses direct sunlight and provides even lighting throughout the space for maximum viewing conditions.

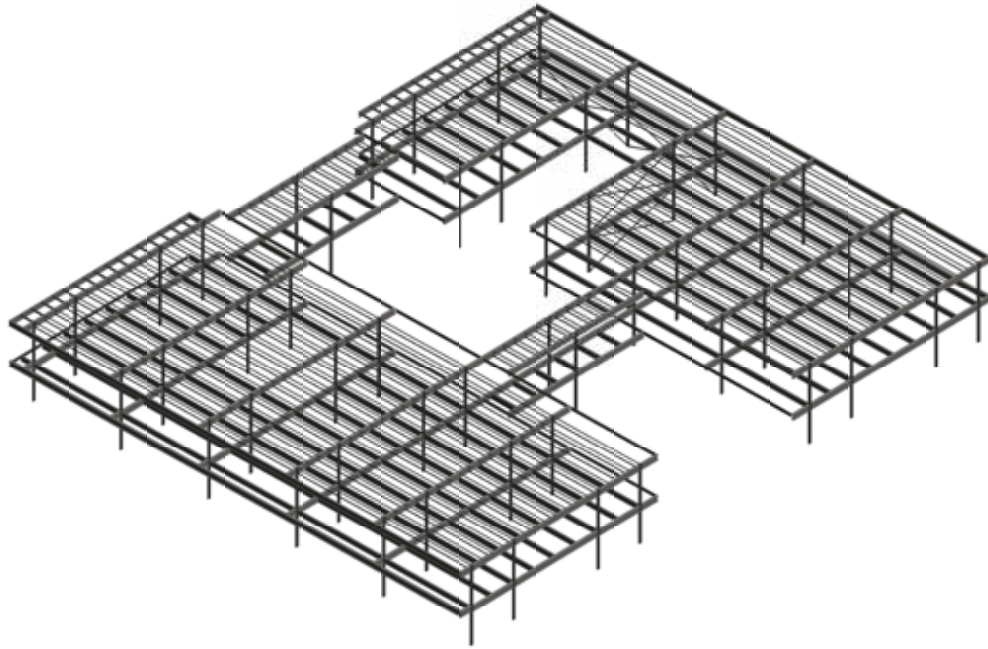
Daylight is allowed into other museum functions through punches in the brick prism as well as the glazed circulation space bordering the sculpture garden on each prism. Polycarbonate fins are used to control day lighting on eastern and western exposures.



1. Wall Section 2. Bay Model



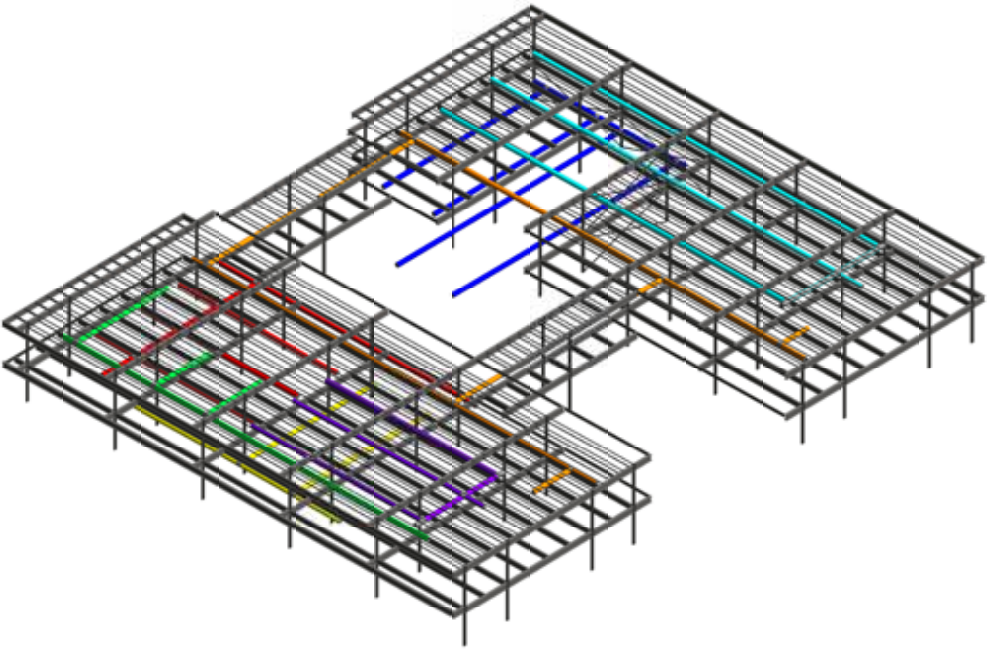
1. Exploded Bay Model



Structure

As suggested by structural consultants, a pier and grade beam system will serve as the foundation system. This will provide stability for the superstructure in less than optimal soil conditions.

The superstructure is a steel braced frame with composite decking. This allows for flexibility at the time of construction as well as in the future. Cross bracing will serve as lateral reinforcing elements that will be expressed architecturally. Additionally, composite metal decking will serve as shear reinforcement.



Mechanical

Temperature is regulated in the museum by using a ground source heat pump system. Eight separate air handling units serve the building while variable air volume boxes regulate temperature in different thermal zone. The gallery and storage areas are sealed humidity controlled environments for preservation purposes.



Ecovillage

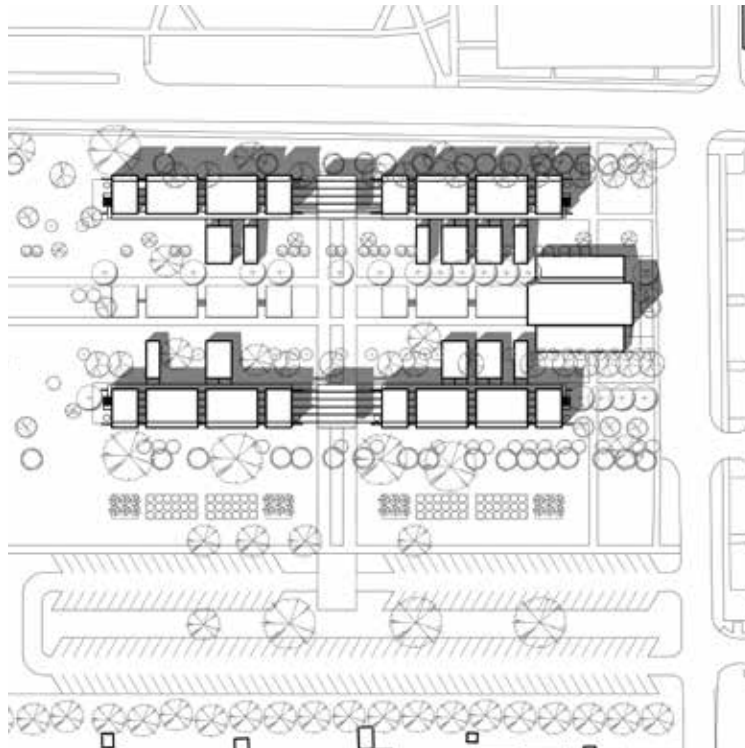
Stillwater, Oklahoma

S. O'Brien, E. McMillian, B. Mitchell, T. Anderson, J. Ditta

2013

Ecovillages are communities with directives aimed towards communal living and low-impact lifestyles. When asked to design an ecovillage on the Oklahoma State University campus we took inspiration from the history and attitude of the school. As a land grant university located in a rural, agrarian region of Oklahoma the school has a long history of curriculum focused on practical studies such as agriculture and engineering. This unique history acted as a guide for the approach towards building, community, and education throughout the project.

The site is located at the Brumley Neighborhood, just south of the Colvin Annex and west of The Village Apartments.







Brumley Neighborhood

The Brumley Neighborhood is a complex of apartments on Oklahoma State University. The neighborhood's population prominetely houses student families and visiting professors. Unfortunately the neighborhood has fallen into a state of disrepair and the community green no longer provides the neighborhood with adequate community space.



Brumley Community Center

The Brumley Community Center has been converted to office space for the Oklahoma State University. The laundromat on the opposite side of the neighborhood now serves as the primary communal space for the neighborhood.



Manicured landscape

Colvin annex

Greenhouse

Residential units

Community center

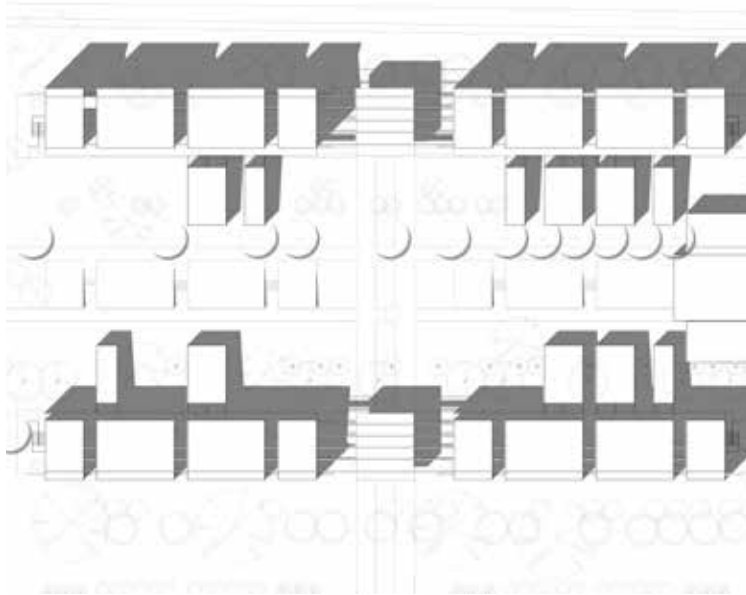
Community farms

Residence

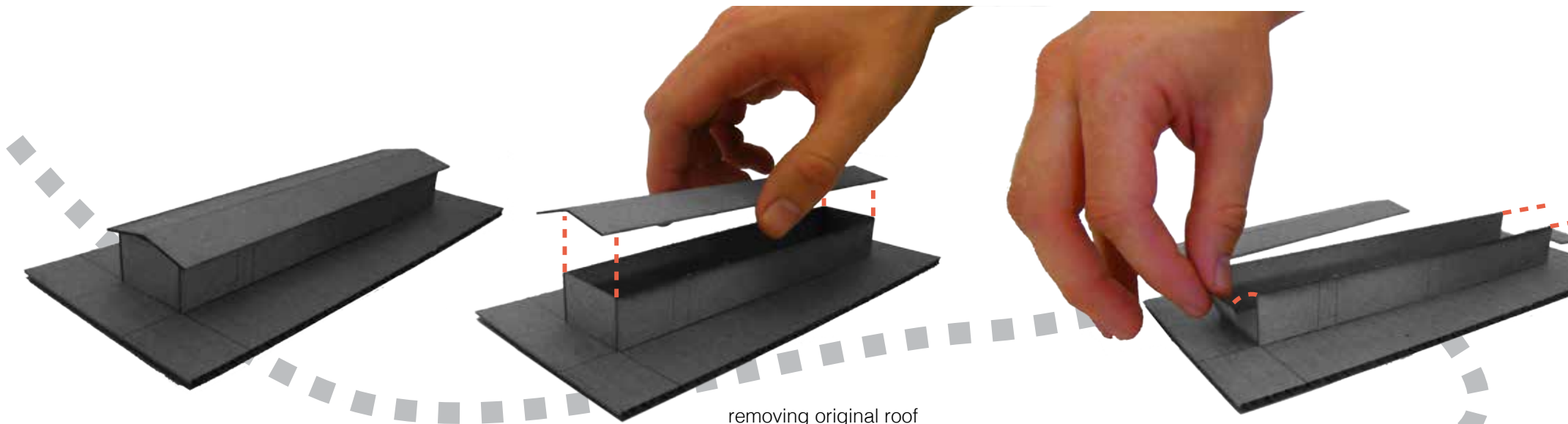
The module arose from the idea of creating a new architecture within the bones of an old building. Using the dimensions of the existing units we created a module which informed the design of all the residential units. The shotgun house developed as one of the last typologies of housing before the advent of automobiles. The small long houses have been a staple of Oklahoma's urban and rural landscape since statehood. In creating a truly Oklahoman version of the shotgun house we used materials typical of the area and capable of withstanding the harsh Oklahoma climate. Juxtaposing the old and new architecture allowed us to celebrate the typical materiality of the OSU campus while introducing a new approach to building capable of carrying the university into the future. The units are huddled within the new steel structure and surrounded by native Oklahoma plants in order to integrate them into the landscape.

Putting the shotgun houses near original portion of the Brumley apartments creates a dense neighborhood. Neighbors are close enough to meet and see each other every day.

The orientation of the buildings creates a micro-climate where lush native plants thrive. These plants soften the architecture and add life to area surrounding the ecovillage.

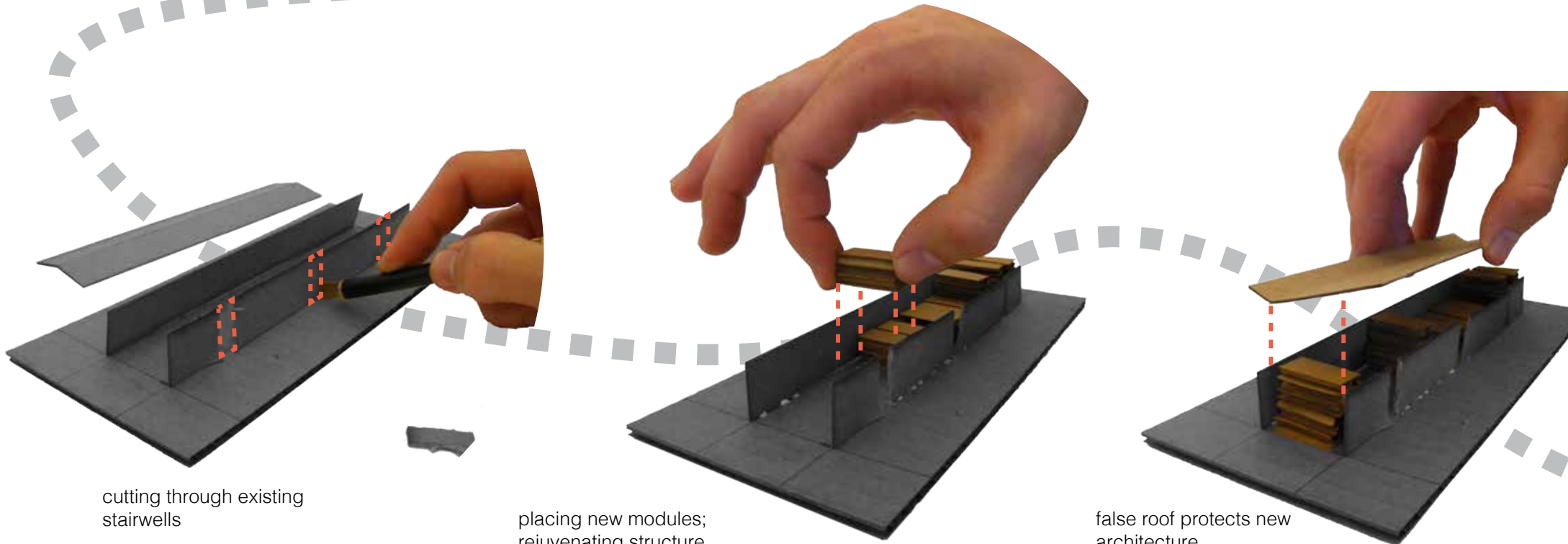






removing original roof

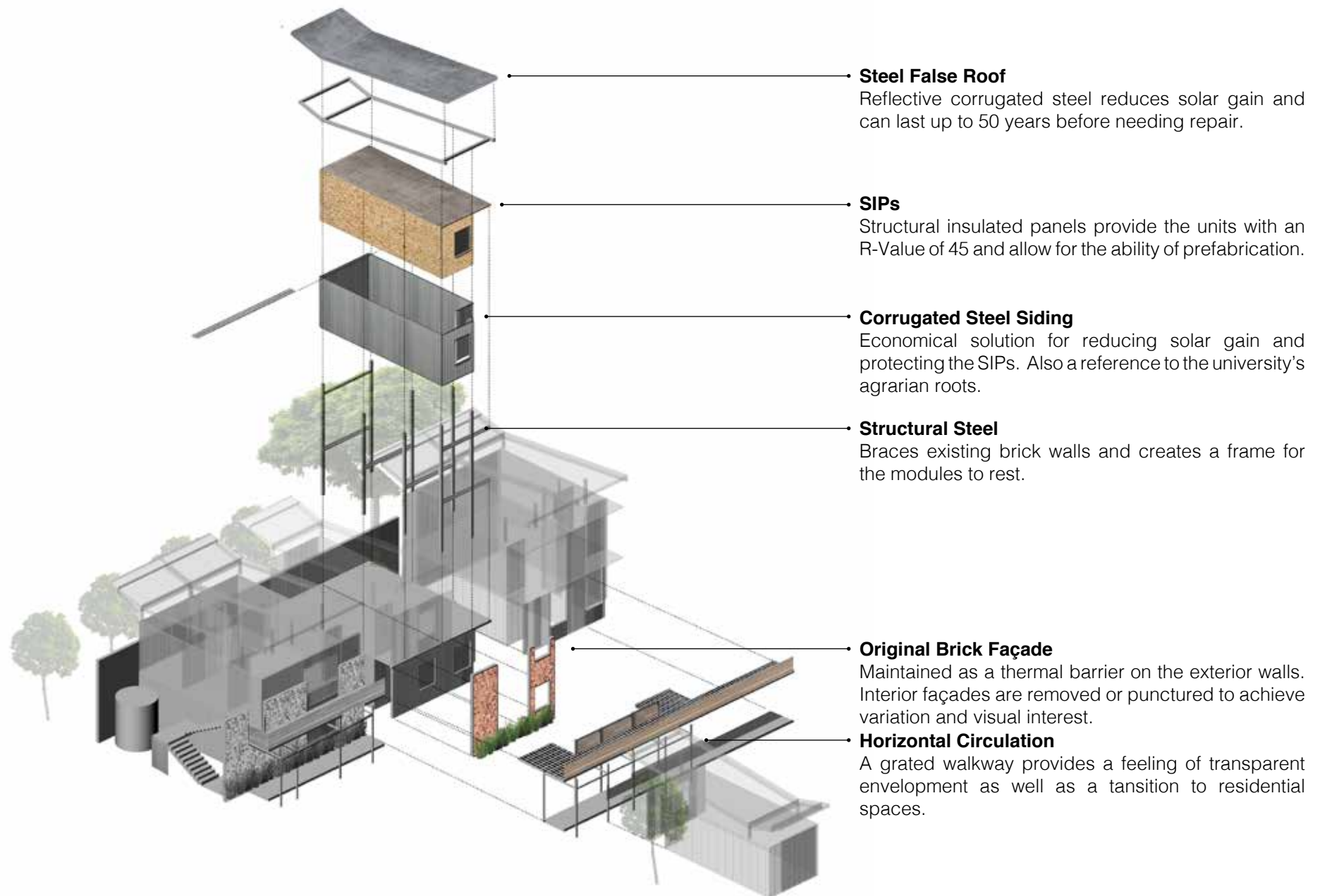
removing end wall



cutting through existing stairwells

placing new modules; rejuvenating structure

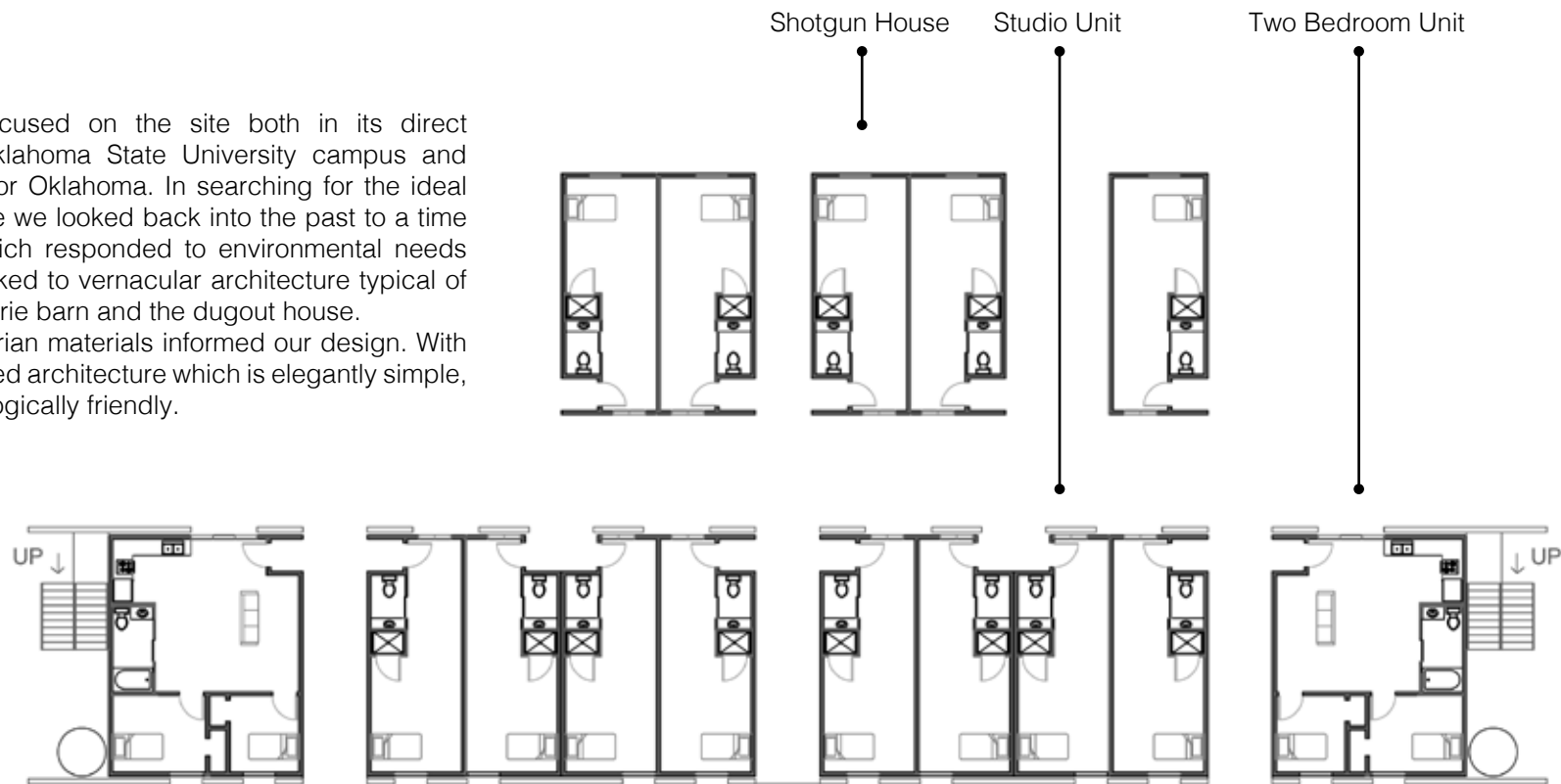
false roof protects new architecture



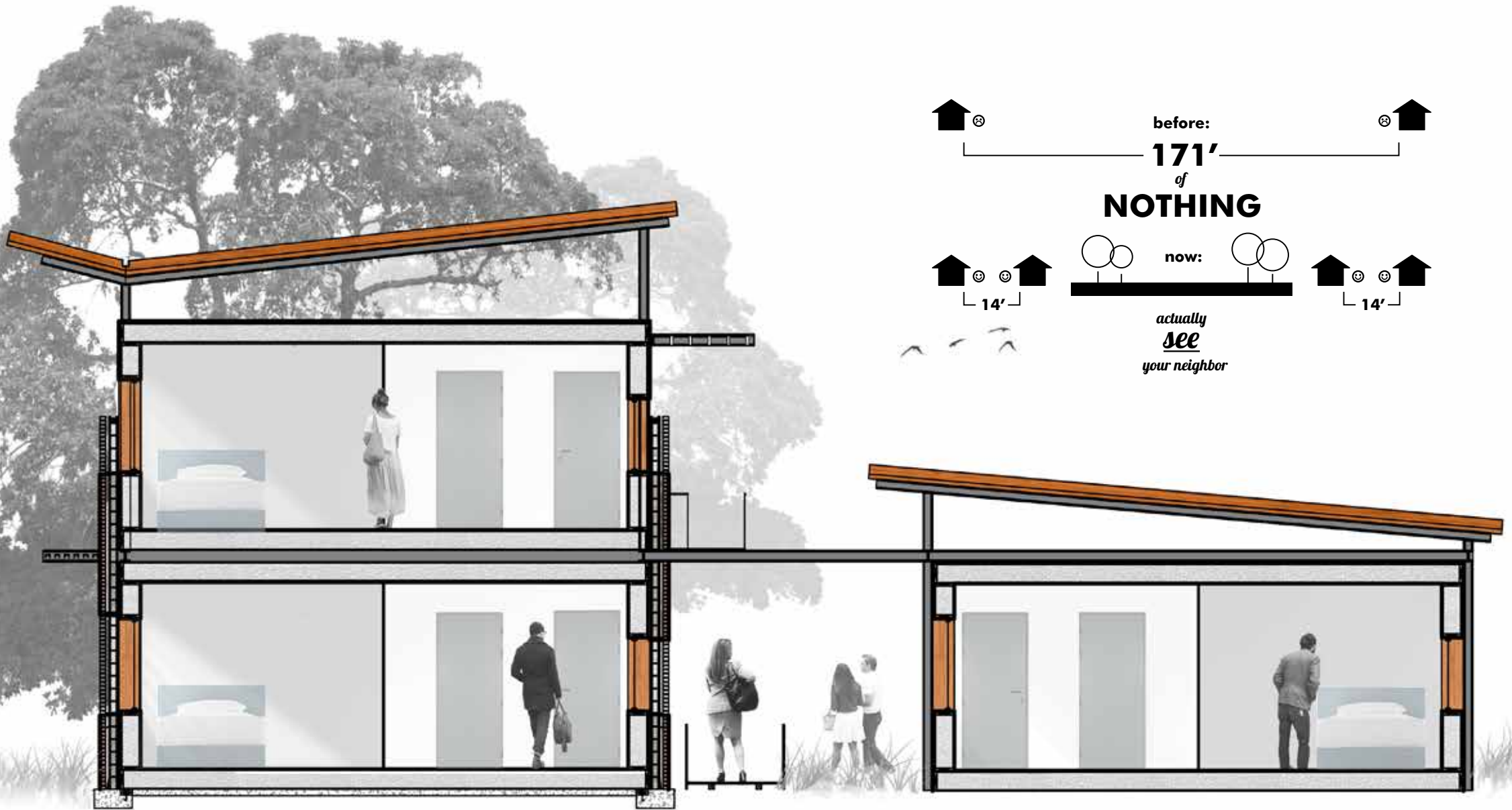
1. Residence Exploded Axon

Process

Our process was focused on the site both in its direct connection to the Oklahoma State University campus and as a new beginning for Oklahoma. In searching for the ideal Oklahoma architecture we looked back into the past to a time when architecture which responded to environmental needs was essential. We looked to vernacular architecture typical of Oklahoma like the prairie barn and the dugout house. These traditional agrarian materials informed our design. With this direction we created architecture which is elegantly simple, economical, and ecologically friendly.



1. Typical Residence Plan

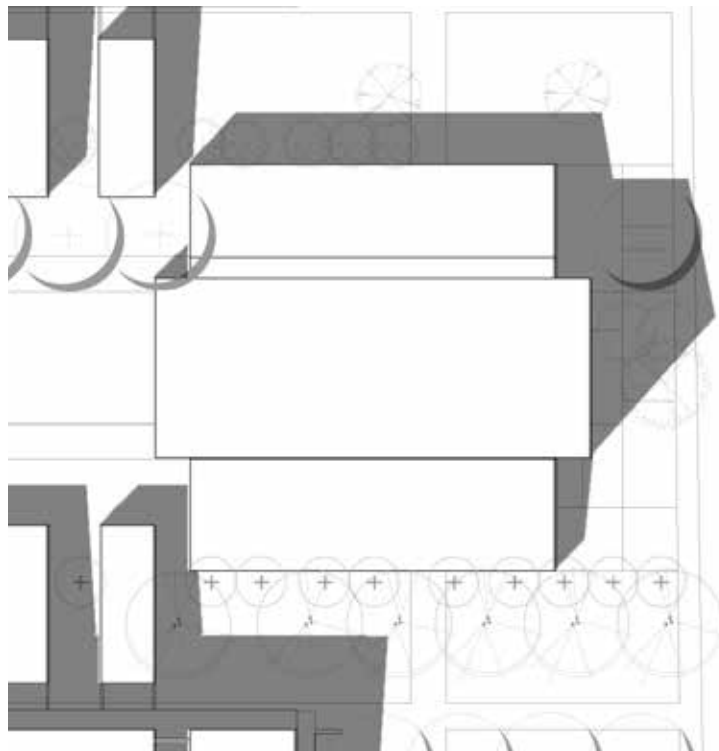


1. Residence Section

Community Center

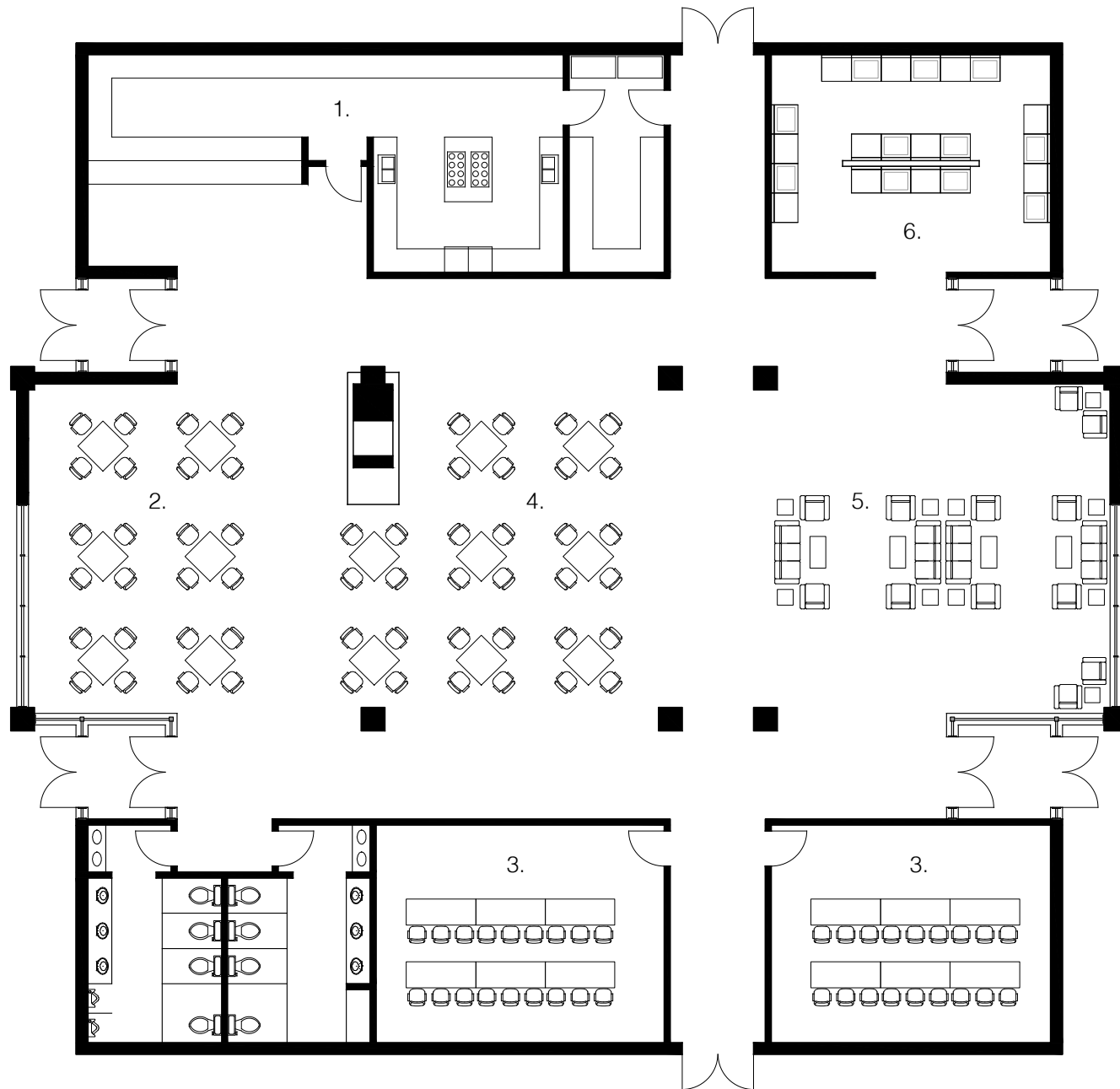
Community involvement is a large part of the ecovillage lifestyle. The location of the center requires residents to pass by when walking to campus and the inclusion of laundry and cooking facilities assures that residents will frequent the center and cross paths. Educational facilities will bring in non-residents to prevent the community from being insular.

Inspiration for the organization and form of the community center came from the traditional prairie barn. Large lofty spaces with communal functions occupy the middle section with service and educational spaces flanking either side.





- 1. Kitchen
- 2. Lounge
- 3. Classroom
- 4. Dining Hall
- 5. Lobby
- 6. Laundry



1. Community Center Plan



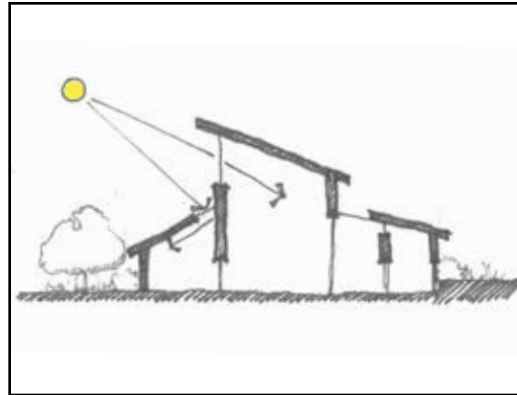
1. Community Center Section



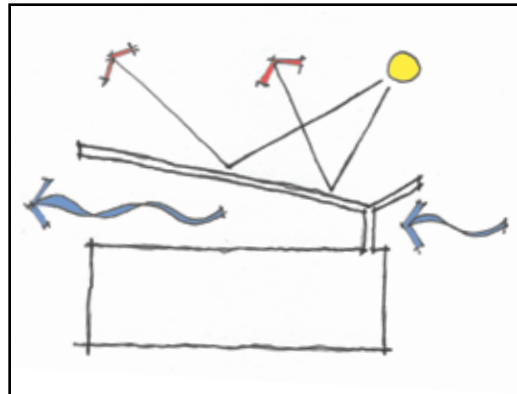
Water will be collected in containers from areas around the site including the false roof, the rain garden, and the bioswale.



While Oklahoma State currently has contractual obligations that restrict energy production, infrastructure for solar panels has been considered for future use.



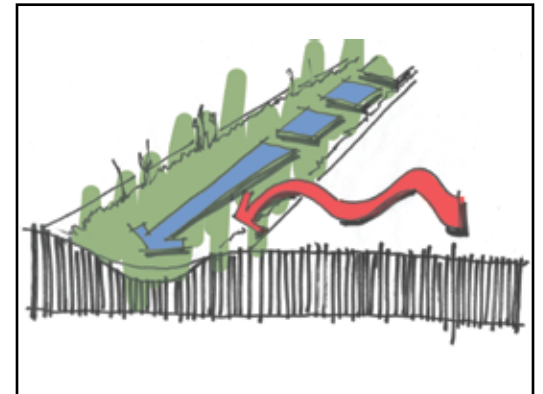
The community center has been designed to utilize solar energy to passively heat the space.



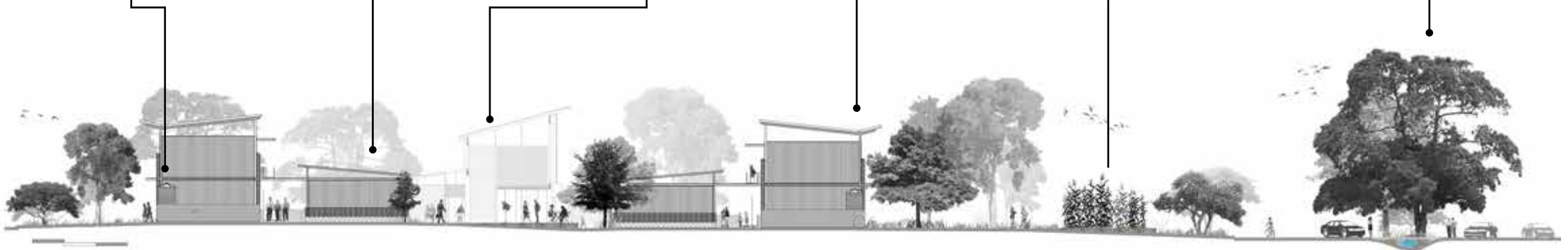
False roofs provide shade and act as a passive cooling system for the residential buildings.



Growing crops in the community gardens provides residents a sense of ownership in the community as well as provides the community with a portion of its food.



A bioswale at the lower end of the property collects runoff water and filters it through a system of plants and soils.





Thank You
for viewing

