

Constructing a Transient Permanence

Julia Vasquez

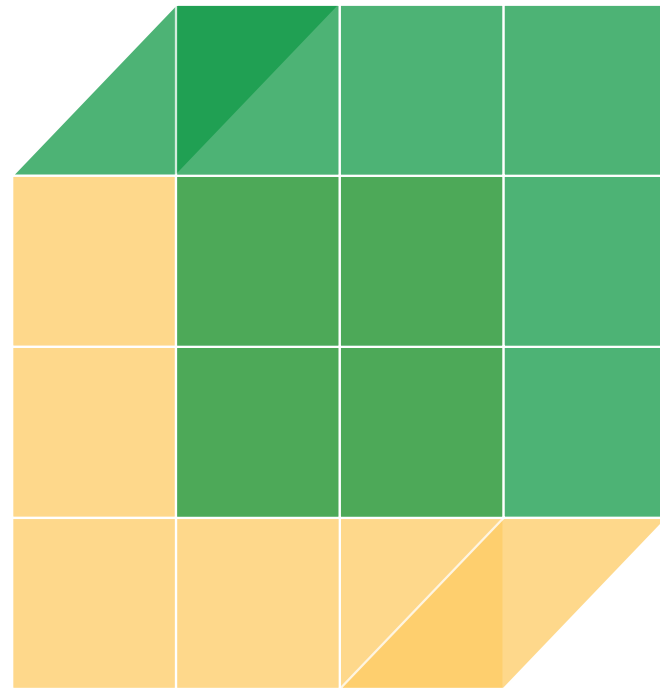
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Master of Architecture
in
Architecture

Kay Edge
Chris Pritchett
Patrick Doan

May 2nd, 2017
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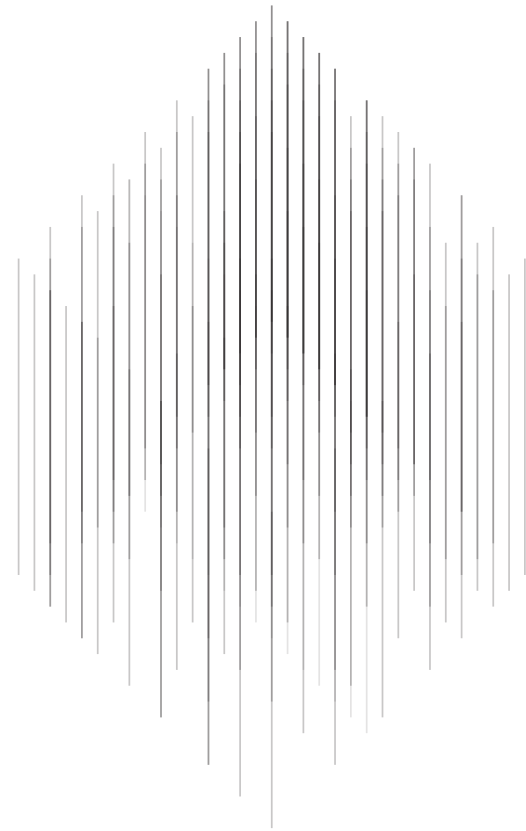
Keywords: residence hall, student housing, transient, porosity, university architecture



Constructing a Transient Permanence | Abstract

A residence hall is a temporary home. Yet, it can be the most impactful campus environment on a student's education and life. From lifelong friendships to retention rates, residence halls affect students as many experience their first opportunity to express their individuality and personal responsibility. No study can conclusively determine that one residence hall type is better than another. Rather, it is a hall's overall gestalt that determines student satisfaction and a positive perception of community.

The question of my thesis explores how residence hall architecture can anticipate its role as an inspiring distraction to the individual that provokes interaction, engagement, and community as a building type that is not quite transient and not quite permanent.

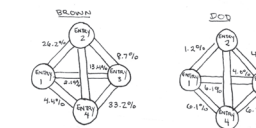
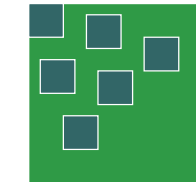
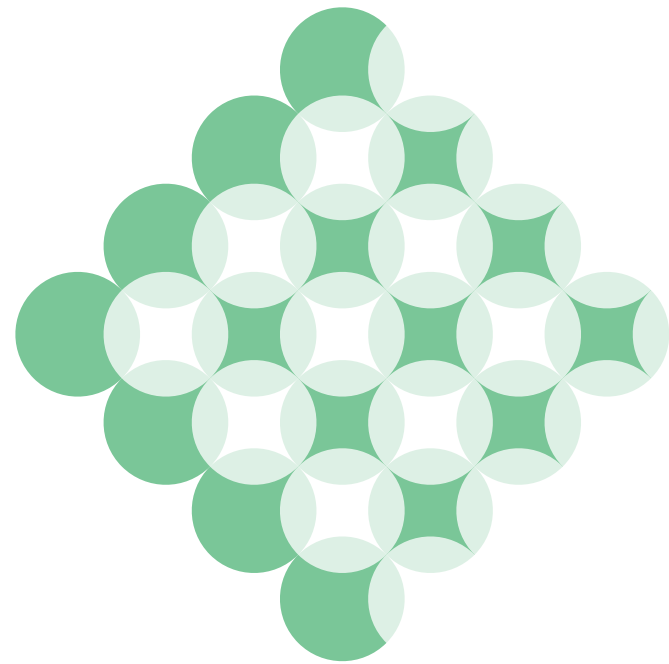


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Preliminary Studies

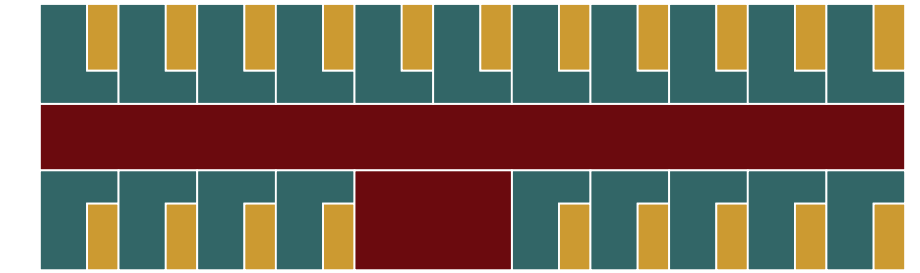
Research

Residence halls typically take form around the standard hall styles: traditional, hotel, suites, apartments, and jack and jill. Each type comes with its own benefits and challenges, but what best determines a student's satisfaction with the residence hall is its overall gestalt.

What the building represents to the student is the deciding factor as students look to free themselves from an inhibiting sense of regimentation and molding. The image of the conventional, cinder block dorm with double-loaded corridors has negative perceived value for most modern students. While a building can still be designed in a traditional hall style, unconventional design moments and features can create an overall unique effect that provokes interaction from the student.



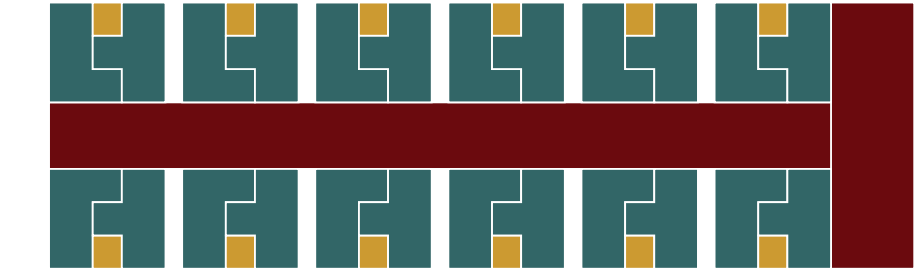
TRADITIONAL



HOTEL



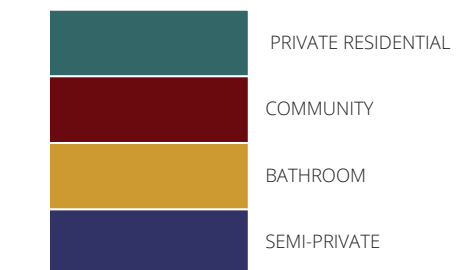
APARTMENTS

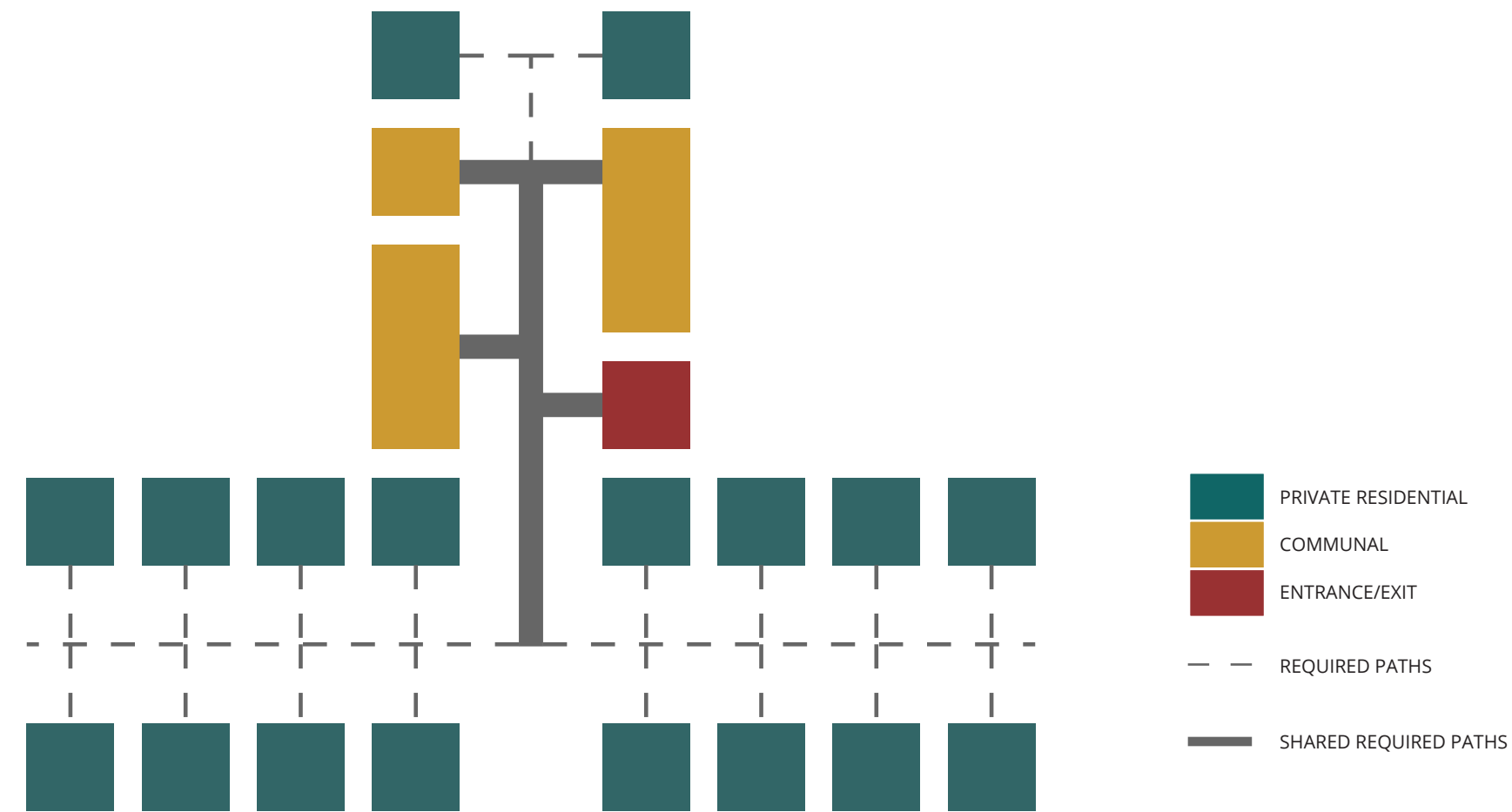


JACK AND JILL



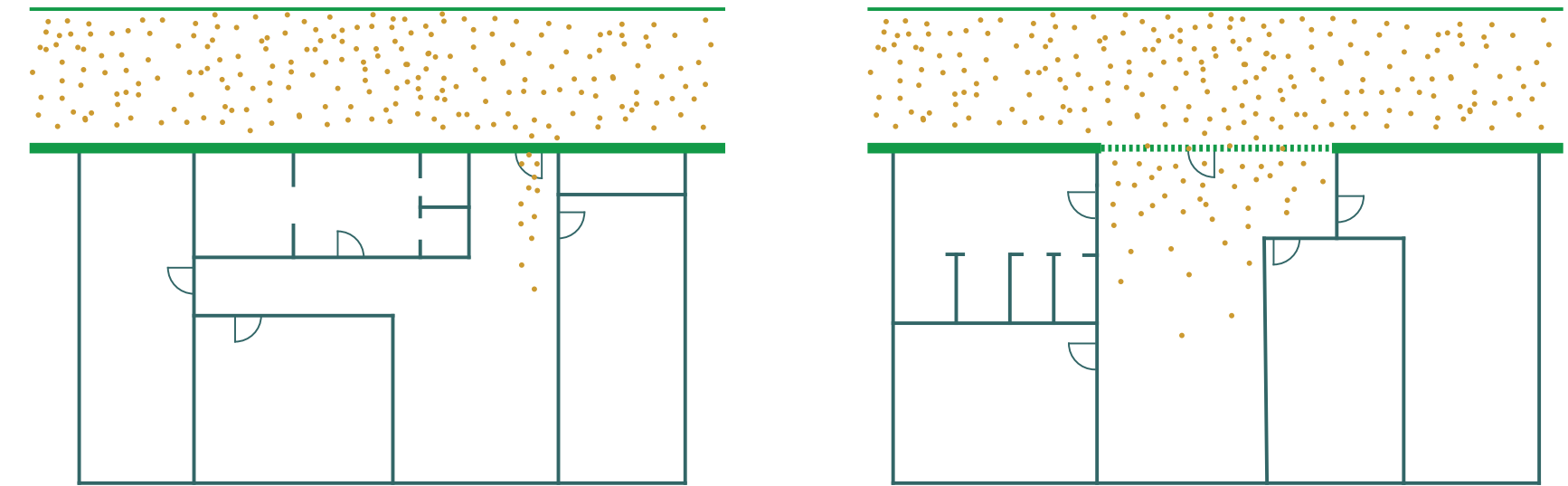
SUITES





Residence hall architecture highly influences a student's initial social acquaintances. In a study of dormitory architecture influences and patterns of social relations over time, 80% of dormmates lived together through senior year after meeting initially in the residence hall. These acquaintances were found to be predetermined by the architecture by way of functional distance.

Functional distance can be understood by the paths that residents take to fulfill their daily needs within the residence hall. Required paths form between sites of shared activity and student rooms. Active required paths can help encourage social interaction by increasing the possibility of meeting others. Effective required paths can then emerge from an architecture that organizes rooms around shared spaces.



The suite layout poses many opportunities and challenges. On one hand, suites have the potential to provide a greater network of emotional support, the possibility for different activities to take place simultaneously, and an increased sense of ownership in the space. On the other hand, suites can also lead to less integration by students into the hall as a whole and a lower overall sense of community.

The traditional suite layout creates an additional barrier between the residents and the hallway, where community connections are passively made. This spatial segregation leads to less integration into the community as a whole.

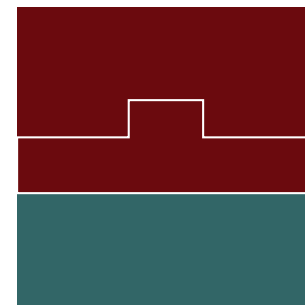
The idea of the porous suite aims to transition the community of the hall and beyond into the suite common room. Entry to the private student bedrooms still remains off the busy hallway, but a porous suite wall diffuses the interaction from the greater community and allows for enriched visual connections.

Precedent Studies

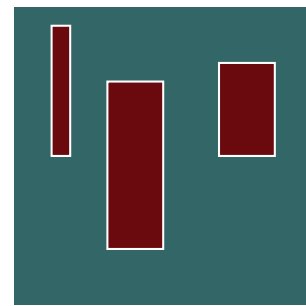
A comprehensive study of residence halls around the world and the impact of the physical environment on students formed part of my preliminary work. Questions of porosity of the urban form and communal connections created through spatial arrangement formed the basis of my analysis.

The halls:

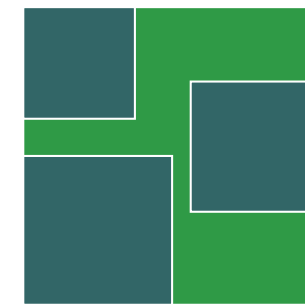
- Baker House - MIT
- Simmons Hall - MIT
- Peabody Terrace - Harvard
- Erdman Hall - Bryn Mawr College
- Hereford College - University of Virginia
- Kim + Tritton Residence Halls - Haverford College
- The Lawn - University of Virginia
- State Street Village - IIT
- Renee Granville - University of Chicago
- Residential Village - St. Edward's University
- Indian Institute of Management
- Casa Dell' Accademia - Accademia di Architettura
- Colle dei Cappucini - University of Urbino
- Tietgenkollegiet - University of Copenhagen
- Campus Kollegiet - University of Southern Denmark
- Florey Building - Queen's College
- Cripps - St. John's College



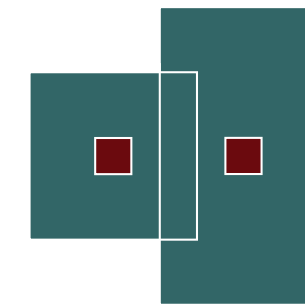
BAKER HOUSE



SIMMONS HALL



PEABODY TERRACE



ERDMAN HALL



HEREFORD COLLEGE



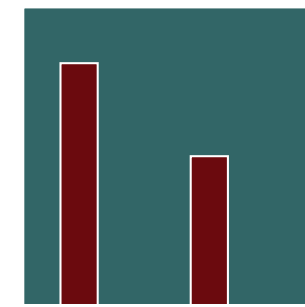
KIM + TRITTON



THE LAWN



STATE STREET VILLAGE



RENEE GRANVILLE



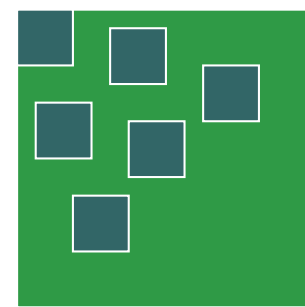
RESIDENTIAL VILLAGE



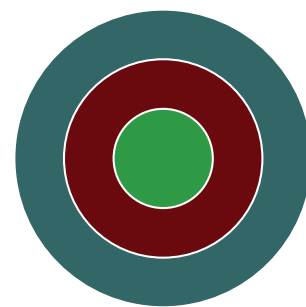
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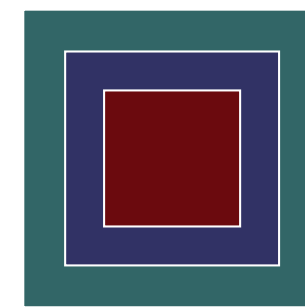
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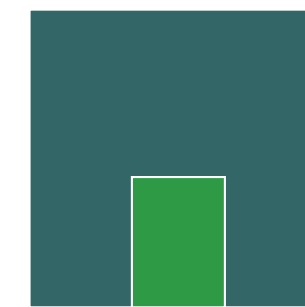
CAPPUCINI



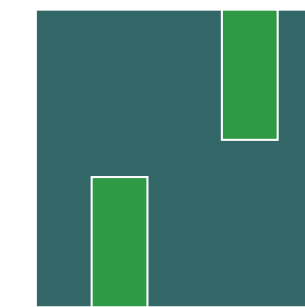
TIETGENKOLLEGIET



CAMPUS KOLLEGIET



FLOREY



CRIPPS





BAKER HOUSE



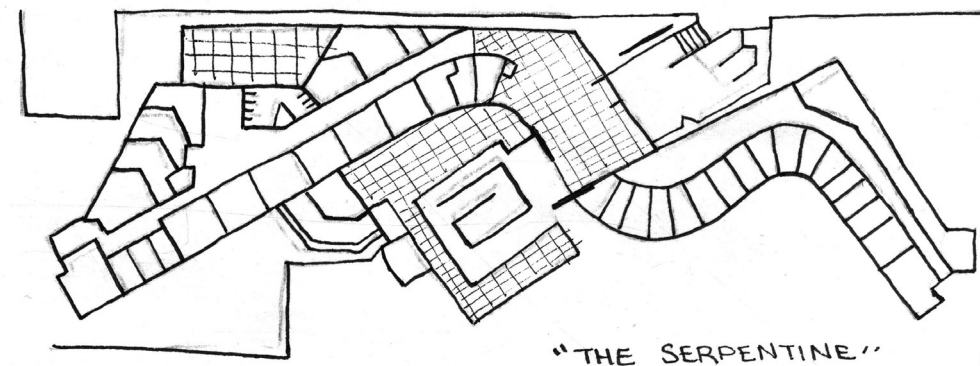
Baker House
MIT, Cambridge, MA
Alvar Aalto, 1949

Aalto approached the Baker House with concerns for the place of the individual and for the humanization of mass housing. In its design, he strived to find the balance between this humanistic approach and the realities presented by the site and program.

The building's form was a direct response to the difficulties the site posed to Aalto's vision of each room orienting south. The site's size led him to abandon the site geometry by creating a footprint of an undulating curve that increased the southern perimeter of the building in order to meet the required number of rooms.

The building's form results in a plan with twenty-two different room configurations and unique circulation and public spaces on each floor. Individualism is valued in the design of the rooms and the use of each window on the southern facade to represent each student inhabiting the room (i.e. single rooms have one window, doubles have two windows, and triples have three). The building is organized as a single-loaded corridor with most rooms on the south side and a staircase hung on the north side. Aalto envisioned the hallways and the nature of public space to reflect the traditional pedestrian streets of Italy, aiming to provide spaces for spontaneous social gathering.

Since its completion in 1949, the Baker House has housed 353 students each academic year and remains the most requested residence hall by incoming first year students. In his design, Aalto was able to realize an architecture that respects the individual, while honoring the community binding elements that enable communal cohesion.



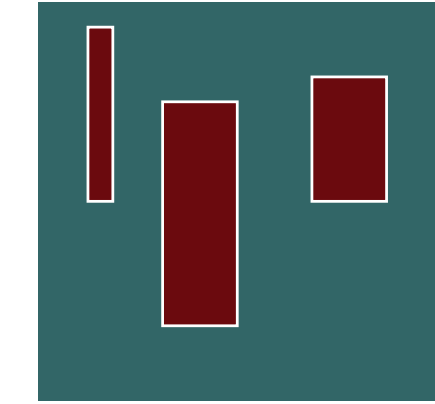
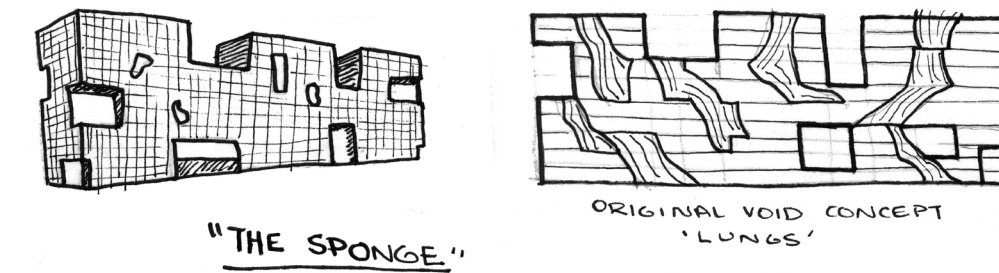
Simmons Hall
MIT, Cambridge, MA
Steven Holl Architects, 2002

In 1998, MIT commissioned Steven Holl Architects (SHA) for a new master plan to include residence halls along Vassar Street. The 'sponge' scheme was chosen and developed around the idea of porosity and incorporating the concept of the city form into the residence hall.

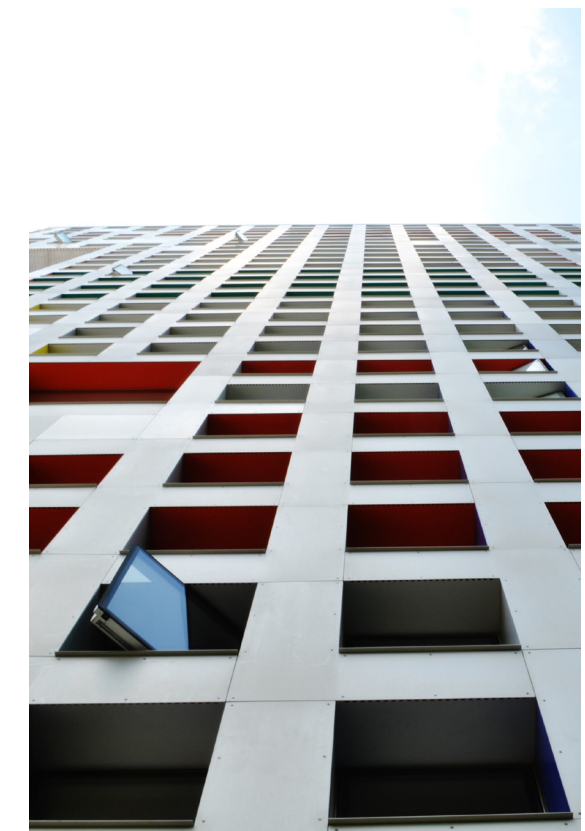
Simmons hall is organized in a double loaded corridor of hotel style rooms, half single occupancy and half double occupancy, each with its own bathroom. The residence houses 350 students each year, organized into ten houses of thirty to forty students, and features amenities such as a theater, a night cafe, and a dining hall on the street level.

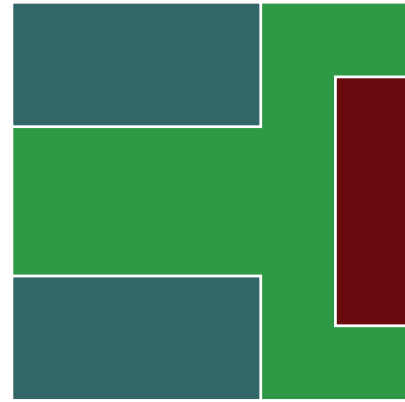
The building is hollowed out through large, dynamic openings which create a vertical porosity between floors and become amorphous lounge spaces within the program. A student reflects on her experience: "I really enjoy being in the blob-shaped lounges, but Steven Holl probably didn't think of how the inverse of them would affect students' rooms. But since they're built from concrete, they make for rather excellent chalkboards."

Holl envisioned the building as a porous mass, and thus devised a method of precast concrete construction that would serve both as the structure and as the envelope. The mass of the building serves as a natural insulator and its thickness allows for the windows of the student rooms to allow the winter sun to enter but block the higher rays of the summer. Holl also designed the furniture for the rooms, creating a modular set where two drawers equal the height of the bed and three drawers equal the height of a wardrobe.



SIMMONS HALL





HEREFORD COLLEGE

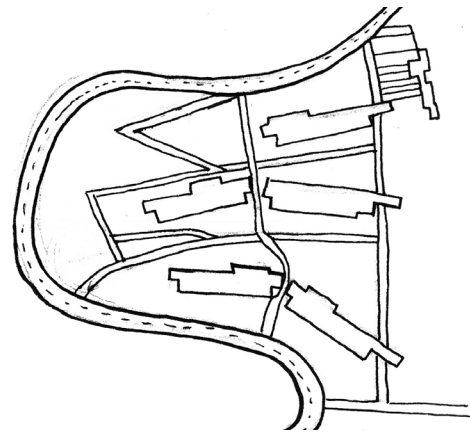


Hereford College
University of Virginia, Charlottesville, VA
Tod Williams + Billie Tsien Architects, 1992

Designed by Tod Williams + Billie Tsien Architects, Hereford College is a modern manifestation of the residential college model in the context of Thomas Jefferson's University of Virginia Campus. Inspired by the "lawn", the project consisted of five dormitory buildings, a dining hall, a faculty residence, and a computer facility. All of the buildings are organized on a hilly, ten-acre site and collaborate in a celebration of the landscape offering students a variety of indoor and outdoor spaces.

Completed in 1992, Hereford offers a modern alternative to the traditional Jeffersonian architecture on campus and a recluse from the central campus. About a 20 minute walk from the rotunda, it was important that in conceiving the Hereford campus that it must be self-sufficient for student's daily needs. Two dormitories (or houses) are part of the college, Whyburn and Norris, offering single and double rooms organized in a traditional hall. Each floor has a common lounge for students to further engage in their hall community, and each building houses a full kitchen.

The community of Hereford is as much created by the space between the buildings as the space within. A stepped amphitheater outside the Vaughan House extends the building's potential for fostering community outdoors. The buildings splice an expansive lawn creating pockets between the Whyburn, Norris, and Vaughan houses and allow residents to host outdoor community events and for spontaneous interaction.



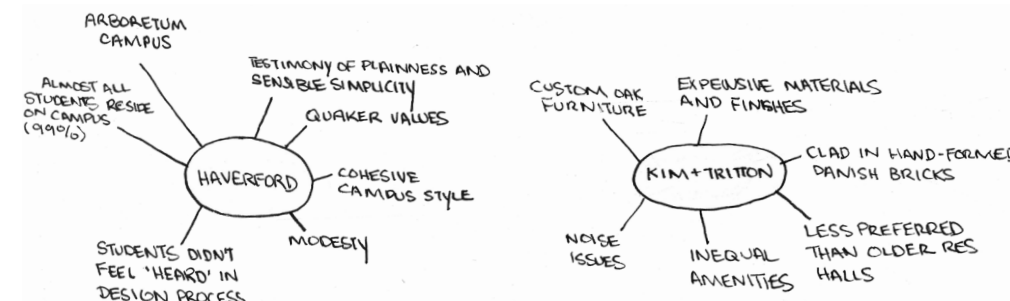
Kim + Tritton Residence Halls
Haverford College, Haverford, PA
Tod Williams + Billie Tsien Architects, 2012

Completed in 2012, Kim + Tritton residence halls were commissioned by Haverford College, a school with deep Quaker roots and a 216-acre campus nationally recognized as an arboretum. Todd Williams and Billie Tsien architects responded to the college's commission for a residence hall to house 160 students and to break away from the traditional cinder block student storage so commonly seen in campus living.

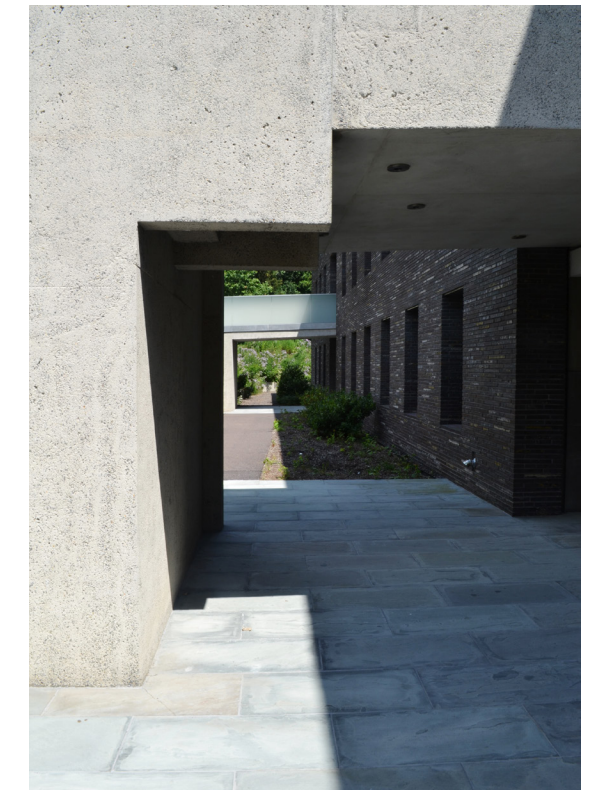
Williams and Tsien sought to design a site in which the buildings would blend into the landscape in keeping with the Haverford's value of sensible simplicity. The site is located at the south end of campus and unexpectedly proved to be composed of unusable fill. In response, Williams and Tsien applied the unusable soil from the site to sculpt a central berm that serves as a hub of circulation between the two residence halls. Stairways and ramps are carved into the berm, connecting to bridges that access the second floor of each hall. Kim + Tritton are unique in that they offer no interior stairs or elevators within the halls themselves, thus forcing an interaction with the central courtyard.

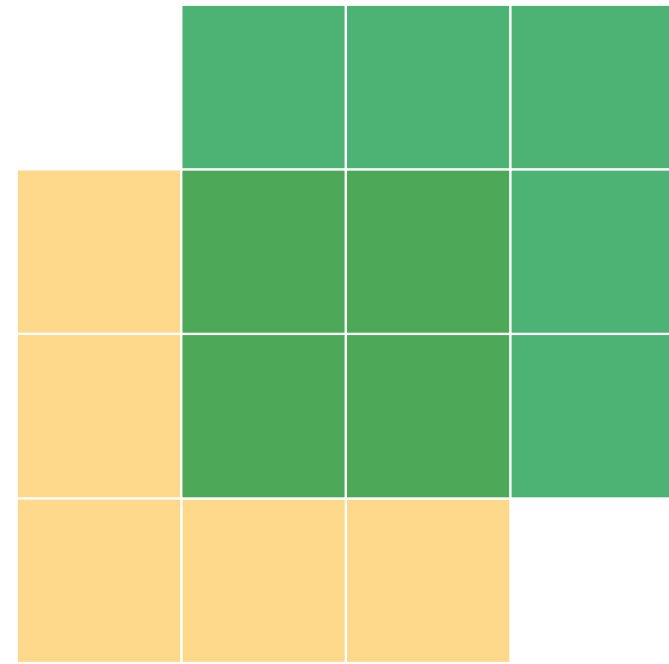
Each building contains a courtyard, bathrooms, and common rooms within their core and 40 single room on each floor form the perimeter. The buildings are clad in hand-formed Danish bricks and each room is furnished with oak furniture designed by Williams and Tsien's firm.

While Haverford students were a part of the design process, the building has been met with some criticism. Many students feel that the building does not honor the Quaker values of simplicity and believe the budget was misguided in the use of expensive materials and certain amenities. Despite it is the newest housing option for students, it has proved to be less desirable than older dorms, some which even lack basic amenities like laundry.



KIM + TRITTON



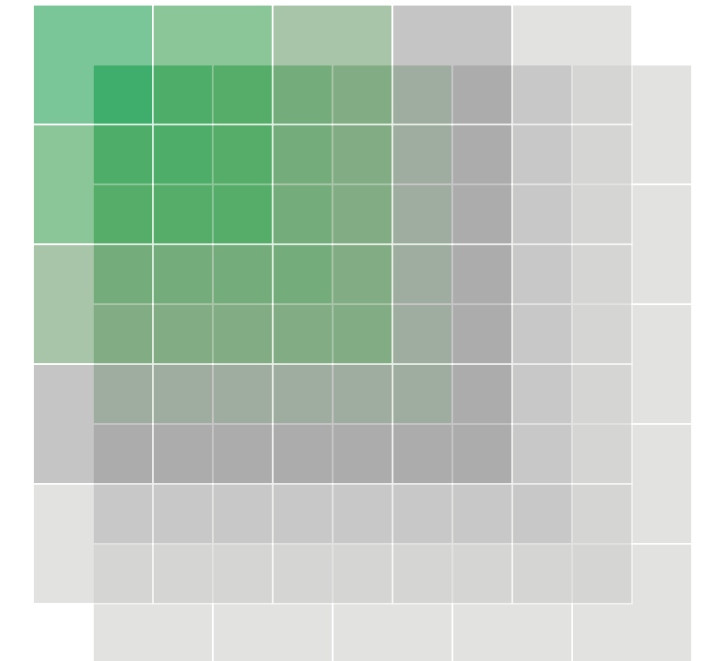
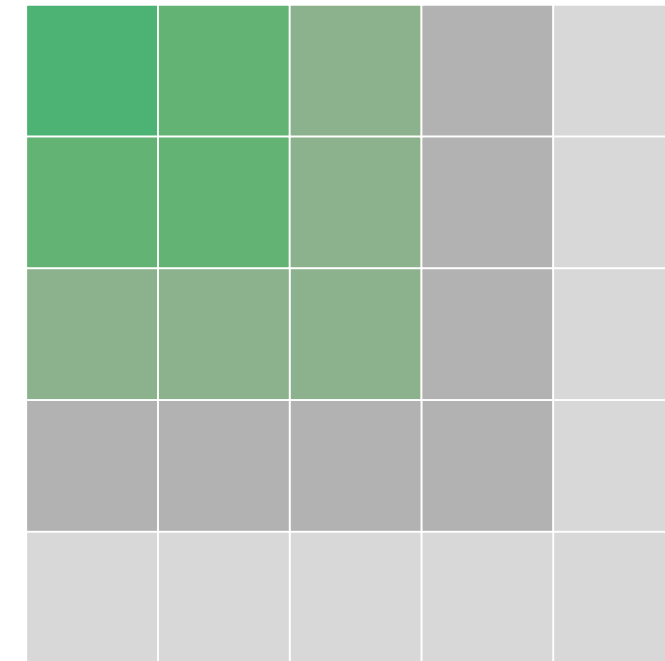
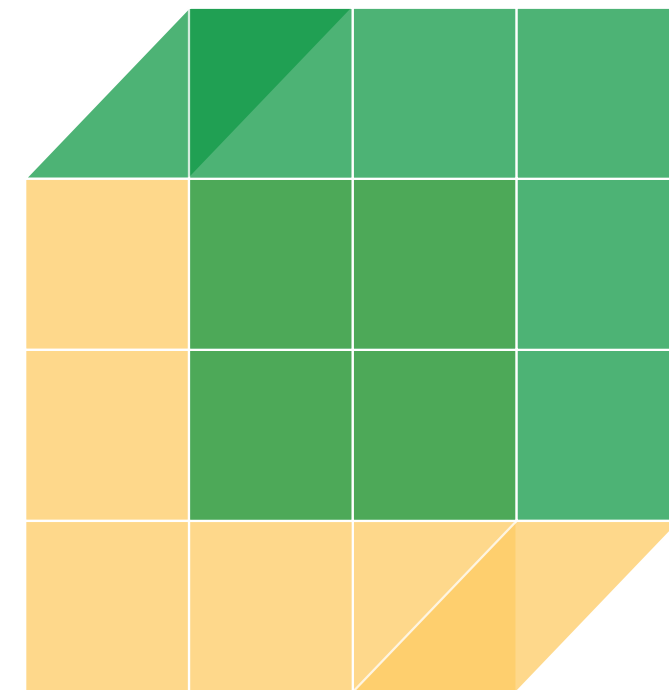


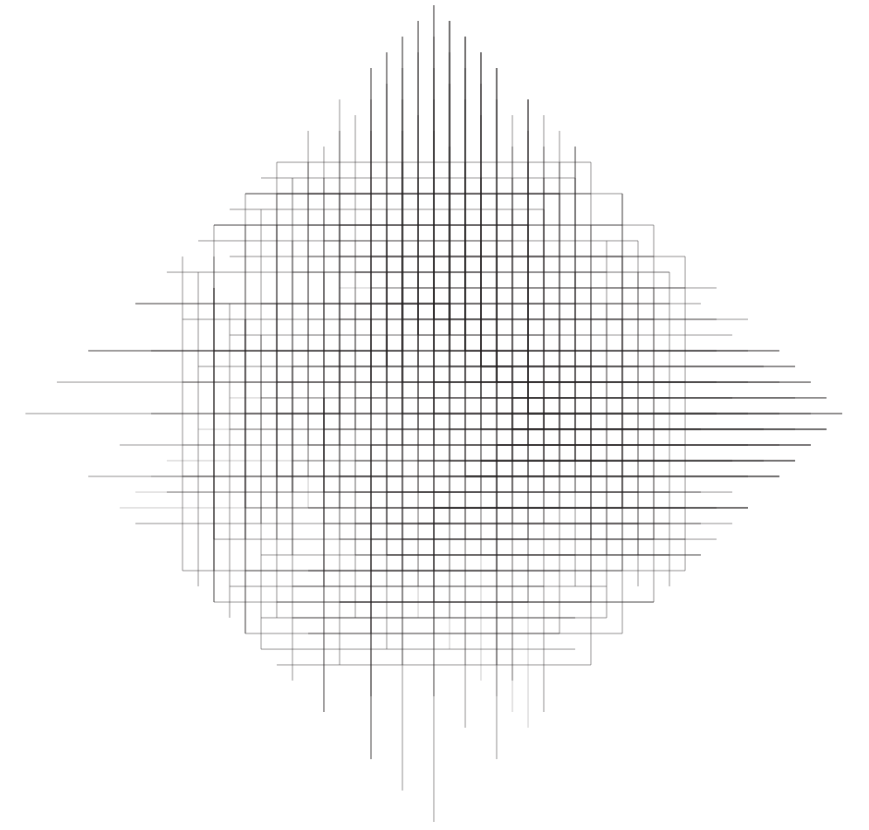
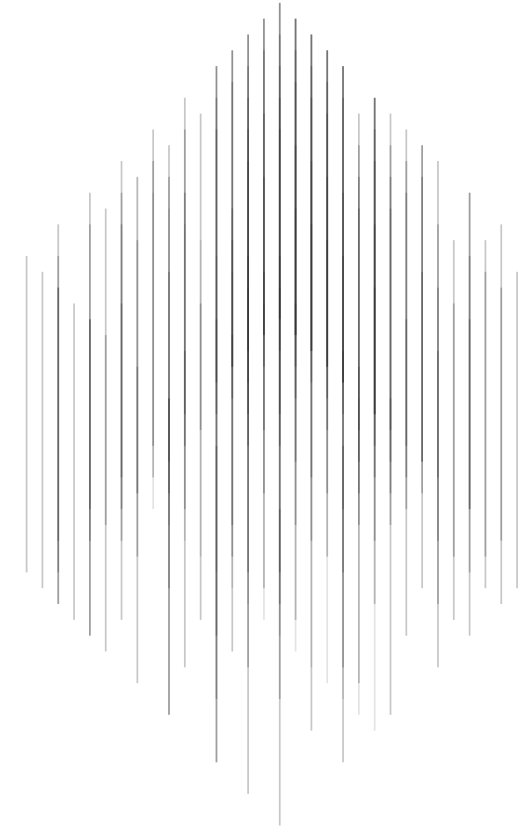
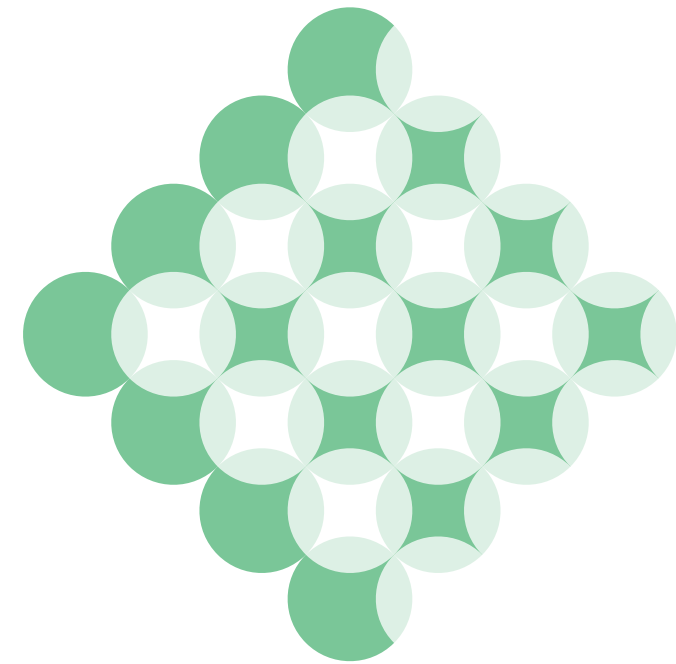
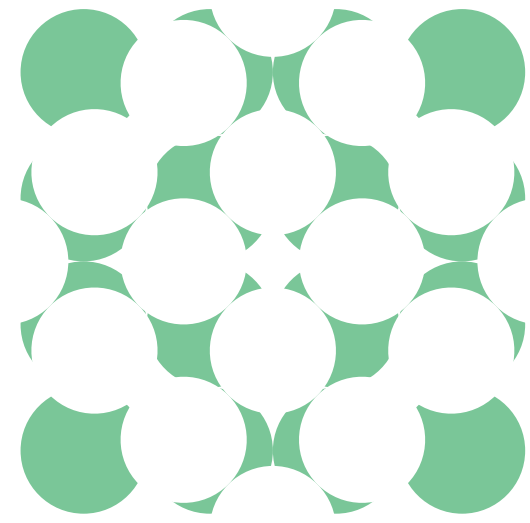
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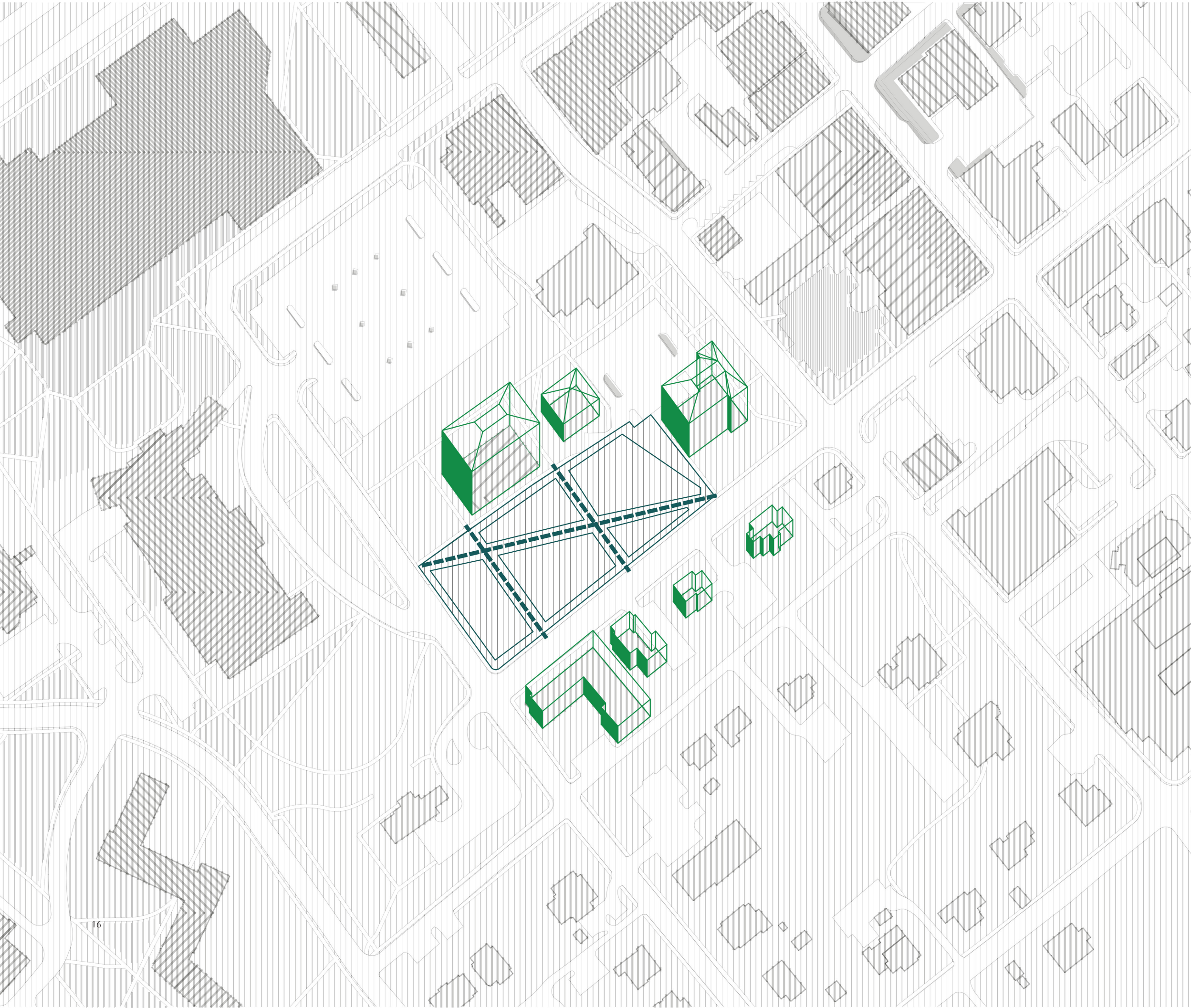
The precedents most influential to the thesis utilized the simple idea of overlapping geometries to break away from the institutional mold of campus residences. Where two parts of the architecture came together, a third element was formed and enriched the relationship of parts within the whole.

A residence hall is expected to foster a number of contrasting programs. It is a place to rest, work, and play. Designating space for these functions is crucial, but overlapping these functions within the architecture of the residence hall allows for stronger connections and transitions. It is the antithesis of the residence hall to isolate these elements.

Layers created through overlapping geometries have the ability to enrich the residence hall environment for students. On a humanistic scale, a dynamic and integral community space can form between elements of private residences. By also considering the situation of the residence hall within the site surroundings, the architecture as a whole can form a compelling transition between the public and private sphere.



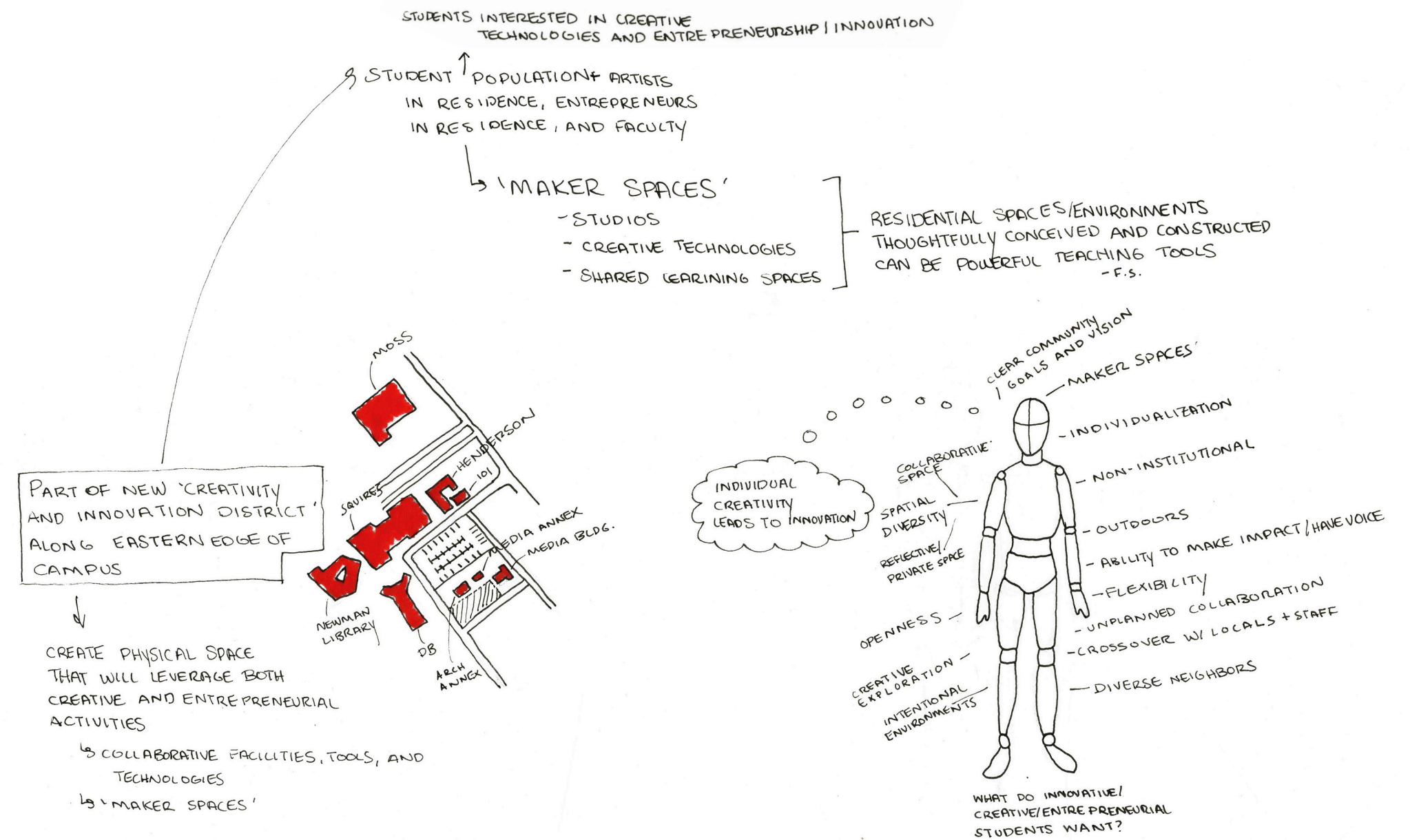
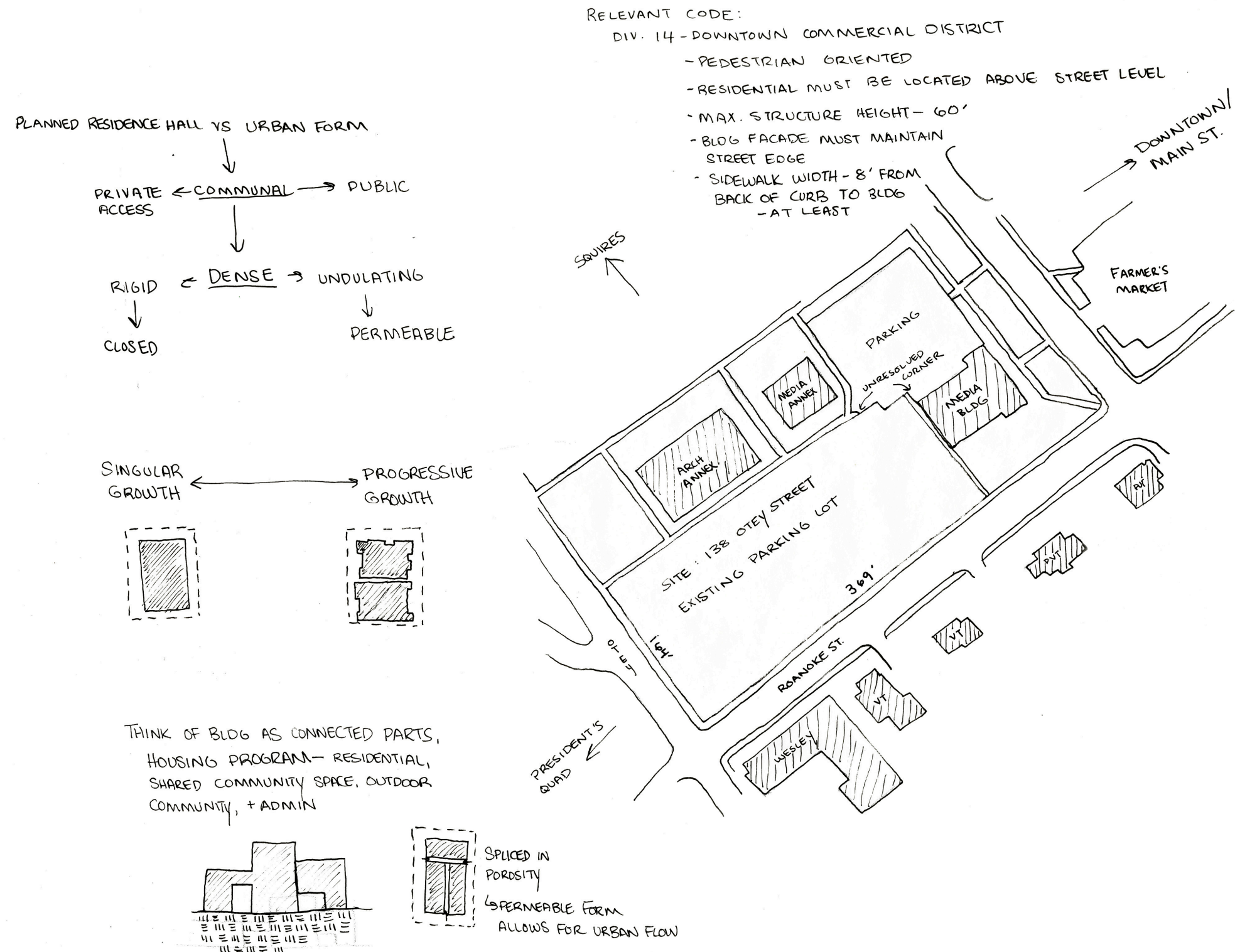




138 Otey Street

The site is located on Virginia Tech's campus, situated in a transitional zone between the traditional campus and the downtown district of Blacksburg. The site is spliced by pedestrian streets in relation to existing paths. Five buildings form within the splices, while the pedestrian streets at the ground level invite passersby to weave through the architecture. The condition of the polis, a space for the many, is thus formed in the composition of these separate parts. Unlike the typical exclusive nature of the residence hall, the public sphere allows for discussion and confrontation between residents and non-residents in the interest of the public good.

The composition of the architecture allows the residents to coexist as students sharing a greater campus and creates an transitioning interplay between the campus community and the community of the residence hall.



Design Investigation

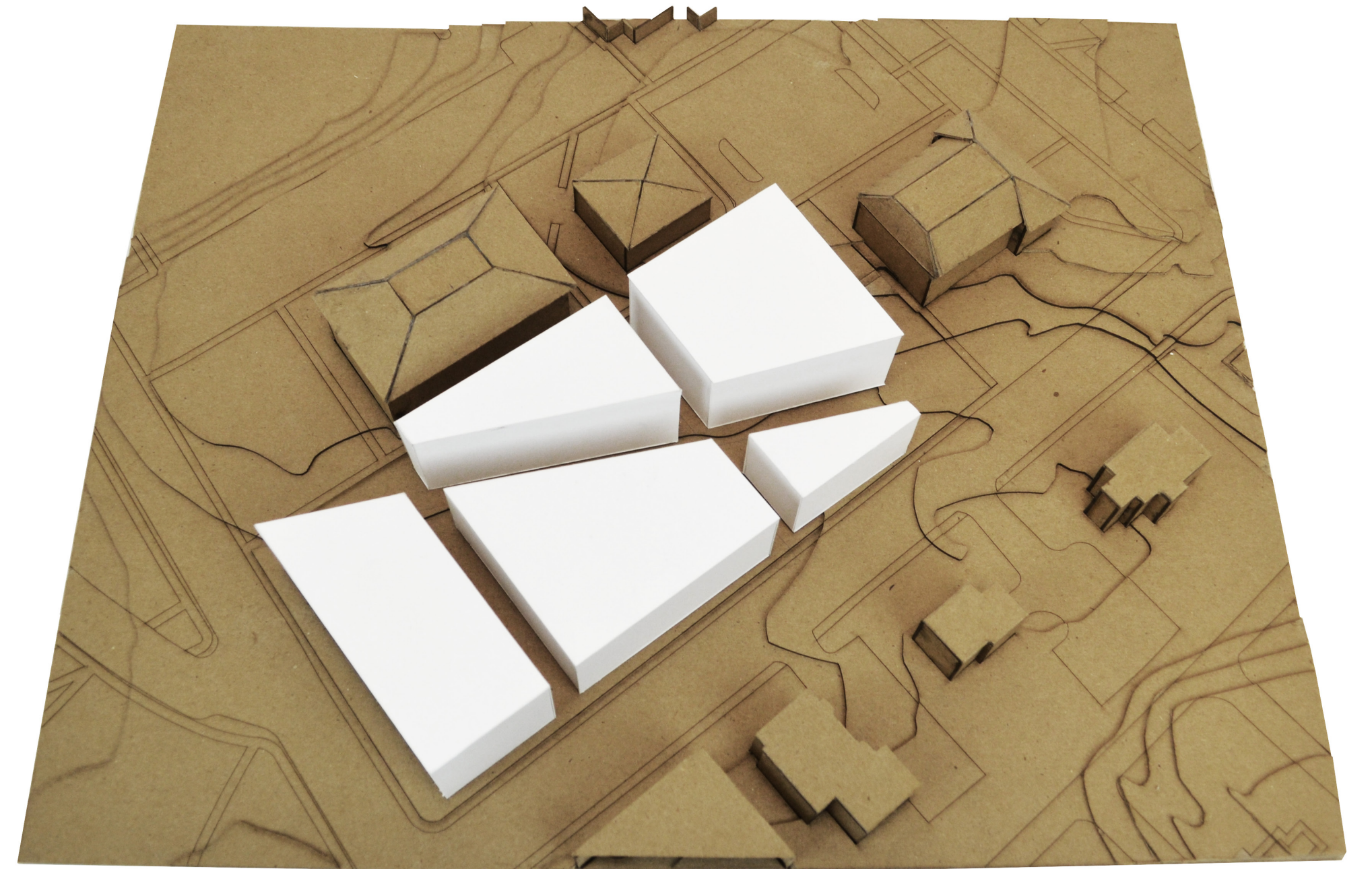
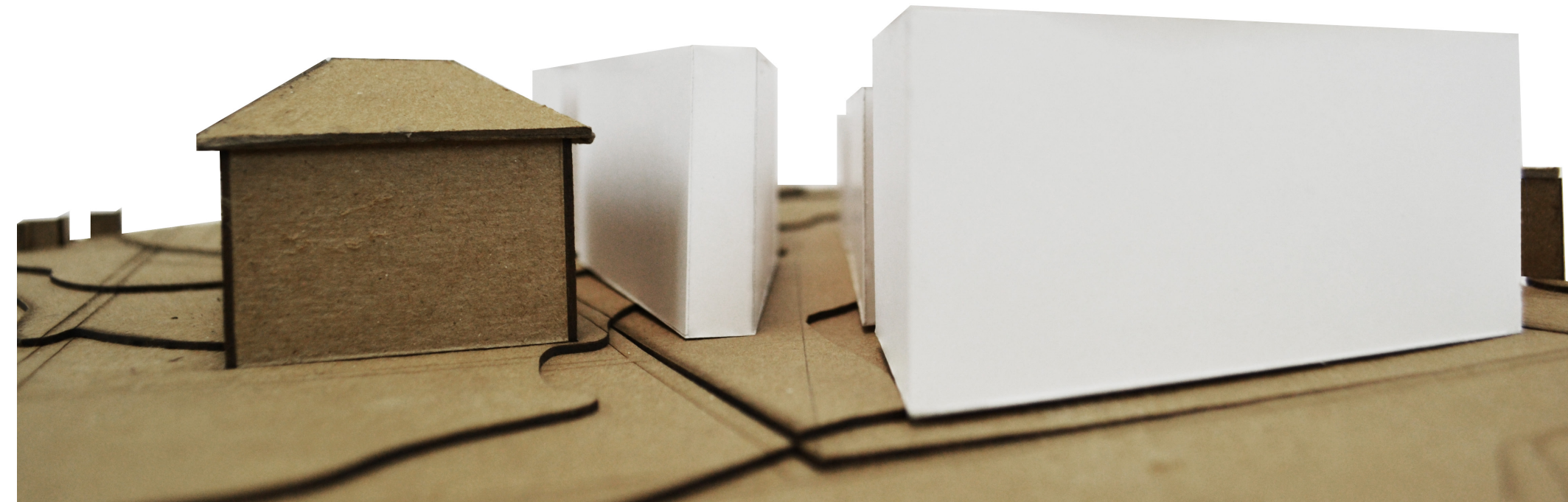
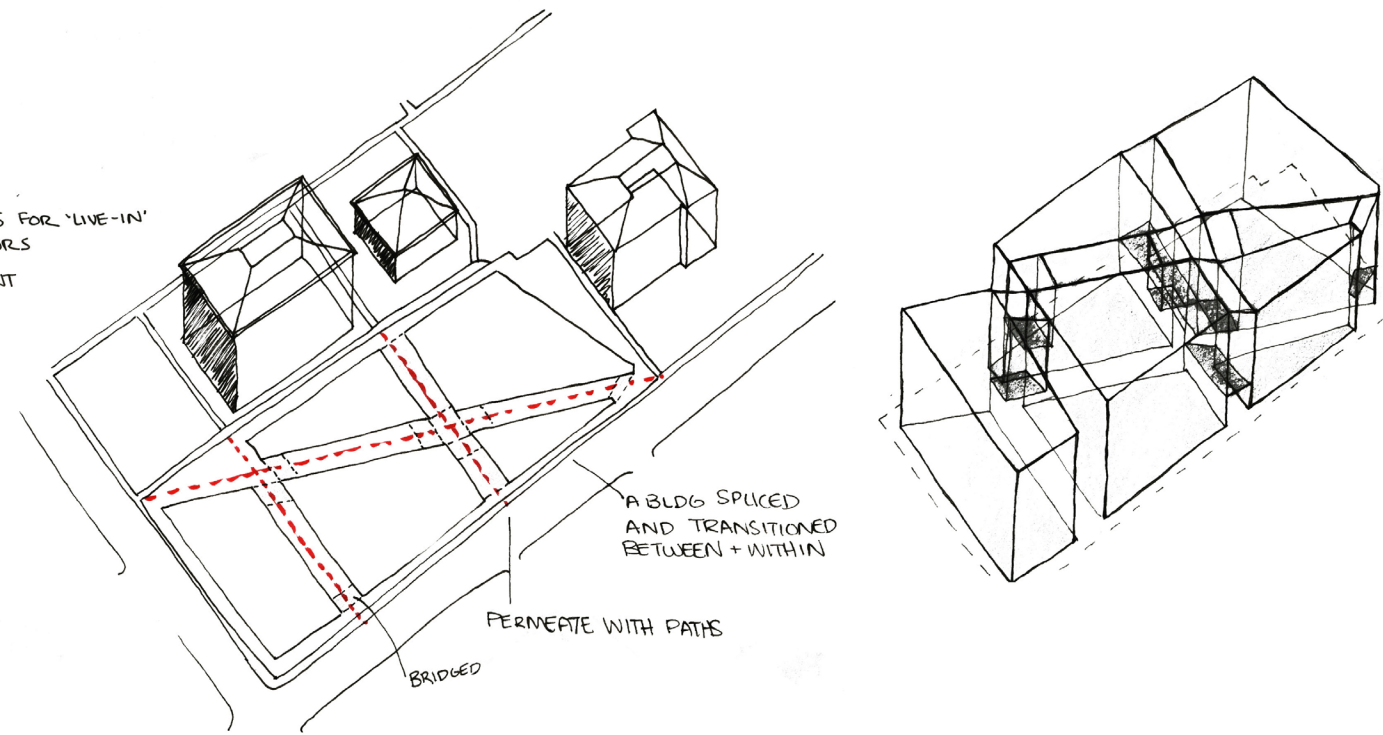
The site forms a unique situation with the university's campus. As part of the border between the downtown district of Blacksburg and the rest of campus, the site is urban in nature and has the potential to make the transition between town and university more engaging. The site is part of the planned 'creativity and innovation district' on campus and is envisioned to accommodate three hundred students in a living-learning community focused around creative technologies and innovative entrepreneurship.

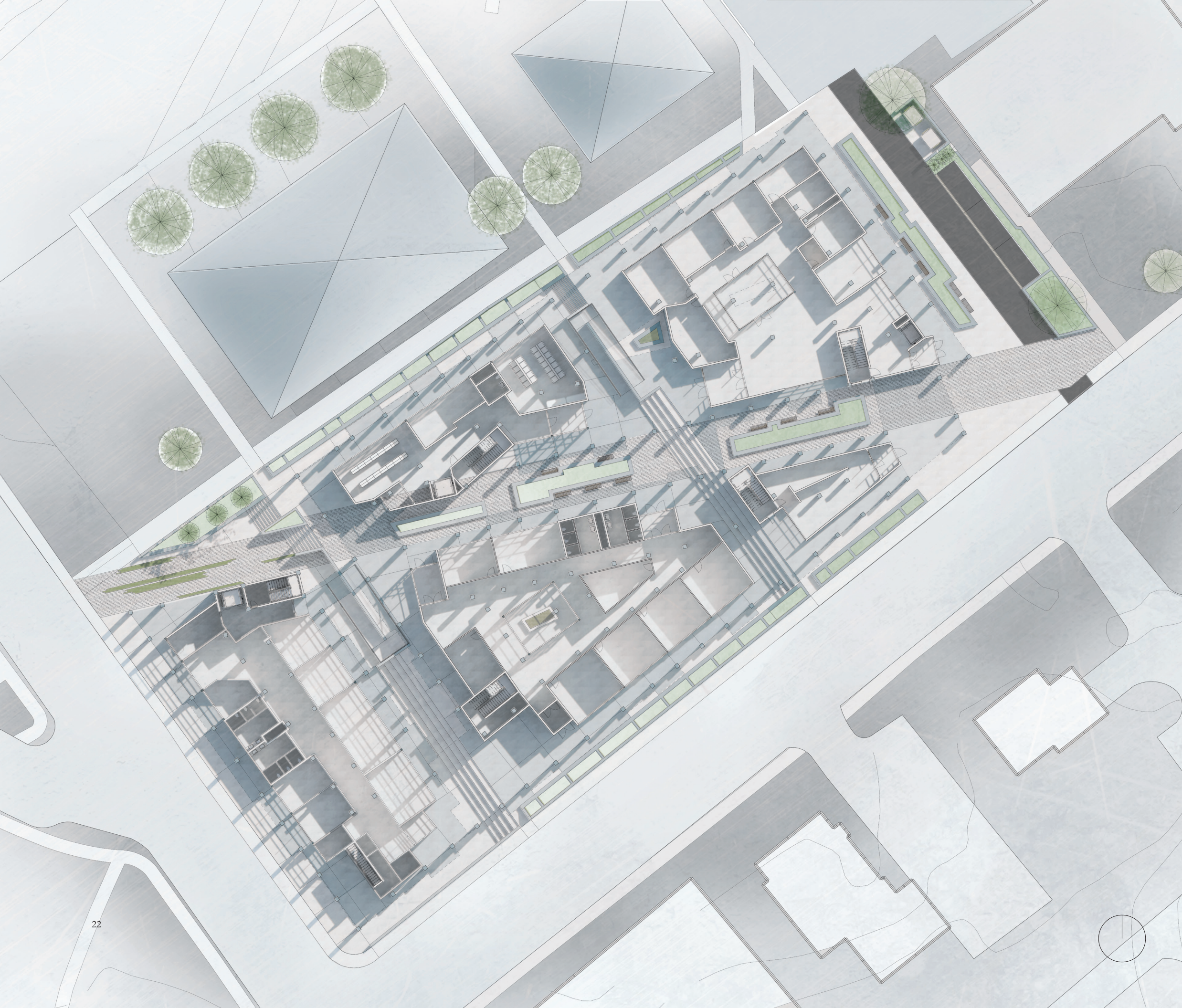
Considering the mission of the university, the living-learning community, and the individual student is crucial to the architectural process. The student population in this community may value expressing their individuality and moments for spontaneous collaboration, while the university aims to increase relations between faculty, students, and the town and move toward an interdisciplinary studies approach. Understanding these missions gives the architecture purpose and helps leverage a physical space that advances such aspirations.

A RESIDENCE HALL FOR A CREATIVE AND INNOVATIVE LLC

PROGRAM

- RESIDENTIAL - SUITES
 - SINGLES AND DOUBLES
 - 2 FACULTY APARTMENTS FOR 'LIVE-IN' ARTIST + ENTREPRENEURS
 - 1 RES LIFE APARTMENT
- COMMUNAL
 - STUDIOS / LABS
 - LARGE LOUNGES
 - OUTDOOR PLANNED
 - MAKER SPACES





A Residence Hall

The site steps down in three terraces, organizing five buildings along a central pedestrian street. The composition of the buildings allow for these pedestrian streets to permeate the ground floor and encourage an engagement with the architecture.

The buildings host offices, classrooms, and support facilities for the residence hall. As part of the innovation and creativity living learning community, maker spaces, workshops, and a gallery are also located on the ground floor to create a visual connection between the community and pedestrians passing by.

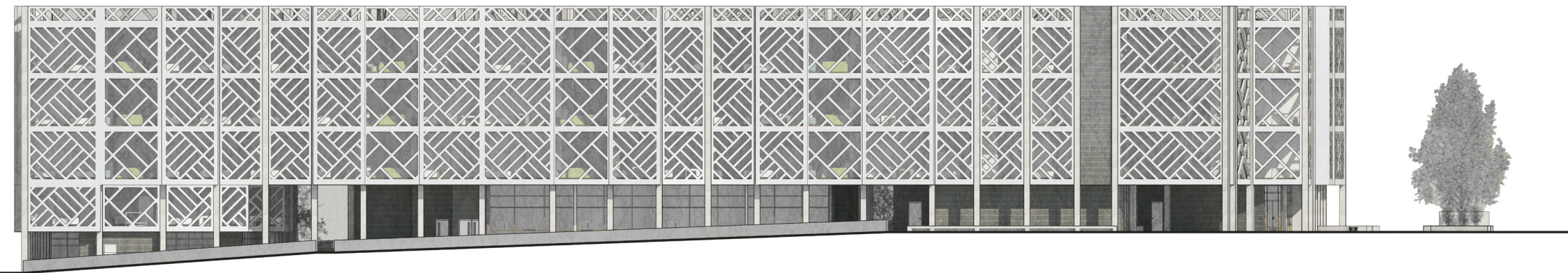
The main axis through the building is complemented by urban equipment and plantings on a humanistic scale, and encourages interaction between the passerby and the architecture.



On the upper residential floors, the five buildings bridge together to form a continuous connection between the hall communities. The private resident rooms wrap the exterior of the building, while communal spaces are formed in the core. The rooms are organized into suites of 3-4 rooms and a shared living space. A row of columns separate the 'porch' of each suite as the hallway transitions into lounge spaces designated for study and entertainment.

The overall gestalt of the architecture stands for a break from the traditional and an embrace of the community ideas of innovation, creativity, and interdisciplinary connections. The spatial organization of the building seeks to advance the mission of the university and the living-learning community.





Spatial Qualities

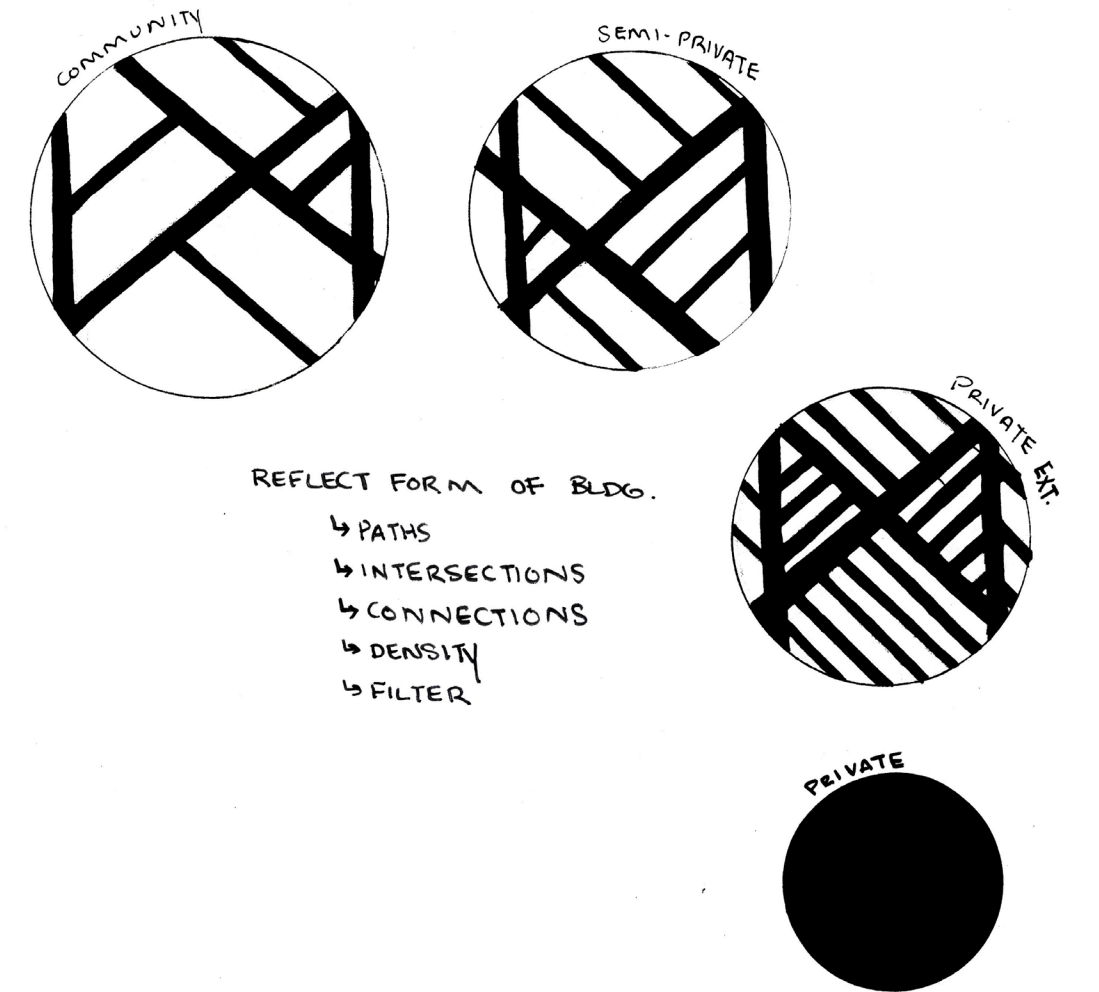
The residential floors of the building are wrapped by a precast stone screen that allows for a porous architecture. The density of the screen varies depending on purpose of the room beyond. Resident rooms are the most dense, while suite living rooms are least dense to convey the communal aspect of the space. The screens continue on the interior suite walls to create a porous transition between the communal hall and the more private suite.

On the ground floor, honed limestone clad walls ground the delicate language of the upper floors. The block walls frame views into the workshops, gallery, and maker spaces that give the public a glimpse into the living learning community.

LAYERING OF SCREENS

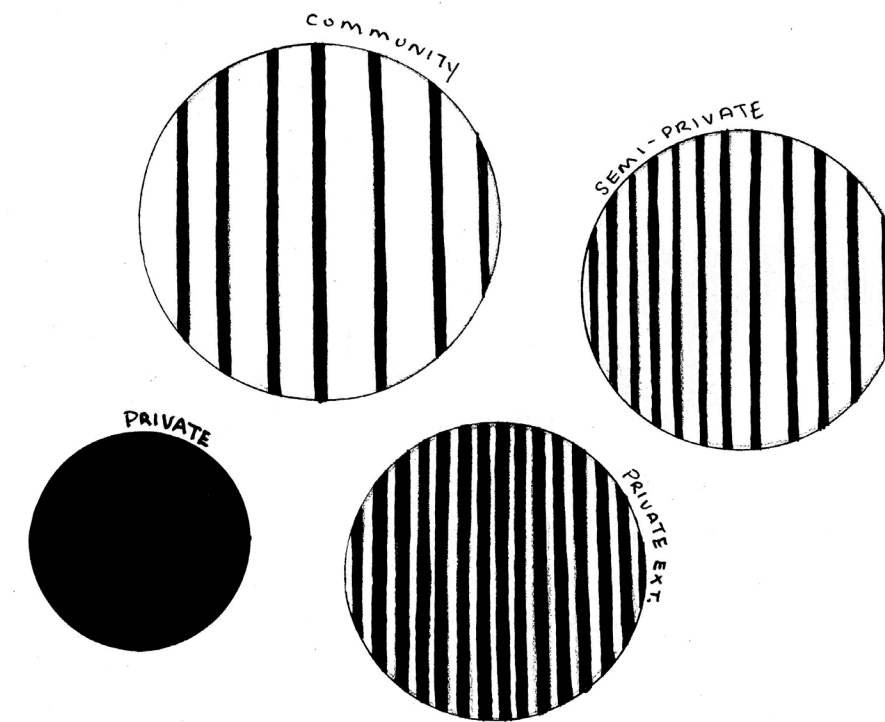
- ↳ POROUS HALLS + SUITES
- ↳ TRANSITION VISUAL CONNECTIONS

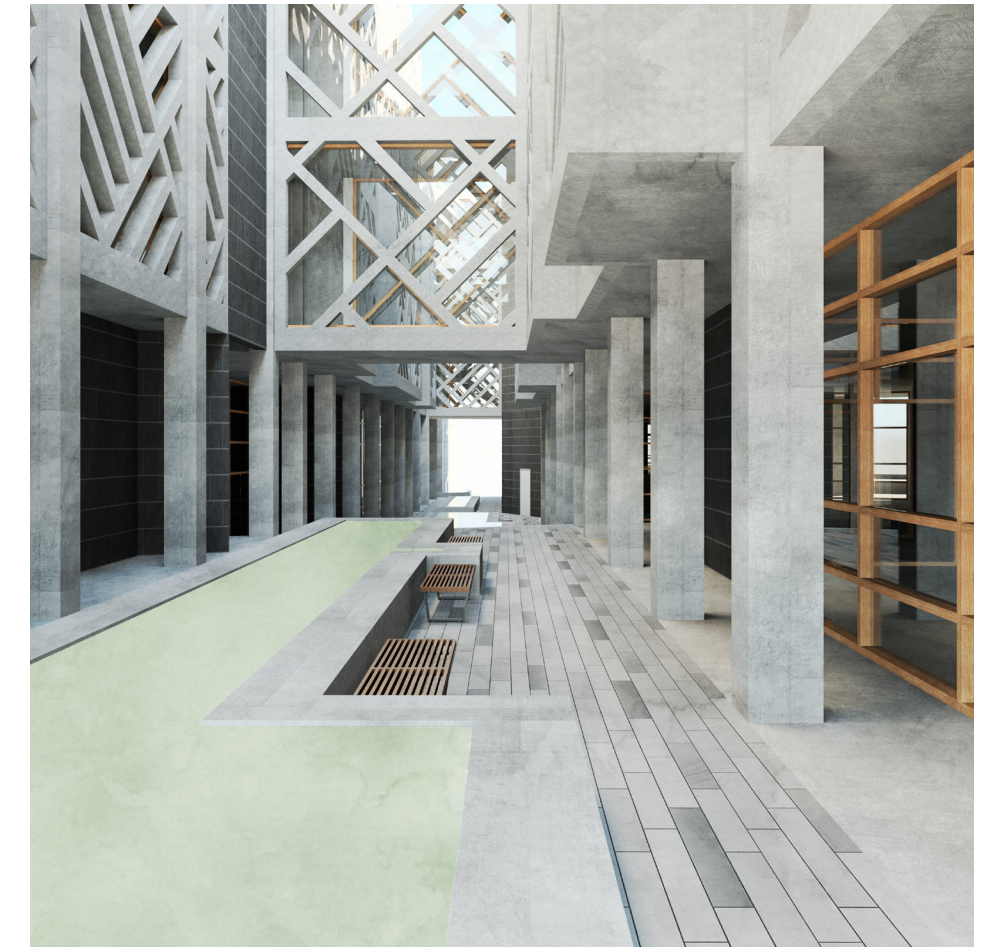
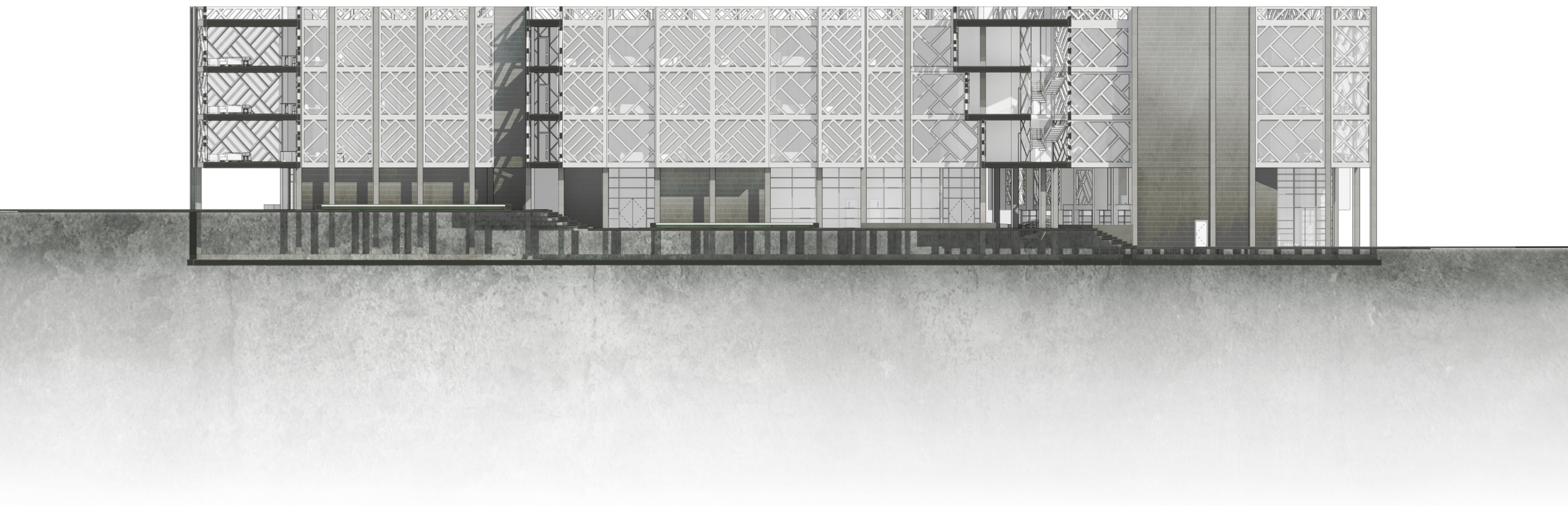
COMMUNITY → PRIVATE
 FROM COLLECTIVE
 TO INDIVIDUAL

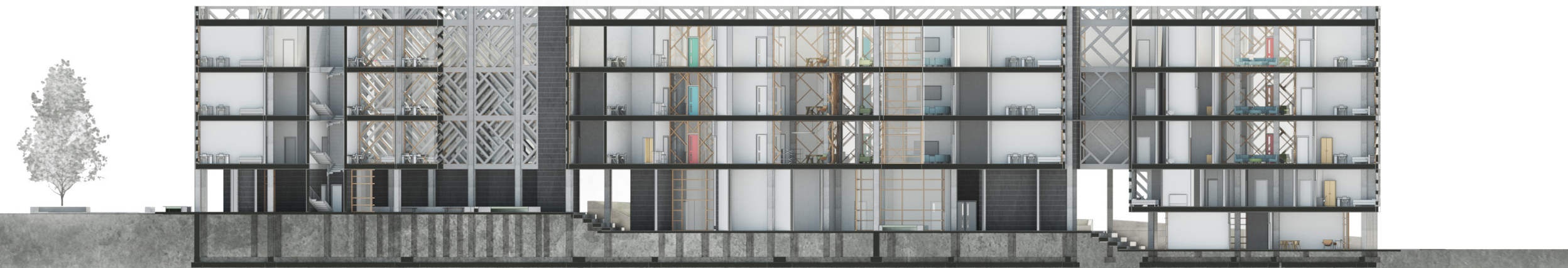


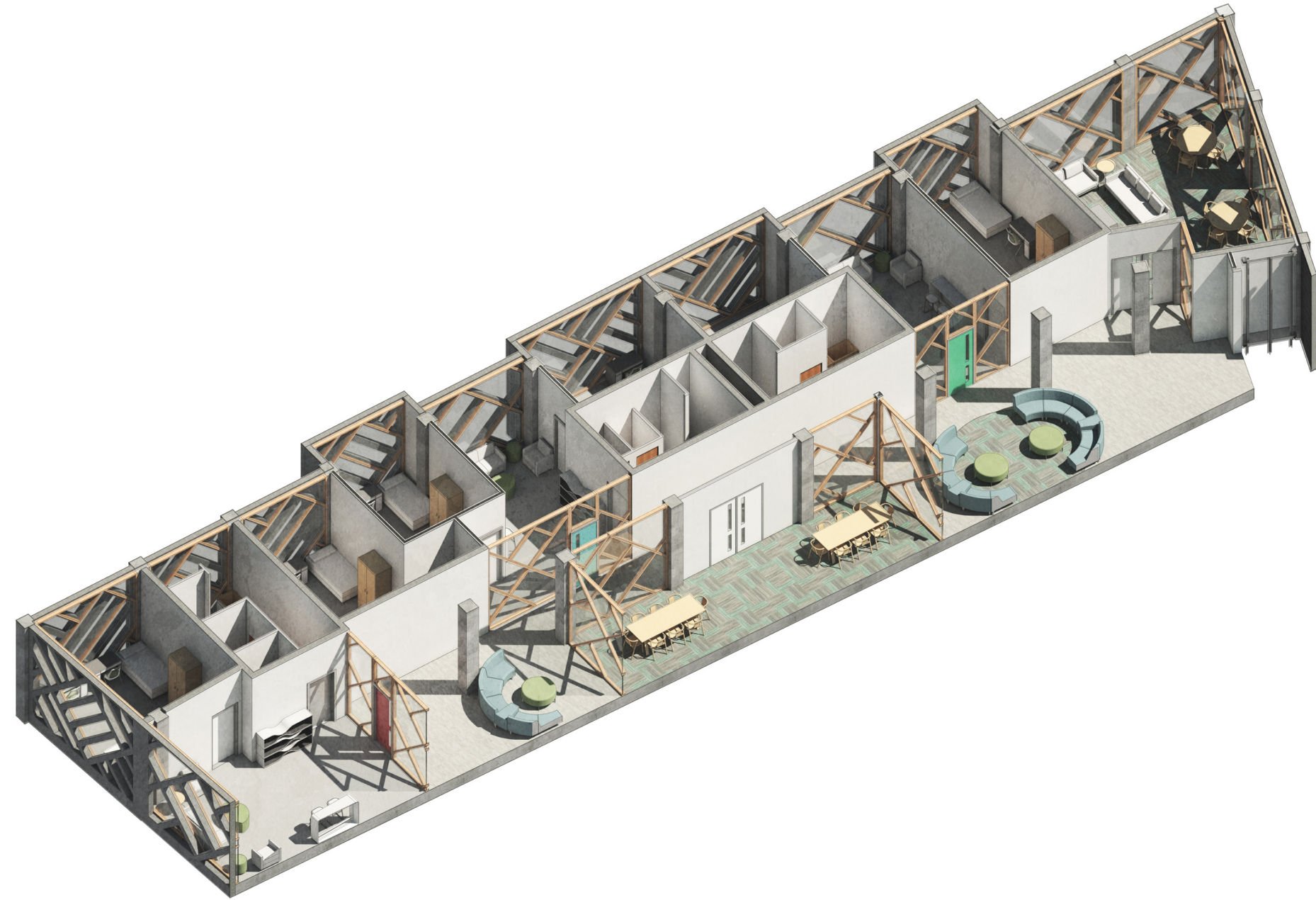
REFLECT FORM OF BLDG.

- ↳ PATHS
- ↳ INTERSECTIONS
- ↳ CONNECTIONS
- ↳ DENSITY
- ↳ FILTER



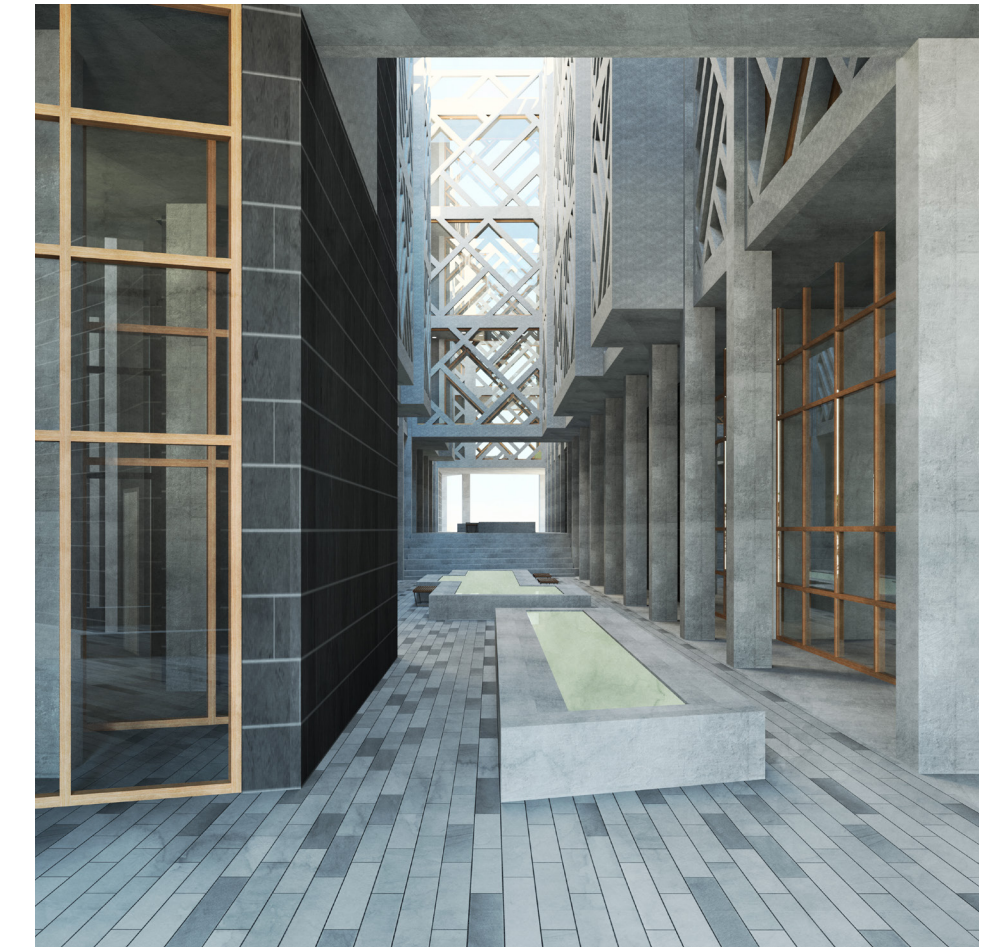
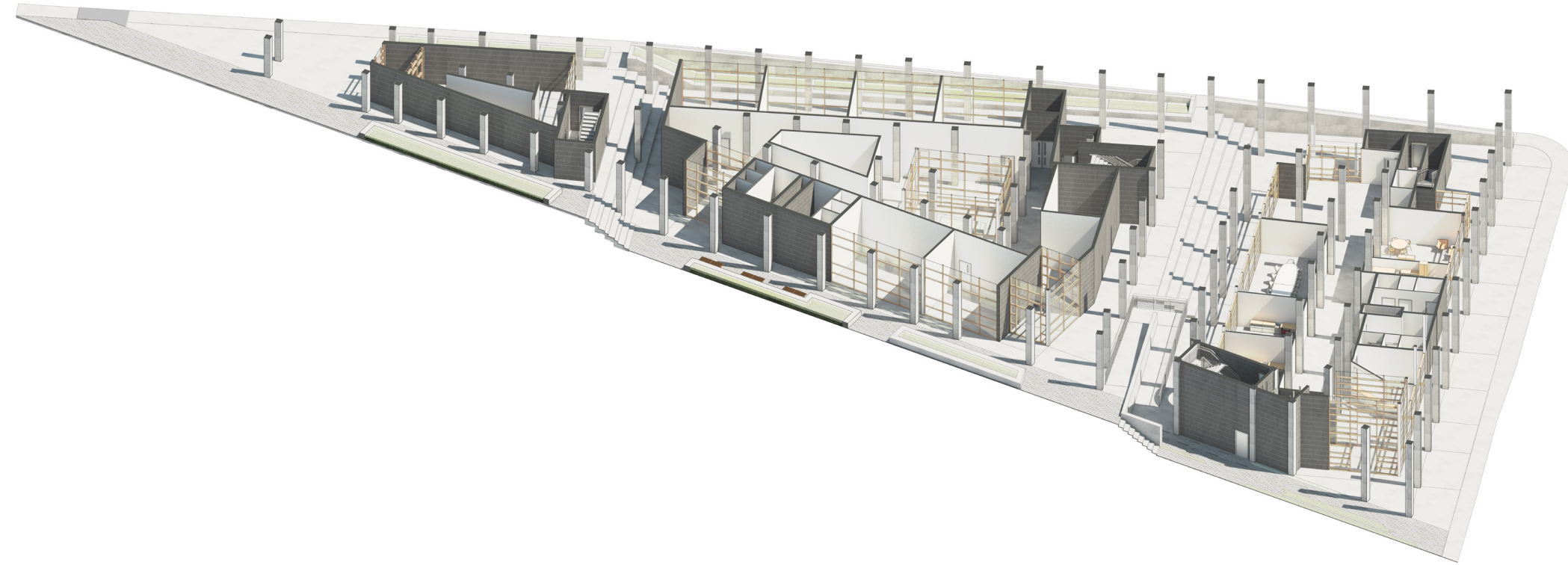






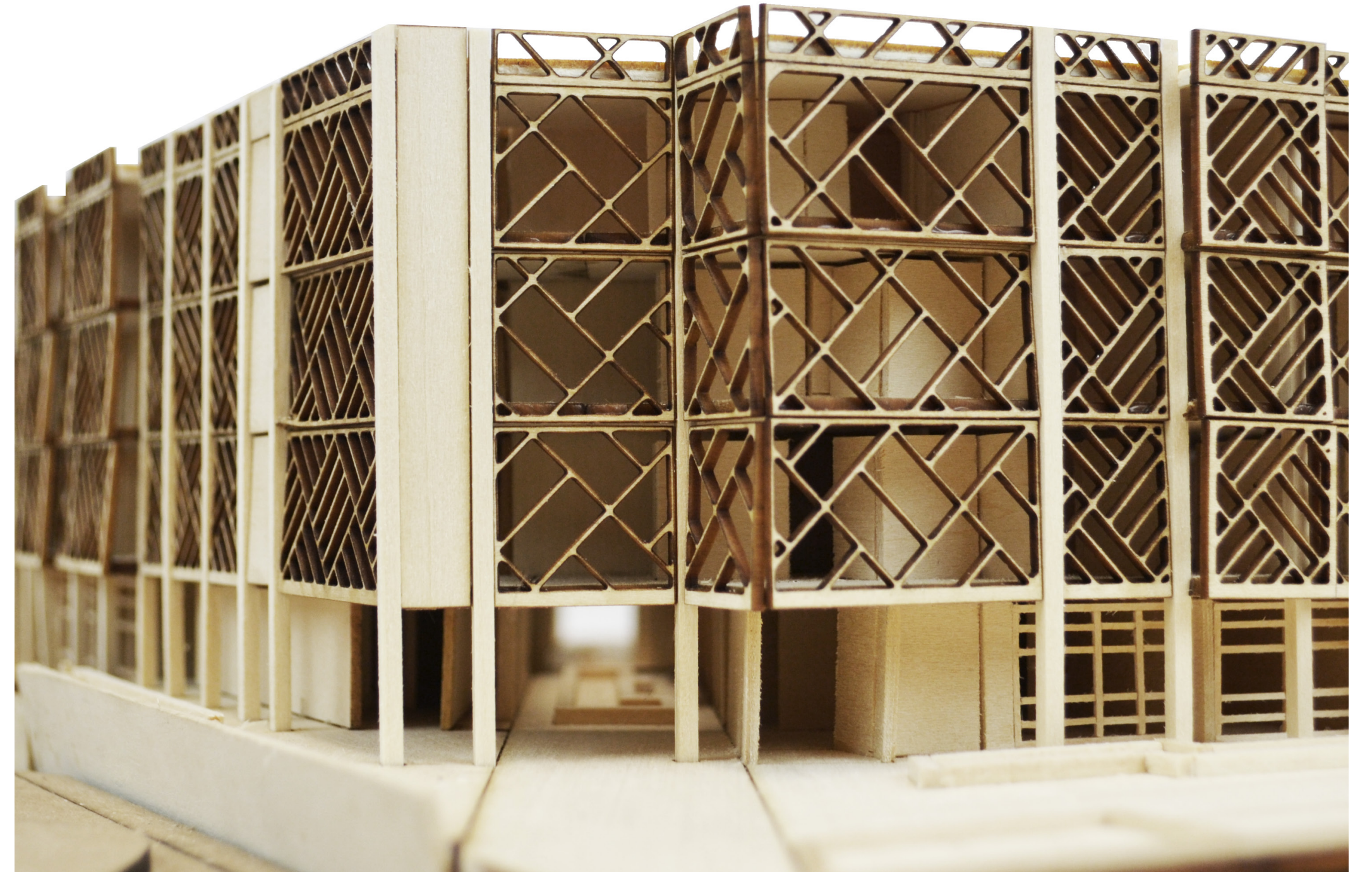
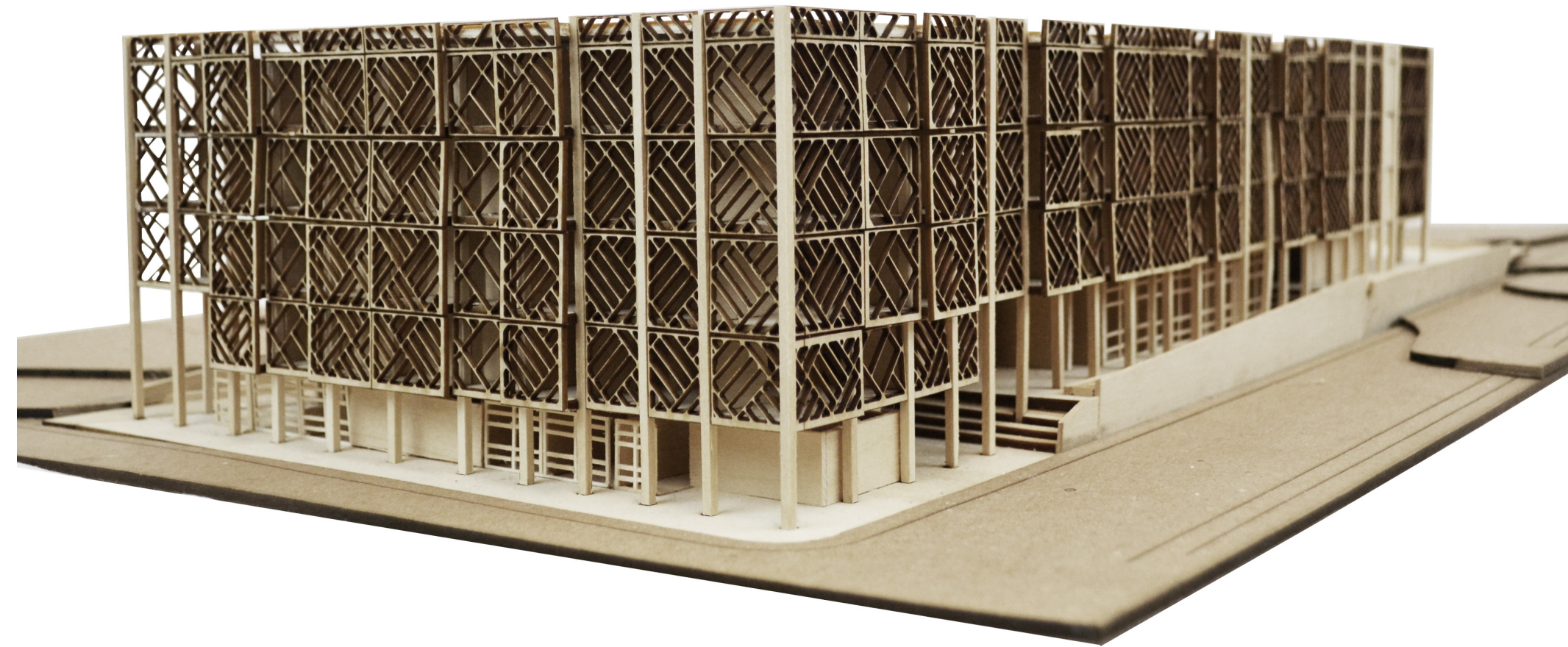
The porous suite materializes in the building using the same screen language as the exterior. Screened suite walls diffuse the activity from the hall and create the opportunity for visual connections throughout the building. The entrance into the private condition of the student room maintains a degree of separation from the active hallway in the transition that the disassembly of the suite wall barrier creates.

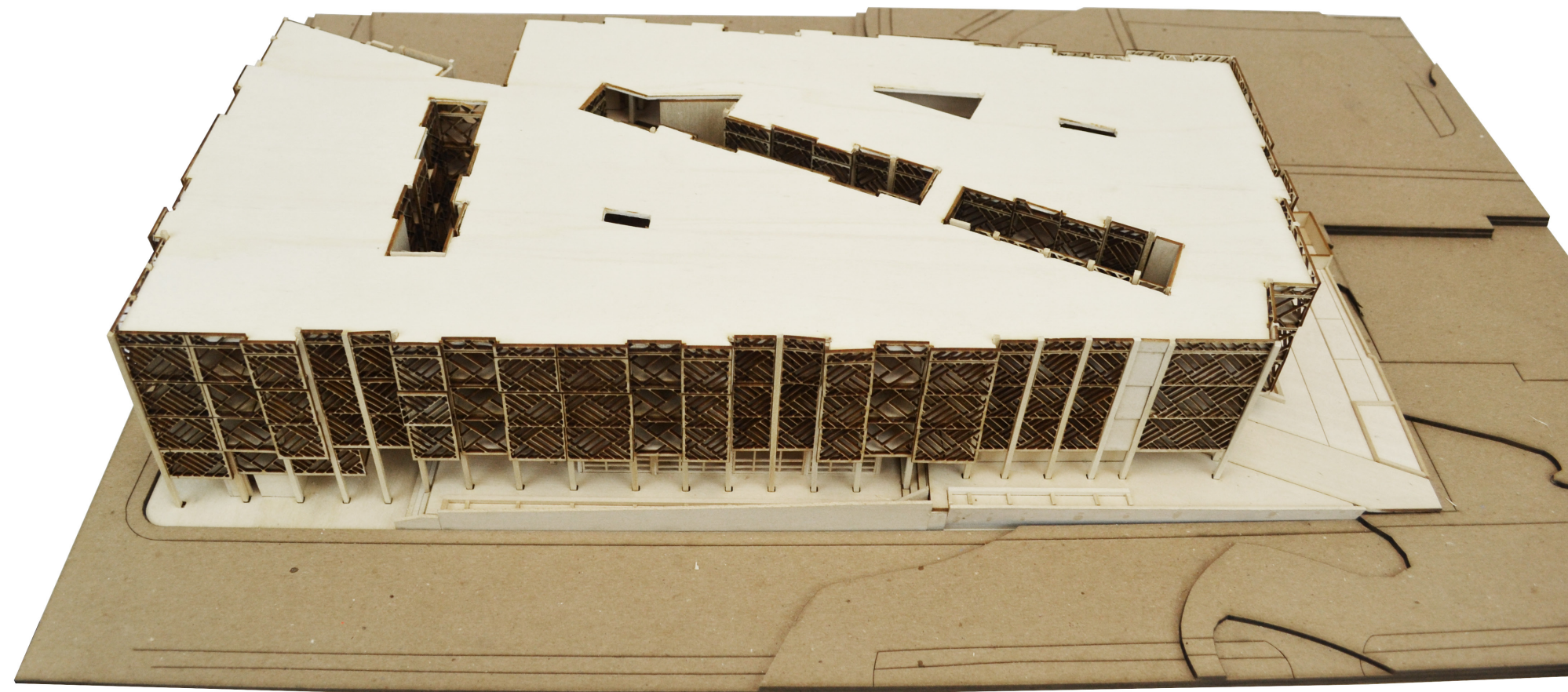
In the same way that shared functional paths can passively build community, the condition of the hallway aims to evoke the same effect through enhancing visual connections, or shared visual paths.



The ground floor is activated by pedestrian streets that carve their way through the building, allowing someone walking through to be engaged with the architecture without having to go inside. A regulated screen compliments the language of the limestone cladding and offers passerby a glimpse into the activities happening within the building. In walking through these streets, a person could get a sense of what the community's mission is by looking into some of the maker spaces or the gallery of student work.

The architecture of the ground floor aims to create more shared functional paths between the different types of people that pass through campus each day. Because of the mixed-use nature of the program, a student could encounter conversations with townspeople, faculty, and professionals contributing to innovation within Blacksburg.





Project Conclusions

In designing a residence hall architecture that works, the mission of the university, the housing and residence life community, and the student must be considered. The architecture should be seen as an opportunity to advance this mission and not just as student storage. With the ability of the residence hall to make lifelong impacts on the students who inhabit it, the architecture finds meaningful purpose in fostering this advancement at all scales within the institution.

The residence hall should support the needs of the student without becoming a one-stop-shop for their daily needs. The building should encourage a hall community as much as it encourages the student to seek a diverse set of learning experiences on campus and in the town beyond. By incorporating live-in faculty, a mixed-use program on the ground floor, and a public space, students have the opportunity for confrontation and discussion with a diverse population each day.

The student housing environment is most enriched by overlapping geometries that arrange the necessary functional aspects in a way that activates more engaging spaces. Wrapping residential rooms around central communal spaces increases the shared visual and functional paths that students take and allows the corridor to become more than circulation. Splicing the building and creating a public outdoor experience helps transition the isolated community of the residence hall into the greater campus.

No perfect answer to residence hall design exists. The architecture has the potential to manifest itself as a device for representing what the university, community, and students stand for if the mission of those impacted is considered. Creating a healthy environment for students to sleep, relax, and study is as essential as encouraging exploration beyond the building and creating an environment for public discourse. Overlapping geometries enrich the residence hall environment with more spatial opportunities and a cohesive sense of communal living.



Bibliography

Bock, Adam. "Social hub or social flub? An analysis of social interaction in dormitories with differing architecture." *PIT Journal*, 2013.

Blimling, Gregory S. *Student Learning in College Residence Halls: What Works, what Doesn't, and why*. John Wiley & Sons, 2014.

Case, F. Duncan. "Dormitory Architecture Influences: Patterns of Student Social-Relations Over Time." *Environment and Behavior* 13, no. 1 (January 01, 1981): 23-41. Sage Publications, 1981.

Corbett, Judith A. "Are the Suites the Answer?" *Environment and Behavior* 5, no. 4 (December 01, 1973): 413-19. Sage Publications, 1973.

Davis, Gerald, and Ron Roizen. "Architectural determinants of student satisfaction in college residence halls." In *EDRA Two: Proceedings of the Second Annual Environmental Design Research Association Conference*, pp. 28-44. 1970.

Devlin, A. S., S. Donovan, A. Nicolov, O. Nold, and G. Zandan. "Residence Hall Architecture and Sense of Community: Everything Old Is New Again." *Environment and Behavior* 40, no. 4 (July 17, 2008): 487-521. Sage Publications, 2008.

Edwards, Brian. *University Architecture*. London: Spon Press, 2000.

Fengler, Max. *Students' Dormitories and Homes for the Aged*. New York, NY: Universe Books, Inc., 1964.

Gannon, Todd, and Michael Denison. *Steven Holl - Simmons Hall: MIT Undergraduate Residence*. New York, NY: Princeton Architectural Press, 2004.

Gifford, Robert. "The Consequences of Living in High-Rise Architecture." *Architectural Science Review* 50, no. 1 (March 2007): 2-17.

Heasley, Christopher L. *Students' Sense of Community Based on Experiences with Residence Hall Design*. Saint Joseph's University, 2013.

Heilweil, Martin. "The Influence of Dormitory Architecture On Resident Behavior." *Environment and Behavior* 5, no. 4 (December 01, 1973): 377-412. Sage Publications, 1973.

Moore, Lois J., and Edward R. Ostrander. "Physical And Social Determinants Of Student Satisfaction In University Residence Halls: The Theme Dorm Concept." *Housing and Society* 7, no. 1 (1980): 26-34.

Mullins, William, and Phyllis Allen. *Student Housing: Architectural and Social Aspects*. New York, NY: Praeger Publishers Inc., 1971.

Rosenthal, T. G. *Josef Albers, Formulation : Articulation*. New York, NY: Thames & Hudson Inc., 2006.

Schulze, Franz. *Illinois Institute of Technology*. New York, NY: Princeton Architectural Press, 2005.

Strange, C. Carney, and James H. Banning. *Educating by Design: Creating Campus Learning Environments That Work*. San Francisco, CA: Jossey-Bass Inc., 2001.

Weber, Nicholas Fox, Jeannette Redensek, and Josef Albers. *Josef Albers: Minimal Means, Maximum Effect*. Madrid: Fundacion Juan March, 2014.

Weber, Nicholas Fox, and Pandora Tabatabai Asbaghi. *Anni Albers*. New York, NY: Guggenheim Museum Publications, 1999.