

SOCIAL INTERACTION AND TECHNOLOGICAL AMENITIES:  
EVALUATING THE SIGNIFICANCE AND FADING IMPORTANCE OF  
HUMAN INTERACTION IN PUBLIC

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# Social Interaction and Technological Amenities: Evaluating the Significance and Fading Importance of Human Interaction in Public

"... [Most Americans are] hardly aware of the potential value of harmonious surroundings, a world which they may have briefly glimpsed only as tourists or as escaped vacationers. They can have little sense of what a setting can mean in terms of daily delight, or as a continuous anchor for their lives, or as an extension of the meaningfulness and richness of the world."  
-Kevin Lynch

## **Introduction**

Excuse me for one moment; I'm getting a very important call... Interruptions such as this have been weaseling their way into each of our lives for roughly the past decade, no matter our location. By necessity we all have learned to live with it (like it or not)! Of course our personal lives are affected, but stop to think about how our actions and attitudes affect other people, sometimes even directly related to the spaces we use!

The organization of public space has the ability to influence how people use it as well as how people interact within it.<sup>1</sup> As architects, it is important to be aware of these organizational characteristics so that they can be applied in the design process where appropriate. Consider the built environment from a social perspective; the contemporary use of mobile electronic devices, or MED's, have changed the actions and attitudes of people in public spaces.

## **Question**

How has the contemporary and somewhat obsessive use of mobile electronic devices altered our social norms within public spaces and how does this affect the design of public space?

## **Objective**

MED use is more frequent than ever before and is constantly growing in number. Using literature research, ethnographic research, and time-lapse photography, I investigate the use of MED's in public space and the social consequences that have come about because of the increased use of MED's. Technology changes quickly, as do the devices that mediate the technology. Because of this, etiquette related to the use of mobile devices also changes quickly, resulting in both negative and positive impacts on social norms. Understanding how people use this technology, as well as how they respond to others in public space, can provide relevant information for designers about this contemporary issue.

## **Literature Research**

### *Uncharted territory*

Make a call, send a message, listen to music, watch a video, look up directions, play a game... It is exhausting to generate a list of all the tasks that can be accomplished while using a MED! This is only a small amount of the applications that one may decide to utilize with his or her MED. Once independent technologies, these mobile amenities have begun merging into super do-it-all gadgets, or smart phones, that make us more mobile than ever.<sup>2</sup> The Wireless Association shows that the number of wireless users in the U.S. has increased significantly in recent years. Since 1995, 256.5 million more people have subscribed to mobile phone service, or 87 percent of the U.S. population.<sup>3</sup>

Major cities are now facing problems that have never been dealt with before due to the rising number of MED users. For example, just last year, New York Senator Carl Kruger explored the idea of banning devices such as iPods while

crossing a street, due to the excessive number of injuries from carelessness and distraction.<sup>4</sup> Likewise, London recognized a similar problem throughout their busy streets, but found a unique solution. As an experiment, the city applied brightly colored cushions to permanent obstacles in the path of travel.<sup>5</sup> States across the U.S. are regulating use of MED's while navigating a vehicle. Twenty-one states have banned the use of mobile phones by novice drivers, while only six states prohibit the use of mobile phones to all drivers (although hands-free devices are allowed). Eighteen states have banned the use of mobile phones for text messaging while driving.<sup>6</sup>

#### *Impact on social interaction*

"CIT [Computer Information Technology] immersion leads to a recalibration of personal relationships."<sup>7</sup> This statement made by David Holmes and Glenn Russell during their study of adolescents and their MED use holds a great deal of accuracy, but is a broad summary concerning the adjustments people have to make to join into such a technology-filled condition. Technology, gadgets, and their multiple uses are becoming such a significant part of the contemporary lifestyle that actions and attitudes surrounding them change out of necessity. Professor of geography and communications at the University of Haifa, Aharon Kellerman states, "When a new communications medium becomes a dominant one, or even replaces an older one, it may call for new behavioral patterns by its users, thus changing the social space of electronic communications."<sup>8</sup> From a social perspective, MED's create an interesting contradiction. 1) Negative: More than ever before, the growing use of MED's promotes seclusion and self-containment in a virtual world away from physical reality. 2) Positive: On the other hand, users have access to more information, are empowered to create their own identity, and have the opportunity to connect to others in several fast and easy ways.<sup>9</sup>

Negative consequences of MED's affect all ages, but adolescents in particular receive excessive scrutiny when taking mobile device use into account. Because of the adolescent generation's access to (and familiarity with) this technology, their perception of MED use differs from that of older generations.<sup>10</sup> In

Holmes' study of adolescents and MED use in social situations, Holmes argues that MED use alters the characteristics of "direct interpersonal relationships and the related dimensions of responsibility and accountability."<sup>11</sup> In other words, adolescents are not only secluded from other people while using MED's, but MED's have impacted the nature and quality of social interaction in physical space. The richness of casual encounters with other people, while on a short walk, riding a bus, or waiting in line are often compromised or may simply not occur.

As stated earlier, all age groups are affected; adolescents are not alone. In a study conducted by Palen, Salzman, and Youngs, perceptions of MED use were studied among a group of individuals previously unfamiliar with this technology. Negative feelings and comments were expressed towards mobile device users.<sup>12</sup> Many of those who participated in the study found it difficult to deal with mobile phone users in public. This conflict occurred when a person was present physically, and was talking out loud using an MED so he or she could be heard, but was not engaged with those in the physical space. Some of those interviewed were so troubled by the manners of the MED user that they began to question behavioral methods.<sup>13</sup> Social norms were violated when conversations occurred with others outside the immediate physical space. It appeared that those who were interviewed felt personally offended when a conversation in physical space was interrupted by the use of an MED. The volume at which one speaks in the conversational space was also reported as slightly unsettling.<sup>14</sup>

Clearly, there are negative consequences of MED use. However, there are positive consequences as well. The term 'isolated' has been used in previous examples with a negative connotation, but a study completed by University of Windsor Associate Professor, Francine Schlosser confirms otherwise. Her analysis of BlackBerry mobile phone users alongside periodic interviews with the participants revealed that the mobile phone users described feelings of isolation at times. When they lost connection because of bad service or were without the phone itself, they felt disconnected from the world. In this case, their connection to other human communication was severed.<sup>15</sup> For these

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participants, the mobile device fostered social interaction.<sup>16</sup>

### *Obsessive reliance & use*

Adaptation can develop into a crutch for the user. MED's can have a powerful hold over one's reliance on the MED service as well as the need for connectivity. The MED user must be aware that time alone, away from constant connectivity, provides balance to a hectic lifestyle. It is important to recognize one's private space apart from the rest of the world. Although the exciting and interconnected events of life are essential, one must experience the quietness and small trials of life as well. A range of experience—from public to private—is essential to one's well being.<sup>17</sup> Participants interviewed by Schlosser had similar concerns about mobile phone use invading their privacy. Common practices to avoid this invasion of privacy included simply turning the phone off before going to sleep or checking messages less frequently on weekends.<sup>18</sup>

Separating the user from his or her device is becoming more difficult considering the portability of the MED. It goes everywhere with the user, is light enough and small enough to be hidden somewhere such as a pocket, and appears to have transformed into a hybrid with the body, particularly when using headphones or a microphone.<sup>19</sup> The use of a Bluetooth phone only requires the user wear a small headset, free of wires. All obvious cues of mobile phone use are eliminated, often provoking confusion and compromising conversation with those nearby. Also consider one particular function: the vibrate setting. It is a subtle alert and only the one carrying the phone is aware of it,<sup>20</sup> like an addition to the human anatomy.

### *MED use changes daily life*

Connectivity translates into availability. People are simply gaining ways to communicate with each other. Because of increased availability, it is more common to find attitudes that tend to exaggerate the urgency in normally mundane situations or added pressure to check and reply to so many messages.<sup>21</sup> Many mobile phone users actually find this to be invasive when referring specifically to work-related use.<sup>22</sup> The boundary between work life and personal life is blurred. As a result, activities outside of

work are affected by MED interruptions. However, social-based calling does not appear to be nearly as bothersome.<sup>23</sup> A portion of MED users actually describe their mobile device as an 'enabler,' meaning it has the ability to make multi-tasking possible from remote locations.<sup>24</sup> Kellerman addresses the consequences of a contemporary lifestyle: gaining mobility through gadgets brings along more social responsibility, constraints, and time consuming tasks. When it all adds up, it appears to entail less freedom than one may have originally thought.<sup>25</sup>

### *Controlling public space: creating a bubble*

One distinct action occurs regularly among MED users: the need to create a personal space 'bubble' in public space. One may do this by looking attentively at the MED screen, listening to a private music playlist, and shutting out others with the use of headphones. Dr. Michael Bull, professor of communication studies at the University of Sussex, clarifies results from his studies that correlate with distressed urban public spaces. He describes iPod users and their logic behind using the electronic device as a means of managing the 'where' and 'when' while moving about. He explains, "People like to be in control. They are controlling their space, their time and their interaction..."<sup>26</sup> This behavior is becoming more common and tolerable in public spaces. As the phenomenon grows, the regular use of iPods and other mobile devices are more easily accepted, especially by other users.<sup>27</sup> In the study conducted by Palen, Salzman, and Youngs, a group of nineteen people of different demographics were studied due to their lack of experience with mobile phones. The study documented the group and their new mobile phones from the beginning of ownership, and focused on users' preconceptions, the process of adaptation, and the consequences of phone use. The research proved new users who had previously been in close proximity to other mobile phones and their users were more likely to accurately predict their own usage (frequency and purpose). As the study continued, the researchers found that many of the users who expressed negative feelings during the first interview developed an acceptance toward mobile phone use.<sup>28</sup> Michel de Certeau recognized users may not necessarily have a substantial reason why they have negative feelings about phone use. He addressed "ways of operating," meaning how one may carry on during the day through

actions, reactions, rituals or habits. Many times people who are not even using these devices may influence the users' ideas and knowledge<sup>29</sup> and vice versa. After having the phone for some time, a small number of participants even admitted to performing the actions they had referred to in a negative way before their mobile phone ownership.<sup>30</sup>

The advancement and increased use of these technologies has forced the users (and their cities) to form a new set of social norms and rules. This type of fixation qualifies as a "conflicting pressure" when priorities as a society begin to change.<sup>31</sup> In an example provided by Chermayeff and Alexander, they describe the disappointing predicaments and consequences that the relentless use of cars brought about over the years. In their expression of nostalgia towards bustling plazas and crowded streets, it is relative to the topic at hand.

#### *The organization of a space*

In order to understand the design and organization of successful public spaces, William H. Whyte's "The Street Life Project" is vital. Whyte and his team began observing the street life of New York City. With this experience, the team became experts in reading and predicting movement and interaction in public spaces. According to Whyte's studies, fundamental characteristics for great public spaces are comprised of elements such as comfort, choice, interest, and accessibility. More specifically, a space should contain plenty of seating, particularly moveable chairs to encourage visitors to choose exactly where and how to be seated. An equally essential attraction is other people. Other important physical traits are the presence of sunlight, wind, trees, water, places to eat, and access to the street, which Whyte identifies as the most "critical design factor."<sup>32</sup> His studies take into account interior spaces as well, and point out that many of the same ideas about exterior spaces can be applied to interior spaces. Even when considering the interior, the street is still a main design element to maintain visual connectivity between the interior space and the exterior street life.<sup>33</sup>

#### **Empirical Research**

##### *Time-Lapse Photography Research*

To appreciate Whyte's findings more completely, I did a time-lapse photography session of the interior of the Aronoff Center in downtown Cincinnati. I chose the lobby of the Aronoff Center because of the transparent and dynamic space as well as its tendency to be a lively scene on performance nights. Adjacent to the entrance is a colorful backdrop of people and storefronts. The same concept applies to the exterior space also; the theatre lobby appears as an asset to street life and is an interest to those on the sidewalk. This concept of 'see and be seen' continues throughout the interior as the open stairs leads to balconies overlooking the main entrance.

From the highest balcony, there was a story being told; it occurred naturally as it unfolded below. MED use was prevalent in the lobby of the Aronoff Center. It appeared that numerous phone calls were being made as a way for patrons to locate each other. People were engaged with one another as well as with the spatial elements around them. From above, I could observe the ways in which patrons located each other. Many visitors used the benches while waiting, sometimes calling, and people gathered around points of interest, such as a table full of brochures. The use of MED's clearly facilitated an effortless connection with others. This suggests that a destination-space such as a theater should provide architectural solutions that make connecting through MED's even simpler. Physical elements such as break-out spaces could provide accommodation to recharge batteries as well as block out ambient noises.

#### *Ethnographic Research*

Because of the socially embedded nature of mobile device use, the observation of users in their environment is an appropriate research methodology. In conducting an ethnographic study, I wanted to monitor MED users in everyday social situations, specifically in public gathering spaces. As mentioned previously, technology, frequency of use, and rules of etiquette are changing constantly. Capturing the actions and attitudes of mobile device users in their environment, as well as how they react to the space around them, is important as a way of understanding the users.

Mp3 players (iPods are the specific mp3 player referred to earlier in the writing), are described as a means to control one's surroundings. An

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iPod user can arrive and depart with no interruptions in an attempt to manage contact with others.<sup>34</sup> Through observation, I can only assume that the experiential qualities of this space are convoluted due to the iPod user's decreased sense of hearing. The music player and user appear as one, and the user must simultaneously negotiate "music space" and "conversational space." The mobile device confines the user to "a bubble," as referred to by Dr. Michael Bull. There is no intention of verbally communicating to others, nor is there special attention paid to their surroundings. However, the isolation can change with the quick and simple removal of an ear pod. It is vital to examine this idea from a different perspective. The "bubble" is not permanent. The sensorial barrier serves as a contemporary escape from a hectic lifestyle. As mentioned earlier by Chermayeff, it is vital that a person avoid excessive over-stimulation. One must balance public and private time to find equilibrium. The music MED has become a contemporary transition from place to place. An architectural solution for iPod users might consist of qualities like better way-finding tactics.

Mobile phone use, however, has a greater impact on social interaction because its use is less predictable or controllable. Like the iPod user, the mobile phone user inhabits two worlds simultaneously: the conversational and the physical. The phone user can shift attention at any time, but normally a gesture such as a hand signal is required to disengage from the phone conversation. With Bluetooth technology, the ease in which a mobile phone user can switch between conversations becomes problematic. This creates confusion among those existing in the Bluetooth user's immediate physical space, and an inconsistency of space and conversation occurs. The use of a signal could clarify this discrepancy; a light or a soft noise from the Bluetooth headset would alert those in the user's surrounding space that the conversation in question is being directed into the headset. Often, the mobile phone user attempts to remain in both the conversational and physical space. The person on the phone must wait, while the person in the physical space gets the hint to release the phone user from conversation. The MED user must constantly negotiate

conversational and physical space, but often disconnects from the physical space.

### ***A space for MED's: providing a solution***

To view this through an architectural lens, what type of space or artifact within a space can mediate these behaviors associated with MED use? Immediately, my first instinct is to separate the MED users from non-MED users in public space. This would eliminate confusion and annoyances regarding merging conversational and physical spaces. However, physical separation only enforces the isolation of MED users. To compromise the ideas of separation and public interaction, the MED user should have a space to retreat, a semi-private space within the public space. Objects such as transparent or translucent panels and small plants allow each side of the barrier to have visual contact. Spatial elements such as the position of furniture and small level changes can also provide a segregation of space without creating a major obstruction. Allocating a space for the specific action of MED use reduces confusion, and the visual contact affirms the presence of others without being intrusive.

The physical environment typically does not support disengagement. This suggests a new approach for how we design public space. The strategic introduction of places for a MED user to temporarily reside is a start. There should be plenty of seating, surfaces on which to set belongings, and partitions of space that provide minimal obstruction from other people in public spaces. Subtle changes such as these could segregate the conversational space from the physical space, while still supporting the public realm where spontaneous interaction may occur.

### ***Conclusion***

This paper has addressed the use of MED's by looking at user behavior, the impact of MED's on social interaction, and the ways in which the design of public space supports—or fails to support—this use. There are both positive and negative aspects of MED use, and creative and innovative solutions are required to redefine social norms, as well as rethink the ways in which the design of physical space supports this new technology.

Research shows that there are negative consequences that range widely from



behavioral deficiencies to annoyances, and a plethora of silly mishaps. On the other hand, there are many positive consequences that should not be ignored. Because MED's are so new, research is new and still developing. The examples that *are* available to study are tools for learning, and from this, we can understand the actions and attitudes better. With experience comes understanding and a higher degree of tolerance.<sup>35</sup>

This era of mobility is opening doors for different means of communication and interaction. As designers, this must be taken into consideration to create innovative and relevant spaces for the users. If the organization of public space has the ability to influence how people use it as well as how people interact within it, then a better understanding of MED use is important. Although social norms surrounding this issue have changed a great deal, the design of public space has not changed much, if at all, to accommodate these changed norms. By recognizing the pervasive and increasing use of MED's in public spaces, architects can better design public space to accommodate this use and to enhance experiential qualities for MED users and non-users alike.

As Michel de Certeau wrote, there is a story to read, if one takes the time to observe. The story of our time involves gadgets and electronic devices, and as it unfolds we should welcome the innovations and trials alike. The challenge lies within finding ways to accommodate over-stimulated eyes, ears, and minds so that architecture is still exhilarating and interesting to those who use it. Not only this, but if the architecture is truly captivating and is enjoyed by those who are casual bystanders along with regular visitors, the space becomes more than just a piece of architecture, but rather an anchor and cultivator to social interactions.

## Notes

<sup>1</sup> William H. Whyte, *The Social Life of Small Urban Spaces* (New York, New York: Project for Public Spaces Inc., 1979).

<sup>2</sup> Tom Kaneshige, "iPhone apps: Five Markets Under Siege," *InfoWorld*, [http://www.infoworld.com/d/mobilize/iphone-apps-five-markets-under-siege-558?source=rss\\_infoworld\\_news](http://www.infoworld.com/d/mobilize/iphone-apps-five-markets-under-siege-558?source=rss_infoworld_news) (accessed Aug. 30, 2009).

<sup>3</sup> "CTIA Media," *CTIA The Wireless Association*, [http://www.ctia.org/media/industry\\_info/index.cfm/AID/10323](http://www.ctia.org/media/industry_info/index.cfm/AID/10323) (accessed Aug. 6, 2009).

<sup>4</sup> Darrin Olsen, "Senator to Ban iPods in NY Crosswalks," *SlipperyBrick*, <http://www.slipperybrick.com/2007/02/senator-ban-ipods-in-ny-crosswalks/> (accessed Aug. 30, 2009).

<sup>5</sup> "Brick Lane Made Britain's First 'Safe Text' Street with Padded Lampposts to Prevent Mobile Phone Injuries," *MailOnline*, <http://www.dailymail.co.uk/news/article-525785/Brick-Lane-Britains-Safe-Text-street-padded-lampposts-prevent-mobile-phone-injuries.html> (accessed Aug. 30, 2009).

<sup>6</sup> "Cell Phone Driving Laws," *Governors Highway Safety Association*, [http://www.ghsa.org/html/stateinfo/laws/cellphone\\_laws.html](http://www.ghsa.org/html/stateinfo/laws/cellphone_laws.html) (accessed Sept. 10, 2009).

<sup>7</sup> David Holmes and Glenn Russell, "Adolescent CIT Use: Paradigm Shifts for Educational and Cultural Practices?" *British Journal of Sociology of Education*, no. 1 (1999): 69-78.

<sup>8</sup> Kellerman, Aharon, *Personal Mobilities* (New York, NY: Routledge, 2006), 37.

<sup>9</sup> Holmes and Russell, "Adolescent CIT Use," 69-78.

<sup>10</sup> *Ibid.*, 69-78.

<sup>11</sup> *Ibid.*, 69-78.

<sup>12</sup> Leysia Palen, Marilyn Salzman, and Ed Youngs, "Going Wireless: Behavior & Practice of New Mobile Phone Users" (paper presented at ACM Conference on Computer Supported Cooperative Work, Philadelphia, Pennsylvania, December 2-6, 2000).

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.*

<sup>15</sup> Fancine K. Schlosser, "So, How Do People Really Use Their Handheld Devices? An Interactive Study of Wireless Technology Use," *Journal of Organizational Behavior*, no. 4 (2002): 417-18.

<sup>16</sup> Palen, Salzman, and Youngs, "Going Wireless."

<sup>17</sup> Serge Chermayeff and Christopher Alexander, *Community and Privacy: Toward a New Architecture*

of *Humanism* (Garden City, New York: Doubleday & Company, Inc, 1963), 75.

<sup>18</sup> Schlosser, "So, How Do People Really Use Their Handheld Devices?," 419.

<sup>19</sup> Kellerman, *Personal Mobilities*, 35.

<sup>20</sup> Schlosser, "So, How Do People Really Use Their Handheld Devices?," 406-7.

<sup>21</sup> *Ibid.*, 412-16.

<sup>22</sup> Schlosser, "So, How Do People Really Use Their Handheld Devices?," 414-18.

<sup>23</sup> *Ibid.*

<sup>24</sup> *Ibid.*, 412-13.

<sup>25</sup> Kellerman, *Personal Mobilities*, 37.

<sup>26</sup> Leander Kahney, "Bull Session With Professor iPod," *Wired*, February 25, 2004,

<http://www.wired.com/gadgets/mac/news/2004/02/62396> (accessed March 2, 2009).

<sup>27</sup> Palen, Salzman, and Youngs, "Going Wireless."

<sup>28</sup> *Ibid.*

<sup>29</sup> Michel de Certeau, *The Practice of Everyday Life* (Berkeley, California: University of California Press, 1984), 93.

<sup>30</sup> Palen, Salzman, and Youngs, "Going Wireless."

<sup>31</sup> Chermayeff and Alexander, *Community and Privacy*, 55.

<sup>32</sup> Whyte, *The Social Life of Small Urban Spaces*, 28-54.

<sup>33</sup> *Ibid.*, 54.

<sup>34</sup> Kahney, "Bull Session With Professor iPod."

<sup>35</sup> Palen, Salzman, and Youngs, "Going Wireless."

## Thesis Addendum: Design Commentary

My written thesis focuses on the increasing use of electronic devices such as mobile phones and mp3 players. Through this study, I became deeply interested in the consequences of this trend. For instance, the social norms surrounding us are constantly shifting to mirror the contemporary lifestyle, and therefore, the built environment must also react to accommodate these changes, both of which are issues I found intriguing. In approaching the design phase of my project, these elements of the written thesis translated into more specific physical characteristics that I could direct my attention to: issues of transparencies, layers of separation, communal versus private space, and social interaction versus seclusion. Because of concerns such as these, I chose to design a space for living on a college campus, one that facilitates a strong community and enriches the campus lifestyle for the students.

In early stages of my research, I discovered a traditional dorm dilemma: absolutely no privacy. Bedrooms, restrooms, and study rooms are all shared spaces, and to appease the communal component of this typology, there might be a gigantic meeting space that lacks movement, interest, or any other forms of activation. While many of these traditional dorms are quite dated, more recent precedents face a social dilemma as well, but on the opposite end of the spectrum. For example, apartment-style living has become much more common on campuses across the nation; the students generally have their own bedroom, share a bathroom, a private kitchen and living room, but with roommates only. The trouble lies in the lack of communal space outside the apartment door. The sense of community is lost. I feel this poses a enormous challenge in balancing the two living situations.

Due to the existing campus conditions, current trends, a few student interviews, and several precedent studies, I found it appropriate to design communal living for students that would accommodate upper-classmen through apartment-style units with pockets and layers of common space throughout. As one moves through the building, there is a greater sense of seclusion. The apex of the journey is the most private destination: a space of one's own with the opportunity to experience a balcony overlooking the canal and the wooded portion of the Holcomb Gardens.

To apply these ideas of transparencies, levels of seclusion, and social interaction, I approached the design with the idea that the journey in combination with strategically placed destinations would potentially activate all the communal spaces. The design has essentially three components at its most basic form: (1) the public space at the entrance including the lobby and dining, (2) 'the hall' which is the centralized anchor, the main circulation, and is only open to the students who are residents, and (3) the student apartments.

Initially, a lot of attention was paid to the most private spaces in the design due to the primary concern of fulfilling each of the students' comfort, convenience, and privacy needs. The generous square footage per student was taken into account, along with building densities, and access to student amenities. From the initial decision of choosing the densely wooded, sloping site towards the canal, I felt that exposing dramatic scenic views to the bedrooms, the apex of the journey, remain a key element in the design.

'The hall' portion of the building is a curvilinear form that centrally anchors the building and serves as the main circulation throughout the communal spaces. The concept for this space is demonstrated primarily within the form itself. The contract and release rhythm is created to encourage the residents to use the

## Social Interaction and Technological Amenities

space for circulation with momentum and interest, and consequently funnel into personal spaces within the communal areas where interactions between students may occur. Placed along the periphery of the main floor is supporting program such as a multi-media lab, small performance studios, and private study lounges placed in a way to attract students from other areas of the building to cross paths and intermingle. There are also several vertical connections that are situated in ways to break up the monotony of the space without constructing a complete visual barrier. This also allows the students to maintain visual and vocal connections to peers moving on other floors, perhaps a vessel in which students can initiate impromptu conversations or to form a quick meeting.

While I feel that this space successfully enabled my concept and is the heart of my project, I struggled with many aspects of the design. The form alone was heavily disputed throughout the process. While the freedom of the site was liberating, I found that the lack of restrictions presented many more challenges. Based on important elements on the site, the form originated from the contours of the topography, the canal, and existing axes on the campus. 'The hall' took many shapes from beginning to end. Simply put, many of the iterations felt unnatural and forced. Several versions included more vertical connections such as mezzanines, cantilevered study nooks, or floating bridges. The form was difficult to settle on because of the organic curve of the rooms juxtaposed to the rigidness of the public entrance. Many discussions were focused on the harshness of the angles, mirroring or at least translating the language of the curvilinear apartments, creating a rhythm through the space, and how to obtain pockets of privacy while still remaining interesting but not chaotic.

### Suggestions & Reflection

During the final review, there were comments echoing my concerns during the design process. The jury questioned the origin of my form, and in this conversation, brought up concerns aimed at solar gain and sun angles. While I had made attempts to improve and control the sun angles and light quality in the bedrooms

and adjacent apartment spaces, I had not addressed the expansive glazing system in the lobby and dining area. Honestly, this space was the last of my concerns in the design and in implementing the concept. Addressing this may have been as simple as devising a shading system, specifying a glazing made to diffuse sun light, or implementing a system for ventilation. Also, comments were directed toward the execution of social interaction versus seclusion and the intermingling of the two. While I was able to point out several instances of this idea, I was challenged to approach it in a more radical manner. More specifically, the suggestion was aimed at the adjacent spaces to the apartments. In this case, the circulation through public spaces could perhaps lead to destinations such as other apartments, meeting places, and trails to the canal.

Near the end of the presentation, criticism was directed towards my lack of sections. I feel this monologue was somewhat misdirected, simply because I did have sections and was able to display and communicate my ideas through them. However, in hindsight, I feel like I made two mistakes that could have easily remedied this miscommunication. First, I feel that my graphic style and scale did not convey their purpose fully. Second, I was not clear in my description to the jury about my design by communicating through the sections. I feel that if I would have used these drawings as a main medium of my presentation, I could have avoided most of this criticism.

# **Design Thesis**

## **Communal Dwelling: Addressing the Student Lifestyle**

**How can communal dwelling enrich the student lifestyle?**



# Campus Identity

**ADMIN + ACADEMICS: LOCATION + IDENTITY**

1 IRWIN LIBRARY  
 2 CLOWES MEMORIAL HALL  
 3 LILLY HALL  
 4 HOLCOMB OBSERVATORY AND PLANETARIUM  
 5 ROBERTSON HALL / EIDSON-DUCKWALL RECITAL HALL  
 6 PHARMACY + HEALTH SCIENCES BUILDING  
 7 HOLCOMB BUILDING / PHARMACY BUILDING  
 8 HOLCOMB BUILDING  
 9 GALLAHEE HALL  
 10 JORDAN HALL / GALLAHEE HALL BRIDGE  
 11 JORDAN HALL ENTRANCE DETAIL  
 12 JORDAN HALL  
 13 GREENHOUSE  
 14 FAIRBANKS CENTER FOR COMMUNICATION-TECHNOLOGY  
 15 ATHERTON UNION  
 16 BUTLER UNIVERSITY POLICE DEPARTMENT

**RESIDENT HALLS: LOCATION + IDENTITY**

1 UNIVERSITY TERRACE APARTMENTS  
 2 HOUSING VILLAGE  
 3 HOUSING VILLAGE  
 4 SCHWITZER RES. HALL  
 5 RESIDENTIAL COLLEGE  
 6 ROSS RESIDENTIAL HALL



1 HOLCOMB GARDENS ENTRANCE



2 HOLCOMB POND



3 INDIANAPOLIS GREENWAY CANAL & PATH



4 HOLCOMB POND RUN-OVER



5/6 HOLCOMB MEMORIAL GAZEBO / GREENWAY PATH



7 PEDESTRIAN BRIDGE



8 HOLCOMB VISITOR CENTER



9 HOLCOMB GARDENS

## HOLCOMB GARDENS



## ATHLETICS



1 TENNIS COURTS



2 BUTLER BOWL



3 HINKLE FIELDHOUSE + BUTLER BOWL SEATING



4 HINKLE FIELDHOUSE



5 HEALTH AND RECREATION COMPLEX



6 JORDAN COLLEGE ACADEMY OF DANCE



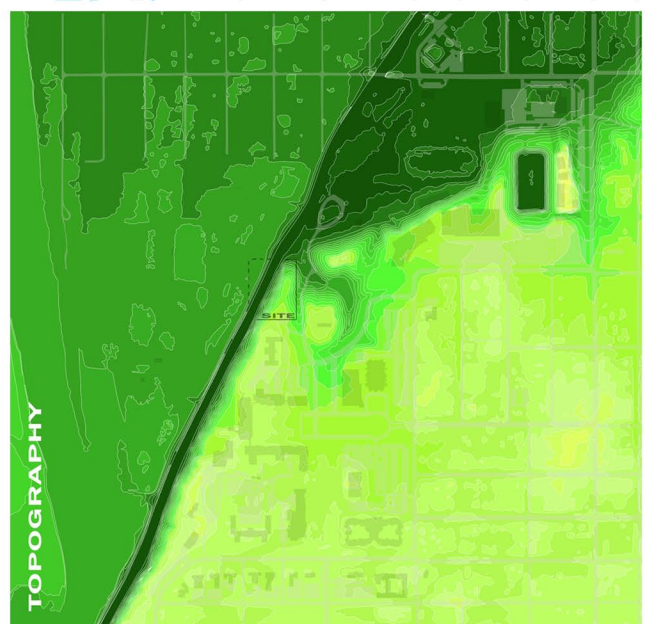
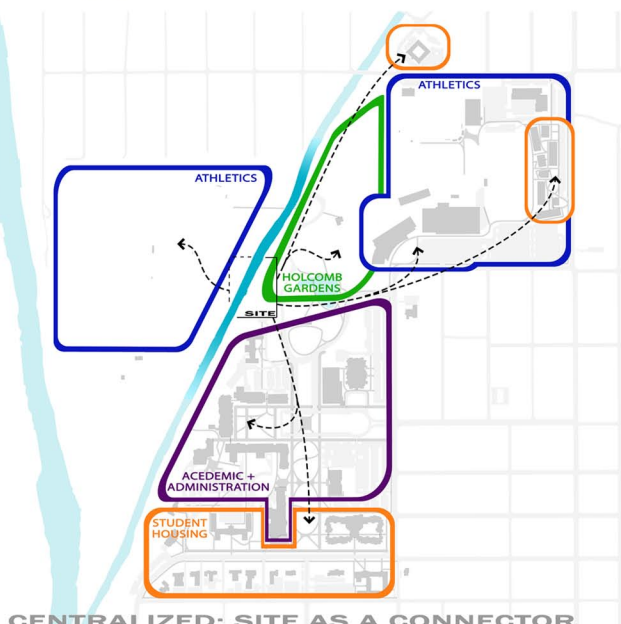
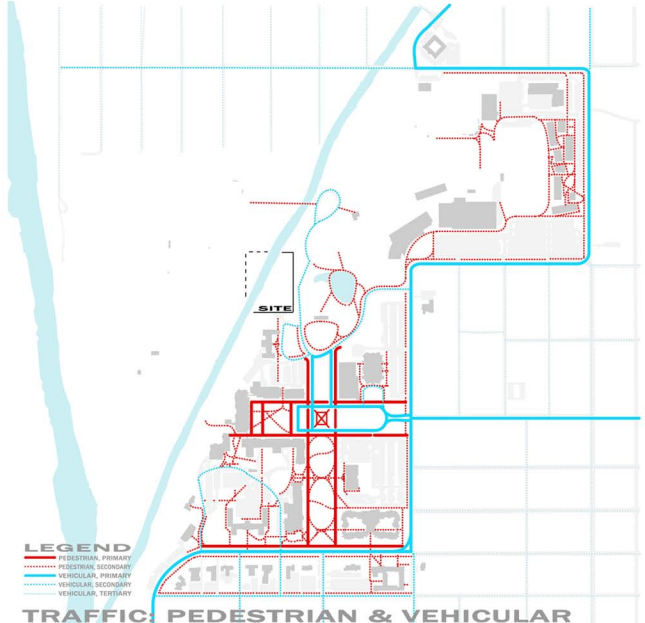
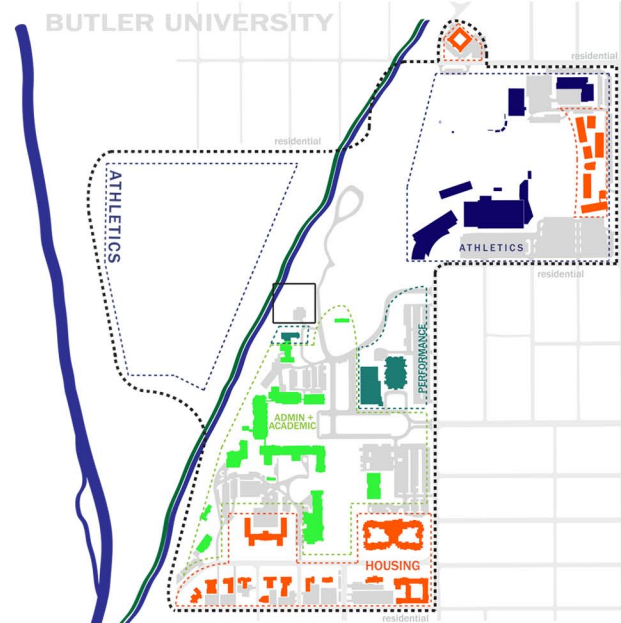
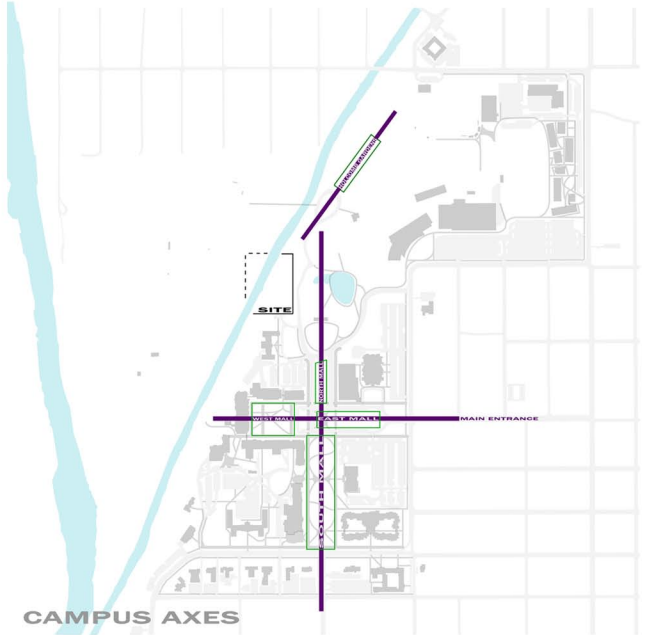
7 DAVEY ATHLETIC COMPLEX



8 BUTLER ATHLETIC FIELDS

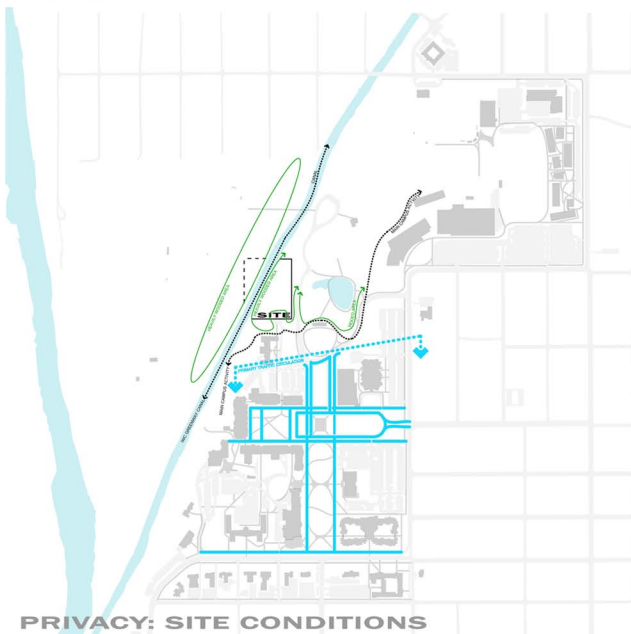


# Campus Analysis

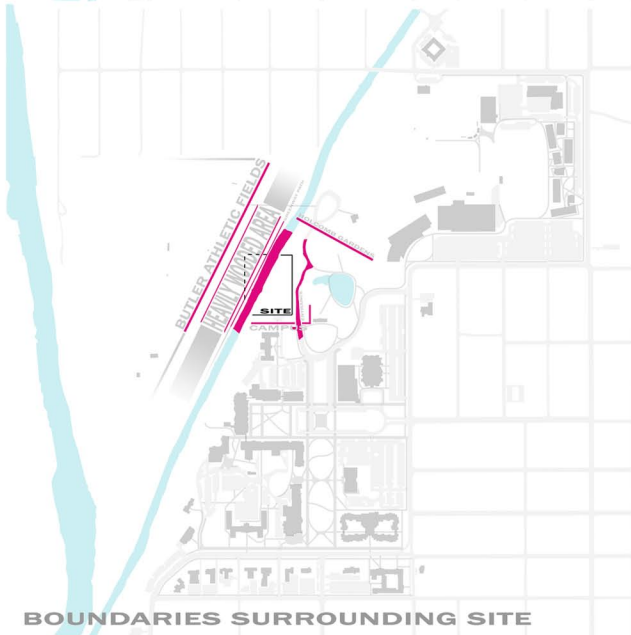




**RESIDENT DEMOGRAPHICS**



**PRIVACY: SITE CONDITIONS**



**BOUNDARIES SURROUNDING SITE**

**Butler University**, founded 1855  
 Butler-Tarkington neighborhood  
 Indianapolis, Indiana

*mission:*  
 “to provide the highest quality of liberal and professional education and to integrate the liberal arts with professional education, by creating and fostering a stimulating intellectual community built upon interactive dialogue and inquiry among students, faculty and staff.”

*enrollment:*  
**4,512 total students** (43 states and 52 countries)  
 3,897 undergraduates  
 615 graduates  
 52 studying abroad (fall)  
 1063 greek enrollment

*student living:*  
 undergraduates on-campus: **2,589 : 66%**  
 undergraduates in resident hall: 1894  
 undergraduates in greek house: 695

*costs:*  
**Buler tuition: \$28,460**  
 average private Indiana institution: \$27,504  
 high (U. Notre Dame): \$38,477  
 low (U. Indianapolis): \$21,170  
**Butler room and board: \$9,250**  
 average private Indiana institution: \$8,174  
 high (U. Notre Dame): \$10,368  
 low (Taylor U.): \$6,708

*degrees:*  
 undergrad: 55 +  
 first professional: 1  
 master's: 17  
 colleges: Business, Education, Liberal Arts and Sciences, Pharmacy and Health Sciences, and Fine Arts.

*class:*  
 Full-time faculty: 328  
 teaching assistants: 0  
 student to faculty ratio: 11:1  
 average class size: 20

*retention and graduation rates:*  
 freshmen return for 2nd year: 90 %  
 freshmen graduation rate: 76 %

*placement rates:*  
 overall: 94 %  
 continue education: 25 %  
 pharmacy, physician assistant and licensed education graduates: 100 %

*athletics:*  
 19 varsity sports, all NCAA Division I Horizon League  
 (except Football which is the NCAA Division I Football Championship Subdivision (FCS))

*activities:*  
 student organizations: 140 +  
 student participation: 94% +  
 community service participation: 69%



# Site Context



# Program Requirements

## PROGRAM:

HOUSE 150 STUDENTS

## NEED:

150 BEDROOMS @ 115 SF EA. = 17,250 SF (OUTWARD VIEW TOWARD CANAL)  
+ APARTMENT UNIT SF = 42,375 SF (BEDROOMS HAVE HIGHEST PRIORITY TO NL)  
STUDY SPACE @ EA. FLOOR = 9000 SF (FLEXIBLE, OPEN/CLOSE./CIRCULATION)  
LAUNDRY @ EA. FLOOR = 1200 SF  
VISITING SCHOLAR (2) = 1200 SF  
FRONT DESK / LOBBY / MAIL ROOM = 500 SF  
FITNESS = 400 SF  
MEDIA = 500 SF  
CONFERENCE / MULTI-PURPOSE = 500 SF  
GAME = 500 SF  
LOUNGE(S) = 1000 SF  
DINING = 9500 SF

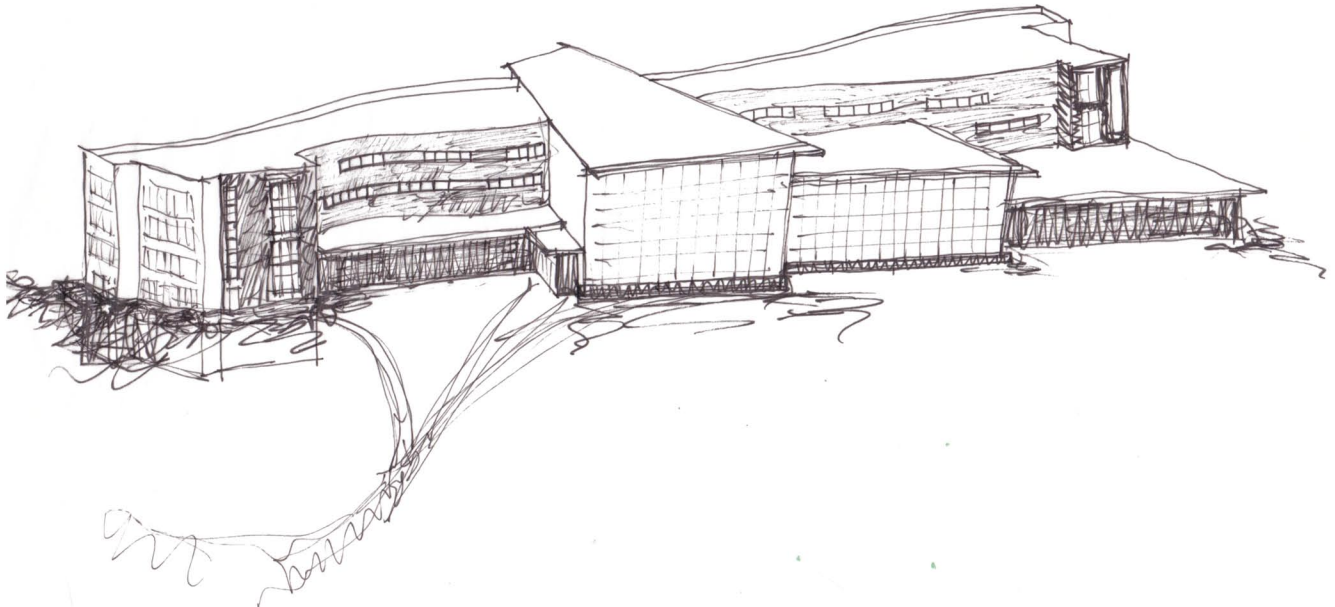
## POSSIBILITY:

+ INCREASE FITNESS TO WEIGHT + AEROBIC SPACE  
+ INCREASE DINING AREA TO OUTDOOR SPACE

## WISH LIST:

+ RECREATION / CANAL  
+ PARKING

**TOTAL: 63,500 SF**



# Precedent Studies Charted

		square feet	students	rooms	room types	population	gender	other program	privacy/sharing
	<b>SIMMONS HALL</b> MASSACHUSETTS INSTITUTE OF TECHNOLOGY CAMBRIDGE, MASSACHUSETTS  architect: STEVEN HOLL ARCHITECTS completed: 2002	195,000	350	n/a approx. 100 rooms reserved for freshmen	single double suite	undergraduate students, 2 faculty, 1 scholar	co-ed halls & dorm, separated by room	mail room auditorium meditation dining hall outdoor dining computer lab music room game room photo lab exercise room student kitchen, study lounge, & laundry	restrooms: private from hallway, shared with 2-3 rooms, some private  hallways: wide, intended for gathering  studies & lounges: many spread throughout halls
	<b>ST. EDWARDS UNIVERSITY RESIDENCIES</b> AUSTIN, TEXAS  architect: ARAVENA ARCHITECTS completed: 2005	107,600	300	195	single double RA suite	undergraduate	co-ed	dining hall coffee house convenience shop outdoor study health & council fitness center student kitchenettes, studies, lounge, & laundry	restrooms: private from hallway, shared between 2 rooms  hallways: wide/open, intended for lounge space  studies & lounges: many spread throughout halls
	<b>ALICE PAUL RESIDENTIAL HALL</b> SWARTHMORE COLLEGE SWARTHMORE, PENNSYLVANIA  architect: WILLIAM RAWN ASSOCIATES, ARCHITECTS INC. completed: 2004	29,000	75 (150 after phase 2)	47	single double two-story doubles	undergraduate (all grade levels in same hall for mentoring)	co-ed halls	student kitchenettes, studies, lounges, & laundry	restrooms: shared within each hall  studies, lounges, & laundry: loc- ated at entrances and centralized to encourage meeting
	<b>BORNHUETTER HALL</b> WOOSTER COLLEGE WOOSTER, OHIO  architect: LEWIS, TSURUMAKI, LEWIS completed: 2004	47,500	185 (25-30 per hall max)	95	single double triple	freshmen	co-ed separated by floor	student kitchenettes, studies, study nooks, lounges, & laundry	restrooms: shared within each hall  lounges: centralized with varied levels of privacy  halls: intended to encourage loitering
	<b>29 GARDEN STREET</b> HARVARD UNIVERSITY CAMBRIDGE, MASSACHUSETTS  architect: JONATHAN LEVI ARCHITECTS completed: 2004	114,000	148	74	single studio double studio large double studio 2-bed apartment 3-bed apartment	graduate faculty families	co-ed room	large study/lounge convenience store dining area courtyard garden	restrooms: private  lounges: one large lounge due to limited private living space
	<b>CLIFTON HALL DORMITORY</b> CALIFORNIA COLLEGE OF ARTS OAKLAND, CALIFORNIA  architect: MARK HORTON / ARCHITECTURE completed: n/a	45,110	124	64	pairs of singles	freshmen	coed by hall	student gallery lounge parking below	restrooms: private from hallway, shared between 2 rooms

<p><b>RESIDENCE HALLS, UNITS I AND II, INFILL STUDENT HOUSING</b> UNIVERSITY OF CALIFORNIA, BERKELEY BERKELEY, CALIFORNIA architect: EHDD completed: 2004 - 05 size: 267,500 sq. ft.</p>	<p><b>INFILL APARTMENTS</b> UNIVERSITY OF CALIFORNIA, SANTA CRUZ SANTA CRUZ, CALIFORNIA architect: BAR ARCHITECTS size: 235,150 sq. ft.</p>
--	---

**Village**

- Multiple housing types
- Shared community and gathering spaces

**Neighborhood**

- A private courtyard per neighborhood
- A mix of housing types and building heights
- A mix of building heights and building types
- A mix of building heights and building types
- A mix of building heights and building types
- A mix of building heights and building types

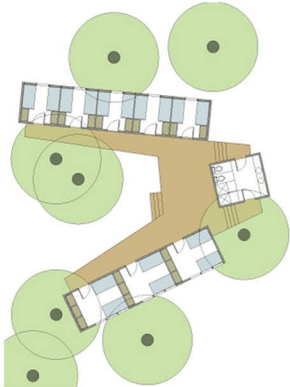
**Home**

- 110 sq. ft. per room
- Shared bathroom between 2 residents
- Movable entryway to open room entry to neighborhood space, or close for total privacy.

# Precedent Studies

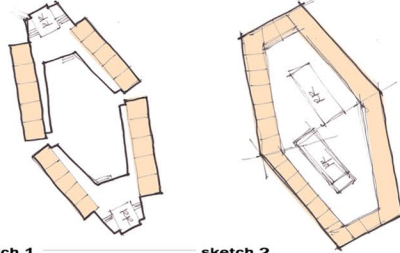
:: studies focused on program + form

**n.a.w.a academy dormitory**  
 french gulch, california  
 opa design and architecture  
 conceptual design



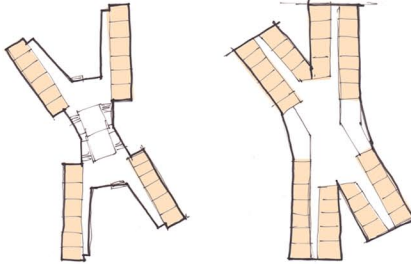
Opa Design's proposed floor plan

study sketches



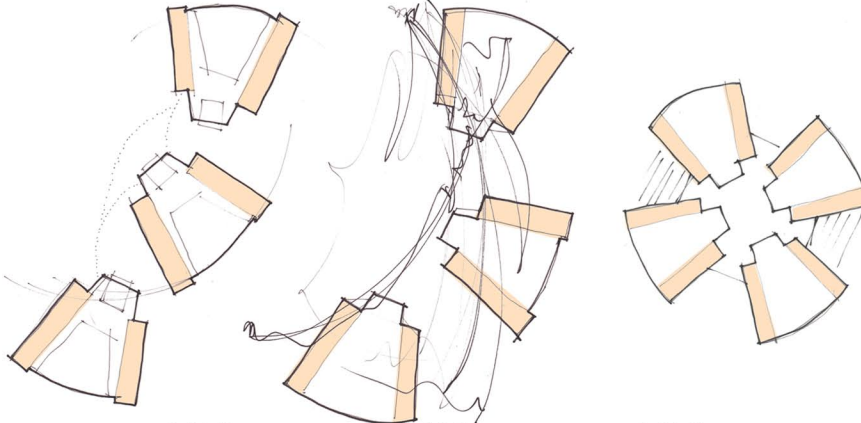
sketch 1

sketch 2



sketch 3

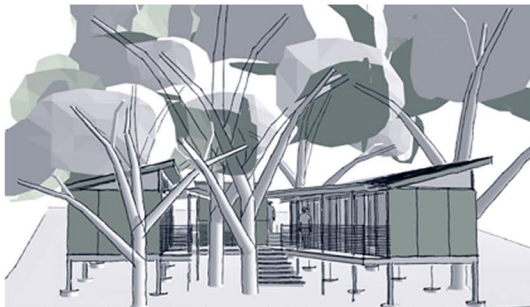
sketch 4



sketch 5

sketch 6

sketch 7

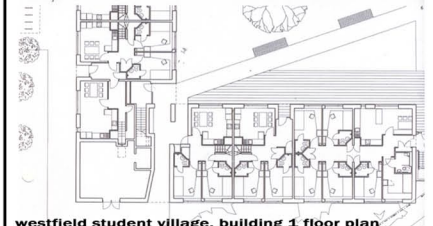


exterior rendering, site plan, exploded axon of residential unit (opedesign.com)

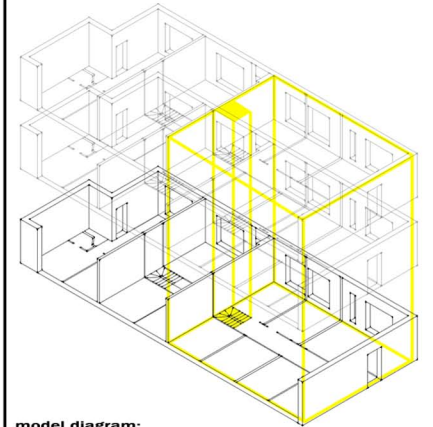


**westfield student village**

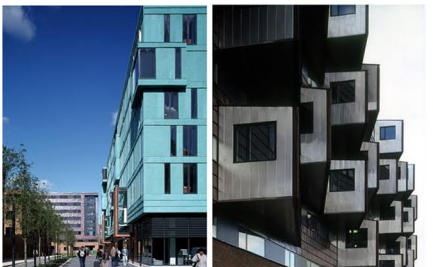
queen mary college  
 london, united kingdom  
 feilden clegg bradley architects  
 completed: 2004



westfield student village, building 1 floor plan



model diagram:  
 vertical hall vs. horizontal residential hall

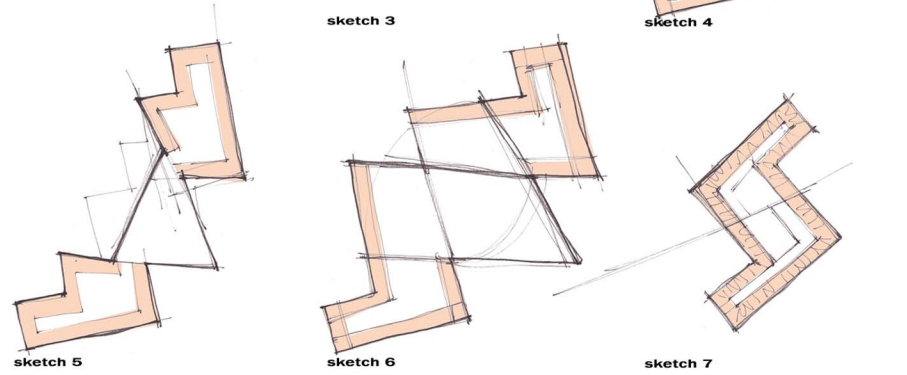
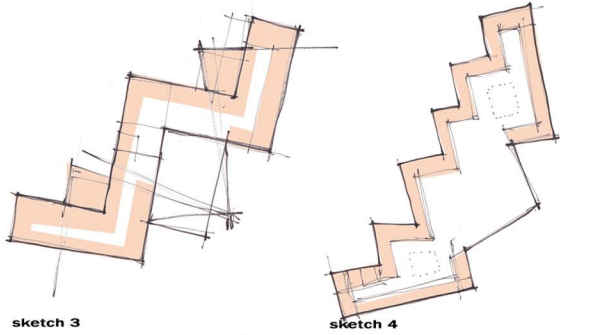
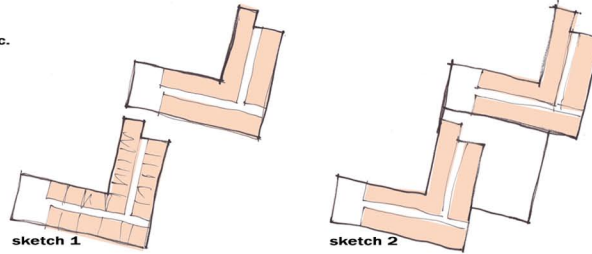
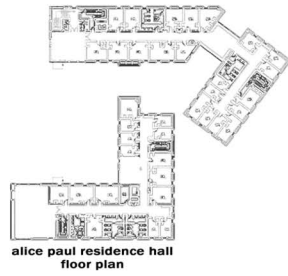


# Precedent Studies

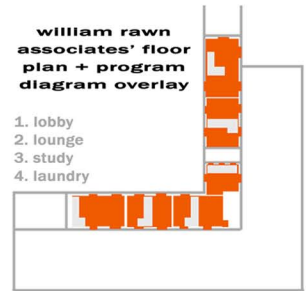
:: studies focused on program + form

## alice paul residence hall

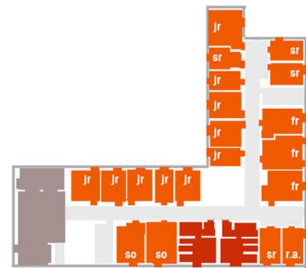
swarthmore college  
 swarthmore, pennsylvania  
 william rawn associates, architects, inc.  
 completed: 2004  
 size: 60,000 sq. ft.



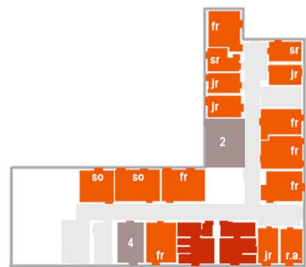
## study sketches



FOURTH FLOOR PLAN



THIRD FLOOR PLAN



SECOND FLOOR PLAN



GROUND FLOOR PLAN



exterior, interior study space, two-story double suite (archrecord.com)

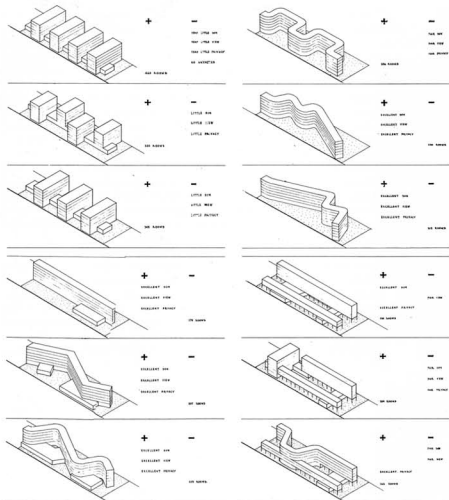
# Precedent Studies

:: studies focused on program + form

**baker house**  
 massachusetts institute of technology  
 cambridge, massachusetts  
 alvar aalto  
 completed: 1947-48

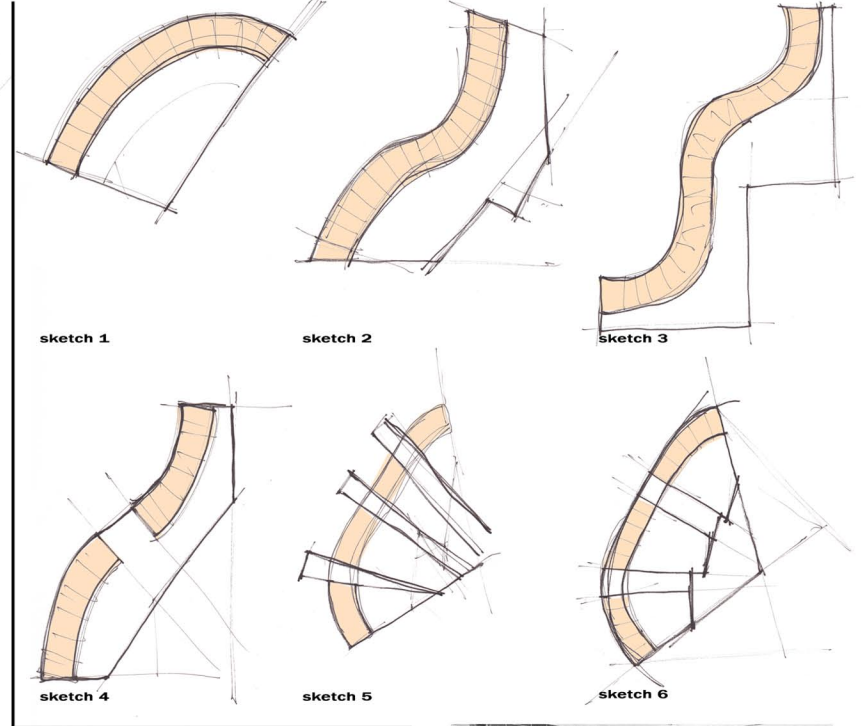


baker house floor plan



aalto's analyses

study sketches



sketch 1

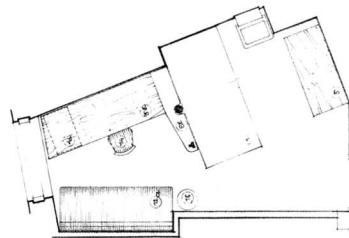
sketch 2

sketch 3

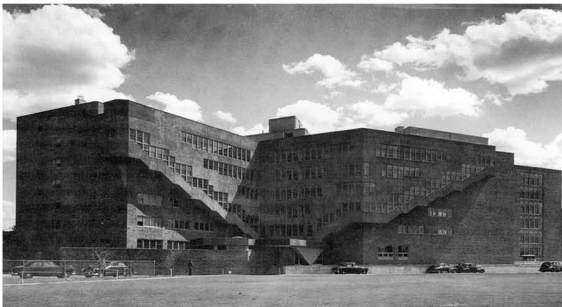
sketch 4

sketch 5

sketch 6



student resident room



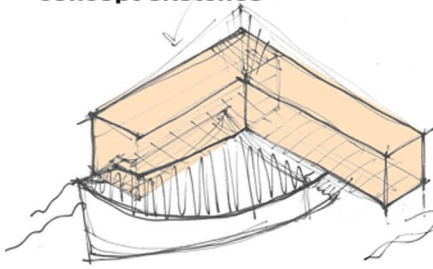
exterior views, interior of student rooms (The Alvar Aalto Guide, Trencher & Alvar Aalto: The Mature Years, Schildt)



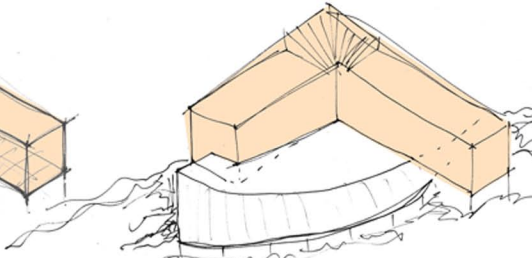
# Thesis Process Work

concept sketches

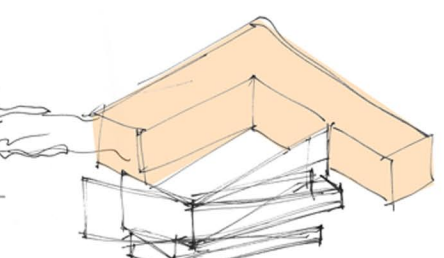
pocket models



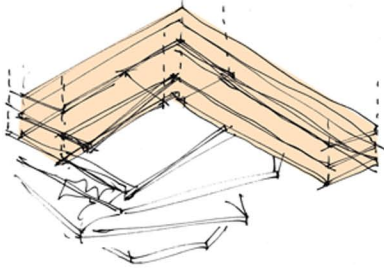
sketch 1: 90 degrees, continuation of grid



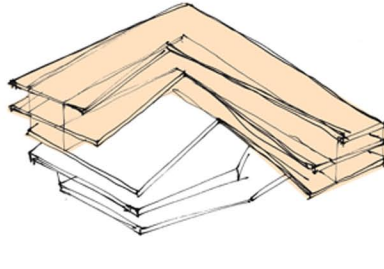
sketch 2: angles emphasize landscape



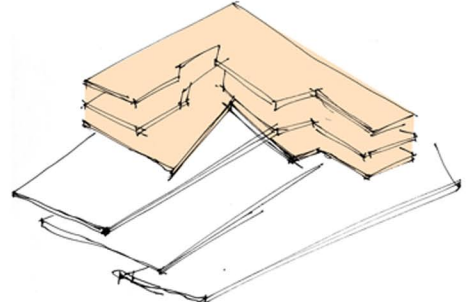
sketch 3: plane + space rotation



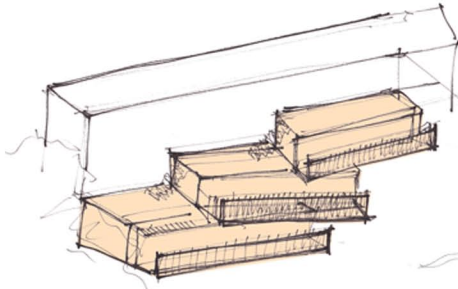
sketch 4: planes, cascading public space



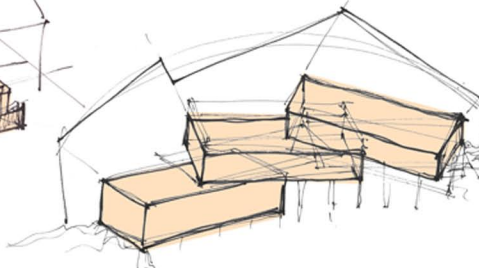
sketch 5: layering + overlapping private space



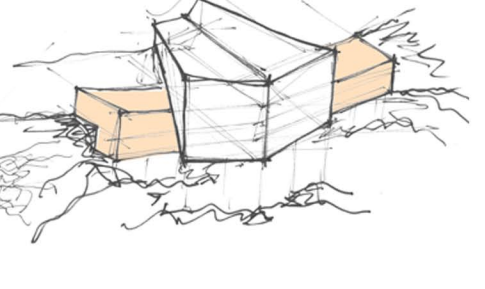
sketch 6: public + private space negotiation



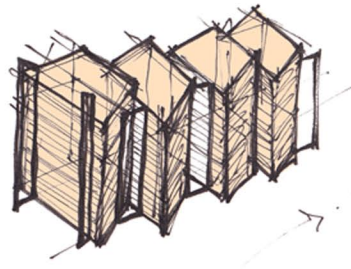
sketch 7: segregate private volumes toward canal



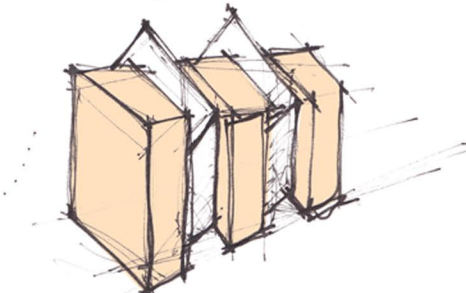
sketch 8: cascading private volumes to landscape



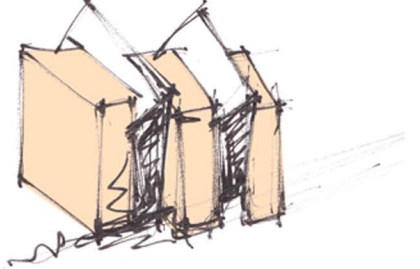
sketch 9: centralized public space, all toward canal



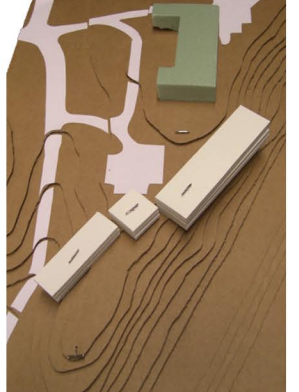
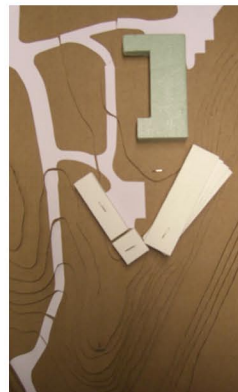
sketch 10: alternating public + private



sketch 11: angles alternating volumes



sketch 12: heavy + light / solid + transparent



# Thesis Process Work

## 1 QUAD SUITES

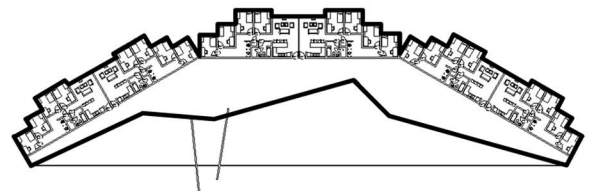
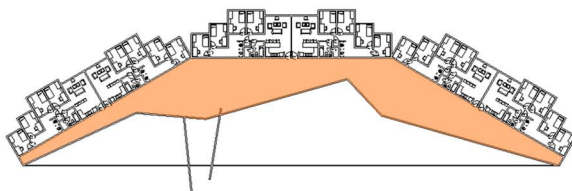
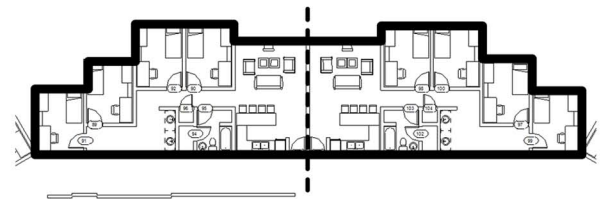
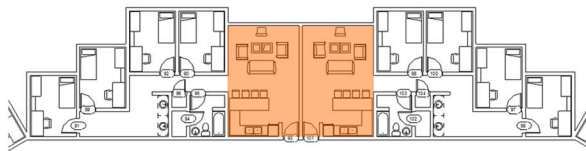
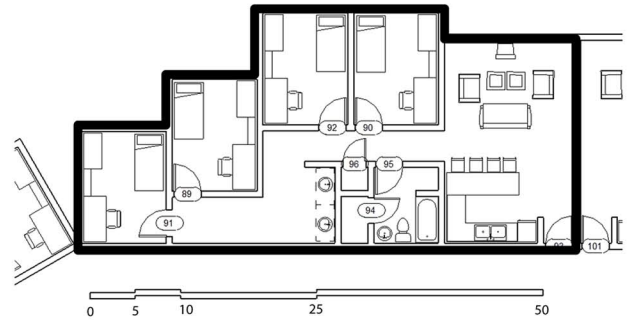
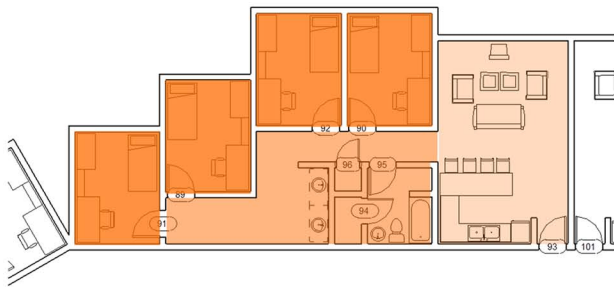
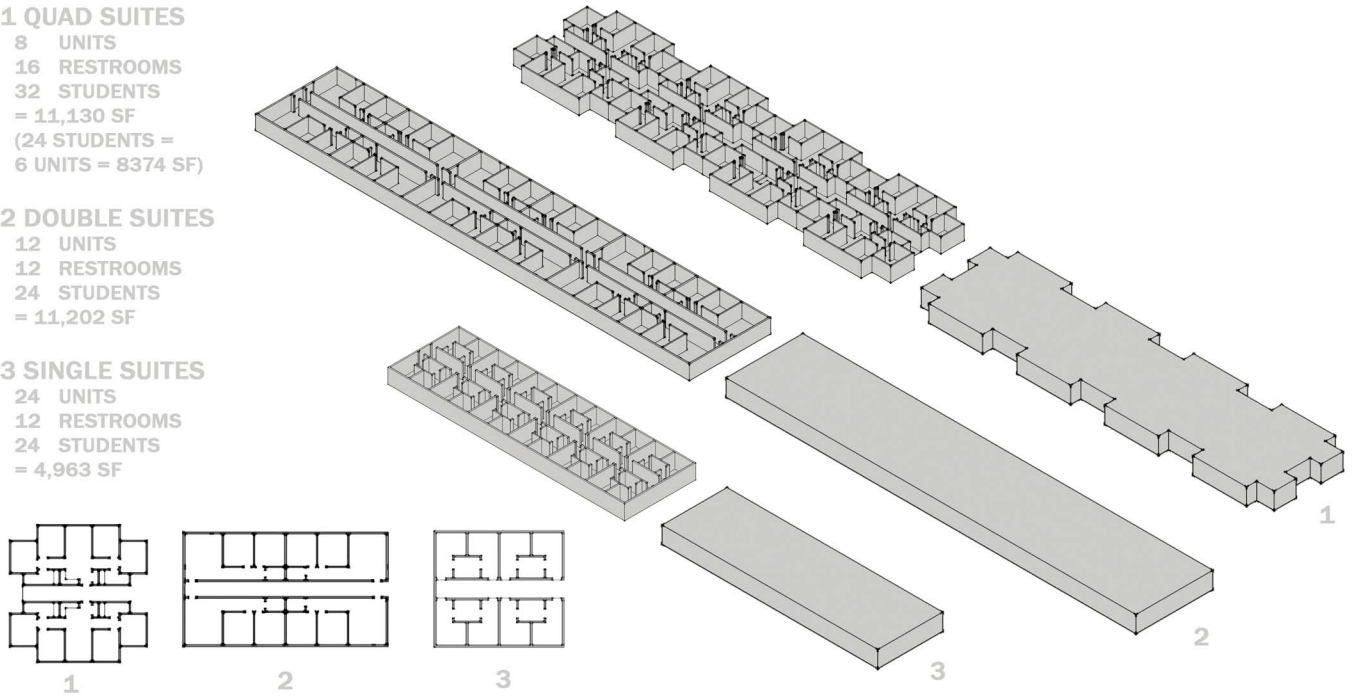
8 UNITS  
 16 RESTROOMS  
 32 STUDENTS  
 = 11,130 SF  
 (24 STUDENTS =  
 6 UNITS = 8374 SF)

## 2 DOUBLE SUITES

12 UNITS  
 12 RESTROOMS  
 24 STUDENTS  
 = 11,202 SF

## 3 SINGLE SUITES

24 UNITS  
 12 RESTROOMS  
 24 STUDENTS  
 = 4,963 SF



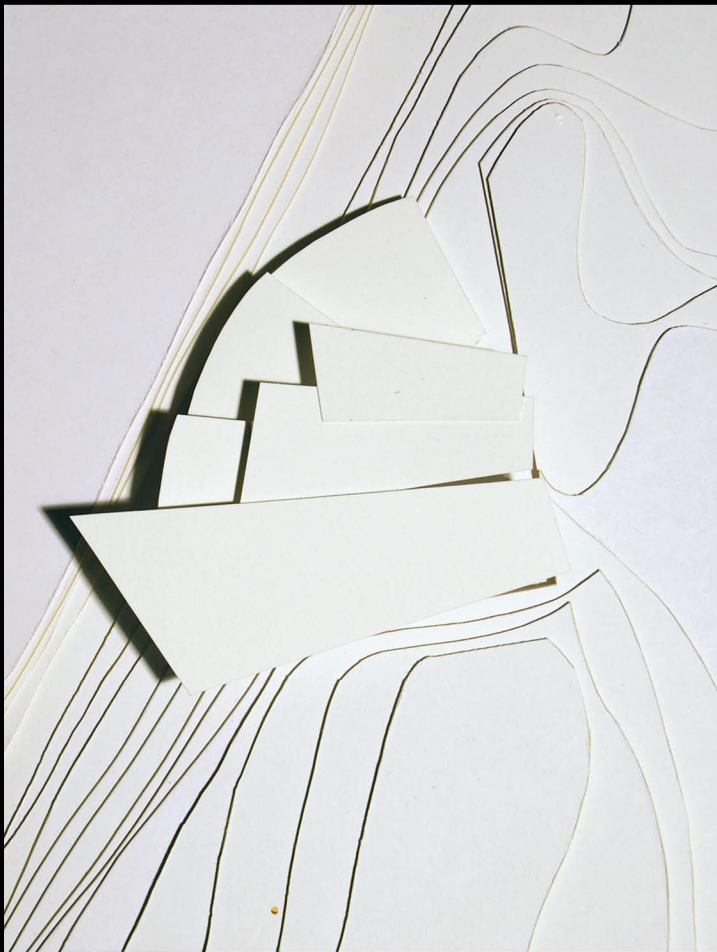
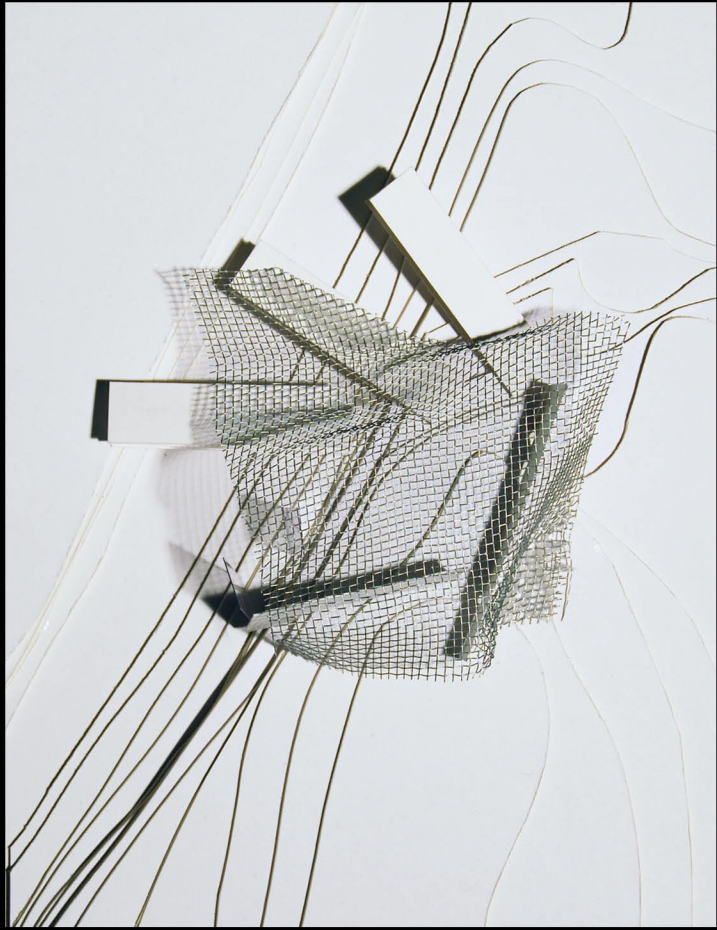
# Study Models



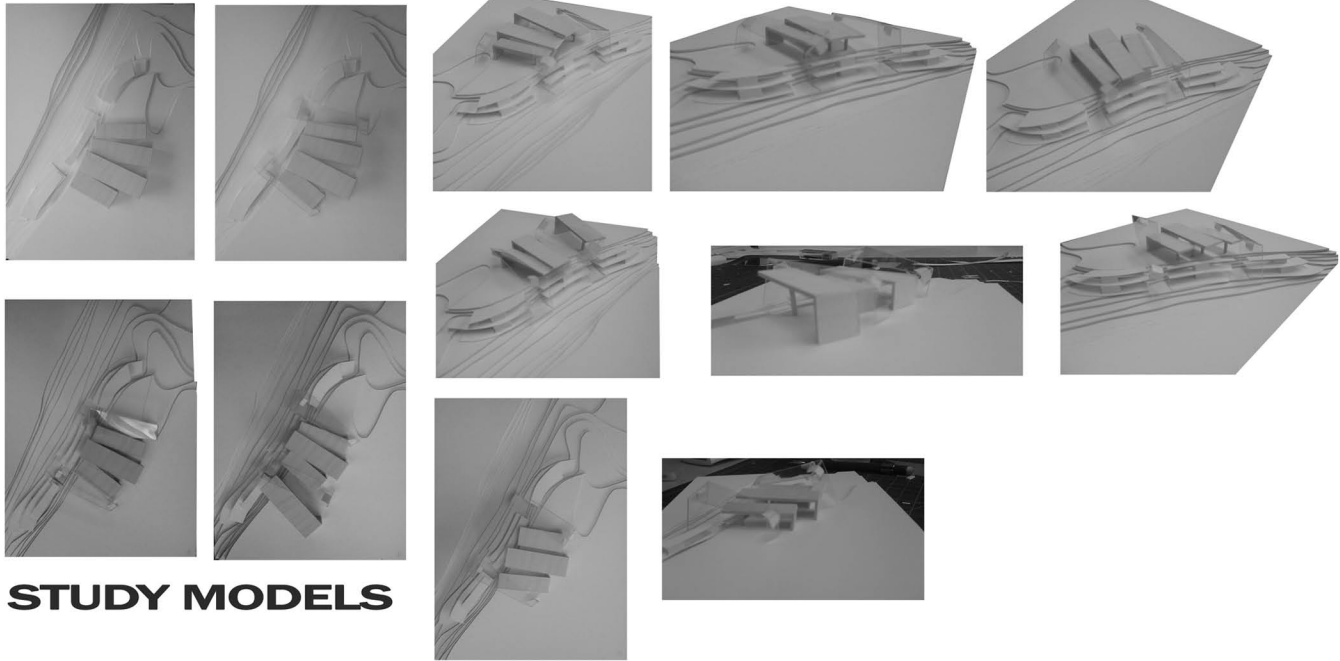




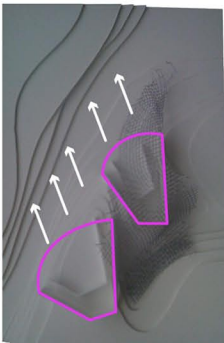




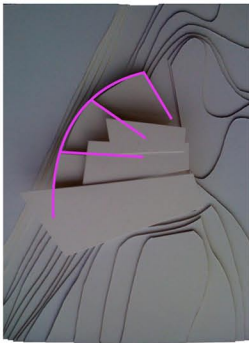
# Model Analysis + Transformation



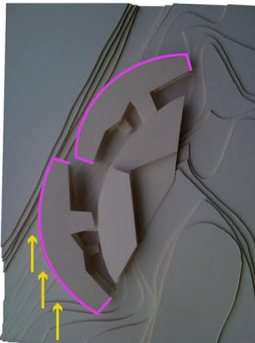
**STUDY MODELS**



**PODS (VIEW+ GREATER PRIVACY)**



**COMBINED PODS (VIEW + CLOSER /FOSTERING SOCIAL)**



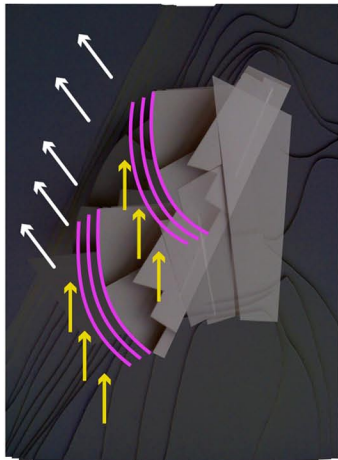
**PODS (VIEW + LOWER DENSITY + PARTIAL SOLAR ADVANTAGE)**



**CONTINUOUS (VIEW + ECHO OF SITE FORCES)**



**CONTINUOUS LAYERED (VIEW + ECHO OF SITE FORCES + PRIVATE GREEN SPACE)**

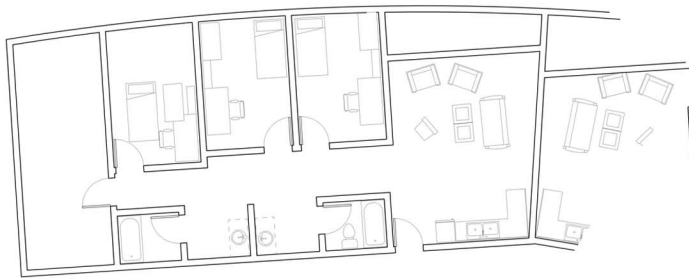
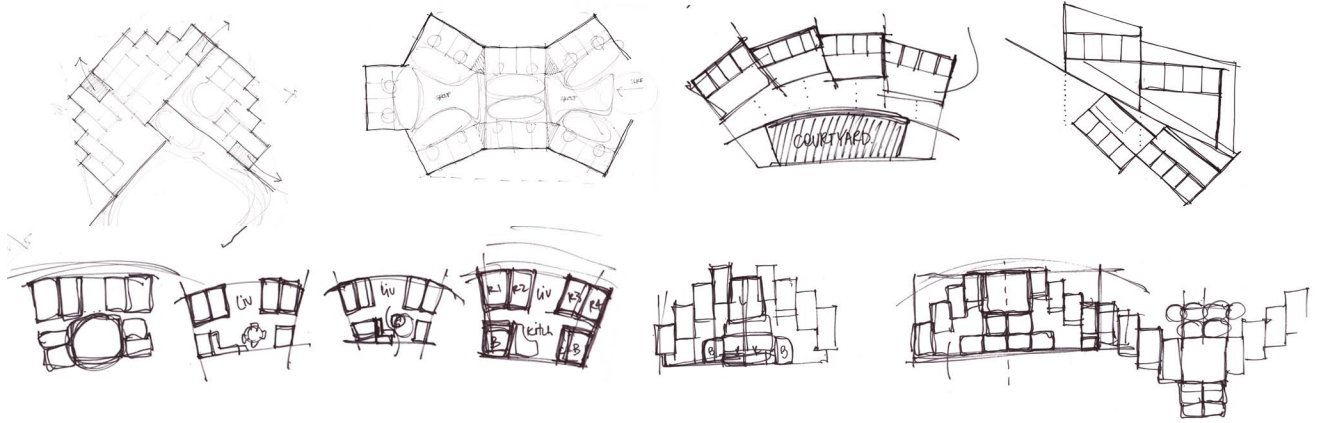


## **SITE + MASSING STUDY MODELS: PROCESS + ADVANTAGE**

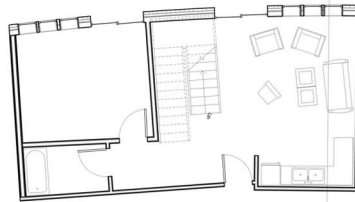
**LAYERED SEPERATE PODS  
(VIEW + SOLAR ADVANTAGE + PRIVATE GREEN SPACE )**



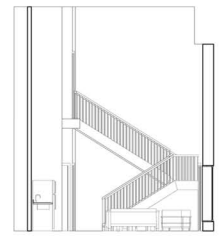
# Private Space: Apartment Formation



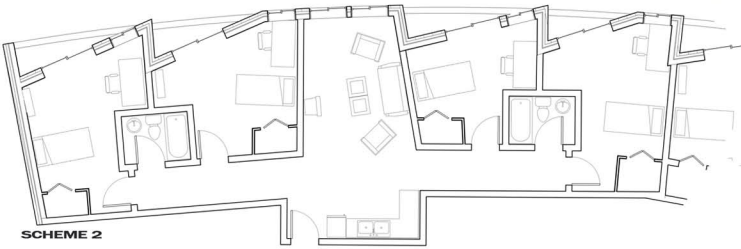
SCHEME 1



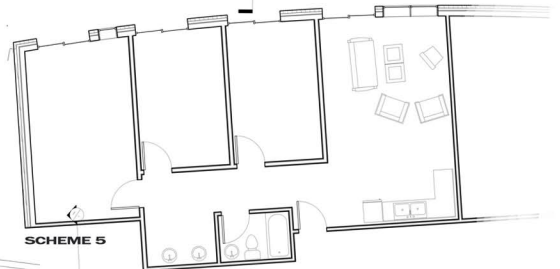
SCHEME 4



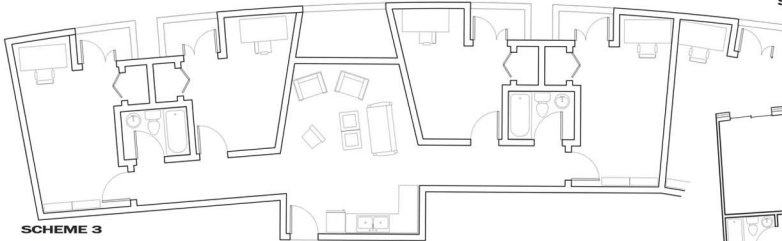
SCHEME 4, SECTION



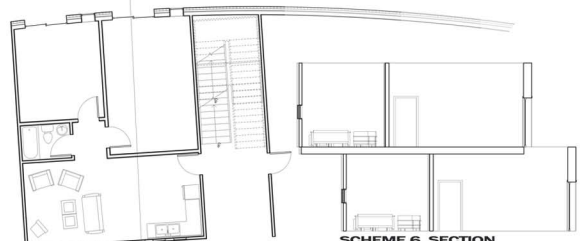
SCHEME 2



SCHEME 5

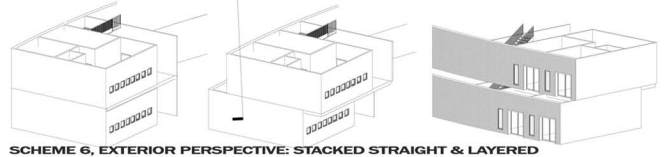
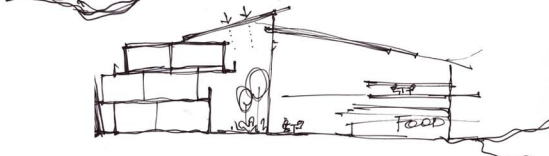
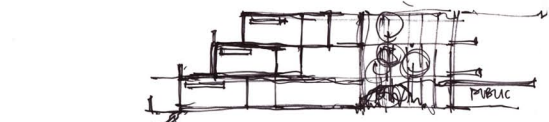
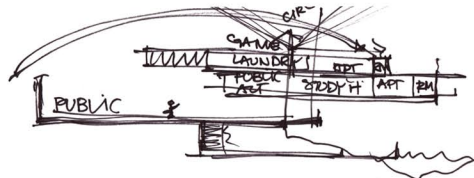


SCHEME 3



SCHEME 6

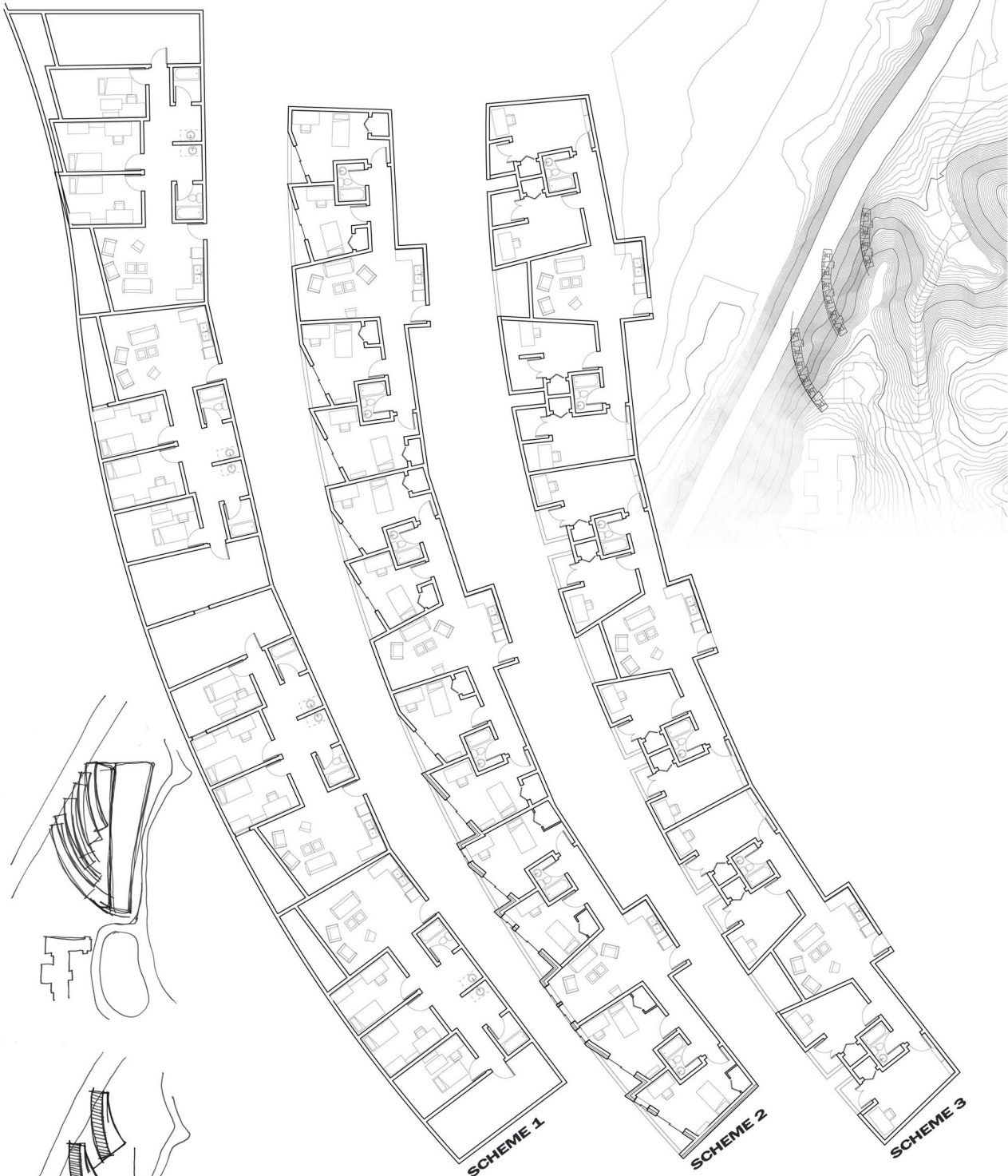
SCHEME 6, SECTION



SCHEME 6, EXTERIOR PERSPECTIVE: STACKED STRAIGHT & LAYERED

**STUDENT LIVING:  
SCHEMES FOR DWELLINGS**

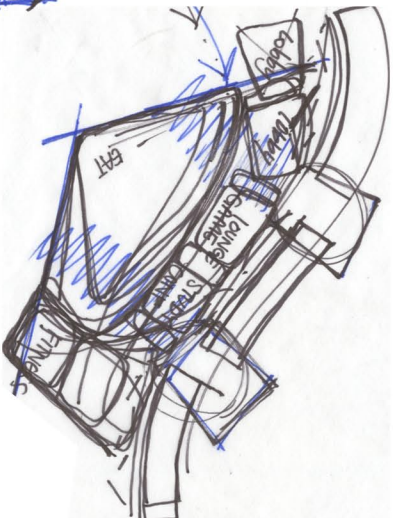
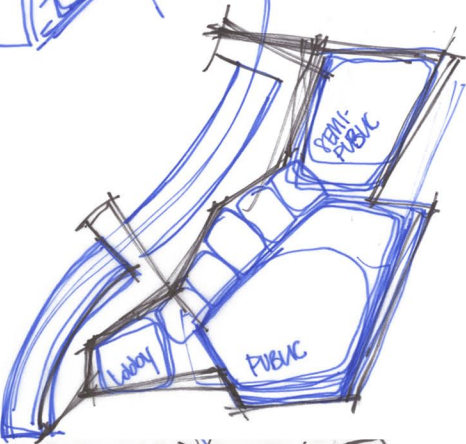
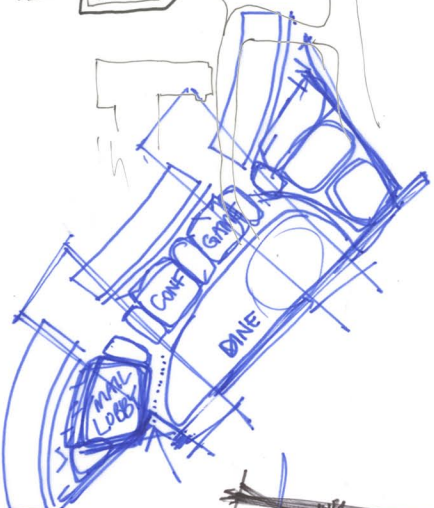
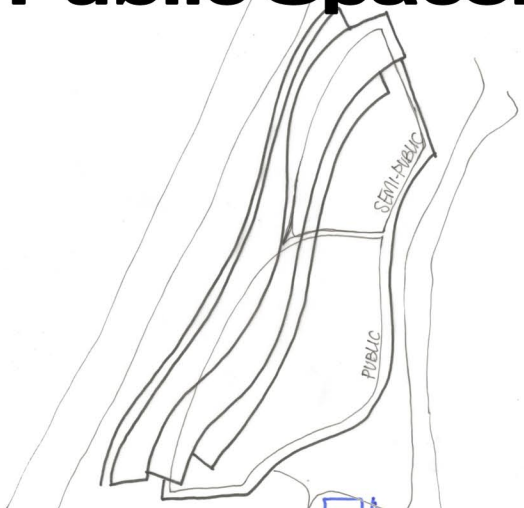
# Private Space: Apartment Formation



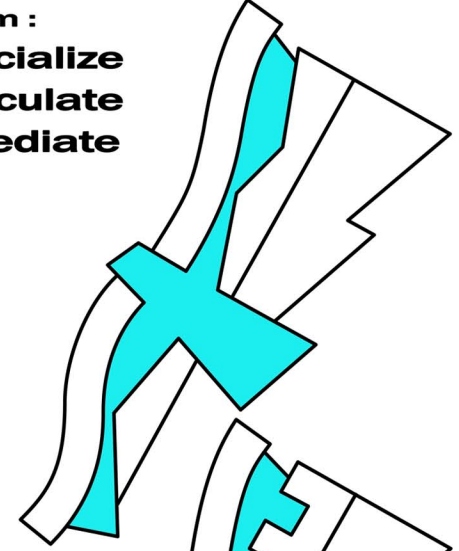
**STUDENT LIVING:  
SCHEMES FOR DWELLINGS**

# Public Space: Centralized Program Formation

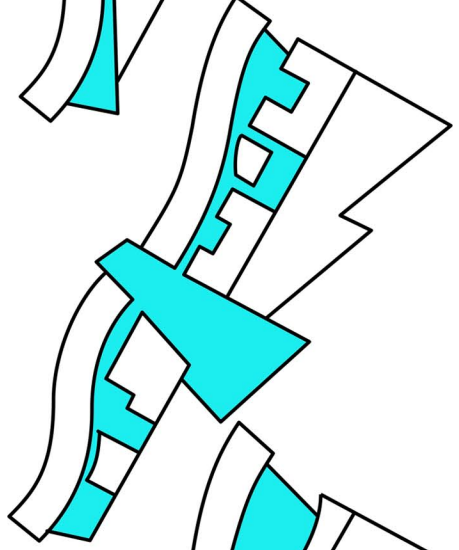
form :  
socialize  
circulate  
mediate



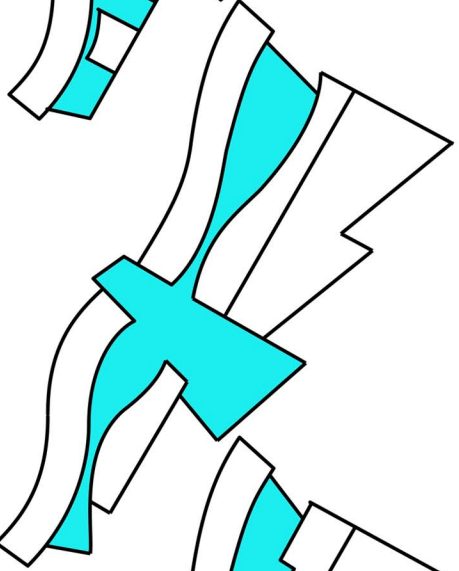
1



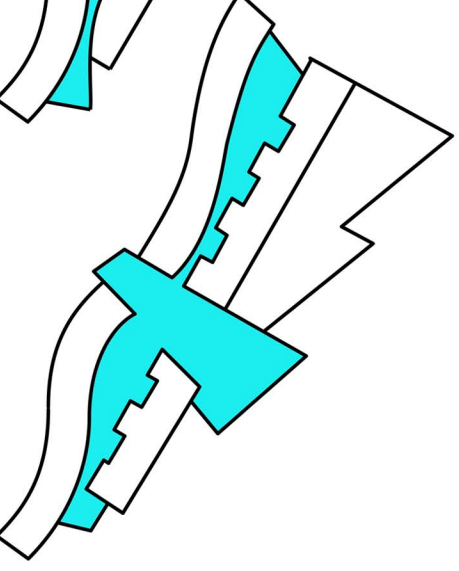
2



3



4

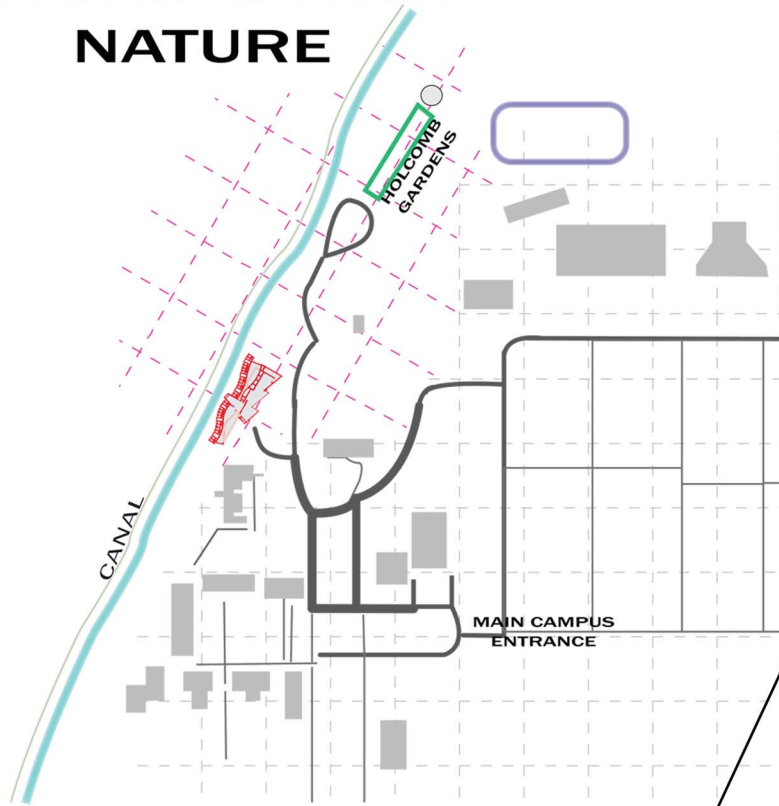


# Final Thesis Presentation

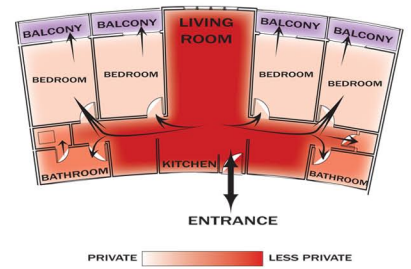




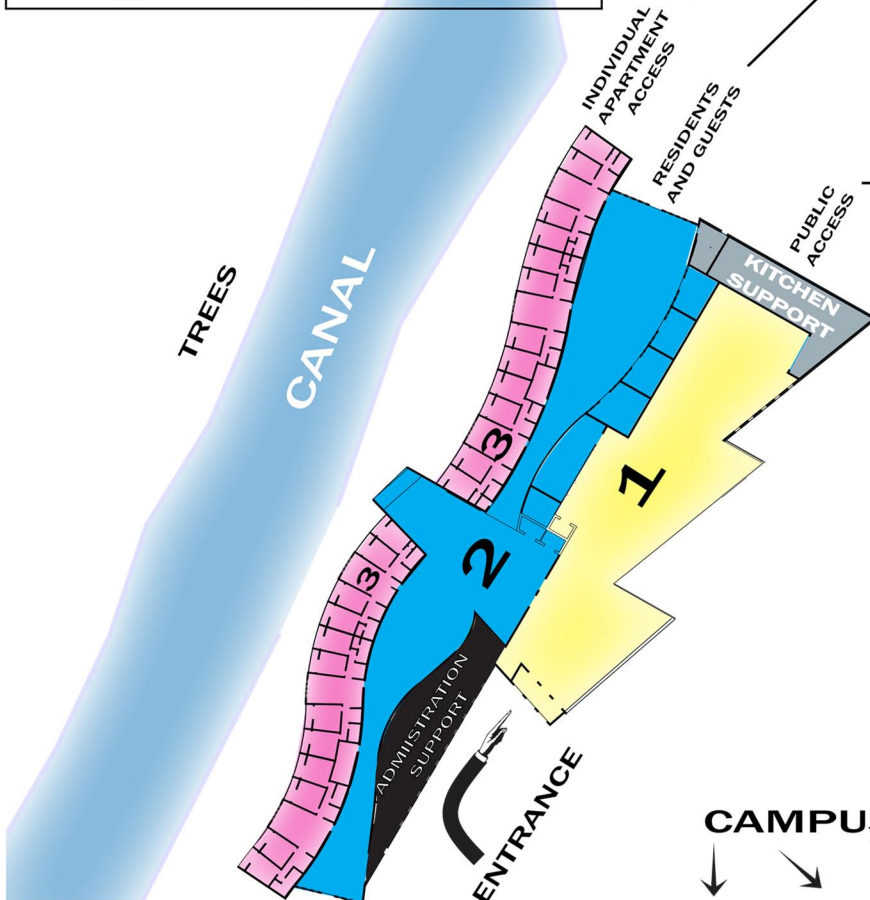
# ALIGNING WITH NATURE



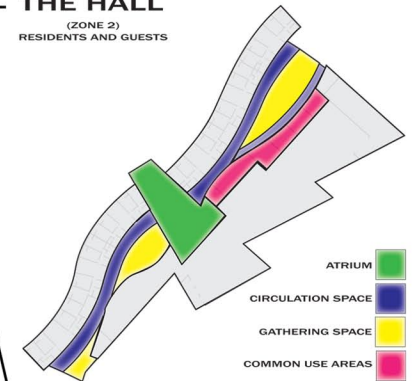
## ROOM PRIVACY



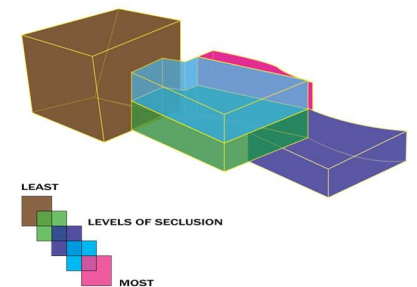
# USER'S ACCESS



## THE HALL (ZONE 2) RESIDENTS AND GUESTS

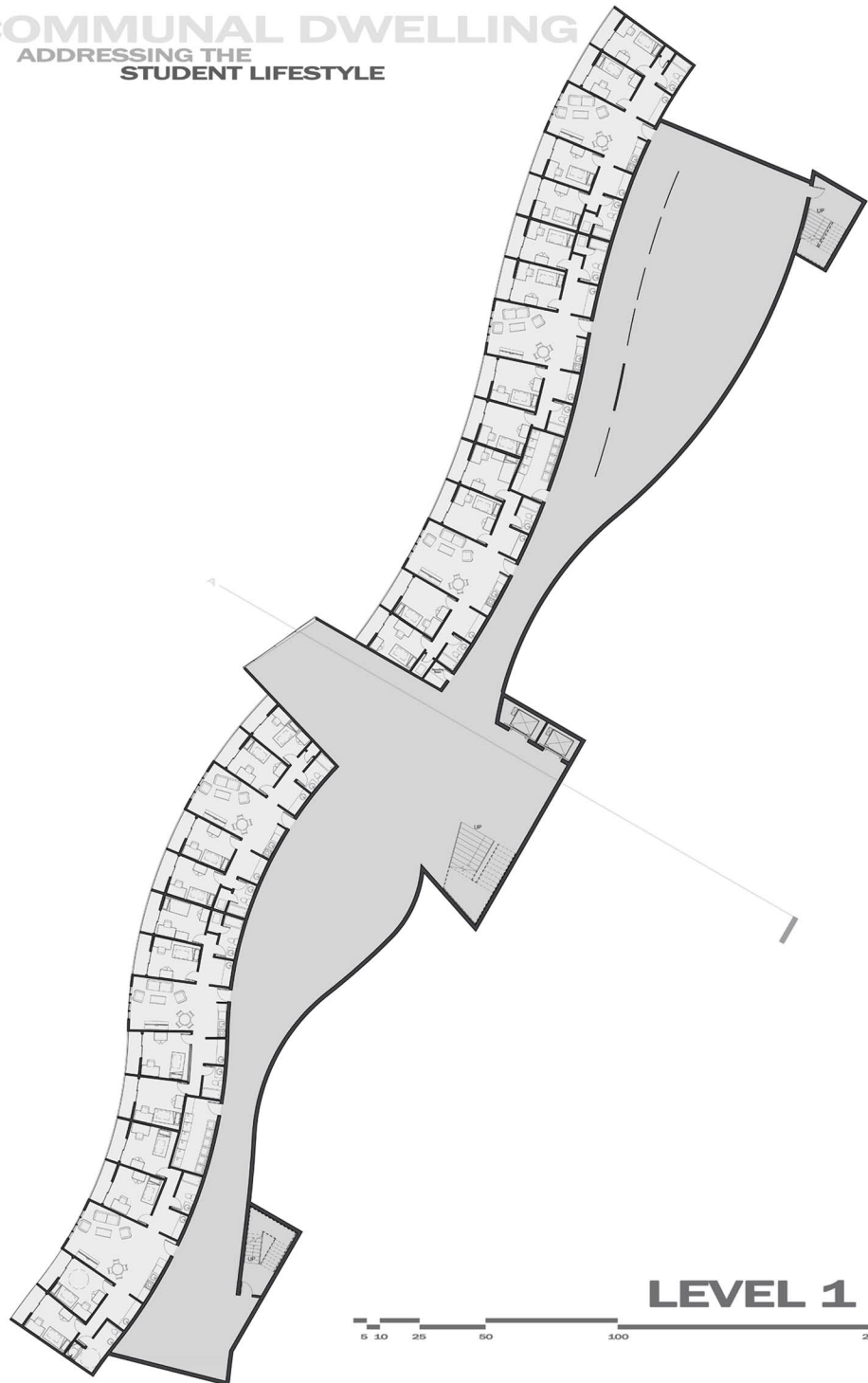


## PUBLIC AREA CIRCULATION

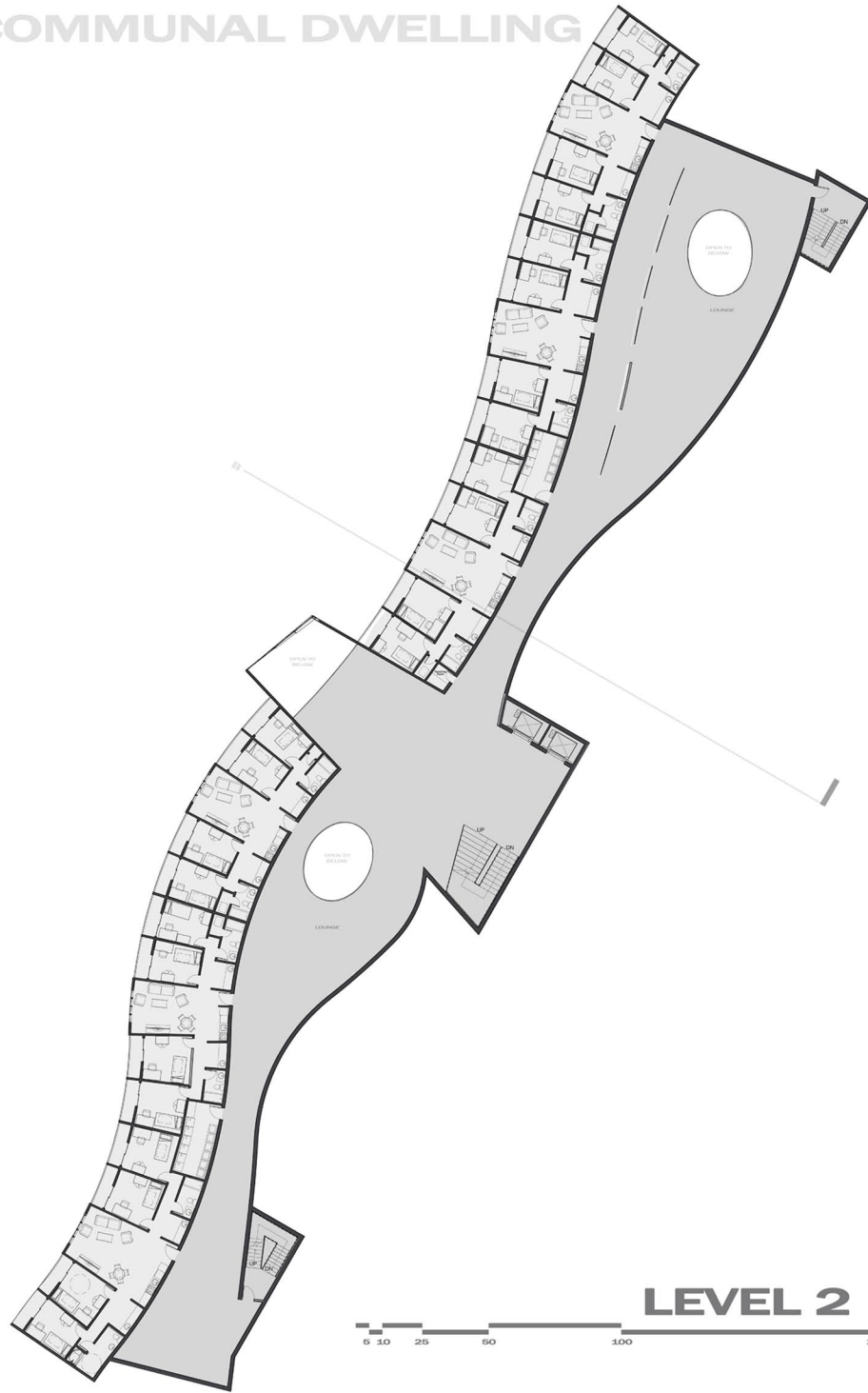


# COMMUNAL DWELLING

ADDRESSING THE  
STUDENT LIFESTYLE

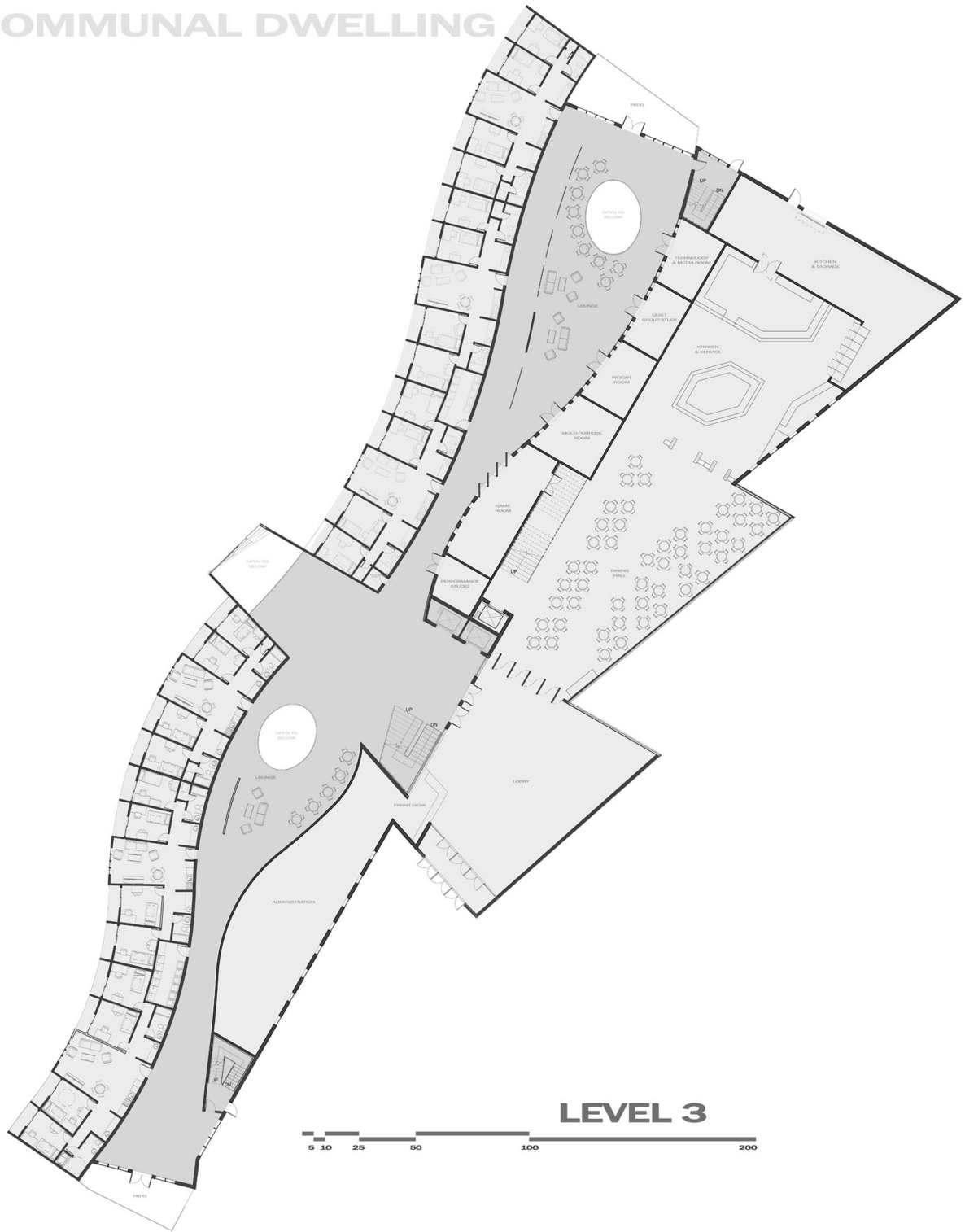


# COMMUNAL DWELLING





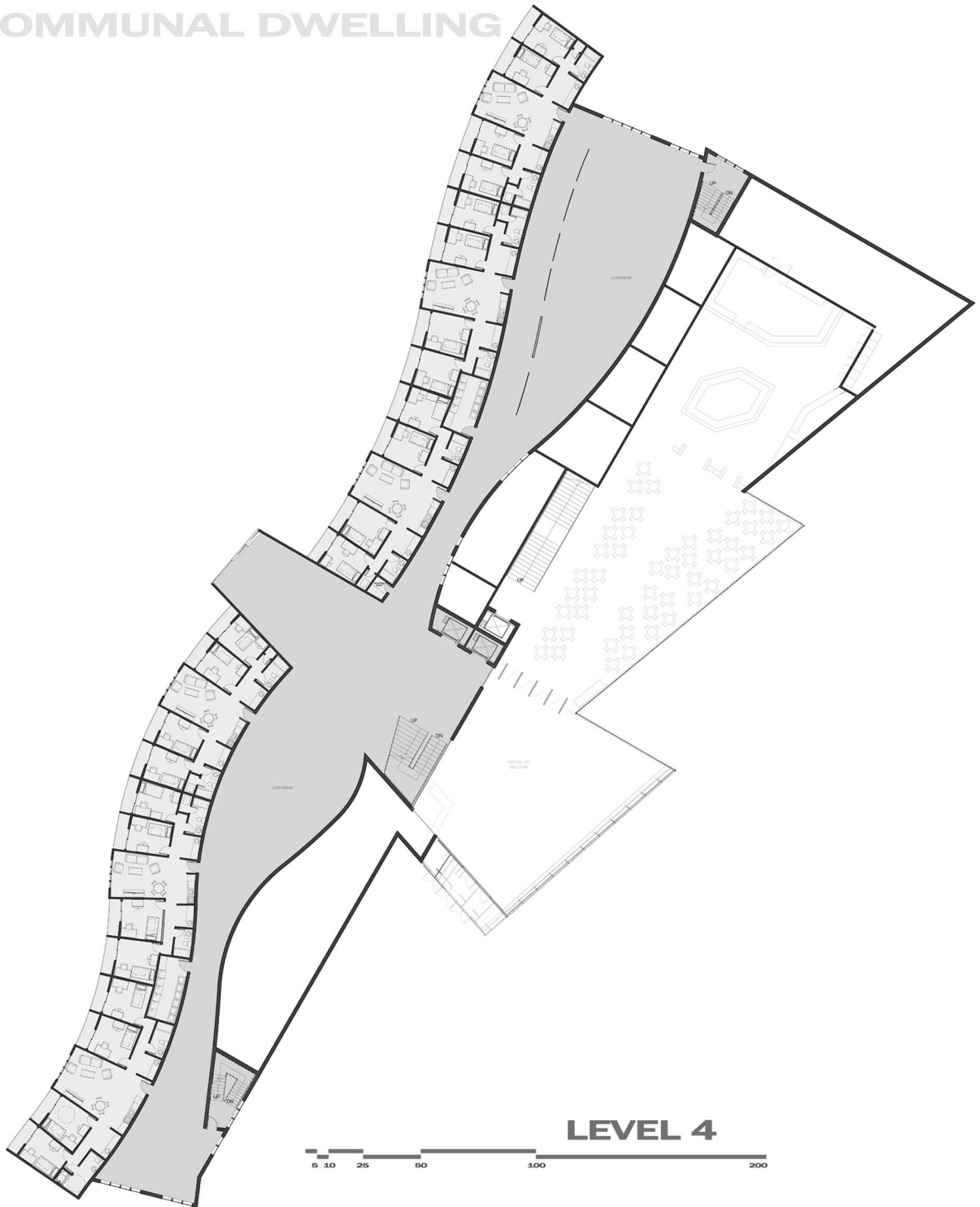
# COMMUNAL DWELLING



**LEVEL 3**



# COMMUNAL DWELLING



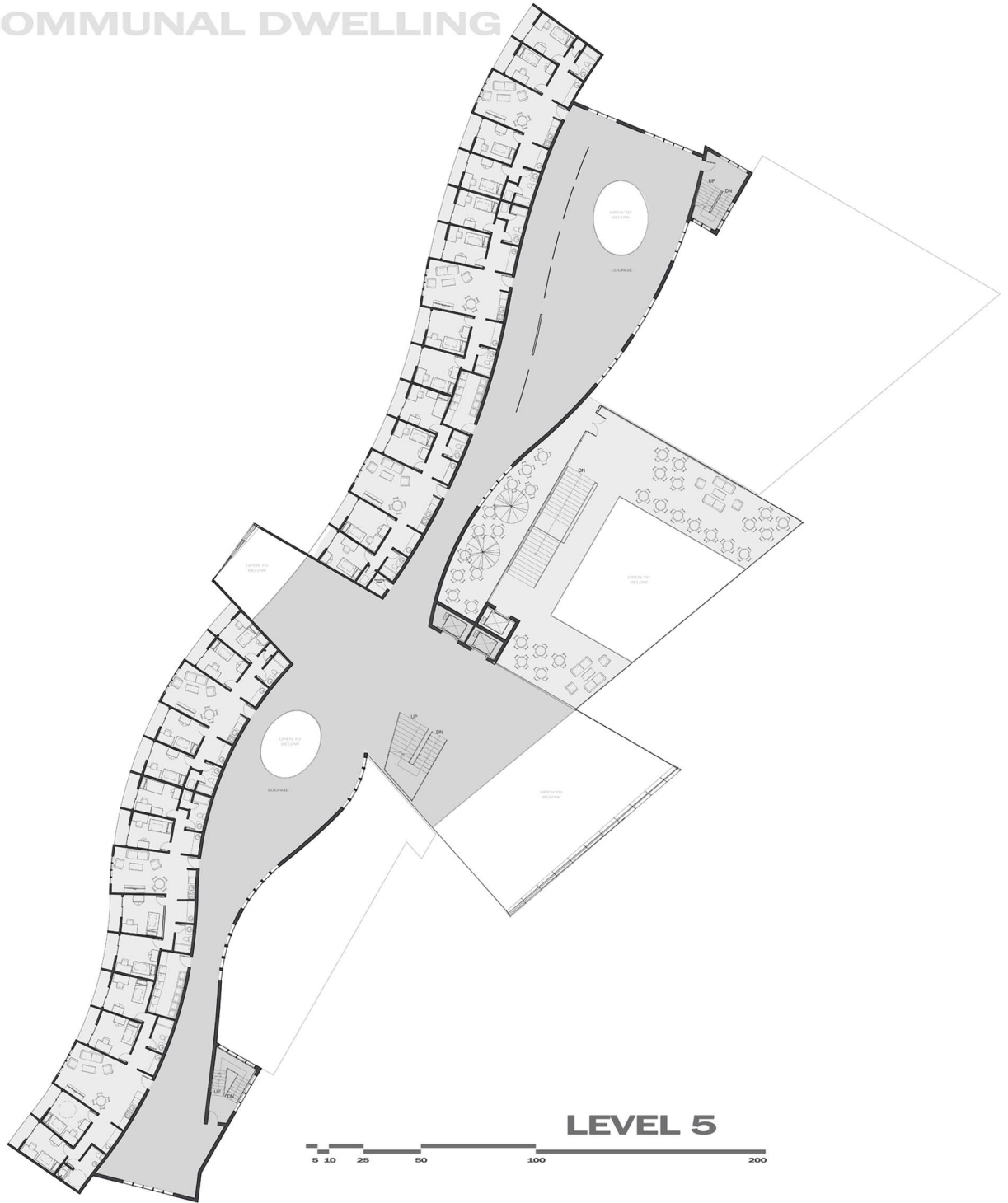
## LEVEL 4

5 10 25 50 100 200

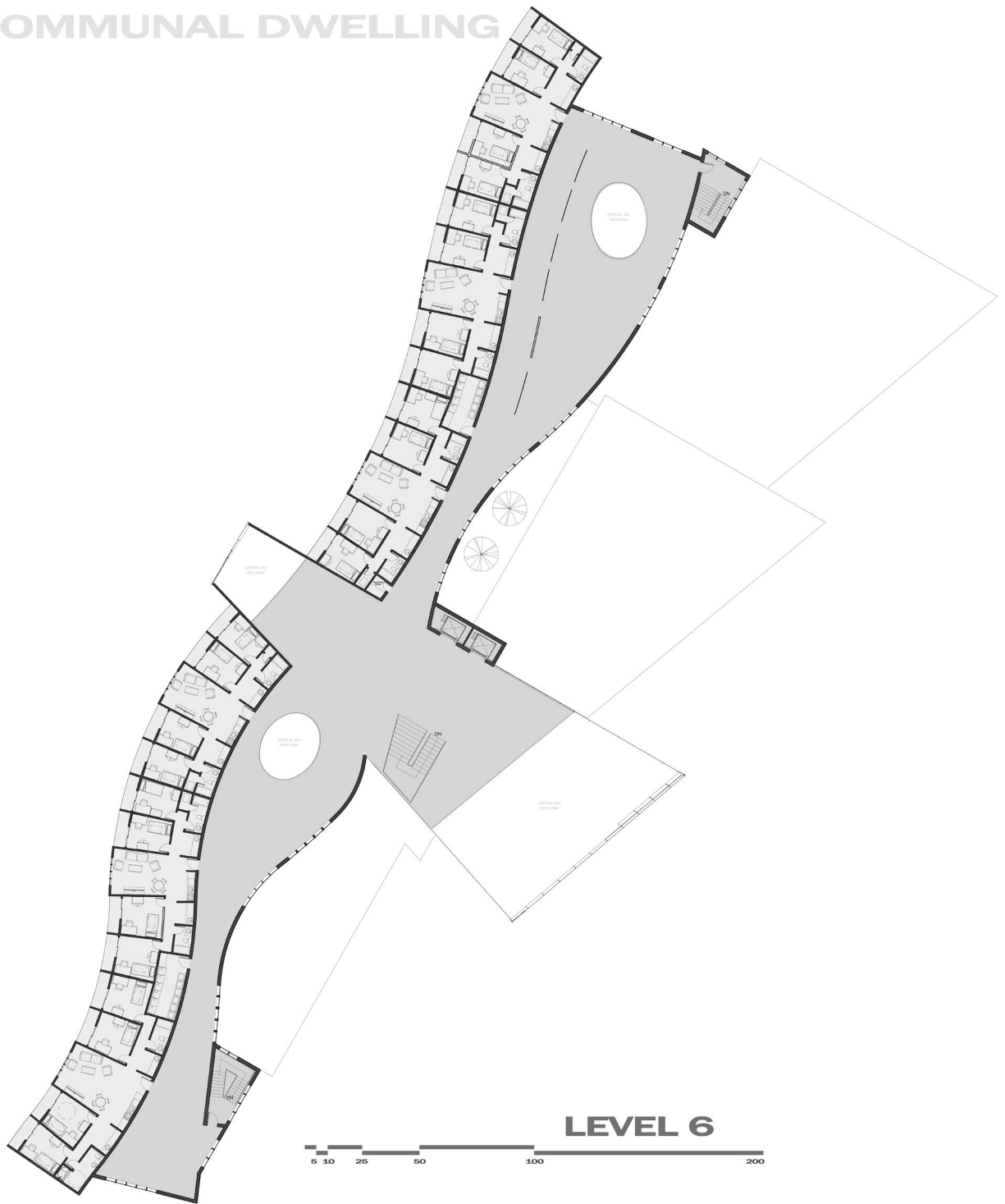


## NORTH ELEVATION

# COMMUNAL DWELLING



# COMMUNAL DWELLING





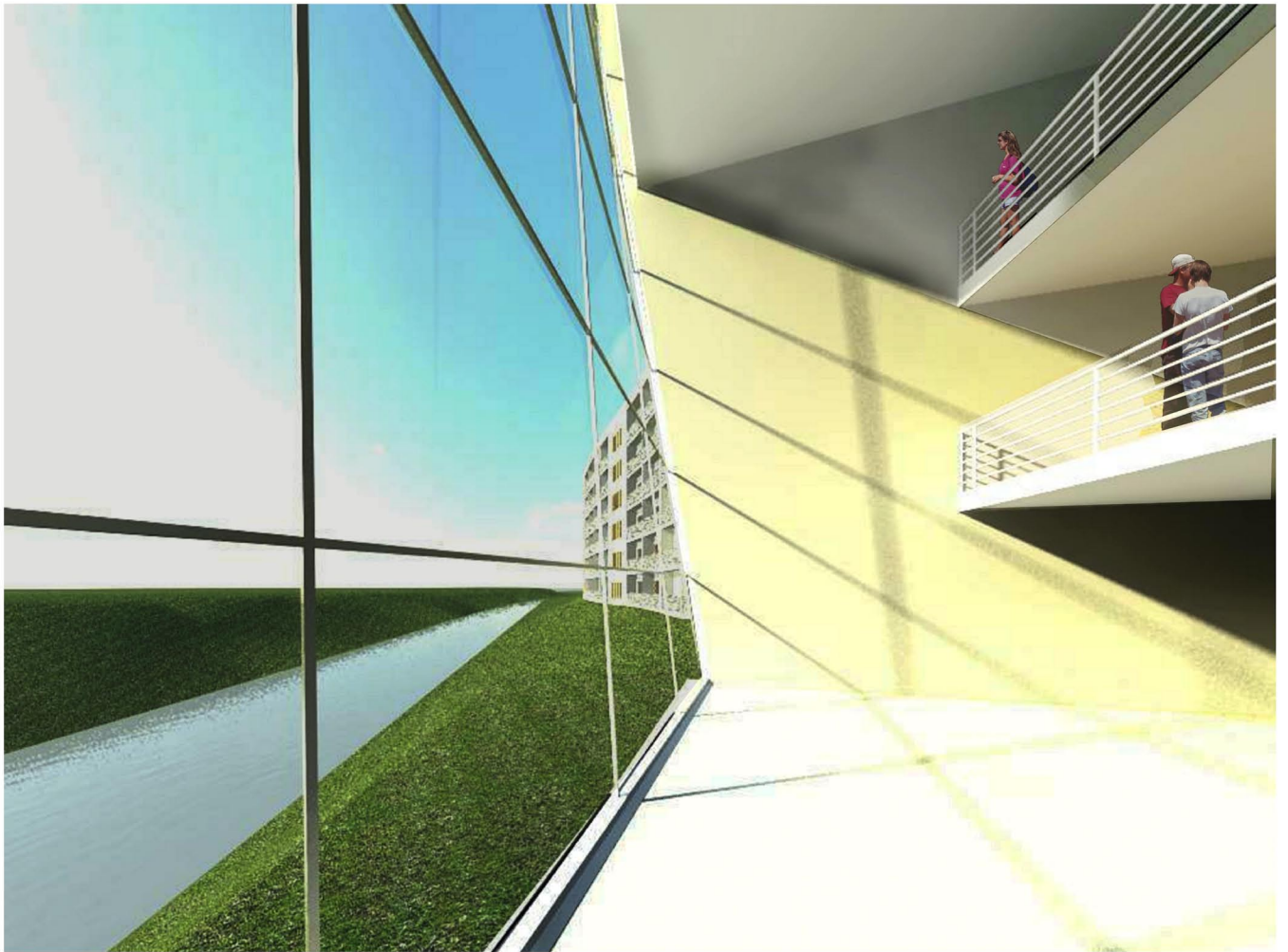
**APARTMENT LAYOUT**



# COMMUNAL DWELLING: ADDRESSING THE STUDENT LIFESTYLE

how can communal dwelling enrich the student lifestyle?











# Final Thesis Model

