the MIX

THE RE-ARTICULATION OF THE NORTH AMERICAN INTERIOR

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Practicum submitted to the Faculty of Graduate Studies of The University of Manitoba in partial fulfillment of the requirements of the degree of

MASTER OF INTERIOR DESIGN

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Acknowledgements

I would like to sincerely thank my practicum committee for their patience, guidance, knowledge, and sense of humour. To my advisor, Professor Tijen Roshko, thank you for motivating, teaching and supporting me through this practicum, and also in life. You are my mentor and constantly challenge me to be an innovative designer. I greatly appreciate all the time that you have invested in my education. Thank you to Dr. Susan Close, for your patience, and gentle guidance. You have an extreme wealth of knowledge that you are able to share with your students in a very accessible manner. Thank you to Professor Richard Milgrom, for sharing your experience and constructive criticism. You have challenged my process and entertained me with your sense of humour.

I would like to extend my thanks to the library staff at the Faculty of Architecture. They are ever-helpful, happy and accommodating. Their professionalism and efficiency has helped me greatly with the research that I have conducted throughout this practicum process.

I would also like to thank my classmates, for their support, feedback, and empathy for this process. In particular, the ladies from the TSL8 team have been inspirational for my creative process. Lastly, I would like to sincerely thank my family, whose support has been invaluable, and uplifting.

Abstract

The Mix: The Re-Articulation of the North American Interior is an investigation and design proposal that revolves around the territorial differentations of public and private spaces. This inquiry will directly study the ways that Digital Communication Technologies (ICTs) have changed the way that North Americans live. Their influence affects the way that people work, socialize, and where they choose to live. The impact of ICTs coupled with the use of mobile devices have created a new population of teleworkers, meaning that people can work and exchange information wherever there is an Internet connection. The use of mobile devices such as cellphones and lap tops change the dynamic of public space. Actions such as talking on the phone, or reading e-mails creates temporary pockets of privacy within public environments. This inquiry will investigate the direct impact of information communication technologies (ICTs) on North American interior spaces in addition to developing a new model for dwelling units. The results of this study will be implemented in the design of a mixed-use dwelling, whose programme aims to create new spatial adjacencies to satisfy the territorial differentiations of public and private space.

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CHAPTER 1

CHAPTER 1: INTRODUCTION PROJECT OVERVIEW

1.1 Context

Digital technologies such as mobile phones, laptops and the Internet have created social, economic, and physical changes to North American interior environments. Individuals are now able to meet on the Internet or via telecommunications, in order to socialize and conduct business without leaving their current location. This inquiry will investigate the direct impact of information communication technologies (ICTs) on North American interior spaces in addition to developing a new model for dwelling units.

For this study ICTs will be defined as "digital information and communications technologies" that include technologies such as mobile phones, email, and communication sites on the Internet such as Skype and Facebook. According to Stephen Graham, ICTs such as the internet and webcams have "fused transglobal digital media systems, intensifying the logics of speed, distanciation, and the movement of real time" (Graham, 67). ICTs have changed the pace of life, creating a faster more productive economy and society enabled by the ubiquitous nature of mobile technology and handheld devices.

The social affect of ICTs is evident in applications such as Facebook and Twitter. The sharing and transfer of information is almost instantaneous, and global exchanges are no longer bound by geography, but by bandwidth. Citizens across the world are able to communicate at a higher speed and efficiency than before. The urban sociologist Timo Kopomaa writes that "increased connectivity and information transmission have changed our notions of time, of the nature of the present, and of distance. People are able to react much faster, chains of events have become more compact" (Kopomaa, 269).

ICTs have influenced the speed of global economic exchange enabling workers to work from distant locations. Communication can be facilitated by webcams, teleconferencing and email. People can take their work with them using their laptops, iPhones and Blackberries. Trade and economic transactions are more global, with digital technologies becoming competitive advantages and marketing tools. Workplaces and workers equipped with current ICTs are able to communicate and share information more efficiently. For marketers and corporations looking to sell their

products and services, being knowledgeable on current trends can impact profits. ICTs not only enable the marketers' access to information on the Internet, it provides companies the chance to influence buyers tastes as well. Jessica Sheridan writes that more companies are turning to social media such as Facebook and Twitter as their new form of mass media marketing tools and promotional offers as this type of media is often free, low-cost and facilitate collaborations with new clients (Sheridan, 37).

ICTs change the pace and manner at which citizens form relationships and complete transactions. People are now able to meet online, and complete social or business transactions within a shorter time period. ICTs enable the efficiency and increased speed of exchanges between people, while virtual environments (VEs) form the backdrop where citizens can and meet and interact. The intent of this investigation is to reveal how technology has changed our social habits and spatial needs within both public and private domains. The intent of my practicum is to create a new dwelling space based on the spatial and social changes that have occurred due to ICTs.

Figure 1. Using ICTs

Figure 2. Potential Clients

1.2 TYPOLOGY AND POTENTIAL CLIENTS

I have chosen to design a mixed-use dwelling (MUD) based on theoretical research and the spatial implications that have been concluded from my investigation. Chapter 2 will detail the various theories that have been analyzed. Theorists such as sociologist Manuel Castells reflect on how the information technology paradigm has created social and spatial changes in the workplace, and in the home environment. Although skills in the workplace are becoming decentralized, various services and knowledge based industries are coming together in urban centers. These are the reasons that I have chosen to design a mixed-use dwelling, which I have chosen to name The MIX.

The re-design of a mixed use dwelling can reflect how the physical and social aspects of community and meeting have changed. Due to ICTs and portable technology such as laptops and Blackberries, citizens now have the capacity to work from anywhere with a wireless internet connection. Video teleconferencing further enables visual and audio communication across geographic distances and borders, reducing the need for travel and physical movement. The home is now both a personal space, and a projected public space. This investigation will result in a new spatial design for dwelling that inspires the user to interact face-to-face with neighbours, but still enables them to interact privately on their mobile devices.

The MIX defies traditional notions of function defined as space. Instead I have designed various spaces to accommodate several activities at once such as eating, meeting, working, sharing and living; the function of the space will be decided and defined by the user. These spaces can accommodate different sized families, groups and individuals. The public spaces are divided into zones/lounges that permit a fluid transition between private and public interaction. The more private spaces still enable private and semi-private interactions. I am encouraging a diverse user group for the dwelling units in order to eliminate exclusivity. The dwellings units are designed for families with children, students and young professionals with lower budgets. The projected age group of the residents is 5-55 years of age, both male and female. The patrons of the restaurant and café will be from the nearby University of Manitoba campus, as well as the surrounding Richmond West and University Heights neighbourhoods. The patrons are expected to be between the ages of 16-55, both male and female.

1.3 Cultural, Economic, Social and Urban Implications

The Rise of the Network Society

The cultural, economic, social and urban implications that have influenced my decision to study ICTs and their effects on interior space have been informed by the writings of sociologist Manuel Castells. Cultural effects include the emergence of a global homogenous identity. Economic effects include the development of global competition and the information-based economy. Social effects include the creation of new friendships while remaining in the same location, and urban effects include the influx of rural populations to urban centers in order to find employment. Castells is the first theorist that we will analyze. His writing on the rise of the network society and its effects on the global economy influenced my research as to how ICTs have changed the way that North Americans use space.

In his book, *The Rise of the Network Society*, Manuel Castells details the social and economic impact of technology. Castells describes the progression of technology through the industrial age and how we have arrived at the age of technology as we know it today. In the late 1990s, the Internet proved to be a powerful communication tool that was enabled by major developments in telecommunications and digital networks. The creation of the Internet and ICTs transformed solitary computers into parts of a larger database or mainframe enabling the instantaneous transfer and sharing of information on a global level (Castells, 51). The accessibility and speed at which we can transfer data is limited only by one's internet connection or carrier. With the popularity of mobile devices such as Blackberries, iPhones and laptops, citizens can access their online accounts ubiquitously.

Castells proposes that there is an information technology paradigm, which implies that information is the new global commodity. The information technology paradigm will be explained in terms of social and economic transformations; as when considered as a whole, social and economic factors are the "foundation of the network society" (Castells, 70). The first characteristic of the information paradigm is that information is its raw material: meaning that technologies are based on available information. The second characteristic is the pervasiveness of effects of new technologies meaning that every facet of human existence is influenced by information, and therefore all individuals are affected by some sort of technological development. The third characteristic is the networking logic of any given system; this refers to the relationships that can be formed by new technology. According to the three characteristics

of Castells information technology paradigm, ICTs enable more complex and unpredictable developments to form in human interactions.

"The fundamental change in the global workface is the individualization of labour in the labour process" (Castells, 282).

The information technology paradigm provides flexibility for work and social communication. Information is easy to transfer and access which creates more liberating and fluid ways to work and play. On an economic level, productivity and manufacturing has increased, as shown by a 1997 study of 600 US companies by Brynjolsson. The study examined the relationship between business structures and their use of technology. "Overall, Brynjolfsson found that investments in information technology were correlated with

higher productivity" leading him to conclude that technology drives production and is a source of income for a company or nation (Castells, 90).

The advent of technology and ICTs has provided a foundation for a global economy. "The new infrastructure provided by information technologies" in conjunction with the "deregulation and liberalization policies implemented by governments" on financial institutions has enabled corporations to trade on a planetary level (Castells, 101). The globalized core is the center of the global economy; this core constitutes "financial markets, international trade, transnational production, and, to some extent, science and technology, and specialty labor" (Castells, 101). The main impact of technology on the global economy has been the shift away from manufactured goods towards the services industry. Knowledge-based industries are major sources of productivity and income in advanced societies (Castells, 219).

Technological effects on society can be examined through managerial practices in labour and production. Castells writes "the process of work is at the core of social structure" (Castells, 216). The emergence of technology in the workplace and its effects on co-worker relationships is an example of how technology has affected greater society. New practices in the workplace include tele-working,

Figure 3. Laptops to Communicate

outsourcing, and integrated decision making as opposed to the more traditional hierarchy of power. Productivity is related to knowledge, and the processing of information and knowledge. Services and knowledge-based professions are becoming more prevalent in the global market. Furthermore, the new economy will continue its demand for more knowledge-based professions. Technology has transformed the organizational chart within major corporations.

The fundamental change in the global workforce is the individualization of labour in the labour process" (Castells, 282). The typical North American workplace with a salary and pension is becoming more decentralized, with pay based on individualized and segmented work. This type of workplace is leading towards more fragmented societies. The flexibility of the workplace has been enabled by technology and ICTs, which have created the possibility for practices such as "subcontracting, outsourcing, offshoring, consulting and customizing" (Castells 282). The standard office job is on the decline globally, while flexible work such as consulting and outsourcing are becoming more common.

Castells writings on the decentralization of the global workforce and the shift to knowledge-based industries has lead to conclude that workforces are more flexible in how and where they work, regarding both time and space. Not only have ICTs transformed the traditional organizational chart, they have influenced where and when people can work.

Avi Friedman and David Krawitz, the authors of *Peeking Through the Keyhole* write about the introduction of media and technology into the private household. They are relevant to this inquiry as they write about the spatial changes that have occurred in North American Households over the past fifty years due to entertainment and communication technology.

Friedman and Krawitz begin with the introduction of the radio into the household, causing the living room to become a central space where the whole family would relax and enjoy the audio broadcast that infiltrated their home. The next big technological development was the advent of the television. Once the television (t.v.) was introduced to households, families talked less and began to eat dinner while watching t.v. The living room became the central space to showcase the large television, where all the seating was focused around the "enormous entertainment unit" (Friedman, 45).

Two new rooms were given new meaning after the advent of the television, an informal sitting room or family room, and the basement. Both of these rooms were created to house more televisions. The "telecommunications eras of the 1980s, 1990s, and the early twentieth century" distributed even more diverse forms of technology to the household (Friedman, 46). These included, game stations such as Nintendo, computers, personal radios, and several televisions per household. The home became a "container for communication devices" that featured "several viewing and listening spaces" (Friedman, 46). The shift from family gathering spaces within the household changed to viewing and listening stations for electronic media, such media include DVD players, new gaming stations such as XBOX, Ipods and dock stations, and computers connected to the internet. The introduction of the internet to our society has further increased citizens roles as "spectators and auditors" within their home rather than actors with engage and interact with one another. The introduction of mobile communication devices such as cellphones has further exacerbated this new development of capsularization between family members within the same household. The home as a family domain, where shared activities can create shared experiences "has been altered" (Friedman, 47).

According to Friedman and Krawitz, the "universal availability" of telephone communication has also changed the interior setting of furniture and privacy within the household. Areas that were previously dedicated to the private act of dialogue and conversation via the telephone are now obsolete as telephone exchanges can now occur anywhere due to the ubiquitous nature of telephone access. The development and introduction of cordless landlines and cellphones within the household has created a "further separation of individual members within the home" (Friedman, 47). Video entertainment, cellphones, and ICTs have all contributed to the isolation of family members within their household. Friedman and Krawitz write that the introduc-

tion of the television was the first step towards isolation of family members with the private domain. The television is turned on an average of seven hours a day within North American Households. “The average viewing time per person is four hours per day, or two complete months per year” (Friedman, 51).

Television has created spatial impacts in regards to furniture and physical space within the household. The living room, which was previously used for family gatherings and conversation, became focused around the viewing of the visual beast. Next, informal family rooms and basement recreation rooms were introduced to house more televisions. If television created the need for more rooms within the household, what has digital technology and the advent of virtual environments done?

Overall, Friedman and Krawitz conclude that the first communication to change social experience within the private home was the telephone, which enabled users to connect live with persons not present. Media such as magazines and books had spatial implications as demonstrated by the introduction of the library and study within the home. The most influential technological development was the television, after which families spent less time with each other and more time watching a screen. As exemplified in Friedman and Krawitz’ arguments, people’s habits evolve due to technological developments; so does their space, their buildings, and their environments.

1.4 Mixed Use Dwellings and Higher Urban Density

City planner Peter Katz writes about the importance of creating mixed-use neighbourhoods and contributing to higher urban density for the health and sustainability of future generations. Graham Clarke and Victor Callaghan support Katz' arguments by reporting that rural populations are now moving into urban centres in order to find employment, thus the need to provide more dwelling units within the city is increasing.

The mixed-use dwelling (MUD) is a typology that provides enough flexibility in its programming to study the effects of ICTs on modern North American society. Instead of designing large homes in suburbs that contribute to urban sprawl, I am proposing to design closely-linked dwelling units that can accommodate all the spatial needs and requirements of the users. Furthermore, we could eliminate the need for cars, and increase pedestrian activity by designing dwelling spaces closer to amenities. The stimulation of pedestrian activity would incease the likelihood of neighbours meeting each other and would create a stronger sense of community and well-being. Sustainability and community development are the main motives behind my desire to design a mixed-use dwelling.

Peter Katz challenges the notion of suburbanization and single-family houses in his book *New Urbanism*. He proposes a return to "a cherished American icon: that of a compact, close-knit community" (Katz, ix). According to Katz "New Urbanism includes forms of housing such as apartments, townhouses, boarding houses and quadruplexes that are respectable places to live" and that can accommodate the needs of a diverse society (Katz, x). Katz's theory on city planning and urbanism focuses on the return to community and neighbourhoods "empowered by new technology" (Katz, x). The future of urban development points to an emphasis on multi-unit quadruplexes, and close-knit communities centred around neighbourhood citizens.

In the article "Ubiquitous Computing, Informatization, Urban Structures and Density" Graham Clarke and Victor Callaghan describe the effects of urbanization and ubiquitous computing caused by ICTs and population density. The authors of the article propose that the new shift of capitalism and production to service-based industry has contributed to the influx of citizens to the city away from rural areas. Since 1950, the populations in urban centers have increased by 50% (Clarke, 196), resulting in the need for smart, efficient urban density that incorporates ICTs into the design of the interior environment. ICTs

Figure 4. Higher Urban Density

are an integral part of today's economic and social transactions, enabling more people to find work in urban centres. Their writings indicate a further need for a higher urban density operated and connected by ICTs, and are another reason that I have chosen to design a MUD.

The benefit of MUDs is the creation and sharing of mutual security and resources such as transportation, energy and food. Katz writes that suburbanization cannot sustain another generation of development as the costs associated with suburban sprawl include "deterioration of neighbourhoods, the increasing alienation of large segments of society, rising crime rates and environmental degradation" (Katz, ix). The re-shaping of the multi-unit, mixed-use dwelling that considers new technological developments in ICTs and their future spatial implications can help remedy some of the problems associated with suburban sprawl. I have decided to name my mixed-use dwelling as The MIX.

1.5 Research Methods & Questions

I would like to focus on the following questions as areas of research:

1. Have ICTs necessitated a paradigm shift in the way that North Americans use interior space?
2. How has the advent of ICTs and portable technology changed the way that North Americans interact?
3. Can ICTs contribute to a healthy community and neighbourhood with the intent of contributing to urban density?

The goal of this inquiry is to investigate the effects of new ubiquitous technology on interior design, and the final outcome is to apply this knowledge towards the design of a MUD. The majority of my research is from secondary source literature review. Authors such as Manuel Castells, Paul Virilio, and Charles Rice provide informative commentary.

1.6 Summary

New social practices such as electronic communication in addition to changed working practices, such as videoconferencing depict the implications of ICTs. Social and economic changes are occurring on a global level, facilitated by the speed of digital communication, and the possibility of being constantly connected. The changes in social and economic practices are an opportunity to re-evalute the urban dwelling, providing an opportunity to re-discover the benefits of creating a mixed-use dwelling.

the MIX

THEORETICAL FRAMEWORK

CHAPTER 2

2.1 Theoretical Framework Diagram

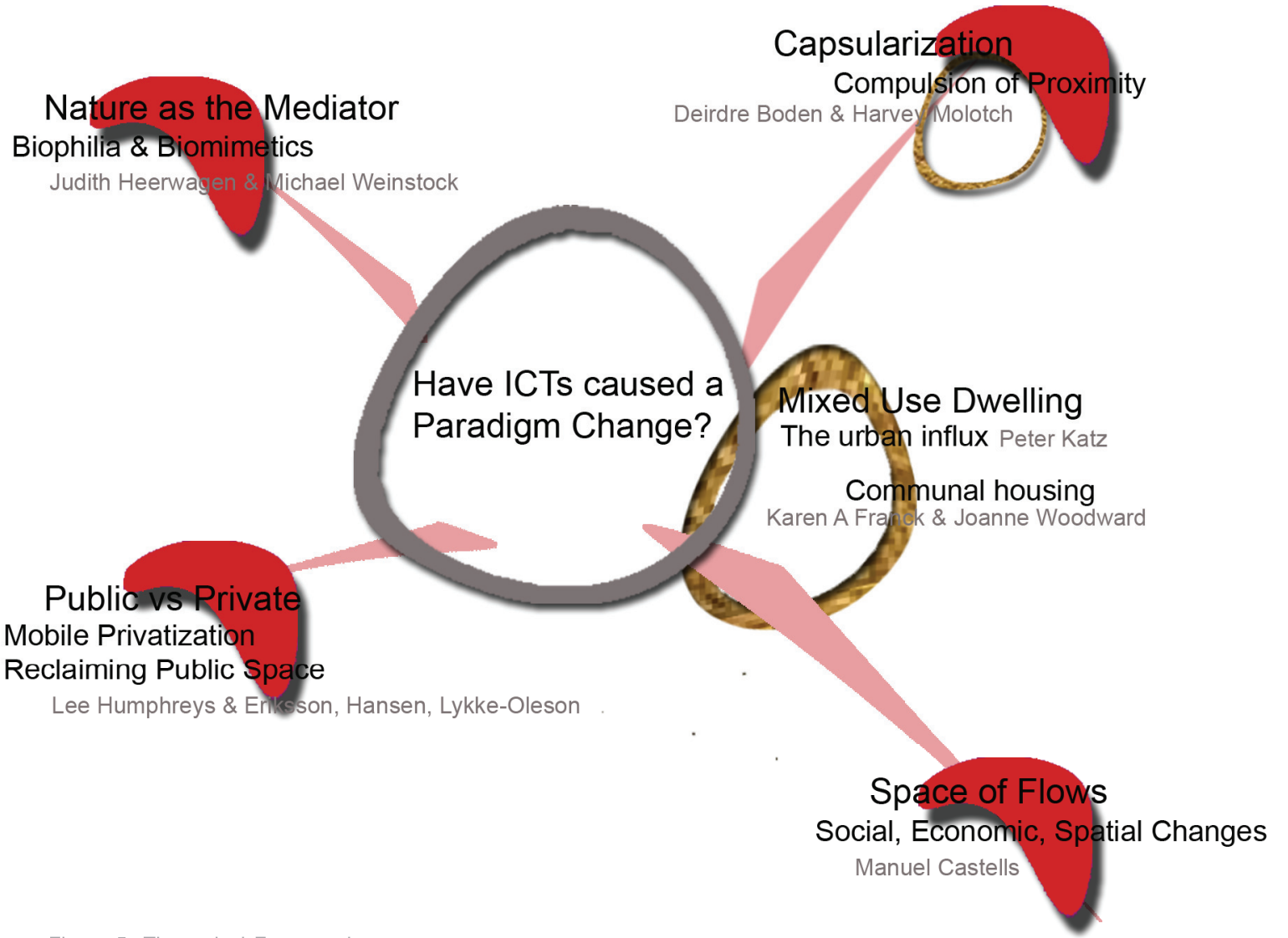


Figure 5. Theoretical Framework

2.1 Theoretical Framework

The main area of investigation for this inquiry is to decipher whether ICTs have created a paradigm change in the way that North Americans use space. Figure 5 illustrates all the theories that have been considered in response to this question. One of the main theories that has informed my investigation is the Space of Flows by Manuel Castells. Castells writes about the change in economy, society, and space due to culture and ICTs.

The next thread of theory is capsular living, which is theorized by Paul Virilio and Lieven De Cauter. Their thoughts on individual lifestyles point to a future of alienation and isolation. However; according to Deirdre Boden and Harvey Molotch, the importance of face to face interaction is still recognized and needed by people in everyday transactions. Therefore, we cannot assume that capsular living will eventually overshadow co-present interactions (Boden and Molotch, 105).

The effects of ICTs on public and private space cannot be ignored. The presence of mobile devices is ubiquitous and will be discussed at length in this chapter. Lee Humphrey's theory of Mobile Privatization and how ICTs are creating implied boundaries between individuals and their space will be discussed. The reclaiming of space by creating a sense of place will be incorporated in this part of the discussion.

One method of mediating the body and the environment, in order to combat solitary living, is the incorporation of biophilia as a way to create interaction with the built environment. The positive mental and physical effects of Biophilia are described by Judith Heerwagen, and will therefore play a prominent role in this chapter. Lastly, can the design of a mixed-use dwelling be a solution to the aforementioned theories and considerations?

"The purpose of this intellectual itinerary is to draw the profile of this new spatial process, the space of flows, that is becoming the dominant spatial manifestation of power and function in our societies." (Castells, 409)

2.2 The future of interior design according to current technological trends

The future of interior space will be influenced by current economic, cultural, social and urban trends that have been created by ICTs and ubiquitous technology. Castells writes about the Space of Flows referring to the acceleration of local and international transactions on personal and professional levels. The new Space of Flows has caused a spatial transformation that reflects the Information Age. The Space of Flow theory refers to the instantaneous transfer of information that ICTs have enabled, regarding a "rather abstract theorization of new spatial forms and processes" (Castells, 409). On a macro scale, three-quarters of the world's population now live in urban centers. These metropolitan centers are scattered geographically, but are now interconnected by ICTs that "allow for simultaneous spatial concentration and decentralization" (Castells, 427).

Castells writes that the purpose of his Space of Flows argument is to "draw the profile of this new spatial process, the space of flows, that is becoming the dominant spatial manifestation of power and function in our societies" (Castells, 409). The basis of the argument is that a new space for social and economic transactions has arisen, this interaction is centred around the flow of information, and it spans very long distances. This space is digital and is enabled by the creation of ICTs.

As further support for Castells' theory of the increase in the Space of Flows, Friedman and Krawitz write about the impact of the decreasing size and increasing portability of electronic devices and how they have created "the proliferation of electronic devices in both home and office [which] has coincided with a fundamental shift in world employment, a result of the drive for greater labour efficiency" (Friedman, 63). The implication for interior design is the need to design spaces that can accommodate several activities fluidly. Interior spaces should be able to transition between the public and private activities and functions, reflecting people's ability to work and meet clients at home and in public locales such as cafés.

2.3 The Space of Flows

In this chapter we will examine the economic, social, and spatial effects that ICTs have created. Topics will inform decisions regarding city planning to interior design. The spatial changes have become apparent due to the introduction and increased use of ICTs. The notion of mega-cities, traditional work and dwell spaces will be examined and discussed in order to inform the final design of the mixed-use dwelling.

According to Castells, ICTs and mobile devices have enabled the expansion of information and services on a global, international level. This expansion has created greater selection and flexibility of service based industries available to a buyer, therefore competition in the service industry is now on a global level; however, the importance of major city centers such as New York and Tokyo still play a significant role in anchoring economic trade in the global market (Castells, 415). Castells proposes that there will always be a necessity for major city centers in order to provide a common gathering space for the world's top minds in business. These high-level activity nodes are concentrated centres for local and global economies; however, service and knowledge-based work is being produced that can be performed outside of the traditional office.

Castells also writes that social relationships have been affected by ICTs in that work has become more individualized while virtual communities have become as relevant as

Figure 6. Computers and Cellphones

physical networks. Furthermore, the adoption of ICTs has created a shift away from the traditional family unit with the focus now on the individual.

These changes in social structure have affected urban spaces, neighbourhoods and forms of housing (Castells, 431). The main distinction is due to the constant connectivity and implied availability incurred by ICTs, spaces dedicated for work and residence can now be blended together. Major metropolitan cities offer information as its main commodity and services as its main product. New industries that can work from any location with a modem include graphic arts, website designers and html programmers. Friedman and Krawitz also write about the new influx of citizens who can work from home. The impact of these workers on space is that offices are no longer required to be a traditional office building. With the “advent of wireless technology” previous systems requiring wiring and a permanent location such as fax machines and printers can now be transposed into the new electronic landscape (Friedman, 62).

Castells refers to citizens who work from home as teleworkers. Teleworkers are employed to work on-line from their homes on a regular basis. The emerging trend for teleworkers is self-employment. ICTs and mobile devices will enable citizens to create “offices-on-the-run,” which will diversify work locations for a large portion of the working

force (Castells, 426). The impact of this greater mobility for workers on city planning shows a trend in higher vehicular traffic and congested modes of transportation. The issue is not that workers have to travel to a city center, but that the greater mobility is leading to a constant increase in travel activity for workers who were previously confined to their desks. The increase in vehicular activity is caused by the decentralized locations of service-based work which causes an increase in suburb-to-suburb traffic.

Despite the decentralization of the workforce and the expansion of job sites, Castells also describes the centralization of services such as banks, health services, and universities. Although the banking industry has diversified into telephone and Internet services, "consolidated bank branches continue as service centers" where the need for face-to-face interaction and personal relationships is required for large investments (Castells, 428). Large medical centers termed as superhospitals are emerging in urban centers such as Montreal and London where clinics, pharmacies and universities are integrated into the hospital and health care landscape. Typically, these medical complexes will house the majority of required services to aid and assist citizens with their health concerns. The existence of these medical complexes has significant economic and cultural benefits for the surrounding area.

Interior designers are responsible for creating domestic space that can serve both public and private functions as more workers develop the capacity to work from home. Friedman writes "telecommuting does not replace the traditional workplace but rather extends and refines it to incorporate the home" (Friedman, 66). Furthermore, interior designers act as set designers for any professional who uses functions such as Skype or webcameras as part of their business. It is the designer's role to help citizens define and project an identity, image, and a marketable commodity through the interior language and architecture of the client's space. Flexibility within the home environment to accommodate work activities should be developed in order to meet the flexibility of ICTs and current technology.

The implication of Castell's theories on my design intervention indicates the need for less traditional offices, and the introduction of smaller, personalized live and work spaces where service providers can both dwell and market their knowledge. The ubiquitous nature of technology in the urban centre provides a constant connectivity that blurs the boundaries between private and public space within the walls of the citizen's residence. Castells', Friedman and Krawitz's teleworking theories suggest that the dwelling can be used for private and public functions. The dwelling is a home, becoming a backdrop for people's daily work

and play activities; therefore the role of the designer is to design around the necessities of ICTs.

Lastly, Friedman and Krawitz stress the need for flexibility in our space. For example, due to ICTs, cellphones, tablets and laptops can often be operated anywhere, but the user may need privacy depending on the type of work being conducted. Friedman mentions that separate, private spaces within the home are likely to develop due to the current tendency towards “fragmentation and diversification” within the home. However, office and work space trends lead towards collaboration and more open floor-plans, therefore the integration of work within the home actually requires both types of space, somewhere where one can sit, think and work independently, in addition to a touchdown area where collaboration and social interaction can occur.

The theories of teleworking, decentralization, centralization and diversification are important as they point to a new way of working and living. On a macro scale, the impacts are important as the increased traffic between suburbs motivates me to look at increasing urban density in order to minimize vehicular traffic. On a micro scale, the effects are obvious in that the work and dwelling spaces of yesterday need more flexibility in order to accommodate the multi-purpose spatial needs of today.

2.4 The Compulsion of Proximity

In the previous chapter, new forms of working and socializing centred around the teleworker and the ability of citizens to work and communicate digitally without occupying the same space. In this chapter, we will examine co-present interaction and people's need to still occupy the same physical space as other humans. The need to be around other people is the main topic of Deirdre Boden and Harvey Molotch's "Cyberspace Meets The Compulsion of Proximity." This theory is important to my inquiry as it argues for the importance of gathering spaces.

Sociologists Deirdre Boden and Harvey Molotch propose that digital communication has not replaced physical face-to-face encounters, but that they have merely supplemented them. This results in more efficient and rapid transactions. The speed of these digital exchanges has made co-present, physical meetings more meaningful and "a much fuller opportunity to develop deep commitment and trust than do relations mediated purely by electronic and ICT-based technologies" (Graham, 101). They call their theory The Compulsion of Proximity. The significance of Boden and Molotch's theory is that face-to-face encounters are still an important part of economic and social transactions and should be considered in the design of The MIX.

The benefit of co-presence lies in the information that is conveyed through non-verbal gestures such as facial expressions and body language. The context of face-to-face interactions can greatly change the meaning of a single word. Parties that have the opportunity to interact co-presently on numerous occasions develop their own dynamic, enriching their dialogue with meaning from past and present conversations. Voice intonation, and touch can vary the meaning of words between the participants.

Furthermore, co-presence can reveal the true meaning of a conversation, indicating "reliable, reasonable and trustworthy accounts" (Boden and Molotch, 102). Co-presence has unique characteristics that makes it more favourable than other forms of communication. For example, the occurrence of touch can change the mood and level of engagement in the participants. Boden and Molotch report that their studies have found that people "receiving touch gestures in psychiatric interviews were more likely to engage in verbal interaction than those in control conditions" (Boden and Molotch, 103).

Face-to-face interactions also reveal a deeper level of commitment over digital communication as people need to set aside a time and choose a space in which to share their experience. With co-presence "we have some evi-

dence that the other party has indeed made a commitment" by just being there. Co-presence also indicates a degree of attention over absent communication as it usually requires the participants to put aside other activities in order to participate in a shared activity.

Although ICTs have enabled some industries to decentralize, there is an intensification among others. Businesses such as banks and medical centres have increased in number in order to accommodate growing populations in urban centres. In regards to spontaneous meetings and informal encounters, "the city is still the prime meeting place" as it can provide diverse backdrops for various encounters (Boden and Molotch, 104).

Figure 7. Keeping Good Company

The relevance of Boden and Molotch's theory is that even though there is a shift towards large digitally connected urban centers, the importance of co-present and face-to-face interactions still play a significant role in social encounters to establish trustworthy and genuine relationships. Their theory is pertinent as it reveals that co-presence is still a fundamental form of communication in this digital age on a local and global scale. It is through the "trust, commitment and detailed understandings made possible in situations of co-presence [that] the essential time-space distanciation of modern society is achieved" (Boden and Molotch, 105).

The implications of The Compulsion of Proximity on my design will be my integration of public meeting spaces in the design of the mixed-use dwelling. The importance of physical meeting spaces is to provide an easily accessible area for The MIX's residents to meet face-to-face and to create a place for co-present interactions. How did society ever lose the importance of face-to-face, physical communication? In the following section, Paul Virilio and Lieven De Cauter will discuss the physical alienation and isolation that is projected to occur through our continued use of electronic media if it continues to remain the primary form of entertainment and communication.

2.5 Capsularization

The main ideas in this chapter are inertia of the body, and capsular living. Ideas referencing the inert body are relevant as they pertain to a future where minds can be connected digitally, while bodies remain static, negating the importance of physical space, and emphasizing the Space of Flows as argued by Castells. Ideas regarding capsularization are significant as they also see a future where they body has limited movement, being restricted and protected in a world of capsules.

The French cities analyst Paul Virilio writes that "ICTs will start to substitute the need for bodily presence and movement between cities," leading to a growing inertia in future populations (Graham, 78). The result will be bodies remaining static while our minds travel via a network of digital signals. Lieven de Cauter, a Dutch philosopher and art historian supports Virilio's idea of less bodily movement. De Cauter defines the notion of capsularization as "a wide range of carefully customized 'capsules' – smart homes, gated communities, cars, mobile phones, screens and virtual environments" (Graham, 94). ICTs will link each capsule to another through a digital network.

Virilio argues that digital technology has a global presence that can provide society with the opportunity to be "universally telepresent without moving their bodies in geographic space" (Graham, 78). Virilio writes that ICTs and new digital technologies are changing the physical spaces required by society. Subjects can be connected to one another via a global network of ICTs that permits them to jump from one geographic location to another without having left their original physical space. According to the author, the paradigm shift is "the urbanization of real time...and of one's own body being plugged into various interfaces (keyboards, cathode screens, DataGloves)" (Virilio, Open, 11). Due to the development of ICTs in the 21st century, communication in both public and private domains has vastly changed. Virilio writes about the concept of real time versus real space, and how real time has a dominant priority over real space in today's urban context (Virilio, Open, 9). Due to citizens' ability to be digitally telepresent, both in mind and body via DataSuits, social interactions are becoming more solitary regarding space, therefore public and private space are enclosing on the human body.

On a global scale, we have theorists like Castells, who writes about the expansion of mega-cities and the need for higher urban density, however on a human scale theorists like Virilio and De Cauter write that the actual personal space that is required for the human body is becoming less significant due to digital communication. The urbanization of real time are Virilio's thoughts that real space is being

overtaken by real time in the way that "the urbanization of the actual body of the city dweller, this terminal-citizen" will have control of his/her immediate environment without physically moving (Virilio, Open, 20).

"ICTs will start to substitute the need for bodily presence and movement between cities, leading to a growing inertia in future populations" (Graham, 78)

Virilio's thoughts are not far from reality, as we currently have the technology to connect our senses to VEs through visual, audio and haptic means. Similarly, De Cauter foresees a future of individualized capsules linked by a network of digital connections, similar to Virilio's theory of inertia of the body (Graham, 94). Our homes, cars, and the implied boundary of our mobile phones are examples of capsules that society uses on a daily basis. These capsules protect the body, but enable our telepresence through the use of digital networks. The main purpose of capsules is to "enhance speed in some sort of way" such as the speed of travel, economy, communication and the transfer of information (De Cauter, 78). Before the advent of capsules, the body was integrated with the tools of transportation, for example, the bicycle and roller skates allowed the body to move and participate in the propulsion of the tool. Current

capsules do not allow for the movement of the body and have become true capsules for its immobile passenger, creating a North American society of hyperindividualism.

In addition to physical capsules, ICTs and portable devices have facilitated the advent of virtual capsules. “A world of screens creates a closed mental capsule” apart from the physical space that you are inhabiting (De Cauter, 79). The technological logic of capsularization refers to ICTS and how they have enabled the extension of the mind. Portable devices have created another level of visual and mental capsules, as people now have the capacity to access their information accounts in a ubiquitous manner.

Manuel Castells has already informed us of the shift in industry from product to information, and how this has instigated the influx of rural to urban dwellings. Castell’s theories on individualized and decentralized labour also relate to the concept of capsularization. As workers become decentralized, and have the capacity to work from home, the traditional office becomes obsolete and the dwelling space becomes the teleworker’s primary domain for work and play. De Cauter refers to the domestic privilege of cocooning as “just the sweet glossy magazine word for the hard fact of capsularization of dwelling and living” (De Cauter, 82). The home has become an immovable capsule connected to various networks such as electricity, gas, water, cable and the internet. Therefore, according to the theory of capsularization, the dwelling is now the primary capsule where work and play activities are intermingled, with the caveat being that the necessary networks be incorporated and functional.

My design intervention is a rebuttal of Virilio’s and De Cauter’s theories of how ICTs are creating a capsular, individual-based lifestyle. My design will support Boden and Molotch’s theory that face-to-face interaction still plays a significant role in social transactions. According to Virilio and De Cauter; social interactions now revolve around laptops and other mobile devices. Spatially, this will be interpreted in the design of my dwelling units showing the center of the personal capsule revolving around a flexible space designed to accommodate work and play activities.

Previous to the advent of mobile devices and digital communication, the home office was given its own dedicated space usually near the front entrance or tucked away on the second level of the home. The new spatial implication is that the home office, or some new informal work surface and necessary seating area is now the center of the home. Since the advent of ICTs and mobile devices, work can be accomplished anywhere and therefore no specific work-

space is required. I propose that the center of the home is now a flexible seating area, where accessories for mobile devices can be stored, and the seating arrangement can be changed to accommodate the amount of users and their work or play activities.

In summary, the theories of Virilio and De Cauter argue that the body will become inert, and that people will travel along digital networks safe within the confines of their personal capsules. These thoughts are relevant as they speak directly about the future spatial needs of the body, and the limited space that the body will require. Although I have examined the literature that supports capsular living, the need for movement of the body, healthy environments, and the need for face-to-face interactions will also guide my design. Virilio's and De Cauter's arguments have led me to investigate methods of engaging users of a space with their immediate environment in order to negate effects of capsular living. The intent is to allow people to use their mobile devices without completely losing awareness of their immediate environment. Biophilic design and its positive benefits on the human mind and body are an option as described by Stephen Kellert and Judith Heerwagen in the following section. Kellert and Heerwagen will highlight the benefits of biophilic design, allowing the natural environment to remain intact, while rejuvenating the human body.

2.6 Biophilia and Biomemetics as Mediators

According to Virilio and DeCauter, ubiquitous technology and constant connectivity can lead to individual alienation resulting in isolated pod-living. However, sociologists Boden and Molotch write about the importance of face-to-face co-present interactions. In this chapter, we will discuss the benefits of biophilia and how it can mediate the body's alienation due to capsular living and co-present interactions.

Biophilia is defined as design with the integration of natural systems into the interior and built environment. Human well-being, including physical, emotional and intellectual health, shows a greater aptitude when people are in contact with nature. According to psychologist Judith Heerwagen, "People's physical and mental well-being remains highly contingent on contact with the natural environment" implying that human contact with nature is a necessity and should be integrated into the design of a well-balanced MUD (Kellert, Heerwagen and Mador, 4).

Humans have an inherent need to affiliate with nature and its processes, however; current building practices negate the need for the integration of nature into interior spaces. Biophilia is the deliberate intent of incorporating nature in the design of buildings in order to enhance the users' physical, emotional and intellectual well-being (Kellert, Heerwagen and Mador, 3). There has been a marked negation of nature and agriculture since the industrial period, when buildings were constructed based on productivity and the increased volume of residents per space. This separation from biodiversity and the natural environment lead to chemical pollution of our ecosystems and "human alienation from nature" (Kellert, Heerwagen and Mador,5). Human productivity and well-being however is still closely linked with their exposure to natural systems such as daylight, fresh air and exposure to features such as green walls, and water fountains. According to Heerwagen, "people's physical and mental well-being remains highly contingent on contact with the natural environment" meaning that nature is not a luxury, but a necessity for the users' well-being (Kellert, Heerwagen and Mador, 4).

Biophilic design is necessary for human creativity and productivity, and this is why it is one of my main theoretical considerations. There are various health benefits associated with the exposure to nature in the built environment that scientifically support the need for biophilia. These benefits include the increased speed of recovery and healing after an illness, dwellers who reside close to natural systems experience less illness, lower stress levels and increased work performance, as well as increased learning and cognitive functions (Kellert, Heerwagen and Mador, 4). On a

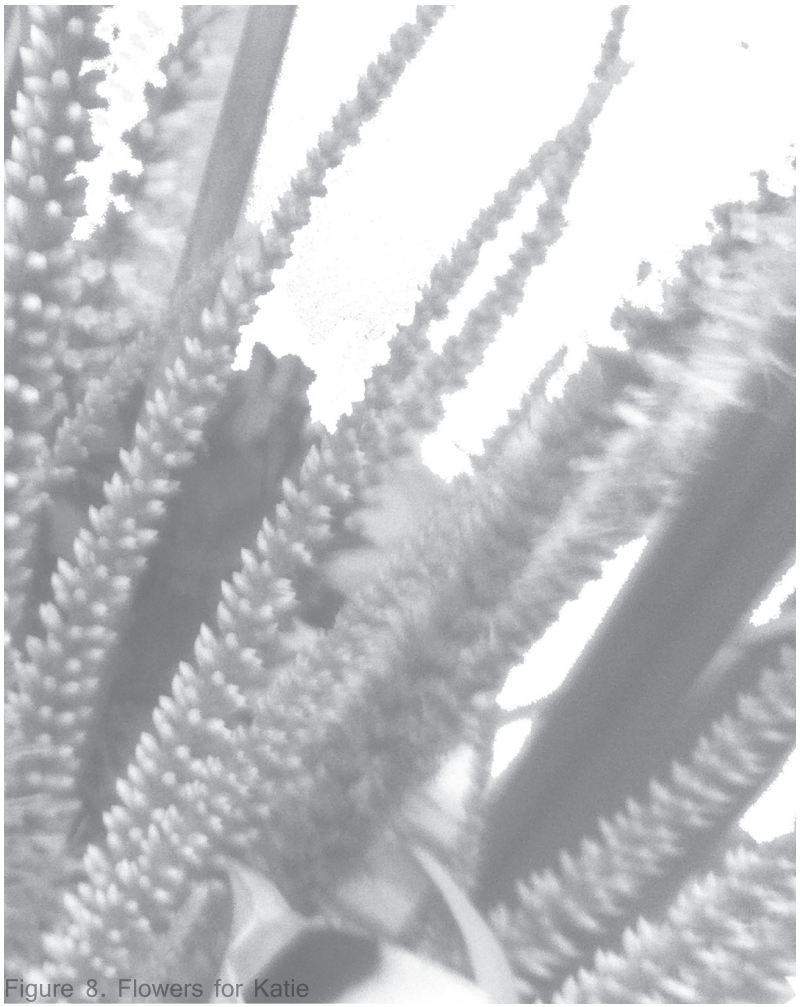


Figure 8. Flowers for Katie

larger scale, biophilic design can have low-environmental impact on buildings and landscapes, resulting in healthier and more sustainable buildings. “Sustainability is as much about keeping buildings in existence as it is about constructing new low-impact efficient designs” (Kellert, Heerwagen and Mador, 5). Furthermore, if people are aware that their homes and dwelling units are sustainable and provide positive health benefits, they will be more likely to take ownership and responsibility of their space. Judith Heerwagen believes that biophilia is the missing link in current approaches to sustainable design, as it focuses on the occupants’ mental and physical well-being, instead of the building’s life span.

The organic or naturalistic dimension is the first principle of biophilic design. This includes direct sources of nature which are defined as self-sustaining features such as daylight and the greater outdoors. Indirect sources include nature that requires human governance such as potted plants and water features. Symbolic sources of biophilia include sources that do not involve real nature such as patterned fabrics or images. The second dimension of biophilic design is place-based or vernacular which is defined as “buildings and landscapes that connect to the culture and ecology of a locality or geographic area” (Kellert, Heerwagen and Mador, 6). This dimension has been referred to as sense of

place by other theorists, and refers to an individual's ability to relate to and internalize their environment. The more users can relate to their environment as personal territory, the more responsibility they will adopt in its maintenance. Once users and residents feel a sense of place they will aid in maintaining the safety and security of The MIX.

The two basic organic and place-based dimensions of biophilic design can be further discussed according to specific design elements. The six elements are: environmental features, natural shapes and forms, natural patterns and processes, light and space, place-based relationships, and evolved human-nature relationships (Kellert, Heerwagen and Mador, 6). More than 70 biophilic design attributes can be derived from these basic six elements. Environmental Features include the most direct access to nature such as bright colours, water features, plants, views to the outdoors, sunlight and fresh air. Natural shapes includes design elements that are reminiscent of forms found in nature such as oval, arches, and other variations that are "sinuous and flowing" (Kellert, Heerwagen and Mador, 8). Natural patterns and processes refers to "properties found in nature" rather than referring to a visual aesthetic (Kellert, Heerwagen and Mador, 9). Natural properties include "sensory variability" referring to design that appeals to more than one sense, such as scent, touch and sound. Another natural property is providing an environment with "information richness," referring to the cognitive engagement of a space (Kellert, Heerwagen and Mador,9). For example, a space that invokes a sense of curiosity, playfulness and imagination would be rich in natural process.

Light and space considerations include layers and depth of natural light and shadow within a space. The inclusion of natural daylight within the interior is highly recommended due to the positive effects it has on human well-being. Furthermore, if a space a well-lit with natural daylight, the space is perceived as more spacious and harmonious. Place-Based relationships encompasses culture and other qualitative elements into biophilic design. The incorporation of elements such as culture and history of a site can create an emotional connection and familiarity to a space. Other attributes that can create a place relationship are buildings that relate to the site, as well as the use of local materials and plants. If carefully considered, place-based relationships can create a sense of place, avoiding the "placelessness" that modern architecture can create (Kellert, Heerwagen and Mador,13). Evolved Human-Nature Relationships is the last Biophilic design element, and this refers to the relationship between humans and nature. Attributes in this design category include "prospect and refuge, order and complexity, curiosity and enticement, change and metamorphosis, as well as security and protection" (Kellert, Heerwagen and Mador, 13). The essence of this element is how the space makes the user feel.

Occupants feel safe and comfortable when surrounded by a landscape that has reference to the outdoors. There is a sense of curiosity that encourages the "human need for exploration, discovery, mystery and creativity" within their

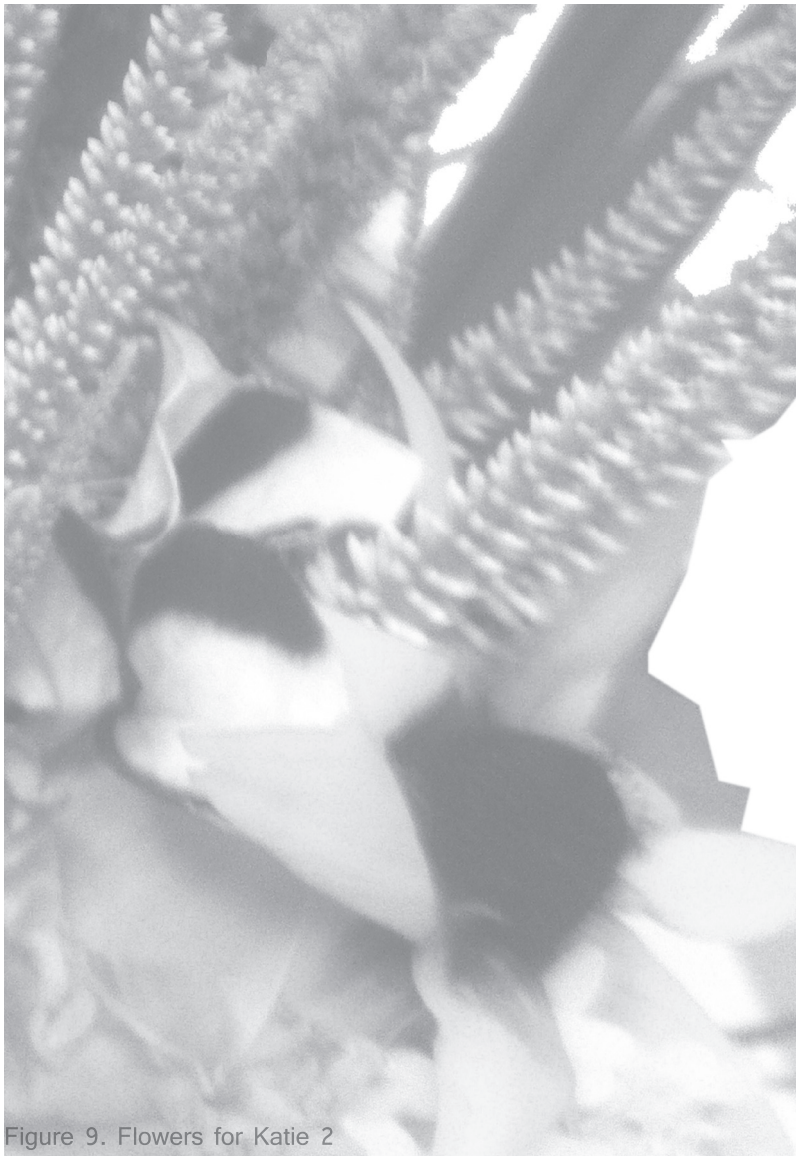


Figure 9. Flowers for Katie 2

living space (Kellert, Heerwagen and Mador, 13). I propose that a space inhabited by biomorphic forms based on diversity and exploration will be more engaging for residents and users of The MIX, rather than maintaining a rectilinear aesthetic. The following portion of biomemetics will highlight how such forms can be constructed, and how they can help reduce the amount of building materials that we currently use in traditional construction.

Michael Weinstock explores biophilia on a deeper level. The main hypothesis of Weinstock's writings is that the biological "hierarchical arrangements of cells and tissues" within plants can be considered as the "new model for engineered structures" (Weinstock, 26). Weinstock is analyzing plant cells as the basis for new methods of engineering the construction of buildings. Known as biomimetics, biological systems can be deconstructed, analyzed and applied for the design of buildings and artifacts. The result of biological systems is the construction of strong structures from mainly weak materials. The dynamic response within the applied materials is vastly different from "the classical engineering of manmade structures" (Weinstock, 27).

The implication of using biomimetics for the engineering of buildings results in buildings that can adapt to environmental pressures and changes. Classical engineering results in a redundancy and waste of materials, whereas the hierarchical structures of cells found within plants denotes the ability of a biological material, such as bamboo, to produce a strong, yet environmentally-friendly building. According

to Weinstock, “all biological forms assemble themselves, and do so under the load of gravity” while collecting the necessary energy and materials from their immediate environment (Weinstock, 28). All forms of biological systems, including plants and the human body are able to respond to environmental stress due to their geometrical morphologies and cellular organizations. There are cellular patterns within natural systems that exhibit geometry and the repetition of the same geometry. Typically, the cellular patterns and structures are based on micro, simple parts that are “assembled together in three-dimensional patterns to form larger organizations” (Weinstock, 28). The strength of these forms in turn produces strong structures that exhibit qualities of strength and flexibility. The influence of biomemetics on architecture is a more free-form way of construction, resulting in a more organic aesthetic.

The efficiency of biology’s use of material and strength of the structure is what is important in this study. The implication for my design is the creation of a biophilic link between humans and their environments as well as the aesthetic of non-linear form and construction. My intervention will also be challenging the notion of a surface as described by Alicia Imperiale as I plan on designing a large portion of the interior as well as exterior structure.

Kellert, Heerwagen and Mador write about the importance of humans and nature for the mental and physical well-being of building occupants. Michael Weinstock writes that architecture can be constructed using principles based on natural and biological organisms. These two theorists’ work leads me to conclude that the future aesthetic of the built environment will be greatly influenced by organic forms to be employed by both architects and interior designers.

In summary, Biophilic design have many health benefits that can aid the body as well as the mind. When incorporated throughout the interior, users will have a sense of well-being and will find the interior relatable in order to form a sense of place. Biomimetics has provided a manner in which to construct curvilinear forms. These two theories are relevant to my inquiry as now I can investigate biomorphic forms that resemble structures in nature, rather than replicating the current rectilinear architectural language of the chosen site. The implication of biophilia and biomimetics on the design of The MIX is to incorporate the use of technology as a function of the dwelling, but not as an aesthetic. I argue that a built environment constructed and based on the biological studies of natural systems can produce a more healing environment with the ability to negate alienation caused by technology and capsular living.

2.7 Mobile Privatization

This chapter will examine the impact that cellphone use has on public space, and how cellphone users can change the dynamic of public areas. Cellphone use is relevant to this inquiry as it is a significant form of ICTs that has made an impact on social and spatial topography. Furthermore, it affects the way in which people manoeuvre around celllphone users in public space. The greater effect is that there is now a fluidity between the private sphere of the cellphone user and surrounding people in the public space, creating a temporary boundary within the area (Humphreys, 367).

With the ubiquitous nature of mobile devices; public spaces can easily be transformed into private spheres. The once clear separation and allocation of public and private spaces no longer has a clear delineation. Public domain enters our private households via our computers, handheld devices, and through all the various media that is broadcast through our technology.

The theories of Castells, Friedman and Krawitz have signaled a new way of living and working in private and public space. In particular, there is a need to understand how ICTs have changed the way we use public space for private conversations. The advent and use of the mobile cell phone has changed how people interact with each other,

and their spatial surroundings. In his article, "Social Topography in a Wireless Era" Lee Humphreys writes that the private activity of talking on the phone has become a public activity due to the mobility and ubiquitous nature of the cellphone. "Cellphone calls in public spaces provide markers for social topographical space" by changing the nature of public space into semi-private space for both the cell phone user and nearby people (Humphreys, 367). The cellphone is only one example of how portable technology and constant connectivity has changed how we use space, as well as the blurring of boundaries between private and public space that ubiquitous technology has created.

Humphreys compares the use of cellphones to traditional payphones. In the past, payphones were placed by designers in enclosed areas that permitted the private act of talking on the phone to not influence the dynamic of a public area. However; with the introduction of the cellphone, the ability to control private phone conversations is more complex. Now the cellphone user "must negotiate privacy for themselves" (Humphreys, 368). Humphreys defines public space as "areas occupied by persons who primarily do not know each other" (Humphreys, 368). The author makes two distinctions in the perception of space, one is physical, and the other is psychological.

A private dwelling such as a personal home can be considered as private space in the physical sense, however; private space can also be perceived psychologically as a private sense of self. Therefore a psychological private space can be distinct from a physical private space. According to Humphreys "the distinctions between public and private spaces are [sic] socially constructed and based on both physical and psychological dimensions" (Humphreys, 368).

Communication technologies have complicated and confused expected behavioural response in regards to social interaction and norms. For example, in modern day society, acceptable behaviours performed by solitary individuals include talking on a mobile phone (cellphone), using a laptop, or listening to an ipod. These technologies can be performed in public meeting spaces, but the use of technology can create a boundary; resulting in a temporary private space produced by the intimate and individual nature of these activities. ICTs have caused a privatization of public areas creating a "displacement of participation in public interactions" (Humphreys, 369).

The result is that people no longer experience genuine interactions in public space, creating less meaningful bonds between humans and a disengagement from the physical

Figure 10. Chatting in Public

space. Humphreys writes about the accepted social norms of public space, and its association with face-to-face interaction, and users' expected level of participation. The expected level of participation from users in a shared public space include activities such as greetings and conversations. An important behavioural norm within public areas is a "minimal main involvement" which encompasses activities performed by solitary users such as reading, walking, and using a mobile device (Humphreys, 369). The actions related to the "minimal main involvement" generally result in a sense of psychological privacy within a physical public area.

The use of mobile devices changes the social dynamic of a public space because the users retreat into a psychological private space and decrease their level of participation and co-present interaction. The use of cellphones can further privatize public space with the discussion of personal topics in a public area, affecting other people in the surrounding vicinity. Humphreys' study on cellphone use concluded that when a solitary user is talking on a cellphone, others will not interact with them, understanding that the cellphone user is engaged in a private psychological space (Humphreys, 374).

Nonverbal cues such as sitting alone, looking down and turning away from the main social activity are further indicators that cellphone users want to maintain a minimal level of participation. Body gestures and the use of mobile devices are "strategies that people use to physically carve out impenetrable space" within a public setting (Humphreys, 374). Furthermore, cellphone users also have the ability to motivate other users in the space to physically move. Humphreys' study demonstrates that cellphone users speaking loudly on their devices caused groups of people to choose another location (Humphreys, 378). People who speak loudly on their devices can also annoy other users of the space, causing them to exchange glances and communicate non-verbally. Most cellphone users are unaware that they are speaking loudly and disturbing others, further emphasizing their personal psychological private space. The once clear distinctions between public and private space have now become blurry, impacting the spatial dynamic of public areas (Humphreys, 371).

ICTs have caused the distinction between public and private to become negotiable and more flexible, resulting in different configurations such as semi-public and semi-private in-between spaces. The new fluidity between public and private spaces is "contextually dependent and continually redefined" (Humphrey, 372). As people become more accustomed to communication via digital and mobile

media, they become less dependent and comfortable with face-to-face encounters. This is a trend that is referred to as mobile privatization. The result of mobile privatization is that individuals are becoming more secluded from each other in a physical sense. Furthermore, the ability to call or connect to the Internet from portable devices has affected people's sense of place, as one can now be physically present in one environment, but mentally engaged in another.

This theory is relevant to my design in that it directly examines the effects that cellphone use has on public space. Mobile Privatization described the differences between physical and psychological private space, explaining the reasons why public space users have norms established for cellphone use. Furthermore, the theory revealed important considerations such as loss of sense of place.

According to Humphreys, the way to mediate the loss of sense of place is to keep the individual engaged as an active participant in the physical environment. In accordance with engaging the users with the building and with each other, I will implement two applications that can be activated by mobile technology. One is Silent DJ, an audio application that involves headphones and FM transmitters. This application will permit users to share music without disrupting surrounding patrons. The second is a visual application called PhotoSwapper. PhotoSwapper will activate large surfaces on which residents and visitors to the complex can project their personal images and create a co-present dialogue. I will discuss the application PhotoSwapper in the following section.

2.8 Reclaiming Public Space

In this portion of the discussion we will investigate how mobile devices can bring strangers together in order to create co-present interactions, as well as create a memorable experience for the users of The MIX. The creation of a unified experience will engage patrons with the building itself, as well as with other users. The concept of PhotoSwapper will be introduced and its technology explained.

Eva Eriksson, Thomas Riisgard Hansen and Andreas Lykke-Olesen collaborated to write a paper in 2007 dealing with how public spaces have seen a shift from "being ungoverned places" to being "more formalized, controlled, less interactive, and designed places aimed at fulfilling a purpose" (Eriksson, Riisgard, and Lykke-Olesen, 1). According to the authors, the shift in the use and purpose of public space is due to ubiquitous technology and personal devices. Technology such as laptops, mobile phones, billboards and surveillance cameras affect how citizens interact with each other and public space. Single-user devices such as mobile phones and iPods have the ability to "create small enclosed personal spheres within the public space" (Eriksson, Riisgard, and Lykke-Olesen, 31).

The authors write about the shift of billboards to the use of digital information displays. The benefit of marketers and the use of digital information is the speed at which they can advertise multiple products using one surface. The intent of advertising and displaying images and information is to encourage consumer purchasing. According to the authors, "as a large part of the public space is occupied by commercial interests; new rules regarding acceptable social behaviour as well as the use of technology become regulated" (Eriksson, Riisgard, and Lykke-Olesen,31). The shift is that public spaces used to be designed and intended to be used as interactive, democratic and social places for gathering; leaving the users the freedom the self-organize how they interpreted and navigated the space. Today however, public space is used more for marketing and advertising information or for "creating personal islands" (Eriksson, Riisgard, and Lykke-Olesen, 31). The authors recommend how digital screens and mobile phones can be used to design more social and interactive spaces in the public environment, encouraging social interaction.

The basis of Eriksson, Hanssen, and Lyyke-Olsen's work is centered around the application PhotoSwapper. PhotoSwapper is an application that involves a "shared interactive surface where pictures from mobile phones can be viewed, shared, explored and interacted with by multiple simultaneous users" (Eriksson, Riisgard, and Lykke-Olesen, 31). Based on their research, the authors feel that technology such as PhotoSwapper can be used to balance

Single-user devices have the ability to "create small enclosed personal spheres within the public space" (Eriksson, 31)

the difference between information push and dialog, in addition to mediating personal spheres caused by mobile technology in the public domain.

For the purpose of this discussion, we will define public space as "a place open to all, free of charge" (Eriksson, Riisgard, and Lykke-Olesen,31). As technology and urban development continues, public spaces will become increasingly more centralized and controlled. Engaging in "private activities in public is often looked down on and offends a range of other sub-cultures, as this behaviour ruins their image of the division or gradient between public and private activities" (Eriksson, Riisgard, and Lykke-Olesen,32). For example, the act of shaving one's beard is not acceptable in a public park and is considered socially unacceptable. Therefore, the act of facial grooming is being controlled by the context of public versus private space.

The use of technology in a public forum can be perceived as a political act used to "enforce the governance as well as the centralization of public spaces, or allow more unstructured social behaviour" (Eriksson, Riisgard, and Lykke-Olesen, 32). The authors introduce three technological aspects in public spaces: Information Exchange, Social Support and Regulation. Currently the use of technology design for Information Exchange is used more for

pushing information rather than encouraging an information dialogue. For example, the reference to pushing information deals with marketers' intent to use electronic media as a tool to create coveted images, and sell their products. In regards to Social Support; most citizens use technology as a personal sphere as opposed to engaging in social interaction. This second aspect deeply affects co-present relationships and sense of place. The majority of North Americans use their mobile devices to communicate to persons not present via email or text. The tradeoff of digital communication is the loss of face-to-face interpersonal relationships. Lastly, the aspect of Regulation and technology is observed to be monitored instead of self-organizing. This third aspect reveals that although citizens have the freedom to use and exchange information via ICTs, the content that they are permitted to share is highly regulated by governing bodies.

The "push of information in public spaces" is exemplified by Times Square in New York City. The large digital screens compete with billboards for the attention and consumerism of the citizens. The screens and billboards demonstrate a large commercial interest with the intent of advertising and selling a product, image or lifestyle. The end result of the commercial interest and the push of information via technology "leaves the average person in a public place as a consumer of advertisements" (Eriksson, Riisgard, and Lykke-Olesen,32). The authors' critique of technology and public spaces leads them to conclude that the users of the public space should have some form of control and be able to influence the information that is being pushed towards them. They hypothesize the potential for technology and mobile devices to be a mediator between people and public spaces. The goal would be to produce and design an interactive technological application that would engage several users at once without creating a controlled, limited system. The application they propose is named PhotoSwapper and is intended to be experienced visually by the users of the space.

The application PhotoSwapper would be projected and interfaced onto large surfaces that would enable people to share personal photos and discuss experiences visually with other people in the space. Considering that most individuals have their own mobile device, the use of already established wireless networks in most cities will enable communication between personal devices, the application, and the sharing surface. Currently, most individuals have their own devices but are not communicating with each other. Eriksson and her colleagues observe that mobile devices are currently used "to perform private activities in public settings, but that so far, most of these activi-

a surface can now be part of a performance or expression of the users

ties are not exploiting the fact that they are performed in public space" (Eriksson, Riisgard, and Lykke-Olesen,33). The personal bubble created by mobile devices increases the distance between users of the public space instead of bringing people together. The application PhotoSwapper would encourage social interaction via the use of personal devices.

The lesson learned from this article is that personal devices and mobile media such as cellular phones do not have to restrict the user to a sphere of private space within a public domain. Eriksson, Hanssen, and Lyyke-Olsen's proposal for PhotoSwapper would use ubiquitous technology to enable strangers to interact with each other in a visual and democratic manner. The implication for my design would be to consider a similar application where I can design and install several surfaces within the complex that would enable patrons to interact on a visual platform. These surfaces will also transform the entire main floor into a performance and share space.

Alecia Imperiale writes in her book *New Flatness: Surface Tension in Digital Architecture*, that a surface is no longer a boundary, but is now perceived as a space of flux, where conditions can oscillate and where possibilities for architecture can combine the "real and virtual in spatial, social, and computational terms" (Imperiale, 6). A surface is no longer a passive part of structure but can now be part of a performance or expression of the users or creators. Surfaces have the potential to create a unique experience and become an expression of performance. Virilio writes "what used to be a substance's boundary line now becomes an access route concealed in the most imperceptible entity. From this moment on, the appearance of surfaces hides a secret transparency, a thickness without thickness, a volume without volume, an imperceptible quantity" (Virilio, Overexposed, 380).

In summary, this chapter has taught me that mobile devices can be used to create interaction between strangers sharing a public space. The use of multiple surfaces creates another opportunity to be expressive in the final design of The MIX.

Design Considerations for Mediating Public and Private Space

In this chapter we will discuss Herman Hertzberger's architectural solutions for mediating the transition from public to private space. The notion of marking territorial differentiations between public and private will be addressed by designing with visual clues that informs the user how the space was intended to be used. Architectural solutions such as material selection, scale and the provision of seating will be detailed in order to create a better understanding of how the structure as well as the furnishings can help users navigate a space.

Herman Hertzberger's writings convey the idea that architects aren't solely responsible for creating space, but that the role of the users and their activities adds meaning to the spatial framework that the architect designs. In his book *Lessons for Students in Architecture* Hertzberger, the Dutch architect writes, that "the concepts 'public' and 'private' may be seen and understood in relative terms as a series of spatial qualities which, differing gradually, refer to accessibility, responsibility, the relation between private property and supervision of specific spatial units" (Hertzberger, 13). For this portion of this inquiry we will use Hertzberger's definitions of private and public space. In spatial terms, the concept of 'private' space can be translated into 'individual', while the concept of 'public' space can be translated into 'collective'. Therefore a public space "is an area that is accessible to everyone at all times, responsibility for upkeep is held collectively" Hertberger, 12). Meanwhile, a private space is "an area whose accessibility is determined by a small group or one person, with responsibility for upkeep" (Hertberger, 12). Between private and public space, we find semi-private and semi-public space.

According to Hertzberger, accessibility refers to the amount of territorial claim a user has on the space. Accessibility can be limited by factors such as social norms, cultural conventions and legislation. Given accessibility to public space, individual users can privatize that space by performing personal acts such as talking on a mobile device. The public domain then becomes a semi-private area.The spatial and visual cues of accessibility given to users can be expressed through design elements such as form, material, light and colour (Hertzberger, 19). For example, the use of a ledge next to a fountain could be used as a place to rest and encourage users to linger while checking messages on their mobile devices. The architectural expression of the ledge has enabled the privatization of public space. The ability of residents to use public space "as if it were private strengthens the user's claim to that area" (Hertberger, 17).

spatial and visual cues of accessibility can be expressed through design elements such as form, material, light and colour (Hertzberger, 19)

Hertzberger writes about the importance of marking territorial differentiations between public and private space. Elements such as seating arrangements, doors, furniture, personal belongings and responsibility determine the character of individual spaces. For example, spaces with high visibility and that are visually open to other spaces, with the use of glass for example, will convey that this is a public space.

According to Hertzberger, residents and dwellers need a "safe nest, a familiar surrounding where you know that your things are safe and where you can concentrate without being disturbed by others; There can be no adventure without a home-base to return to: everyone needs some kind of nest to fall back on" (Hertzberger, 28). Each person needs a safe nest, without which collaboration with others is not possible. The domain of a group of residents should be respected as much as the safe nest of an individual. The floorplan of my intervention will show clear gradations between public, semi-public, semi-private and private spaces. Ther central bar will be public, the surrounding seating areas will be public and semi-public. The communal kitchen and dining area will be semi-private and the dwelling units will be private. Changes in territorial differentiations and design intent will be signaled by thresholds such furniture, scale, lighting, floor level changes, materials and doors.

There are spaces that exist in-between the public and private domains. These in-between spaces are “key to eliminating the sharp division between areas with different territorial claims” (Hertzberger, 40). According to Hertzberger, it is necessary to design these intermediary spaces that are neither strictly private or public, but that are inviting to both types of interactions. The design will incorporate in-between spaces that will mediate the traffic from the public areas on the main floor to the entrance of the dwelling units.

According to Hertzberger, “The most elementary provision to enable people to take possession of their direct environment is probably the provision of seating” (Hertzberger, 177). Given a place to sit, people will take the opportunity to take a little break and perhaps chat with a neighbour. As previously discussed, a place to sit can take shape in many forms, obviously as furniture, but also places like a large low windowsill. Providing spaces to rest will create an opportunity for users to create a private space within a public domain. This is another opportunity for users to check their mobile devices without being completely alienated from the public. The incorporation of various types of seating will be implemented in my design in order to create transition zones between public and private activities.

Figure 11. Ladies Sitting on a Ledge

Figure 12. IIdex Hall

Boden and Molotch argue that face-to-face interaction is "fundamental to social order" and that "social moments of everyday life anchor and articulate the modern macro-order" (Boden, Molotch, 105). According to Hertzberger, in order to stimulate contact and create interaction, a designer must create casual, non-committal spaces. As long as the residents and patrons of the space feel that they are free to leave if they wish, they will feel comfortable enough to relax amongst a crowd (Hertzberger, 178).

In summary, Hertzberger's writings are relevant because they discuss how architectural design elements such as ledges and stairs can provide a place for repose. Furnishings and the variety of seating are simple solutions in creating a flexible space able to accommodate needs of different users. In addition, design elements such as colour, form and material can signal a user on territorial differentiations between public and private space, which is a central topic for this practicum.

2.9 The Urban Influx

In this portion of the inquiry, motives for developing current infrastructure will be examined. Castells thoughts on the emergence of mega-cities and the centralization of economic power will be one of the main theories examined. Due to the rise of mega-cities and the influx of rural citizens to urban centres, arguments from city planners Walter Siembab and Peter Katz will also be examined.

In *The Rise of the Network Society* Manuel Castells expresses that "space is the expression of society" (Castells, 440). He clarifies his statement by saying that "space is not a reflection of society, it is society" (Castells, 441). The overall social structure of a region or city therefore determines how space will be formed, divided and allotted by its citizens. For example, in American cities, the core is usually inhabited by the poor and the immigrants. The wealthy live in large houses located in the suburbs. In European cities, the successful and wealthy live in large flats located in the city center, or they own large homes located in a nearby suburb. There is a major difference between European and American city centers. For the most part, the majority of American inner cities are considered to be derelict ghettoes that the wealthy have left to decay. The majority of European city centers are enjoying rehabilitation and preservation (Castells, 429-33). I am basing my motives to create a higher urban density based on traditional European city planning, and as a rebuttal to North American suburban sprawl.

Castells argues that mega-cities are the new spatial form for the global economy and the ICT society. The emergence of mega-cities has various geographic and social implications for citizens. Mega-cities house an average of 20 million people and are considered to be "nodes of the global economy, concentrating the directional, productive, and managerial politics of power" (Castells, 434). Such cities include Tokyo, Sao Paulo, New York, London and Shanghai. These cities control the media and have the capacity to "create and diffuse messages" on a global level (Castells, 434). Mega-cities are economic magnets for their surrounding regions and their countries. These mega-cities dictate the global economy, connect and distribute information networks, and are the focus of the world's global and political power. ICTs are the arteries that connects the veins of these mega populations, and urban density is the key to their success.

The emergence of mega-cities is another motivation for me to design a mixed-use dwelling. If current planning trends point to an influx of rural citizens to city centers, then city planners, architects and designers need to consider in-filling current infrastructure and re-using existing build-

ings in order to sustainably accommodate these new urban citizens. The success of mega-cities is not dependent on the large number of people that can dwell there, but also on the proximity of these people to one another.

Castells' theory of centralization influences my desire to create a higher urban density. If workers have the ability to work from home, they should have the opportunity to walk or ride a bike to their next business meeting, instead of relying on the automobile as their only means of transportation. Walter Siembab discusses the importance of ICTs in restructuring the problems that have developed due to suburban sprawl. Technology will be a key factor in establishing a new physical and social way of living that can accommodate the increasing urban population growth, "and to address crises of environmental sustainability and petroleum supply" (Siembab, 366). Siembab supports Peter Katz's views that cities within America need to be spatially restructured (Siembab, 367), and that high density multi-unit dwellings are a viable solution for the continued influx of populations into urban centers.

Siembab proposes that part of the solution for smart growth is the return to traditional neighbourhood developments that include mixed-use town centres, amenities within walking distance, greater access to public transport, and a lower reliance on automobiles. The key for change is not only in the retrofit of the physical environment, but in the development of new behaviours for North American citizens. Interior designers must incorporate ICTs to create a more livable community, that is both sustainable and viable. Siembab's and Katz's writings have guided me to design for a return to city centers and the need for higher urban density as part of sustainable living.

In summary, Katz's and Siembab's arguments for the need to create neighbourhoods with circulation designed for pedestrian activity have become motives to design a MUD. If the design of The MIX is successful, then the remaining 10 acres of the Southwood Golf Course can be developed using the same principles of sustainability and mixed-use property development. In addition, Castells' arguments for larger city centres places the need for higher density development on a global scale, signalling a change from rural and suburban living. The next portion of this chapter will explain the benefits of creating friendships with neighbours and the importance of creating communal spaces in urban dwellings.

2.10 Collective and Communal Housing

This chapter will detail the benefits of collective and communal housing. Both types of housing feature shared spaces intended to create social interaction and support systems for the residents. Benefits to sharing space are financial, social and spatial as residents can afford amenities that would be too expensive if they lived on their own.

Karen A Franck is a professor of Humanities at the New Jersey Institute of Technology. For the purpose of this document she will define collective housing as “housing that features spaces and facilities for joint use by all residents who also maintain their individual households” (Franck, 3). The spaces shared by residents are designed as central spaces in collective housing and are not considered as additional amenities. Collective housing features individual dwelling-units that are outfitted with private kitchens, baths and living spaces in addition to shared public spaces. The implication of collective housing affects the residents both spatially and socially due to the “joint use of common facilities and spaces by unrelated persons or households” (Franck, 3).

Franck writes that one of the benefits of providing collective housing and a shared living space is the lower cost of living for residents. A secondary benefit of collective housing is the “opportunity for group work and play” (Franck,

Figure 13. Dinner at Susan’s

Figure 13. Dinner at Susan's

5). Sharing facilities can lower costs (such as rent or mortgage payments) while also allowing residents to pool resources to afford amenities that they would otherwise not afford by living alone. Sharing of responsibilities like cleaning, grocery shopping and meal preparation are practical advantages that save each resident's time and energy. The social benefits of collective housing are "increased security and support provided by the simple presence of others; possibilities for social interaction, companionship, and friendship between residents" (Franck, 5). The benefit of having individual dwelling units associated with collective housing is that residents can maintain their independence and privacy as well as choose to participate in the shared spaces. I argue that it is imperative to incorporate shared spaces into my re-design of Southwood in order to negate the effects of pod-living lifestyles and capsularization.

Residents who live in collective housing feel a sense of community with their neighbours (Franck, 7). Shared spaces such as a large living space and kitchen enable the residents to interact, share and create relationships. The private units are completely self-sufficient therefore if residents desire more privacy they can make a choice regarding public interaction. The successful design of collective housing requires a balance between public and private space. Franck writes that collective housing should

feature “a space to accommodate the entire community for a meal, as well as indoor and outdoor spaces that offer the residents an opportunity to linger and chat” (Franck, 7). Franck’s findings indicate that the success of public spaces aren’t only in their design. They also require residents to have a desire to generate and maintain social activities and sharing. Common spaces must be flexible and welcoming to people of different ages and lifestyles in order to support shared activities and meals (Franck, 17). Collective and shared housing in countries such as Sweden and Denmark are marketed to a broad range of users ranging from students to families with children.

The sociologist Alison Woodward has written extensively on the benefits of collective housing and communal living in Sweden. The Swedish government has done extensive studies and experiments in regards to communal living in all sections of housing. Beginning in the 1960s, Swedish citizens experimented with communal living consisting mainly of small groups of friends who shared one centrally-located kitchen. These groups lived in both rural and urban areas. Currently, the majority of modern Swedish communal living homes provide each household with their own kitchen as well as space for a central shared kitchen (Woodward, 71).

One of Sweden’s most progressive projects is The Service House in Sollentuna, constructed in 1972. The Service House was revolutionary in that the apartment units were built in various sizes in order to accommodate several types of households and families. In addition to its 1246 dwelling units, the complex hosted a day care, reception center and a restaurant. As housing evolved in Sweden, the 1980s brought an understanding that communal living meant “multigenerational, multifamily housing that included communal facilities and the potential for common meals” (Woodward, 74). Woodward’s depiction of Swedish common living supports the same rationale as Franck’s argument for collective housing. Complexes with restaurants are generally open to its residents and the general public in order to create a better sense of community for the residents and their surrounding neighbourhood. In Swedish models for communal living, the shared spaces are typically centrally located, providing access to all residents. The design intention of the kitchen and dining area is to create a centre space that can easily be accessed by the residents.

Overall, the study on the benefits of collective and communal housing have been informative in that it has revealed the various aspects of living with other households. The opportunity to make new friends supports Boden and Mo-

lotch's theory on the need for co-presence, and the sharing of space supports Siembab's and Katz's thoughts on the need to share space in order to accommodate future growth. Furthermore, the success of shared living space in Sweden and Denmark signals that collective living is viable and possible for households of different sizes and ages. The social, financial and practical advantages of collective housing have an influence on my design intervention for the Southwood Golf Club. I intend to design a mixed-use space that includes a restaurant, internet café, and a shared living space for the residents that is comprised of a communal kitchen, dining area and living room. I would like to create a housing development with "sufficient private space for independent living and substantial common facilities" that facilitate face-to-face interaction (Woodward, 93).

2.11 Re-articulating Interior Space via Digital Media

In this chapter we will examine the direct impact of ICTs on the personal dwelling. Three authors will be examined and they will discuss issues of domesticity, social influence, privacy and identity as they relate to the home. Their thoughts are significant as I am incorporating four dwellings units in the design of The MIX.

In his book *The Emergence of the Interior: Architecture, Modernity, Domesticity*, Charles Rice defines interior space as being elusive and undefined, usually perceived as secondary to the architecture of the building. Rice proposes that the interior is affected by various "circumstances, discourses, and occurrences" that influence the user's memory and future use of the interior space. In the early nineteenth century, the idea of an interior space was defined according to domesticity and "the material realities of domestic life" (Rice, 112). However, in order to understand the interior in relation to its elusiveness, past certainties associated to interior design and its materiality must be questioned. Put simply, Rice asks his readers to entertain the notion that the term interior is not what we understand it to be. Rather than defining the interior according to domesticity and its related materiality, Rice is proposing that the interior is perceived as an expression of social and cultural phenomena.

In order to support his view, Rice analyzes the literature of his colleagues in order to fully explain the impact of new media and ICTs on domesticity and the perception of interior space. One of the authors that Rice examines is Terence Riley. In *The Un-Private House*, Riley writes about electronic media and its infiltration and affect on domestic space. According to Riley, the house has been "associated with privacy since the seventeenth century" (Riley, 11); however, he also writes that the house has always successfully mediated both private and public realms. Traditional forms of media such as books and newspapers have introduced public functions within the private domestic space of the home. As a result, study and library spaces were implemented in order to house the public activity of reviewing traditional media such as books and magazines. Visual media such as magazines and newspapers further enforce the concept that the interior is defined by its images in as much as its functions of domesticity.

The privacy that was once associated with the home is now uncertain due to ICTs and new media. "Today, the private house has become a permeable structure, receiving and transmitting images, sounds, text and data" (Riley, 11). One of the key issues raised by Riley is distancelessness. This is accomplished by the instantaneous nature of communication via the internet and mobile devices. Distancelessness challenges the notion of traditional relationships by implying that relations created via new media have no concept of far or near. According to Riley, the home is no longer "structured by the polarity of public and private" (Riley, 12). It has no limits of complete privacy due to the projection of interior home space by new media and ICTs.

the interior is perceived as an expression of social and cultural phenomena

David Morley, a professor of Media and Communications at the University of London, expands upon the idea of privacy and identity as they have been changed by new media. Rice examines Morley's writings and concludes that the ubiquitous nature of ICTs and mobile devices creates an environment where household boundaries can be transgressed by "bringing the public world into the private," while simultaneously creating a "broader social experience" through the sharing of time and projected space (Rice, 114). Morley's concern is the purity of identity, as one's true identity is often not the one that is projected in real time through digital communication. Furthermore, Morley criticizes the common and homogeneous identities that citizens portray across the globe, as though people have no unique culture, ethnicity or social background of their own. The speed and ease at which people can share information on a global level is creating a universal identity.

The physical boundary of a home can be extended through its electronic landscape. The role of the interior home is to facilitate this expansion of personal space into virtual environments. Modern developments in technology and ICTs demands that the interiors of homes provide a backdrop for projected space and identities. Furthermore, the dwelling and idea of home provide a safe-haven where citizens can comfortably communicate electronically. The domestic dwelling is not only a mediator for digital landscapes and the home, but it is the visual identity that a citizen can portray while communicating with another person in a distant location. Therefore, the interior is not a stable, concrete environment, but is becoming just an image, a vision portrayed by our webcams and ICTs. Rice argues that because of this we must dismiss our pre-conceived notions of what an interior is. The interior is ever-changing due to its electronic projection and use of manipulated images in order to form on-line and homogeneous identities.

In summary, Rice, Riley and Morley provide an architectural and humanist perspective on the effects of new media and ICTs on society and interior space. Homes are no longer a safe-haven where privacy is the utmost concern, and domesticity is the primary function. Interior spaces are now an environment where public and private functions are mediated through the use of digital media. Furthermore, one of the home's purposes is to function as a background, in order to project a desired lifestyle and identity for the dweller. This new function and purpose of the interior space is the basis of the reconceptualition of the home and interior space (Rice, 117). The arguments of Rice, Riley and Morley are relevant to this practicum as they reveal that the impact of ICTs on the personal home is that interior space is always changing and cannot be clearly defined, as it is an expression of society and culture. However, since media is so deeply influential on North American culture, we can conclude that the interior of the home is a reflection of ICTs and media.

2.12 Summary of Design Implications

Table 1: Summary of Design Implications
The following table summarizes each theorist, their main arguments, as well as any design implications that their theory may have on the design of The MIX.

Theory	Theorist	Topic
Space of Flows	Manuel Castells	Knowledge and service as the future of the global economy
Compulsion of Proximity	Boden & Molotch	Face-to-Face Interaction
Capsularization	Paul Virilio & Lieven deCauter	Capsular Living
Biophilia	Stephen Kellert Judith Heerwagen Martin Mador	Nature required for well-being
Biomemetics	Michael Weinstock	Plant cells as inspiration for architecture
Mobile Privatization	Lee Humphreys	The fluidity of public and private space.

	Description	Design Implications
	Decentralization of the work Force Tele-workers	- Less of a need for traditional work spaces and offices - Live/Work/Play space can be merged - Homes centered around ICTs and the necessary power outlets to re-charge portable devices
	Co-present meetings are more meaningful than electronic relationships	- The integration of public meeting space - Create opportunities for social interactions
	Electronic presence will negate the need for physical movement.	- The center of the personal capsule revolves around the power source of mobile devices
	The necessity to integrate nature into the built environment for the mental and physical health of the users	- incorporate 6 biophilic design elements: environmental features, natural shapes and forms, natural patterns and processes, light and space, place making relationships, human-nature relationships (Heerwagen, 6)
	Cellular structure based on biology can replace traditional building and engineering methods of construction	- More organic forms and interior architecture can be constructed using principles of biomimetics
	Communication technologies have enabled private activities such as cellphone use to change the dynamic of public spaces.	- Design a public space that will enable the use of mobile, digital technology without creating a sense of alienation from other users.

Summary of Design Implications continued		
Theory	**Theorist**	**Topic**
Public vs. Private	Herman Hertzberger	Architectural elements and their functions
Urban Influx	Walter Siembab and Peter Katz	Urban restructuring
	Manuel Castells	Mega-cities are the new urban form
Collective Housing and Common Living	Karen A. Franck and Alison Woodward	Communal and Collective Housing
Distancelessness	Charles Rice, Terence Riley, David Morley	Interior Space is defined by culture

2.13 Summary

This chapter of the inquiry examined many theories and ideas that have lead to clear design implications. Macro scale theories such as Castell's Space of Flows as well as Micro theories such as Rice' Re-Articulation of the North American Interior will influence the final design of The Mix. On a macro scale, design implications include re-using existing infrastructure in order to contribute to higher urban density and to accommodate the influx of rural citizens. On a micro scale, the interior aesthetic of a dwelling reflects social and cultural phenomena as they are reflected in the media. In terms of function, space can be spatially organized according to activities such as live, work, play, eat, dwell in order to reflect the fluidity of function and space caused by ICTs and teleworking. Furthermore, ICTs have blurred the boundaries between public and private space, and therefore the floorplan must reflect the blending of territorial differentiations between public and private space. In terms of aesthetics, natural forms and direct access to the outdoors will be incorporated into the design of The Mix as biophilic design principles will make the dwelling more accessible for occupants. Lastly, the need for co-presense is still appealing and needed by humans and therefore,

	Description	Design Implications
	Users who feel responsible for the maintenance of a space will form a community.	- Create a communal kitchen for residents' sense of ownership and community - Provide varied and easily accessed seating for impromptu meetings
	High density dwellings are a viable solution in order to address sustainability and energy issues	- Mixed use town centers, amenities within walking distance, access to public transport, lower reliance on automobiles
	Urban density is key to the success of the new mega-city.	- There is a need for higher urban density, not suburban sprawl
	Sharing amenities in a collective housing situation can lower living costs, create a sense of community, and allow residents to share resources.	- Incorporate shared spaces for living and dining activities for the residents - Locate these spaces centrally, to provide easy access to all residents
	ICTs and new media have made the home unprivate. The home must now mediate both private and public realms. The home no longer has complete privacy due to its projection via digital technology.	- There is a new emerging interior, that is expressed in a new spatial language due to ICTs. This language will be examined in the Spatial Geometric portion of this inquiry.

gathering spaces will be integrated into the design of the complex. Gathering places are also part of the communal and collective living design implications, and will be carefully considered in the planning of the semi-private spaces.

Lastly, the goal will be to create a sense of place in order to engage users with each other and with the structure, therefore the PhotoSwapper and Silent DJ applications will use ICTs and mobile devices as a means to negate feelings of isolation. The PhotoSwapper application is derived from the sample application as described on page 50 of this inquiry. The PhotoSwapper application can be downloaded onto a mobile device, enabling the projection of photos onto The MIX's surface through the use of bluetooth technology. The Silent DJ application can also be downloaded, enabling audio files to be shared through the use of FM transmitters and headphones found within the public spaces.

the MIX

PRECEDENT ANALYSIS

CHAPTER 3

3.1 Precedents Introduction

The study of other people's work can educate and inspire a designer to incorporate new ideas into a project. I have chosen three varying projects based on their success and innovative design. The projects that I have chosen to study vary in typology. Villa Van Vijven is a multi-unit dwelling for a family of five in Holland. Dockside Green is a large mixed-use complex located in Victoria, British Columbia. Lastly, The Butterfly House is a single family home built in the United Kingdom. In this section of the inquiry I will explain how each of these precedent studies have informed my design, and how I have decided to use specific design implications derived from these studies.

3.2 Villa Van Vijven

Name: Villa van Vijven
Designer: New Architects
Location: Almere Overgooi, Holland
Total Floor Space: 1300 sqm
Completed: April 2008

Villa van Vijven is a multi-unit residential dwelling that houses five apartments and features interior and exterior common spaces where the residents can enjoy each other's company, and also have the option to retreat to their own private space. Figure 14 shows that each unit has a view of the Dutch landscape, featuring individual layouts and floorplans. The inspiration behind the design of Villa van Vijven was communal living and democratic design.

Villa Van Vijven houses five families and a total of 20 people. The families commissioned the design and construction of the project and wanted an emphasis on nature and views of the hills and nearby lake. Each unit within the complex is defined by its own colour on the interior of the complex, as shown in Figure 15. The communal areas within the collective apartment include a a shared entrance, a communal garden and a public square which features an outdoor space that accessible by all of the apartments. Figure 16 shows the common entrance and communal outdoor areas.

The architects were successful in creating five different layouts, each with its own character. For example, the Krone family wanted open spaces with long walls to hang their art, the Sweringas wanted a large kitchen and a smaller living room, and the Noordhoeks wanted ample living room space to accommodate their large family. The New Architects designed the complex to exhibit personal taste and preferences rather than uniformity.

Next Architects' challenge was to create a single unified dwelling that accommodated varying needs of several families. Each unit has its own character, which is the result of a quarter turn of each storey in relation to the one on which it sits. The quarter turn in the floorplan provides each dwelling with consistent and equal daylight, views, space, and also creates a consistent architectural language throughout the five units within the complex. Villa Van Vijven has influenced my design with its communal spaces, and the personalized apartments.

Design Implications

The design implications that I will implement based on this precedent are the inclusion of a shared living space for the residents. Due to the views of the Red River and an abundance of trees and walking paths there will be both indoor and outdoor shared living spaces. Furthermore, public and private spaces will have views and access to the outdoors. The negotiation between public and private is successful in the design of Villa Van Vijden as residents have the choice to share a kitchen, as demonstrated in Figure 15, in addition to retreating to their own dwelling units.

Figure 14. Villa Van Vijden 1

Figure 15. Villa Van Vijden 2

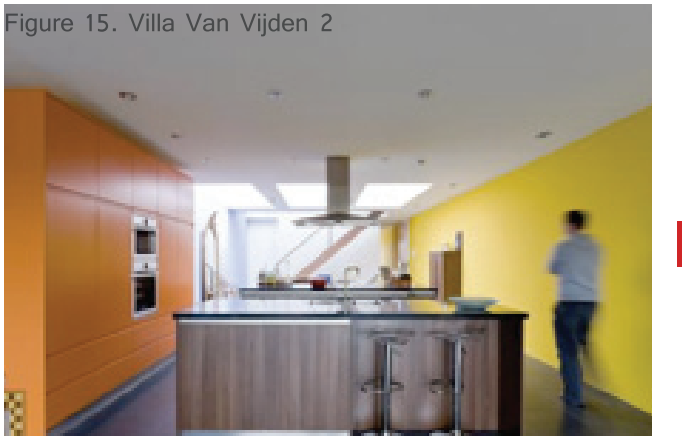


Figure 16. Villa Van Vijden 3

Photographer: Iwan Baan. Courtesy of Next Architects.

3.3 Dockside Green

Name: Dockside Green
Designer: Busby Perkins + Will Architects
Location: Victoria, British Columbia
Total Floor Space: 6 hectares
Completed: 2011
Mixed-Use Land Development
Focus on Sustainable Residential Living

Dockside Green is a six hectare (15 acre) complex that features residential, commercial, light-industrial, office and retail space in the heart of Victoria, British Columbia. Figure 17 shows the scale of the complex's buildings. The first two residential buildings, Synergy and Balance, have qualified for LEED Platinum Status, and feature ground-breaking sustainability initiatives. The residences feature natural daylighting, views to the outdoors, rainwater collection, access to green spaces and modern architecture. Figure 18 shows the facility's ability to collect rainwater and harvest its own wind energy.

For my design intervention, the mixed-use aspect of the Dockside Green complex is the most significant element. The Dockside Green architects created a self-sustaining community, fueled by small businesses, offices, and small industry. The entire complex is intended for residents to walk to work, or if needed, to share one of the electric cars provided to get to other destinations.

Due to this precedent, I will consider incorporating a café, restaurant, or small convenience store to enrich the lives of the inhabitants. In order to create a neighbourhood on Southwood, or to create a small community, it is necessary to provide amenities that will support social interaction.

Furthermore, Dockside Green has successfully integrated biophilic design principles into the function and aesthetic of the complex, inspiring me to incorporate natural forms and references to nature within the plan of The MIX. The Dockside Green designers and landscapers have incorporated views to the outdoors, natural daylighting, and walking paths, to help the residents of the complex connect with nature and establish a sense of well-being. The residents of Dockside Green are an example of sustainable design that successfully integrates high urban density, cutting-edge technology, and a connection with nature that establishes an improved lifestyle, physical and mental well-being for its occupants.

Design Implications

The design implications that I will consider based on Dockside Green are the mixed-use elements, such as retailers, commercial businesses and restaurants within close proximity to dwelling units. For example, I will create public gathering spaces meant for meeting, eating, waiting and working within the same building as dwelling units. Similar to Villa Van Vijden, Dockside Green has plenty of access to the outdoors. My re-design of the Southwood Clubhouse building will use similar biophilic design elements as these two precedents.

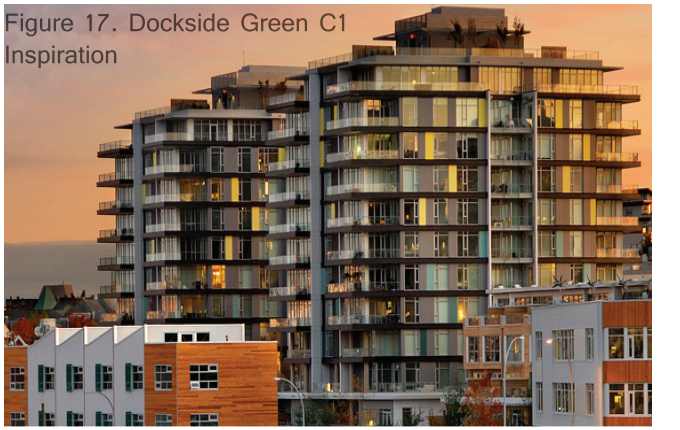


Figure 17. Dockside Green C1 Inspiration

Figure 18. Dockside Green Balance - Overall

Photographer: Vince Klassen. Courtesy of Perkins + Will.

3.4 The Butterfly House

Chetwoods Architects
Name: Butterfly House
Designer: Laurie Chetwood
Location: Surrey, UK
Completed: 2003
Total Floor Space: 800 sq. ft.

Laurie Chetwood is the chairman of Chetwoods Architects and "his main philosophy is based upon a non-formulaic approach to design – taking precedent largely from nature and involving psychological profiling as an essential part of the [sic] process" (www.chetwoods.com // chairman). I have chosen Chetwoods Architects Butterfly House as an example for their unconventional design.

Figures 19-21 shows the expressive form of the exterior and how the patterns on the fabric reflect within the interior spaces. The Butterfly House's garden is fully integrated and intertwined with its architecture. The body of the house is inspired by the form of a caterpillar transofrming into a butterly. The entrance of the house is formed by two large kevlar material wings that move with the wind and are patterned after a butterfly. Tubes of fibre optics make the interor and exterior spaces dynamic as they illuminate at night.

Chetwood's projects are an example of technological design that is derived from nature. His work already exists in the built environment and is beautiful and innovative in its execution. Furthermore, Chetwoods' designs are a response to social, economical and environmental concerns. The firm's work is an indication of what is to come in the future for architecture and design.

Design Implications

The Butterfly House will influence my re-design of Southwood Clubhouse building resulting in an expressive exterior and interior forms. The integration of technology and nature have biophilic implications which are a focus for my design. Not only is the design of the Butterfly House innovative, it is functional and practical, as the fibre optic tubes are solar-powered. Similarly, the free-form columns that I am implementing in the design of The MIX will also serve as surfaces for the PhotoSwapper application. Therefore, the form will have a function for ther users, as well as conceal structural columns within the floorplan.

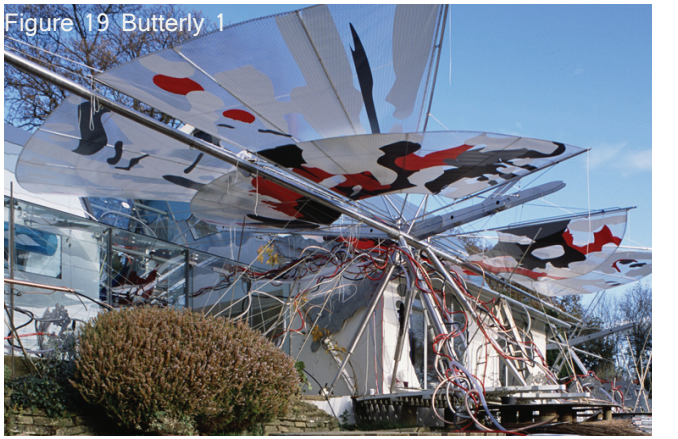


Figure 19 Butterly 1

Figure 20 Butterfly Internal

Figure 21 Butterfly 2

3.2 Precedents Summary

The underlying theme of all three precedents is their connection to the outdoors. Villa Van Vijden is relevant because the owners wanted a shared outdoor and indoor living space, whereas the Dockside Green implemented green space as a sustainability initiative. The Butterfly House incorporates sustainable energy into an expressive form. Although three different typologies were examined, they all revolve around the personal dwelling, and the concept of sharing space, and incorporating new technology in the design of the form. The lessons that I have learned from these precedents will be integrated in the final design of The MIX.

the MIX

SITE ANALYSIS & PROGRAMME

CHAPTER 4

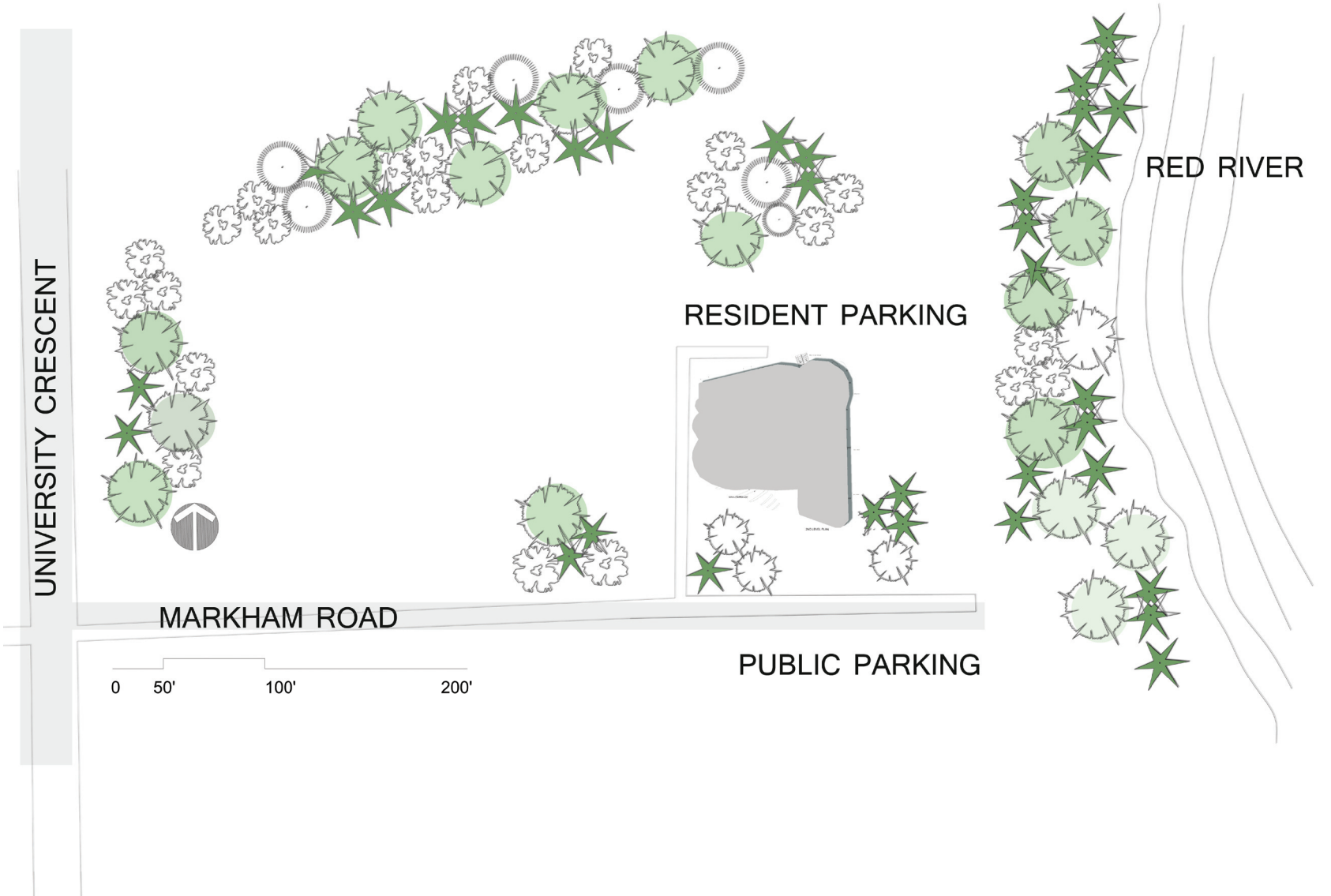


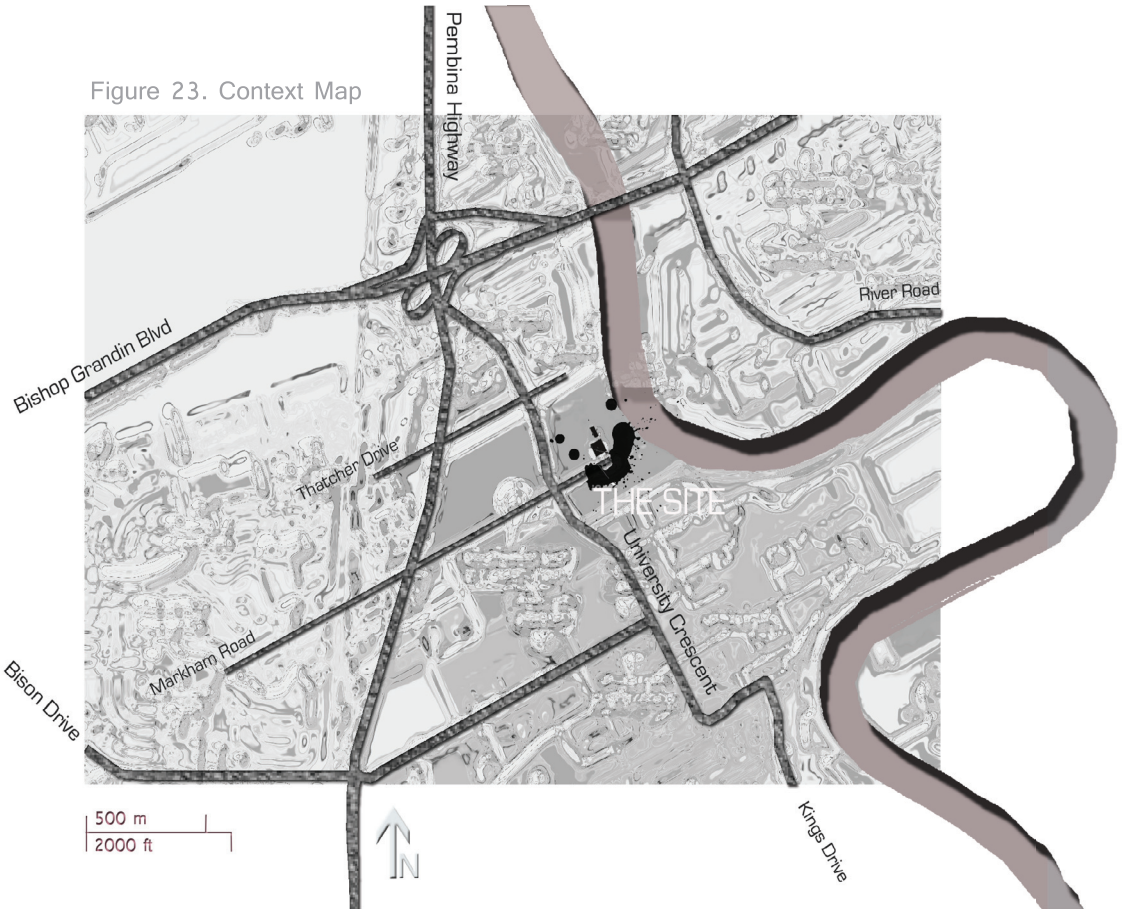
Figure 22: Site Map

Chapter 4: Site Analysis & Programme

4.2 Site Description

The Southwood Golf Course located on University Drive provides an excellent opportunity to re-design the clubhouse into a multi-unit residence for students and young professionals. The entire area of the golf-course is 10 acres and the location of my design intervention is the current Southwood Clubhouse. To support the idea of less urban sprawl and sustainability, it is within walking or biking distance to grocery stores and various bus routes. Southwood Clubhouse is approximately 10,000 square feet in area, featuring a long, horizontal split-level architecture, and showcases large windows that reveal views to the outdoors. Currently the clubhouse is outfitted with six offices, a commercial kitchen, a dining room, banquet hall, washrooms and locker rooms for its members. Figure 23 on the facing page is a general plan of the area in order to illustrate the context of the Southwood Clubhouse.

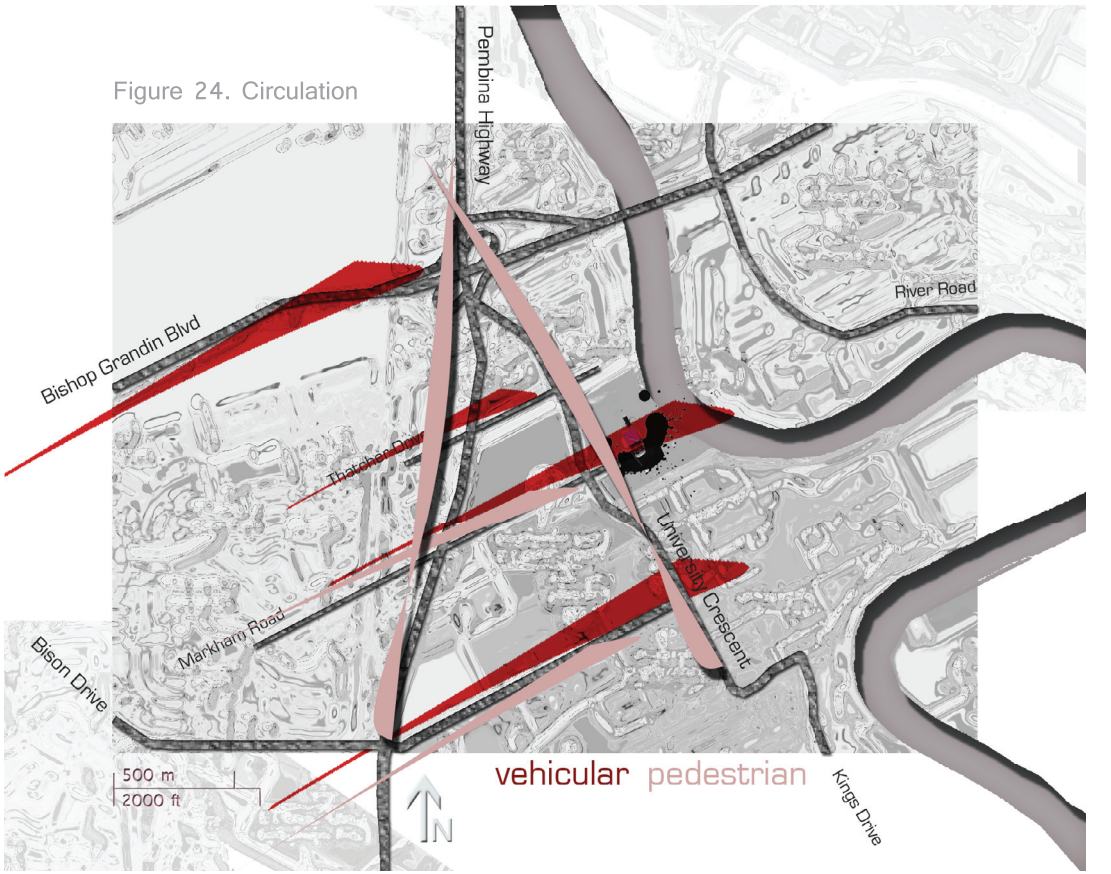
Figure 23. Context Map



4.3 Site Analysis I Circulation

The old Southwood Golf Club is located on 101 Markham Road, which runs perpendicular to University Crescent and is within 15 minutes walking distance to the university campus. University Crescent has heavy vehicular traffic during the mornings from 8:00-9:00 am and at the end of the day between 4:00-5:00 pm. There is also constant pedestrian traffic along University Crescent throughout the day as students live in nearby apartment complexes such as Summerland also located on University Crescent. Figure 24 on the facing page illustrates the vehicular and pedestrian traffic routes and activity within the area. There are several bus stops near 101 Markham Road bringing students traveling from McPhillips, Portage, Regent, and Meadowood to the University Heights area. Major bus routes include the 36 Northwest Super Express (McPhillips and Pembina), the 60/61 Pembina and Portage, 75 Crosstown East (Bishop and Regent), and the 76 (from St. Vital Centre). Access to bus Routes and major amenities located on Pembina Highway are within 5-10 minutes walking distance.

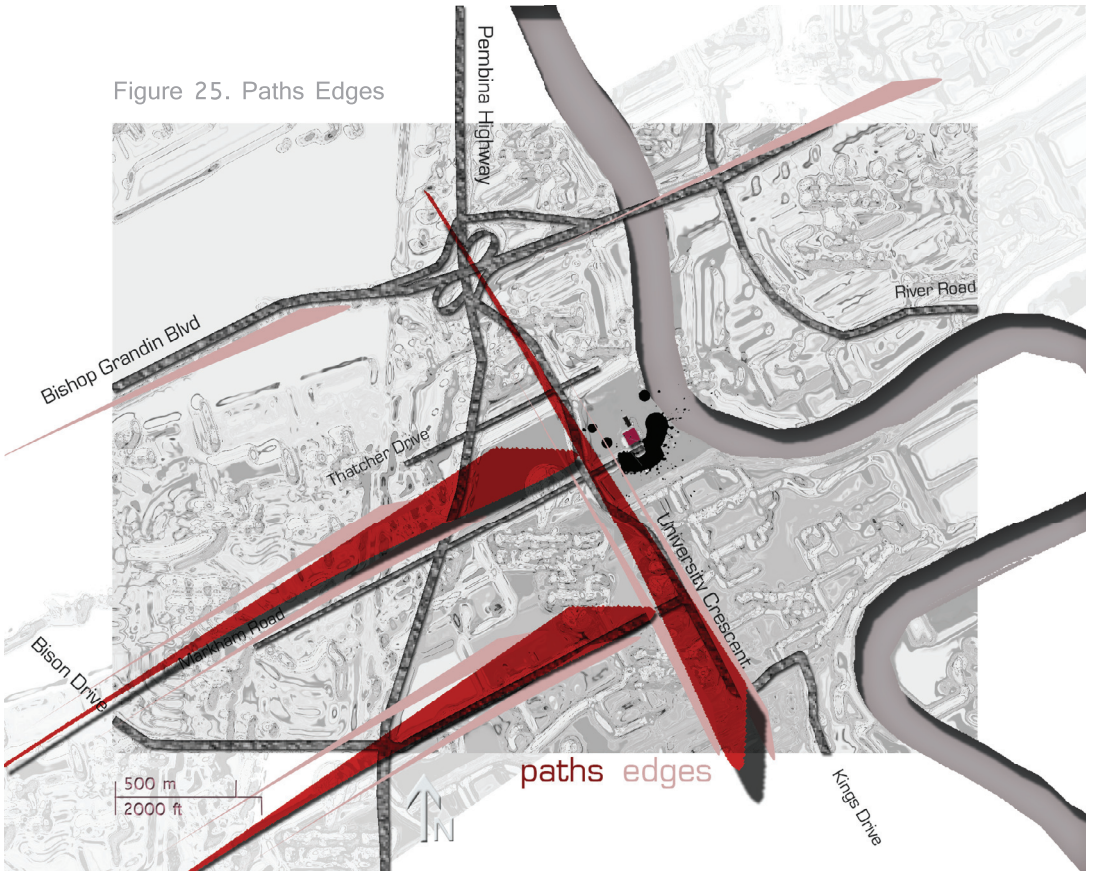
Figure 24. Circulation



Site Analysis I Paths Edges

The paths along University Crescent dictate the accessibility of the site. There are pedestrian paths on both the east and west side of University Crescent. The edges along University Crescent are dictated by homes going north closer to Bishop Grandin, and also by a fence that protects the former Southwood Golf Course from non-club members. There is one path along the south of the golf course that residents and students can use to access The MIX. Pembina Highway is another major path that provides access to both University Crescent and Bison Drive. These two roads are a life line for Markham, as the majority of people would choose these two paths to travel to 101 Markham Road. Thatcher Drive is limited for its residents' use, as it is a residential street that is heavily regulated to prevent university traffic. Figure 25 on the facing page is a graphic representation of the paths and edges surrounding the site.

Figure 25. Paths Edges



Site Analysis I Nodes Landmarks

The former golf clubhouse was a node that was a place for Southwood Club members to congregate and play golf. Major landmarks in the area include the University of Manitoba Campus, as well as the future Bomber Stadium which is currently being constructed at the corner of Bison and University Crescent. The University has several nodes within its landscape which include UMSU, Frank Kennedy/ Max Bell sports center, and the Elizabeth Dafoe Library. Figure 26 on the facing page graphically represents the nodes and landmarks in the area. Several businesses located nearby on Pembina Highway also provide nodular activity, such as the strip of restaurants located at the intersection of Bishop Grandin and Pembina Highway, as well as the Shoppers and Safeway located at the west end of Markham Road.

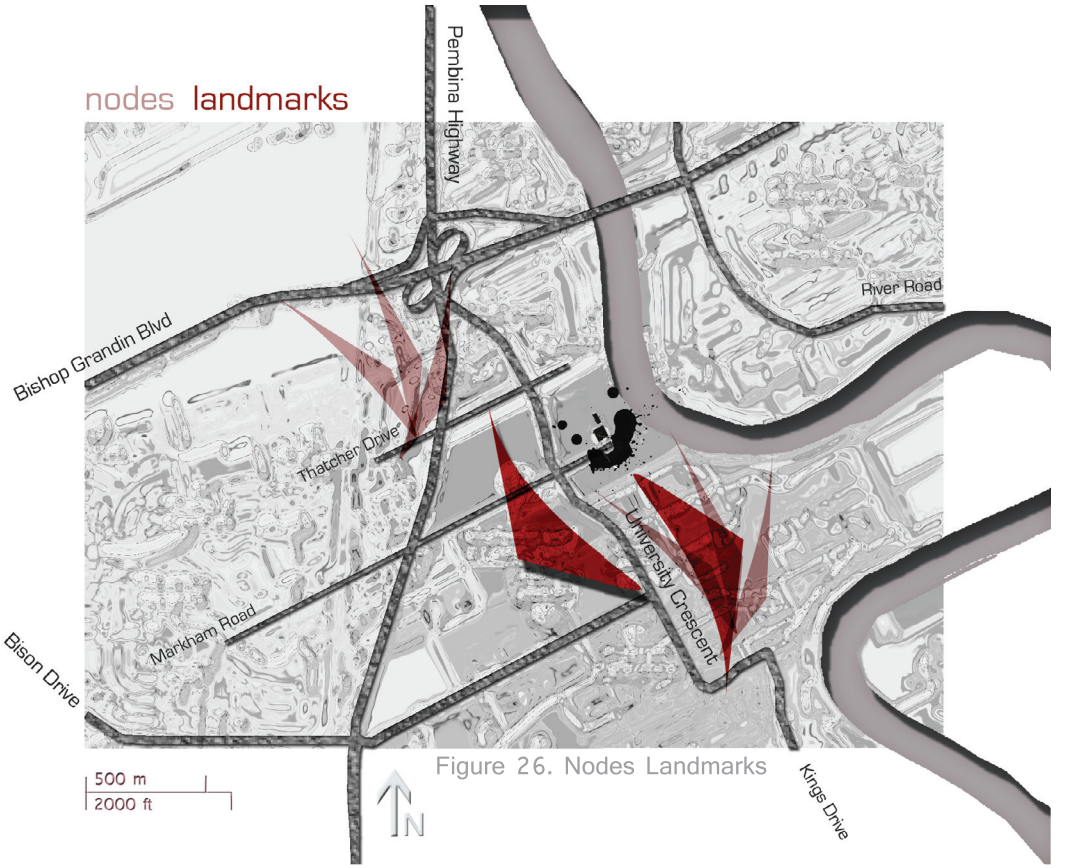


Figure 26. Nodes Landmarks

Site Analysis I Rhythm

The rhythm of the site is very calm and heavily influenced by the trees of the natural landscape. Elm, pine and spruce trees give character and vertical rhythm to the side. The former golf course features vast greenways that are surrounded by lines of trees to create a wind barrier. The entire site is connected by gravel paths that were formerly used by golf carts. I intend on maintaining the current paths as a way for residents and patrons to truly enjoy the existing landscape. Furthermore, the paths connect The MIX with the University, the neighbouring University Heights, and the businesses located on Pembina Highway. The Red River located on the Eastern end of the golf course is a natural element that grounds the entire site. Figure 27 on the facing page represents the natural rhythm of the trees found on site.

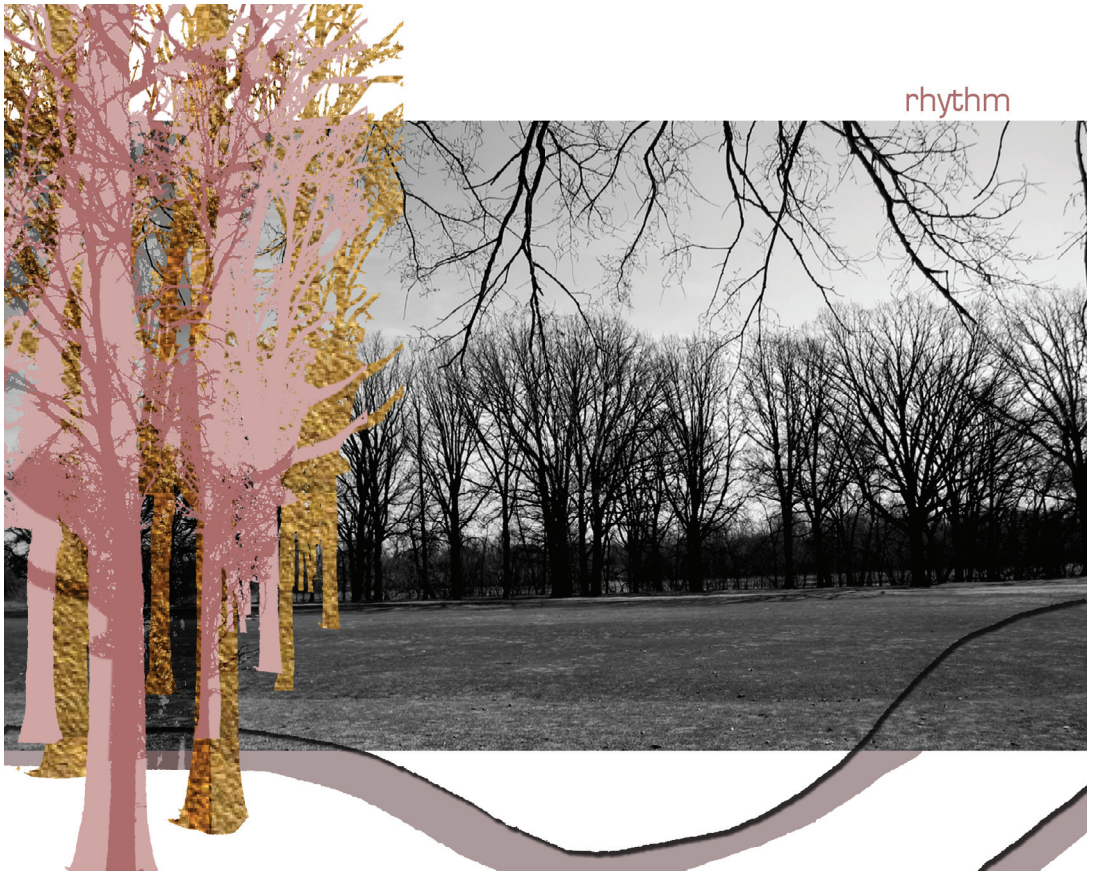


Figure 27. Rhythm

Site Analysis I History

The clubhouse was constructed in 1957 and was intended to house formal and informal gatherings. The original space featured a bar, a room for banquets, a dining room, locker rooms for its members and offices for the staff. The main activities at the club were informal dining and meetings before and after tee-off. The social history of the club is represented in figure 28, found on the facing page. The club hosted several events such as weddings and parties in its banquet facilities, but the main users were the golf club members. Southwood Clubhouse hosted a variety of golf tournaments every year and its main dining room featured trophies that the members won.

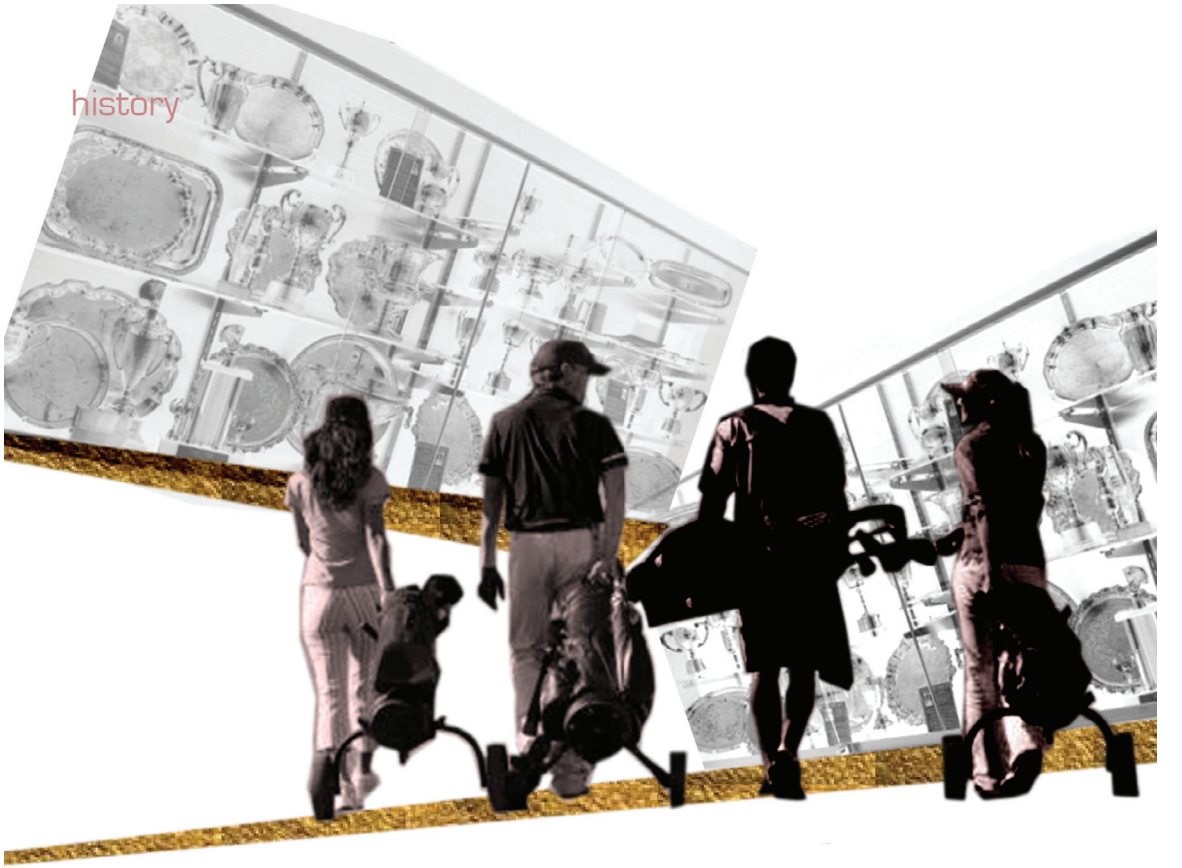


Figure 28. History

Site Analysis I Scale

The scale of the clubhouse is at the human level. The trees are the tallest element on the site. The clubhouse is a modest height of 20 feet above grade. Figure 29 illustrates the human scale of the building in comparison to trees and the body.

Figure 29. Scale

Figure 30

Figure 31


Figure 32


Figure 33


Figure 34

4.4 Site Photographs

Figure 30. A view of the main approach during winter
Figure 31. The landscape during the winter months
Figure 32. View of the main approach during summer
Figure 33. The walking paths
Figure 34. Sightline to the Red River

Figure 35

Figure 36

Figure 37

Figure 35.The formal dining room facing West
Figure 36. The formal dining room facing South-West
Figure 37. The lounge and bar area
Figure 38. The main staircase leading the change rooms
Figure 39. The former ladies' change rooms
Figure 40. Looking down from the 2nd level

4.5 Programme: Human Factors / User Profile

Programme Overview

The purpose of this programme is to investigate the necessary user and spatial requirements that I need to satisfy in order to successfully integrate a restaurant, cafe, phone and computer exchange centre, communal lounge/kitchen and four dwelling units within my the design of my mixed-used dwelling. Spatial requirements will be based on furniture, fixtures and equipment (FFE) as well as space required per activity zone. The intent of the restaurant and the internet cafe is to have students from the University of Manitoba as well as residents from the surrounding neighbourhood of University Heights come and interact with the residents and each other. The goal is to create a warm, inviting atmosphere where guests, patrons and residents can relax and feel comfortable enough to engage with a stranger.

I have programmed the building according to assembly and dwelling unit occupancies. The spaces within the complex are meant to accomodate various activities at one time, therefore official nomenclature such as “restaurant” will not appear in the final plan. The activities of meet, greet and eat are meant to be performed anywhere within the public space. Furthermore I have added a public space on the lower level of the building meant for people to exchange phones and computers. For example, clients who purchased the newest IPhone can sell, or exchange their older model IPhone. The IT and Phone Exchange Centre is meant to encourage people to meet and exchange goods, there will be no sale of goods on the premises. The PhotoSwapper and Silent DJ activities occur in the same meet, greet and eat spaces. In addition, I have allotted an extra 120 sq. ft. for these activities so as not to congest circulation areas.

The Users

Primary: Residents and patrons of the meet, greet and eat
Secondary: Staff
Tertiary: Custodial staff, delivery staff, ICT and technology technician

Main Programme Activities

The Following areas are listed as they progress from public to private space. The restaurant, cafe and phone exchange centres are the most public, with gradual pockets of semi-public spaces being introduced, while the communal lounge is restricted to residents, and lastly the dwelling units are intended for residents only.

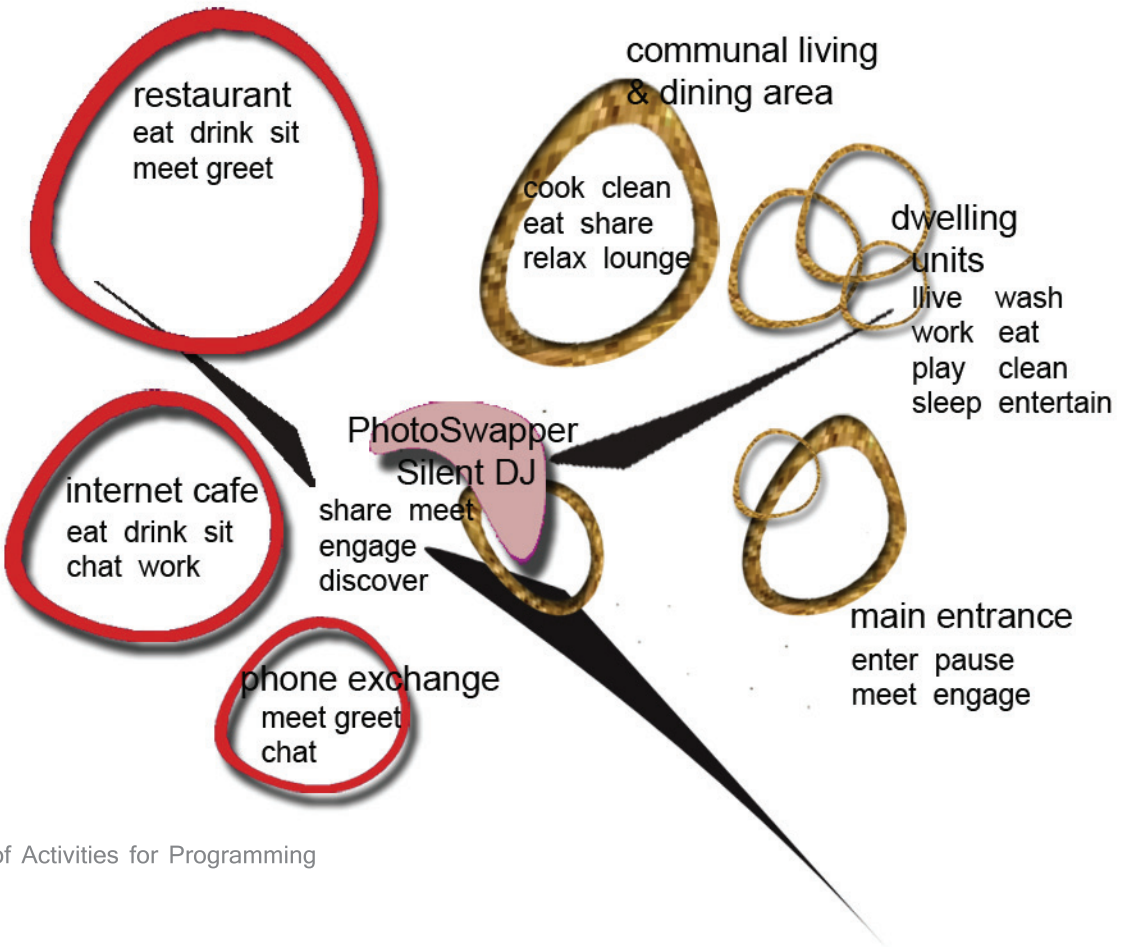


Figure 41 Diagram of Activities for Programming

Table 2: Spatial Requirements

The MIX was programmed according to the following spaces and their functions based on Canada's National Building Code 2010.

Area	Sq. Ft.	Activities
Restaurant and Kitchen (occupant load 50 ppl)	1000 for Restaurant 700 for Commercial Kitchen	Eat Drink Sit Meet Wait
Internet Cafe (occupant load 50 ppl)	1000	Eat Drink Sit Chat Work
Washrooms 2 barrier free 4 female w/c 4 male w/c	400	Wash
Entrances	190	Meet Interact
Communal Living (occupant load 16 ppl)	500	Cook Clean Eat Share Sit Relax Lounge
Dwelling Units (based on 14 residents) 300 s.f./person	4800	Live Work Sleep Wash Eat Clean Entertain Relax
Circulation (based on 20% of the overall building footprint.)	2000	Walk Pause Talk Built-in Seating (in lineal feet)
TOTAL	10,450 sq.ft.	

The Total Square Footage of the building is 10,500 sq. ft. The programme requirements are satisfied.

	Atmosphere	Emotional Value
	Socially active, lively, bright, open, spacious, slightly more formal than the cafe. Comfortable seating.	Social, engaging, exciting. Safe.
	Socially active, open, natural daylighting, natural materials, casual seating, bright colours.	Secure, comfortable, accessible. Easy and new social interaction, or semi-private breaks
	Tranquil, clean, fresh, easily accessible, calmer colours.	Calming and relaxing.
	Spacious, casual seating, bright and welcoming.	Welcoming, comforting.
	Smaller scale, warm and natural materials for colours. Intimate to create conversation. Views and access to the outdoors.	Safety, Security, Comfort, Sense of Belonging. Family environment.
	Private space. Flexible work surfaces and seating. Calm colours. Natural woods.	Function, Security, Comfort, Sense of Ownership. Safety. Sense of Peace. Privacy.
	Create wide, easy spaces for circulation, but still enable the opportunity to sit and chat with new acquaintances. Bright colours, high visibility.	Comfortable, Bright, Safe

Activities for Programming

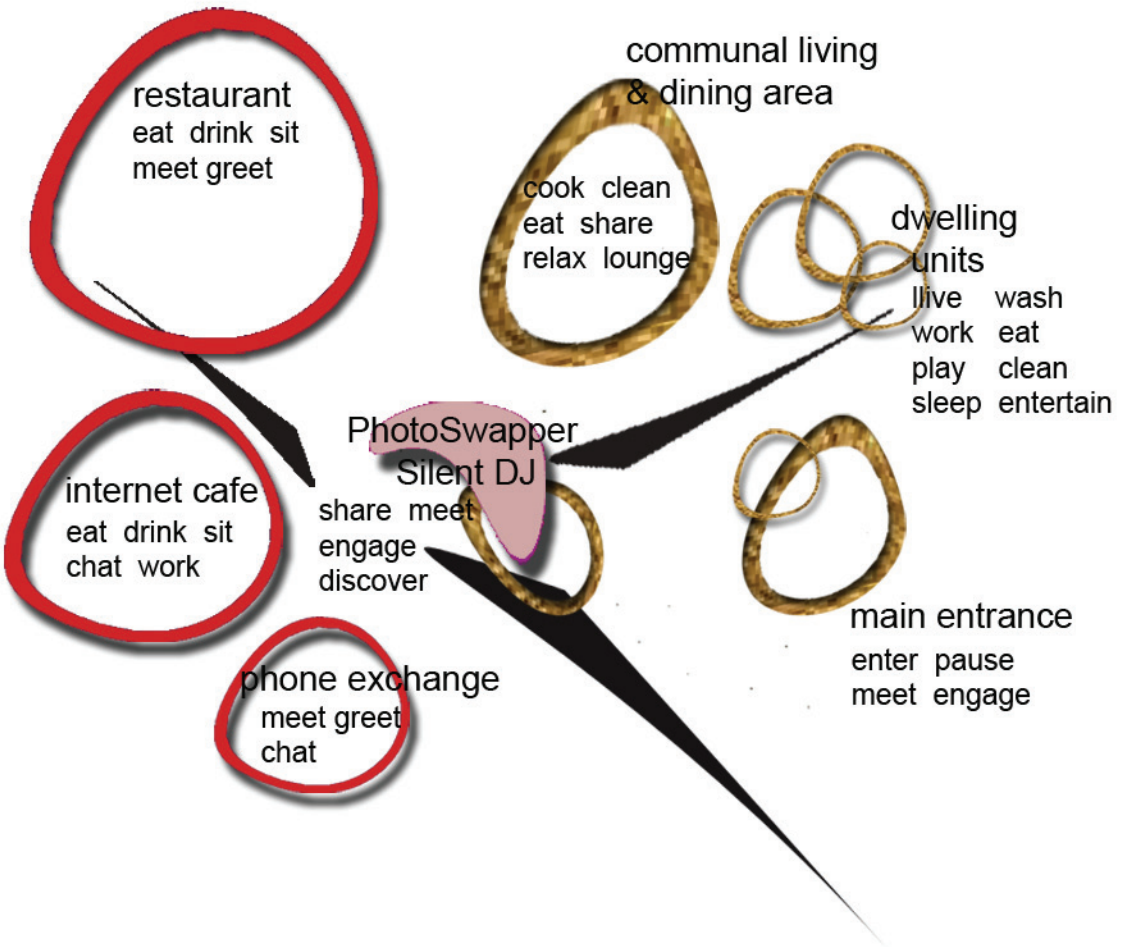


Figure 41 Diagram of Activities for Programming

Programme Goals

I intend to create a user friendly design, based on activities and user needs. I will also incorporate clear public, semi-public, semi-private and private areas in order to satisfy the fluidity between public and private space that ICTs and mobile devices now creates. I will create a distinct image and brand for the mixed-used dwelling which I have decided to name The MIX.

Organizational Goals

I intend to create a successful restaurant and internet cafe with a new aesthetic that is not currently found in Winnipeg. The main clientele for these businesses will be patrons from surrounding areas such as the new Stadium, the University of Manitoba, the residences along University Crescent and the University Heights neighbourhood. All of these areas are within a ten minute walk to the MIX. For the residents of The MIX, I will create a communal space where they can interact with each other and create meaningful relationships, in addition to providing a completely private dwelling space where they can adjourn to if they so wish. The communal space will be adjacent to the internet cafe and therefore an opportunity for the residents to meet with patrons and guests from the surrounding area will present itself. The overall goal is to mediate Paul Virillio's capsular living theory by creating opportunities for human contact and face-to-face interaction.

Form & Image

My design cocnept is one very much grounded in nature and forms inspired by nature. Biophilia is a design consideration that will impact more than views to the outdoors and the incorporation of natural daylight. Biophilia and forms inspired by morphogenesis will be represented in the furniture and structure of the building. The intent is to merge the old architecture of Southwood Club House with a new organic nature meets technology aesthetic. The final materials are warm and inviting in order to create comfortable and accessible spaces. I have chosen a colour palette of metallic bronze, gold and natural wood in order to draw a parallel with the surrounding landscape. I will punctuate these earthy neutrals with the colours coral and green. The original clubhouse has windows on all sides of the building, therefore natural daylight and sightlines to the outdoors are also major considerations in the design solution.

Design Goal

As discussed by Manuel Castells and Deirdre Boden in the theory portion of my inquiry, the introduction of ICTs, and more specifically mobile devices such as cell phones into a public space can transform that public environment into a temporary semi-private sphere. The key to mediating private activities within a public domain is to create quiet niches, or flexible and unexpected seating where users can quickly sit down and use their mobile devices. As per Hertzberger's design theories, a place to sit, rest and repose is all one needs to claim a moment of privacy within a public place.

Function Goals

The restaurant and internet cafe have a combined occupant load of 100 people. These two spaces are primarily public space however seating is organized in order to facilitate more intimate activities such as personal conversations, or talking on a mobile device. The restaurant and cafe are designed to accommodate the following functions and needs:

- eat/drink
- sit/meet with friends or by oneself
- wait/check mobile devices
- read/work on laptop or other mobile device
- engage in the photoswapper application, meet people

The communal dining/living area has a maximum occupant load of 20 people, and can be booked by residents in advance if they would like to have a large event or gathering. The usual daily amount of users would be closer to 14 people. The dwelling units can accommoate up to a family of four. The communal area and dwelling units are designed to accommodate the following functions and needs:

- work
- play
- sleep
- wash
- eat
- clean
- entertain
- cook
- relax | lounge

FFE Requirements

FURNITURE IN RESTAURANT AREA

- full service kitchen, approximately 1500 s.f.
- includes 1 walk-in fridge, 1 walk-in freezer
- 1 commercial dishwasher and 3 sinks for dishwashers
- 3 grills, 1 fryer, 2 commercial ovens
- food prep area, cold food prep area
- food garnish and pick-up area
- delivery and waste removal area
- dining room outfitted with dining tables, for 4 ppl

FURNITURE IN CAFE AREA

- coffee bar
- bar stools to accommodate 12 people
- lounge area for private and informal seating, 8 lounge chairs
- long banquette along south facade to accommodate 30 people

FURNITURE IN COMMUNAL DINING AND LIVING AREA

- full service kitchen area, large enough to accommodate 2 cooks
- undercounter fridge, 2 double sinks, dishwasher
- kitchen island for sharing and cooking
- barstools for island
- dining tables to accommodate 4 people each, 16 people total
- 16 dining chairs or equivalent
- lounge seating

FURNITURE IN DWELLING UNITS

- full service kitchens for individual use
- includes fridge, stove/oven unit
- sink and dishwasher
- touchdown surface/desk area with printer
- television watching/lounge area
- sleep area/bed
- storage/closet
- wash area/wet room with lavatory and sink

COLOURS

- main interior architectural design interventions will be soft gold and cream coloured
- natural wood floors
- natural fabrics such as wool and cotton reds, greys, elements of green will be used to punctuate the space
- the overall intent is to be warm and inviting, while also creating dramatic interior

TECHNOLOGY REQUIREMENTS

- large surface in the complex for PhotoSwapper Application
- headphones with FM transmitters for Silent DJ
- 8 computers for Network Stations
- multi-media connection ports and re-charging sta tions for mobile devices in cafe, communal space and dwelling units
- energy efficient light dimmers and auto-sensors
- motion detectors for lights and water fixtures in the public washrooms

OTHER AMENITIES AND DESIGN CONSIDERATIONS

- integrated elements of nature within public and private space
- forms inspired by nature and natural forms
- direct access to the outdoors, natural daylight and fresh air for the occupants' well-being
- integrated technology and ICTS with an overall aesthetic derived from nature

Human Factors

Primary Users

residents aged 5 - 55

- single family, and families with children
- single professionals
- Gender: male & female
- Age: varied

patrons and customers of the restaurant and cafe

- residents of surrounding neighbourhoods, University Heights and Fort Richmond as well as students of the U of M

professionals and students

- Genger: male & female
- Age: 16-55

Table 3: User Needs | Values | Activities

Primary Users: Residents, patrons of the restaurant, internet cafe and phone exchange
Secondary Users: Restaurant and Cafe staff
Tertiary Users: Custodial staff, delivery staff, ICT and technology technician

Users	Values	Activities
Residents	Safety & Security Comfort & Privacy Function Sense of Ownership Sense of Responsibility Sense of Belonging	Relax in private dwelling Work in private and communal space Bond with Residents and Patrons Entertain Guests Live, Work, Sleep Eat, Clean, Wash
Patrons of the Restaurant and Cafe	Safety Security Comfort Sense of Place Looking for an experience	Participate in PhotoSwapper, Silent DJ Applications Meet with friends Informal work meetings Make new friends Eat, Drink Relax, Lounge
Patrons of the Restaurant and Cafe Restaurant and Cafe Staff ICT technician	Safety Comfort Function Stability	Take care of the customers Serve food and drinks
Custodial, Delivery, ICT staff	Safety Comfort Function Stability Practical	Clean and maintain public areas Ensure that Network Stations, PhotoSwapper and Silent DJ Application are working

Table 4: User Analysis

Users	Needs	Frequency of Use
Residents	Safety Security Comfort Privacy Function Sense of Ownership Sense of Responsibility Sense of Belonging	Relax in private dwelling Work in private and communal space Bond with other Residents Meet and share with Patrons Entertain Guests Live, Work, Sleep Eat, Clean, Wash
Patrons of the Restaurant and Cafe	Safety Security Comfort Sense of Place Looking for an experience	Participate in PhotoSwapper and Silent DJ Applications Meet with friends Work individually Work meetings with others Make new friends Eat, Drink Relax, Lounge
Restaurant and Cafe Staff ICT technician	Safety Comfort Function Stability	Take care of the customers Serve food and drinks
Custodial, Delivery, ICT staff	Safety Comfort Function Stability Practical	Clean and maintain public areas Ensure that Network Stations, PhotoSwapper and Silent DJ Applications are working

4.6 Spatial Adjacencies and Diagrams

This spatial adjacency and zoning study identifies the intended scale of the major areas that I intend to programme. This diagram examines the relationships between public areas such as the restaurant and cafe versus the more private spaces such as the communal living area and the dwelling units. The restaurant and cafe are intended to have a shared coffee bar, while the photoswapper application area will act as a central hub for the entire complex. The central photoswapper area is intended to create face-to-face interactions where residents can meet with each other and encounter patrons of the food service businesses.

There will be four points of entry into the complex, however the main entrance for the residents will be south facing, located where the main entrance of the Southwood Golf Club is currently built. There will be an emergency exit located along the north side of the building to be used by patrons. The residents will have private access to a separate entrance also located along the north side of the building. Deliveries and Staff have their own entrance as well.

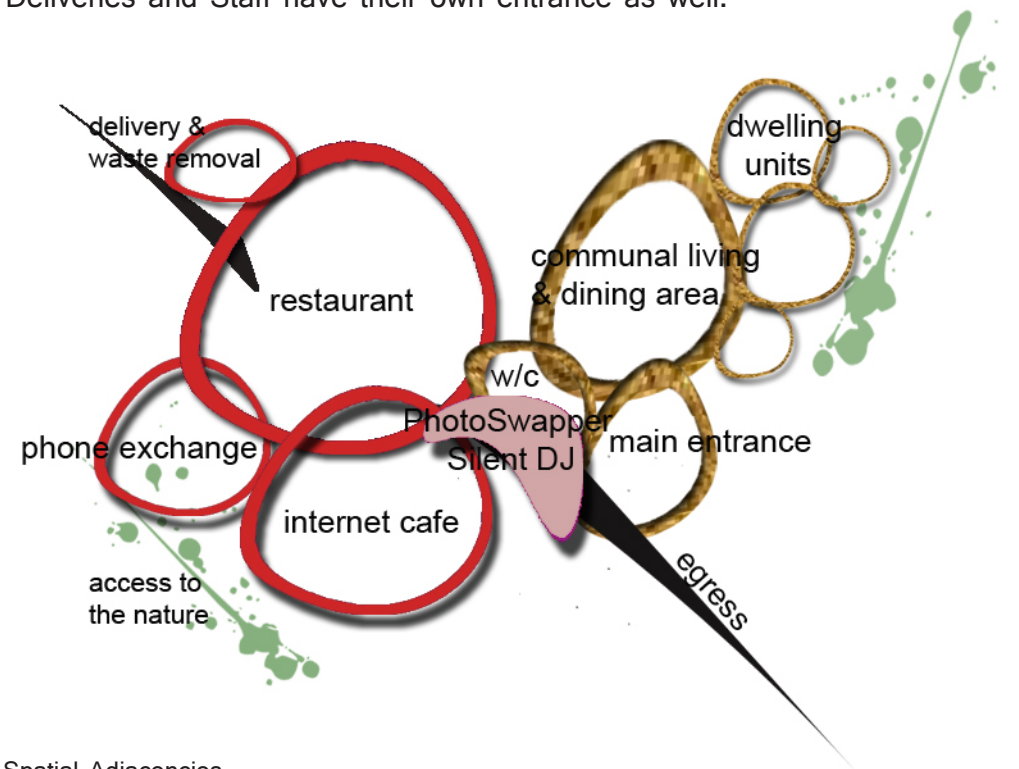


Figure 42 Spatial Adjacencies

Adjacency Matrix Based on Area

	Restaurant & Cafe	IT & Phone Exchange	Wash Rooms	PhotoSwapper & Silent DJ	Main Entrance	Communal Living	Dwelling Units
Restaurant & Cafe							
IT & Phone Exchange							
Wash Rooms							
PhotoSwapper & Silent DJ							
Main Entrance							
Communal Living							
Dwelling Units							

 primary relationship  secondary  tertiary  visual

Figure 43 Adjacency Matrix

4.7 Code Analysis (National Building Code 2010)

There will be two major occupancies in my mixed-use dwelling, Group A is considered assembly occupancy and these code requirements will be applied to the gathering spaces such as the restaurant, cafe and communal living area. Group C is code requirements for residents and will be applied to the dwelling portion of my design.

Section 3.1 General
Group A
Assembly occupancy (Restaurant and Cafe)

Group C
Residential occupancies (the dwellings)

3.1.2.1. Major Occupancy Classification
Group A, Division 2 Assembly Occupancies not elsewhere classified in Group A
SINGLE LEVEL RESTAURANT AND CAFE

Group C, Residential Occupancies
SINGLE AND MULTI-FAMILY DWELLING UNITS

3.1.3 Multiple Occupancy Requirements
3.1.3.1 Separation of Major Occupancies
1) Except as permitted by Sentences (2) and (3), major occupancies shall be separated from adjoining major occupancies by fire separations having fire-resistance ratings conforming to table 3.1.3.1.
The dwellings will be outfitted with fire-resistance rated doors in order to satisfy this code requirement.

3.1.17 Occupant Load
3.1.17.1 Occupant Load Determination, Assembly Uses
space with non-fixed seats and tables 0.95 m2/person
reading or writing rooms or lounges 1.85m2/person

3.1.17.1 c) If a room or group of rooms is intended for different occupancies at different times, the value to be used from Table 3.1.16.1 shall be the value which gives the greatest number of persons for the occupancies concerned.
Implication: the maximum assembly in the restaurant and cafe area is 100 persons

1.85 m2/person is the restriction occupant load in a single level restaurant and cafe.
occupancy load = (1.85)(10.76ft) = 19.906 sq ft/person

estimate of 100 people max at one time in the student lounge
(100)(19.906) = 1990.6 sq ft required to accommodate 100 persons
Therefore, the minimum area required to accommodate 100 persons is app 2000 sq.ft for the restaurant and cafe areas.

3.1.17.1. Residential Uses 4.60 m2 per person
occupancy load = (4.60)(10.76ft) = 49.5 sq ft/person
estimate of 16 people maximum in the residential units
(16)(49.5) = 792 sq. ft required to accommodate 16 people
The dwellings in my design will provide atleast 300 sq. ft. per person.

Section 3.2. Building Fire Safety
3.2.2.11. Exterior Balconies
1) An exterior balcony shall be constructed in accordance with the type of constructino required by Articles 3.2.2.20 to 3.2.2.88, as applicable to the occupancy classification of the building.

3.2.2.12. Exterior Passageways
1) An elevated exterior passaway used as part of a means of egress shall conform to the requirements of Articles 3.2.2.20 to 3.2.2.88 for mezzanines.
The implication for the exits that I have egressing onto balconies in the dwellings means that the dwellings cannot be more than 2700m2 in area, and the balconies cannot be more than 2 storeys high.

3.2.2.23. Group A, Division 2, Any Height, Any Area, Sprinklered
Implement: sprinkler system with heads place every 8ft apart, with each head capable of 10ft water coverage. Resulting in complete floor coverage.
3.2.2.23.b) floor assemblies shall be fire separations with a fire-resistance rating not less than 2h.

3.2.2.47 Group C, Any Height, Any Area, Sprinklered
1) Except as permitted by Articles 3.2.2.48 to 3.2.2.53, a building classified as Group C shall conform to Sentence (2).

2) Except as permitted by Articles 3.2.2.16., the building referred to in Sentence (1) shall be of noncombustible construction, and
a) except as permitted by Sentences 3.2.2.7. (1) an 3.2.2.18 (2), the building shall be sprinklered throughout,
b) except as permitted by Sentence (3), floor assemblies shall be fire separations with a fire-resistance rating not less than 2 h,

c) mezzanines shall have a fire-resistance rating not less than 1 h, and
d) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

3.2.4 Fire Alarm and Detection Systems
1) A fire alarm system shall be installed in a building in which an automatic sprinkler system is installed.
Fire alarm and detection system is required YES
Emergency Lighting is required YES, in Public Corridors
Exit Signage is required YES

3.2.4.3 Types of Fire Alarm Systems
d) a single or 2 stage system is required YES

3.2.5 Provisions for Fire Fighting
Sprinkler and/or standpipe system connections YES
FIRE exits and STAIRS (doors provide direct access to the public street and there is direct access to outside. Means of egress provides direct access to the public hall adjacent to outside.

3.2.7 Lighting and Emergency Power Systems
1) An exit, a public corridor, or a corridor providing access for the public or serving patients' sleeping rooms or classrooms shall be equipped to provide illumination to an average level not less than 50 lx at floor or tread level and at angles and intersections at changes of level where there are stairs or ramps.

3) Rooms and spaces used by the public shall be illuminated as described in Article 9.34.2.7
Emergency Lighting will be provided in all public areas.

4) Lighting outlets in a building of residential occupancy shall be provided in conformance with Subsection 9.34.2.

3.3 Safety within Floor Areas
Suite – Fire separation min 45min
IMPLEMENT: Fire-rated walls 1 HR min between adjacent rooms/spaces/corridors

3.3.1.3 Means of Egress
Public corridor 0HR Fire Separation, with possibility of 2 separate exits in opposite directions, 3 doors for general public use are being provided.

7) Two points of egress shall be provided for a service space referred to in Sentence 3.2.1.1.(8)
The restaurant kitchen will have access to 2 separate exits in opposite directions.

3.3.1.5. Egress Doorways
3 egress doorways will be located so that one doorway could provide egress from the room if the other doorway becomes inaccessible in a sprinklered area.

3.3.1.6. Travel Distance
The maximum distance within the 3 doors is 52 feet, which is less than the diagonal distance of 77 feet in length. Therefore code requirements are satisfied.

3.3.1.11 Sliding Doors
Designed to swing on vertical axis in the direction of travel to the exit when pressure is applied. YES
Doors identified as a swinging door by means of a label or decal YES
3.3.1.13 Ramps and Stairways
maximum slope for a ramp is 1:12
stairways shall conform to the dimensional, guard and handrail requirements in Section 3.4 for exit ramps and stairways.
.

3.3.1.14. Exterior Passageways
1) an exterior passageway leading to a required exit shall conform to the requirements of section 3.4. for exterior exit pas¬sageways. YES

3.3.2 Assembly Occupancy
3.3.2.5 Corridors
1) a corridor used by the public in an assembly occupancy or a corridor serving classrooms as an access to exit shall be separated from the remainder of the building b a fire separation having a fire-resistance rating not less than 1hr, unless the floor area in which the corridor is located is sprinklered throughout.
Implement: All public corridors and passages will be sprinklered with heads space 8ft apart (water coverage per head is 10ft diameter)

3.3.2.6 Doors
a suite of assembly occupancy containing an occupant load more than 100 shall be equipped with a device that will re¬lease the latch and allow the door to swing wide open in the direction of travel to the exit.

3.3.4. Residential Occupancy
3.3.4.2. Fire Separations

1) Except as permitted by Sentences (2) and 3.2.2.9.(2), suites of residential occupancy shall be separated from each other and the remainder of the building by a fire separation having a fire-resistance rating not less than 1 h.

3) Floor assemblies within a dwelling unit need not be constructed as fire separations provided.

3.3.4.4. Egress from Dwelling Units
6) If a dwelling unit has a second and separate means of egress, one means of egress from a dwelling unit is permitted to pass through
b) an exterior balcony served by a single exit stairway.

Section 3.4 Exits
Two exits are required, Four are provided
Exit capacity
Stair (width) 1118 = 140 persons
Door width) 915 = 150 persons
Exit stair enclosure 45minute minimum fire separation
Exit Signage is Required (3.4.5.) YES

Section 3.7. Health Requirements
3.7.1.1. Room and Space Height
1) The height of every room and space shall be sufficient so that the ceiling or ceiling fixtures do not obstruct movement or activities below.

3.7.2.2. Water Closets
based on 100 person/single floor total occupancy
IMPLEMENT:
Female: number of w.c. and lavatory 4
Male: number of w.c. and lavatory 2
One barrier-free w.c. and lavatory required, 2 are provided
(Appendix A)
wall-mounted water closets and appropriate clearance beneath lavatory YES
unobstructed areas in front of lavatory, water closet YES
door pulls and grab bars YES
appropriate signage to mark as barrier-free and universal YES

11) At least one water closet shall be provided for each dwelling unit.

Section 3.8 Barrier-Free Design

1) Barrier-free access for no less than 50% of pedestrian entrances YES

a) Requirement: doors open to the outdoors at sidewalk level, or if ramp required, slope is no greater than 1:12

Public entrance doors equipped with power door operators YES

Barrier –free washrooms are provided YES

3.8.2. Occupancy Requirements

3.8.2.1. Areas Requiring a Barrier-Free Path of Travel

A barrier-free path of travel from entrances, and entrance storey, including areas served by a passenger elevator, escalator or service area.

3) In an assembly occupancy, the number of spaces designated for wheelchair use within rooms and areas with fixed seats shall conform to 2 seats required as per Table 3.8.2.1. based on 100 person occupancy.

3.8.2.3 Washrooms Required to be Barrier-Free

1) Barrier-free washroom must be provided on main floor.

the MIX

APPROXIMATING SPACE

CHAPTER 5

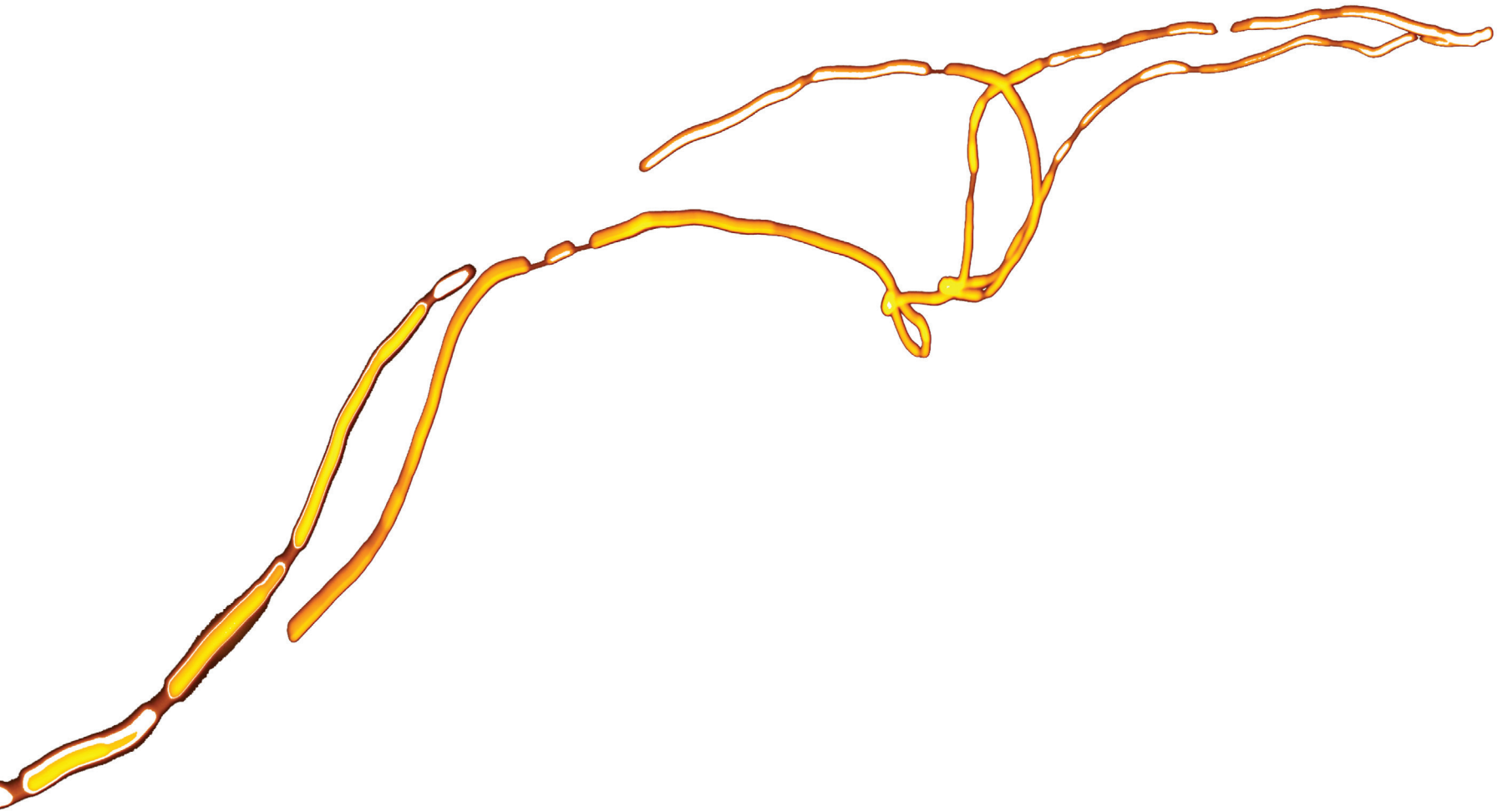


Figure 44 Form Abstraction 1

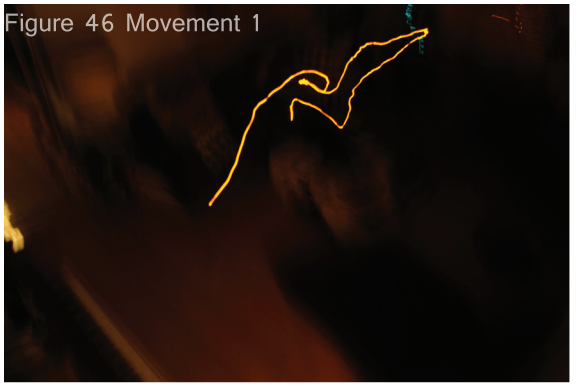


Figure 46 Movement 1

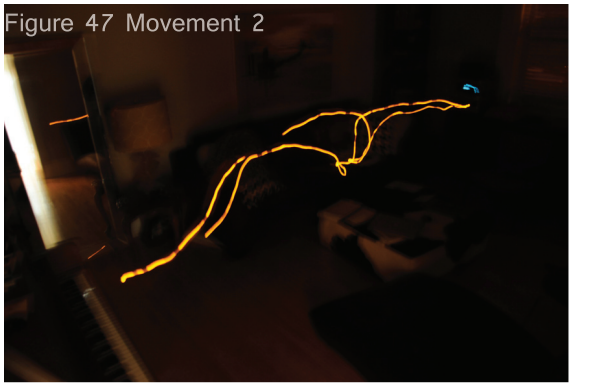


Figure 47 Movement 2


Figure 48 Movement 3


Figure 45 Living Space


Figure 49 Superimposed 1


Figure 50 Superimposed 2

5.1 Intent and Overview of Study

In order to fully understand the amount of space that a person uses, I conducted a spatial study on my roommate in order to measure how much of our living room and kitchen space she actually uses. I have named this study the Approximation of Space. I fastened an LED light to her shoulder and observed her for thirty minutes on three separate occasions in both the living room and kitchen.

Our living space is shown in Figure 45. In this space, my roommate's primary area of repose was the center of the sofa, where she mainly uses her laptop to work and view entertainment. Her secondary area of use is the piano, where she plays a little music, and her third area of use is the stereo system located by the blue light. The light traces left by the LED indicate that her activities are central to the couch area, where she spends most of her time. The perimeter of the room is barely engaged spatially by her body, as this is where we store most of our books and other belongings. Figures 46-48 show my roommates movement as they were recorded on slow shutter speed in the dark. Figures 49-50 show the superimposed movements in context of the space.

The next portion of my spatial study was also conducted in our living space, however the photographs were taken at eye level, instead of plan view. I examined my subject's spatial movements from three different locations within the room. Figure 51 shows the first location of my camera. Figures 52 and 53 show the recorded movement of my roommate. The spatial study revealed movement that is more indicative of an elevation, rather than a bird's eye view. The forms of the light were similar to those taken in plan view, and the information gathered revealed similar results. The majority of my roommate's time is spent seated, usually on the sofa, and her secondary location within the space is a bookshelf where her books and reference materials are stored. The tertiary part of the room is the stereo and the corner lamp. The perimeter of the room is used the least. My roommate's movements are superimposed into the context of the space as shown in Figure 54.

Figure 51 Living Space 2

My second position in the living room is shown in Figure 55. Figures 56-58 show the recorded movement of my roommate. The study reveals a fluid movement centred around the primary seating area on the sofa, and the gestural movements toward the bookshelf and the lamp. Figures 59 and 60 show the movements superimposed on the space.

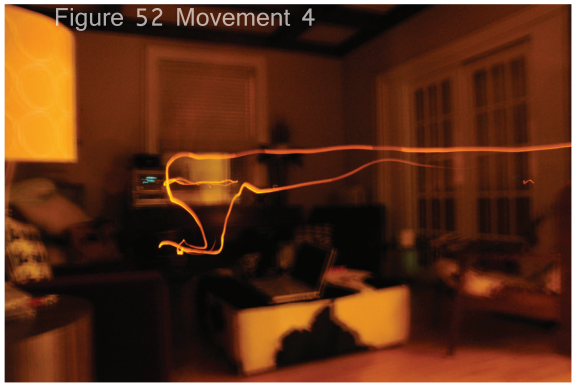


Figure 52 Movement 4

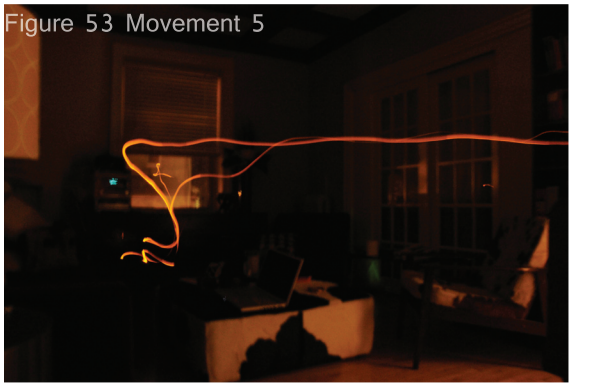


Figure 53 Movement 5

Figure 54 Superimposed 3

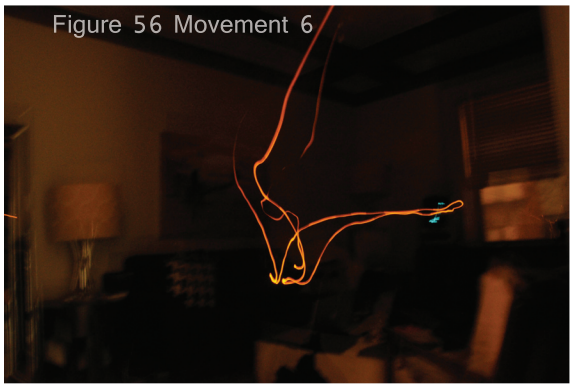


Figure 56 Movement 6

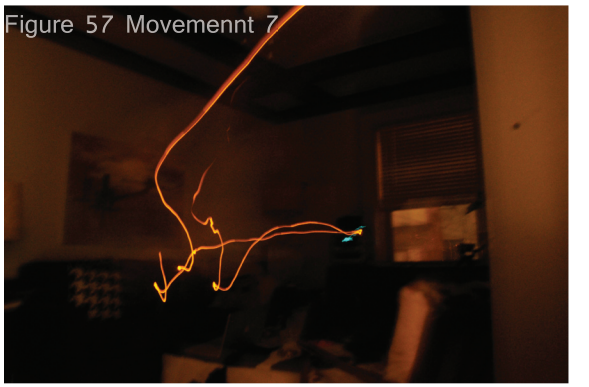


Figure 57 Movemennt 7

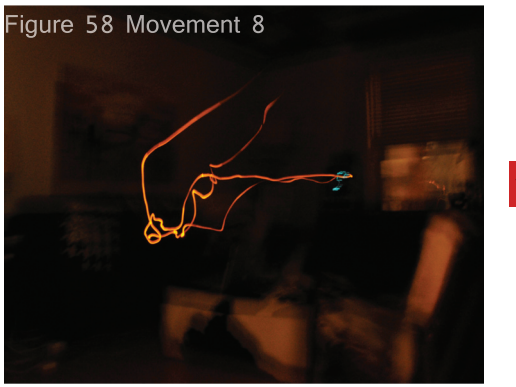


Figure 58 Movement 8

Figure 55 Living Space 3

Figure 59 Superimposed 4

Figure 60 Superimposed 5


Figure 62 Movement 9

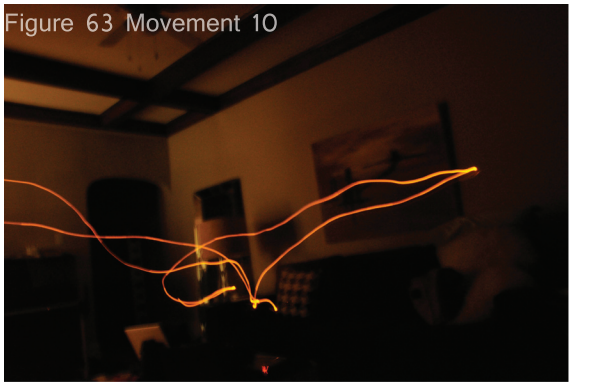


Figure 63 Movement 10


Figure 64 Superimposed 6


Figure 61 Living Space 4

The third position of camera in the living room is showm in Figure 61. My roommate's movement is shown in Figures 62 and 63. This third position reveals forms that are more horizontal due to the camera was positioned further from the movement than the previous two living room sessions. Figure 64 shows the movement within the context of the space.

Figure 65 Kitchen

Figure 66 Movement 11

Figure 67 Movement 12

The spatial study of our kitchen revealed a similar pattern. The perimeter of the room contains most of the tools required for cooking, however the actual space activated by my roommate's body was centered around the sink, the refrigerator (which is unseen and located at the bottom of the pictures), and the table. Her main area of use is the sink and stove area where she prepares her meals for the day. Her secondary area of use is the table, where she eats and reads, and lastly, the fridge is the third area that she uses as this is where she stores her food.

Figure 65 depicts the position of my camera for the kitchen study. Figures 66 and 67 show the movement of the body within the space, as captured by slow shutter photography. Figure 68 shows the superimposed movement of the body shown within context of the space.

Figure 68 Superimposed 7

5.2 The Lesson Learned

The purpose of this study was to visually define the actual amount of space that the body engages within a room. The body's movements are fluid and dynamic within a rectilinear, static space. The real amount of space used within a room is approximately half the square footage available. It is possible to live with less space than we are provided by North American standards, however; I feel that open space, and storage space is visually more appealing and necessary for mental well-being and peace of mind.

I discovered that the body is limited firstly by the actual physical dimensions of the room, which are usually rectilinear and static. Secondly, the body will engage space defined by the activities being performed. The second boundary has to do with function, program and dweller needs. This set of constraints will vary depending on the dweller, however I propose that the pattern of space used will be central to the room and the body will not fully engage with the perimeter of the space. I propose that in every room, there is a primary area of seating, followed by a secondary area where a specific activity or function occurs. A tertiary space can also exist, where another activity is performed, or where a needed object is stored. This forms a clear hierarchy of spatial use within any given bounded area.

Hierarchy of Space:
Primary area of repose/primary seating
Secondary area of activity/function
Tertiary area of activity/storage

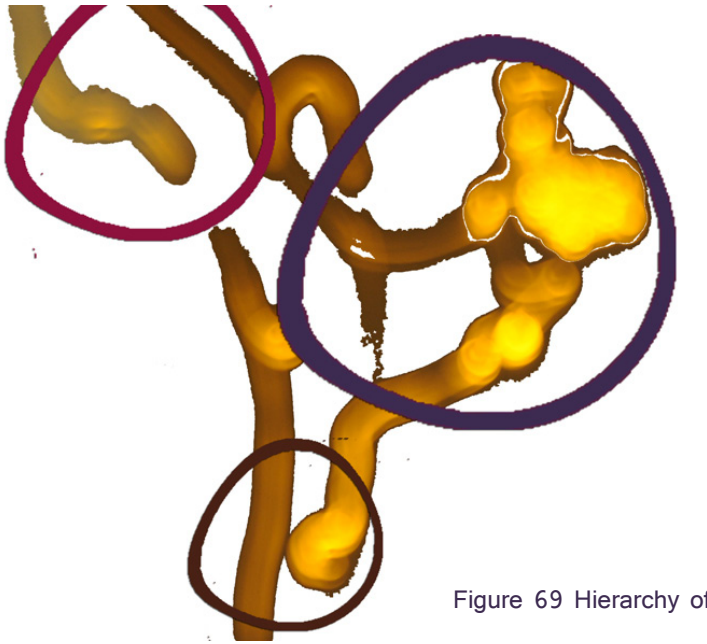


Figure 69 Hierarchy of Space

Figure 69 is a form abstractions derived from my Approximation of Space Study, it is meant to visually describe what I have concluded from this study.

5.3 Spatial Implications For My Design Intervention

This spatial study would vary depending on the individual being studied; however, the movement of the body captured by the LED and slow speed shutter reveal that the movements of the body are much more fluid than conventional rectilinear spaces. The spatial studies on the movements on my roommate will influence the form development and design aesthetic of my design. As a result of this study, I plan on implementing softly curved rather than straight, rectilinear forms.

My conclusions from this spatial study will be integrated within the design of my mixed-use dwelling. The dwelling units will clearly provide a primary seating area, to be used for relaxing, working and viewing. A secondary area will be provided to perform an activity or hobby, and tertiary areas will be designed for storage.

In the semi-private area of the communal living and dining area, my findings from this study will be applied but within a context to create face-to-face interaction. I will provide both private and semi-private seating areas where dwellers can directly interact, or use their mobile devices within their own private space without feeling alienated from other residents. The shared kitchen and dining area will be the secondary spaces within this area, where activities such as cooking, cleaning and eating will be performed. The secondary space of activity will be the focus of my design as I want to encourage interpersonal relationships among the residents of The MIX. The tertiary spaces in the communal room will be storage and circulation space to the patio or the main lounge.

The results from this study will also be implemented in the public spaces located on the main floor. Various forms of fixed and flexible seating will be provided to become a place of repose for patrons to meet, greet and eat. The secondary space will be the PhotoSwapper Surfaces and Silent DJ pedestal stands which will be the main activity and the focus of lounge areas. The tertiary spaces will be the informal lounges by the main entrance, as well as the restrooms and circulation spaces.

5.4 Form Abstractions

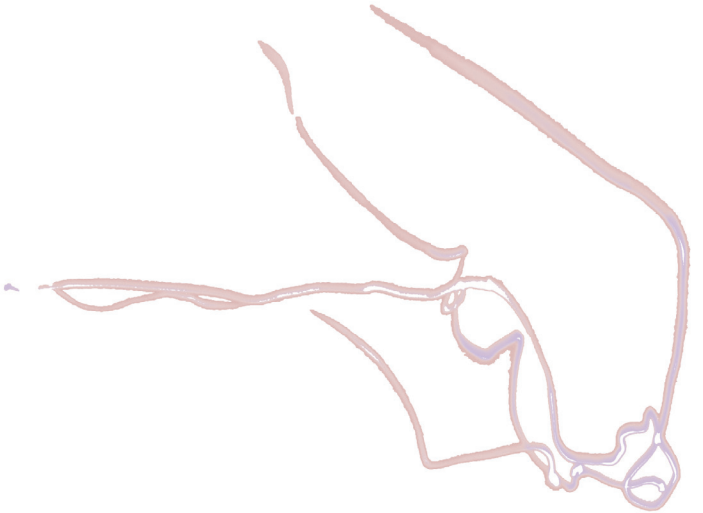


Figure 70. Form Abstraction 2

The study of the forms derived from the Approximation of Space portion of this inquiry has yielded a variety of fluid, organic forms. The shapes themselves imply a curvilinear motion, with long fluid gestures usually derived by the reach of the arm.

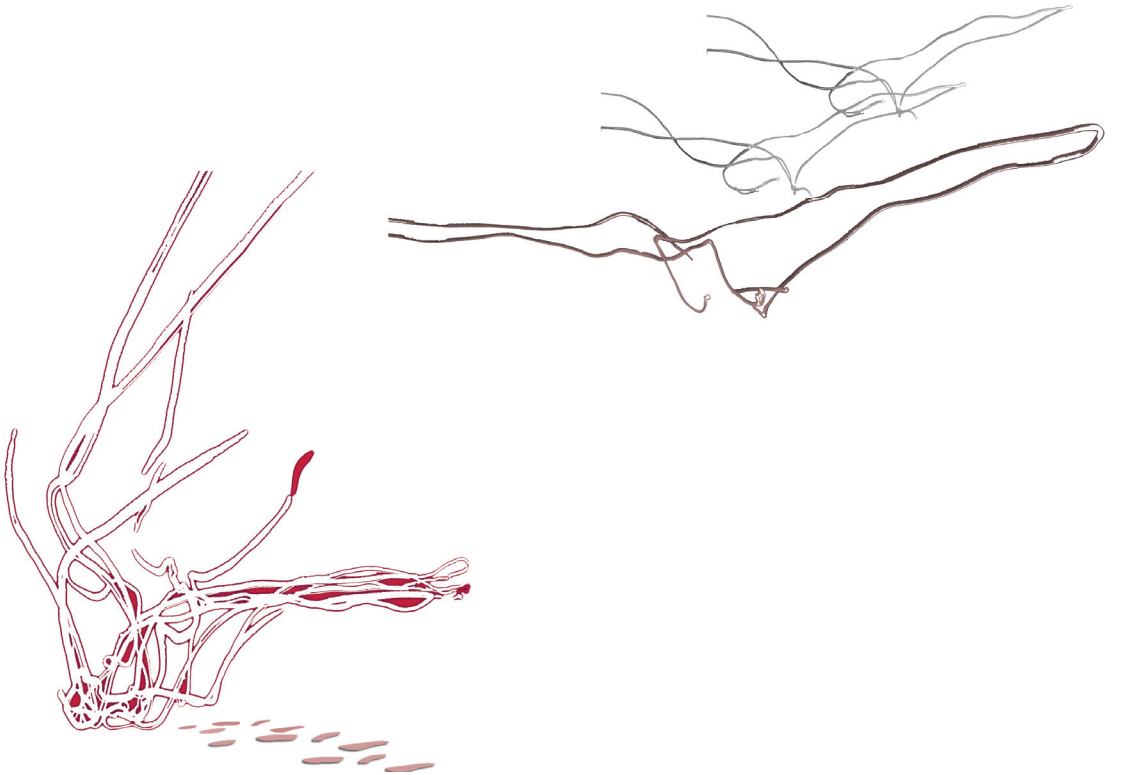


Figure 71. Form Abstraction 3

the MIX

THE DESIGN

CHAPTER 6

Chapter 6: The Design

6.1 The Design Proposal

The design language that I have decided upon is one inspired by the fluid movements of the body as inspired by the spatial geometrics study. In addition, curvilinear forms will be integrated as a reference to biophilia and its positive health benefits. I am proposing to design a large, public and private space complex that facilitates the ease of conversation, while also providing opportunities to use mobile technology in a solitary manner. The key is to create flexible and various seating arrangements that can accommodate one or many users.

The atmosphere will be energetic and dynamic. The curvilinear forms facilitate fluid circulation and provide a visual movement within the space. The public spaces will be in calm tones of cream and light gold, accented with reds and greens to enliven the space. Birch wood floors and walnut tables will provide texture and natural pattern to ground the space. The private spaces will be a calmer palette, consisting of golds, light pinks and greys.

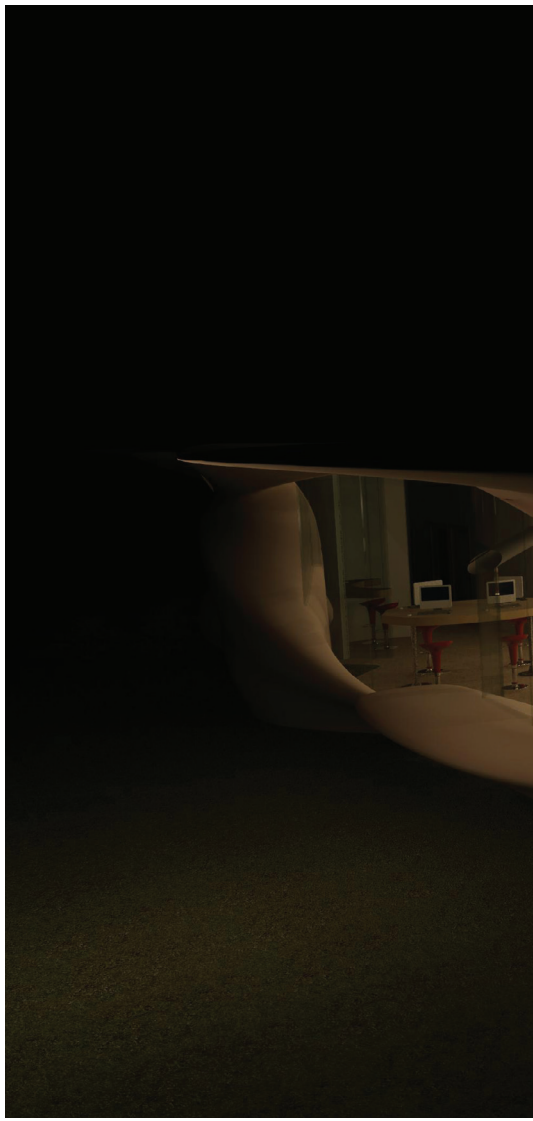
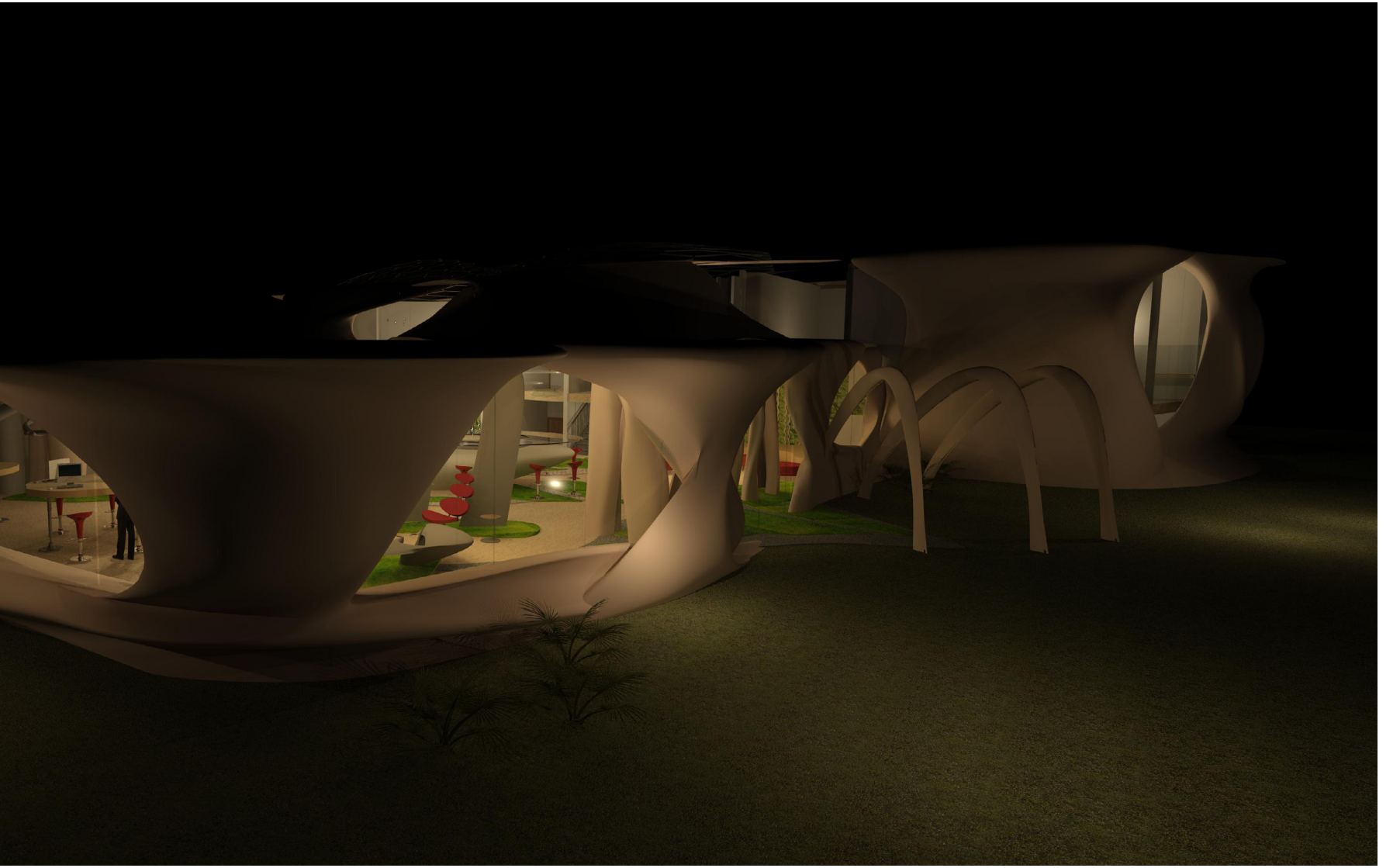


Figure 72 Exterior perspective at night



6.2 Design Considerations and Intentions

The mixed-use dwelling that I have designed is meant to facilitate face-to-face interaction while enabling solitary users to work amidst a crowd. The intent is to create a gathering space where patrons can eat, meet and greet whether for social or work purposes. The spaces are meant to be activated by the users who have the ability to change the aesthetic of the building itself with the use of their hand-held devices. The purpose is to engage the users with their environment as well as with other people. The application of Biophilic design principles such as the incorporation of environmental features, natural forms, natural patterns, light, and human-nature relationships is at the centre of the design. For example, views and direct access to the outdoors reinforces the connection to the natural landscape, while organic shapes within the complex symbolize forms derived from the site. The overall design concept is the creation of a space where nature can mediate the effects of isolation and capsular living caused by the solitary use of ICTs.

The theory and precedents that I studied have provided me with plenty of guidelines and design implications. Some of the theories played a bigger role than others. Castells theory of Space of Flows leads me to conclude that teleworkers and their flexibility with work and space should be addressed in the redesign of the Southwood Golf Club. In order to provide places to work, relax and meet other people, I have provided three seating options in the public areas, with varying surface heights depending on the activity being performed. Coffee and end tables are present, as are moveable ottomans that enable different seating configurations. The Core Bar can be used by a single user, or a team can meet there to discuss a work project. The Kidney Tables are for more intimate meetings, whereas the Cage and Kidney lounges are flexible spaces where one can work alone, or within a group.

Designing for private activities such as eating, meeting and working (refer to Figure 41 Activities for Programming on page 103) within a public space was a consideration in response to Lee Humphreys' theory of Mobile Privatization. The challenge was to create private pockets within a public space without creating a sense of alienation. This was achieved by keeping the ceilings relatively low, at 12', and keeping the scale of the design language related to the human body. The residents' safety and comfort were qualitative elements that were considered, which resulted in the communal lounge being on the second floor away from public activity. The proximity to the public spaces also invites the residents to mingle with patrons from the neighbourhood.

The overall aesthetic of organic forms was inspired by the

natural vegetation on the site, the Approximation of Space study, and new ways of building enabled by biomimetics. The design intent is to create a space which integrates ICTs and the natural environment upon arrival, resulting in a unified whole between technology and nature. References to the human body such as ribs and kidneys remind users of their physical self, while columns shaped as natural vegetation are reminiscent of the outdoors. Changes in the flooring pattern are made to remind the users of earth and grass. The overall colour palette is subtle, with the exception of the red upholstery and green shag carpets, that are used to juxtapose the light gold and cream walls. The hexagonal patterned ceilings in the basement and on the second floor were inspired by the pattern of a honeycomb, another reference to nature re-interpreted in a contemporary design.

The two most influential theories on the design are Lee Humphrey's Mobile Privatization, and Judith Heerwagen's Biophilia. Concepts of Mobile Privatization were the primary design consideration for The MIX's spatial arrangement. The public spaces of the main floor were organized around the blurring of territorial differentiations between public and private space. The Core Bar acts as a hub for the entire complex and is the main public space. The importance of the central placement of the bar is highlighted by the pink glass feature wall situated directly behind the bar. The main circulation spaces are situated around the bar as well as the main stairs and elevator. Within these circulation spaces pedestals with Silent DJ headphones are meant to engage users with other people. The pedestals sit upon bright green shag carpet to engage the patrons. The pedestals are veneered in a birch wood to simulate the look of birch trees. The purpose of the Silent DJ pedestals is to create an audio sharing experience and to create a sense of place at The MIX. Although the pedestals are situated within public circulation space, the headphones create a temporary pocket of privacy, as theorized by Humphreys.

The design of the Core Bar is to transition into pockets of private space located within a public complex. For example, the scale and seating configuration of the Cage Lounge denotes a change to semi-public space, where solitary users and small groups of people are meant to congregate. The Kidney Lounge is more exposed and its long, continuous bench seating is meant to stimulate social interaction. The height surfaces of the Kidney Tables are meant to create more opportunities for semi-public interaction. Further territorial differentiations between semi-private and private are considered in the design of the Communal Lounge, IT and Phone Exchange Spaces, as well as the dwelling units. For example, the Communal

Lounge is designed with fixed and moveable seating in order to accommodate larger and smaller groups of users. This lounge is intended to be used by the residents and is therefore considered as semi-private space. The IT and Phone Exchange Centre is positioned for public use, where smaller groups of people can discuss and exchange mobile devices. The dwelling units are designed for private use.

The blurring of public and private activities is formed around circulation patterns derived by curvilinear and fluid forms. These forms overlap and enable a fluid transition between the two territorial differentiations. The columns, bulkheads and surface forms are derived from the landscape and the human body. These are indirect references to nature, the effect is dynamic, enabling the interior spaces to have a sense of movement. The 6" bulkheads located along the main circulation paths connect all the spaces on the main floor. These forms are derived from rivers, enabling the spaces to be connected on an overhead plane. The overall intent of the design is to permit fluid circulation within the spaces. The MIX is designed with spaces that have views open to one another, as well as visual sightlines to the outdoors.

The second theory that strongly informs the design of the complex is that of Biophilic Design. Humans' natural affinity for nature is spatially expressed by the following strategies:

- Environmental features such as balconies that enable direct access to the outdoors, large windows that permit sunlight to penetrate interior spaces, and views to the natural landscape.
- Natural shapes and forms are expressed in the Photo Swapper columns, as well as the Kidney tables and Core Bar
- Natural processes that appeal to various senses such as light, sound and touch include a contrast in colour and materials, the PhotoSwapper visual application and the Silent DJ audio application.
- Light and space considerations include windows that permit natural light to illuminate spaces from all four directions, as well as a skylight in the communal living space. In addition, inside-outside spaces such as the balconies further connects the interior with the natural environment.
- Place-based relationships are incorporated with the fusion of culture and building, specifically in the Photo-Swapper and Silent DJ applications, allowing humans to explore their sense of playfulness at The MIX. In addition, an historic connection is established by highlighting the existing walking paths that were once used by former member's golf carts.
- Evolved human-nature relationships are considered,

such as creating a place of refuge and protection, while involving layers of complexity in the design in order to avoid boredom. Places of refuge are created in the Cage Lounge symbolized by canopies in the shape of ribs. A sensation of prospect is created by the natural light that enters the space through the large windows, as well as glimpses of spaces located on the second and basement levels. The notion of prospect creates a curiosity for the users of the space. Layers of complexity include the space's ability to accommodate public and private interactions, as well as the use of ICTs to transform the territorial differentiations within the public spaces. The building's exterior and interior have the ability to change according to the users' projections onto its surfaces, symbolizing nature's processes of growth and change while creating an exploration of The Mix's surfaces.

- Lastly, biodiversity has been incorporated in keeping the landscape as it is. Vegetation includes shrubs, lakes , sand dunes, while various trees include elm, pine and birch. Green spaces and rich vegetation are part of The Mix's design.

The six aforementioned Biophilic design elements are recommended by Judith Heerwagen (Heerwagen, 6).
(please refer to Table 1: Summary of Design Implications on page 65 for Biophilic design elements)

6.3 Spatial Organization

The mixed-use dwelling that I have designed is meant to facilitate face-to-face interaction while enabling solitary use of ICTs. The concept is based on the blurring of territorial differentiations between public and private. Figure 73 on page 142 denotes the relationship of spaces to one another in terms of how the scale and seating configurations were designed.

For example, the Core Bar is the main hub of the complex. It is furnished with barstools and is visually open to all other spaces on the main level. The Core Bar is public space and is surrounded by circulation space.

The Kidney Lounge is situated to the right of the Core Bar and features one continuous bench surrounded by moveable ottomans. This lounge is meant for public and semi-public interaction, as the bench can be used by a solitary patron, and the ottomans in conjunction with the bench can accommodate large groups of people.

The Kidney Tables are furnished with 30" height surfaces intended to be used for meetings and as writing surfaces. The lighting fixtures that are suspended above each table denote a change from public to semi-public use. The overall feeling of each table is designed to feel more intimate.

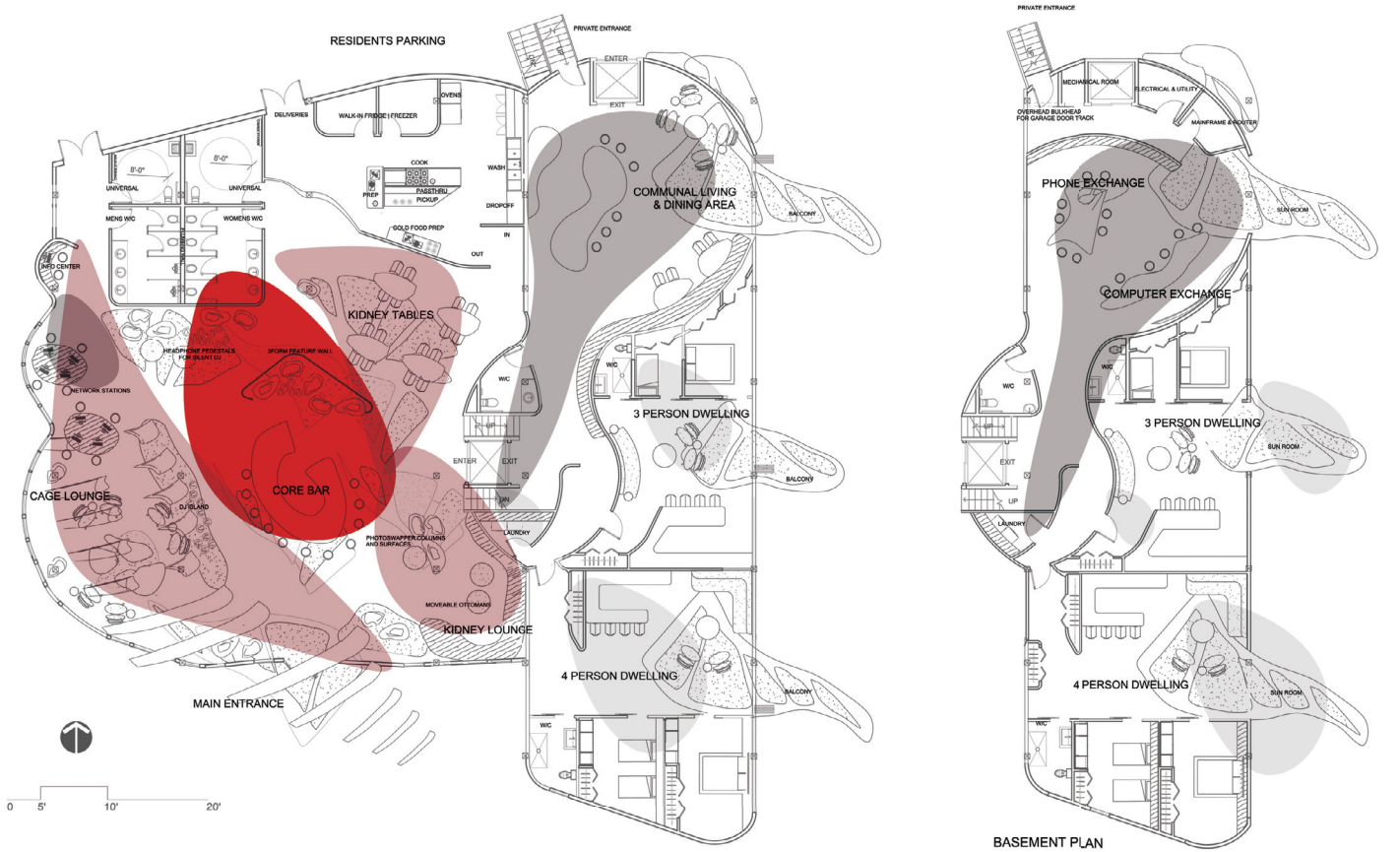


Figure 73. Spatial Organization

The activities of eat, meet and greet are intended to occur anywhere on the main level of The MIX. Surfaces are provided at 18", 30" and 42" in order to accommodate various seating heights, activities and users.

The Circulation spaces are mainly public areas of movement, however pockets of privacy have been created with the introduction of the DJ Islands. The DJ pedestals in addition to the PhotoSwapper surfaces are meant to change the interior landscape of the building. Projected images on the columns will add colour and vitality to the plain surfaces, while stimulating interaction between users. The audio application of Silent DJ is another way of communicating through the language of music. The changing nature of musical production and visual projection will keep The MIX dynamic.

The spatial organization on the second level of The MIX features a semi-private lounge intended to be used by the patrons for shared dinners. This lounge is designed to encourage social interaction between the various families and households that dwell in The MIX. There are four dwelling units within the complex. They can accommodate up to three and four person households. The same curvilinear forms and interactive surfaces are incorporated within the dwelling units in order to emphasize the blurring of public and private space, within personal dwellings and public domain. The main change in materiality for the private dwellings is the use of grey upholstery instead of red intended to create a more quiet, calming colour palette.

The basement of The MIX features an IT and Phone Exchange Centre, designed to be a semi-private space. The Exchange Centre is intended for patrons and residents to leave and display older technology that is still functional and not yet outdated. The idea is to recycle current technology in order to prolong its life, in addition to creating another opportunity for social exchange.

6.4 The Design I The Main Approach

Design Features

The Main Approach is situated on the South Side of the complex. Arches on the exterior of the building continue their rhythm into the interior of the building and into the Cage Lounge. The intent of the arches if to create a sense of arrival, and also an implied room on the exterior of the building. The building materials on the exterior are concrete and glass. Concrete was chosen for its ability to be molded into geomorphic forms, while glass was chosen to enable views to the outdoors. Trees surround the complex on all sides, as the parking lot is concealed behind foliage.

Figure 74 The Main Approach

Figure 75 Exterior Front Door

Exterior Elevations

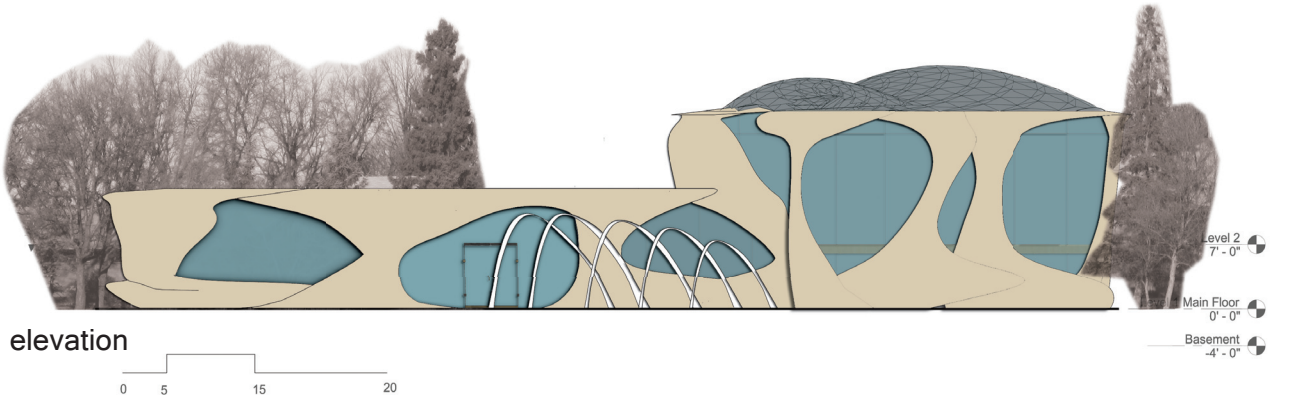


Figure 76 south elevation

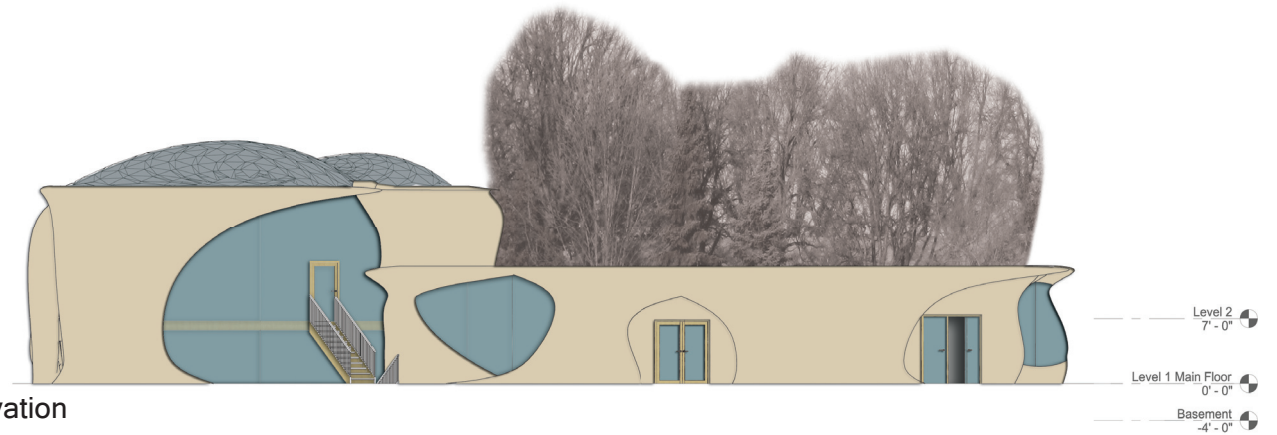


Figure 77 north elevation

Figure 78 east elevation

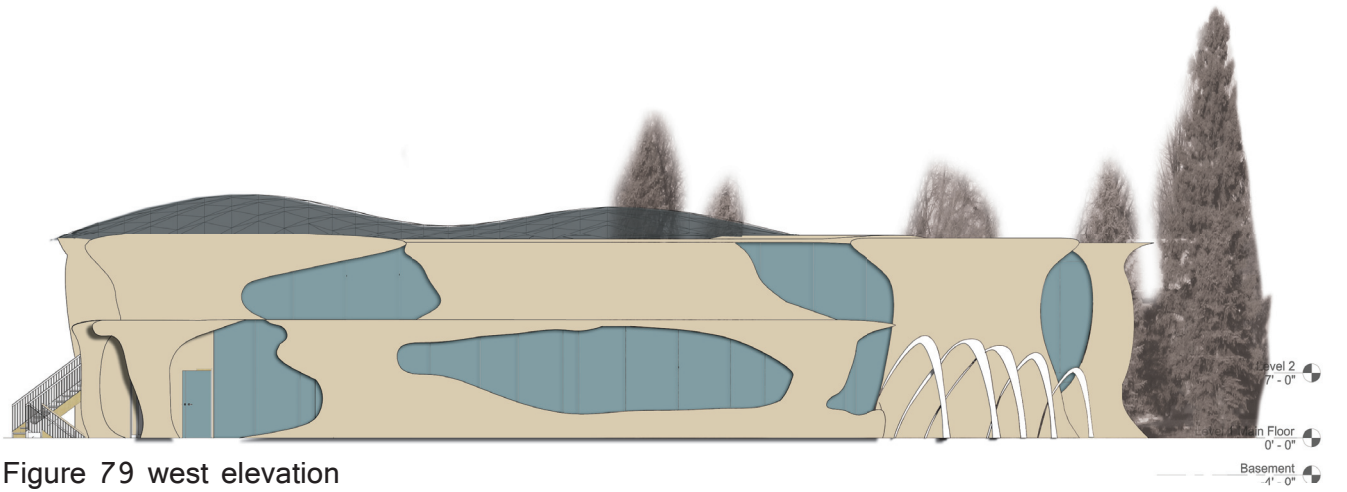


Figure 79 west elevation

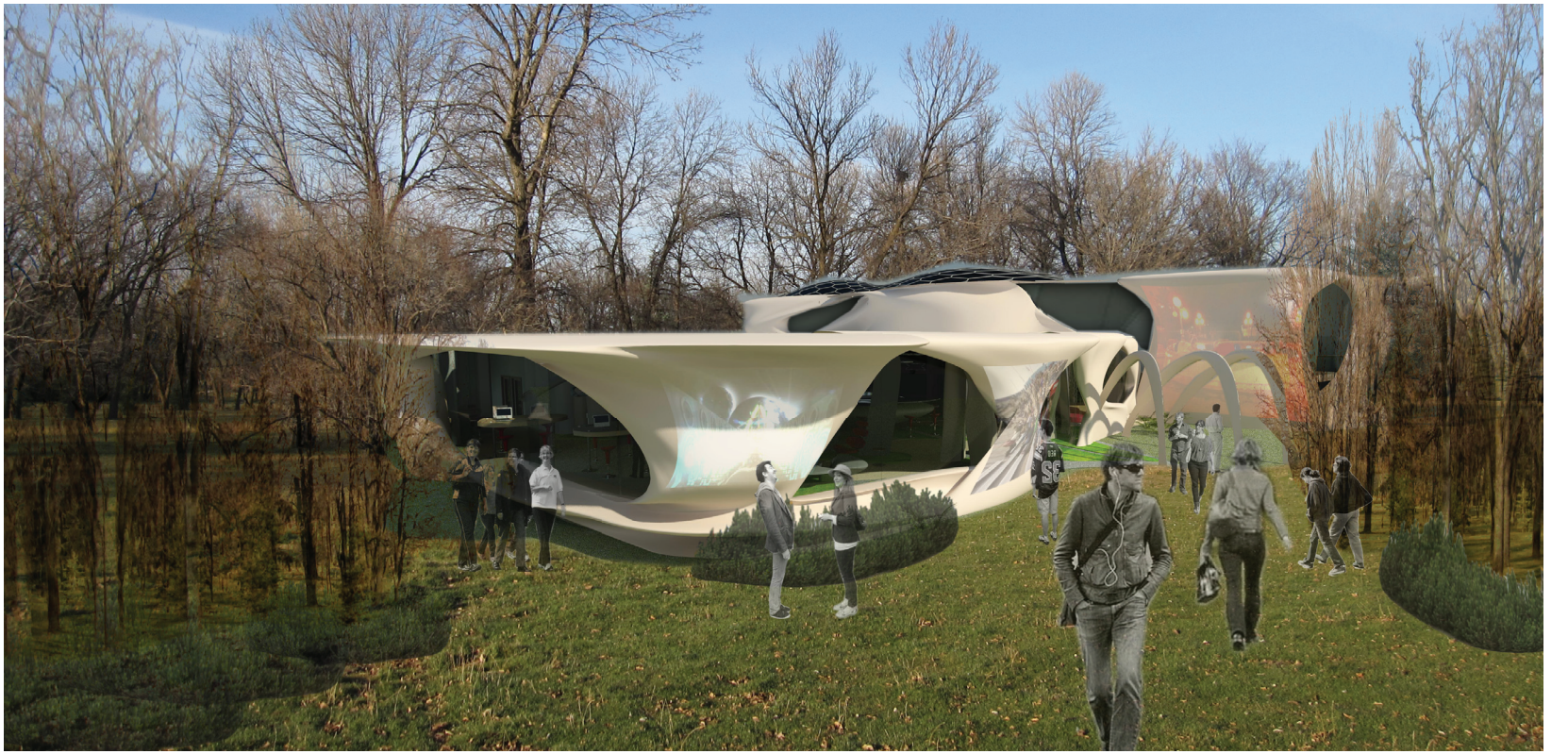
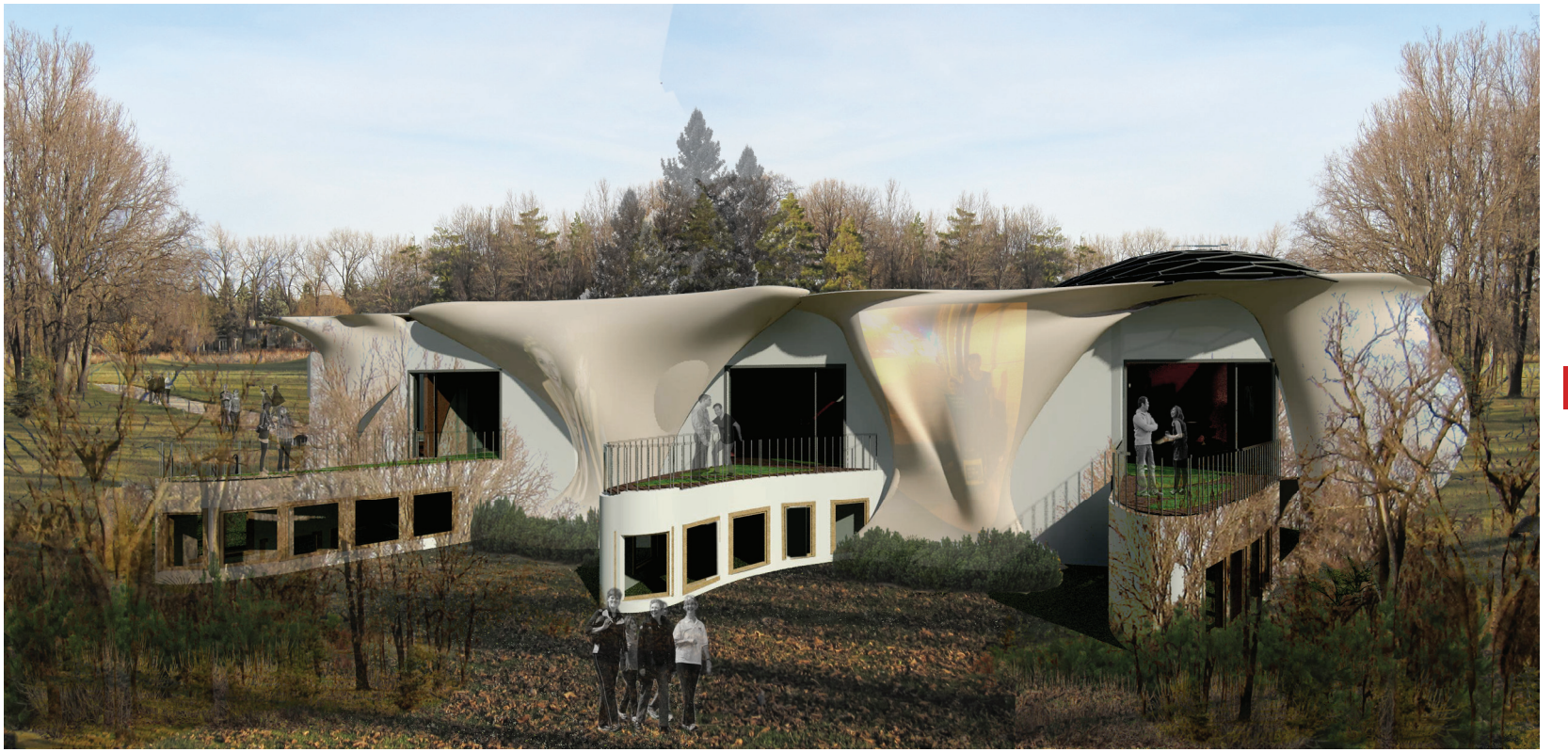


Figure 80 South Exterior Rendered



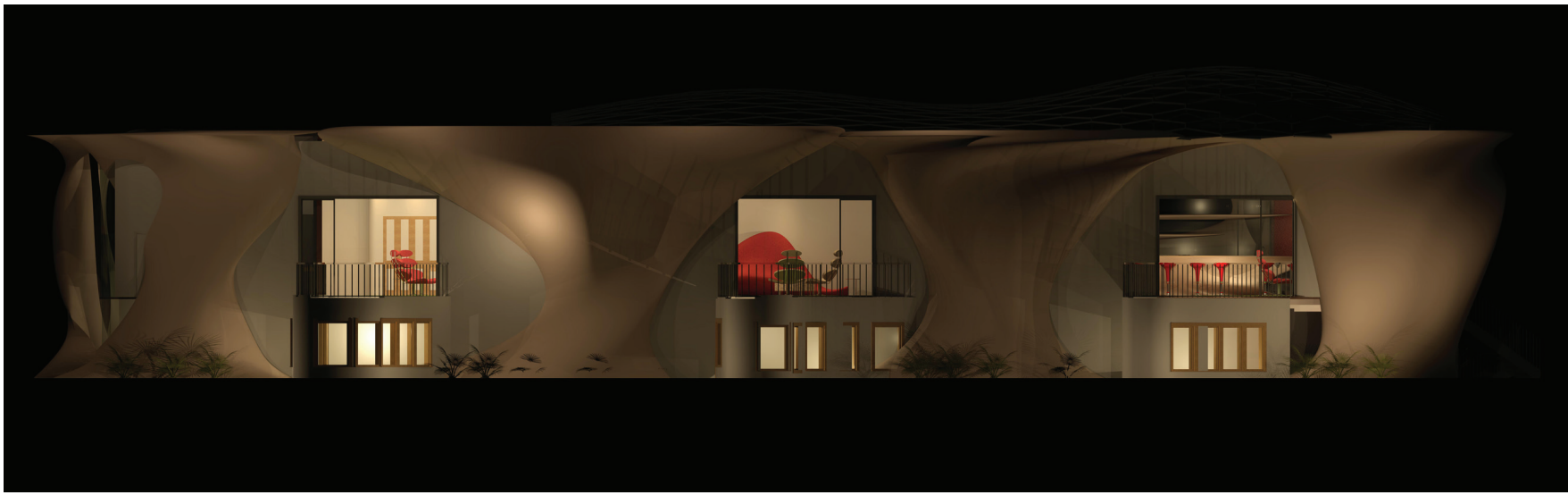


Figure 82 East Elevation, Night Study

Demolition Plan

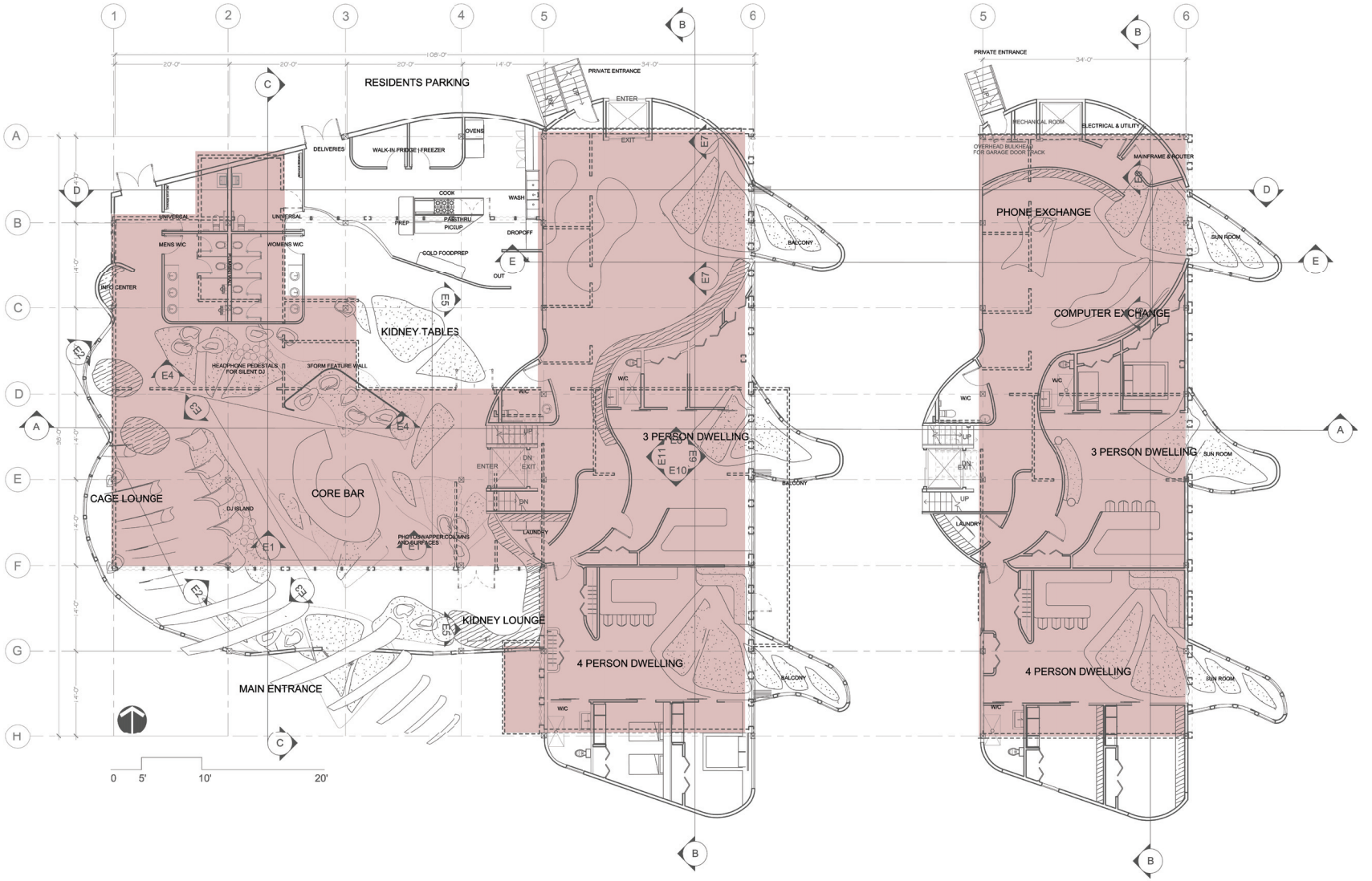
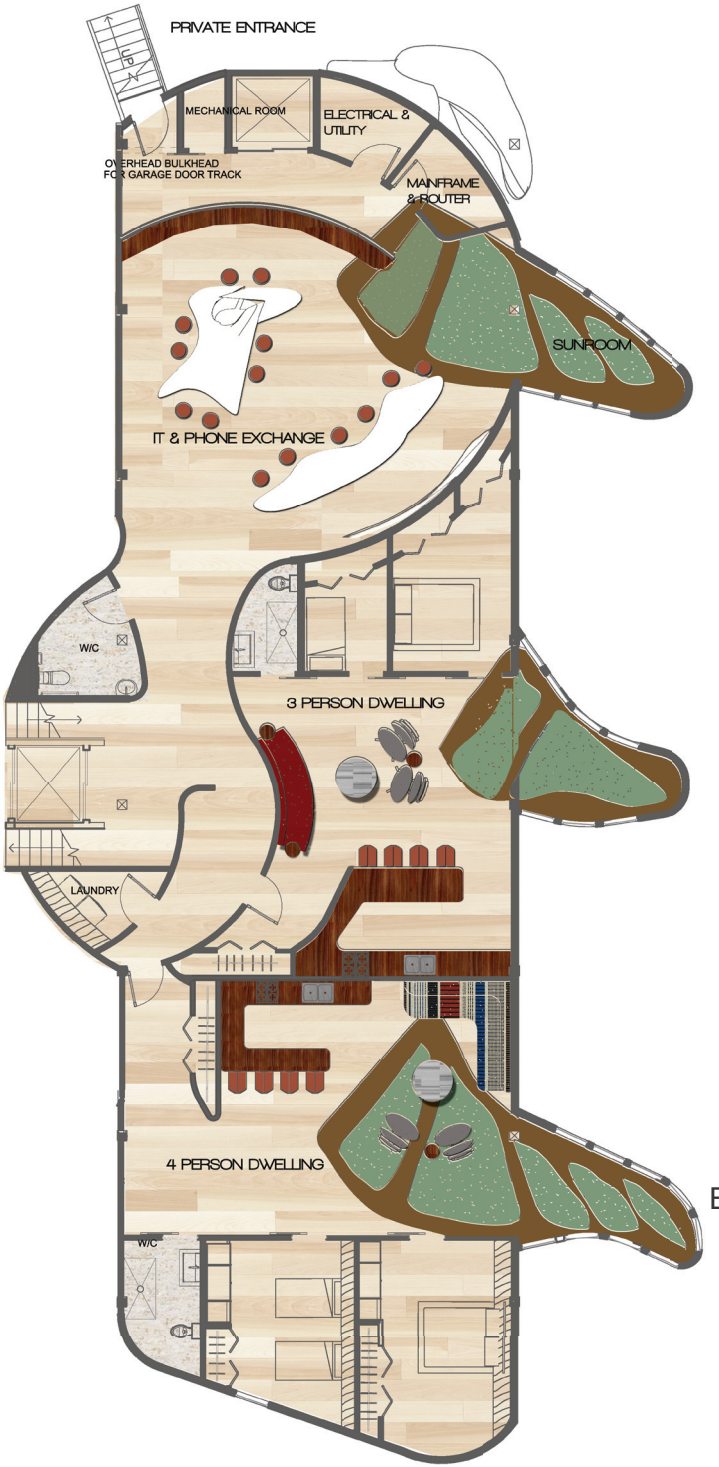


Figure 83 Demolition Plan

Figure 84 Rendered Finish Plan



Basement Plan

Figure 84 Rendered Finish Plan

Construction Plan

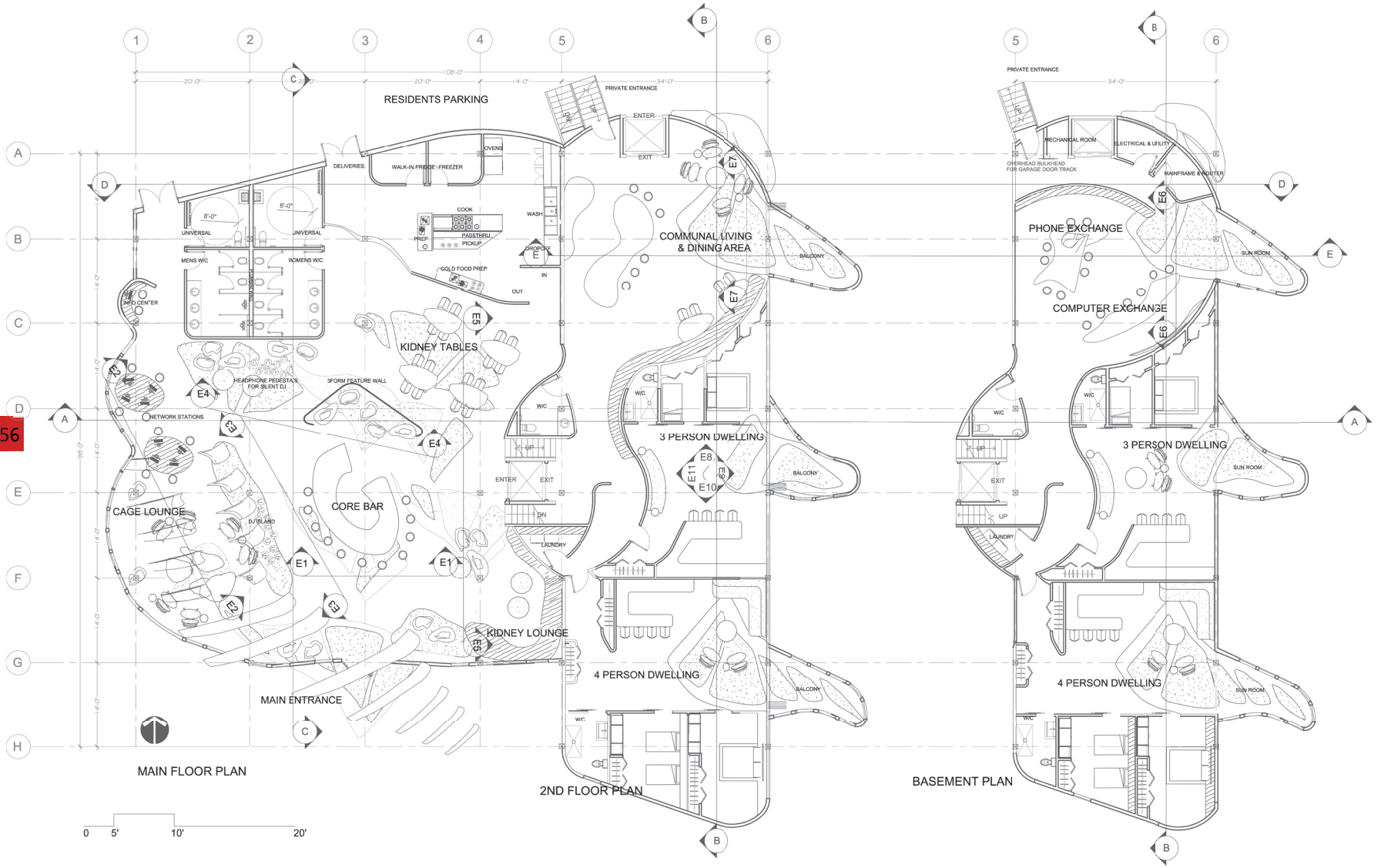


Figure 85 Construction Plan

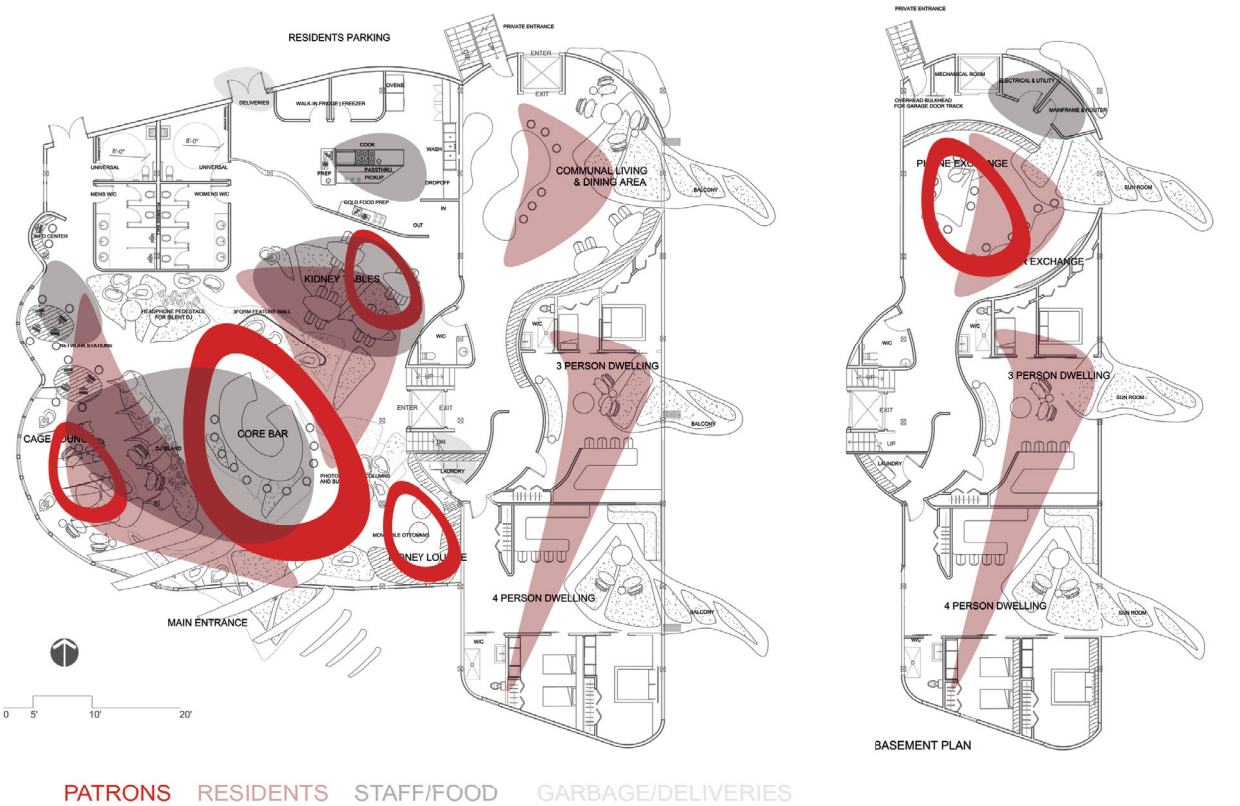


Figure 86 Circulation Plan

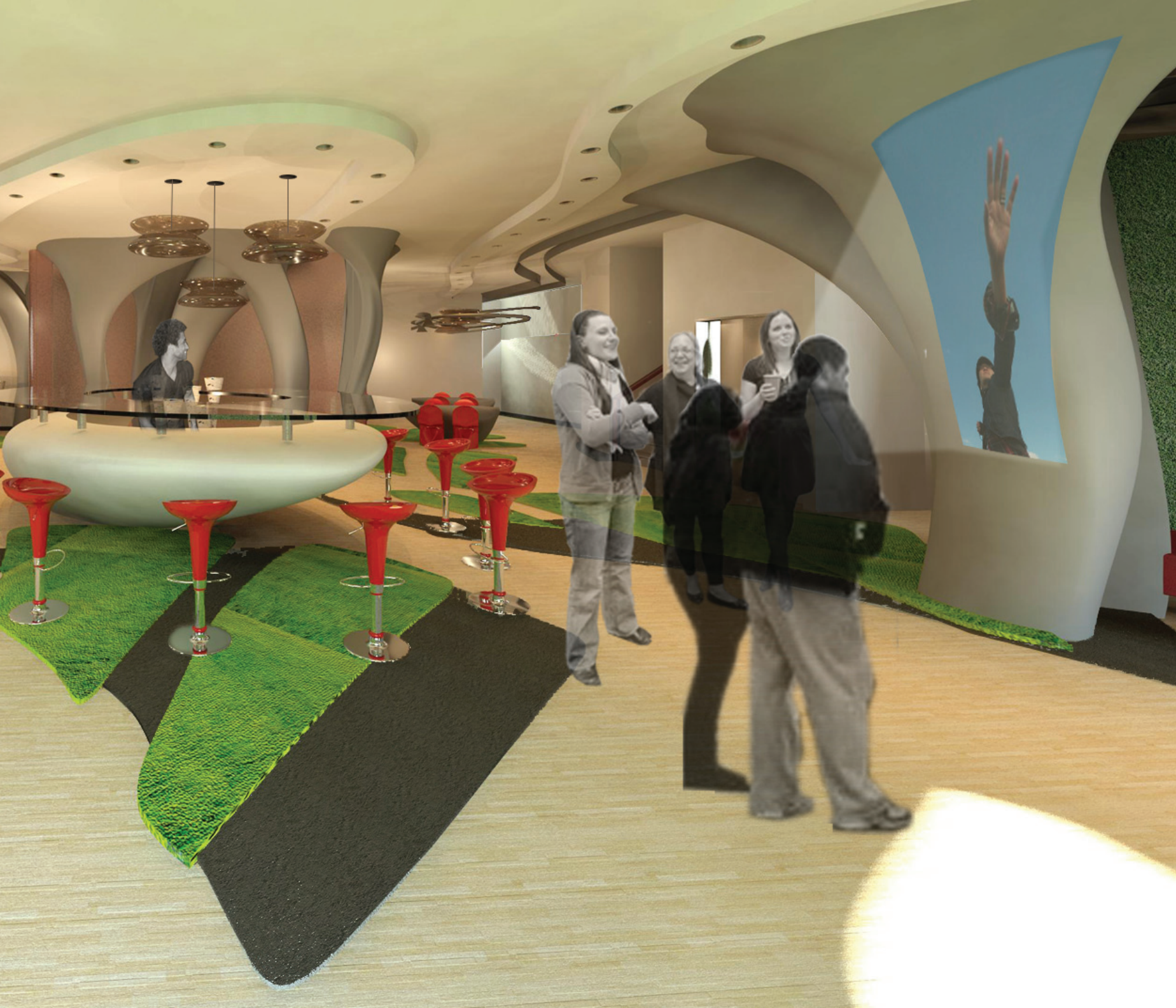
A circulation study was carried out in order to evaluate if there was proper traffic flow within the complex. The intent of the study was to see where people would concentrate and then decentralize within spaces on the main floor. The discovery was that the central hub the Core Bar, acts like an informal reception area. Once people evaluate the circulation around the main Bar, they can then choose which level of privacy they are looking for. Furthermore, the circulation study was helpful in order to evaluate if there were any bottlenecks within the floorplan.

Core Bar | public space

Design Features

The Core Bar is the first thing that patrons see upon entering The MIX. It's curvilinear form is at the centre of the main floor and is meant to be the hub of activity. The 6" bulkhead is outfitted with recessed potlights to provide ambient lighting while the bronze glass pendant lights are meant to provide task lighting. The form of the bulkhead highlights the form of the Core Bar as well as the circulation path around the hub. The feature pink 3form wall is meant to frame the view of the Core Bar upon entry to create a sense of arrival. The Bar is designed as public space as it is open and has views to all other spaces on the main level. Paths surrounding the bar are wide and spacious in order to facilitate easy circulation and informal meetings.

Figure 87 Core Bar Perspective



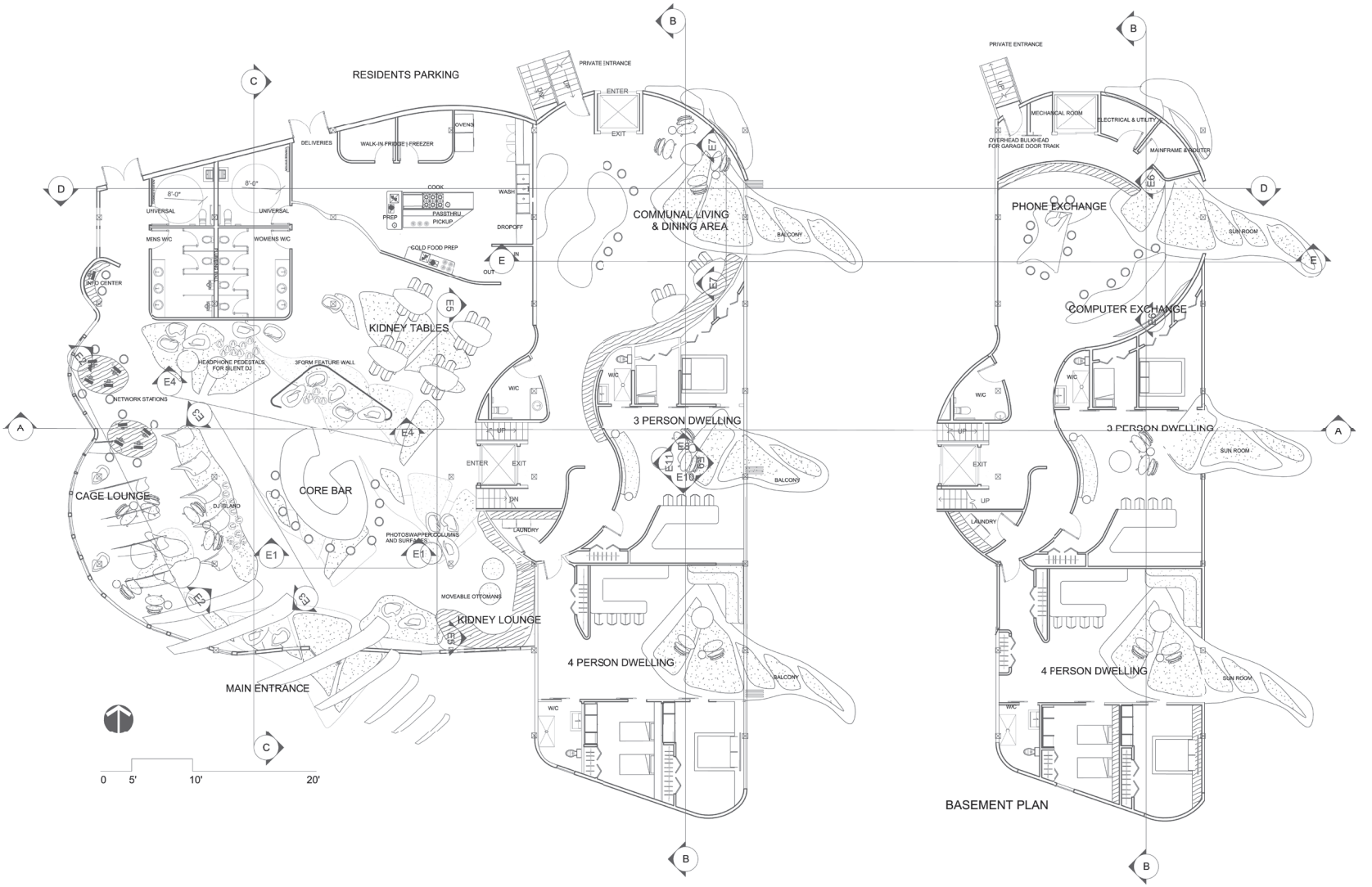


Figure 88 Key Plan

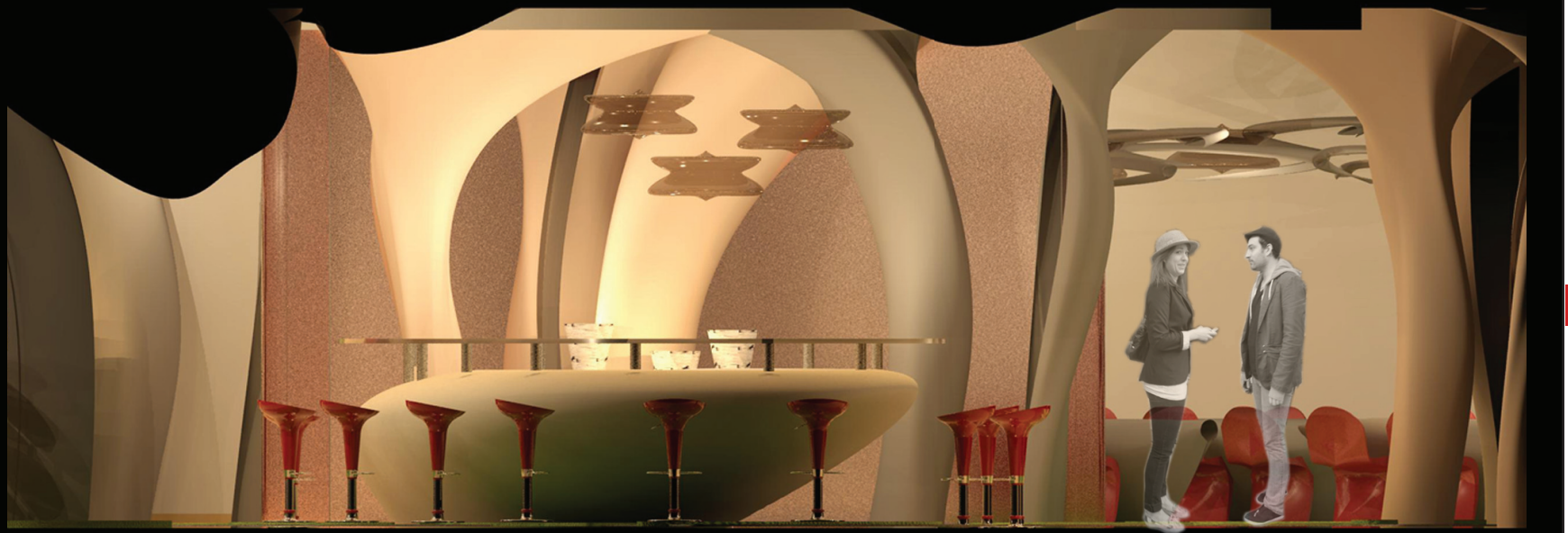


Figure 89 E1 Core Bar Elevation, Night Study

Cage Lounge and Network Stations

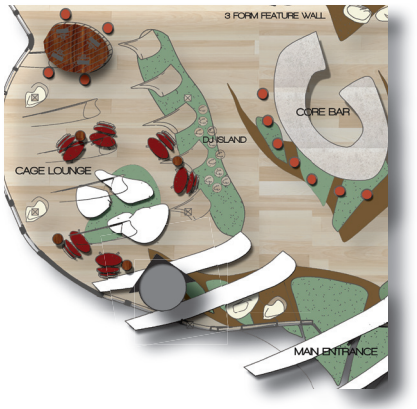
semi-public space

Figure 90 E2 Cage Lounge Network Elevation, Night Study

Cage Lounge | semi-public

Design Features

The Cage Lounge is designed for semi-public use. The lowered ceilings create a more intimate feel versus the higher ceilings in the general area. The windows permit views to the outdoors and are part of biophilic design principles. The forms of the cage are derived from the human rib cage, and the forms of the coffee tables are biomorphic to make the environment more comfortable for patrons. Upholstered lounge chairs have been arranged to accommodate solitary of smaller groups of people. Moveable surfaces are provided to enable users to work if they need to write or type on their mobile device. Ambient recessed pots provide soft, general lighting for this space, in addition to west facing windows that illuminate the space throughout most of the afternoon.



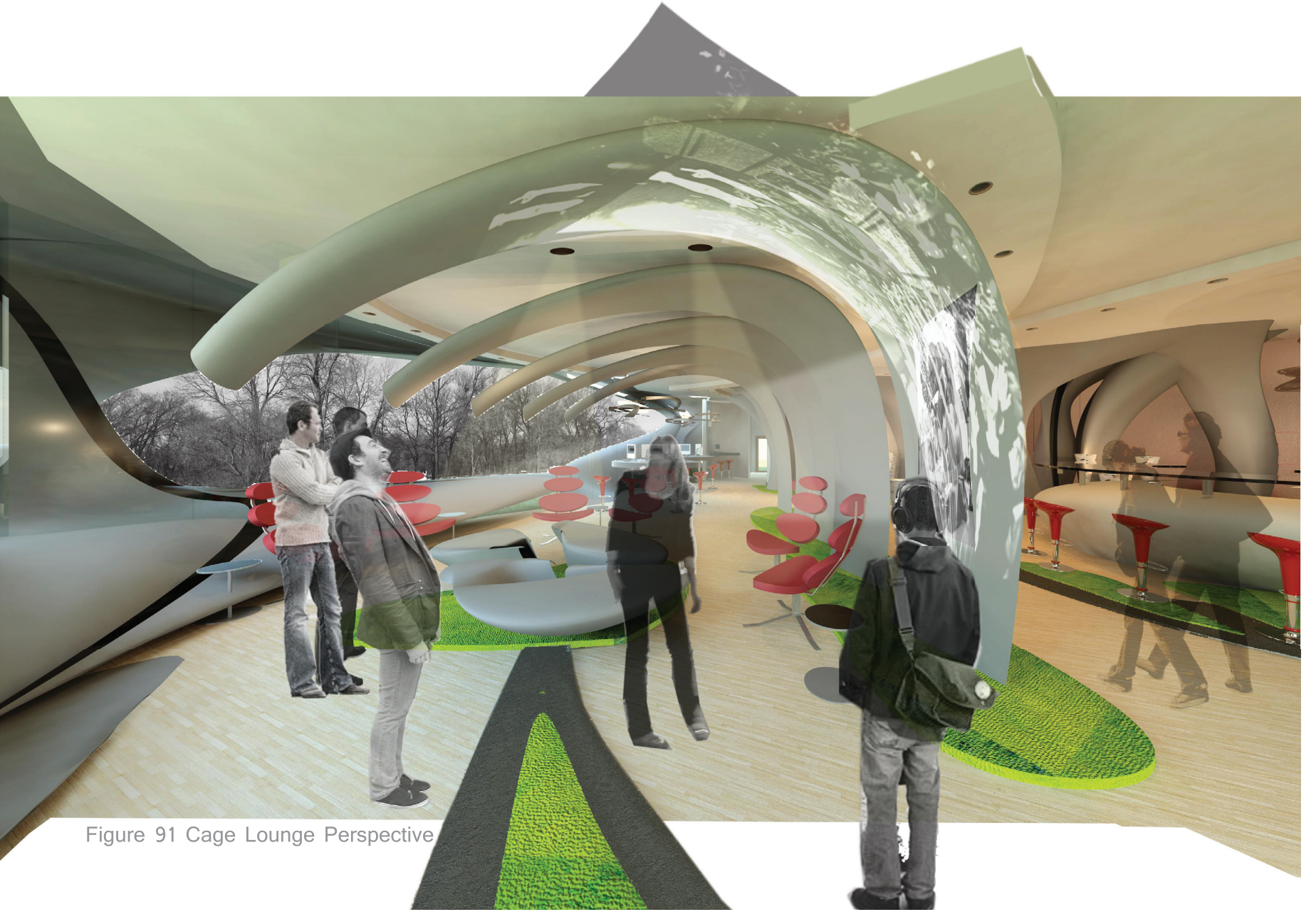


Figure 91 Cage Lounge Perspective

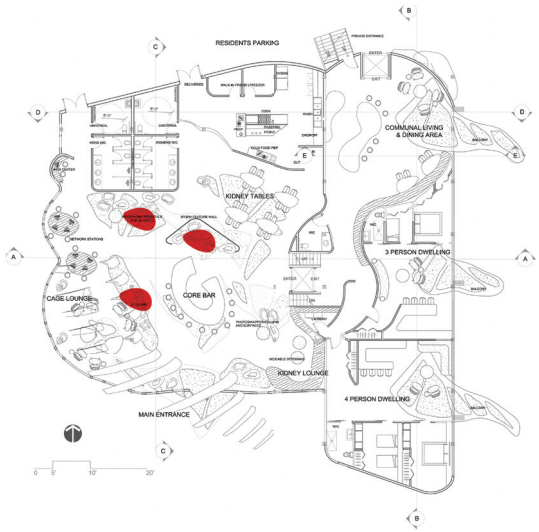

RESIDENTS PARKING
PRIVATE ENTRANCE
ENTRY
EXIT
COMMUNAL LIVING
& DINING AREA
BALCONY
KIDNEY TABLES
3 PERSON DWELLING
CAGE LOUNGE
CORE BAR
KIDNEY LOUNGE
4 PERSON DWELLING
MAIN ENTRANCE
0
5'
10'
20'

Figure 92 E3 Cage DJ Island Elevation, Night Study

DJ Islands - public space

Design Features

There are 3 DJ Islands located in the main circulation areas. They are meant to create interest and curiosity among the patrons. The pedestals are covered in a veneer meant to simulate birch trees. Birch trees are abundant on the site and the idea of bringing their presence into the interior of the building was a logical choice. The backdrop for the DJ pedestals are the interactive columns meant to be used for PhotoSwapping. The mingling of these two ICTs applications was deliberate in order to create a full experience for patrons. Users have the choice to use one or both applications. Moveable ottomans are placed near DJ Islands for impromptu seating and places for pause. Lights are placed within the top of the DJ pedestals in order to create a glowing effect.



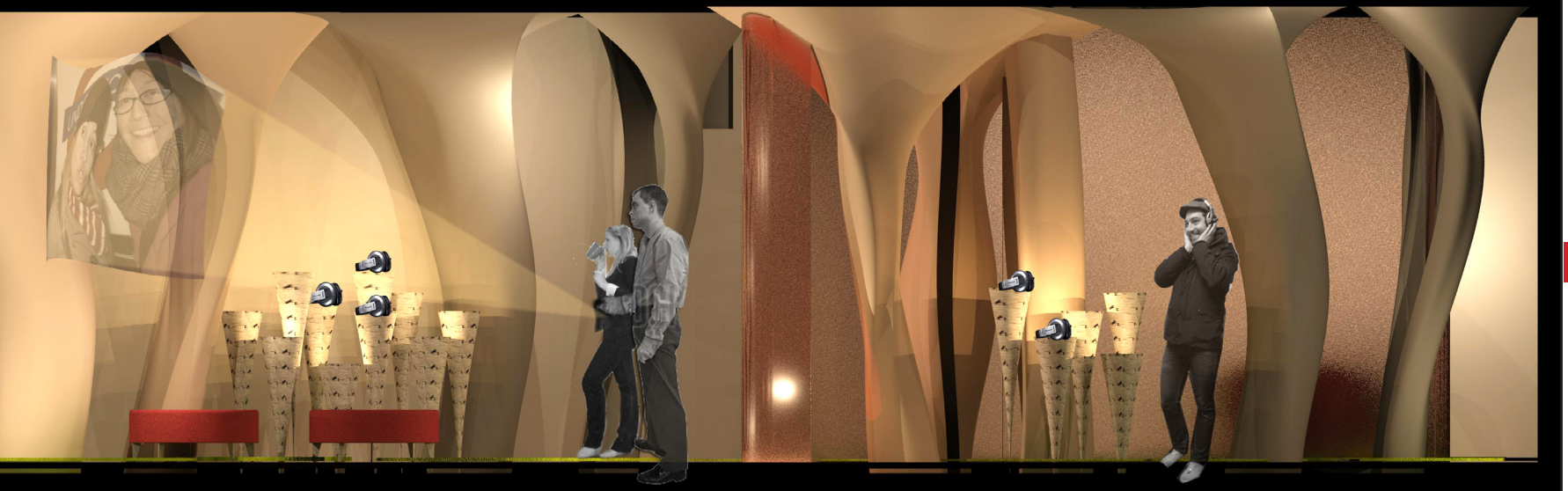
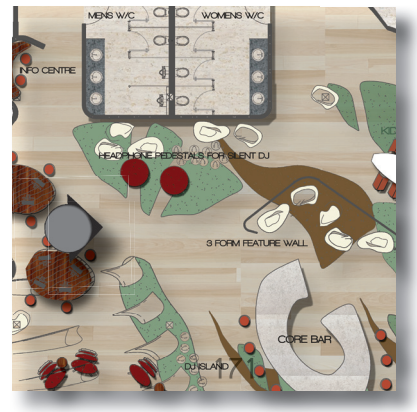


Figure 93 E4 DJ Island Feature Wall Elevation, Night Study



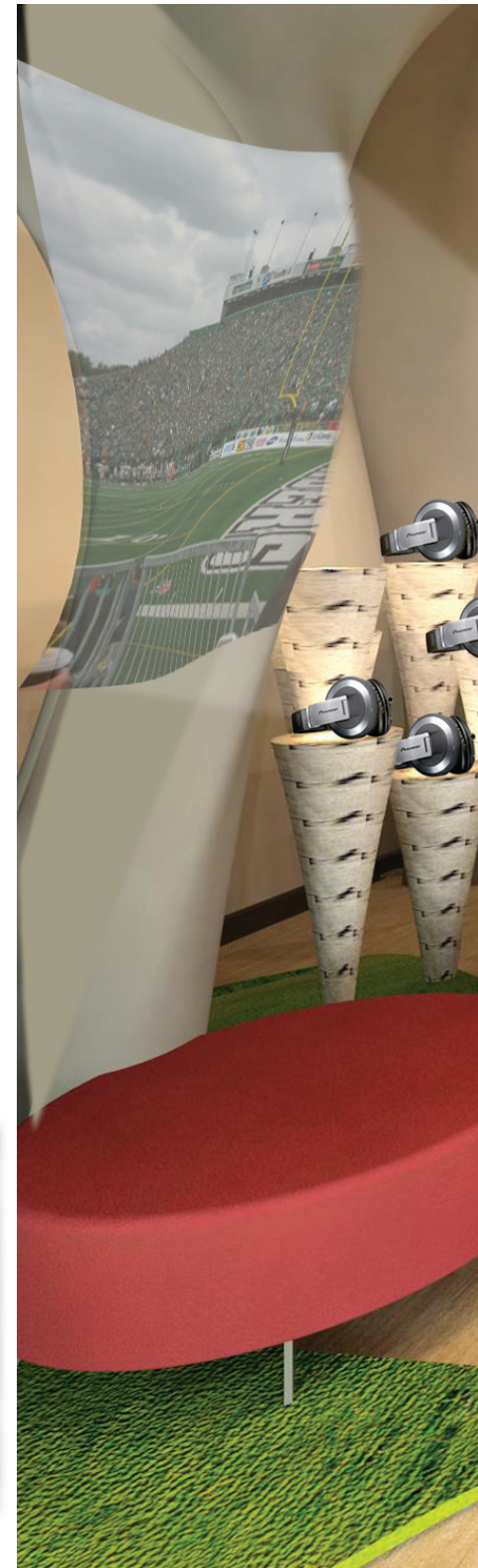


Figure 94 DJ Island Perspective

Kidney Lounge and Tables

semi-public space

Design Features

The Kidney Lounge and Tables are both semi-public space, located on either side of the main stairs and elevator. The feel of the Kidney Lounge is enclosed as the columns swell at the top of the ceiling and create canopies over the space. The lounge has a feature green wall upon which tall curly forms carved from maple are layered. Intermingled with the maple sticks are bottle glass fixtures meant to illuminate the green wall and provide decorative lighting. The main seating in the lounge is a single, curvilinear bench meant for single or multiple users. The ottomans are moveable and are there to accommodate various sizes of groups, as well as to provide a contrasting texture to the wood bench. The Kidney Lounge is illuminated by south facing windows and recessed pot lighting.

Figure 95 E5 Kidney Lounge & Tables Elevation, Night Study

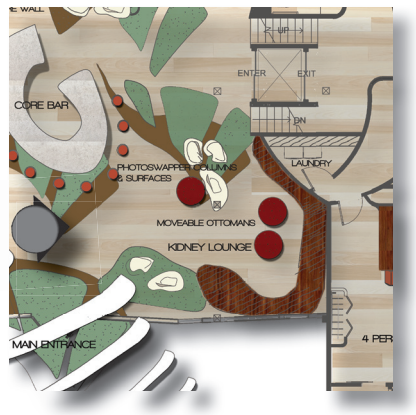


Figure 96 Kidney Lounge Perspective

Kidney Tables | semi-public space

Design Features

The Kidney Tables are 30" high and are meant for work, eat, meet and greet activities. There is less natural light in this area, therefore large bronze glass pendants were chosen to illuminate the space in addition to recessed pot lights. The bronze glass pendants are the same ones that were chosen for the Core Bar in order to create consistency within the space, however a curvilinear shell was installed around them to add variation. The curvilinear forms around the light fixtures bring movement and create interest in this calm space. The dropped bulkhead can be seen in the reflected ceiling plan found on page 179, linking all the spaces on the main floor with gestural form and light. The Kidney Tables are meant for semi-public use, as the lowered light fixtures imply a smaller volume. The uplit 3form feature wall adds another visual layer to this space, as do the PhotoSwapper columns.

Figure 97 Kidney Table Perspective

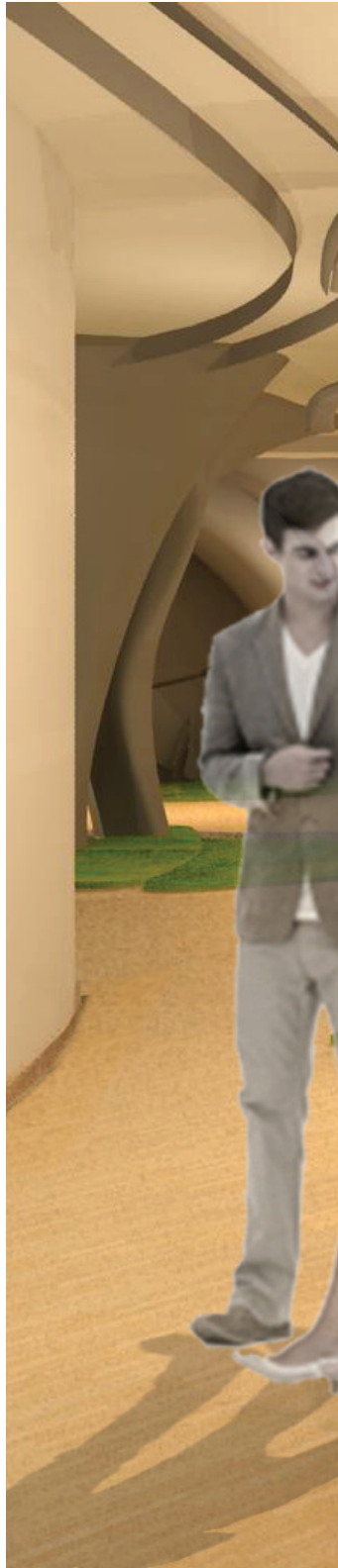


Figure 98 Kidney Lounge and Stairs

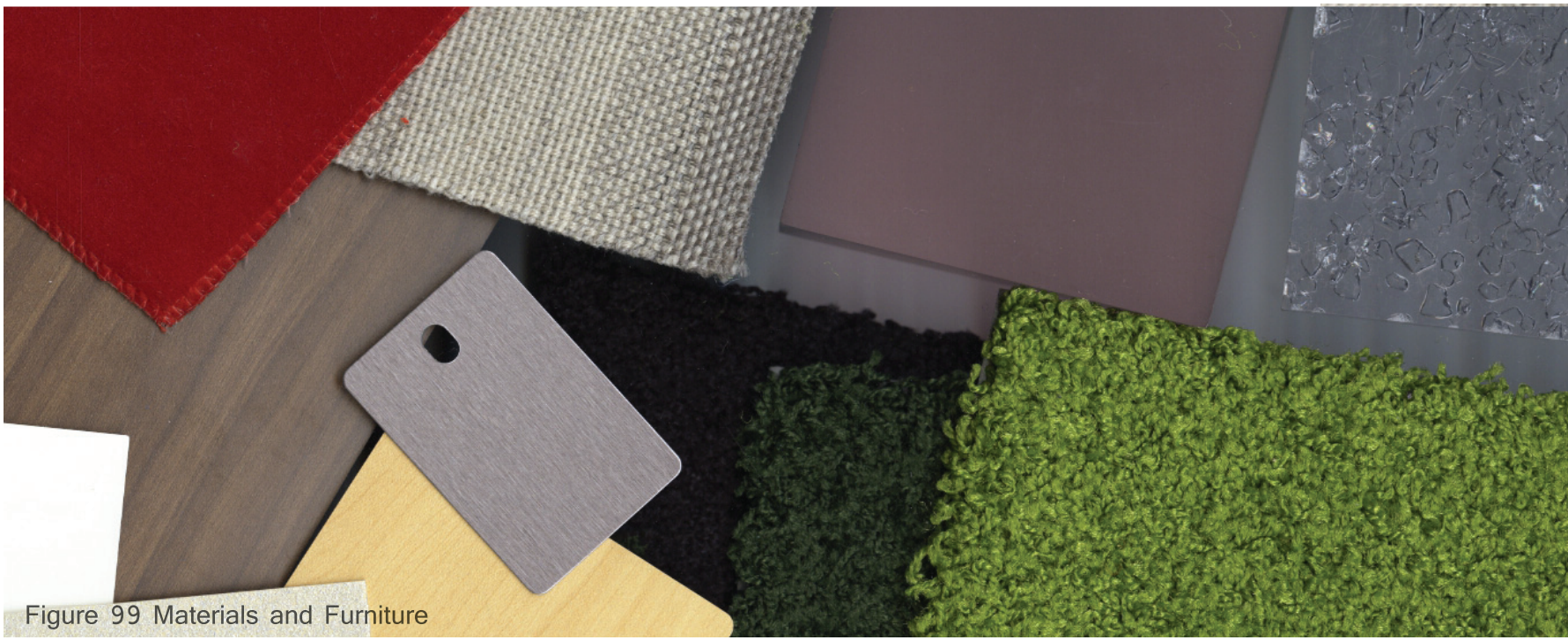
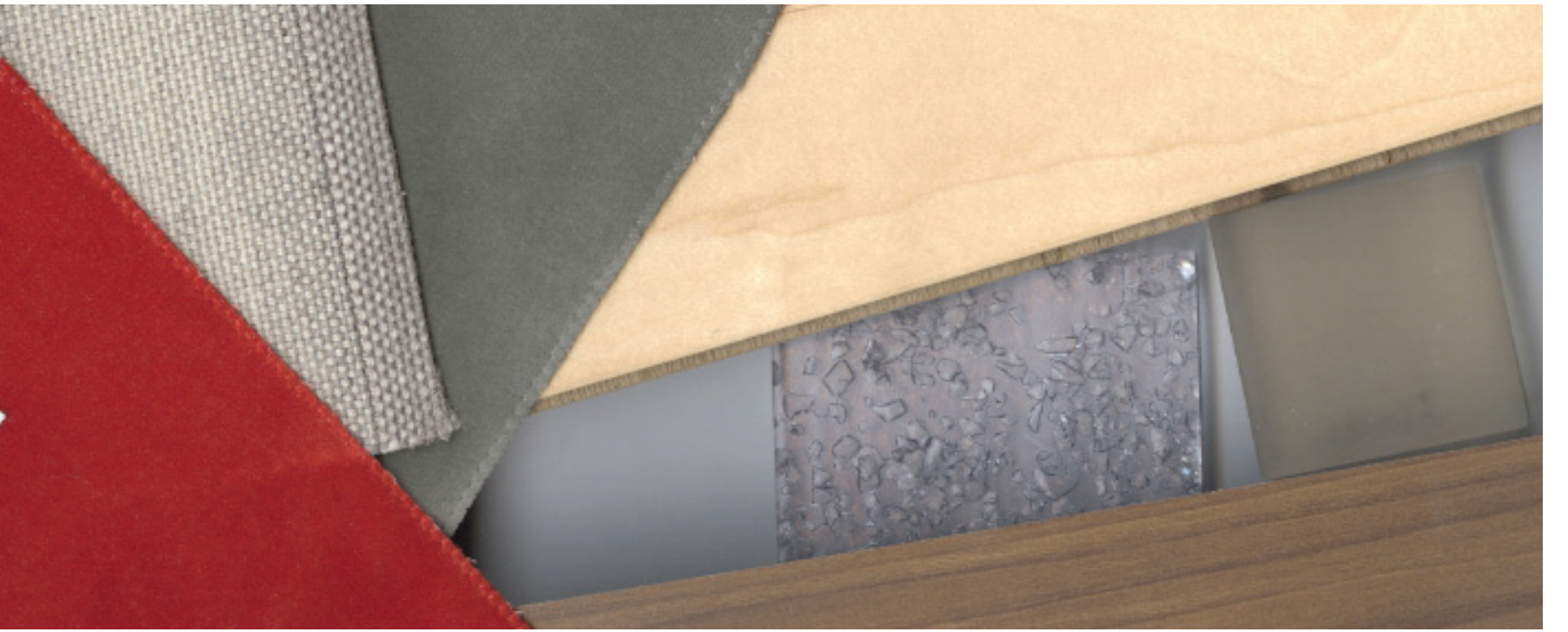


Figure 99 Materials and Furniture



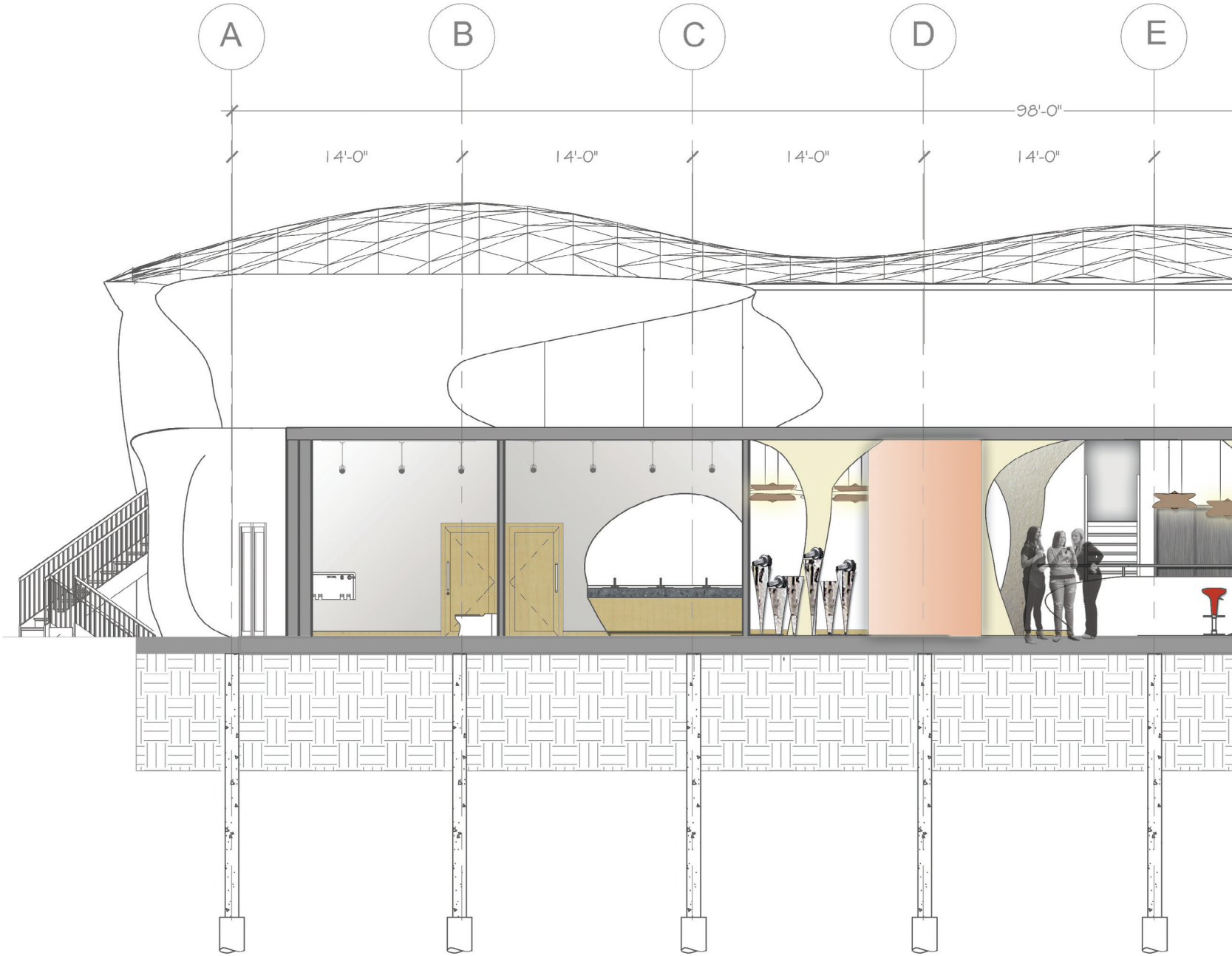
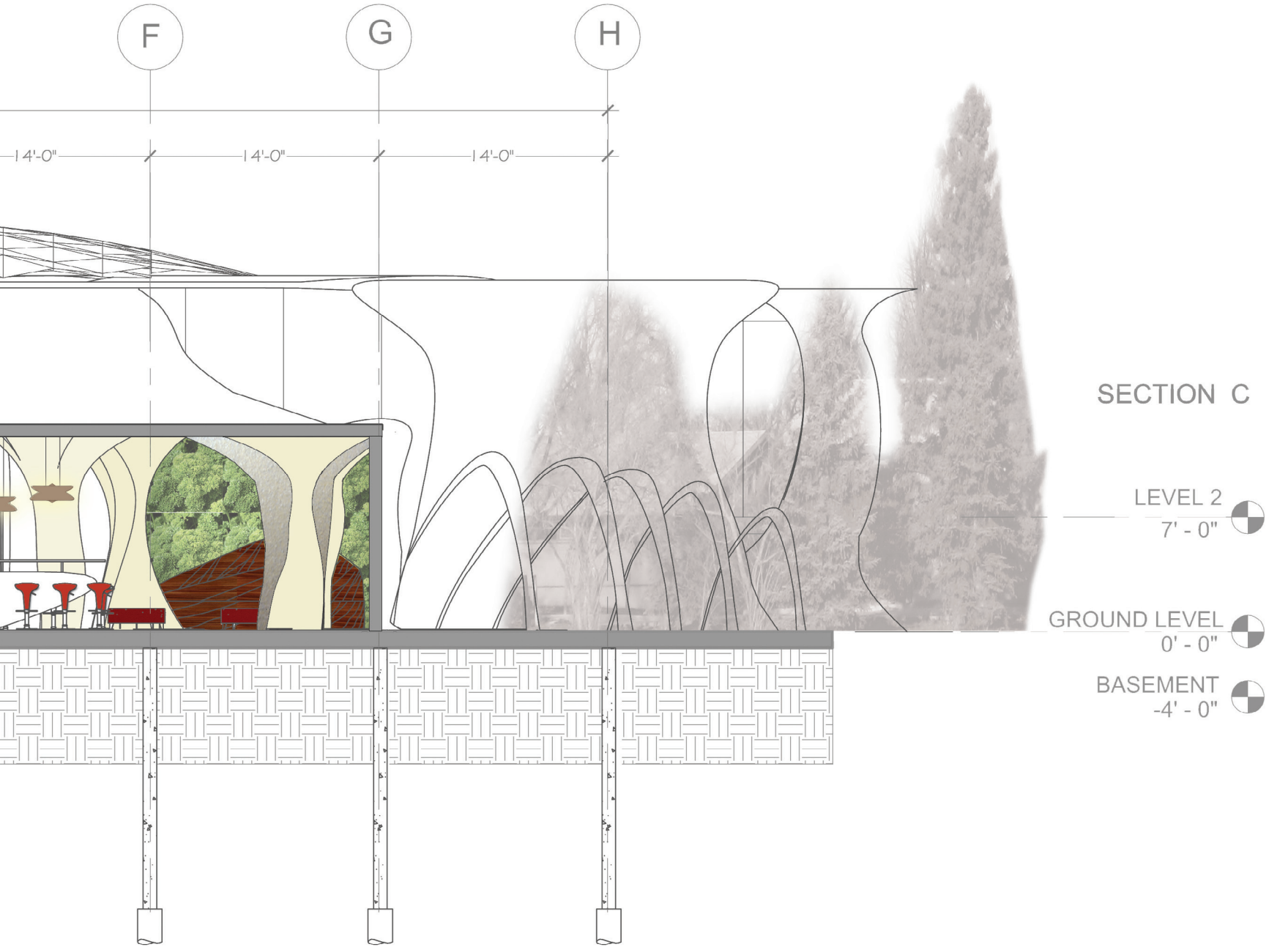


Figure 100 Section C not to scale
Please refer to Figure 88 Key Plan on Page 160



SECTION C

LEVEL 2
7' - 0"

GROUND LEVEL
0' - 0"

BASEMENT
-4' - 0"

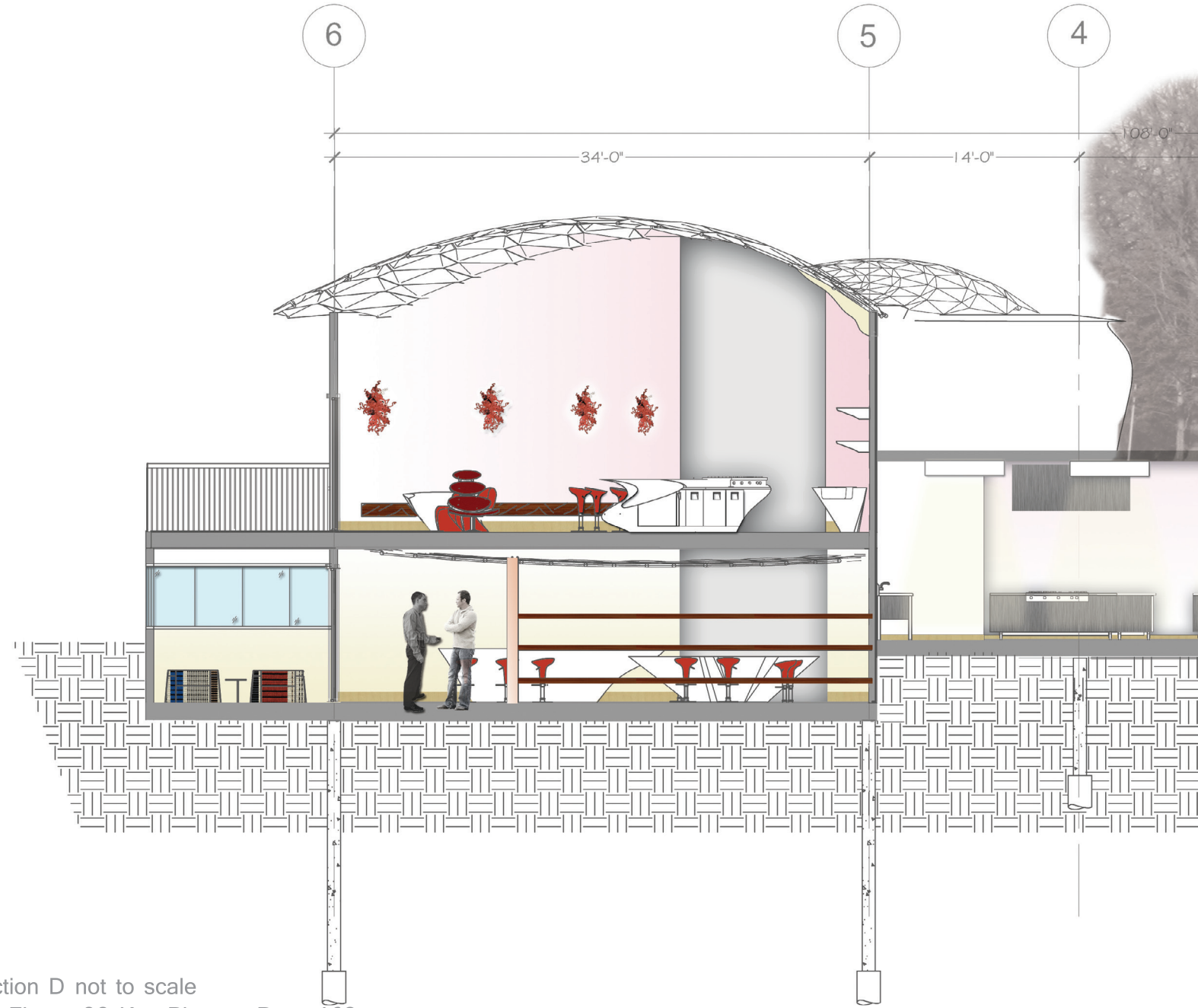
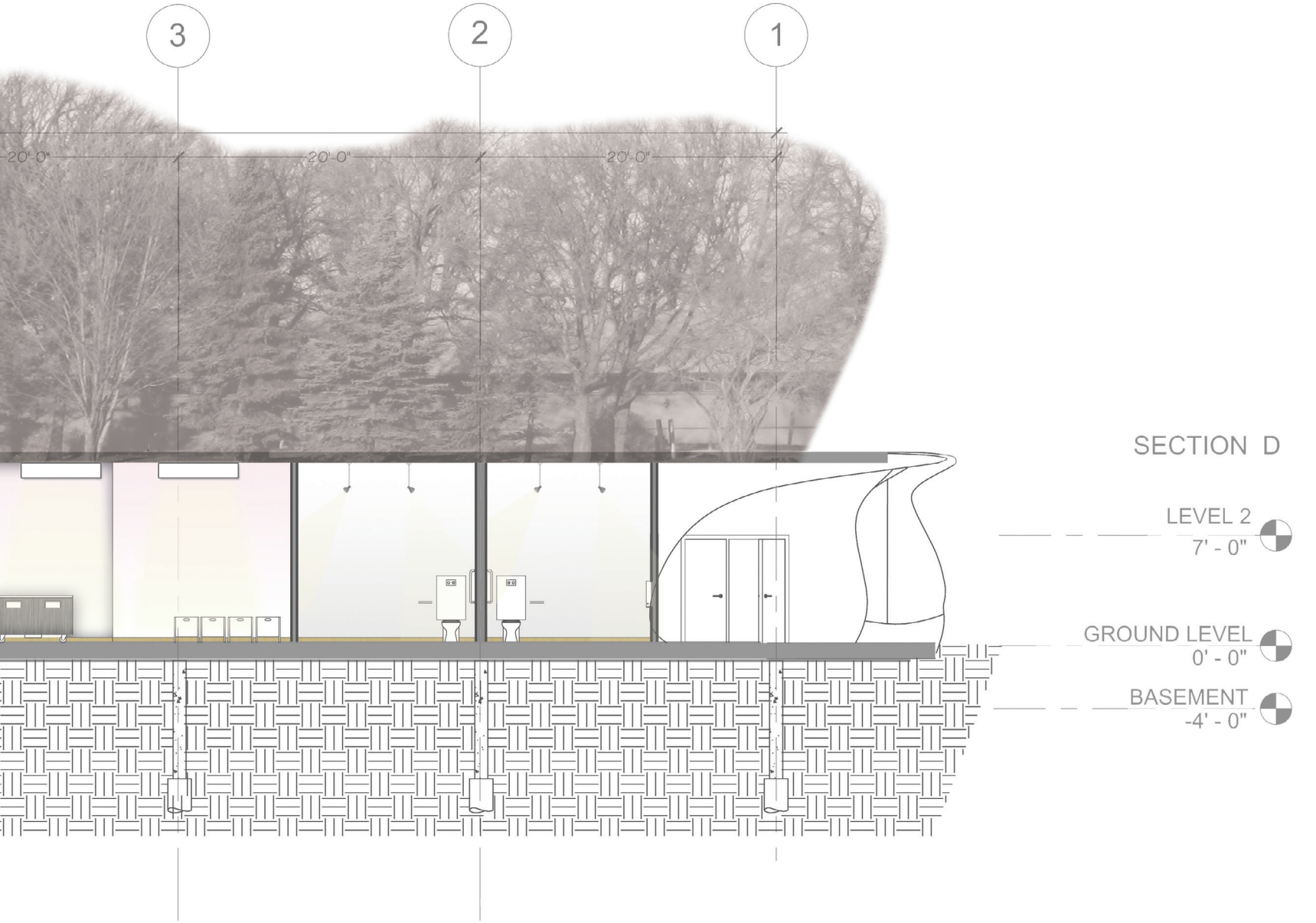


Figure 101 Section D not to scale
Please refer to Figure 88 Key Plan on Page 160



SECTION D

LEVEL 2
7' - 0"

GROUND LEVEL
0' - 0"

BASEMENT
-4' - 0"

IT and Phone Exchange | semi-private space

Design Features

The IT and Phone Exchange Centre is intended for semi-private use. The ten foot ceilings give the space a more intimate feel, while the hexagonal patterned ceiling still create a public atmosphere. The ceiling is a glass panel system that illuminates the entire space. The counters and the shelves on the wall are inspired by natural forms. They are made of fiberglass. The pink, transparent solid surface wall and walnut shelves provide a focal point for the entire space. The shelves are designed to house older, but still usable ICT products. The entire space is intended to create exchange and provide opportunities to make friends.

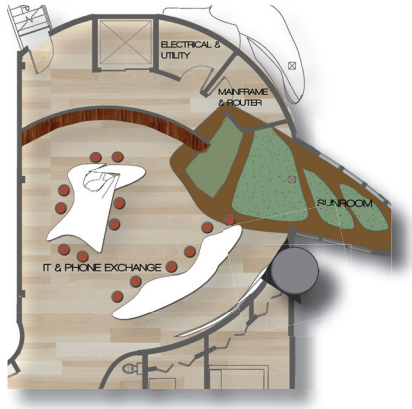


Figure 102 IT & Phone Exchange Perspective

PUBLIC SEMI-PUBLIC SEMI-PRIVATE PRIVATE

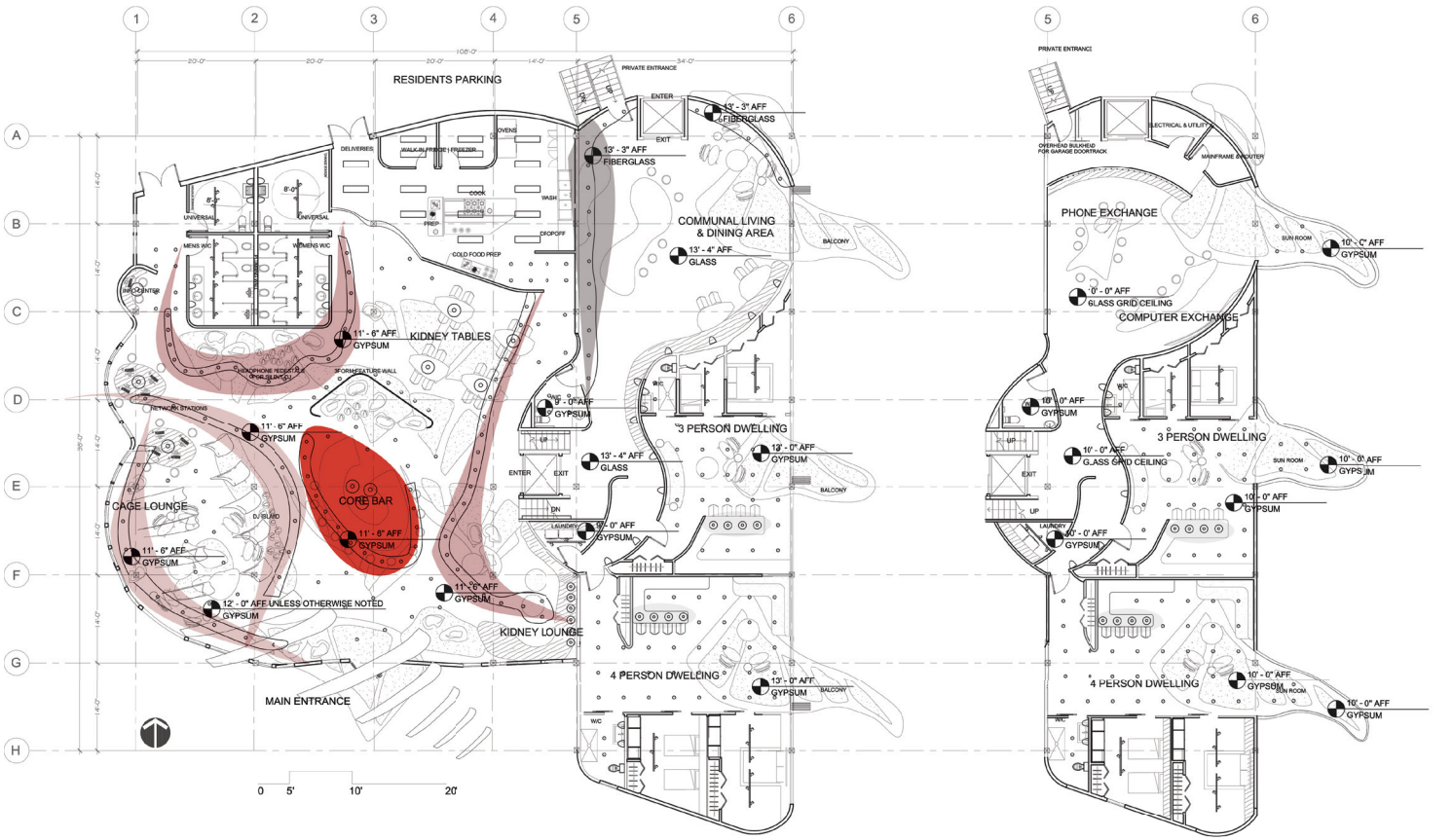


Figure 103 Reflected Ceiling Plan

NOTES/LEGEND

- MR16 HALOGEN UPLIT PEDESTALS
- T12 FLUORESCENT LIGHT
- MR16 HALOGEN CHANDELIER
- MR16 LED RECESSED POT LIGHT
- MR16 HALOGEN PENDANT LIGHT
- MR16 LED RECESSED SHADOW MOULD LIGHT
- MR16 HALOGEN WALL SCONCE
- MR16 HALOGEN TRACK LIGHT

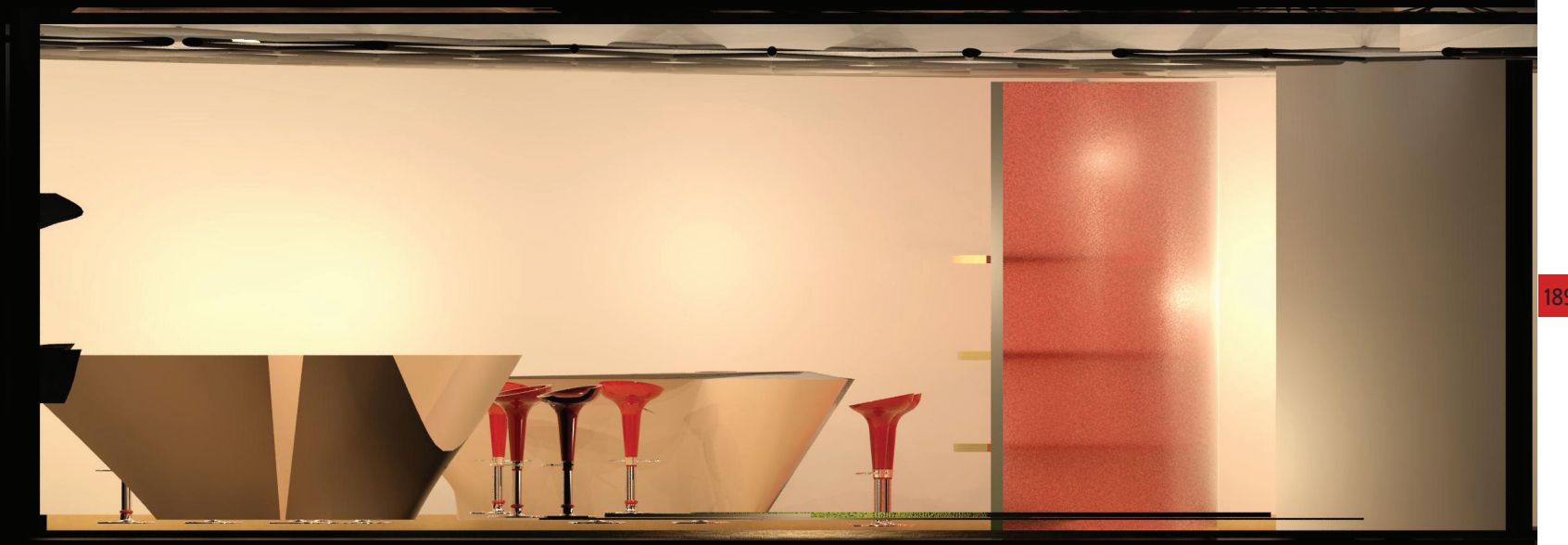


Figure 104 E6 IT & Phone Exchange, Night Study

Communal Living Space | semi-private space

Design Features

The Communal Living Space is intended for semi-private use. The thirteen foot ceilings give the lounge a very spacious feel and the glass hexagonal adds interest to a sometimes overlooked ceiling plane. The glass ceiling system provides plenty of natural light to the space and enables users to feel a connection with the outdoors. There is also a four panel glass wall that opens on a balcony enabling residents to experience fresh air and sunlight. The feature transparent solid surface wall illuminates the space with a calming rose hue. Lounge seating and ottomans are provided to accommodate various amounts of users while tables and chairs are paired with a continuous bench to enable eat and work activities. Recessed pot lights are situated along the perimeter of the space to provide lighting at night, and wall sconces are situated on the south wall, as shown in Figure 104 on the facing page.

Figure 105. Communal Perspective

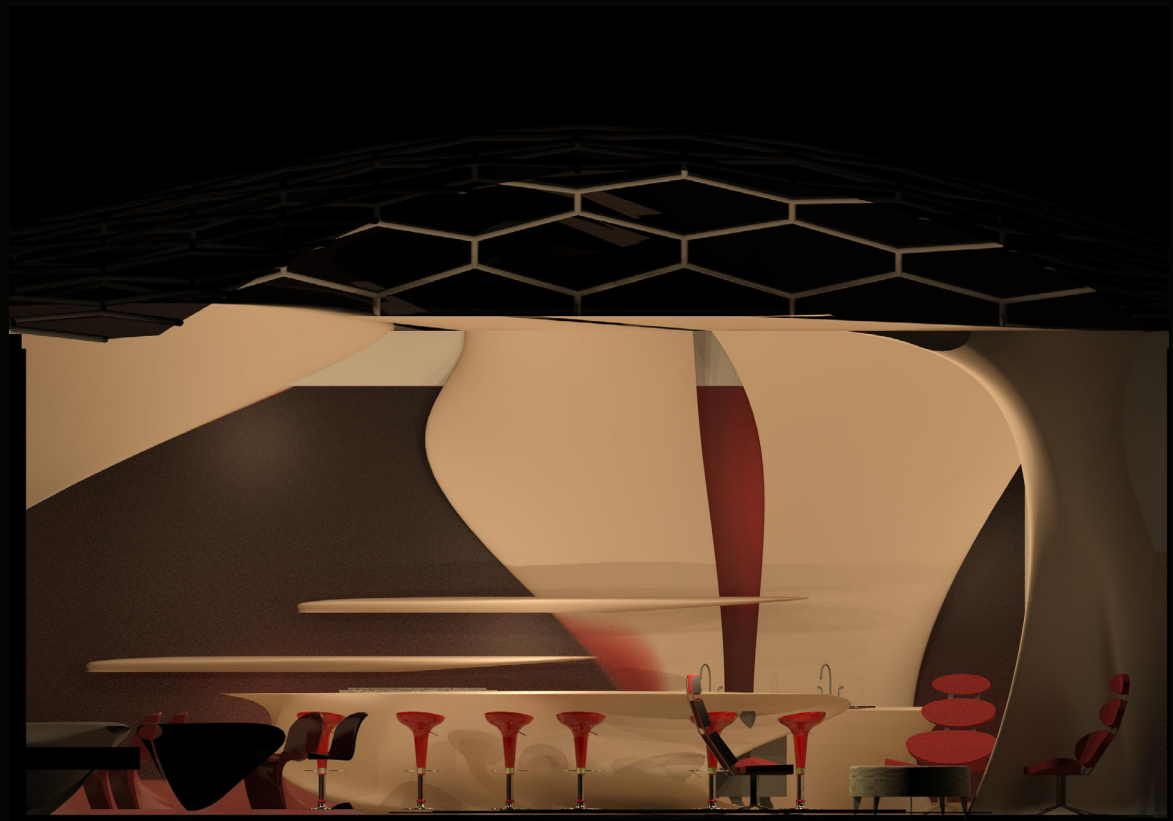


Figure 106 E7 Communal Lounge North Elevation, Night Study

Dwelling Space | a place for privacy

Design Features

The Dwelling Spaces are meant for private activities. They employ the same architectural forms for PhotoSwapping in the event the residents are entertaining in their private space. The original wooden arches have been preserved as a reminder of the previous history of the site, as well as for their wooden material. The contrast of the darker woods against the lighter palette creates some interesting tension for the design. Each Dwell Space features its own washroom and kitchen for full functionality and privacy. The same Panton dining chairs are used throughout the complex to create continuity and consistency in the design language.

NORTH

SOUTH

WEST

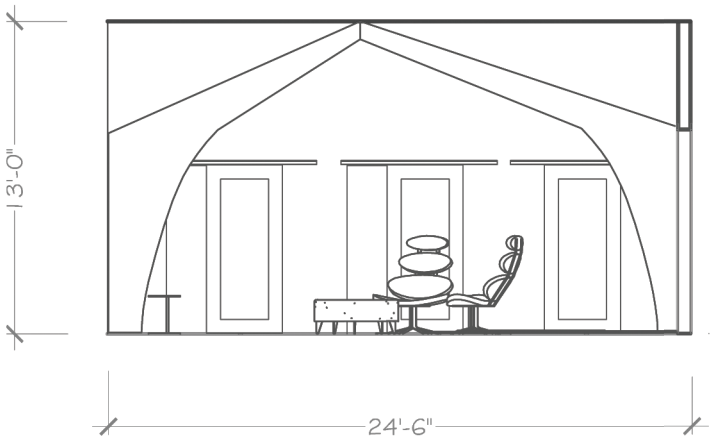
EAST

Figure 108 E8 Dwell North Elevation
Figure 109 E11 Dwell West Elevation
Please Refer to Figure 88 Key Plan page 160.

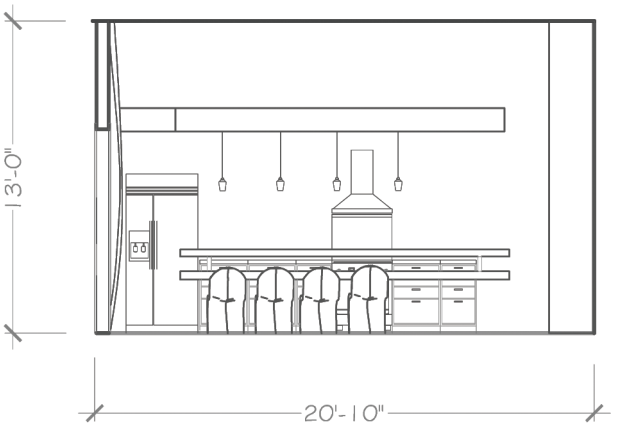
Figure 110 E10 Dwell South Elevation
Figure 111 E9 Dwell East Elevation

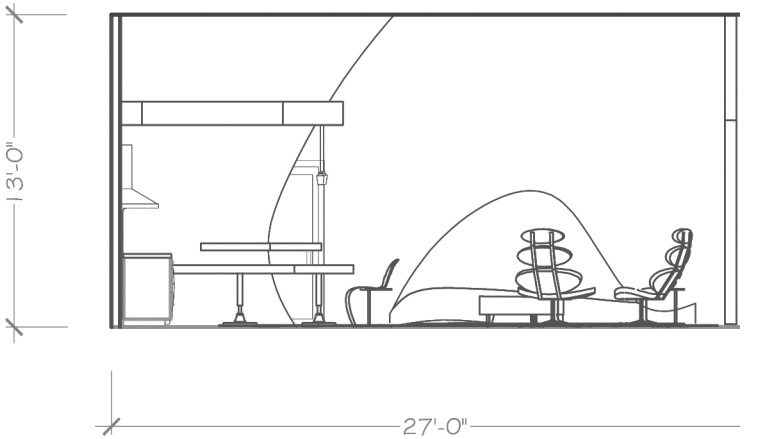
Figure 112 Drafted Elevations - dwelling space not to scale
Please Refer to Figure 88 Key Plan page 160.

north elevation

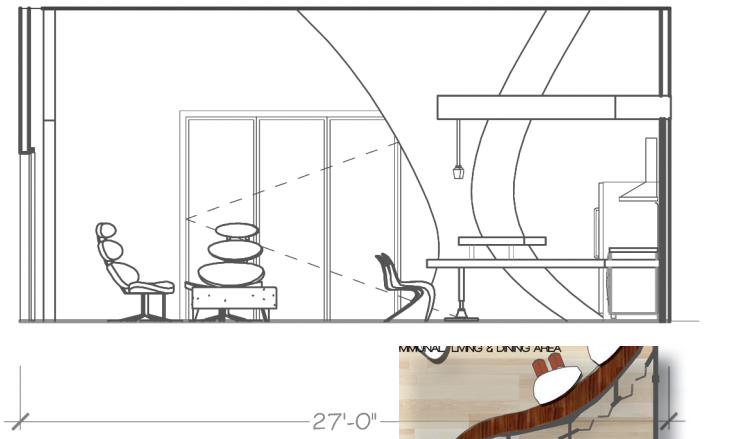


south elevation





west elevation



east elevation

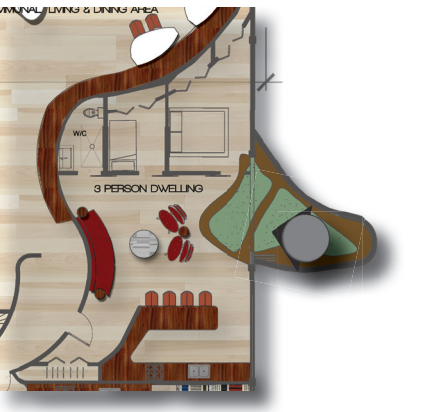
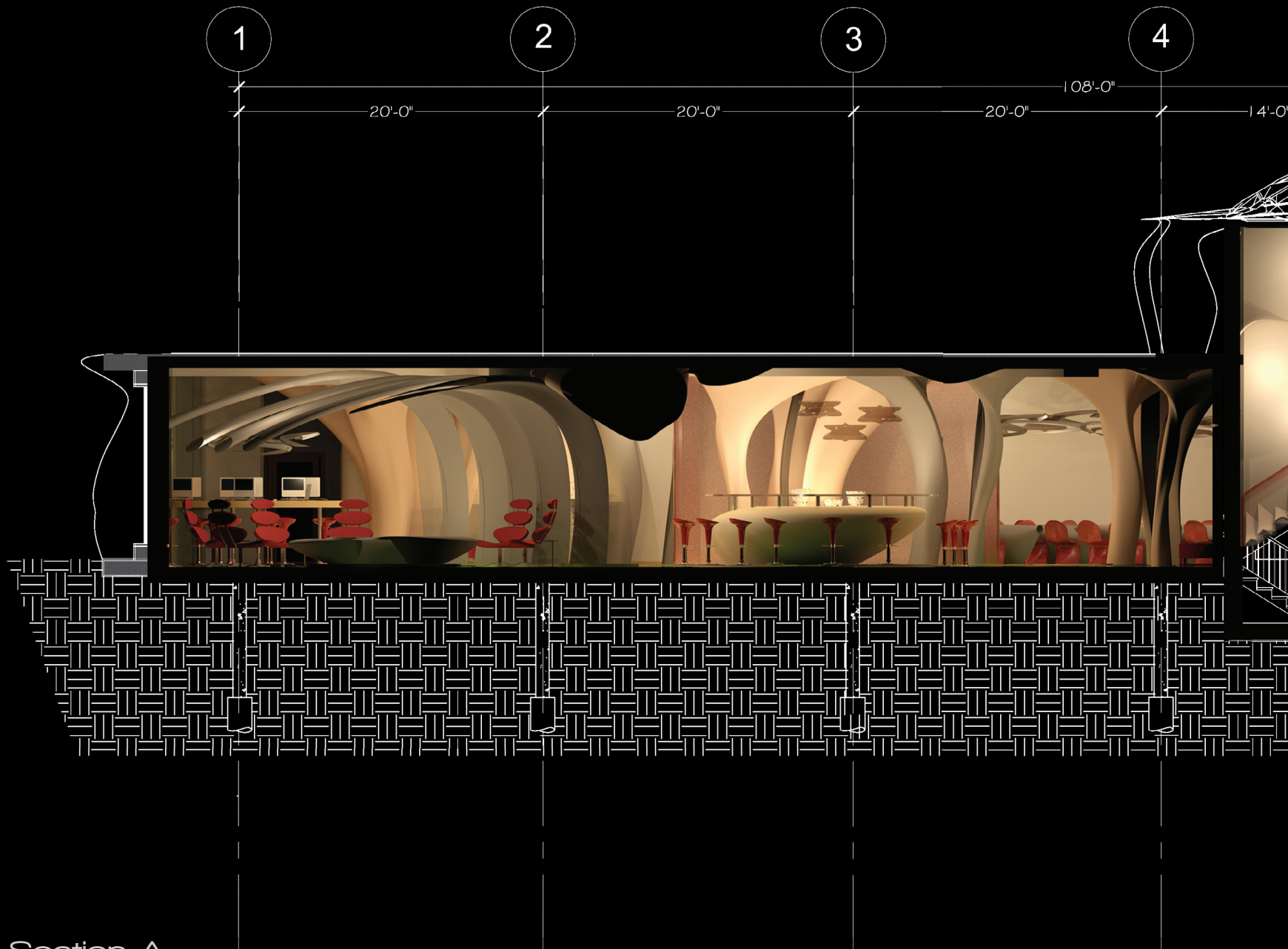


Figure 113. Dwell Perspective (please refer to page 196 for the perspective position tag)



Section A

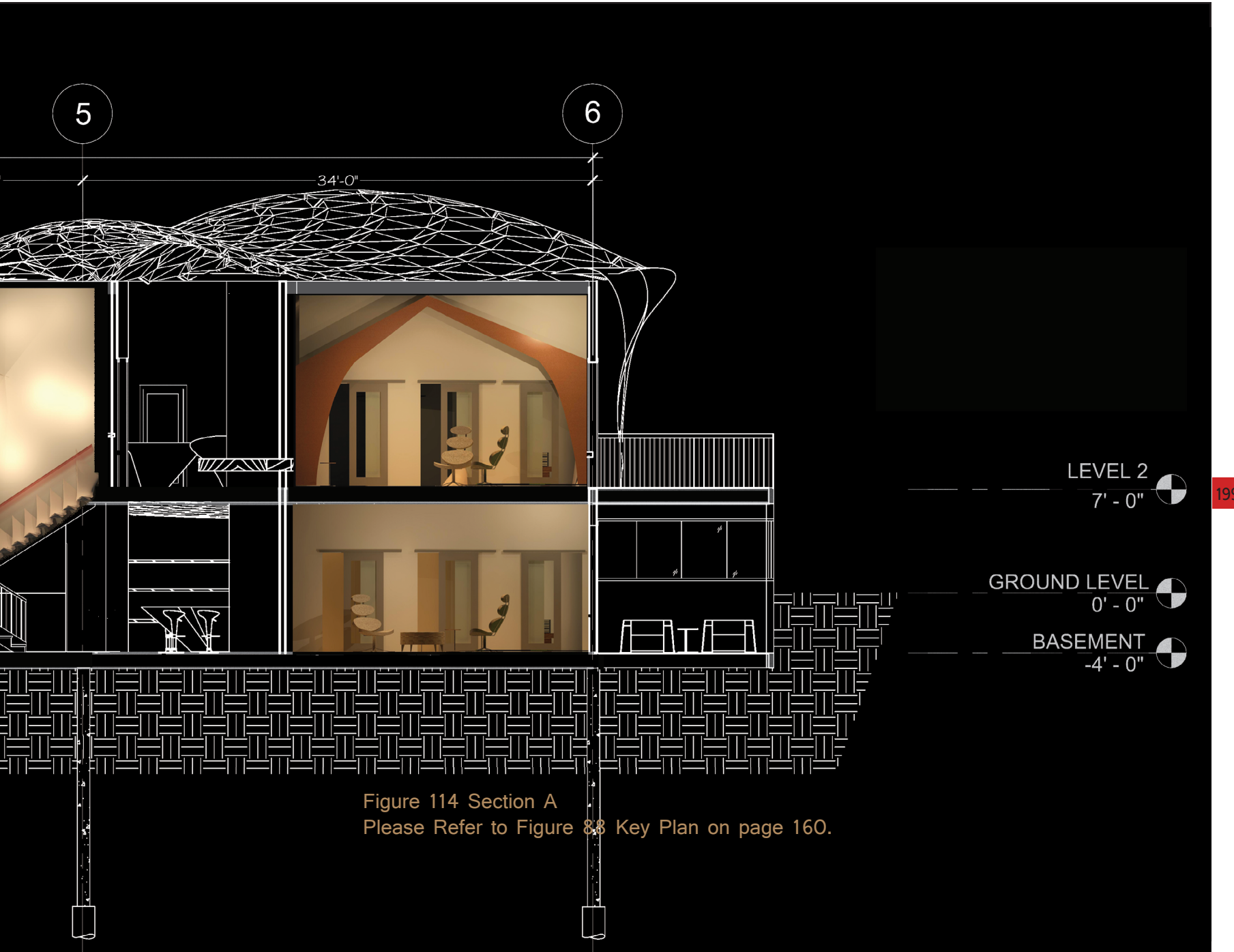


Figure 114 Section A
Please Refer to Figure 88 Key Plan on page 160.

Figure 115 Section B
Please Refer to Figure 88 Key Plan on page 160.

Section B

6.5 Conclusion

Lessons, Limitations & Opportunities

The objective of this inquiry was to determine whether ICTs have necessitated a paradigm shift in the way that North Americans use space. Through my research I can conclude that new ways of socially interacting, teleworking, and conducting economic trade have caused enough of a change in the way that we use space to merit a new way of thinking in regards to designing public and private space. The mobility of ICTs and devices has enabled people to work, socialize, and relax anywhere. The function of a space is determined less by the programme, and more by the activities being performed by the user. The ability of users to change activities and territorial differentiations between public and private space is another consideration which is at the forefront of interior design objectives.

The original programming of the complex was based on traditional typologies such as a restaurant, cafe, and assembly space for gathering. The theoretical study for this practicum lead me to conclude that traditional spaces and their associated nomenclature would be limiting for the activities being performed by the users. Instead of labelling the space according to regular typologies, spaces were named and designed according to the amount of

privacy that users will need within a public domain. The spatial arrangement within the public spaces is organized according to a gradation from private to public. Design elements such as single seating, bench seating, and scale reflected in lowered ceiling planes denote the amount of intimacy that the space was designed for.

For example, the Core Bar is furnished with single bar stools, located at the center of circulation. There are no partitions to denote a change of privacy. This space is meant for public interaction. To the left of the Core Bar we find the Cage Lounge. This lounge is furnished with upholstered single lounge chairs meant to be used by solitary patrons, or smaller groups of users. The change in territorial differentation from public to semi-public is denoted by lowered planes meant to increase the sense of intimacy.

This inquiry contributes to the field of interior design through its study of new ways of approaching programming based on activities enabled by ICTS. In addition, the concept of sharing space; specifically sharing public space and blurring the boundaries between private activities within the public domain requires a new spatial organization. The spatial changes incurred by ICTs development and mobile devices not only affect public spaces, but have made a large impact in domestic settings as well. The home is now both a backdrop for work and play activities. Furthermore, the home can be a projected image overstepping traditional boundaries of privacy and domesticity. The image of the home is ever changing, becoming part of the resident's identity. Private dwellings can now be used for work functions, and images of the home can be communicated through the use of webcams and applications such as Skype. This implies that the home is no longer a strictly private space, and public activities such as work meetings can also be conducted within its physical walls. Public space has changed due to the use of devices such as phones, tablets and lap tops. Through my literature review I can conclude that space has less physical boundaries, and is bound now by technology and bandwidth. The new form of communication is through digital means such as e-mail, text and social applications such as Instagram and Facebook, meaning that boundaries are implied due to real time verbal and visual communication enabled by ICTs. As communication technologies have evolved, so have the boundaries between public and private space.

Although the emerging electronic form of digital communication is just as prevalent as face-to-face interaction, humans still feel an intrinsic need to engage co-presently. This need to be around other people is another design consideration that has greatly influenced the final outcome

of this project. The sole use of digital communication can lead to capsular living, that has associations with alienation. Capsular living can cause a disconnect between people creating feelings of isolation. Through principles of biophilic design and the integration of nature and natural forms in the final design, the users are meant to feel more comfortable and engaged with The MIX.

My research has lead me to conclude that the way to ground users to a space is to create a sense of place, and a unique spatial identity that will engage users with their present environment. The PhotoSwapper and Silent DJ applications are meant to create social interaction, and a sense of place by mentally engaging the users with their immediate environment as well as with each other. ICTs are meant to bring people together, and thus far they have done so in a distant, absent manner. People use their devices to communicate with others who are not present; however, ICTs are not being used to their full potential as they store pictures and information that can be shared in co-present interactions. People need to think about their ICTs in a different way, instead of focussing the use on text, email and calling, they could realize the full potential of the sharing ability that their devices possess, and how they can make new contacts engaging in face-to-face activities. The sharing of music and pictures is a simple way to begin this type of engagement. The MIX proposes a seamless integration of ICTS that enables people to engage their immediate surroundings in a hollistic manner, incorporating users, their mobile devices and the built environment as one.

The intent of creating a mixed-use dwelling is to develop an urban model for a new way of living. Instead of contributing to suburban sprawl, and necessitating the need for vehicular transport. The MIX is designed to integrate dwelling units with amenities and services. The notion of creating mixed-use dwelling was derived from the need for higher density neighbourhoods, and the mix of public and private activities, as written in the theoretical portion of this investigation. Technology can facilitate the design and use of mixed-used buildings, blurring boundaries between typologies that include commercial, industrial, retail and residential programmes. The MIX is an investigation of how possible services such as restaurants, and trade centres can be integrated with dwelling units. Complexes such as the Dockside Green (please refer to page 74 for precedent analysis) prove that mixed-use design can be very successful. The future of interior design will be centred more around the users and their activities, in addition to the primary functions of the space.

The various spaces provided in The MIX revolve around the development, use and trade of ICTs and their associated devices. However, it is not necessary to own new media or mobile technology to participate in The MIX. The environment is also designed to encourage users to discover a new design language that relates back to nature and the outdoors. Patrons and residents can use the walking paths, and the interactive applications of PhotoSwapper and Silent DJ can be enjoyed without owning your own technology. One of the design intentions is to create an exchange between people without the use of mobile devices, as well as a connection with nature and the outdoors.

The biophilic design portion of my literature review has lead me to conclude that the future of interior design will have a connection with nature. Not only will curvilinear forms emerge within the interior, but direct connections with the outdoors will inform the development of the design. The concepts of biophilic design will be integrated into various typologies, such as dwellings, workplaces, and businesses in order to create a more inviting, comfortable and healthy environment for the users of the space. This will lead to a more integrated design approach between architects, designers and landscapers.

In this inquiry, photography was used to capture the passage of time, and the movement of the body in space within a thirty second time frame. The Approximation of Space study was informative in the amount of space that is used within a set boundary. This study was useful to derive new forms that were reflected in The Mix's circulation, columns, seating, and table surfaces. I think that the future of interiors will involve less specific terms in regards to furniture. Surfaces will be created at varying heights and sizes, and they will be used for whatever function or activity is being performed by the user. Technology and surface height will forge a new aesthetic that will reflect organic forms reminiscent of the movements captured by the Approximation of Space Study. This new form of engineering will be enabled by principles of building such as Biomimetics.

There is a new way of communicating and interacting socially. It is through ICTs and digital communication. This new way of exchanging information does not negate the need for people to engage physically on a face-to-face level, ICTs complement co-present interactions and make personal face-to-face time more meaningful. The need to create space that can stimulate co-present interactions was a main priority in the design considerations. Plenty of seating, and intimate spaces were provided within the public and semi-public lounges. Furthermore, residents have their own semi-private sharing area where they can interact with each other. The challenge for the future is to design for public and private activities within the differing territories of public and private space.

The notion of a surface as well as its possibilities and limitations are challenged with the final design. The idea of a surface as an interactive and performance space is integrated with the PhotoSwapper application, as well as the organic forms that provide a backdrop for the applica-

tion. The limitation is needing a surface upon which to project. Due to current technology, the ability to create holograms is not yet possible, but with the advent of future technology, the need to project onto a surface can be resolved. The benefit of activating the interior and exterior surfaces with the PhotoSwapper application implies that the users can impact their own environment and fully engage with the building.

An opportunity in the future would be to further develop the sustainability of the complex. Areas such as energy consumption and water conservation could be analyzed. Building sustainably involves much more than specifying low-flow fixtures and motion sensors for resource conservation; sustainability pertains to whether or not the building can sustain itself in the future. I have chosen to maintain very little of the original structure due to my thoughts on ICTs leading to a new spatial arrangement. The existing structure was very rectilinear which was inconsistent with my research. In response to my findings I decided to maintain the structural integrity, while re-organizing the interior spaces and exterior envelope. My proposal is based on the future development of the remaining ten acres of land on Southwood Golf Course; therefore instead of re-using an old, inefficient and un-insulated structure I decided to express a new architectural language that could lead to higher urban density and sustainable living in the future. Sustainable initiatives such as less single occupant vehicles, and increased pedestrian activity are motives for me wanting to contribute to a higher urban density. Further sustainable initiatives and opportunities could be lower energy and water consumption, however this was not the focus of my inquiry.

Summary

In conclusion, the design of The MIX is intended to create social exchange, facilitated by ICTs and mobile devices. The decision to create a mixed-use dwelling was deliberate in order to demonstrate that there is a new form of spatial interaction engendered by ICTs by which territorial differentiations between the public and private domains remains in flux. In my investigation I have discovered that traditional programming by function will be superseded by programming based on users and activities. The integration of technology into the design process will create a new aesthetic based on organic forms inspired by movement of the body and forms derived from nature. Due to a more organic aesthetic, expressed both in structure, and furnishings within the interior, circulation of interior space will be less rectilinear, and will enable a blurring of private and public activities within the same space. The result will manifest as pockets of personal spheres within a large public space, enable the sharing of space, and the dissipation of the public and private spatial boundaries.

the MIX

REFERENCES & ROOM SCHEDULES

APPENDICES

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Appendix
I Room Numbers & Names

Space	Room #
001	stairs 1
002	waiting area 1
003	corridor
004	public w/c 1
005	IT & Phone Exchange
006	corridor
007	mechanical room
008	electrical & utility room
009	mainframe router
010	dwelling 1 w/c
011	dwelling 1 bedroom 1
012	dwelling 1 bedroom 2
013	dwelling 1 living space
014	dwelling 1 entrance
015	corridor
016	laundry 1
017	entrance dwelling 2
018	dwelling 2 living space
019	dwelling 2 w/c
020	dwelling 2 bedroom 1
021	dwelling 2 bedroom 2

Space	Room #
100	main entrance
101	cage lounge
102	network & info centre
103	corridor
104	universal w/c 1
105	men's w/c
106	universal w/c 2
107	women's w/c
108	main kitchen
109	walk-in fridge
110	walk-in freezer
111	corridor
112	kidney tables
113	dj island
114	feature wall
115	core bar
116	kidney lounge
117	waiting area 2
118	stairs 2

Space	Room #
200	waiting area 3
201	corridor
202	public w/c 2
203	communal living space
204	dwelling 3 w/c
205	dwelling 3 bedroom 1
206	dwelling 3 bedroom 2
207	dwelling 3 living space
208	dwelling 3 entrance
209	corridor
210	laundry 2
211	dwelling 4 entrance
212	dwelling 4 living space
213	dwelling 4 w/c
214	dwelling 4 bedroom 1
215	dwelling 4 bedroom 2

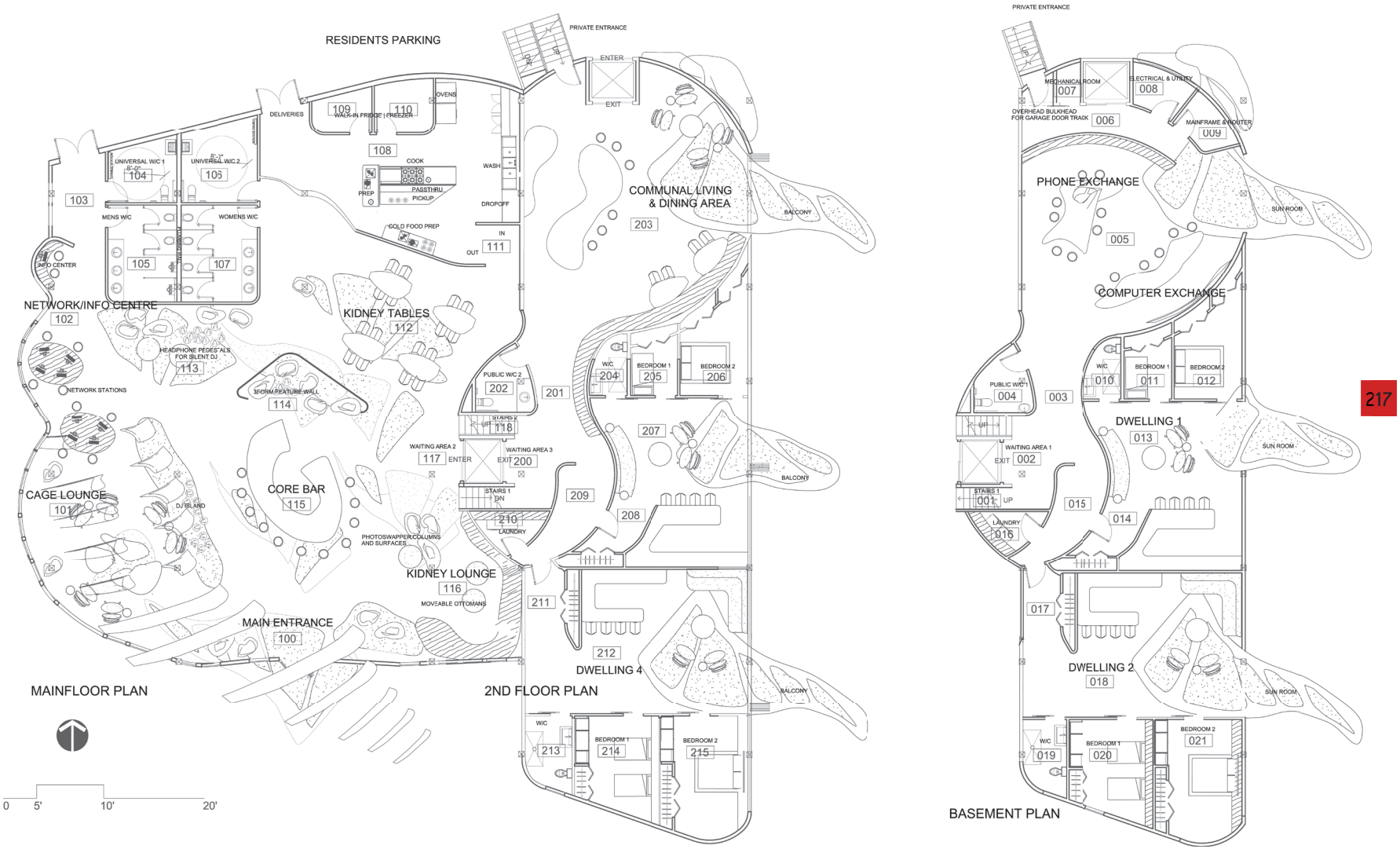


Figure 116 Room Schedule Plan

II Room Finish Schedule 1 of 2

Please refer to page 217 for room number, name distribution on plan.

ROOM NO.	ROOM NAME	FLOOR		BASE		NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		REMARKS
		MATL	FIN	MATL	FIN	MATL	FIN	MATL	FIN	MATL	FIN	MATL	FIN	
MAIN FLOOR PLAN														
PUBLIC SPACES *(refer to rendered floor plan for CT1 and CT2 patterns)*														
001	STAIRS 1		HW		HW	GB	P2	-	-	GB	P2	GB	P2	
002	WAITING AREA/ELEVATOR 1		HW		HW	GB	P2	GB	P2	GB	P2	GB	P2	
003	CORRIDOR		HW		HW	GB	P2	GB	P2	GB	P2	GB	P2	
004	PUBLIC W/C 1		VS		SC	GB	P3	GB	P3	GB	P3	GB	P3	
005	IT & PHONE EXCHANGE	HW & CT1 & CT2			HW	GB	G1	GB	P2	GB	P2	GB	P2	
006	CORRIDOR	HW & CT1 & CT2			HW	GB	P2	GB	P2	GB	G1	GB	P2	
007	MECHANICAL ROOM		HW		HW	GB	P2	GB	P2	GB	P2	GB	P2	
008	ELECTRICAL & UTILITY ROOM		HW		HW	GB	P2	GB	P2	GB	P2	GB	P2	
009	MAINFRAME & ROUTER	HW & CT1 & CT2			HW	GB	P2	GB	P2	GB	P2	GB	P2	
010	DWELLING 1 W/C		VS		SC	GB	T1	GB	T1	GB	T1	GB	T2	
011	DWELLING 1 BEDROOM 1		HW		HW	GB	P3	GB	P3	GB	P3	GB	P3	
012	DWELLING 1 BEDROOM 2		HW		HW	GB	P3	GB	P3	GB	P3	GB	P3	
013	DWELLING 1 LIVING SPACE	HW & CT1 & CT2			HW	GB	P2	GB	P2	GB	P2	GB	P2	
014	DWELLING 1 ENTRANCE		HW		HW	GB	P2	GB	P2	GB	P2	GB	P2	
015	CORRIDOR		HW		HW	GB	P2	GB	P2	GB	P2	GB	P2	
016	LAUNDRY ROOM 1		VS		SC	GB	P2	GB	P2	GB	P2	GB	P2	
017	DWELLING 2 ENTRANCE		HW		HW	GB	P2	GB	P2	GB	P2	GB	P2	
018	DWELLING 2 LIVING SPACE		HW		HW	GB	P2	GB	P2	GB	P2	GB	P2	
019	DWELLING 2 W/C		VS		SC	GB	T1	GB	T2	GB	T1	GB	T1	
020	DWELLING 2 BEDROOM 1		HW		HW	GB	P3	GB	P3	GB	P3	GB	P3	
021	DWELLING 2 BEDROOM 2		HW & CT1		HW	GB	P3	GB	P3	GB	P3	GB	P3	
100	MAIN ENTRANCE		HW		HW	GB	P1	GB	P1	GB	P1	GB	P1	
101	CAGE LOUNGE	HW & CT1 & CT2			HW	GB	P1	GB	P1	GB	P1	GB	P1	
102	NETWORK & INFO CENTRE		HW		HW	GB	P1	GB	P1	GB	P1	GB	P1	
103	CORRIDOR		HW		HW	GB	P1	GB	P1	GB	P1	GB	P1	
104	UNIVERSAL W/C 1		VS		SC	GB	P2	GB	P3	GL	P2	GB	P3	

Room Finish Schedule 2 of 2

ROOM NO.	ROOM NAME	FLOOR		BASE		NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		REMARKS
		MATL	FIN	MATL	FIN	MATL	FIN	MATL	FIN	MATL	FIN	MATL	FIN	
105	MEN'S W/C		VS		SC	GB	P2	GB	P3	GB	P2	GB	P3	
106	UNIVERSAL W/C 2		VS		SC	GB	P2	GB	P3	GB	P2	GB	P3	
107	WOMEN'S W/C		VS		SC	GB	P2	GB	P3	GB	P2	GB	P3	
108	MAIN KITCHEN		VS		SC	GB	P3	GB	P2	GB	P3	GB	P2	
109	WALK-IN FRIDGE		VS		SC	GB	P2	GB	P2	GB	P2	GB	P2	
110	WALK-IN FREEZER		VS		SC	GB	P2	GB	P2	GB	P2	GB	P2	
111	CORRIDOR		HW		HW	GB	P3	GB	-	GB	P1	GB	P1	
112	KIDNEY TABLES		HW		HW	GB	P1	GB	P1	GB	G1	GB	P1	
113	SILENT DJ PEDESTALS		HW		HW	GB	P1	GB	-	-	-	-	-	
114	FEATURE WALL		HW		HW	G	G1	GB	G1	-	-	G1	G1	
115	CORE BAR		HW		HW	G	G1	GB	P4	-	-	GB	P1	
116	KIDNEY LOUNGE		HW		HW	GB	GW	GB	GW	GB	P1	FG	P4	
117	WAITING AREA/ ELEVATOR 2		HW		HW	-	-	GB	-	FG	P4	GB	P1	
118	STAIRS 2		HW		HW	GB	P1	GB	-	GB	P1	-	-	
200	WAITING AREA/ELEVATOR 3		HW		HW	GB	P1	GB	P2	GB	P1	GB	P1	
201	CORRIDOR		HW		HW	GB	P2	GB	P2	GB	P2	GB	P2	
202	PUBLIC W/C 2		VS		SC	GB	P3	GB	P3	GB	P3	GB	P3	
203	COMMUNAL LIVING/DINING AREA		HW		HW	GB	P1	GB	P1	GB	P2	GB	P1	
204	DWELLING 3 W/C		VS		SC	GB	T1	GB	T1	GB	T1	GB	T2	
205	DWELLING 3 BEDROOM 1		HW		HW	GB	P3	GB	P3	GB	P3	GB	P3	
206	DWELLING 3 BEDROOM 2		HW		HW	GB	P3	GB	P3	GB	P3	GB	P3	
207	DWELLING 3 LIVING SPACE	HW & CT1 & CT2			HW	GB	P2	GB	P2	GB	P2	GB	P2	
208	DWELLING 3 ENTRANCE		HW		HW	GB	EP	GB	EP	GB	EP	GB	EP	
209	CORRIDOR		HW		HW	GB	P2	GB	P2	GL	P2	GB	P2	
210	LAUNDRY ROOM 2		VS		SC	GB	P1	GB	P1	GB	P1	GB	P1	
211	DWELLING 4 ENTRANCE		HW		HW	GB	P2	GB	P2	GB	P2	-	P2	
212	DWELLING 4 LIVING SPACE	HW & CT1 & CT2			HW	GB	P2	GB	P2	GB	P2	GB	P2	
213	DWELLING 4 W/C		VS		SC	GB	T1	GB	T2	GB	T1	GLB	T1	
214	DWELLING 4 BEDROOM 1		HW		HW	GB	P3	GB	P3	GL	P3	GL	P3	
215	DWELLING 4 BEDROOM 2		HW		HW	GB	P3	GB	P3	GB	P3	GB	P3	

Room Finish Schedule Abbreviations

FLOORING

HW	Hardwood
VS	Vinyl Flooring
CTI	Carpet Tile
CT2	Carpet Tile

FINISHES

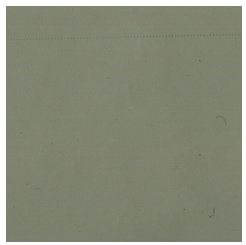
P1	Paint SW 7008
P2	Paint SW 7070
P3	Paint SW 6198
P4	Paint Zolatone ZFX-FI631
P5	Paint Zolatone ZFX-IJ128

MATERIALS

G1	Pink Frosted Glass
GW	Greenwall
T1	Tile (main tile) Ames Linen Glass 4 x 6
T2	Tile (accent tile) Manhattan Metal

P1


P2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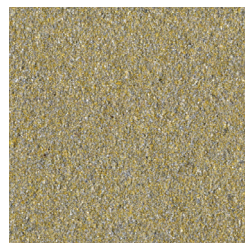
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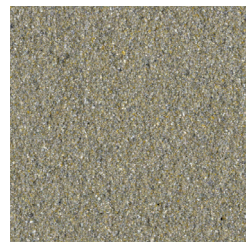
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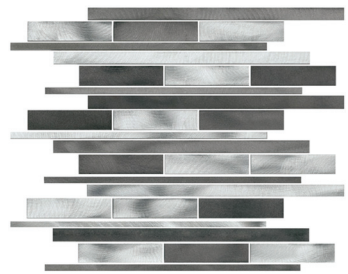
G1

T1


T2

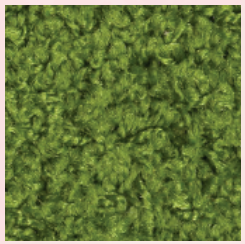
the MIX

THE RE-ARTICULATION OF THE NORTH AMERICAN INTERIOR

HW

VS

CT1



CT2

Practicum Project
Masters of Interior Design
Nicolette Layne
04.04.12