

Today, the United States is facing an obesity crisis. 69% of adults (CDC, 2012) and 43% of elementary school children are overweight. (Active Design 2010) Obesity is second only to tobacco as a cause of premature death. (Active Design, 2010) In addition to diet and other factors, the built environment is a major contributor to the obesity epidemic. (National Center for Bicycling and Walking, 2002) Unfortunately, many built environments support sedentary activity, rather than promoting active lifestyles. This reflects poorly on designers, who are responsible to support the health, safety and welfare of those who inhabit their designed spaces. Studies have shown that people with active lifestyles live longer, healthier, and happier. (US Dept. of Health, 2008). Rather than compromising health through designing for sedentary occupation, designers must learn how to support the physical needs of those for whom they design. The goal of this study is to understand what types of design strategies can be integrated into the built environment to support healthy, active lifestyles. In particular, this review will attempt to understand what strategies are appropriate for different age groups. Literature review and precedent studies will contribute to a framework that will inform design that promotes active lifestyles for people of all ages. This framework will then be applied through design of an inter-generational living project in Seattle, Washington. By providing individuals with age-appropriate infrastructure to support active lifestyles, designers will be able to fulfill their professional responsibility to support the health, safety and welfare of those they serve.



jordan albers

designing outdoor spaces to enhance
urban inter-generational living






outdoor spaces

“Nature itself can entrap us involuntarily, occupy our minds, shut out daily cares, and allow us to become refreshed.”

-C.Lewis

The function and maturation of the human body, mind, and spirit depend upon the quality of people's ongoing experiences of nature. (Kellert, 2005) The incorporation of nature into living spaces can greatly enhance the quality of life in inter-generational living. Healing gardens used in healthcare facilities have proven beneficial to people of all ages; medical and other scientific studies have shown that environmental design can increase a person's physical and mental health. (Ulrich, 1999) Natural environments also prove to be beneficial to children. Play therapy helps children develop self-confidence, a positive self-image, learn to express feelings, and make decisions. (Framingham, 2013) Gardens are important and effective for fostering social contact as well as supporting emotional interactions known to mitigate stress. (Ulrich, 1999)

Overall, nature can positively impact a user's quality of life. A thorough review of the literature and exploration of built works will help define how to successfully organize the layout to maximize the connection with outdoor spaces in inter-generational living. Maximizing the usability of outdoor spaces is essential for the users' health. The purpose of this study is to explore how the design of outdoor spaces can be integrated into future inter-generational living projects in order to benefit the well being of all users.



“Garden settings are important for children because they live through their senses.”
-Robin Moore



The Aging Baby Boomers

By 2017, 10% of the U.S. population will be 70 years or older and the population in this age range will increase by four million people over the next five years (‘Best Practices Report: Seniors Housing Innovative Intergenerational Projects’). This large surge in population is known to be the Baby Boomer Generation. The Boomers were born between 1946 and 1964 and are the largest generational group in U.S. history. They currently represent about one-third of the total U.S. population and are forecasted to live well into their nineties. This surge in the population will cause a shortage in elderly housing options. Our society will be forced to

come up with new and effective solutions to this challenge.

How Are We Going To House Them?

Tanizaki, a Japanese author comparing Western and Asian cultures states, “One of the basic human requirements is the need to dwell, and one of the central human acts is the act of inhabiting, of connecting ourselves, however temporarily with a place on the planet which belongs to us, and to which we belong.” This is a motto that most people would agree with and desire in their lives. This desire that Tanizaki speaks of is no different with the Baby Boomers. The Boomer generation sees the flaws in assisted living and nursing homes. They are becoming caregivers for their own parents, and becoming an increasingly active force in reshaping attitudes about the care of aging people (Baucom 26). As the Boomers become the “graying generation”, their youthful expectations, values and lifetime

experiences should influence their environments as they have in the past (Baucom 27). In the Boomer’s lifespan’s, they have created a trend of overall physical health. The relatively wealthy Boomer generation exemplifies the expression, “go-getters.” Therefore, retirement and elder care facilities should reflect the lifestyles, social interactions, and design preferences of the elderly generation that will be using them. An article published in the Seattle Times shows that approximately one million Baby Boomers in the city of Seattle have recently began to move back into the heart of the city center. They have begun swapping out their suburban homes for the hustle and bustle of city life. The article also recognizes the Millennial generation, which is the group of individuals born between the early 1980’s and the early 2000’s. They are particularly known for being “civic minded, valuing a strong sense of community (Millennials). Along with the Baby Boomers, the Millennials also desire living in the city center. Both generations crave



the constant action of the urban city life. The Seattle area is starting to become highly populated with these generations, as a result, there is a great opportunity for successful inter-generational living. In addition, the Baby Boomers are

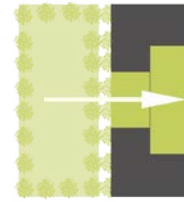
not afraid to shape the future of housing, similarly to the way they created the trend for fitness. Due to the average age increase, the opportunities for multiple generational contacts have dramatically increased. There is a 60% chance that a 60 year

old female will have a living parent. (Watkins, Menken & Bongaarts) Studies also show that the interest in communal housing is growing. “As seniors are retiring later and staying active longer, the option to stay integrated in their existing community or to live in an inter-generational development appeals to seniors even as they need increased services and support (“Best

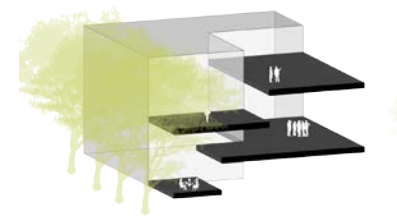
Practices Report: Seniors Housing Innovative Intergenerational Projects’). This building targets users who are members of the Sandwich Generation. The Sandwich Generation is a group of people who are caring for their aging parents meanwhile supporting their own children (Sandwich generation). Their own children often time are also being held responsible for the care of their grandparents. Sixteen percent of the U.S. population age 15 and over provide some form of unpaid elder care (Unpaid Elder care in the United States). This building provides for the traditional style of inter-generational living and accommodates their daily lifestyles unlike a typical single family home that has to be retrofitted. Also, it is important to note that it creates a great opportunity for social and economic exchange between the generations. For example, an elder person could hire an unrelated younger person to do chores around his or her house, allowing the kid to make a little extra profit and reduce the elder person’s workload. Meanwhile, this type of exchange would likely foster social interaction creating meaningful and lasting relationships. American’s spend a relative amount of time in their homes. It is quite obvious that homes should be places that promote social, physical, mental and spiritual healing.

Healing Environments

Wilbert Gesler is a leading researcher on the topic of healing and place, he suggests that place



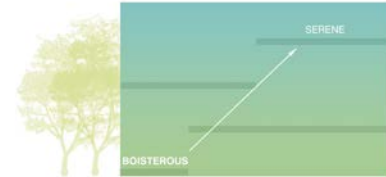
Natural



Built



Social



Symbolic

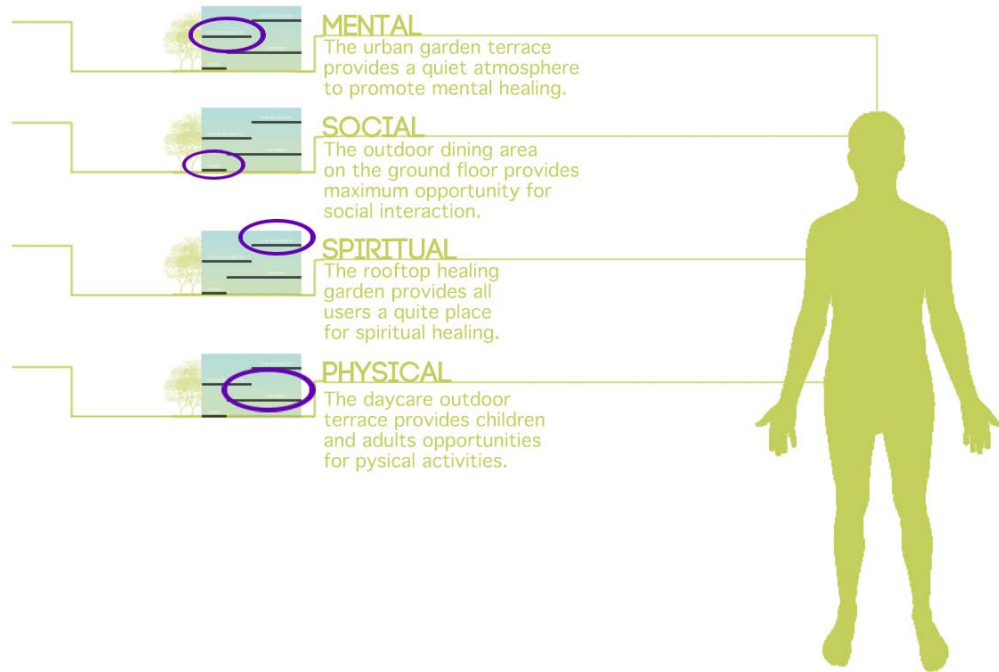
matters to health. He notes that when designing healing places for people it is important to understand that no two people will see a place in the same way; however he has recognized that places people perceive as “healing” have four types of environments in common: natural, built, social and symbolic. To accommodate these four types of environments, my building uses several different types of outdoor spaces to suit

the preferences and needs of the user group. Architecture and the designed environment effect physical, mental, spiritual, emotional, and social healing. In order to promote this healing, an environment has to consist of the natural, built, social, and symbolic aspects (Gesler). The diagrams demonstrate how the building uses the architecture to achieve the environmental qualities. Understanding how to create healing environments

is important. However, it is equally important to understand that people of all ages need and deserve these types of environments to dwell. In an urban environment it is often times rare to find a place to escape within the city. People have associated nature with healing for many centuries. Because this site is located in Seattle, it is extremely critical to incorporate outdoor green space into the design.

Nature Heals All Ages

“Nature itself can entrap us involuntarily, occupy our minds, shut out daily cares, and allow us to become refreshed.” (Lewis, 118) Research has proven that access to nature is healing for everyone, but particularly for both the elderly and young children. Robin C. Moore has concluded that garden settings are important for children because they live through their senses. Play therapy is important for children to develop self-confidence, a positive self-image, learn to express feelings, and make decisions. (Framingham)



TYPES OF HEALING IN OUTDOOR SPACES

Research targeting the elderly has proven that healing gardens used in healthcare facilities are beneficial to people of all ages; dozens of published medical and other scientific studies have shown that environmental design can increase a person's physical and mental health as well. (Ulrich, 28) Important for people of all ages, Ulrich notes that another important

salutary property of appropriately designed gardens are the capacity to increase social or emotional support for users. He notes “people who receive higher levels of social support are usually less stressed and have a better health status than persons who are more socially isolated.” (Ulrich, 42) The healing effects of nature can be transformed into architecture through the design of outdoor spaces.

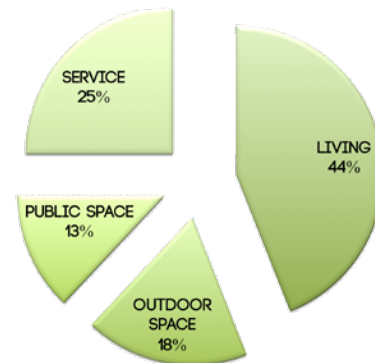


The Healing Benefits of Nature in Outdoor Spaces

Urban environments promote healing through the incorporation of green outdoor spaces, they are places people flock to in order to escape from the city and free their minds. It is important to note, “The basic contention is that the functioning and maturation of the human body, mind and spirit depend on the quality of peoples ongoing experiences of nature.” (Kellert) According to the National Association of Home Builders,

the top four amenities that influence the 55+ home buyer to move are walking and jogging trails, outdoor spaces, open spaces, and lakes or outdoor pools. There is a growing awareness among users of how important the outdoor spaces are within living environments. Elderly populations find them particularly important by noticing their increased satisfaction and reduced

NUMBER OF UNITS = 26
 AVERAGE UNIT SIZE = 2500 SF
 NUMBER OF OCCUPANTS = 90



psychological and physiological stress. (Rodiek and Schwartz, 1) Parents of young children have begun to value outdoor spaces as well. According to the National Center for Chronic Disease Prevention and Health Promotion, physical inactivity has contributed to an unprecedented epidemic of childhood obesity that is currently plaguing the United States. The percentage of young

people who are overweight has doubled since 1980. (Marcus) Outdoor spaces that include play areas are highly desired among parents who value their children's health. There is also a trend among schools sweeping the nation. As many as four out of ten schools have decided there is not enough time in the day for recess. (Marcus) Because schools are undervaluing the health benefits children receive by being outside, parents should be especially conscious when choosing living environments for their children. People who understand this concept willingly pay more to live in these types of environments. This building provides 18% of the total square footage for shared outdoor spaces for all of its users. It is a very high ratio per user in comparison to standard dwelling units in cities. Beyond providing outdoor spaces, it is critical to provide adequately programmed outdoor spaces for the Sandwich generation.



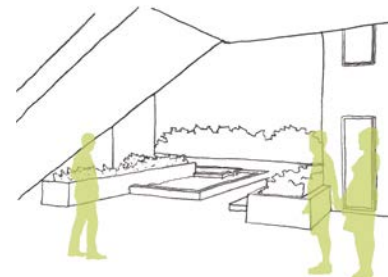
Program of Outdoor Spaces

Outdoor spaces within this design serve as healing places for users. According to Wilbert Gesler’s work, we know that there are several types of healing that people need. There are four primary outdoor spaces within this building. They are in order by floor as follows: dining area, day care terrace, urban garden, and a healing garden. The dining area provides ample seating for the public restaurant on the park front. Because this building is designed for the Sandwich Generation, it features a second floor day care terrace which includes a place for child care as well as elder care. It allows working parents to drop off their children and/or parents while they go to work without having to transport them elsewhere along the way. It is important to note that they are designed as separate spaces but provide for an interaction when desired between the young and the old. The urban garden features places for sitting and utilizes a water feature to create a nice atmosphere for unwinding one’s mind. The healing garden is located on the top outdoor terrace in order to provide the quietest atmosphere. It is a place where users would go to sit, take a leisurely walk, or just relax and to get away from the urban environment. Overall, the major outdoor spaces primarily target social healing. Simply, social support refers to perceived psycho-social support of caring and material



Public Outdoor Space

An area in which the daily coming and going occur. It is the focal point of all circulation and includes the pathway from the main entrance to the elevators.



Semi-Private Outdoor Space

Spaces shared by tenants who live on that floor. Activities associated with this zone include socializing with neighbors.



Semi-Public Outdoor Space

A designed area for social and recreational activities of elderly residents. It is the focal point for residents gatherings, both formal and informal.



Private Outdoor Space

An area where each resident has the ability to control access. In this zone residents can avoid encountering others if they so desire.

or physical aid that a person receives from others. People who receive higher levels of social support are usually less stressed and have better health

status than persons who are more socially isolated (Cooper Marcus 42). The four broad categories of outdoor space Clare Cooper Marcus recognizes are



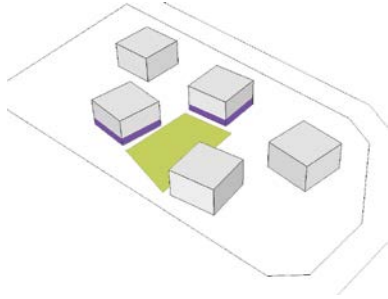


Outdoor Spaces Promote Healing Within Inter-Generational Living

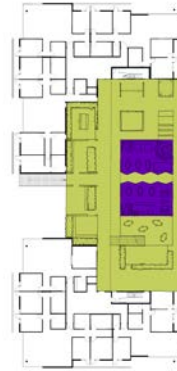
Between 1946 and 1964, there was an immense growth in the U.S. population known as the Baby Boomer generation. This generation is quickly becoming the “greying generation” of our society. Unfortunately, the current elderly housing options are not effective solutions. Research shows that the Baby Boomers have begun to move back into the heart of Seattle, demonstrating their desire to remain integrated into the community as they age. Similarly, the Millennial generation has also begun to occupy the city center creating a unique opportunity for inter-generational living. Inter-generational living provides a maximized opportunity for social contact and support between users. Because people spend a large portion of time in their homes, it is important for these environments to promote social, physical, mental and spiritual healing. Green spaces are extremely critical to urban areas. People have associated

nature with healing for centuries. It is important to give back urban space to nature in order to create better living environments for urban dwellers. Nature promotes healing for people of all ages. It can increase elderly people’s physical and mental health, while helping children stay active and healthy through play therapy. Nature can be incorporated through the designed outdoor spaces. This building provides a variety of healing environments within its outdoor spaces. They include outdoor dining, day care terraces, an urban garden and a healing garden. It is up to the user to decide which terrace to go to depending on his or her desired interaction level. As we see today, there are many living environments without nature. They are uninviting, dull and most importantly aggravating environments. Homes should be places that promote social, physical, mental and spiritual health to maximize the user satisfaction. The incorporation of nature into outdoor spaces

Precedent | Stienacker Residential Complex



Stienacker Residential Complex



Designed Building

Programming Outdoor Spaces
Placing outdoor spaces adjacent to programmed spaces for elderly and children to bring the generations together.



Stienacker Residential Complex



Designed Building

Circular Paths Within Units
Allowing users the ability to get exercise without leaving their units by creating circular walking routes in the living spaces.



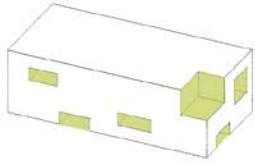
Stienacker Residential Complex



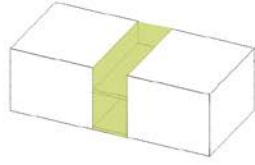
Stienacker Residential Complex

Unit Adaptability
Allowing units to expand or contract over time with the growth or shrinking of families. This is able to happen by moving one wall into the hallway.

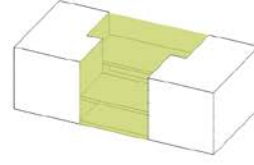
Process



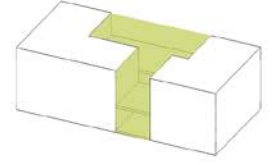
Horizontal Neighborhoods



Vertical Neighborhoods

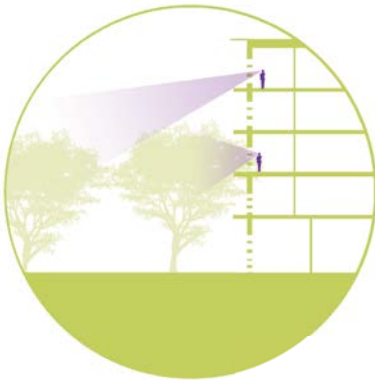


Maximizing Outdoor Space

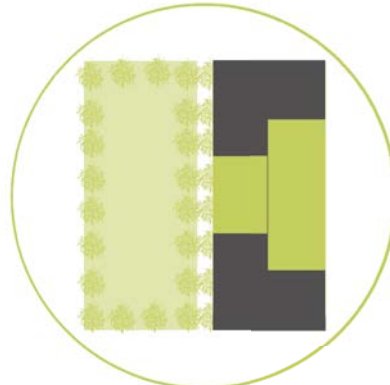


Breaking Symmetry

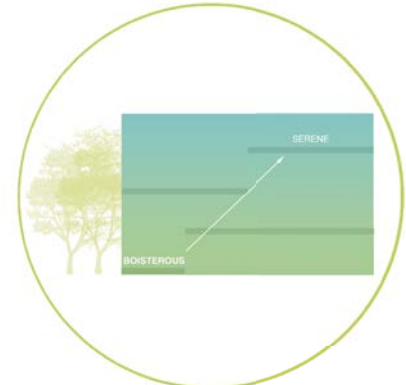
Design Guidelines



Visual Access to Nature



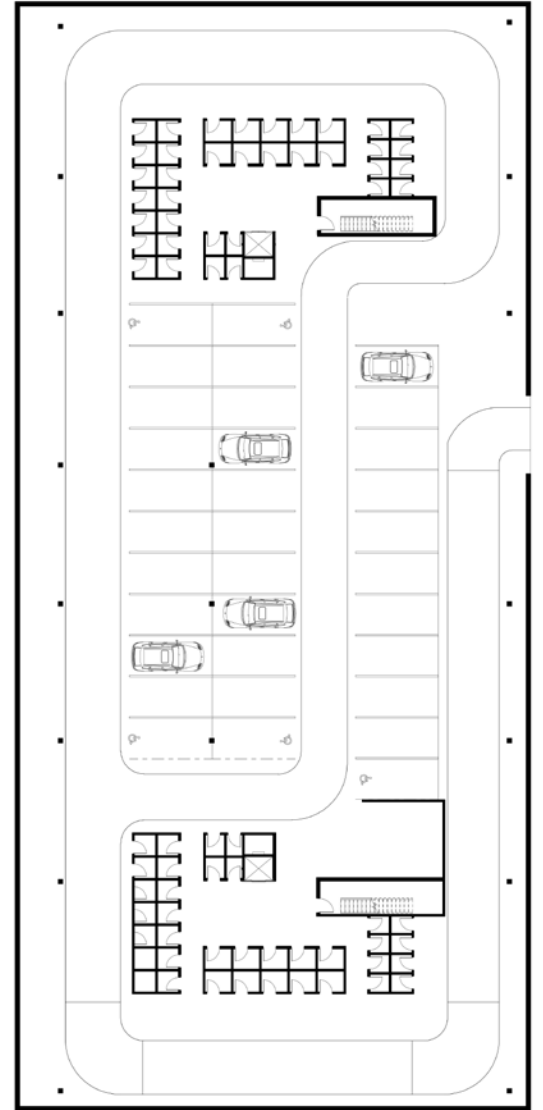
Connecting Outdoor Spaces



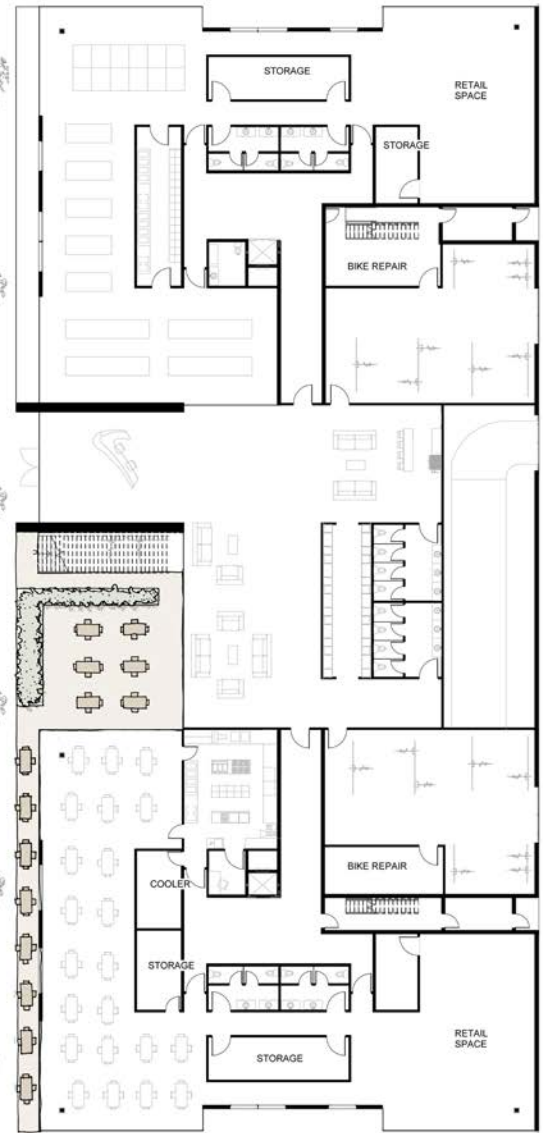
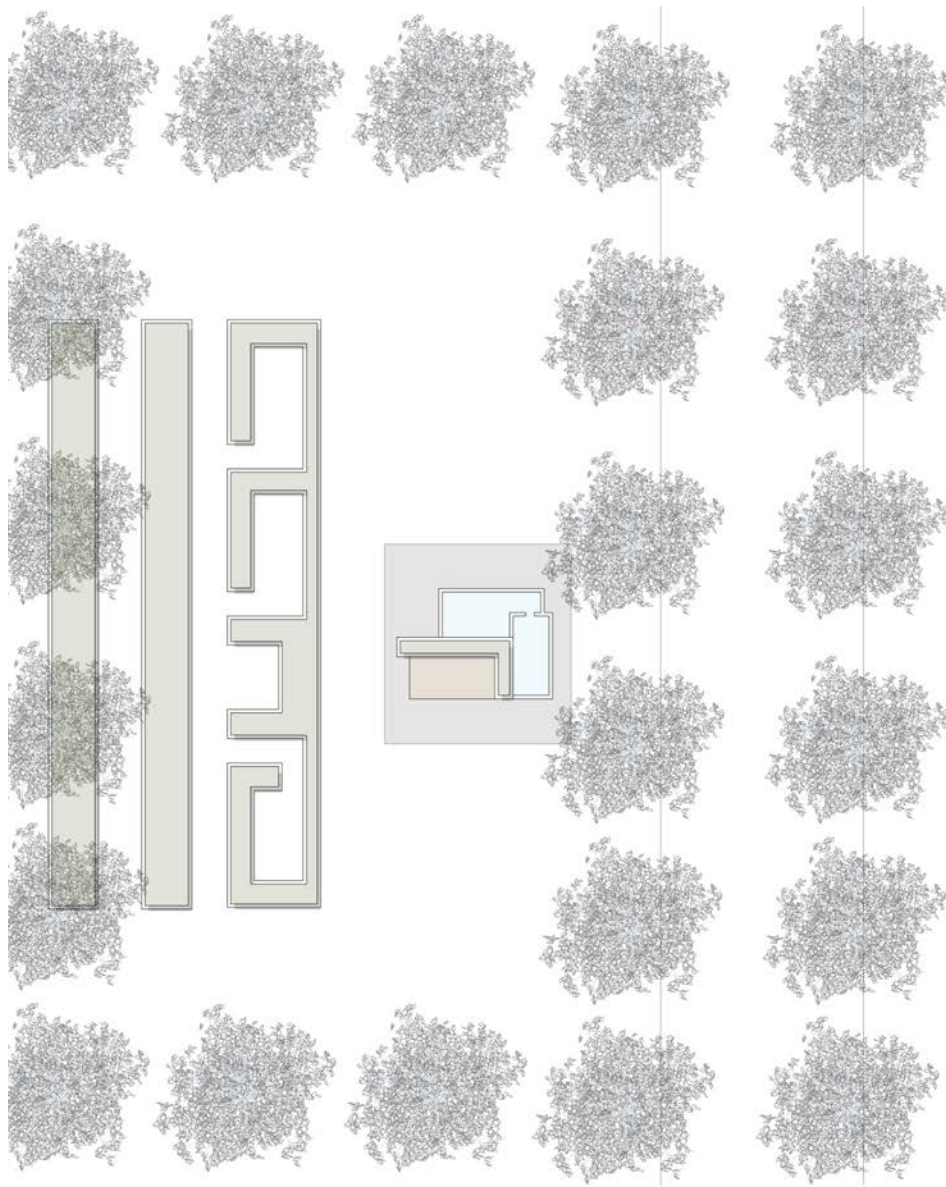
Layered Social Spaces



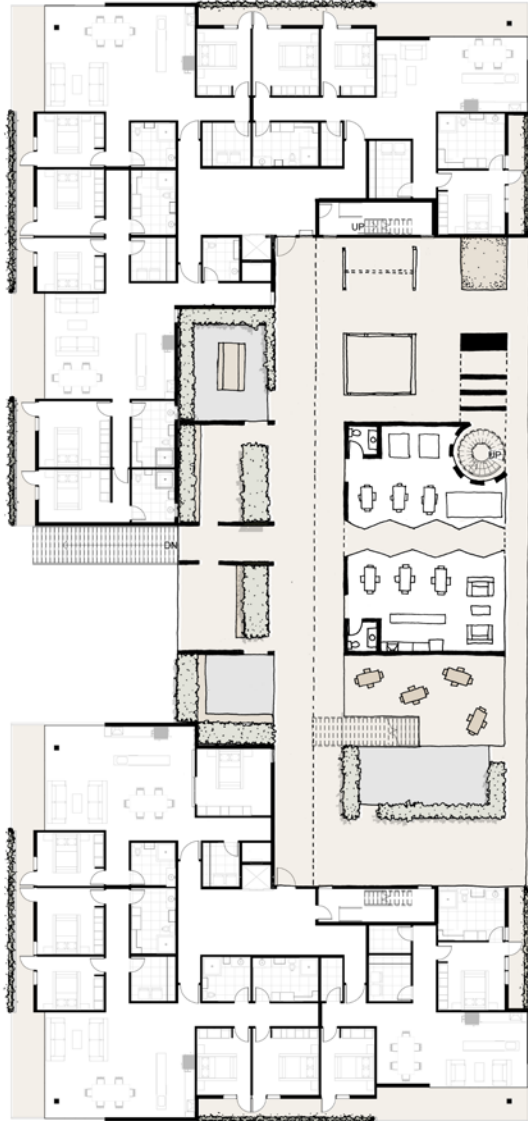
Site Plan | N^



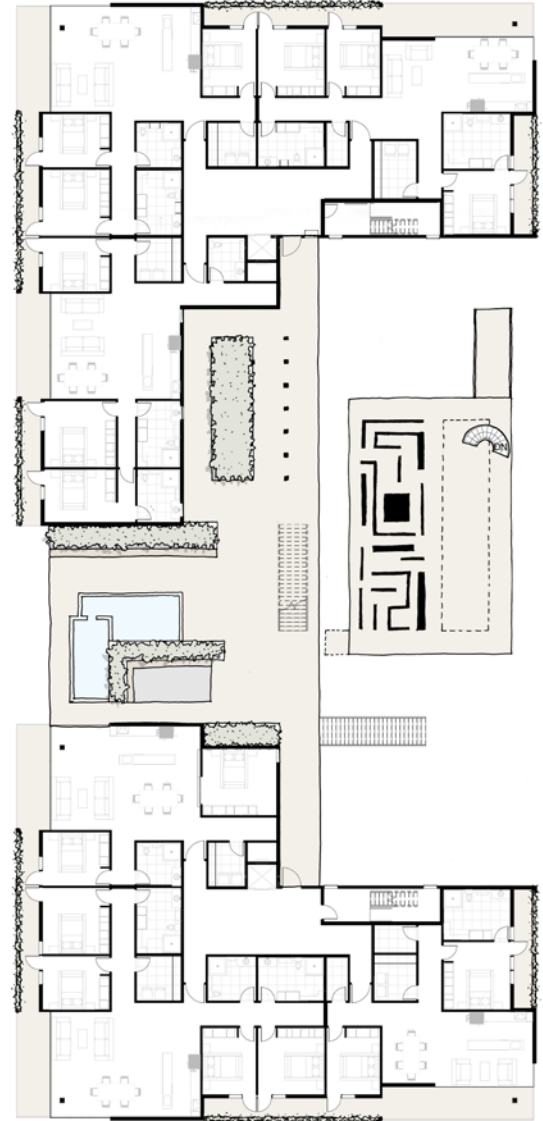
Underground Floor Plan



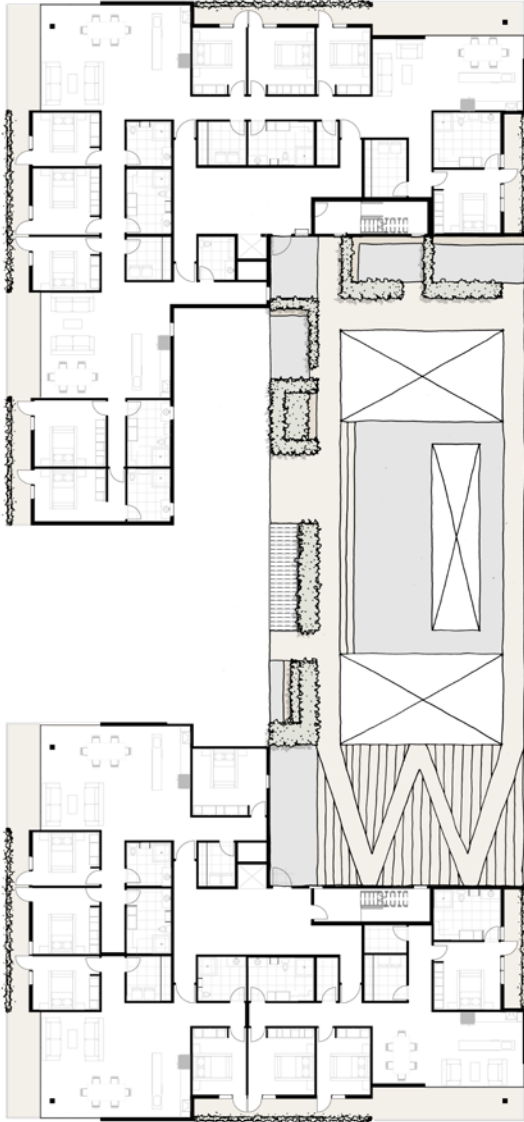
Ground Floor Plan



Second Floor Plan



Third Floor Plan

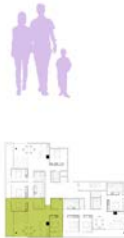


Fourth Floor Plan



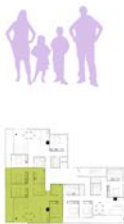
Fifth Floor Plan

Unit Adaptability



Two Bedroom Option

- Single Person or Couple with Office
- Single Person or Couple with One Child
- Elderly Person with Live in Caretaker



Two Bedroom Option

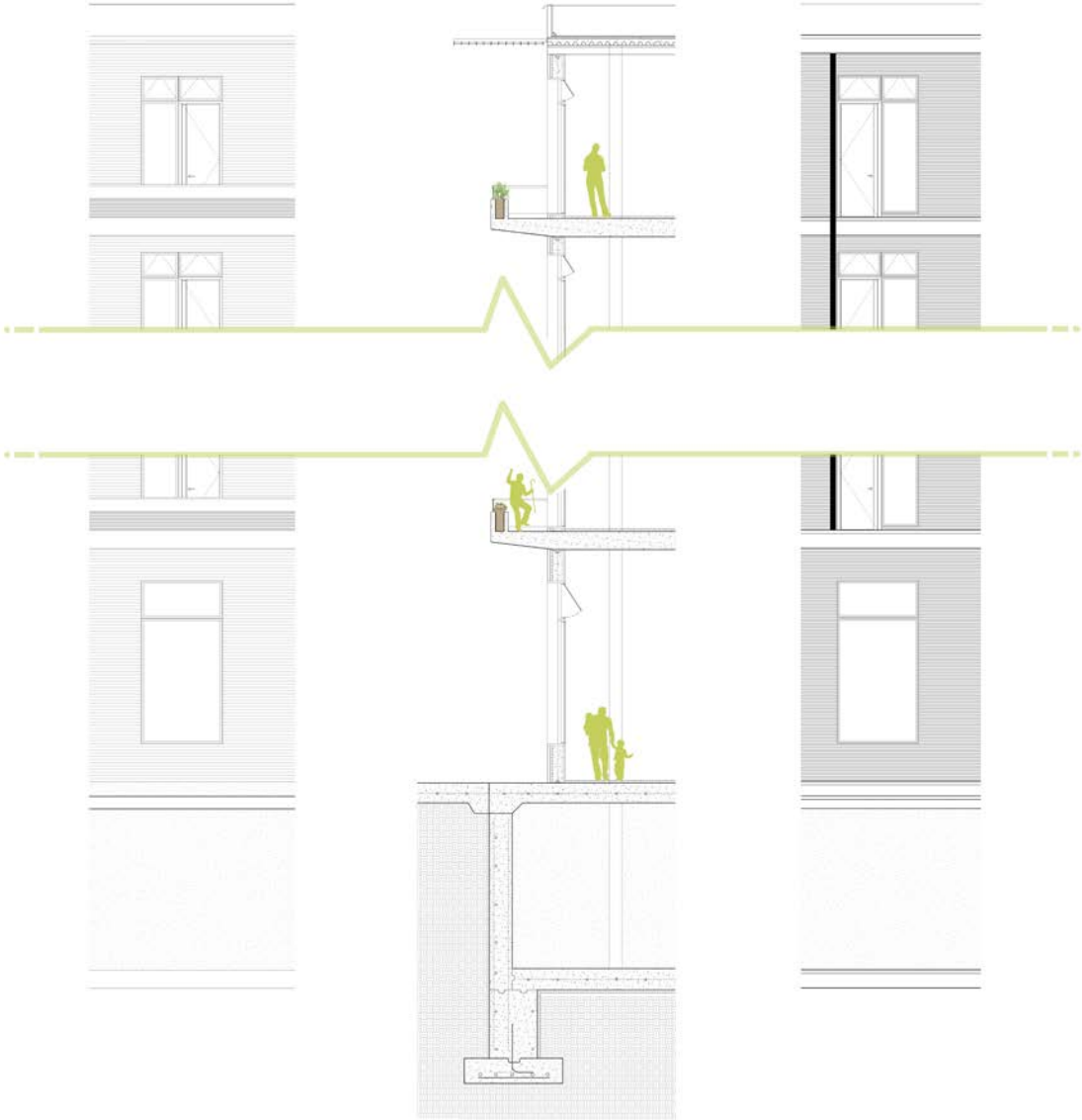
- Single Person or Couple with Office and Child
- Single Person or Couple with Two Children
- Couple with One Person and Elderly



Two Bedroom Option

- Single Person or Couple with Office and Two Children
- Couple with Three Children
- Couple with two Children and Elderly Person

Wall Section





North Elevation



West Elevation



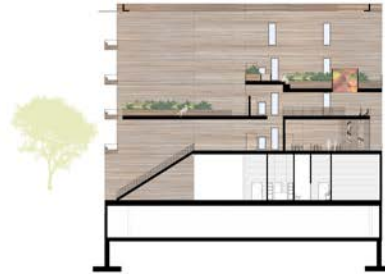
South Elevation



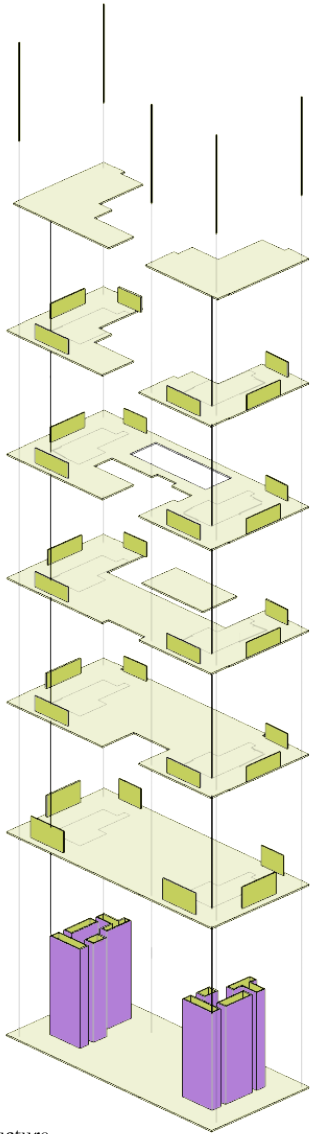
East Elevation



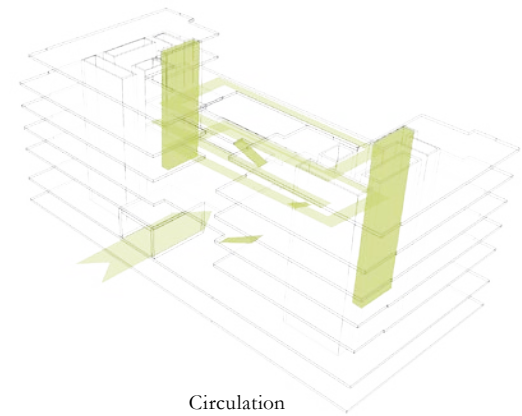
Longitudinal Section



Transverse Section



Structure



Circulation

SOURCES

- Baucom, Alfred H and Robert J Grosch. Hospitality design for the graying generation. New York: Wiley, 1996. Print.
- “Best Practices Report: Seniors Housing Innovative Intergenerational Projects.” Rclco.com, 2013. Web. 3 Dec 2013. <<http://www.rclco.com/advisory-seniors-housinginnovative-intergenerational-projects>>.
- Cooper Marcus, Clare and Marni Barnes. Healing Gardens Therapeutic Benefits and Design Recommendations. New York: John Wiley & Sons., 1999. Print.
- Gesler, W. M. 2003. Healing places. Lanham, Md.: Rowman & Littlefield.
- Huber, Andreas. New approaches to housing for the second half of life. Basel: Birkhäuser, 2008. Print.
- Lewis, C. Green Nature/Human Nature. Chicago: University of Illinois Press, 1996. Print.
- Marcus, Clare Cooper and Marni Barnes. Healing gardens. New York: Wiley, 1999. Print.
- Marcus, Clare Cooper. “Shared Outdoor Space and Community Life [Research and Debate].” Places, 15. 2 (2003): Print.
- Rodiek, Susan and Benjamin Schwarz. The role of the outdoors in residential environments for aging. New York: Haworth Press, 2005. Print.
- Tanizaki, J. 1977. In praise of shadows. New Haven, Conn.: Leete’s Island Books.
- Unknown. “Aging baby boomers opting for city life.” The Seattle Times, 2014. Web. 11 Feb 2014. http://seattletimes.com/html/nationworld/2021676391_agingboomersxml.html.
- Unknown. “Millennials.” Wikipedia, 2014. Web. 11 Apr 2014. <<http://en.wikipedia.org/wiki/Millennials>>.
- Unknown. “Sandwich generation.” Wikipedia, 2014. Web. 11 Apr 2014. <http://en.wikipedia.org/wiki/Sandwich_generation>.
- Unknown. “Unpaid Elder care in the United States— 2011-2012 Summary.” Bls.gov, 2014. Web. 11 Apr 2014. <<http://www.bls.gov/news.release/elcare.nr0.htm>>.
- Watkins, S. C., Menken, J.A., & Bongaarts, J. (1987). Demographic foundations of familychange. American Sociological Review, 52, 346-358.

