

A “One Stop Shop” Adult Healthcare Facility that Supports Physical, Social and Mental
Well-being

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COVID-19 RESPONSE

The topic for this practicum was approved in the spring of 2019, prior to the COVID-19 pandemic. However, as the design phases for the project were occurring simultaneously with beginning of the pandemic, certain design factors have been implemented as a response to the Manitoba and Canadian COVID-19 guidelines. A primary concern for public spaces is the importance of physical distancing (maintaining a minimum of 2 meters or 6 feet in distance from those who are from different households). Ways in which to achieve physical distancing are as followed:

- Provide unidirectional paths of travel in narrow hallways.
- Use visual cues to encourage 2 meter distance (floor markings, signs, etc.)
- Identify a space where employees or clients can be isolated from others if they develop symptoms and are unable to leave the facility.
- Installing/ providing physical separations between employees/ clients.

1. INTRODUCTION

The ageing population is increasing at a rate such that by 2050, the percentage of those who are 60 years and older will be approximately double its current 12% to an estimated 22% of the global population (World Health Organization, 2018). In 2014, Canadian older adults represented 15.6% of the population, but this is expected to rise to 23% by the year 2030 (Government of Canada, 2019). Additionally, by the year 2039, the life expectancy of Canadian older adults is projected to rise from 84.2 to 86.2 for women, and 80 to 82.9 for men (Government of Canada, 2019). Given that life expectancy is on an upward trajectory, it is clear that the overall percentage of older adults in Canada will continue to increase. Due to this demographic comprising such a large percentage of society, factors such as mental or physical health, and quality of life may vary significantly. As an example, the Canadian Institute for Health Information (CIHI) (2011) points out that in some cases although older adults are living longer, longer lives are not necessarily quality lives (pg. 17). Many of these older adults may begin to face an increase in challenges regarding physical and psychological health concerns. These concerns will potentially place a greater demand on the current healthcare system. That being said, there are often cases where individuals maintain health and wellness as they age. The facility in this practicum, therefore, explores issues to maintain and improve quality of life for older adults through social interactions, creative opportunities, and new physical activity options. The name of this proposed facility is The Spring Health and Wellness Center.

1.1 PURPOSE

The primary focus of this practicum is to research and design a “one-stop shop” multi-use healthcare and activity day facility for an ageing population in Winnipeg, Manitoba, Canada. By investigating some of the potential issues that older adults face (stereotyping, loss of independence, loneliness, and an increase in chronic medical conditions), the aim of this practicum is to design an environment that contributes to the overall physical, social, and mental wellbeing of older adults in Winnipeg. Therefore, this project is about improving the quality of life for

ageing Winnipeggers. The proposed adult day facility will house the following:

- A variety of medical services such as dentistry, optometry, general practitioners, and laboratories for blood work.
- Physical activity opportunities such as a pool and workout facilities, rehabilitation center, floor curling and active game center.
- Opportunities to express creativity by providing an art center and classrooms for specific lessons.
- Variety of break/waiting areas such as a coffee bar or reading nook that can be used by both staff and patients.

Providing a center that addresses a variety of medical, physical and social needs will allow older adults to receive treatment or participate in new activities easily reducing potential travel time and costs. These time and cost savings will benefit not only older adults but also their personal caregivers who are often responsible for bringing their loved ones to appointments. A one-stop-shop facility would offer older adults and their caregivers convenience, time and cost savings, and enhance their quality of life by providing a space for recreation, socialization, and healthcare.

1.2 LOCATION

The proposed design will be located at 1485 Portage Avenue, which is the location of Cadillac Fairview Polo Park. The redevelopment of an existing retail center was intriguing due to the ever increasing inventory of empty big box stores and shopping centers across North America. Upon further research, existing shopping centers are attractive from an economic standpoint, as the large-scale building infrastructure is already in place, reducing cost and time in comparison to building new (Roberts & Carter, 2020). Furthermore, the sheer size and often central location of shopping centers are demonstrating promise for this specific demographic where worldwide projects such as The Netherlands Dementia Village, and Skyview on The Ridge, New York are being developed (Roberts & Carter, 2020; Sudo, 2019).

Both of these centers offer a variety of services and housing opportunities, giving older adults a place specific to their needs to encourage autonomy in their day-to-day activities.

The specific site of 1485 Portage Avenue was chosen because, according to the Winnipeg Regional Health Authority (WRHA), St. James- Assiniboia is one of Winnipeg's highest older adult populated neighborhoods (WRHA, 2010). The facility will comprise both the main and second floor of the original Simpson-Sears building located on the South side of the Shopping Center. This location was chosen for the following reasons:

1. It is located near a variety of supporting and necessary amenities such as public transportation, pharmacies, banks, grocery stores, and other retail outlets.
2. It offers plenty of parking for family members or other caregivers who may be transporting individuals to their appointments.
3. The mall typology enables social interaction among various age groups (helping to reduce stereotyping and ageism).
4. The open floor plan presents intriguing opportunities such as South and West facades, and opportunities for open atriums/ balconies.
5. The design of this proposed facility could serve as a prototype for other large-scale vacant retail spaces located within shopping malls.

1.3 RATIONALE

1.3.1 CHRONIC CONDITIONS AND PRIMARY HEALTHCARE FOR OLDER ADULTS

A survey conducted in 2008 demonstrated that approximately 76% of Canadian older adults reported having at least one chronic condition (Canadian Institute for Health Information, 2011). Given this fact, many older adults may often require visits to multiple medical facilities. Locating a variety of services in one facility would make it easier for individuals to receive the care they need, and would provide opportunities for social interaction benefits that contribute to a better overall quality of life for older adults.

As the population continues to age, concerns of having more than one chronic disease, also

know as multi-morbidity begin to rise. In the same survey mentioned earlier, approximately 24% of individuals reported having more than three chronic conditions (Canadian Institute for Health Information, 2011). With increased chronic health conditions, primary healthcare visits can become more complex. This complexity exists because of the number of treatments and assessments needed, and the fact that each assessment and treatment is often provided in a different physical location within any given city. Similarly, The World Health Organization (WHO) (2016) identifies potential safety concerns for primary healthcare as the following:

1. Polypharmacy, which may lead to poor medication adherence and adverse drug events;
2. Complex management regimens;
3. More frequent and complex interactions with healthcare services leading to greater susceptibility to failures of care, delivery and coordination;
4. The need for clear communication and patient-centered care due to complex patient needs;
5. Demanding self-management regimens and competing priorities;
6. More vulnerability to safety issues due to poor health, advanced age, cognitive impairment, limited health literacy, and co-morbidity of depression or anxiety;

These concerns highlight how individuals with multiple chronic conditions often have a greater need for a variety of medical support, which, in turn, can have negative consequences. This practicum addresses these issues by designing a patient-centered facility where individuals can be monitored, treated, and managed by one team rather than a variety of doctors in different locations. This project proposes a facility that will house multiple medical services, thus reducing any potential miscommunication among doctors treating separate chronic conditions. This facility will allow doctors, nurses, pharmacists, and occupational and physical therapists to work together as a team to address each need a patient may have, creating a successful and personalized medical experience for each patient (WHO, 2016, p.10).

A survey conducted in Canada by Ronksley, et al. (2014), assessed primary healthcare access for adults with chronic conditions. The authors found that approximately two thirds of

the survey respondents required emergency department visits due to multiple chronic illnesses. Approximately one third of these individuals believed that their visit could have been avoided if they had access to primary health care facilities that addressed a variety of medical issues rather than just one issue (Ronksley et al, 2014). Ronksley et al.'s (2014) findings demonstrate the need for healthcare facilities specific to older adults who have multiple chronic illnesses.

1.3.2 CONNECTIONS BETWEEN SOCIAL, PHYSICAL, AND MENTAL CONDITIONS

The World Health Organization (2016) recognizes that challenges exist for people who have multiple chronic conditions. The organization also acknowledges the need for holistic rather than separate services. As an example, obesity rates are often consistent with low physical activity among older adults, resulting in chronic conditions such as higher blood pressure and mental illness. These issues can include a decline in mobility, chronic pain, or, even change in socioeconomic status, resulting in further concerns such as loneliness and social isolation. For this reason, The World Health Organization believes that primary care needs to be integrated with other components contributing to a healthy lifestyle such as education and social care systems. Additionally, WHO (2016) highlights the importance of enhanced communication across all aspects of healthcare, creating a holistic and integrated system (p.10).

Social connections begin to diminish with age due to a change in mobility and health as well as a potential change in living situations. Older adults often have less opportunity to meet and maintain friendships, as they are less likely to be in school or working in comparison to a younger demographic. Research has demonstrated that maintaining strong social connections can reduce the risk of developing other health concerns both physical and mental (Turcotte & Schellenberg, 2006, pg. 145).

This multi-use facility addresses the links that exist between older adults' mental, physical, and social issues, and the need for an integrated delivery of services to address these issues. Designing a multi-use facility will provide users with a space that not only addresses medical concerns, but also a place that has the potential to grow social connections and promote physical or creative activity throughout the this demographic.

1.3.3. SUPPORTING CAREGIVERS

With ageing comes an increase in those who will require assistance from a personal caregiver. In Canada, in 2015, approximately 46% of those over the age of 15 reported having provided caregiving assistance to family members with long term health conditions, disability, or age-related needs (Sinha, 2015). Age-related needs were the primary reason as to why individuals required caregiving services followed by specific medical concerns such as cancer, cardiovascular disease, and mental illness following (Sinha, 2015). Caregiving responsibilities regularly include transportation, household work, or scheduling appointments. Providing transportation to errands, medical treatments, or social engagements is one of the most frequent tasks for Canadian caregivers (Sinha, 2015).

Although degrees in which individuals provide caregiving assistance can vary immensely, it is important to note the negative consequences associated with these responsibilities. For example, caregivers themselves begin to face financial, or mental stress as a result of the time that a care receiver needs. Long durations of time may result in having to take time off work or neglecting other personal obligations (Sinha, 2015) (Figure 1). The proposed facility will reduce transportation requirements and time spent attending a variety of medical appointments. In turn, this will allow caregivers to take less time off work or other personal obligations.

The term caregivers can also refer to those who are providing medical services as employees of the facility. Given the variety of primary users such as patients, personal caregivers, family, and staff, the space is experienced both as a medical facility and a workplace. Therefore, my research also supports facility caregivers by looking at workplace concerns such as physical strains, psychological concerns, and environmental considerations.

1.4 QUESTIONS OF INQUIRY

Based on the purpose and rationale for the practicum, numerous questions of inquiry have been developed. These questions are intended to guide both the research and design of the practicum. The questions include:

1. How can a one-stop-shop for older adults be designed to promote well-being and active ageing?
2. How can design factors positively impact the physical and psychological needs of older adults?
3. How can healthcare concerns be thought of holistically rather than compartmentalized?

These questions of inquiry will be addressed through a literature review focusing on both theoretical and factual health concerns that older adults face. A precedent analysis will aid in providing examples of how these concerns are being addressed through existing design features and amenities.

1.5 SUMMARY

In summary, the ageing population was chosen as a focus for this practicum as it is an increasing demographic that requires specific design needs. The design of a one-stop health care facility was considered as a practical response for this demographic. Specifically, the potential increase of chronic conditions with many factors contributing to physical, social, and mental wellbeing provides an overview of current medical concerns for older adults. The Spring Health and Wellness Center offers a holistic design response. The research presented in this rationale provides reason as to why a multi-use facility would be beneficial for both older adults and their caregivers as it demonstrates an analysis of how this demographic currently uses healthcare. The questions of inquiry provide guidance for the proposed research and design. The goal of this practicum is to ensure that older adults are given opportunities to maintain and improve their quality of life.

2. LITERATURE REVIEW

The following literature review centers on two main concepts – quality of life and active ageing. Quality of life can be considered the “umbrella” term, or overall objective while active ageing can be considered the means by which to achieve an improved or high quality of life (Figure 2). Explained in the literature review are key concepts related to active ageing including physical, social and psychological wellbeing.

2.0 DEFINING QUALITY OF LIFE

Quality of life is commonly defined as an individual’s perception of their physical and psychological health, level of independence, and personal relationships (WHO, 2002, p. 13). These factors are important for individuals of all ages, however, can be perceived differently throughout each stage of life. The quality of life in which an individual may experience at a younger age is often a key contributor to their perceived quality of life as they grow older (WHO, 2002, p.12; van Leeuwen, et al., 2019). For example, older adults may begin to compare capabilities they had ten years ago versus their capabilities now. In turn, this provides more opportunity to have a negative perceived quality of life, which is why a specific focus on the quality of life for older adults is important (van Leeuwen, et al., 2019).

The factors of quality of life for older adults are much more complex than the common definition, although these categories are still relevant, sub-themes begin to develop where examples such as level of independence can be broken down into loss of control, feeling of being a burden or loss of dignity (Figure 2). Furthermore, loss of personal relationships can cause loneliness or sadness (van Leeuwen, et al., 2019). Although these examples could be true at any age, they become even more prevalent for older adults when physical and mental chronic conditions or loss of loved ones can be much more frequent.

For older adults, the factors that are outlined in the common definition of quality of life become intertwined where examples such as perceived quality of health have the ability to affect the quality of relationships or desire to participate or improve physical activity (van Leeuwin, et al., 2019).

Positive or negative quality of life can be a perception for all older adults regardless of various disabilities or health concerns. This is especially important when considering the variety of chronic conditions in which older adults face, and how these conditions have the potential to increase stress and reduce quality in certain elements of their lives (van Leeuwen, et al., 2019). Thus, quality of life needs to be thought of as a universal goal to ensure a continued or improved quality of life for older adults of all capabilities. Therefore, this literature review identifies ways in which to improve the quality of life in older adults, specifically through the theoretical lens of active ageing.

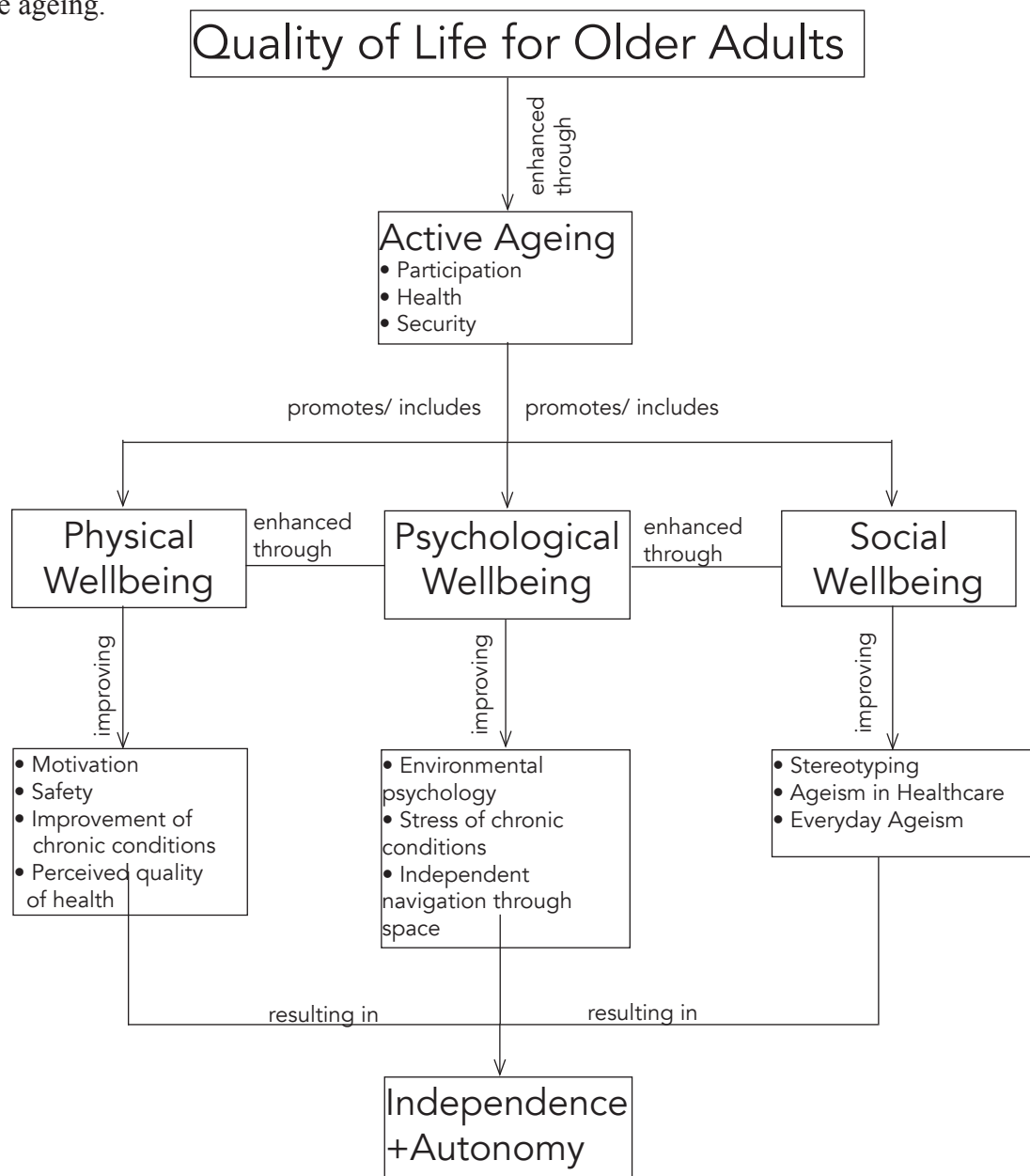


FIGURE 1. QUALITY OF LIFE FOR OLDER ADULTS

2.1 DEFINING ACTIVE AGEING

Active ageing derived from original ageing theories such as:

1. The disengagement theory where older adults withdraw from society;
2. Continuity theory where older adults maintain their values and lifestyles later in life;
3. Activity theory where social roles and activities are sustained (Bowling, 2008).

These original theories often demonstrate a simplistic and sometimes stereotypical outlook by disregarding a variety of societal factors and differences that are prevalent in older adults (Bowling, 2008). Active ageing has since replaced these theories and is defined by The World Health Organization (2002) as the continuation of opportunities for health, participation, and security, allowing individuals to

“realize their potential for physical, social, and mental well being throughout the life course and to participate in society according to their needs, desires, and capacities, while providing them with adequate protection, security, and care when they require assistance” (p. 12).

Older adults agree with this definition by perceiving active ageing as being able to maintain both physical and mental health and functioning as well as maintain social relationships and contacts (Bowling, 2008). In the following literature review, this definition will support four categories of research to improve active ageing and quality of life in older adults. The categories are as followed:

1. Physical wellbeing;
2. Social wellbeing;
3. Psychological wellbeing;
4. Independence and autonomy

2.2 PHYSICAL WELLBEING

2.2.1 INTRODUCTION

As previously stated, although older adults are living longer, the increase of health concerns and decline in physical activity are prevalent consequences. This becomes significant for those who are susceptible to chronic disease as an increase in physical activity can reduce the development or progression of these conditions (Chodzko-Zajko, Proctor, Fiatarone Singh, Minson, Nigg, Salem, Skinner, 2009). Physical activity allows older adults to remain physically independent thus, providing a stronger quality of life (Chodzko-Zajko, et al., 2009, WHO, 2002). Therefore, The Spring Health and Wellness Center will incorporate opportunities for individuals to participate in physical activity either between their medical appointments, or as a separate recreational visits. This section will examine specific physical activity requirements for older adults providing intriguing and creative design solutions that will encourage users to participate in physical activity during their visit.

2.2.2 HEALTH BENEFITS

The following research focuses on exercises that are valuable for older adults with multiple chronic conditions to support the values of active ageing. An article titled “Exercise and Physical Activity in Older Adults” begins this research by discussing a variety of exercises that directly benefit the needs of older adults. Aerobic exercise is the first activity listed and is defined as individuals participating in rhythmic exercise for a sustained period (Chodzko-Zajko, et al., 2009). Aerobic exercise can include walking, jogging, and climbing stairs and is beneficial for cardiovascular, metabolic, and bone health. (Chodzko-Zajko, et al., 2009). Benefits are primarily correlated with longer training periods and not necessarily the intensity of the training (Chodzko-Zajko, et al., 2009). Aerobic exercise is specifically interesting for this practicum as healthcare facilities can often be associated with long sedentary periods such as waiting for appointments or treatment recovery (Mangan, 2016). Introducing non-intrusive elements into the programme such as a walking track throughout the building can encourage individuals to participate in light

aerobic exercise between appointments. Additionally, a central workout element will aid in the integration of both medical and recreational facilities creating an interconnected and stimulating facility.

Further exercises outlined in this article include resistance training for muscular strength, flexibility exercise, and balance training. Each of these exercises and their benefits act as preventative measures for other medical concerns, improving quality of life for older adults. For example, a common and major concern for older adults is the fear of falling (Chodzko-Zajko, et al., 2009). For those who are between the ages of 65 and 85, falling is the leading cause of death for women, and the fourth leading cause of death for men (Lin & Lane, 2005). Falling can result in a decreased quality of life as it can increase chronic conditions, and reduce physical independence (Lin & Lane, 2005). For this reason, increasing balance and muscular strength are seen as valuable and necessary exercises for older adults. The Spring Health and Wellness Center presents an opportunity to incorporate supervised classes and workout equipment to accommodate a variety of skill sets. Designing a space that is focused on creatively incorporating exercises specific to this demographic will motivate individuals to participate in physical activity in a safe and engaging environment.

2.2.3 ENCOURAGING OLDER ADULTS TO PARTICIPATE IN PHYSICAL ACTIVITY

Although physical activity can have significant health benefits for older adults, the increase in age can commonly result in a decrease in participation (Statistics Canada, 2015). Canada recommends that adults target approximately 150 minutes of moderate-intensity exercise weekly (approximately 30 minutes of exercise 5 times per week) (Bennett, Winter-Stone, 2011; Statistics Canada, 2015). However, only 12% of adults age 60 years or older meet these recommended guidelines (Statistics Canada, 2015). Therefore, what are the factors that are causing older adults to refrain from physical activity?

Based on a European project revolving around balance, strength, and physical activity a study was conducted to assess barriers or motivational factors that contribute to the participation

or refrainment of physical activity in older adults (Campbell & Roberson, 2003; de Groot & Fagerström, 2011). This study developed due to members of the previous European project having a significant drop-out rate as a result of their exercises. Participants of the original project were asked to provide feedback during an interview to determine what caused each individual to not fully complete the program. Results demonstrated that barriers included both physical and psychological hurdles. For example, accessibility, unpleasant past experiences, difficulty finding adequate transportation to the facility, and limited resources on exercise opportunities were common barriers (de Groot & Fagerström, 2011). Barriers such as accessibility or fear from past experiences were easily reversed when older adults received encouragement and advice from health professionals (de Groot & Fagerström, 2011). Doctors, general practitioners, and nurses can provide specific advice based on the patient's capabilities. This information can act as a motivational tool as individuals will become less fearful of injury during an exercise (de Groot & Fagerström, 2011). The integration of an exercise facility into the proposed design The Spring Health and Wellness Center reflects these motivational qualities, as individuals will have the ability to seek immediate and specific direction from health professionals.

Further motivational factors included group activities as older adults may use workout classes as an opportunity for socialization, resulting in a more desirable experience (Lindgren de Groot & Fagerström, 2011). However, group activities can present negative experiences by preventing those with different skill sets from successfully completing a class (Lindgren de Groot & Fagerström, 2011). Therefore, this further demonstrates the importance of a variety of exercises and opportunities throughout The Spring Health and Wellness Center to support the health goals of each user.

This study (Lindgren de Groot & Fagerström, 2011) also proposed another interesting barrier, season change. The study was conducted during winter, where participants voiced their fears of falling on icy sidewalks preventing individuals to engage in everyday walking exercises. Furthermore, limited access to nature/outdoors can lead to negative psychological outcomes such as loneliness and depression (Lindgren de Groot & Fagerström, 2011). Season change is extremely important to consider, as this project is located in Winnipeg, Manitoba, known for

extreme winter and summer weather conditions. Therefore, considering the limitations of a Winnipeg facility, understanding design solutions on how to create a continuous connection to nature all year, will contribute to both the physical and psychological health of the patients and staff.

2.2.4 GREEN AND BLUE SPACES TO PROMOTE PHYSICAL ACTIVITY

Nature is often associated with retreating from everyday stresses by immersing oneself into a calming and relaxing environment (Lea, 2008). The natural environment allows for specific and therapeutic experiences in comparison to an indoor setting (Lea, 2008). A Vancouver study surveyed adults 65 years and older on their perception of therapeutic landscapes. Specifically, the survey determined how green and blue therapeutic landscapes could affect their physical, social, and mental well-being. Green space is defined as natural elements such as trees, grass, and plants. (Finlay, Franke, McKay, Sims-Gould, 2015). Blue space is the incorporation of natural elements related to water such as the sound or proximity to fountains, or rivers (Finlay et al., 2015). Results demonstrated that participants responded positively to both green and blue therapeutic landscapes. Specifically these environments provided participants with an improved sense of physical and mental wellbeing by motivating older adults to participate in recreational and purposeful exercise (Finlay et al, 2015). Further research has demonstrated that frequent proximity to these environments can support physical health and activity by reducing obesity, blood pressure, and pain through the distraction or reduction of stress (Finlay et al, 2015; Kellert, Mador & Heerwagen, 2011).

Based on this research The Spring Health and Wellness Center presents an exciting opportunity to provide an interior facility that embodies natural elements, which can be accessed during each Winnipeg season. Interior green and blue elements can aid in both the clinical and recreational facilities for a rejuvenating, therapeutic, and motivating space. Providing such spaces will contribute to the goal of The Spring Health and Wellness Center by supporting active aging and quality of life for older adults. The final design will present a creative reference for other urban healthcare or exercise facilities susceptible to extreme climate change.

2.2.5 PHYSICAL FACTORS FOR FACILITY CAREGIVERS

Medical professionals face a different set of physical barriers, where concerns such as burnout, fatigue and, stress are prevalent. These physical concerns present as problems beyond the workplace resulting in chronic conditions such as back problems, arthritis, migraines, and sleep disorders. In Canada, the most common causes of these physical issues are repetitive movements, straining postures and patient, or equipment transfers (CIHI, 2005). These examples as well as their duration are often dependent on the type of healthcare facility. For example, fatigue is a common symptom for those who are responsible for multiple tasks over a longer period of time. In comparison to physical conditions that are more prevalent in repetitive or straining movements. Furthermore, those in geriatrics have greater responsibilities to physical aid patients in and out of vehicles, seated positions, and treatment rooms causing severe strain.

The Spring Health and Wellness Center presents an interesting form of healthcare where procedures and treatments offered fall under the category of primary care. However, the scale of the “one-stop shop” concept and variety of procedures offered is comparative to a larger scale super clinic. Thereby the healthcare workers in this facility will have a variety of responsibility and chance for physical strain. In order to prevent these concerns, appropriate adjacencies between equipment, workstations and medical rooms are necessary to eliminate long durations of physical strain. Additionally designing a facility that allows for older adults to move independently and safely throughout the building such reducing floor/level changes, long corridors or inappropriate furniture can potentially lessen the need for caregiver aid as patients will feel confident in their environment (Devlin, 2014). Additionally providing multiple break areas specifically for employees can allow them to relax or recharge during their shift to help reduce constant physical strain. Providing an environment that is responsive to the needs of the employees will create greater quality experience for both staff and patients.

2.2.6 CONCLUSION

Physical activity is important for all ages; however, older adults present specific psychological and physical factors that need to be considered to ensure the safety and quality of exercise. Researching barriers in which older adults may have such as fears, accessibility, or season change can further understand how to motivate and encourage physical activity. Designing a space that is empathetic to the needs of this demographic is a primary goal for The Spring Health and Wellness Center. Considering each facet on how to improve quality of life and active aging for older adults will contribute to the health and safety of the final design.

2.3 PSYCHOLOGICAL WELLBEING

2.3.1 INTRODUCTION

Psychological well-being is also a significant contributor to successful active ageing and the improvement of quality of life in older adults (Bowling, 2005 p.155). As previously stated, this facility is targeted towards older adults with multiple chronic conditions. As a result of these conditions, older adults are at an increased risk of developing psychological concerns such as depression. (Center for Disease Control and Prevention, 2017). Additionally, given that multiple chronic conditions also increase the frequency of healthcare visits, this section will focus on understanding the relationship between stress and healthcare environments for both patients and caregivers. These relationships will be researched through the lens of environmental psychology learning how behaviour can be directly affected by environmental factors (McCunn, n.d.).

Psychologist Judith Heerwagen studies user behaviours, health and psychosocial impacts of built environments (National Institutes of Health, n.d.). Specifically, Heerwagen (2017) is an advocate for Stephen Boyden's theory of designing beyond basic survival needs, and instead considering the well-being needs of its users. Survival needs is categorized by elements "such as clean air and water, lack of pathogens or toxins" (Heerwagen, 2017, p.7) whereas well-being needs consider quality of life and psychological health.

Heerwagen (2017) has compiled a list based on the research of Boyden (1971) and other theorists on how to design in order to achieve this theory. The design considerations are the following:

- Opportunity to engage in spontaneous social encounters;
- Opportunity for relaxation and psychological restoration;
- Opportunity for privacy and for movement between interaction and solitude, as desired;
- Opportunity for learning and information sharing;
- Opportunity for connection to the natural environment;
- Opportunity for regular exercise;
- Sound levels not much above or below that of nature;
- Meaningful change and sensory variability;
- An interesting visual environment with aesthetic integrity;
- Sense of social equity and respect;
- Ability to maintain and control personal comfort;
- Making sense of the environment (p.7).

This list demonstrates how design can contribute to a user's psychological response to an environment. Issues such as social, sensory, and physical activity are specifically important for healthcare, as there can often be a variety of emotion toward this type of environment. Therefore, considering environmental psychology and designing for well-being needs, the following section will outline my research of ways to improve the experience of healthcare users.

2.3.2 STRESS IN HEALTHCARE

Individuals may feel stress during healthcare visits due to fear of potential surgery, painful procedures, loss of control, or potential reduction in their physical capabilities (Ulrich, 2011). Due to the increase of stress associated with healthcare, relationships between person and environment become increasingly important. Ulrich (2011) highlights forms of stress that are directly caused by poorly designed healthcare facilities. Examples include elements such as lack of visual and acoustical privacy or lack of exposure to daylight and views to the outdoors (p. 89). Research further demonstrates that access to daylight and views of natural elements can

be crucial to relieving pain and stress, as well as regulating circadian rhythm and increasing alertness (Ulrich, 2011). Furthermore, exposure to both day and sunlight increases the skin's absorption of Vitamin D, preventing chronic diseases such as osteoporosis (Ulrich, 2011). This connection to nature reflects Heerwagen's (2017) discussion, highlighting that individuals benefit from nature through a cognitive and emotional experience, proven to create positive outcomes for those in healthcare facilities (Ulrich, 2011). It is important to also understand varieties in healthcare facilities such as long-term care versus primary care. These differences depict the length of time and medical procedures that patients will be experiencing. Therefore, understanding ways on how to incorporate these environmental impacts in specific primary healthcare activities such as waiting or short-term appointments.

A study was conducted to determine how patients responded in waiting rooms that had either the absence or presence of natural elements. Results found that in both cases where artificial (posters, pictures, plants) or real natural elements were present, individuals responded with reduced stress (Beukeboom, Langeveld, Tanja-Dijkstra, 2012). The study also determined that these elements allowed patients to find the overall attractiveness of the waiting room greater, thus, providing them with a space that was more desirable and calming to be in (Beukeboom, Langeveld, Tanja-Dijkstra, 2012).

Waiting rooms are an intriguing area of study specifically for The Spring Health and Wellness Center as patients may be waiting for multiple appointments in one day. CNBC reported on a study conducted on primary healthcare patients. The study highlighted that approximately 85% of patients waited between 10 to 30 minutes beyond their scheduled appointment (Mangan, 2016). This is a concern as 63% of patients reported this to be one of the most stressful parts of the visit (Mangan, 2016). Waiting room stress can be due to reasons such as uncertainty about the length of wait times as well as more time to focus on the medical procedure (Soremekun, Takayesu, Bohan, 2011; Beukeboom, Langeveld, Tanja-Dijkstra, 2012). Waiting rooms are also interesting as they are often a very public setting. A field experiment conducted by The Rotterdam School of Management, Erasmus University tested whether or

not individuals preferred to wait alone versus in a group/public setting. Results demonstrated that those who felt anxious about their appointment or uncertain about the length of wait time preferred to wait in a group setting (Pruyn, Smidts, 1999). This presents an opportunity for The Spring Health and Wellness Center to look beyond a typical waiting room environment and explore opportunities for patients to interact with one another; thus, creating an environment that looks beyond medical treatment and is supportive of both social and psychological concerns for older adults. Additionally, as mentioned in part 1.2, The Spring Health and Wellness Center can encourage individuals to participate in physical activity between appointments such as engaging in the walking track or work out classes. This will provide a variety of waiting options for patients of all stress levels.

Healthcare stress can also be represented in other health concerns such as White Coat Syndrome. White Coat Syndrome, also commonly known as White Coat Hypertension, is defined as individuals who experience an increase in blood pressure levels due to the stress of being within a healthcare environment (Holland, 2017). This is a concern for the reason that it becomes difficult to treat inaccurate information, resulting in poor or inadequate medical attention. This can be extremely important for older adults, as they are one of the highest demographics in Canada to experience high blood pressure; therefore, need to be assessed accurately (Statistics Canada, 2020). A study was conducted to determine the correlation between clinical blood pressure monitoring and ambulatory blood pressure monitoring for individuals of all ages. The results demonstrated that those who were older than 60, experienced white coat syndrome far greater than those who were younger (Tanner, Shimbo, Seals, Reynolds, Bowling, Ogedegbe & Muntner, 2015). If we have the understanding that this syndrome is a consequence of being within a healthcare environment, establishing ways in which to alleviate this stress is important. For example, Ulrich (2011) describes that views to nature have proven to reduce blood pressure and cardiovascular stress (pg. 91). Furthermore, providing areas with a variety of visual or acoustical privacy where individuals can retreat/ regroup can accommodate a variety of patient needs (Holland, 2017; Heerwagen, 2017). Preventing stressful and negative instances

that are directly related to healthcare facilities will allow the design of this project to encourage individuals to participate in medical treatments and use it as a place of reassurance and safety.

2.3.3 PSYCHOLOGICAL FACTORS FOR FACILITY CAREGIVERS

An important element to healthcare facilities is the fact that there are multiple primary users. For example, the primary users of The Spring Health and Wellness Center will include older adults as well as the facility caregivers thus, demonstrating a facility that needs to accommodate employees in their workplace and patients seeking healthcare treatments. Therefore, this facility must create a stress-reducing environment for all users. In Canada, approximately, 45% of healthcare workers reported feeling exceptionally stressed during their job in comparison to 31% of all other employees (Statistics Canada, 2007). Specifically, healthcare professionals such as “medical laboratory technicians, specialist physicians, general practitioners, family physicians, and, registered nurses” reported the highest level of stress increasing to 68% of employees feeling highly stressed (Statistics Canada, 2007). Many factors can contribute to employee stress such as salary, personal factors, a variation in responsibility, as well as environmental factors (Statistics Canada, 2007; Ulrich, 2001; Applebaum, Fowler, Fiedler, Osinubi & Robson, 2010). A study was conducted to evaluate environmental factors such as odor, noise, light, and color on the perceived stress and job satisfaction for nurses. Excessive noise presented as the greatest concern for perceived stress (Applebaum, et al., 2010). Due to the fact that The Spring Health and Wellness Center offers a variety of facilities, providing sufficient acoustical privacy in stressful areas is necessary. Examples can include special attention to offices, workstations, meeting areas, and appointment rooms. Additionally, providing employee only zones such as break rooms and lounge spaces can offer a place to relax from the busy facility.

A further concern that has been noted is the proximity of nursing stations to patient rooms (McCarthy, 2004). It is often the case that healthcare workers spend a large percentage of their day traveling between patient rooms and workstations, contributing to the hectic and stressful

environment (McCarthy, 2004). Although this is primarily a concern for in-patient hospital rather than primary care facilities, it is interesting to consider as the proposed facility is of a greater scale than regular primary care facilities, providing a wide scope of medical treatments. Therefore, adjacencies can be considered during the design phase of this project by providing adequate staff workstations to the appropriate medical treatment rooms. Additionally, considering proximity and layout of these spaces can contribute to stress-free navigation throughout the facility. This can potentially also influence noise levels in the entire facility by reducing the need for employees to travel with their equipment for long distances.

Further design elements such as lighting levels have also been determined to have a direct link on stress levels for healthcare employees. Similar to patient stress, providing views and access to daylight have improved job satisfaction (Applebaum et al., 2010; Ulrich, 2001). Further environmental alternatives for job satisfaction are allowing employees to have control over their environment. Specifically, Ulrich (2001) discusses how providing a variety of work and lounge areas promote both individual and collaborative work (pg. 54). Taking these direct environmental links will support the staff, which in turn will support the patients. Therefore, providing a successful and welcoming environment for all users.

2.3.4 CONCLUSION

In order to design a space that can be effective for each user, the design must consider how each individual will use or interpret their surrounding environment. As The Spring Health and Wellness Center consists of both a working and medical environment, presenting opportunities that address a wide range of psychological concerns are necessary. By researching targeted healthcare concerns in Canada, specifically long wait times, employee stress, and environmental psychology, it will contribute to the success of this space. Addressing concerns beyond medical treatments directly relates to the concept of active ageing by focusing on the many components that contribute to the overall quality of life for older adults.

2.4 SOCIAL WELLBEING

2.4.1 INTRODUCTION

Maintaining social connections is another important contribution to the quality of life and successful active ageing in older adults. In addition to focusing on qualities such as physical and psychological benefits, The Spring Health and Wellness Center presents an opportunity to go beyond designing a space for medical needs and become a place that can simultaneously be used for social gathering and building relationships. It is important to understand that the level of social interaction that is comfortable for each primary user will vary. Therefore, offering a variety of spaces such as small waiting nooks promoting one-on-one interaction to large activity centers offering group activities is needed to give users choice and autonomy in their social connections (Chmielewski & Hakky, 2020). Additionally, older adults often have less opportunity to create new social connections; therefore, this section will focus on methods to encourage socialization between older adults.

2.4.2 EVERYDAY AGEISM AT A SOCIETAL LEVEL

As previously discussed, older adults are susceptible to many outdated theories specifically, the disengagement theory. This theory endorses the concept that older adults gradually remove themselves from social interactions as a consequence of their old age, ultimately preparing for end of life with little effect on society (Bowling, 2008). Although this is outdated and untrue, negative perceptions towards older adults can unwillingly cause the same disengaging consequence. For example, ageism is defined as stereotyping or discriminating against individuals based on their age (WHO, n.d). Those who are ageist begin to physically and mentally exclude older adults from their community (Bowling, 2008; WHO, 2007). Furthermore younger generations are under the impression that older adults are an increased demand on public resources, specifically those with medical conditions (Bowling, 2007; WHO, 2007). Therefore, although the theory that older adults voluntarily disengage from society is incorrect, the ageist perspective from younger generations begins to create a forced parallel of this concept. Providing

older adults with a sense of insecurity within a public perspective, forces withdrawal from society. This can be seen in a psychological theory derived by Richman and Leary, which focus on the response of those who are discriminated against, causing chronic feelings of rejection. This ongoing feeling of disapproval will cause individuals to withdraw in order to avoid further negativity from the public. (Shiovitz-Ezra, Shemesh, McDonnell/Naughton, 2018). As a result, concerns about social isolation begin.

The Government of Canada (2017) defines social isolation as poor quality and quantity of social relationships, often linked to undervaluing older adults in our society. Approximately 30% of Canadian older adults are at risk of social isolation, resulting in poor emotional and physical health, loneliness, and reduced quality of life (Government of Canada, 2017).

2.4.3 AGEISM AND HEALTHCARE

Ageism and social isolation are prevalent beyond a societal perspective where negative beliefs bleed into services specifically, healthcare. It is often the case that older adults experience misdiagnoses or dismissal from health professionals as it is may be believed that their medical conditions are a natural sign of old age, therefore, not providing significant treatment (Shiovitz-Ezra et al., 2018). Furthermore, doctors Karin M. Ouchida and Mark S. Lachs (2015) discuss how older adults are often prone to being under or over-treated due to medical assumptions associated with ageing. Wrongful treatment can have negative mental and physical health consequences for patients.

Another contributing factor to ageism is the low percentage of those learning and practicing geriatric medicine. In Canada there are just over 300 geriatricians unevenly spread throughout the country, resulting in many provinces having only one specialist. An example of this trend is from University of Toronto where only 13 out of 260 medical students participated in a geriatric rotation (Glauser, 2019). Geriatric specialists are suggesting that the low interest in this medical sector is due to negative associations of old age such as believing it to be a depressing line of work, or not as important as treating younger demographics. Existing

geriatric medical professors often create further negative perspectives such as condescending or stereotypical statements about older patients (Ouchida & Lachs, 2015; Glauser, 2019). It is apparent that many of these stereotypes are made prior to practicing geriatric medicine as those who are active within this medical realm find it to be very rewarding (Glauser, 2019).

Proposing a healthcare facility that is directly designed for older adults could open the door at a policy level. This will encourage greater interest in research and treatments, thus improving the quality of healthcare for this demographic. The diverse amenities at this facility will promote positive associations and reduce negative associations between older adults and healthcare. The Spring Health and Wellness Center will be exciting and innovating for patients, and both facility and personal caregivers.

Further discussion on how to reduce ageism is seen in intergenerational connections. The World Health Organization (2007) discusses the opportunity to create social connections in “Global Age-Friendly Communities: A Guide” by discussing the integration of multiple generations as a way to combat ageism. Incorporating a facility specific to older adults within other typologies will provide the opportunity for intergenerational interactions. Although this project is specifically targeted towards older adults, considering opportunities in which the programme and design can incorporate a variety of ages will be important to fight these stereotypes. For example, the site location for this facility is within an existing shopping center that is host to multiple generations thus creating potential for interaction in comparison to a stand-alone building or remote location. Incorporating this facility in a central and public location is aimed to eliminate further segregation and perceptions that older adults should disengage from other activities. In turn, this will allow older adults to be directly immersed into society and other public facilities due to proximity, aiming to encourage and motivate the participation of mall amenities as well. Additionally, creating a public space within The Spring Health and Wellness Center beyond the medical facilities such as a restaurant presents an opportunity to encourage others to use this space furthering intergenerational connections and awareness. These amenities will also provide opportunity for personal caregivers to partake in other errands while waiting for patients between appointments.

2.4.4 CONCLUSION

Social connections are an integral contribution to the overall quality of life for older adults and active ageing; therefore, understanding the current social limitations for this demographic is important. Ageism is a prevalent concern for older adults and often causes social isolation to avoid negativity. While developing new facilities such as The Spring Health and Wellness Center, designers need to be cognizant of ways in which to eliminate discrimination between demographics such as building location and programming opportunities to bring awareness to these concerns. Furthermore, supporting social needs is an important design strategy in relation to the theory of designing for the well-being needs of the targeted user. Providing adequate and comfortable gathering places with a variety of privacy options for social opportunities as well ease of transition between appointments are ways to improve socialization within the built environment (Heerwagen, 2017). Additionally, as mentioned in section 1.2.3 Encouraging Older Adults to Participate in Physical Activity, older adults often associate group workout classes or other organized events as a form of socialization beyond just lounge or waiting areas. Designing a facility that promotes social links between all users will encourage a sense of social equality and respect for older adults, therefore, reducing the opportunity for stereotype and discrimination (Heerwagen, 2017).

2.5 INDEPENDENCE AND AUTONOMY FOR OLDER ADULTS

2.5.1 INTRODUCTION

Along with social barriers, healthcare can present negative circumstances in regard to the actual treatment or procedures. It is frequently the case where older adults may feel uncertain or insecure about their medical plan. This uncertainty stems from the feeling as though they have little to no say, resulting in a feeling of loss of choice and independence. Maintaining independence and autonomy in all life facets is one of the main factors for continued quality of life in older adults. However, healthcare presents a unique circumstance in regards to independence, as it is frequently the case that there are many decisions being made without

the patient's perspective. Furthermore, healthcare facilities can present further feelings of loss of control or independence where the overwhelming environment can be difficult to navigate independently. Therefore, this section explains two forms of independence and autonomy. The first being at a policy level and the second at an environmental level.

2.5.2 AUTONOMY IN HEALTHCARE

It has been stated that since older adults are susceptible to multiple chronic conditions, they are at an increased risk of being misdiagnosed or treated due to the variety of treatment options per condition (WHO, 2016). As a result of the abundance of possibilities in treatments, older adults may suffer from having little to no say in their plan, resulting in a loss of autonomy in their healthcare experience. Autonomy is defined as having the ability to make and control personal decision and is an important contribution to active ageing (WHO, 2002, p. 13). An example of where patients may suffer from lack of control or decision making with their treatments can be seen during the prescribing of medication (Jansen, Naganathan, Carter, Mclachlan, et al., 2016).

Older adults with multiple chronic conditions are often prescribed an array of medication addressing each medical concern, which can lead to over prescribing. Medical research has demonstrated that over prescribing is often due to lack of communication between each physician as well as lack of choice for the patient and their treatment plan (Jansen, Naganathan, Carter, Mclachlan, et al., 2016). It has been researched that in many cases deprescribing medication may be a superior alternative. However, as stated, a variety of opinions between doctors can impede this option (Jansen, Naganathan, Carter, Mclachlan, et al., 2016). Additionally, some older adults may believe that deprescribing can be a way of "giving up". However, this thought process may stem from lack of knowledge and understanding about the treatment plan as a whole rather than "choosing" between helping one condition over the other (Jansen, Naganathan, Carter, Mclachlan, et al., 2016).

Individuals of all ages have a variety of goals and priorities with their health. However,

as miscommunication between each doctor or doctor and patient occur, goals and values become dismissed (Elwyn, Frosch, Thomson, et al., 2012). Research has demonstrated that in cases where older adults have knowledge and choice in their treatment plan, they frequently choose the more moderate medication option. This is due to the fact that older adults value quality and well-being of their life rather than longevity of treatments that may eventually hinder other medical factors such as mobility/strength. (Jansen, Naganathan, Carter, Mclachlan, et al., 2016). Therefore, it is important that patients maintain autonomy and decision-making while providing appropriate care as their goals and values may differ from those of physicians.

Research has demonstrated the importance of shared-decision making between patients and physicians, where building good relationships between both parties can allow everyone to feel comfortable and safe in sharing their goals, in turn maintaining patient autonomy (Elwyn, Frosch, Thomson, et al., 2012). Patient and physician relationships can be especially difficult to grow between older adults as it has been previously stated that unconcerned or dismissive attitudes towards older patients are prevalent (Elwyn, Frosch, Thomson, et al., 2012). Multi-year research conducted by Picker Institute a non-for-profit organization focused on patient centered care, developed characteristics that define the most important elements for quality and safety from the patient's perspective (Barry, Edgman-Levitan, 2012). The characteristics are as followed:

1. Respect for the patient's values preferences, and expressed needs
2. Coordinated and integrated care
3. Clear, high-quality information and education for the patient and family
4. Physical comfort, including pain management, emotional support and alleviation of fear and anxiety
5. Involvement of family members and friends, as appropriate
6. Continuity, including through care-site transitions
7. Access to care

Although patient-centered care and shared decision making is not necessarily a new component to healthcare and healthcare research, it is important to maintain consistency and implement these characteristics routinely for safety and quality of patients (Barry, Edgman-Levitan, 2012). Additionally, it is important to note potential barriers for different patients such as education, terminology, and certain medical conditions. The Spring Health and Wellness Center offers patients a center that is directly focused on the needs of each user. Providing a collaborative facility where a variety of specialists and pharmacists are in constant communication with one another will benefit the users. Addressing the needs of multiple chronic illnesses as well as having the possibility to have meetings with several doctors at once will allow patients this facility to feel safe and confident with their treatment plans and maintain autonomy when it comes to their healthcare experience.

2.5.3 ENVIRONMENTAL INDEPENDENCE

Along with barriers that may reduce independence at a policy level, it is necessary to address the physical space in which services are to be provided. A theory originally presented in the early 1970s by M. P. Lawton and L. Nahemow, The Environmental Press Theory, examined the relationship between an individual's personal competence and their response to the surrounding physical environment (Perry, Anderson, Kaplan, 2013). Rather than looking at individual needs or environmental factors as separate entities, this theory focuses on whether the environment needs to adapt in order to create a space that is functional and supportive for individuals of all competencies (Perry, Anderson, Kaplan, 2013). Furthermore, the built environment has also been studied through the lens of environmental psychology where its main focus is to understand the impact of the physical environment and human behavior (McCunn, n.d.). For the reason that The Spring Health and Wellness Center offers a wide range of services and medical facilities, it will be necessary to address the environmental issues of each space as well as how they work together.

For example, wayfinding will play a major role within this facility in order to encourage

independent navigation between departments. Wayfinding throughout healthcare facilities is important as it can contribute to the reduction of confusion for patients, resulting in independent navigation (Devlin, 2014). An example of wayfinding that can be implemented in the design phase of the project is to consider the overall spatial layout. Studies have demonstrated that participants who were exposed to floor plans that were symmetrical vs. asymmetrical preferred the latter as repetition or redundant spatial layouts can begin to feel confusing and disorienting when navigating large spaces (Devlin, 2014). However, it has also been outlined that although variation in the overall layout is important, reduction in elements such as excessive corridors and nodes can also contribute to successful navigation (Devlin, 2014). Furthermore, research suggests that when there are multiple floors within one facility, an atrium that visually connects both floors aids in the overall understanding of the building rather than compartmentalizing each area (Devlin, 2014). A study conducted using virtual reality to hypothetically navigate a space demonstrated that in addition to layout and spatial consideration, older adults also relied on visual cues and signage such as large numbering, or color coordination (Devlin, 2014). Due to the fact that the proposed facility has a contrast of primary users including patients and medical professionals, wayfinding can also improve staff efficiency while navigating throughout the facility between tasks (Devlin, 2014).

Considering both the Environmental Press Model and environmental psychology, the concept of inclusion and consideration of individuals with a variety of competencies is one of the main criteria. Older adults with multiple chronic conditions hold a stronger possibility for potential mobility constraints such as changes in muscle mass or sensory function, therefore, the built environment should address these concerns to provide a space where all users can maintain independence and autonomy in their surroundings (Carr, Weir, Azar, 2013). In order to address a variety of needs, universal design standards will act as a strong resource when designing The Spring Health and Wellness Center as it presents opportunities to incorporate design features that can benefit all users. Implementing a consistent and universal design in all amenities will create a consistent and safe environment while transitioning between spaces. This will provide

an environment that will encourage independent and easy navigation throughout the facility allowing users to participate in all the amenities such as social, physical and medical activities without hesitation (Carr, Weir, Azar, 2013).

Furthermore, as previously discussed, designing spaces where both patients and staff have the opportunity for privacy, control of space such as seating, work surfaces, or lighting levels, as well as comfort and security depending on the activity, are also important design considerations for multiple competencies (Purves, 2002, p. 42). Additionally, design considerations such as floor finishes can improve mobility throughout the facility by reducing unwanted glare and incorporate acoustical properties, addressing individuals with a variety of sensory conditions (Brawley, 2006).

2.5.4 CONCLUSION

Independence and autonomy are important factors for active ageing as it can contribute to the overall health and well being of older adults. Healthcare presents unique concerns in regards to autonomy where older adults are not only faced with their surrounding physical environment, they must also face decisions while navigating healthcare treatment plans. Encouraging patients to be engaged in both the decision-making process and with their surrounding environment will allow this facility to successfully promote the autonomy and independence for patients. Furthermore, the design considerations that were discussed can also improve the built environment for employees allowing for quicker navigation time between destinations. This in turn will provide a healthcare facility whereby both patients and employees feel comfortable and nurtured.

2.6 OVERALL CONCLUSION

It is evident that while researching older adults, their physical, psychological, social, and independent well-being should not be compartmentalized as they are interwoven within one another. This concept is often defined as holistic health which refers to “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 2020, p.1) Each aspect of health needs to be considered as overlapping aspects which can be further implemented into a holistic design process (Lee, Lim, Kim, 2012). Holistic design specifically in a healthcare environment provides patients with amenities for psycho-social opportunities in addition to their regular medical obligations. This produces a stimulating environment that can reduce anxiety and encourage users to improve each aspect of their health. (Lee, Lim, Kim, 2012). Therefore, providing a holistic design and health approach for the multifaceted challenges of the ageing population hold promise for our ever-increasing demographic. This research will be evident in The Spring Health and Wellness Center as the programme, spatial organization and design will be addressed empathetically and compassionately for the health of older adults and both facility and personal caregivers.

3. EXISTING BUILDING AND DESIGN PRECEDENT ANALYSIS

3.1 GP SUPER CLINIC

- Location: Caboolture, Queensland, Australia
- Architects/ Designers: Wilson Architects
- Size: 3200 m² / 34,500 sqft
- Year: 2015

DESCRIPTION

The GP Super Clinic is a healthcare facility located in Caboolture, Australia and is a fully integrated care center for all ages, consisting of twenty-four consult rooms and an acute care unit (Wilson Architects, 2015). The concept of this space derived from user experience, where the well-being and health of patients and staff was the primary focus. The goal for the design of The GP Super Clinic was to create an easy to navigate healthcare facility, where individuals

can orient themselves based on a central courtyard that doubles as a lounge and breakout space. The incorporation of nature continues into the interior of the building with vertical gardens, fish ponds, and an atrium space supporting the design concept to create a rejuvenating healthcare facility that does not look or feel like a hospital (Wilson Architects, 2015). The incorporation of natural light, ergonomics, and carefully considered space planning allow patients to feel as though the facility was designed with their needs in mind from the very beginning. As example, understanding that patients may be waiting between appointments or as a caregiver, the facility



FIGURE 2. GP SUPER CLINIC WAITING ROOM



FIGURE 3. GP SUPER CLINIC RESTAURANT

introduces activities such as a cafe, or entertainment stations encouraging all users as well as non-patients to experience the clinic. Additionally, the variety of care in which this clinic provides, allows the adjacent hospital to benefit for the reason that it eliminates unnecessary emergency bed use, thus providing necessary treatment and diagnostic centers for all patient types.

SIGNIFICANCE FOR THE SPRING HEALTH AND WELLNESS CENTER

The GP Super Clinic is an intriguing reference for this practicum due to its primary focus on patient and staff well-being needs. Additionally, the fully integrated healthcare facility including services such as Children's Health Services, Chronic Disease Management, Mental Health Services, Skin Cancer Clinic and Sports Medicine Services serves as a beneficial reference point for this practicum, as elements such as proximity between offices and waiting areas, and a consideration of wayfinding through a central element demonstrates an example of a multi-use healthcare facility.

The GP Super Clinic serves as a model on how to maintain a successful and functional healthcare facility yet look beyond a standard example of a clinical and institutional atmosphere highlighting the concept of being in a facility that focuses on disease and negativity. Rather the GP Super clinic incorporates health and well-being through nature by introducing vertical gardens and atriums that highlights wellness and recovery. Additionally, rather than solely serving clinical services, the GP Super clinic embraces the holistic design approach by providing users with opportunities to participate in a variety of activities and socialization during their visit.

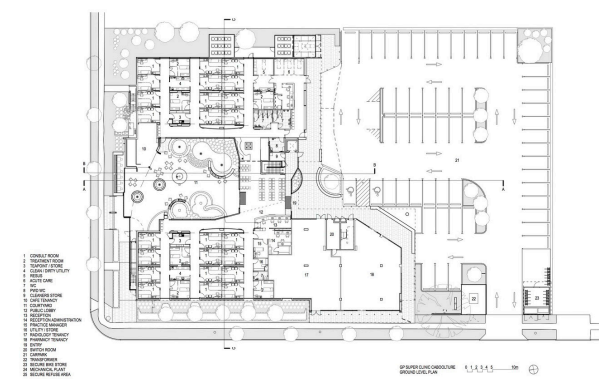


FIGURE 4. GP SUPER CLINIC GROUND FLOOR PLAN



FIGURE 5. GP SUPER CLINIC SECOND FLOOR PLAN

Users are encouraged to maximize the buildings amenities through TV stations, fishponds, and a café service that offers a spot of excitement and intrigue through the double volume room filled with natural light and gardens. Providing these additional spaces beyond clinical amenities is a focus for The Spring Health and Wellness Center as it has the opportunity to encourage non-patient users to participate and learn about the space. These positive connections will be a major contribution to the overall quality of experience and life for older patients as receiving medical treatment will be motivated by a stimulating and intriguing environment.

3.2 ONE HEART CARE DIAGNOSTIC AND CARDIAC CENTER

- Location: Mississauga, Ontario Canada
- Architects/ Designers: C & Partners
- Size: 25,000 sqft- 100,000 sqft
- Year: 2018

DESCRIPTION

The One Heart Care Diagnostic and Cardiac Centre is a healthcare facility that houses multiple cardiac services from diagnostics to treatments within one center. This includes examination services, cardiac operations, and recovery as a well as a research center. Each of these services has been categorized into multiple pods providing clear and distinct zones for visitors and staff. Additionally, each of these zones is

equipped with a separate reception area as well as doctors offices based on the specific treatment (C& Partners, n.d.). Due to the multiple zones within one facility, circulation was one of the main priorities within the space. Consistently colour-coding each zone throughout the facility allows both visitors and staff to quickly and easily navigate the entire building. As mentioned, the spatial layout allows for each zone to have their respective doctor's offices, providing short cut opportunities for the staff minimizing wait times for patients and maximizing their time with the doctor (C& Partners, n.d.).

The public has access to two floors of this facility, entering on the main floor and immediately greeted by a double volume space. This space works as a means of wayfinding as



FIGURE 6. ONE HEART CARE WAITING AREA



FIGURE 7. ONE HEART CARE WAYFINDING

they are directed to the second floor of the facility, which is where the primary services take place. The facility also includes a mezzanine level; however, it is dedicated to the staff providing a quiet and relaxing environment away from the public. Material consideration were also an important design feature for C & Partners, choosing a neutral colour palette as the main aesthetic paired with black trim and blocks of colour to signify thresholds and spaces (C& Partners, n.d.).

SIGNIFICANCE FOR THE SPRING HEALTH AND WELLNESS CENTER

The One Heart Care Diagnostic and Cardiac Center serves as a reference to inform wayfinding and zoning as these are major contributors to environmental psychology. The carefully considered use of “pods” is a beneficial design strategy within a healthcare center that houses multiple facilities and functions, similar to that of the proposed facility. Focusing on wayfinding in a facility with multiple services is important to ensure safe and independent movement for patients. The careful attention to colour-coded specific areas of the building will aid in the success for patients to navigate between spaces without confusion, which is often a common issue for healthcare facilities.



FIGURE 8. ONE HEART CARE RECEPTION



FIGURE 9. ONE HEART CARE CORRIDOR

For the reason that The Spring Health and Wellness Center will provide a variety of medical services, the concept of having appropriate doctors and receptionist per zone will aid in the overall function of the building to eliminate potential time spent for doctors to travel

between patient rooms and their offices thus, minimizing wait-times and increasing patient care (C & Partners, n.d.). These quick points of access between doctor and patient contributes to the overall quality and success of the visit for the patients of One Heart Diagnostic Center and will be implemented in the design of this practicum.

As stated in the literature review The Spring Health and Wellness Center is a facility with a variety of primary users. Therefore, the mezzanine level dedicated to caregivers will aid in the reduction of stress that is prevalent in this specific line of work as it provides a space to relax and rejuvenate during shifts.

Beyond the design of the space, The One Heart Care Diagnostic and Cardiac Center is a Canadian facility within an urban setting similar to The Spring Health and Wellness Center. As such, the precedent demonstrates a comparable healthcare facility that is considerate to both patient and caregiver needs.

3.3 ARBOR ACRES FITNESS CENTER

ADDITION/ EXPANSION

- Location: Winston-Salem, North Carolina,
United States
- Architects/ Designers: LAMBERT
Architecture + Interiors
- Year: 2014



FIGURE 10. ARBOR ACRES ENTRY

DESCRIPTION

Arbor Acres Fitness Center is located in the Arbor Acres Retirement Community in North Carolina. Renovations of this facility included the division of the current pool into three separate pools that include a lap pool, exercise pool, and a jetted spa.

This facility renovated the current entrance by providing a lobby that is connected



FIGURE 11. ARBOR ACRES POOL ROOM

to both the fitness center and residential building, allowing for an easier transition between the amenities of Arbor Acres. Additionally, the fitness center expanded upon the existing building by adding amenities such as full cardio and weight workout areas, multi-purpose room for fitness classes as well as a walking track. Arbor Acres chose to expand and renovate the fitness facility to provide older adult community members with a facility that is continuing to evolve to meet the well-being needs of these individuals.

SIGNIFICANCE FOR THE SPRING HEALTH AND WELLNESS CENTER

A main component of this practicum is to include a fitness facility for its primary users to promote and encourage physical activity in a safe and welcoming environment. Arbor Acres Fitness Center is an important precedent for this practicum as the additional facilities and renovation were selected in order to accommodate this specific demographic. Understanding their previous facility versus their new renovation provides further information into which amenities are necessary as well as how older adults use a fitness facility. This will be an important element for The Spring Health and Wellness Center as older adults often lack motivation to begin or maintain physical activity, thus understanding the specific needs of this demographic will encourage a variety of exercises. Providing a facility similar to the one at Arbor Acres creates an environment where older adults feel safe to participate and try new things, promoting their physical and psychological well-being embracing the key components of active ageing.



FIGURE 12. ARBOR ACRES FITNESS



FIGURE 13. ARBOR ACRES GROUP FITNESS

4. DESIGN PROGRAMME

4.1 HUMAN FACTORS

4.1.1 CLIENT PROFILE

The hypothetical client for The Spring Health and Wellness Center will be The Winnipeg Regional Health Authority (WRHA) as they are actively involved with older adults by providing a “Support Services to Seniors” program in order to promote health and well-being (Winnipeg Regional Health Authority, n.d). The primary goals of their program include “increasing health promotion, chronic disease management and social connectedness” embodying the main goal of The Spring Health and Wellness Center. The WRHA will provide a dependable and resourceful foundation for The Spring Health and Wellness Center allowing both the patient and their care-givers to feel welcome, confident, and safe while using the space. The reassurance of safety will encourage the use of the facility therefore, ensuring better and consistent medical treatment.

4.1.2 HOURS OF OPERATION

Medical Facilities : Monday - Saturday 8am - 8pm, Sunday 8am-6pm

Retail Facilities : Monday - Saturday 8am - 8pm, Sunday 8am-6pm

Workout Facilities: Monday - Saturday 8am - 8pm, Sunday 8am-6pm

4.1.3 USER PROFILE

The primary users of this space will consist of older adults as well as facility caregivers such as doctors, nurses, and technicians. The space will be designed to encourage patient caregivers such as family members or friends to utilize the facilities of the space while they are waiting during appointments. Additionally, the space will be used by secondary users consisting of the administrative and janitorial staff. Although the space is designed for an older demographic the incorporation of facilities such as a restaurant, small convenient store, and pharmacy, will allow certain portions of the space to be open to the public creating a connection between primary, secondary, and tertiary users.

4.1.3.1 USER PROFILE : CODE ANALYSIS

Major Occupancy: Medical Offices (GROUP D)

Occupant Load Based on Design of Building:

Reception: $962 \text{ m}^2 / 0.95 = 1012$

Medical Facilities: $5347 \text{ m}^2 / 10.00 = 535$

Activity/ Socialization Zones: $2525 \text{ m}^2 / 0.95 = 2658$

Workout Facility: $2376 \text{ m}^2 / 0.95 = 2501$

Dining Spaces: $839 \text{ m}^2 / 1.20 = 699$

Retail: $1096 \text{ m}^2 / 4.60 = 238$

TOTAL NUMBER OF OCCUPANTS : 7643

Washroom Requirements:

Male Occupants: 3822

Male Washrooms required: 25

Female Occupants: 3822

Female Washrooms Required: 47

Egress:

Emergency stair exits are located along the perimeter of the building connecting the basement, main and second floor for direct and immediate access to outside.

Internal egress is located on the East side of the Spring Health and Wellness Center connecting to both the mall and an underground basement tunnel for safe existing from the center of the facility. Additional secondary exits are located on the first floor giving further egress options for those in the workout and pool facility. The building is fully sprinklered giving users a safe path of travel to these exits.

4.1.3.2 USER PROFILE: WHO

	PRIMARY	SECONDARY	TERTIARY
WHO	- Facility Patients - Facility Caregivers (doctors, nurses, technicians)	- Patient Caregivers (family members, friends) - Facility Employees (administrative, janitorial)	- General public for restaurant, pharmacy, convenient store
AGE	- Patients : 65+ - Facility Caregivers: 18+	- Patient Caregiver: 18+ - Facility Employees: 18+	- Public: All Ages
GENDER	Male/Female/Other	Male/Female/Other	Male/Female/Other

4.1.3.3 USER PROFILE: BEHAVIOUR NEEDS

	ACTIVITIES	FREQUENCY/ DURATION
PRIMARY	<u>Patients</u> 1. Attending Appointments 2. Socializing 3. Physical Activity <u>Facility Caregivers</u> 1. Checking in patients 2. Appointments 3. Lab work 4. Patient Files	<u>Patients</u> 1. 1-2 times per week - patients may attend more than one appointment per day 2. Everyday - between appointments, during restaurant visits, exercise classes 3. 5-7 days per week- different classes will be offered each day, available during business hours <u>Facility Caregivers</u> 1-4. Everyday - 4-8 hour shifts
SECONDARY	<u>Patient Caregivers</u> 1. Dropping off patients 2. Waiting during appointments 3. Using facility amenities (shopping/ restaurant) 4. Picking up patients <u>Facility Employees</u> 1. Cleaning 2. Administrative work 3. Checkout (store/ restaurant) 4. Workout instructor	<u>Patient Caregivers</u> 1. 1-7 per week - 15 minutes per drop off 2. 1-2 times per week 1-2 hours per day 3. 1-2 times per week depending on patient appointment schedule 4. 1-7 per week - 15 minutes per pick up <u>Facility Employees</u> 1. Everyday 2. 5-7 times per week 3. Everyday 4. Everyday for hour classes
TERTIARY	<u>Public</u> 1. Using Restaurant 2. Using store	<u>Public</u> 1. 2-4 times per week 2. 3-5 times per week

4.1.3.3 USER PROFILE: SPATIAL NEEDS

	VISUAL	COGNITIVE	MOBILITY
PRIMARY USERS	- Combination of natural and artificial light to adapt to a variety of activities (appointments, physical activity, socializing, waiting, etc) - Task lighting for administrative work - Neutral and natural materials to provide a calming and welcoming environment - Well kept and sanitary facility	- Provide private places for appointments and medical related meetings. - Provide public spaces to encourage socialization among patients - Provide proper acoustics for employees. - Well kept and sanitary facility - Safe and secure environment for all users	- Vertical circulation including both stairs and elevators. - Accessible washrooms - Accessible patient rooms, waiting areas, workout areas, etc. - Wayfinding throughout entire building to address a variety of amenities.
SECONDARY USERS	- Natural and artificial light for waiting areas - welcoming environment - Well kept and sanitary facility	- Provide a variety of waiting areas in terms of acoustics, privacy, etc. - Well kept and sanitary facility - Safe and secure environment for all users	- Vertical circulation including both stairs and elevators. - Accessible washrooms - Accessible patient rooms, waiting areas, workout areas, etc. - Wayfinding throughout entire building to address a variety of amenities. - Entrance ways in close proximity to waiting rooms, as well as an vehicular drop off.
TERTIARY USERS	- Welcoming environment - Ambient and overhead lighting for restaurant - Well lit retail displays	- Well kept and sanitary facility - Safe and secure environment for all users, specifically the retail amenities.	- Vertical circulation including both stairs and elevators. - Accessible washrooms - Accessible retail and restaurant spaces.

4.2 FUNCTIONAL + AESTHETIC REQUIREMENTS

	ATMOSPHERE	FUNCTIONS	FURNITURE, FIXTURES + EQUIPMENT	AESTHETIC (COLOUR + MATERIALS)	SPATIAL REQ.
RECEPTION	- welcoming - accessible/ in view of front entrance - well lit - clean	- patient check-in - direct patients where to go - administrative work	- Sit-stand desk for employees - Task and guest chairs - Ethernet cable/ wifi - Electrical outlets - Task, overhead and natural lighting - Monitors	- Easy to clean surfaces - Wipe-out guest chairs - Primarily neutral colors however, integrate contrasting colors for wayfinding/ aesthetics, etc.	1000 sqft
WAITING	- open concept (not typical waiting room) - integrated into other spaces (for example: Restaurant, workout/ walk track, etc) - comfortable	- allows patients and family caregivers to wait for appointments. - Will be in proximity to other amenities to eliminate clinical healthcare atmosphere	- Variety of seating options (wipe-out) - Coffee and dining tables - TV screens - Game opportunities - Natural and artificial lighting - Views to nature/ incorporation of greenery - Emergency equipment station	- Easy to clean surfaces/ stain resistant - Wipe-out guest chairs - Primarily neutral colors however, integrate contrasting colors for wayfinding/ aesthetics, etc. - Variety of floor surfaces such as LVT and carpet to provide a variety of zones	1000sqft

	ATMOSPHERE	FUNCTIONS	FURNITURE, FIXTURES + EQUIPMENT	AESTHETIC (COLOUR + MATERIALS)	SPATIAL REQ.
CONSULT. (3)	- private (visually and acoustically) - Not necessarily separate rooms but can be divided visually/ acoustically	- Provides area for patients to meet with doctors or nurses prior to appointments to assess their medical needs.	- Privacy screens - Guest and task chairs - Ethernet cable/ wifi - Monitors - Storage cabinet per desk - Natural/ task/ general lighting	- Materials with acoustic properties (privacy screens, ceiling details, etc) - Neutral and welcoming color palette	100sqft each = 300sqft total
NURSE (CAREGIVER) WORK SPACE	- visible/ easy to find for patients - comfortable work environment - well lit - semi-private (adjacent private room/ quiet workspace)	- Organized area for employees to go through patient files, etc.	- Task chairs - Sit- Stand desks - Ethernet cable/ wifi - Telephones - Natural/ task/ general lighting - Variety of working layouts (high vs low partitions)	- Comfortable task chairs with breathable materials/mesh - cleanable/ sanitary surfaces - LVT floor (carpet depending on proximity to medical rooms) - Stain resistant materials	1000sqft
EXAM ROOMS (8)	- private - well lit - clean - organized - comfortable - Accessible	- Facility for general medical needs such as check-ups, preliminary testing	- Patient and visitor chairs - Task(exam), general lighting - storage/ cabinetry - Ethernet/ wifi - examination table - examination stool - Sink - Sanitary/secure disposal storage	- Replaceable covers for examination tables - cleanable and sanitary surfaces - non-slip flooring (rubber) - color coded for wayfinding - neutral and stain resistant materials	Approx 150sqft each = 1200 sqft total

	ATMOSPHERE	FUNCTIONS	FURNITURE, FIXTURES + EQUIPMENT	AESTHETIC (COLOUR + MATERIALS)	SPATIAL REQ.
EMPLOYEE BREAK ROOM (2)	- comfortable - quiet - private - clean - variety of lounge/ eating areas	- Private space for employees to take breaks - Secure storage for personal belongings	- Secure locker storage - Kitchenette (microwave, fridge, coffee maker, etc) - Sink - Lounge furniture - Dining table	- low pile carpet or LVT floor surfaces - Acoustic properties for privacy and eliminate noise pollution for surrounding amenities	600 sqft each = 1200sqft total
X-RAY ROOM (4)	- private - secure	- Facility specifically dedicated for small and large scale x-rays	- examination table/chair - Small room for doctor - x-ray equipment (cathode tube) - Specific electrical for equipment	- Shielded walls/ doors - X-ray glass control window - non-slip and durable flooring (rubber)	150sqft each = 600 sqft total
GENERAL PRACTI- TIONER	- clean - organized - well lit - comfortable for patient and dentist	- Facility for patients to receive general medical exams, yearly checkups, minor injuries, etc.	- patient exam chair - adjustable table for eye exam equipment - sinks - storage/ cabinetry - eye exam equipment - general lighting - examination lighting - Specific electrical for equipment	- cleanable and sanitary surfaces (patient seating areas) - non-slip and durable flooring (rubber) - neutral colors - color coded for wayfinding (ex: door)	12,000

	ATMOSPHERE	FUNCTIONS	FURNITURE, FIXTURES + EQUIPMENT	AESTHETIC (COLOUR + MATERIALS)	SPATIAL REQ.
DENTIST	- clean - organized - well lit - comfortable for patient and dentist	- Facility where patients can receive dental care such as cleanings, fillings, extractions, x-rays, etc	- patient exam chair - adjustable exam lighting - TV screen - computer / monitor - Ethernet/ wifi - Sink - Cabinetry/ Storage - Specific electrical for equipment - Employee chair for dentist and hygienist	- non- slip durable flooring (rubber) - neutral and stain resistant surfaces (counters, floors, furniture)	Approx 12,000 sqft
LAB (4)	- clean - welcoming to eliminate stress or anxiety for patients	- Facility where patients can receive blood work - Facility for preliminary blood testing	- Refrigerator - Blood drawing patient chair - Sample storage (blood/ urine) - Storage/ cabinetry for unused containers/ equipment - sanitary disposal storage - general and task lighting - Sink	- cleanable surfaces (walls, counters, floors, furniture, etc) - Neutral and stain resistant	100 sqft per lab = 500 sqft + 400sqft for doctors = 800 sqft

	ATMOSPHERE	FUNCTIONS	FURNITURE, FIXTURES + EQUIPMENT	AESTHETIC (COLOUR + MATERIALS)	SPATIAL REQ.
OPTOME- TRY	- clean - organized - well lit - comfortable for patient and staff	- Space where patients can receive general eye exams, x-rays	- patient exam chairs - adjustable exam lighting - TV screen - computer / monitor - Ethernet/ wifi - Sink - Cabinetry/ Storage - Specific electrical for equipment - Employee chairs	- non- slip durable flooring (rubber) - neutral and stain resistant surfaces (counters, floors, furniture)	12,000 sqft
ENT	- clean - organized - well lit - comfortable for patients and staff	- Specific medical services in ear, nose, throat	- patient exam chairs - adjustable exam lighting - TV screen - computer / monitor - Ethernet/ wifi - Sink - Cabinetry/ Storage - Specific electrical for equipment - Employee chairs	- non- slip durable flooring (rubber) - neutral and stain resistant surfaces (counters, floors, furniture)	12,000 sqft

	ATMOSPHERE	FUNCTIONS	FURNITURE, FIXTURES + EQUIPMENT	AESTHETIC (COLOUR + MATERIALS)	SPATIAL REQ.
CARDIAC CENTER	- clean - organized - well lit - comfortable for patient and staff	- Specialty services for cardiac patients.	- patient exam chairs - adjustable exam lighting - TV screen - computer / monitor - Ethernet/ wifi - Sink - Cabinetry/ Storage - Specific electrical for equipment - Employee chairs	- non- slip durable flooring (rubber) - neutral and stain resistant surfaces (counters, floors, furniture)	12,000 sqft
WASH- ROOMS	- Accessible - Secure - Sanitary/ Clean	- Accessible washrooms located in a variety of locations throughout the building. - Private washrooms for staff	- Toilets - Sinks - Accessible stalls - Lockable stall doors - Mirrors above sinks - Grab bars - Well-lit	- Cleanable floor surfaces (LVT, Rubber) - Non-slip flooring - Sanitary/ clean surfaces for sinks and around toilet - Stain resistant - Acoustic properties if floor-ceiling stalls.	Accessible Washrooms = 75 sqft per washroom Stall = 35sqft per stall
MEDICAL SUPPLIES STORAGE	- Clean - Organized - Secure	- Dedicated storage room for employees to access and medical supplies for appointments. - Storage rooms will be located throughout facility to accommodate a variety of medical needs	- Lockable storage/ cabinetry - Adjustable shelving/ modular shelving that can work between storage rooms - Storage carts to use throughout facility - Sinks/ Sanitary washing stations - Secure disposal storage	- Cleanable floor surfaces (LVT, Rubber) - Non-slip flooring - Sanitary/ clean surfaces - Stain resistant	1000 sqft

	ATMOSPHERE	FUNCTIONS	FURNITURE, FIXTURES + EQUIPMENT	AESTHETIC (COLOUR + MATERIALS)	SPATIAL REQ.
PHARMACY	- Organized - Accessible and adequate circulation for both patient and public users. - well-lit to aid in prescription reading, etc.	- Facility where patients can retrieve prescribed medication. - Allows for doctors to be in same facility as medication to prevent miscommunication/ confusion.	- Retail counter - Secure storage for medication (employee access only) - Cashier/ payment equipment - Ethernet/wifi - Monitors - Sink - Waiting chairs (minimal)	- non-slip flooring (LVT) - cleanable stain resistant surfaces - colour-coded/ wayfinding - prescription drop off/ pick up	600 sqft
WORKOUT + POOL	- Both naturally and artificially lit space - Welcoming to encourage individuals to participate - Both visually public and private spaces to accommodate a variety of activities	- Allows for patients to participate in physical activity between appointments. - Provides opportunity for patients to visit facility multiple times per week to encourage socialization and physical health. - Will include dedicated workout classes as well as individual workout space.	- Emergency equipment station - Open floor space for workout classes - Workout equipment (treadmill, elliptical, free weights, exercise balance balls, benches, jump ropes, etc) - Seating for workouts/breaks - Walking/ running track - Accessible Showers/ change rooms - Natural, artificial lighting	- Neutral and contrasting colors for workout zones - non-slip durable floor for both workout space and change rooms (rubber) - mirrored wall for exercise classes - acoustic properties (ceiling/ wall details) - integration of greenery/ natural materials/ views to nature	26,000 sqft

	ATMOSPHERE	FUNCTIONS	FURNITURE, FIXTURES + EQUIPMENT	AESTHETIC (COLOUR + MATERIALS)	SPATIAL REQ.
DOCUMENT /FILE STORAGE	- Clean - Organized - Secure	- Will be in close proximity to reception/ caregiver stations. - Secure storage of patient medical records.	- Lockable storage/ cabinetry - Adjustable shelving/ modular shelving that can work between storage rooms - Printers/ scanners/ fax - Monitors - Ethernet/ Wifi	- Neutral - Non-slip flooring	1000 sqft
LAUNDRY	- Clean - Organized	- Facility where employees can wash uniforms, linens for patients, towels for workout room etc.	- Washer and Dryer - Shelving/ Storage systems - Sink - Storage for cleaning supplies	- Non-slip flooring (rubber) - stain resistant and cleanable surfaces	200 sqft
JANITORIAL	- Organized - Secure	- Dedicated room for janitorial supplies - Will be located throughout building	- Storage/ shelving - Electrical outlet - Sink/ mop area - Overhead general lighting - Lockable door	- Cleanable surfaces - Non-Slip flooring	200 sqft
OFFICES (4)	- Quiet and secure - Comfortable for both patients and employees - Private both visually and acoustically	- Dedicated space for employees to have a private place to work or communicate with patients	- Natural and artificial lighting - Task and guest chairs - storage systems - Monitor - Ethernet cable/ Wifi	- Acoustic tile ceiling - low pile carpet - LVT	400 sqft (100 sqft per office)

	ATMOSPHERE	FUNCTIONS	FURNITURE, FIXTURES + EQUIPMENT	AESTHETIC (COLOUR + MATERIALS)	SPATIAL REQ.
RETAIL	- Bright and welcoming to encourage the public use - Organized display - Accessible - Safe and secure	- Will provide retail such as small grocery/ convenience items. - Will be in close proximity to pharmacy	- Cold display case for groceries - Regular display - Cashier/ check out - Security/ Alarm System	- Non-slip surfaces	2000 sqft
RESTAU- RANT WITH KITCHEN	- Welcoming - Well kept and sanitary food services - Comfortable - Casual - Relaxing	- Space to encourage patients and public to connect and socialize. - Provides space for patient and patient caregivers to wait between appointments.	- Stoves and ovens - Prep counter - Cold, frozen and dry storage. - Sinks - Refrigerator - Dishwasher - Pick-up window - Employee stands - Cleanable wipe-out chairs/ couches - Dining tables - Lounge tables - Wifi - TV screens - Coffee/ non alcoholic beverage station - Disposal station	- Carpeted area (low pile) - LVT - Cleanable/ wipeout surfaces - Greenery/ views to nature - Natural elements - Sanitary surfaces for eating and prepping food - Non-slip floor in kitchen (Rubber)	1000 sqft
MECHAN- ICAL AND UTILITIES	- Secure - Organized	- Secure room for all mechanical and utilities for the building.	- Shelving	- Acoustic tile - Non-slip flooring	200 sqft

4.3 HEALTHCARE FURNITURE AND FINISHES OVERVIEW

4.3.1 FLOORS AND WALLS

Flooring and wall materials in a healthcare facility should include characteristics such as cleanable, easy to maintain and repair, resistant to microbial growth, nonporous/ smooth and seamless (Provincial Infectious Disease Advisory Committee (PIDAC), 2018, p. 21). Flooring companies such as Armstrong, Interface, and Gerflor provide healthcare flooring products including linoleum and rubber as they are durable and easy to clean. Furthermore, as this healthcare facility has multiple uses such as lounge and wait areas, reception, and administrative zones as well as a restaurant, including a variety of flooring options is important to delineate areas and address a variety of acoustic needs. For example, carpet can be selected as another flooring option within healthcare, however, should only be used in non-clinical or medical rooms that are susceptible to spills/stains (PIDAC, 2018, p. 23-24; Carpet and Rug Institute (CRI, n.d.) Furthermore, the durability of the carpet is important when considering types of traffic such as foot or rolling traffic (CRI, n.d.) The American Disabilities Act requires a carpet to have a pile height of half an inch or less (CRI, n.d.). Furthermore, selecting carpet tile versus broadloom is another consideration as sections are easier to replace if staining or wearing does occur. Carpets in nature are prone to harbouring bacteria in comparison to a surface such as vinyl, therefore, it is important to consider the location as well as its maintenance in order to maintain a healthy environment for patients and staff.

4.3.2 FABRICS AND SURFACES

Similar to floor finishes, fabrics, and surface finishes should be cleanable, easy to maintain and repair, resistant to microbial growth, nonporous/ smooth and seamless (PIDAC, 2018, p. 20-21). For the reason that furniture such as seating is frequently used by a variety of users, durability is important as tears and rips of fabric allow entry of bacteria and cannot be fully/ properly cleaned (PIDAC, 2018, p.21). Companies such as Herman Miller, Nemschoff, and Knoll offer a wide fabric selection including vinyl and bleach cleanable polyesters that can

be used for seating in a variety of applications. Furthermore, common options for finishes on work surfaces and tables can be laminates and metals. Similar to flooring and wall finishes, it is important to understand cleaning methods prior to specifying

4.3.3 SEATING

For the reason that this facility provides a variety of amenities as well as accommodates both employees and patients as their primary user, it is important to consider the many situations in which seating will occur. The goal of The Spring Health and Center is to provide a safe and welcoming environment for the primary users therefore, understanding a variety of mobility and ergonomic situations is important. For example, Herman Miller provides healthcare seating for patients where the seat height is higher than an average chair, thus providing an easier transition between sitting and standing. In addition, including armrests and reduced seat depths can ensure comfortability and ease of getting in and out of a seated position (Blackler, Brophy, O'Reilly & Chamorro-Koc, 2018). Furthermore, offering seating for patients with an extended seat width and frame can provide support and comfort for all users. Additionally, considerations for all patient and visitor seating should include the following:

- Removable upholstery covers;
- Foot glides on chair legs to control balance and grip for patients standing and sitting;
- Wall glides on backs for chairs to reduce the damage of walls from chair legs;
- Clean out chairs to easily wipe and remove stains or spills;

In order to accommodate employee mobility within office as well as potential transport of patients, providing seating options with casters could add further support for staff and patients. Furthermore, providing ergonomic task chairs for employees who may be seated for long periods will be incorporated within this facility.

4.3.4 TABLES AND WORK SURFACES

It is important to incorporate surfaces such as workstations, and reception desks that are accessible to both staff and patients. Additionally, providing work surface options such as sit-stand desks and a range of privacy options at workstations will be used to accommodate a variety of employee needs. In addition to fixed workstation furniture, providing modular elements such as document/ medical storage that is used between patient and supply rooms that can be stored throughout the entire facility will maintain organization, flexibility, and functionality for The Spring Health and Wellness Center. Furthermore, tables that have four legs rather than a pedestal are recommended to provide further support for those that need help while sitting/standing.

4.4 SITE ANALYSIS

4.4.1 LOCATION RATIONALE AND SURROUNDING AMENITIES

1485 Portage Avenue was chosen for the reason that according to the WRHA, St. James-Assiniboia is one of Winnipeg's highest older adult populated neighborhoods (WRHA, 2010). Those who are within this age category are considered a part of the population's dependency ratio, where it is often the case that they utilize health care services more frequently than those who are of younger generations (WRHA Community Health Assessment 2009-2010). Therefore, providing a facility close in proximity was an important consideration. Additionally, this site presents a central location that can be easily accessed by main roads and public transportation for other Winnipeg neighborhoods such as River Heights and River East that are home to a high percentage of older adults (WRHA, 2010).

Furthermore, the proposed design is intended to accommodate the patients as well as their family caregivers, thus, the central location and attachment to Polo Park provides a variety of amenities for those who are waiting for patients. Additionally, the connection to a shopping center that currently facilitates a variety of ages will allow multiple generations to maintain social and societal connections.

For the reason that this site is located within a shopping center, the surrounding amenities and transportation opportunities will contribute to the overall success and importance of the proposed design. The following map will demonstrates amenities such as residential, commercial and transportation in relation to the chosen site.



FIGURE 14. AMENITY MAP

4.4.2 HISTORY OF POLO PARK SHOPPING CENTER

The site of this proposed design is located at 1485 Portage Avenue, which is originally home to Sears Polo Park. Polo Park shopping center initially opened in August 1959 as multiple structures consisting primarily of retail. However, shortly after in 1963, Polo Park became one of Canada's first covered shopping malls (Winnipeg Architecture Foundation, n.d.). The Simpson-Sears department store was a part of the original development, located at the South end of the facility (Winnipeg Architecture Foundation, n.d.). In 1977, Polo Park became home to a variety of amenities that remain today such as retail, offices, banks, and a movie theatre (Winnipeg Architecture Foundation, n.d.) Renovations have continued to take place over the years such as the expansion of the second floor (Winnipeg Architecture Foundation, n.d.). Sears Polo Park has recently announced its closure in late 2017 and currently remains unoccupied (McGuckin, 2018).

4.4.3 ADAPTIVE REUSE POSSIBILITIES FOR BOX STORES

Sears Canada had officially closed at the beginning of January 2018 (CBC News, 2018). The rise of online shopping trends, an increasing issue for many companies worldwide, has left thousands of vacant box stores . Box stores have successfully transitioned into multi-use facilities such as children's hospitals, trampoline parks, offices, and storage units (Defilippo, 2017). The vacancy of Sears Polo Park presents Winnipeg with an exciting opportunity to accommodate direct human needs aside from strictly retail. The proposed facility for this practicum is an adult healthcare day facility housing medical offices, a workout space, and a restaurant. The facility will utilize a portion of the existing structure thus maintaining additional opportunities for other tenants that could compliment this facility such as retail or recreational centers relating to health and wellness. Proposing new typologies to be integrated into box stores presents a new model and form of adaptive reuse for large vacant buildings. An article written for Colliers describes the intriguing opportunity for adaptive reuse as these buildings are often not associated with historical constraints thus, allowing designers and architects to have endless opportunities for creativity (Defilippo, 2017). Understanding how these structures can be

maintained and reused rather than demolishing is a goal for this project in an attempt to eliminate unnecessary construction and building waste and promote a new model for the future of box stores.

4.4.4. SITE PHOTOGRAPHS



FIGURE 15. SEARS SOUTH ENTRANCE



FIGURE 16. VIEW OF SEARS FROM PORTAGE AVENUE



FIGURE 17. SEARS WEST ENTRANCE



FIGURE 18. ADJACENT BUS LOOP AND SHELTER

4.5 BUILDING ANALYSIS

4.5.1 BUILDING DESCRIPTION

Sears Polo Park is located at 1485 Portage Avenue and was originally home to the Simpson-Sears department store, later dropping Simpson and being branded as Sears. Sears offered customers a variety of products including clothing, cosmetics, and appliances. Sears Canada announced its closure in late 2017 where it has remained vacant. The building is directly attached to the South end of CF Polo Park comprising of two storeys that can be accessed directly from the mall and open to the public and a basement that was used for storage and product pick up locations.

4.5.2 OVERALL SQUARE FOOTAGE

Basement: approximately 99, 858 sqft

Main Floor: approximately 90,246 sqft

Second Floor: approximately 90,246 sqft

4.5.3 EXISTING PUBLIC ENTRANCES

Basement: The basement of the originally building was used by the public as a product pick-up location, where public had vehicular access to the basement on the West side of the building.

Main Floor: The main floor of the original building was open to the public as a retail facility where users could access the building through two exterior entrances, located on the West and South side of the building. An interior main floor entrance is also located within the existing shopping center on the North East side of the existing building.

Second Floor: Similar to the main floor, the public also used the second floor as a retail facility. The second floor of this building is not connected to any outdoor access such as parkade or walkway therefore, users are the enter the second floor through the mall entrance in the North East side of the building or through the main floor of the building by escalator.

4.5.4 EXISTING BUILDING DRAWINGS

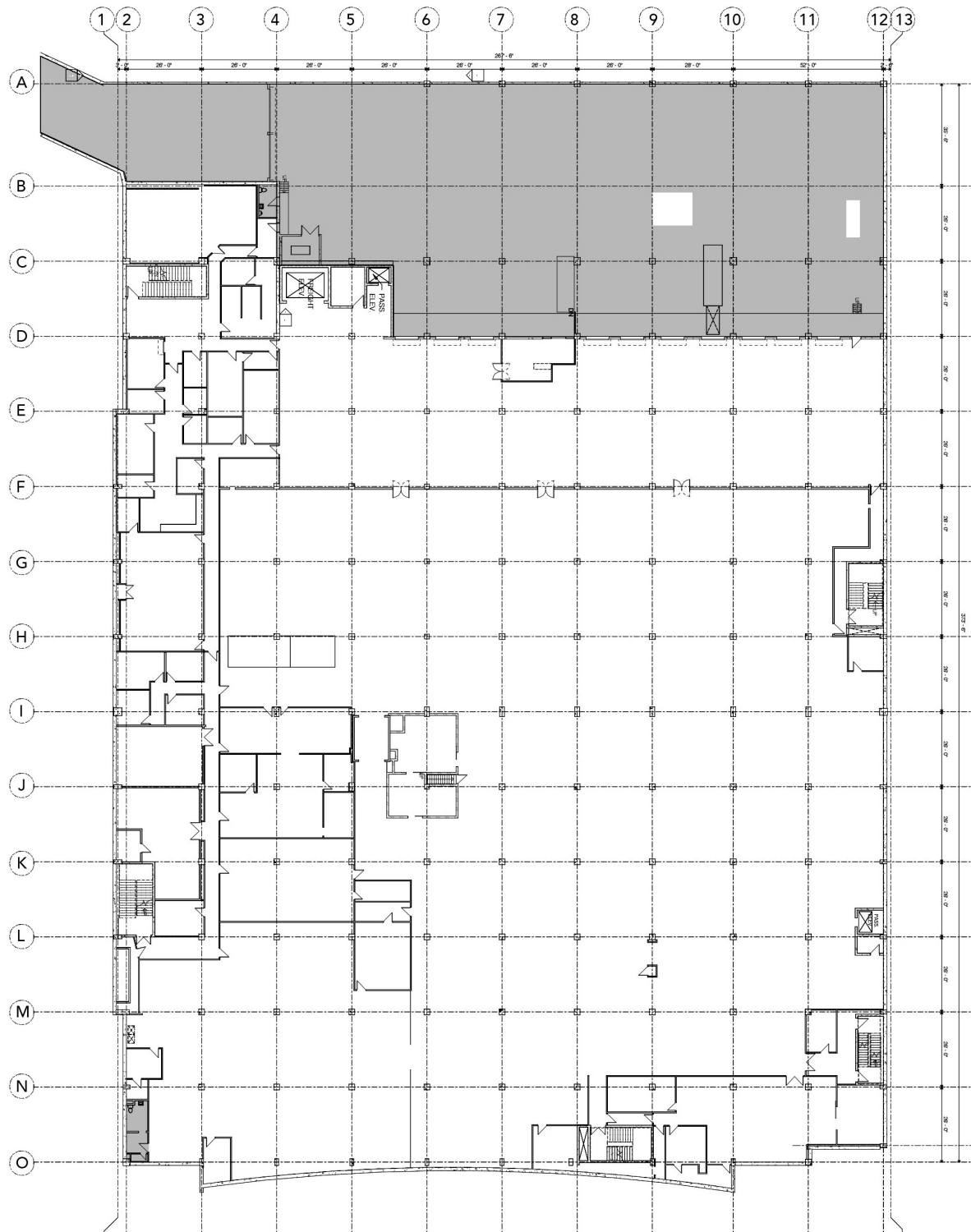


FIGURE 19. SEARS EXISTING BASEMENT FLOOR PLAN

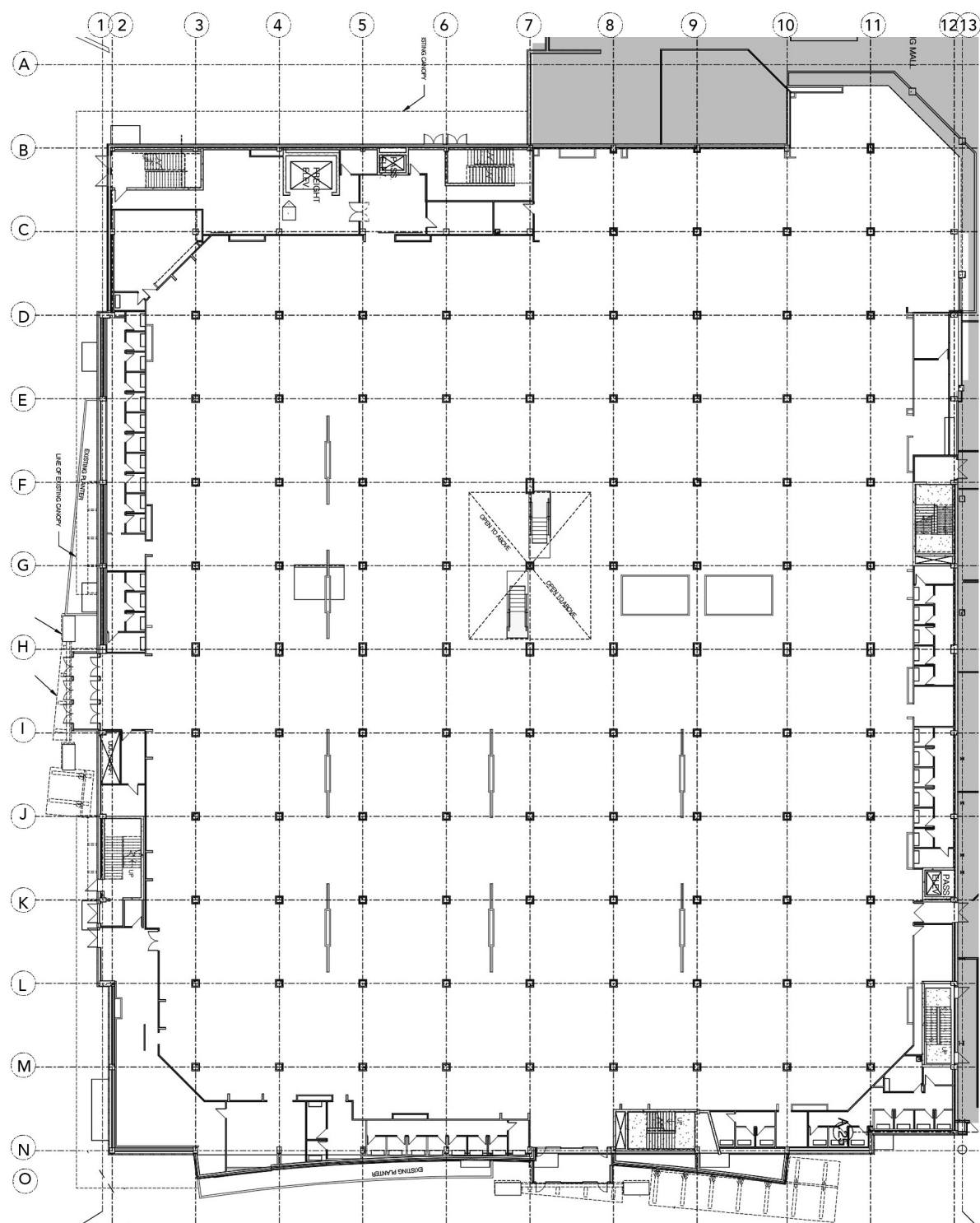


FIGURE 20. SEARS EXISTING MAIN FLOOR PLAN

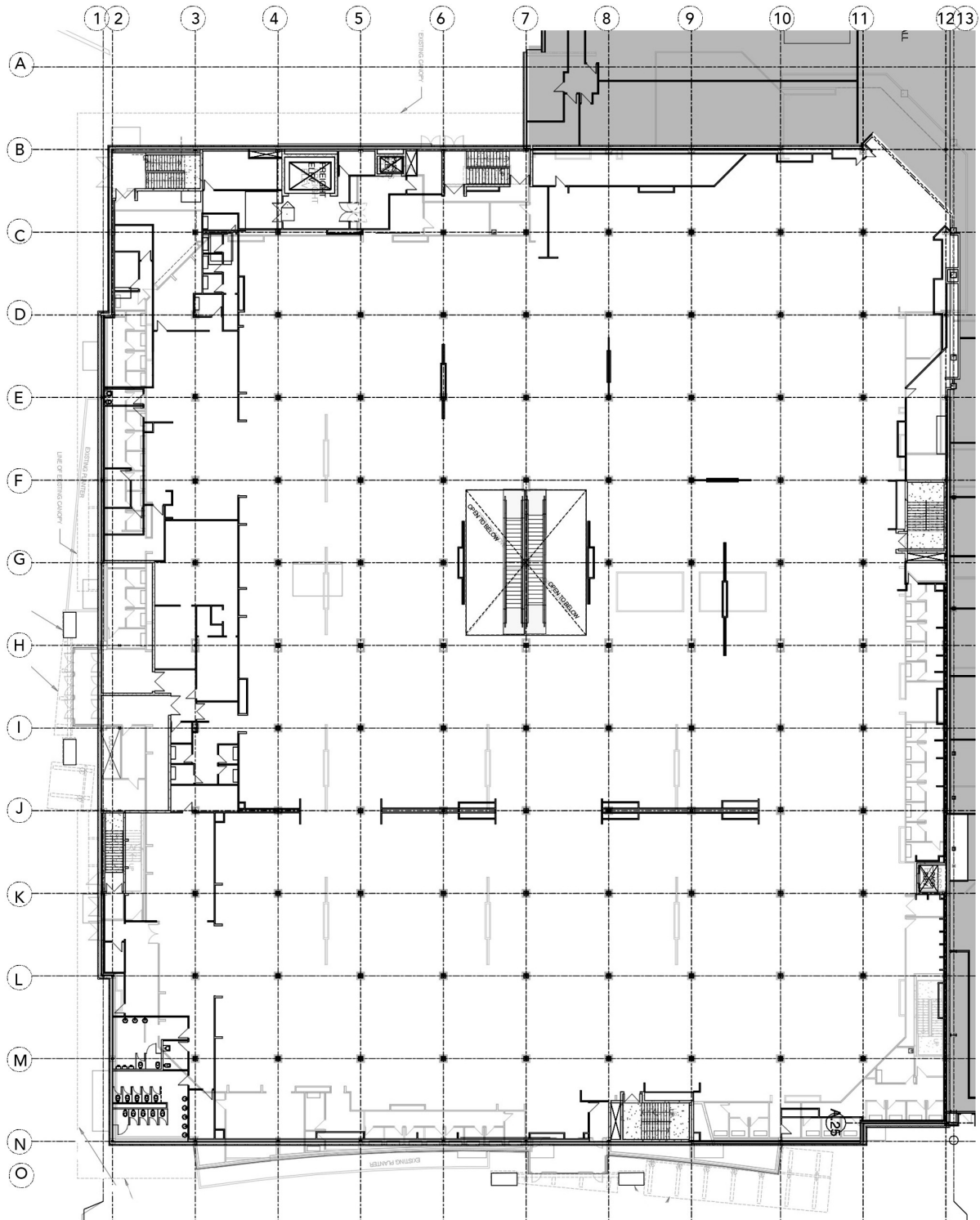


FIGURE 21. SEARS EXISTING SECOND FLOOR PLAN

5. DESIGN SOLUTION



FIGURE 22. EXTERIOR PERSPECTIVE - SOUTH ENTRANCE

5.1 INTRODUCTION

The Spring Health and Wellness Center, located at 1485 Portage Avenue, is a two-story facility comprising approximately 200,000 square feet. This chapter will focus on the featured design of approximately 74,000 square feet, highlighting the following facilities:

- main entrance/ reception;
- general practitioner office;
- conservatory;
- walking track;
- game/ activity center;
- main waiting area;
- small library;
- art center;
- coffee bar;

These spaces were selected to design in detail as they address ways to support and maintain quality of life in older adults via social, active, and creative opportunities. Furthermore, these spaces were designed with the consideration of multiple primary users including older adults, personal caregivers, and medical staff. As such, it was important to provide a variety of spaces

to gather, interact, and complete work through the integration of versatile seating, technology, and choice of atmosphere. Connection to nature throughout the entire facility was important and is supported through the research completed in chapter two, specifically the research of environmental psychology (Heerwagen, 2017; McCunn, n.d).

The Spring Health and Wellness Center was designed to maximize the existing form of the building. Linear spatial development, a central conservatory, and main circulation paths were designed to embrace the current structure of the building. Although rectilinear in overall form, small details such as organic light fixtures and rounded edges of casework, countertops, and furniture provide a subtle yet impactful contrast at the human scale.

The light colour palette that will be demonstrated throughout each area of the design was carefully selected to provide a bright and welcoming environment, as well as provide contrast to the colour that is purposed for wayfinding. A specific colour was dedicated to each area giving a quick reference for users when navigating the large facility.

Given the grandeur of the overall facility, considering design details such as dropped ceilings, natural materials, and ambient cove lighting have been integrated to introduce comfort and warmth.

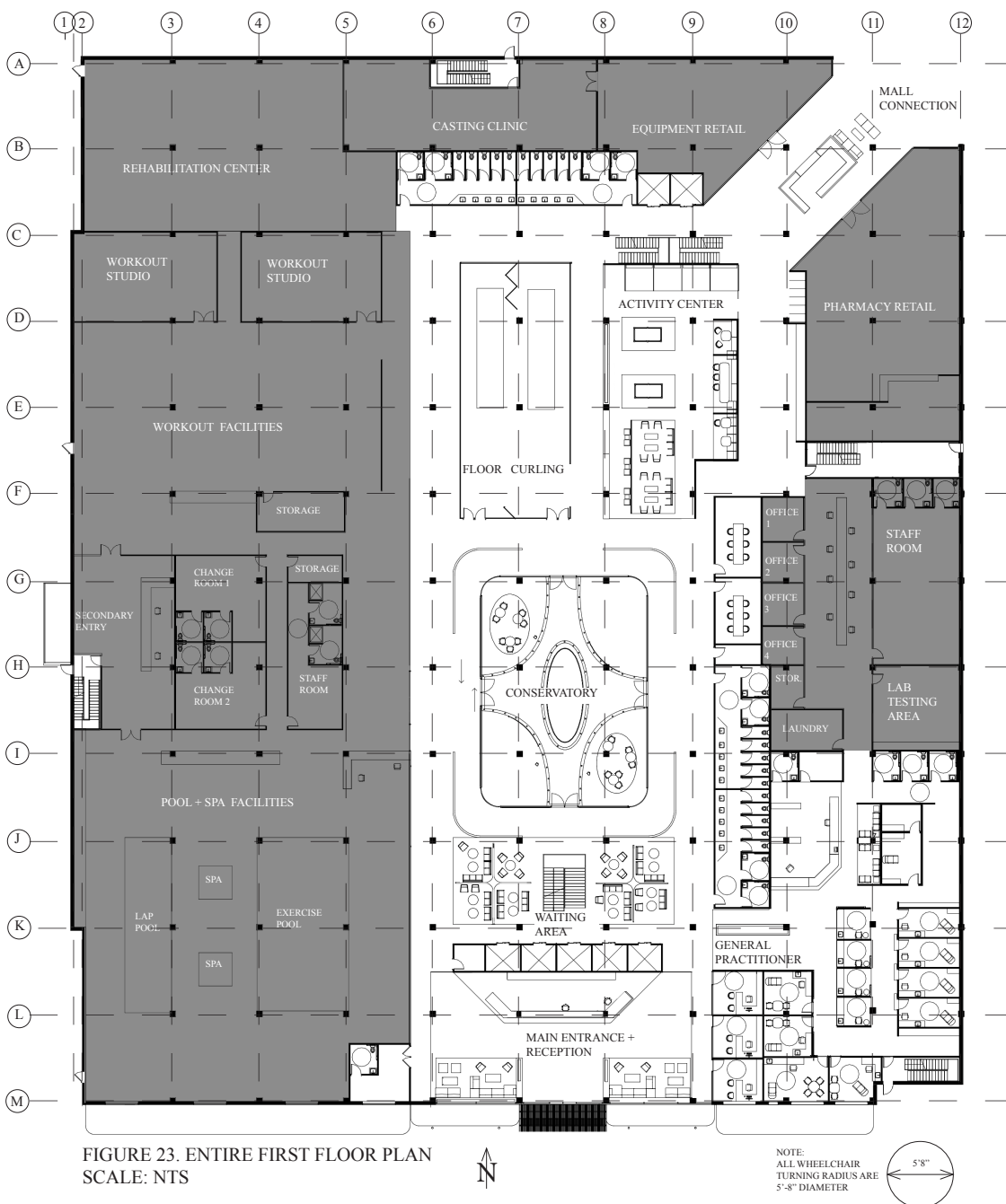
Designed ceiling details that can be seen in areas such as the game center, integrated planters and unique wayfinding such as colourful floor patterns give the space sophisticated yet practical solutions that are beneficial and engaging to each primary user.

The design of The Spring Health and Wellness Center will be demonstrated through floor plans, interior renderings, sections, and elevations in the following sections of this chapter.

5.2 DESIGN

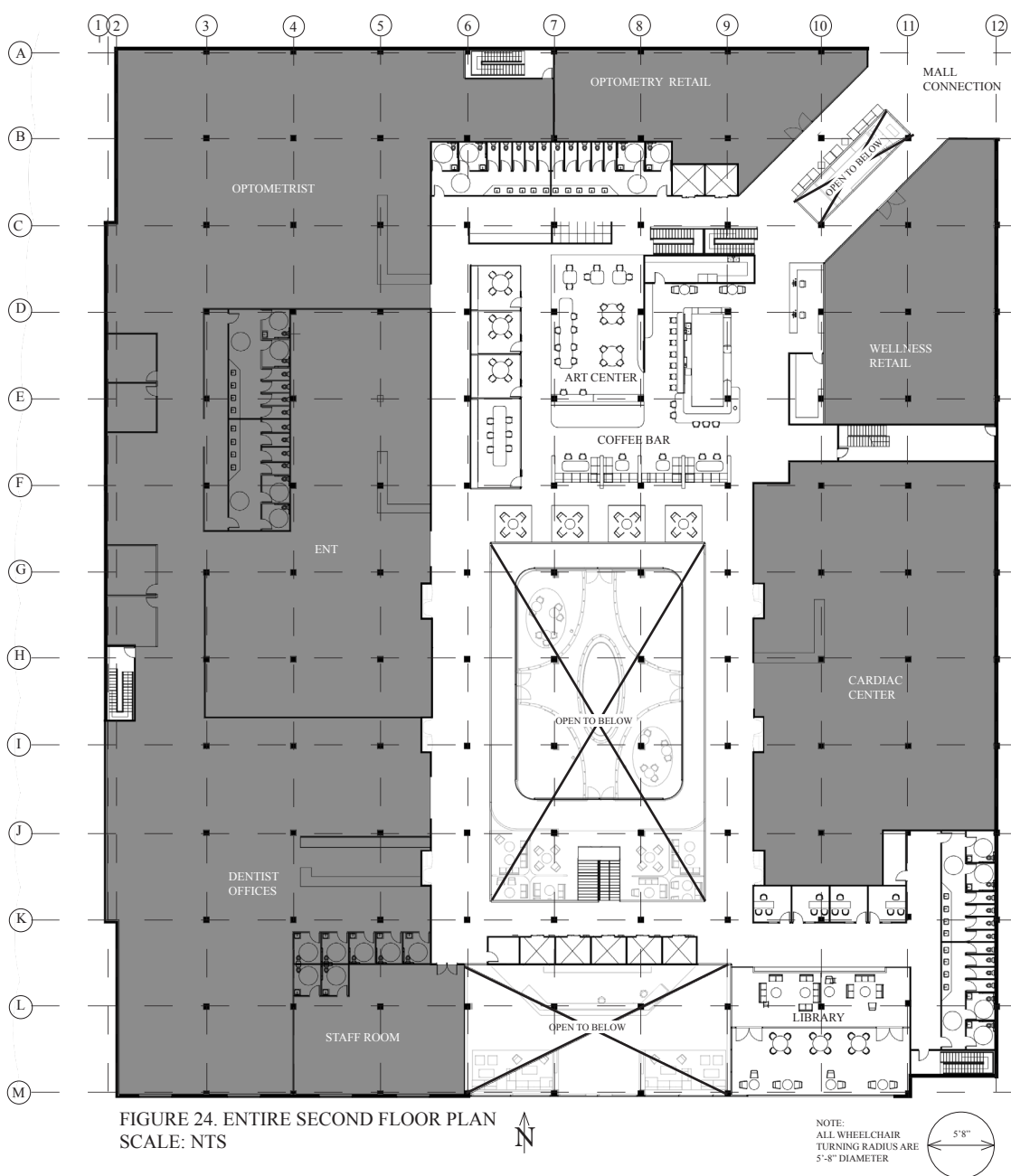
5.2.1 ENTIRE FIRST FLOOR PLAN

This image demonstrates the entire first floor of The Spring Health and Wellness Center. This floor is dedicated to facilities that are frequently used such as the gym and pool, general practitioners, activity center, and main waiting areas. Retail uses are located near the North East side of the building, joining the Spring Health and Wellness Center to Cadillac Fairview Polo Park. The spaces in white are developed in detail and will be demonstrated throughout this chapter through a detailed floor plan, reflected ceiling plan, perspectives, elevations, and sections.



5.2.2 ENTIRE SECOND FLOOR PLAN

This image demonstrates the entire second floor of The Spring Health and Wellness Center. The primary use of this floor is dedicated to specialty medical clinics such as dentistry, optometrist, ear/nose/throat, and cardiovascular. Additional public spaces include a coffee bar, art center, offices, and library. Mall access to Cadillac Fairview Polo Park is located near the North East side of the building similar to the first floor. The spaces highlighted in white are developed in detail and will be demonstrated throughout this chapter through a detailed floor plan, reflected ceiling plan, perspectives, elevations, and sections.



5.2.3 DEVELOPED FIRST FLOOR PLAN (Figure 25.)

The main entrance to The Spring Health and Wellness Center is located on the south side of the building, maximizing natural sunlight, and providing main identification from Portage Avenue. When patients and caregivers enter the building they are greeted with a double height space enriched with a large green wall, decorative lighting, and accessible reception desk. Adjacent to the main reception are consult rooms and a small seating area for initial meetings. Additionally, an emergency medical room is provided in response to COVID-19 design guidelines, giving users a safe place if immediate isolation is needed.

The general practitioner offices are to the right of the building where patients can receive general exams, x-rays, and lab work. Private or family exam rooms are offered to allow patients to receive the care they prefer and enhance opportunities for shared decision making. A reception desk and waiting room specific to the general practitioner is integrated for easier arrival to appointments.

A main public waiting area is located in proximity to the central conservatory and walking track to give users an energetic and lively environment. This space allows for a large public waiting area with views of the entire facility. Integrated technology screens are offered so patients can have the opportunity to engage in a variety of entertainment while waiting for appointments. The adjacent conservatory gives the facility a central reference point that can be seen and located from each area of the facility. This can serve as a means of wayfinding where users can see services provided on each floor, giving a sense of ease, and clarity to the large-scale facility.

The centralized circulation that is seen throughout the facility, provides a clear path of travel for easy navigation of the space. This form of circulation has the potential to enhance spontaneous social encounters as each main activity can be located adjacent to this path giving patients the opportunity to partake in diverse activities while travelling between appointments (Chmielewski & Hakky, 2020; Heerwagen, 2017).

The remainder of the main floor is dedicated to an activity and games center including

floor curling, media center, interactive games, and pool tables. A dividing wall separates two floor curling rooms to allow multiple groups to utilize the facility at once. Walls can be opened, and the space can be used as one large room giving opportunity to host larger events or meetings. Partitions and floor changes are utilized throughout the entire facility to allow for social distancing between groups and individual users. Providing such adaptive and integrated design solutions, which address COVID-19 guidelines, will give users space and activities that they can continue to access in a safe and healthy way.

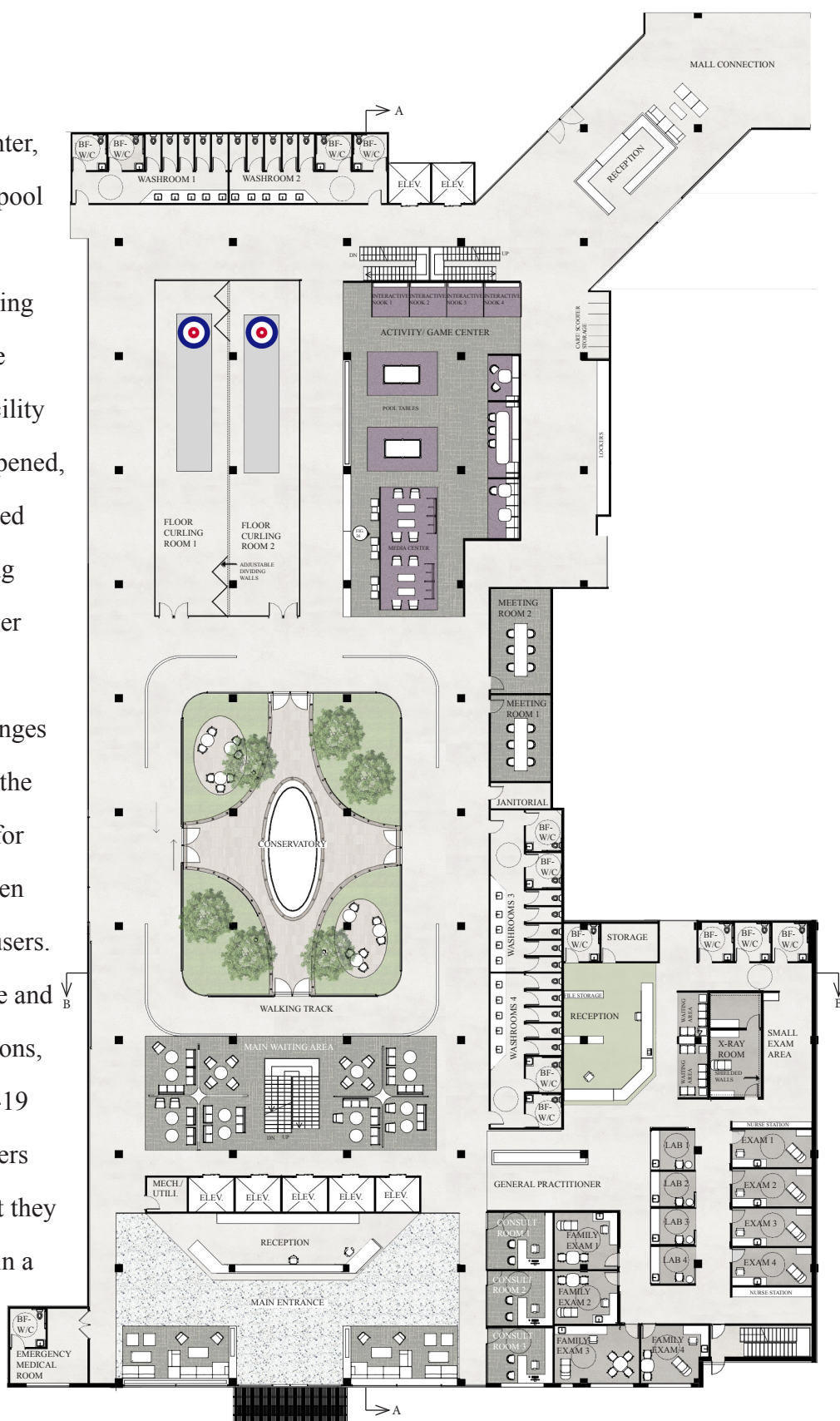


FIGURE 25. DEVELOPED FIRST FLOOR PLAN
SCALE: NTS



NOTE:
ALL WHEELCHAIR
TURNING RADIUS ARE
5'-8" DIAMETER



5.2.4 DEVELOPED SECOND FLOOR PLAN (Figure. 26)

Users can enter the second floor by the primary elevators and stairs located near the main entrance of the facility as well as through the mall on the North East side of the facility. As mentioned, the conservatory extends through the second floor surrounded by main circulation and a public coffee bar. Primary second floor corridors are offset from the main floor giving views to the walking track below. Inset seating nooks are located the length of the corridor giving users a place to wait or rest.

The coffee bar provides another opportunity for patients, family members, and staff to complete work, socialize and wait between appointments. An art center and music stage are also integrated to enhance

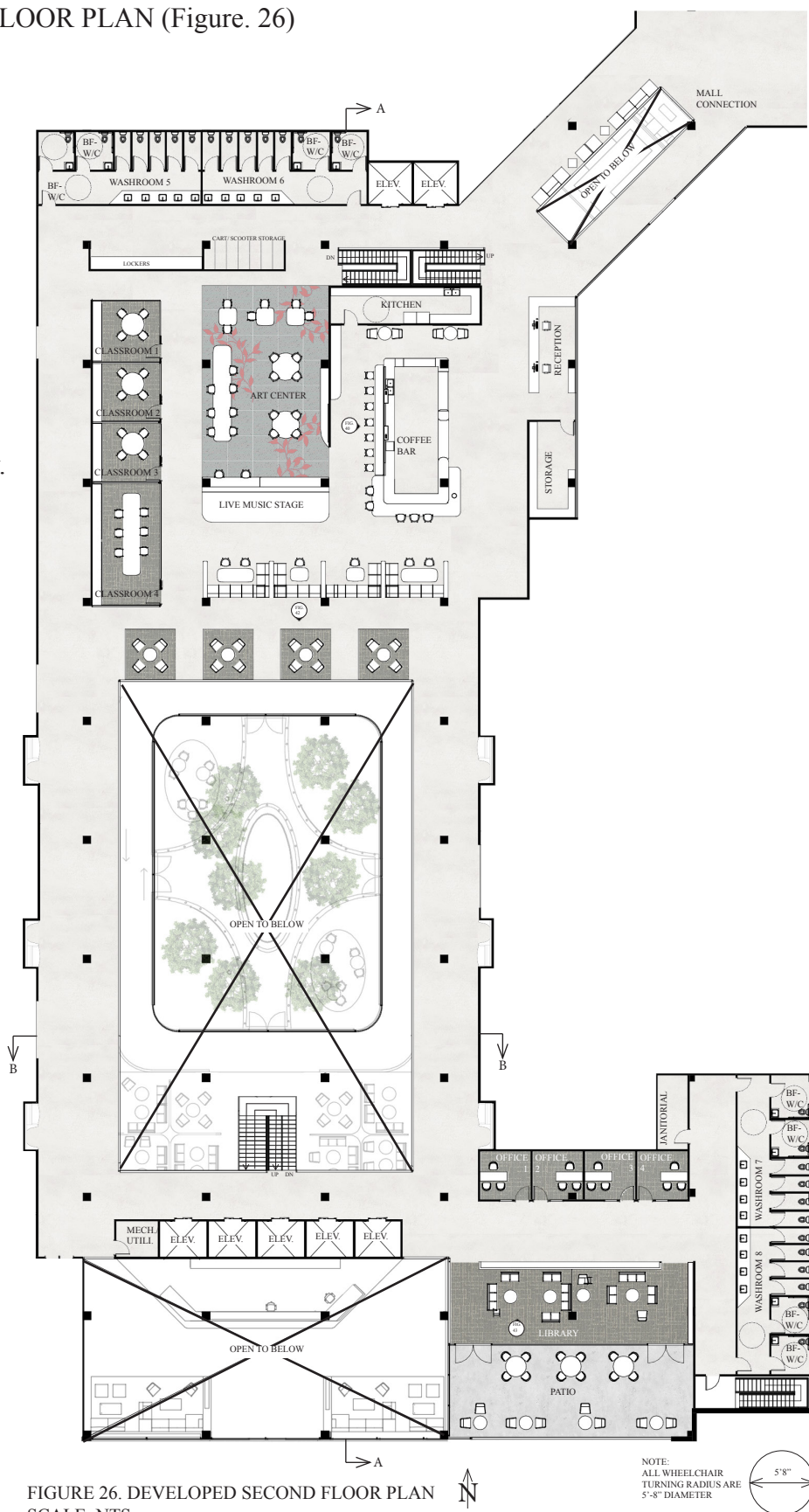


FIGURE 26. DEVELOPED SECOND FLOOR PLAN
SCALE: NTS

creative opportunity and stimulation. Spaces such as the art center and adjacent classrooms offer users a place to learn and grow their knowledge.

In addition, a small library is located to the front of the facility and can be easily accessed by the primary elevators and stairs. This area gives users a quiet place to read and relax between appointments. Adjacent offices provide private interaction opportunities for for both employees and staff. An exterior patio can be accessed from the library giving all primary users access to fresh air during the summer months. It is important to extend beyond the physical aspect of health and quality of life and provide a facility that embodies good health in a variety of creative ways.

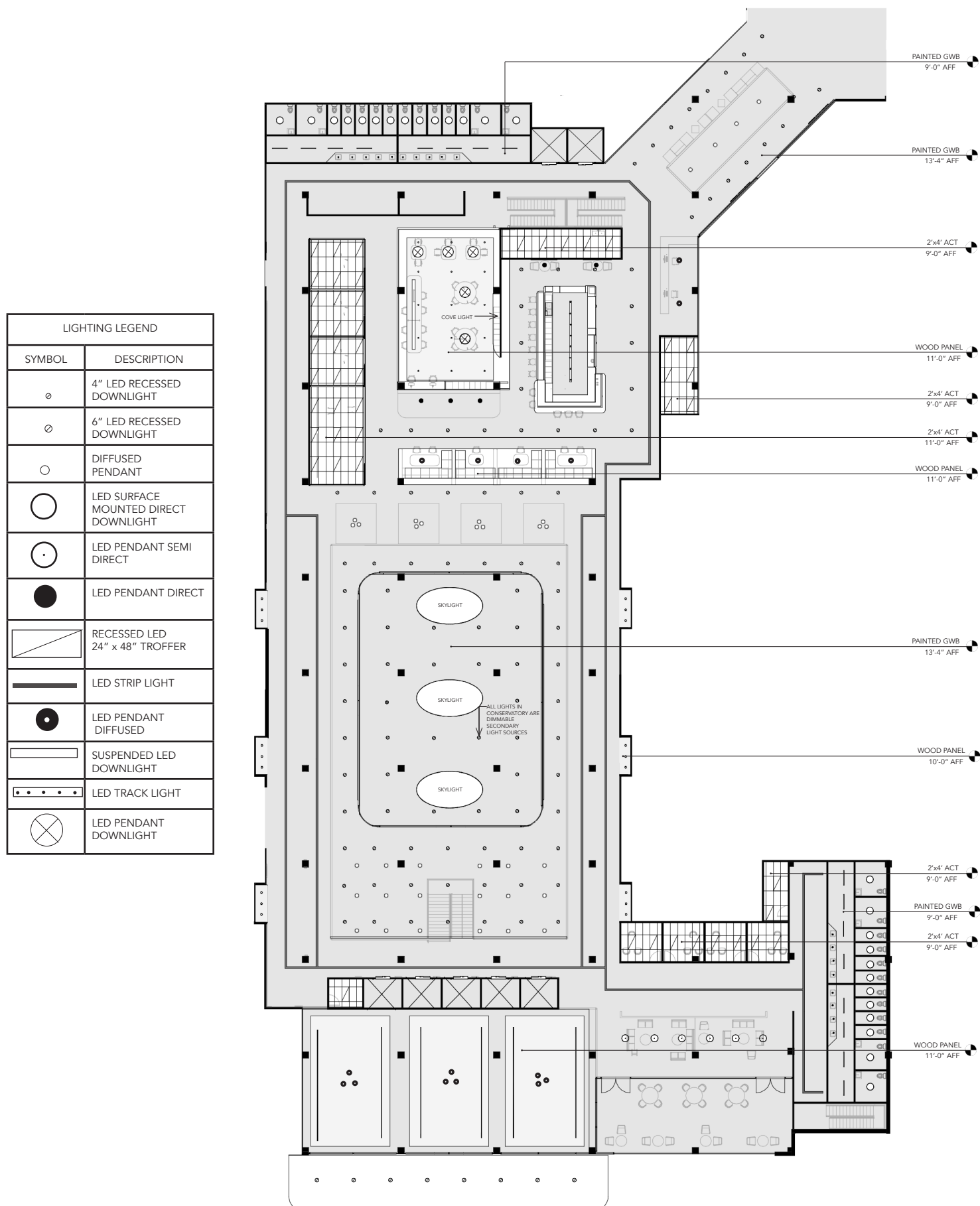


FIGURE 28. SECOND FLOOR REFLECTED CEILING PLAN
SCALE: NTS



5.3.6 RENDERINGS



FIGURE 29: FIRST FLOOR MAIN ENTRANCE AND RECEPTION

Users are greeted with a large double volume space giving views to the second floor. An accessible desk with rounded edges and safety glass allows both staff and visitors to feel safe and welcome upon entry. Small waiting areas with integrated technology screens are surrounded by large planters giving those who are waiting a sense of privacy in the otherwise open area.

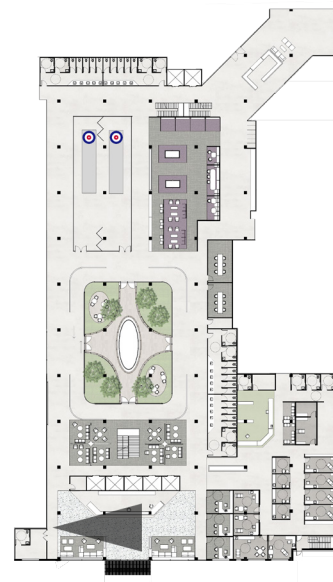




FIGURE 30: FIRST FLOOR GENERAL PRACTITIONER

Integrated colour blocking and linear lighting help users navigate confidently throughout the facility. Clerestory windows and frosted glass allows each room to utilize natural light from adjacent windows while still maintaining privacy.

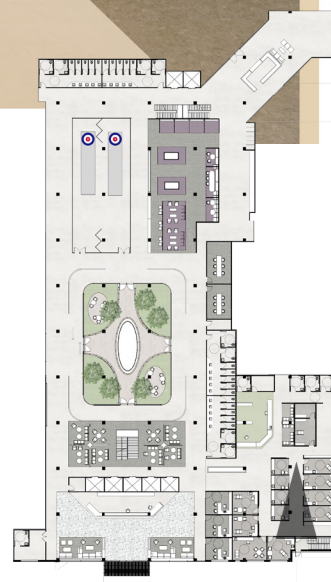




FIGURE 31. FIRST FLOOR GENERAL PRACTITIONER WAITING

Smaller waiting areas within each medical facility gives patients and caregivers a quiet and more private alternative to the larger public spaces along the main corridor. Integrated technology monitors gives those who are waiting the option to check into appointments, engage in entertainment, or obtain further facility information.

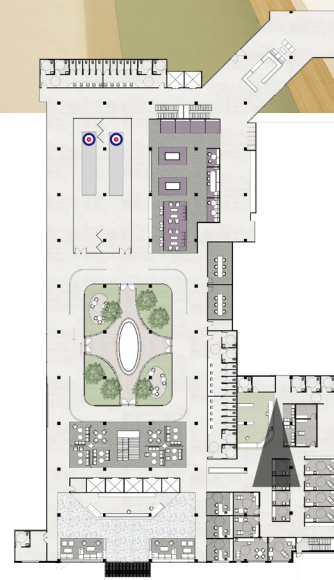




FIGURE 32. FIRST FLOOR MAIN PUBLIC WAITING AREA

The primary waiting area has views to the conservatory, walking track, and second floor giving users a stimulating and exciting environment to engage with between appointments. Etched glass located on the integrated safety partitions provides a reference point for wayfinding. Technology continues to be accessible to those who are waiting to have multiple areas to receive information and entertainment.

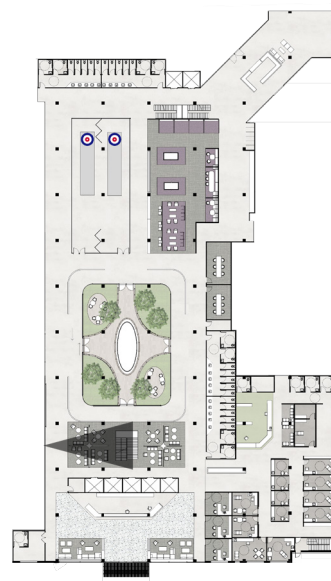




FIGURE 33. FIRST FLOOR WALKING TRACK AND VIEW OF WEST CORRIDOR
FITNESS FACILITY

The primary entrance to the walking track is located on the west side of the facility, adjacent to the fitness center. A large band delineating the path of travel is provided for instances when multiple users may be traveling in opposite directions.

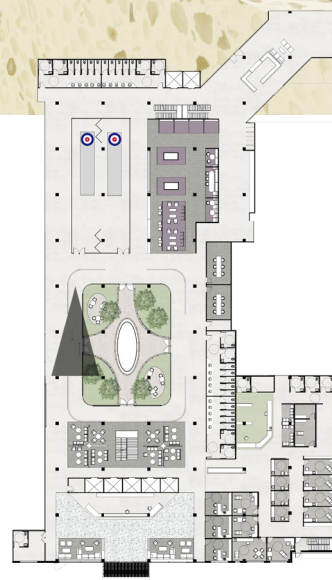




FIGURE 34. FIRST FLOOR CONSERVATORY

The sound of water and smell of fresh foliage within the conservatory gives patients, caregivers, and staff a place to retreat to nature during a potentially hectic or stressful day. Information boards, and seating areas are offered to provide further ways to engage with the facility and other users.

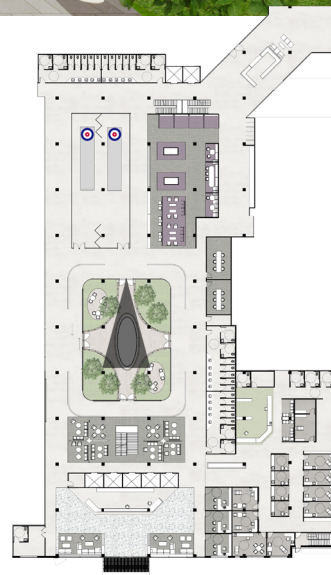




FIGURE 35. FIRST FLOOR ACTIVITY AND GAME CENTER

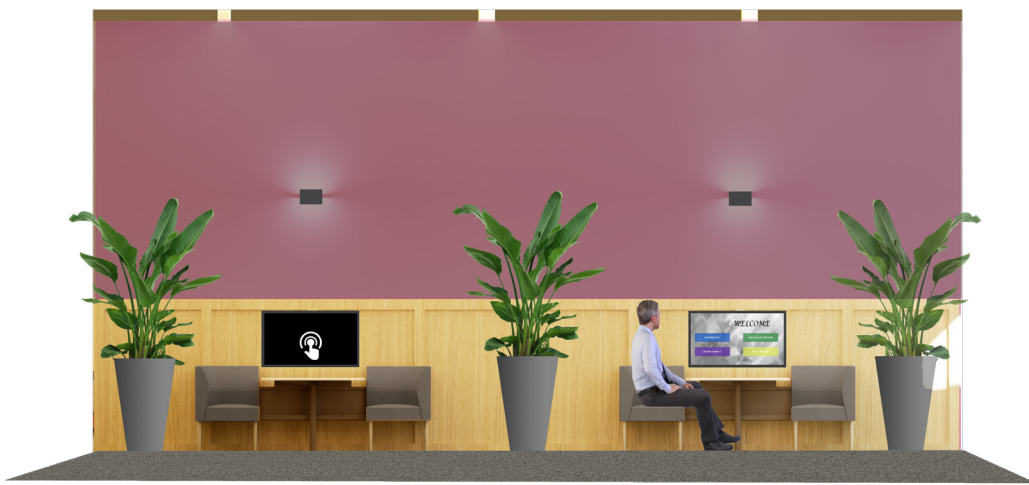
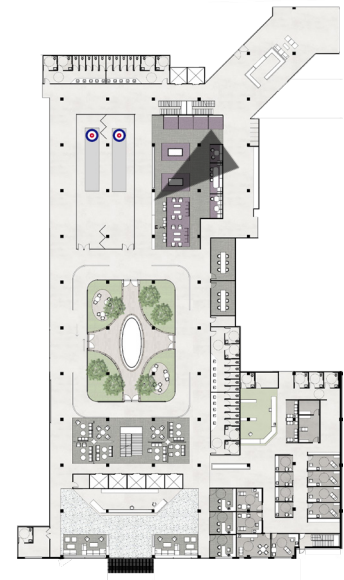


FIGURE 36. FIRST FLOOR ACTIVITY AND GAME CENTER ELEVATION



The Activity and Game Center offers pool tables, interactive games, technology screens, and socialization nooks of varying sizes giving users a choice in how they would like to interact with other users.



FIGURE 37. FIRST FLOOR MALL ACCESS

The adjoining mall can be accessed on both the first and second floor of The Spring Health and Wellness Center from the north east side of the facility. Both floors have related retail spaces giving a seamless connection between the existing mall and the new facility.

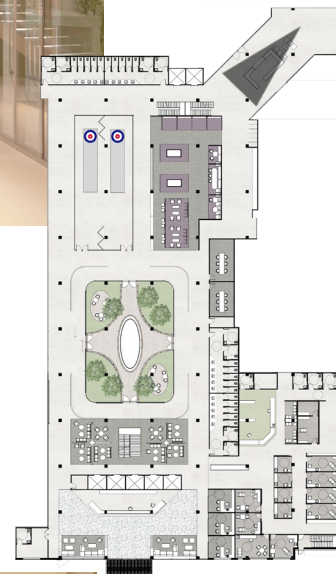


FIGURE 38. SECOND FLOOR MALL ACCESS





FIGURE 39. SECOND FLOOR COFFEE BAR

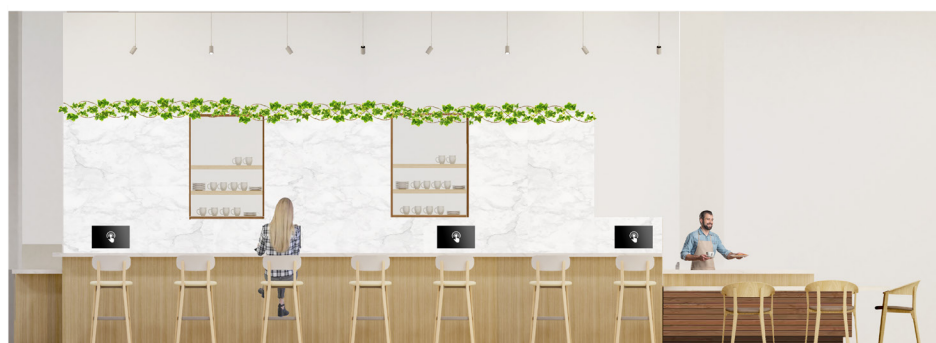


FIGURE 40. SECOND FLOOR COFFEE BAR ELEVATION

The coffee bar provides an accessible and welcoming environment for every user. Booth seating divided by planters gives a variety of group sizes opportunity to socialize and relax in a semi-private area. Accessible and regular bar height seating is offered where staff and visitors can utilize the provided technology screens while taking a break between appointments. A live music stage creates a lively and creative atmosphere for the coffee bar and adjacent Art Center.

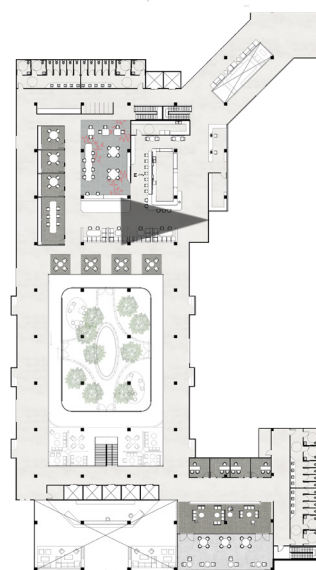




FIGURE 41. SECOND FLOOR ART CENTER

The Art Center gives primary users a place to explore and enhance their creative opportunity with personal art areas and classrooms for group lessons. Adjacent to the coffee bar and live music stage, this space is a warm and welcoming environment where the sound of music and smell of baked goods fills the air for an amiable and comforting experience. Makers are encouraged to hang artwork on the dedicated boards thereby providing a gallery experience for each user of the facility.

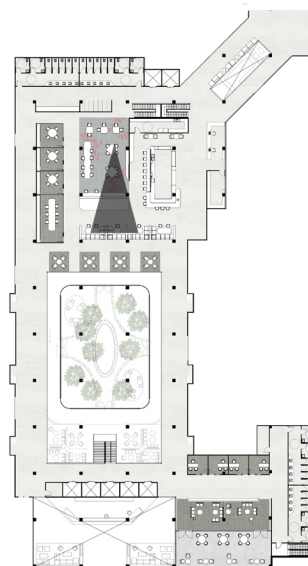




FIGURE 42. SECOND FLOOR CORRIDOR SEATING ELEVATION

This seating area is located along the main corridor of the second floor giving users a visually stimulating place to relax and socialize.



FIGURE 43. SECOND FLOOR LIBRARY ELEVATION

The small library is located on the south side of the building tucked away from the other lively and energetic activity areas. This space offers a quiet place to read and relax with exterior views of the park and river across the street.



FIGURE 44. SECOND FLOOR MAIN CIRCULATION CORRIDOR

The main circulation continues to embrace opportunity and intrigue throughout the facility. Wrapping around the entire conservatory, views to nature can be accessed. Unidirectional symbols help ensure safety and ease of navigation for all users. Facilities are highlighted by colour blocking and floor patterns for wayfinding. Small seating nooks with a custom bench seen in Figure 45 allows users to stop and rest along the length of the corridor taking in views of the conservatory and artwork.



CUSTOM BENCH DETAIL

A custom bench was designed for all users by providing an integrated wheelchair location.

Mirroring the turning radius of a wheelchair, rounded tables allow wheelchair users to utilize the space in the position they please. Space under these tables allows for seamless

transition of positions . An

integrated planter runs the

length of the custom bench, extending deeper behind the fixed seating area. This depth behind

the bench allows for those who are sitting in a wheelchair or in the bench to be at the same

seating depth to promote socialization among all users. Higher seat heights and appropriate seat

depths are a response to the preferred seating position of older adults (Blackler, Brophy, O'Reilly

& Chamorro-Koc, 2018). Providing a dedicated spot for each type of user allows anyone to

easily utilize this space without have to adjust or customize any parts.

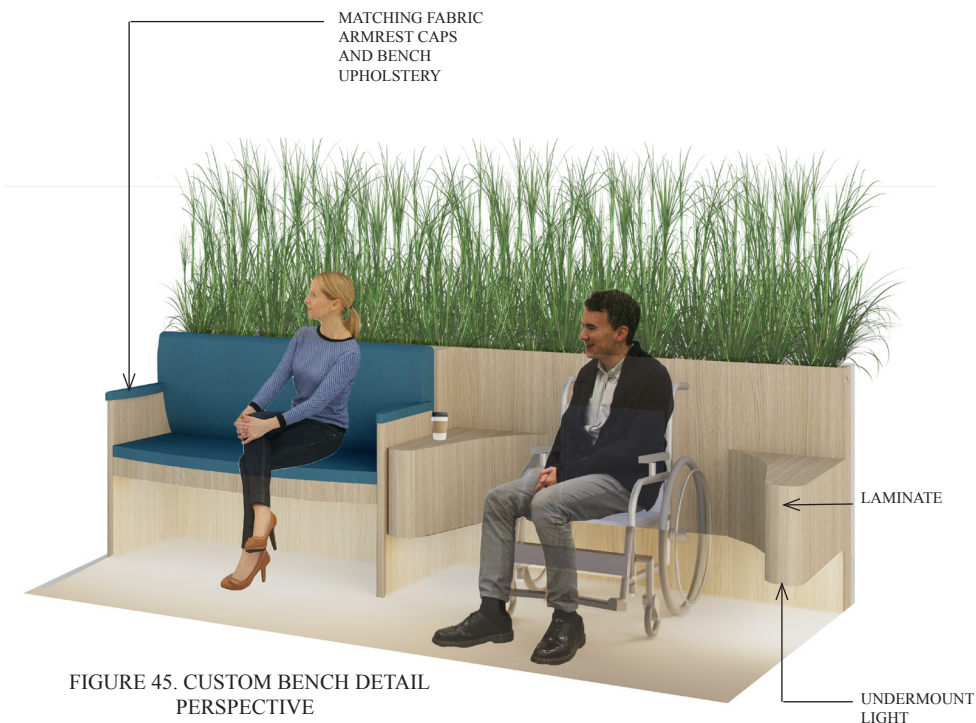


FIGURE 45. CUSTOM BENCH DETAIL
PERSPECTIVE

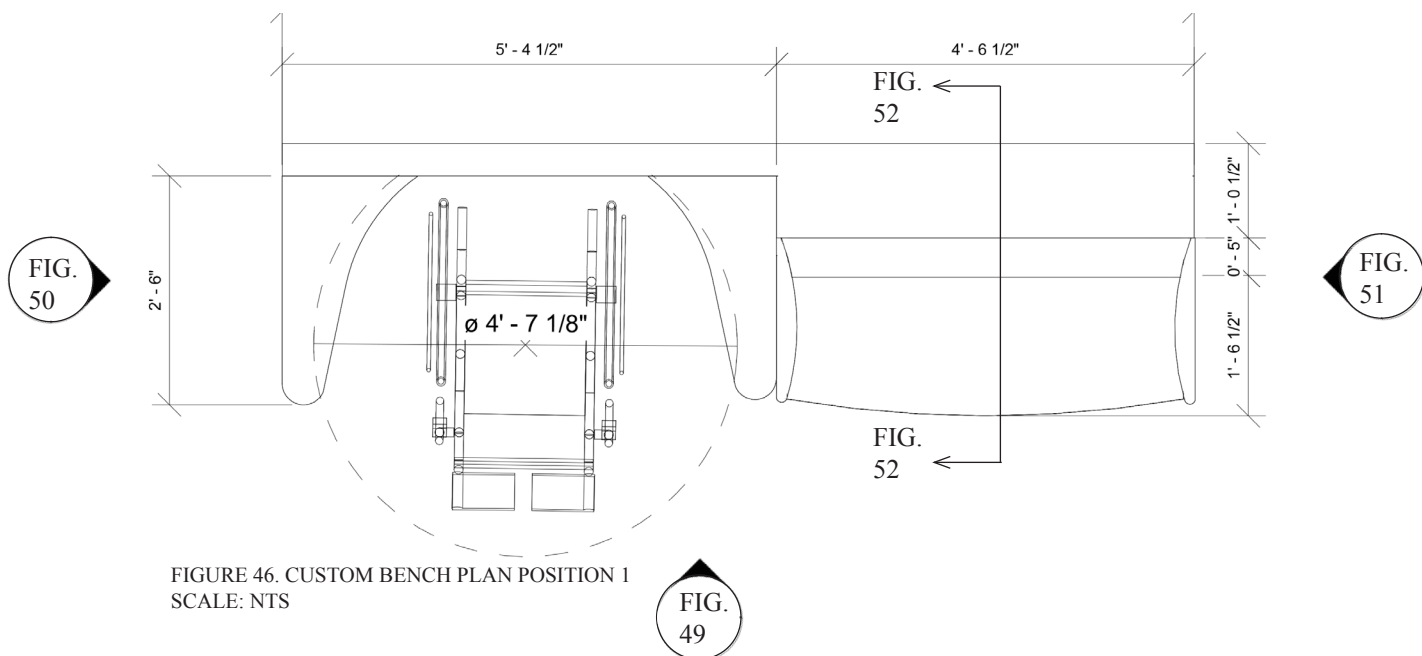


FIGURE 46. CUSTOM BENCH PLAN POSITION 1
SCALE: NTS

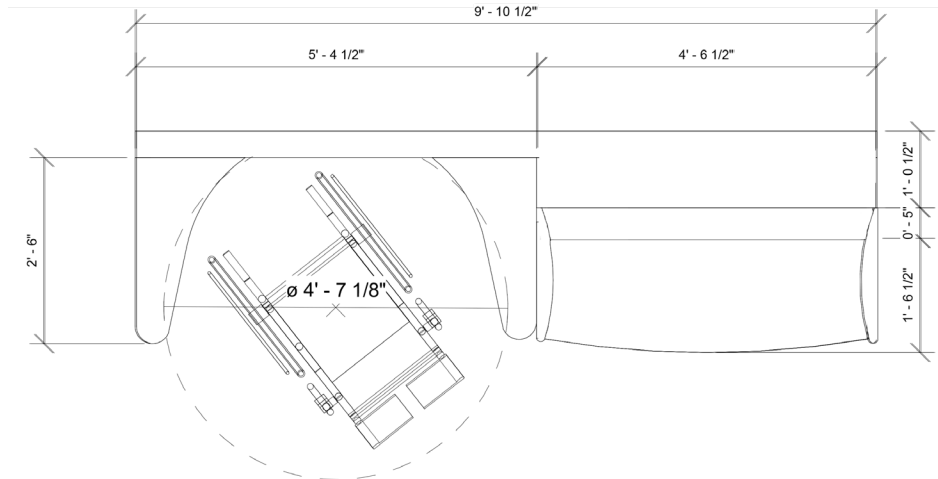


FIGURE 47. CUSTOM BENCH PLAN POSITION 3
SCALE: NTS

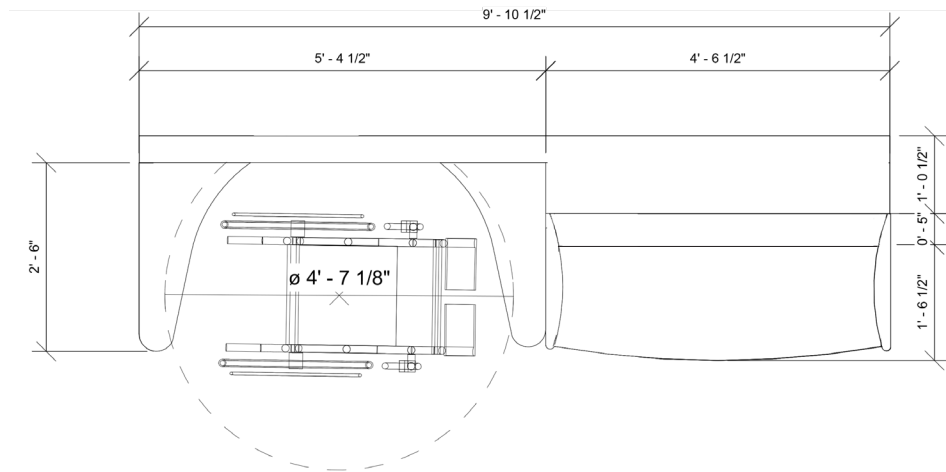


FIGURE 48. CUSTOM BENCH PLAN POSITION 4
SCALE: NTS

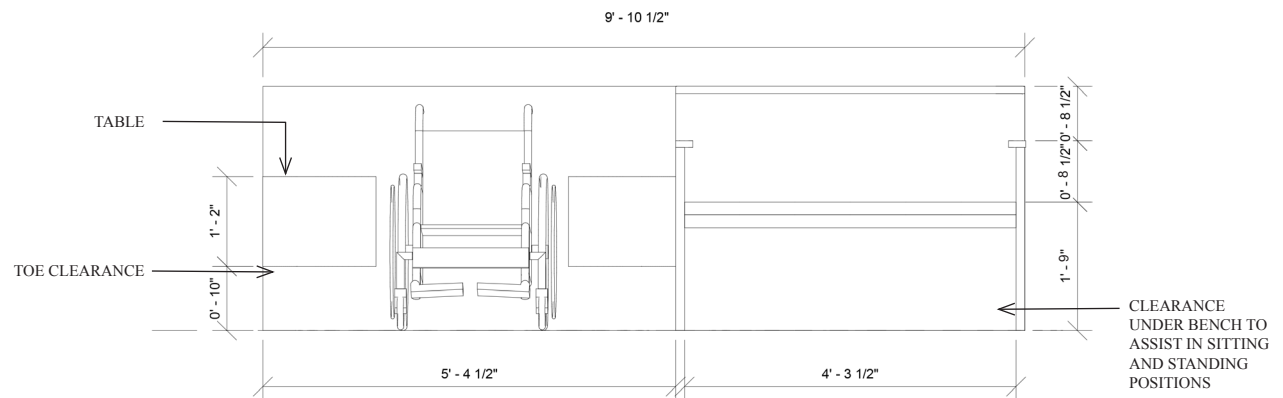


FIGURE 49. CUSTOM BENCH DETAIL FRONT ELEVATION
SCALE: NTS

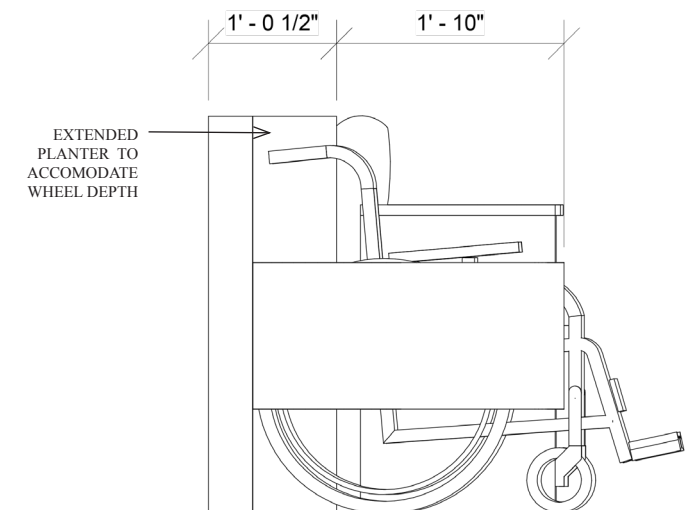


FIGURE 50. CUSTOM BENCH DETAIL SIDE ELEVATION 1
SCALE: NTS

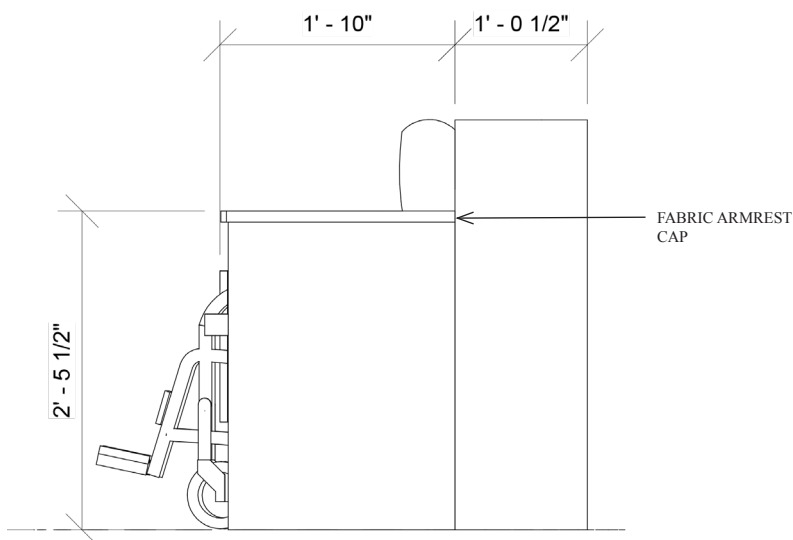


FIGURE 51. CUSTOM BENCH DETAIL SIDE ELEVATION 2
SCALE: NTS

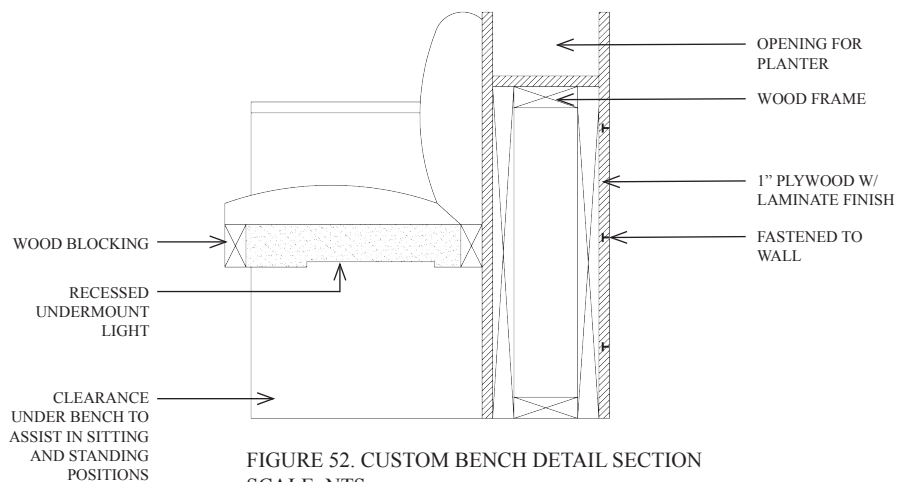


FIGURE 52. CUSTOM BENCH DETAIL SECTION
SCALE: NTS



FIGURE 53. SECTION AA
SCALE: NTS



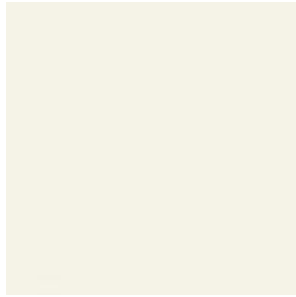
FIGURE 54. SECTION BB
SCALE: NTS



FIGURE 55. SECTION PERSPECTIVE
SCALE: NTS

5.3.7 MATERIALS + FINISHES

PAINT



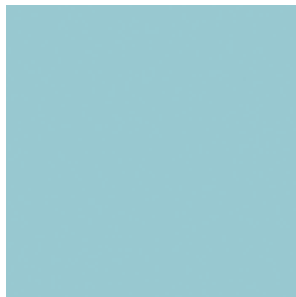
PAINT

MANUFACTURER: Benjamin Moore

COLOUR: OC-117 Simply White

NOTES:

- Primary paint colour used throughout entire facility for walls and ceilings.



PAINT

MANUFACTURER: Benjamin Moore

COLOUR: 2053-50 Passion Blue

NOTES:

- Primary paint colour for wayfinding in public spaces



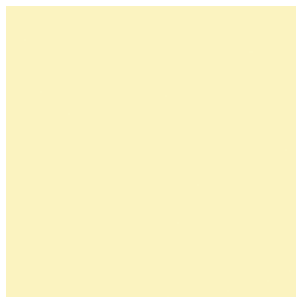
PAINT

MANUFACTURER: Benjamin Moore

COLOUR: 430 Landscape

NOTES:

- Primary paint colour for wayfinding in general practitioner facility



PAINT

MANUFACTURER: Benjamin Moore

COLOUR: 358 Fun in the Sun

NOTES:

- Primary paint colour for wayfinding in workout facility



PAINT

MANUFACTURER: Benjamin Moore

COLOUR: 125 Antelope Canyon

NOTES:

- Primary paint colour for wayfinding in workout dentist facility

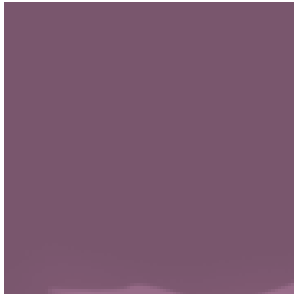
PAINTPAINT

MANUFACTURER: Benjamin Moore

COLOUR: 052 Conch Shell

NOTES:

- Primary paint colour for wayfinding in art center

PAINT

MANUFACTURER: Benjamin Moore

COLOUR: 1379 Eggplant

NOTES:

- Primary paint colour for wayfinding in game center

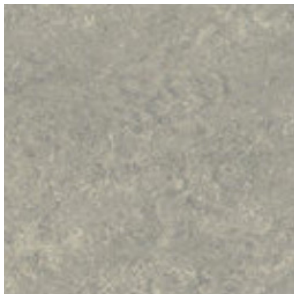
FLOORINGLINOLEUM

MANUFACTURER: Gerflor

COLOUR: 0252 Light Grey

SPECIAL FEATURES:

- Inhibits spread of infection at 99%
- 100% Biodegradable

LINOLEUM

MANUFACTURER: Gerflor

COLOUR: 0254 Mineral Grey

SPECIAL FEATURES:

- Inhibits spread of infection at 99%
- 100% Biodegradable

HOMOGENOUS SURFACE

MANUFACTURER: Gerflor

COLOUR: 4003 Tao

SPECIAL FEATURES:

- Extreme traffic resistance
- Easy Maintenance

FLOORING



CARPET TILE

MANUFACTURER: Interface

COLOUR: Night Flight 106471 Titanium

SPECIAL FEATURES:

- 0.18in Pile Height
- Traffic Classification: Heavy
- Contributes to IEQ and MR Credits
- Green Label Plus
- Certified Carbon Neutral Floors



CARPET TILE

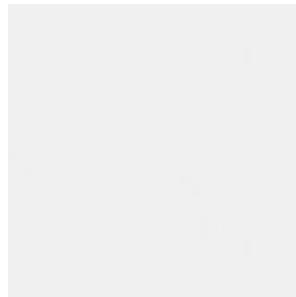
MANUFACTURER: Interface

COLOUR: AE310 - 104621 Mist

SPECIAL FEATURES:

- 0.1in Pile Height
- Traffic Classification: Heavy
- Contributes to IEQ and MR Credits
- Green Label Plus
- Certified Carbon Neutral Floors

COUNTERTOPS/ SURFACES



COUNTERTOP

MANUFACTURER: Corian Quartz

COLOUR: Bianco Pur

SPECIAL FEATURES:

- Nonporous/ Stain Resistant
- GREENGUARD CERTIFIED



COUNTERTOP

MANUFACTURER: Corian Quartz

COLOUR: Calacatta Natura

SPECIAL FEATURES:

- Nonporous/ Stain Resistant
- GREENGUARD CERTIFIED

CEILING



2'x4' CEILING TILE

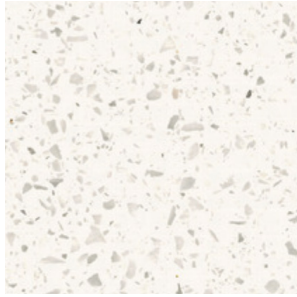
MANUFACTURER: Armstrong

STYLE: Optima Health Zone

SPECIAL FEATURES:

- Washable/ Scrubable (safe for use with disinfectants)
- Bacteria, Mold/Mildew Resistant
- Exceeds FGI Guidelines for acoustics and cleanability in general healthcare spaces

SPECIAL FEATURES + CASEWORK



PLANTER + DIVIDING PONY WALLS

MANUFACTURER: Corian Quartz

COLOUR: Cloud White

SPECIAL FEATURES:

- Nonporous/ Stain Resistant
- GREENGUARD CERTIFIED



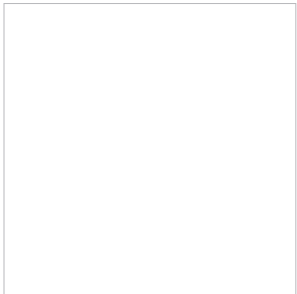
PLANTER, DIVIDING PONY WALLS, CEILING DETAIL, CASEWORK

MANUFACTURER: Formica

COLOUR: Formica Laminate Collection - Natural Oak

SPECIAL FEATURES:

- Water and Chemical Resistant
- Stain Resistant
- Hardwearing, durable, scratch + abrasion resistant



CASEWORK

MANUFACTURER: Formica

COLOUR: Basic White 1

SPECIAL FEATURES:

- Water and Chemical Resistant
- Stain Resistant
- Hardwearing, durable, scratch + abrasion resistant

FABRICS + UPHOLSTERY



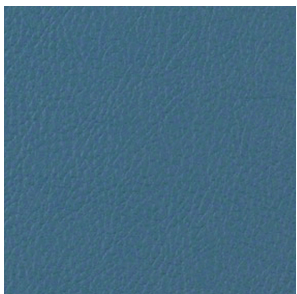
SEATING FABRIC

MANUFACTURER: Nemschoff

COLOUR: 7A405 Frothe

SPECIAL FEATURES:

- Advanced Soil and Stain Resistant Top Coat
- GREENGUARD CERTIFIED
- Antimicrobial Properties
- Diluted Bleach Cleanable



SEATING FABRIC

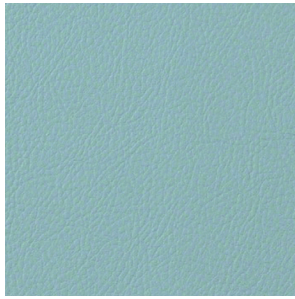
MANUFACTURER: Nemschoff

COLOUR: 7A419 Wave

SPECIAL FEATURES:

- Advanced Soil and Stain Resistant Top Coat
- GREENGUARD CERTIFIED
- Antimicrobial Properties
- Diluted Bleach Cleanable

FABRICS + UPHOLSTERY



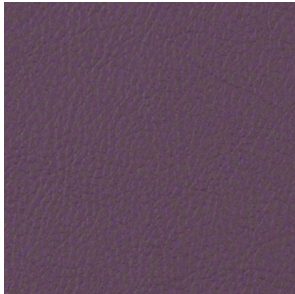
SEATING FABRIC

MANUFACTURER: Nemschoff

COLOUR: 7A411 Skye

SPECIAL FEATURES:

- Advanced Soil and Stain Resistant Top Coat
- GREENGUARD CERTIFIED
- Antimicrobial Properties
- Diluted Bleach Cleanable



SEATING FABRIC

MANUFACTURER: Nemschoff

COLOUR: 7A428 Plum

SPECIAL FEATURES:

- Advanced Soil and Stain Resistant Top Coat
- GREENGUARD CERTIFIED
- Antimicrobial Properties
- Diluted Bleach Cleanable



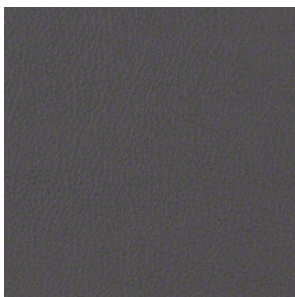
SEATING FABRIC

MANUFACTURER: Nemschoff

COLOUR: 7A420 Aqua

SPECIAL FEATURES:

- Advanced Soil and Stain Resistant Top Coat
- GREENGUARD CERTIFIED
- Antimicrobial Properties
- Diluted Bleach Cleanable



SEATING FABRIC

MANUFACTURER: Nemschoff

COLOUR: 7A430 Shadow

SPECIAL FEATURES:

- Advanced Soil and Stain Resistant Top Coat
- GREENGUARD CERTIFIED
- Antimicrobial Properties
- Diluted Bleach Cleanable

DOOR HARDWARE

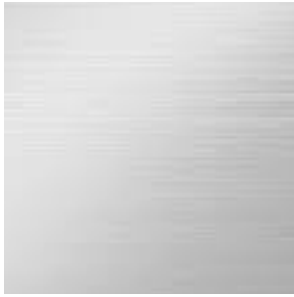


DOORHARDWARE

MANUFACTURER: Assa Abloy

COLLECTION: Bright Stainless Steel - Collection 5

DOOR HARDWARE



DOORHARDWARE

MANUFACTURER: Assa Abloy

COLLECTION: Bright Stainless Steel - Collection 5

WINDOW COVERINGS



AUTOMATIC ROLLER SHADE

MANUFACTURER: Hunter Dougle

COLOUR: Gentry Pearl

TYPE: Top down bottom up

- allows for maximum and user friendly daylight control by covering the bottom, top, or full window.

5.3.8 FURNITURE AND LIGHTING



HEALTHCARE WAITING AREA SEATING

MANUFACTURER: Herman Miller Healthcare

STYLE: Valour Multiple Seating

DESCRIPTION/

SPECIFICATIONS:

- Clean-Out design
- Wall saver leg glide
- Removable Covers



PUBLIC/ GENERAL WAITING AREA SEATING

MANUFACTURER: Herman Miller Healthcare

STYLE: Pallisade Lounge Chair + Sofa

DESCRIPTION/

SPECIFICATIONS:

- Clean-Out design
- Wall saver leg glide
- Replaceable components
- GREENGUARD Gold Certified



GENERAL WAITING AREA SEATING (MALL CONNECTION)

MANUFACTURER: Teknion - Studio TK

STYLE: Borough Lounge

DESCRIPTION/

SPECIFICATIONS:

- Versatile configurations
- Back style option



MULTI USE CHAIR

MANUFACTURER: Teknion

STYLE: Zones Arm Chair

DESCRIPTION/

SPECIFICATIONS:

- One piece sculpted back and armrest
- Non Marking Glides



PULL-UP TABLE

MANUFACTURER: Herman Miller

STYLE: Riley Table

DESCRIPTION/

SPECIFICATIONS:

- Used for work surface/ additional armrest



OCCASIONAL TABLE

MANUFACTURER: Herman Miller

STYLE: Everywhere Oval Table

DESCRIPTION/

SPECIFICATIONS:

- Post leg option



DIFFUSED PENDANT

MANUFACTURER: Eureka Lighting

STYLE: Broadway

DESCRIPTION/

SPECIFICATIONS:

- Ceiling Mounted/ Suspended
- Fluorescent



DIFFUSED PENDANT

MANUFACTURER: Eureka Lighting

STYLE: Mika

DESCRIPTION/

SPECIFICATIONS:

- Ceiling Mounted/ Suspended
- LED
- 12"D Globe



DIRECT/INDIRECT

MANUFACTURER: Eureka Lighting

STYLE: Box Two

DESCRIPTION/

SPECIFICATIONS:

- Wall Mounted
- LED
- ADA Compliant



DIRECT PENDANT

MANUFACTURER: Eureka Lighting

STYLE: Kizis

DESCRIPTION/

SPECIFICATIONS:

- Ceiling Mounted/ Suspended
- LED



RECESSED TROFFER

MANUFACTURER: Philips

STYLE: SlimBlend Rectangular

DESCRIPTION/

SPECIFICATIONS:

- Integrated sensors
- Healthcare Applicable
- Glare Free
- Dimmable
- LED



RECESSED POTLIGHT

MANUFACTURER: Philips

STYLE: CoreLine SlimDownlight

DESCRIPTION/

SPECIFICATIONS:

- General Lighting
- Dimmable
- LED



DIRECT LIGHTING

MANUFACTURER: Eureka Lighting

STYLE: Point

DESCRIPTION/

SPECIFICATIONS:

- Track Lighting
- LED



DIRECT PENDANT

MANUFACTURER: Eureka Lighting

STYLE: Solstice

DESCRIPTION/

SPECIFICATIONS:

- Ceiling Mounted/ Suspended
- Dimmable
- LED

6. CONCLUSION

Initially, this practicum began as a response to the recognition of the increasing worldwide population of the older adult demographic. It was approached as a way to use design as a practical response to serve the societal issue of improving the wellbeing of older adults. Ongoing research continued to inform the process based on the many varied elements that can contribute to the health and wellness of older adults. As an example, perhaps widely known, is that the increased potential of being diagnosed with chronic conditions for this age group is on the rise. Furthermore, it can often be the case that individuals have more than one chronic condition, leading to a much more complex medical plan. This in turn can potentially cause a shift in the type of demand on the healthcare system because the current system was designed for younger primary users. Chronic conditions and other health concerns such as low physical activity are often intertwined resulting in greater concerns such as mobility decline or mental illness. The World Health Organization (2016) recognizes these concerns and believes there is a great need for the framework of healthcare to be thought of holistically, contributing to a variety of issues rather than one at a time. This leads to recognition of various components of health such as physical, social, and psychological wellbeing, and the need to look at ways to improve the overall quality of life versus the treatment of a single medical concern.

As stated in Chapter 2, quality of life is commonly defined as an individual's perception of their physical and psychological health, level of independence, and personal relationships. However, each of these categories become much more complex with age and as they are often compared to how they perceived their quality of life at a younger age in comparison to capabilities now. Therefore, it is necessary to consider the quality of life exclusively for older adults. Active ageing is a term specifically focusing on opportunity for older adults to “realize their potential for physical, social, and mental well-being throughout the life course and to participate in society according to their needs, desires, and capacities, while providing them with adequate protection, security, and care when they require assistance” (World Health Organization, 2002 p.12). Based on these qualifiers, the quality of life for older adults, with a specific focus on active ageing, became the reference point for further research in the practicum

creating the following fundamental questions:

1. How can a one-stop-shop for older adults be designed to promote well-being and active ageing?
2. How can design factors positively impact the physical and psychological needs of older adults?
3. How can healthcare concerns be thought of holistically rather than compartmentalized?

Based on these questions, this practicum focused on three primary categories, physical wellbeing, psychological wellbeing, and social wellbeing. As a result of this research, an additional category was developed which was the independence and autonomy for older adults.

Physical wellbeing is an extremely important component for quality of life in older adults and was primarily researched in regards to types of physical activity that is best for this demographic and their benefits. In addition, potential barriers or motivational factors that can contribute to an individual's desire to participate in physical activity were an additional focus. Foremost conditions to successful and desired physical activity were identified as access to the supervision of a medical professional, its use as a social connection, and immersion in nature and/or therapeutic landscapes. Therapeutic landscapes are defined as blue and green spaces allowing individuals to retreat and rejuvenate from the sounds of water and the smell of fresh greenery. Throughout The Spring Health and Wellness Center, these connections to nature were a focus for the overall design concept. A central conservatory with a surrounding walking track allows users to access these landscapes during each season, motivating and encouraging physical activity in a desired atmosphere. Furthermore, utilizing the walking track as a central focal point for the design creates an engaging environment that highlights physical activity in a stimulating way for users to participate either alone or with others.

Psychological wellbeing was a thought-provoking consideration because a primary component of The Spring Health and Wellness Center is dedicated to healthcare services.

Understanding that this specific typology tends to heighten stress levels, led to targeting environmental psychology and designing for “wellbeing needs”. The idea of designing for wellbeing needs was developed by Stephen Boyden and discussed by Judith Heerwagen, highlighting design considerations such as opportunity to engage in spontaneous social encounters, an opportunity for privacy, learning and information sharing, and access to places for relaxation and psychological restoration (Heerwagen, 2017; Boyden, 1971). Each of these considerations were key elements to the overall design of The Spring Health and Wellness Center. A selection of areas for users to wait, socialize, or complete work tasks are offered throughout the facility in a variety of atmospheres. For example, the art and activity center, coffee bar, and main waiting area offer a selection of activities and areas for individuals to engage both socially and creatively. In contrast, smaller waiting areas such as the one located in the general practitioner’s facility, offices, and a variety of group seating sizes offers users a more private alternative.

Stressful contributors of healthcare facilities related to design can be the navigation throughout a large-scale building. Consistent and effective wayfinding such as colour blocking, overhead strip lighting delineating main paths of travel, information technology displays, and open double-height areas allows users to confidently navigate the building. Future stressors in large scale public facilities due to COVID-19 were simultaneously emerging during the design process. In response to this, the inclusion of unidirectional traffic symbols and integrated partitions and floor changes for social distancing were extremely important to ensure health and safety in the facility.

Social wellbeing is a major contributor to the overall quality of life for older adults. Potential reduction in social opportunity and ageist stereotypes can cause negative outcomes in this area. The initial site selection for The Spring Health and Wellness Center was dedicated to immersing this demographic into an existing location with established services versus a secluded

standalone facility. Providing a direct connection to Cadillac Fairview Polo Park allows a variety of age groups to participate and interact rather than compartmentalizing each demographic and facility. As previously stated, The Spring Health and Wellness Center also offers many ways to participate in social interactions. It was important for the facility itself to not segregate or compartmentalize certain healthcare services or medical needs. Creating a central circulation area leading to each main activity allows for users participating in any aspect of the facility to have potential spontaneous interactions.

Ensuring independence and autonomy for older adults is important in each one of these research categories. In addition to examples such as providing environments where individuals can independently and safely navigate, choice in atmosphere and desired level of social interaction, or selection of activity, an environment that promotes and sustains autonomy and independence in medical services is also needed. Research supports the fact that shared decision making was a core factor in a sense of self determination. As stated, due to the potential increase in chronic conditions and complex medical plans, older adults are often susceptible to treatments and services that may contradict their own medical values. From a design standpoint, providing a facility that is home to a variety of medical services and other health-related facilities embodies and promotes interaction between patients, family caregivers, and medical staff. Shared-decision making and choice are encouraged through meeting rooms, “family” exam rooms, and offices.

As seen in Chapter 5, specific areas were chosen to design in detail to fully respond to the physical, social and mental wellbeing of older adults based on the research that was completed in Chapter 2. If this design were to continue, I believe exploring each medical facility to its fullest would help enhance and further demonstrate how the research can be implemented in a specific healthcare setting. Furthermore, due to this facility being a one-stop-shop with multiple services and functions, understanding how to incorporate these concepts on a smaller or more specific scale to each medical service would be beneficial for future research.

Overall, the inquiry and design of this practicum was enlightening and engaging as it demonstrated many ways in which to improve the quality of life for older adults from a research, policy, and design standpoint. This demographic is continuing to increase and will continue this trajectory well into the future. Thus, a consideration of not only present-day opportunities and needs but designing for the future was important for this practicum. Finally, as this is a worldwide demographic trend the benefit of this research extends beyond Canada. Additionally, as the world continues to change from the threat of COVID-19 and its affect on each demographic, ongoing research in this regard is beneficial in response not only for current challenges but as preparation for future worldwide health concerns.

In conclusion, considering the ways in which to utilize a holistic design approach is something that can be further researched and adapted to integrate potential living scenarios or in-patient, long term care. This practicum has aimed at targeting and empathizing with the demographic of an emerging societal issue and tasked itself with rigorous research and final design to reflect that vital need

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