

Trauma-Informed Design:
Healing and Recovery in Second-Stage Housing

By

Naomi Duddridge

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Department of Interior Design
Faculty of Architecture
University of Manitoba
Winnipeg, Manitoba, Canada

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Abstract

This practicum project is an investigation into the design of a second-stage house and the role that interior design can play in creating a healing environment based on a trauma-informed approach. Approaching the design with a knowledge of the trauma of domestic abuse, the effects of this trauma, and the recovery process was central to the project. Through a process of literature review, four key themes in recovery of domestic abuse were found. The key themes of safety, empowerment, social support and psychological healing became the design guidelines for the project. Using these four guidelines as a foundation, concepts in environmental psychology were explored. The concepts of privacy, territory and restorative design were chosen for their relevance to the design guidelines. Through an exploration of these design concepts in conjunction with the four themes of recovery, a trauma-informed second-stage housing design called *River Tree* is proposed.

Key Words: Trauma-Informed, Second-Stage Housing, Domestic Abuse, Trauma, Recovery, Healing, Safety, Empowerment, Social Support, Psychological Healing, Control, Privacy, Territory, Restorative Design



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“Trust in the Lord with all your heart and lean not on your own understanding;
in all your ways acknowledge him, and he will make your paths straight”.
Proverbs 3:5-6 NIV

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CHAPTER ONE

INTRODUCTION



1 INTRODUCTION

Domestic violence is an unfortunate reality for many women in Canada. According to Tutty and Goard (2002), seven to thirty percent of Canadian women have experienced violence from intimate partners. Sadly, when a woman contemplates leaving an abusive relationship, she is faced with many potentially insurmountable obstacles. With little or no money, few supports and resources, and a continued threat of violence, many women will chose to stay in the abusive relationship because they lack viable alternatives. It is in these situations that second-stage housing can play a critical role in providing a safe place for women and their children. Second-stage housing provides women with the safety and the resources needed to facilitate recovery from trauma and a transition to a life free of domestic abuse. Although second-stage housing offers critical emotional, social, psychological, and physical support during a sensitive and potentially life changing time, there has been limited exploration into the way design can respond to the healing and recovery needs of trauma survivors. This practicum project responds to this need by proposing a design that is informed by the effects of trauma, the specific physical, psychological, and social needs of trauma survivors, and the recovery process. Through analysis of relevant trauma literature and application of design concepts and theory, a healing and trauma-informed second-stage house is proposed.



1.1 Project Description

This practicum investigates how interior design can be used to create a healing and trauma-informed environment for survivors of domestic abuse. For this project, a trauma-informed environment has been defined as an environment that is sensitive to the specific needs of trauma survivors, is based on an understanding of the impact of trauma, and strives to create a space where the recovery process is facilitated. This definition of a trauma-informed environment was derived from the trauma-informed service model in health care described by authors Elliot, Bjelajac, Fallof, Markoff & Reed (2005) and Harris & Fallof (2001). This concept is new to the field of interior design, and as such, the process of arriving at a design for a trauma-informed environment is central to the investigation of this practicum. This process consists of a three part literature review and comprehensive design exploration.

Based on the definition for a trauma-informed environment outlined above, this investigation consists of a detailed look at the characteristics and effects of abuse, the formulation of design guidelines based on trauma recovery literature, an investigation into applicable design concepts, and the synthesis of information in the form of a hypothetical design of a second-stage house. Using key concepts of trauma recovery extrapolated from the writings of authors, Hilary Abrahams (2007), Mary Ann Dutton (1992), and Judith Herman (1997), the foundation for a trauma-informed environment is established. This foundation consists of the four themes of *safety*, *empowerment*, *social support* and *psychological healing*. These four themes are used as design guidelines to



inform further investigation into design concepts related to control of the built environment and restorative design. By combining knowledge about abuse and the recovery process with relevant design concepts, a trauma-informed approach from which to design a trauma-informed environment is achieved.

The final outcome of this project is the design of a hypothetical second-stage house called *River Tree*. Using an existing apartment complex in Winnipeg, Manitoba, the interior is shaped to accommodate the needs of the residents, encourage the development of the four foundational themes of recovery and as a result provide a trauma-informed environment. This practicum demonstrates how, through the use of informed investigation, interior design can play an important role in shaping the environments where healing and recovery will take place.

This project has direct implications for trauma specific spaces such as second-stage housing and emergency shelters, but may also be useful for the design of mental health or addictions services. It has been recognized that “trauma survivors are the majority of clients in the human service system” (Elliott, et. al, 2005, p. 462). A trauma-informed environment that is sensitive to the needs of these clients, and encourages the recovery process has the potential to encourage healthy interaction and reduce the risk of retraumatization.

1.1.1 Context

Leaving an abusive relationship is not an easy process. Barriers such as lacking economic resources, the need to provide for children, the hope for change in an abusive partner, a desire to give the relationship



another chance, fear of further abuse, fear of social stigma, and the lack of access to shelter and support, all create significant challenges to departure (Abrahams, 2007; Tutty & Goard, 2002). Many women depend on their abusive partner for financial support. If these women do not have a solid income of their own, it is difficult to provide for themselves and their children. It has also been found that 24% to 35% of women who leave an abusive relationship are at a higher risk of re-abuse by the abusive partner after they leave (Johnson, 1995; Statistics Canada 2001 as cited in Anderson & Saunders, 2003). For many women, they may have returned to a relationship after leaving on several occasions. Second-stage housing offers women a better chance to leave the relationship permanently since it provides critical services when women need them most. The short emergency shelter stay of only thirty to sixty days (Baker, Holditch Niolon, & Oliphant, 2009) is often not enough time for women to secure economic independence and housing, leaving them feeling there is no other option but to return to the abusive relationship. Second-stage housing provides these services for nine to twenty-four months, thus empowering women to reach their goals and work towards a future without violence.

Second-stage housing also provides a safe place to begin the recovery and healing process. The traumatic effects of domestic abuse are numerous and “corrode the fabric of women’s emotional and social worlds” (Abrahams, 2007, p. 9). Women may experience incredible loss as a result of abuse including “loss of a sense of safety and security, trust in the world around them, personal identity and self-worth, perhaps of physical as well as emotional health, possessions, jobs, friends, family and community” (Abrahams, 2007, p. 25). If a woman chooses to leave an abusive relationship, she will face many challenges and changes



which, although mostly positive, can take an emotional toll. According to Anderson and Saunders (2003) the sudden and often dramatic changes associated with leaving an abusive relationship, coupled with the persistent fear of safety and survival, can in fact leave women with equal or higher levels of depression and traumatic symptoms than before they left the relationship. Second-stage housing offers women the time and resources necessary to recover from the many effects of domestic violence. Both the effects of domestic abuse and the recovery process are important to understand when formulating a trauma-informed approach.

1.1.2 Client

The client, *River Tree*, will be a hypothetical second-stage housing organization that is based on common goals and objectives seen in existing second-stage housing. The hypothetical client has been based on information from author Joan Forrester Sprague (1991), second-stage housing examples such as *Agape House* (2008), and *Women in Second-Stage Housing (W.I.S.H.)*, (2010) and additional information gathered from the literature review. This client will be a private, non-government organization that provides housing and services to women and children who have left an abusive relationship. Services and housing will be available for up to twelve months at which point women and children will transition to permanent housing. The client's goals will be as follows:

- to provide a safe and protective living environment;
- to create opportunities for empowerment through access to counseling, essential services, and support programs;

- 
- to provide an environment where women can receive mutual support and grow in their own journey of healing;
 - to foster parent-child relationships and individual growth and development

The name *River Tree* was chosen because it embodies many of the core concepts discussed throughout this project. A tree is a living, growing entity and reflects the growth that is occurring in the lives of women and children in second-stage housing. This name also reflects the connection of people and nature that is seen as an important aspect to healing. A river references the life-giving qualities associated with water and, as will be discussed later in this document, it also reflects the innate affiliation for nature. Finally, the name *River Tree* was chosen because of the location of the site. This project is situated along the Seine River, and the name *River Tree* subtly reference its location, without threatening the confidentiality of the site.

1.1.3 User Groups

The primary user group will be women and their children who have recently left an abusive relationship and are in need of secure accommodations and supports. Based on information gathered from a study of 208 women in Calgary emergency shelters, as well as a study conducted on shelters in Steinbach, Selkirk and Brandon, it can be estimated that, on average, the women will be in their early thirties, ranging in age from late teen's to late fifties (Hagedorn 2005; Tutty & Goard, 2002). It can also be estimated the women will have an average income of less than \$20,000 per year, and over 85% of the women will



have children (Hagedorn 2005; Tutty & Goard, 2002).

According to Amy Stensrud (2005), “domestic violence is pervasive throughout all of society, irrespective of race, class, sexual orientation, education level, age, or other social categories” (p. 7). Despite the fact that domestic abuse impacts women across all social categories, it is recognized that a high percentage of shelter users in Manitoba are marginalized (Hagedorn, 2005). Studies in Saskatchewan and Manitoba have found that a significant portion of shelter users experience poverty, have lower levels of education and an increased number of health issues (Hagedorn, 2005; Stensrud, 2005). It was also found that a significant portion of shelter users are Aboriginal (Hagedorn, 2005; Stensrud, 2005). In order to remain relevant to Manitoba, this project will incorporate design that is sensitive to the Aboriginal culture, but this will not be the focus of the project. This project aims to provide a discussion of the specific needs of trauma-survivors and the design implications and strategies that can be applied to transitional housing regardless of the dominant cultural group. In this regard, this project aims to be as inclusive as possible in order to remain relevant across cultural groups and to provide information that is useful for transitional housing across North America.

The secondary users of the space will include the staff and volunteers providing support programs for the residents of *River Tree*. These include counseling staff, administrative staff, volunteers, program coordinators, and an executive director. The secondary users will primarily occupy the office space and may also use other activity spaces throughout the house to help provide necessary support to the women and children staying in the house.



1.2 Terminology

Two terms discussed frequently in this practicum are “*second-stage housing*” and “*trauma-informed environments*”. These terms may be used differently depending on their context, as such, the way in which they will be used in this practicum is as follows.

1.2.1 Second-Stage Housing

“*Second-stage housing*” is defined as “housing which is longer-term, providing security and specific support services to aid women who have experienced abuse, in their transition to independence” (Canadian Mortgage and Housing Corporation, 1997, p. 16). Second-stage housing is temporary accommodation lasting anywhere from three months to two years and is seen as an intermediate step between emergency shelters and permanent housing. The purpose of second-stage housing is to offer a temporary place of security where women can begin to heal from trauma, access supports, develop supportive social networks, secure permanent housing, and transition to a violence free life.

The preceding definition of second-stage housing is the definition that will be used for this interior design project. It is important to note, however, that this term has not always been reserved for the population of abused women and children. The term second-stage housing has occasionally been used to describe a temporary living situation with support services for other populations as they transition to permanent housing. Typically, the term transitional housing has been used as a more general term to describe temporary housing with social supports. This term most often encompasses a more general population of people who are



without housing. For the purposes of this project, the term second-stage housing will be reserved for the population of abused women and their children.

1.2.2 Trauma-Informed Environment

The term “*trauma-informed environment*” originated from the trauma-informed service model in health care. Trauma-informed care seeks to create a service experience that understands the effects of trauma on a person and ensures “every interaction is consistent with the recovery process and reduces the possibility of retraumatization” (Elliot, et al., 2005, p. 462). According to Harris & FalLOT (2001), trauma-informed services make the service experience sensitive to trauma survivors through: a) a knowledge of the clients history of abuse and b) a knowledge of how the violence and victimization impacts their lives (Harris & FalLOT, 2001). These services reflect an understanding of the effects of trauma on individuals and ensures they provide services that are empowering, emphasize the clients strengths, encourage choice and control, and are respectful and accepting (Elliot, et al., 2005; Harris & FalLOT, 2001).

A trauma-informed environment is one that is sensitive to the needs of trauma survivors and is informed by the recovery process. This environment strives to be empowering, supportive and prevent retraumatization. Designing a trauma-informed environment requires an understanding of the effects of trauma as well as the process of recovery and healing. The following project is an exploration of what a trauma-informed environment might look like and what characteristics are

important to facilitate a sensitive, healing, and empowering environment.

1.3 Method of Investigation

The method of investigation used in this project involves literary and precedent review. Knowledge gathered from multiple disciplines including psychology, behavioral science, health care, and environmental psychology have been used to inform these investigations.

The literary investigation is comprised of three sections: 1) *Characteristics and Effects of Domestic Abuse*; 2) *Healing and Recovery*; and 3) *Design Concepts*. The first section provides a brief overview of the impact of domestic abuse and the characteristics of abuse. This section provides necessary information about abuse that will later shape the practicum's trauma-informed approach. The second section involves an investigation of the key themes in the healing and recovery process. The key themes identified are as follows: safety, empowerment, social support, and psychological healing. These themes will be used as design guidelines for the project. The third section in the literary investigation focuses on how the key themes of recovery, or design guidelines can be facilitated in the built environment. This section is divided into two parts called: 1) *Control and the Built Environment*, and *Restorative Design*. The primary focus of this review is on concepts of user control in a space and the formulation of restorative environments through nature-based design.

The precedent investigation analyzes the following three projects: *Strachan House*, *Hospice Hawaii*, and *Seven Directions*. These projects exemplify the key concepts identified in the literature review and provide design-specific examples that are used to inform the design.



The outcome of this method of investigation involves the design of a second-stage house in Winnipeg, Manitoba called *River Tree*. This involves a process of site analysis, formulation of a design program and the final design. Based on the thorough literature and precedent review and with a trauma-informed approach, a design that is truly unique and addresses the specific needs of domestic abuse survivors is proposed. This design demonstrates what a trauma-informed environment can look like, and exemplifies how interior design, based on well researched literature, can play an important role in shaping the environments where healing and recovery from trauma occur.

Currently, there are few precedents for creating an environment that will help achieve the outcomes of a psychological social healing process and recovery from trauma. Adopting the view that is held by environmental psychology that individuals "...behavior and experiences are changed by the environment" (Gifford, 2007, p. 1) the author believes that the built environment influences how people experience a space, impacts their well-being and has the potential to contribute to the recovery process. Using a combination of research in trauma recovery, concepts in environmental psychology and concepts in interior design, this project contributes to the larger body of interior design literature by contributing to knowledge about trauma-informed environments.

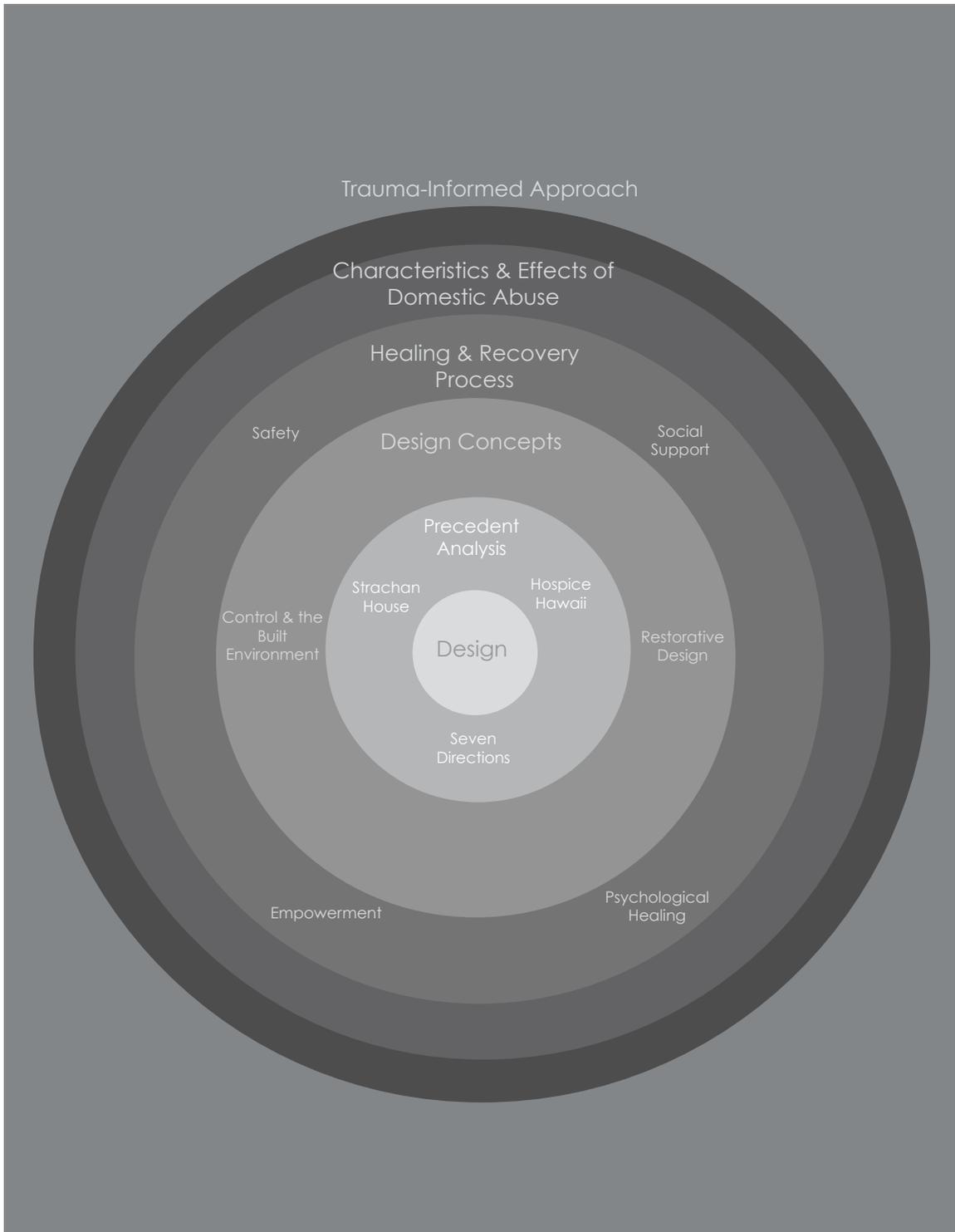


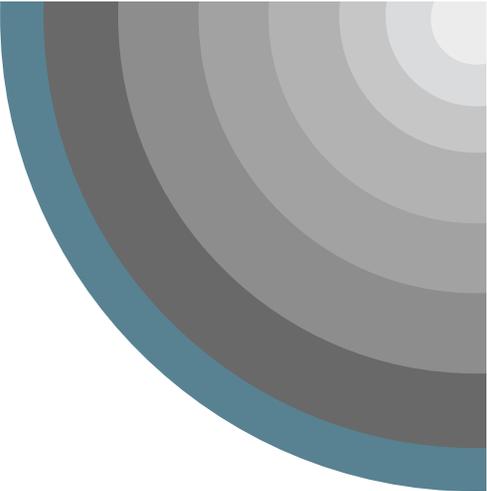
Figure 1. Method of Investigation



1.4 Limitations

In order to maintain a manageable scope, the focus of this practicum has been placed primarily on women, with a related exploration of the healing and recovery process for children. The discussion pertaining to children focuses primarily on the needs of preschool children aged 2 to 6 years. This is recognized as a limitation of the project. Further exploration into the full needs of preschool age children, school-age children, and adolescents is suggested for further research.

A second limitation of this project is the reduced focus on cultural issues. The purpose of this project is to investigate design strategies that respond to the needs of trauma survivors. As previously discussed, it is important the project remain as inclusive as possible so the results of the investigation can be used in the development of transitional housing designed to serve cultural groups other than those most common in Winnipeg, Manitoba. In order to achieve this goal, specific cultural implications were kept to a minimum. Further study into the design implications of culture and trauma-informed environments is suggested for further research.



CHAPTER TWO

LITERATURE INVESTIGATION



2 LITERATURE INVESTIGATION

The three sections of the literature investigation are: 1) *Characteristics and Effects of Domestic Abuse*; 2) *Healing and Recovery*; and 3) *Design Concepts*. These three sections are all necessary to provide a framework for the design of a trauma-informed, healing environment. The first section provides the context, the second section provides the design goals, and the third section provides the means to achieve the design.

2.1 *Characteristics and Effects of Domestic Abuse*

The following is a brief discussion of the characteristics of domestic abuse, as well as the resulting effects. The purpose of this discussion is to identify the destructive dynamics of power and control associated with abuse, and to understand, at least in a broad sense, the effects of abuse. Understanding that abuse drastically and profoundly impacts a woman's life will add depth and legitimacy to the project as well as substantiate the need to design environments that respond to the recovery and healing process of abuse.

This section of the literature review is rooted in a similar perspective of domestic abuse taken by Mary Ann Dutton (1992). Her intervention model is based "on the interaction of the feminist-political model of



understanding battering behavior as a means of controlling a woman and the posttraumatic stress model of assuming that any normal person can have major psychological disruption from experiencing trauma such as the physical, sexual and psychological abuse that make up the pattern of battering in a relationship” (Walker, 1992, p. xi). The perspective that the abuse is a means of control will be reviewed in sections 2.1.1: Power and Control and 2.1.2: The Cycle of Violence. The psychological effects of domestic abuse in relation to the post-traumatic stress definition will be reviewed in section 2.1.3: Effects of Domestic Abuse. This section will also acknowledge the losses associated with abuse.

2.1.1 Power and Control

Abuse, as defined by the Government of Alberta Children and Youth Service is “a pattern of controlling behaviors” (Government of Alberta, Children and Youth Services, n.d.). It involves the domination of one person over another to gain power and control. This power and control is often manifested in forms other than physical abuse. Tactics such as “using intimidation, coercion and threats, isolation, minimizing, denying and blaming, using children, using economic abuse, emotional abuse, and male privileges” (Domestic Abuse Intervention Project, 2008, Power & Control Wheel) can be used to gain control. These tactics are described by the Power and Control Wheel in Figure 2. This model was developed based on the experience of abuse survivors in Duluth, MN and has been found to “resonate with the experiences of battered woman world-wide” (Domestic Abuse Intervention Project, 2008, para 1).



DOMESTIC ABUSE INTERVENTION PROJECT

202 East Superior Street
Duluth, Minnesota 55802
218-722-2781
www.duluth-model.org

Figure 2. Duluth Model. Image courtesy of the Domestic Abuse Intervention Project. Copyright permission obtained December 22, 2009.



2.1.2 The Cycle of Violence

Domestic violence is distinct from other forms of violence because the abuser is someone who is trusted, and the violence is reoccurring. These two elements create distinct characteristics of abuse and resulting trauma. This abuse is not only reoccurring, but often escalating. Lenore Walker (1979) was the first to describe the theory of a cyclical pattern that is characteristic of abusive relationships. This Cycle Theory of Violence exemplifies the type of unstable, frightening, and harmful environment that surrounds domestic abuse survivors.

Walker's (1979) Cycle Theory of Violence includes three distinct phases that occur in a cycle of abuse. The first phase is known as the *tension building phase*. During this phase, there is conflict in the relationship that slowly escalates. This may manifest itself in abusive ways such as verbal abuse, but the explosion of violent action is only pending at this time. In this phase, the abuser displays "dissatisfaction and hostility" (Walker, 1984, p. 95) and aggression toward the woman. In an attempt to prevent further abuse the woman tries to calm the situation by being as accommodating as possible. This stage is extremely exhausting as the woman tries to anticipate the abusers every need. The second phase, called the *acute battering incident*, is the phase where the most intensive battering occurs and is the climax of the tension that has been building in the first phase. This phase often leaves the woman physically and emotionally injured. In phase three, the *kindness and contrite loving behavior* phase, the abuser tries to make up for his actions. He will usually apologize, display extreme remorse, and present the abused with gifts. He proclaims he will never hurt her again, and the abuse temporarily ceases.

There have been adaptations to Walker's cycle theory. Some



adaptations have named the phases as tension, violence, and the honeymoon (Coalition Against Violence, n.d.). The honeymoon phase may also look different for some abusers, as some will rationalize their behavior during this stage. In any case, this is the stage where the woman is convinced to stay in the relationship often out of hope that the abuser will change. Other forms of the cycle include a fourth phase called *pretend normal* (Government of Manitoba, 2009) where things appear to be normal and calm, but in reality it is just a matter of time before the tension building stage begins again.

Understanding this cycle of violence and issues of power and control are important when designing a space for healing from abuse. It is evident the woman's relationship with the abuser is based on an unequal balance of power. As Dutton (1992) states, "the function of the batterer's behavior is to control and exert power over the victim" (p. 4). Because these women are coming from dangerous and unstable environments, a designer has the opportunity to create a new physical space—perhaps a healing space. Intangible as the accommodations and facilitations may seem, the design must contribute to optimizing safety and stability in the lives of these women. Any design should utilize as many means as possible to promote a user's sense of control over the environment. According to Gifford (2002) and Evans & McCoy (1998) the built environment can be designed in such a way to contribute to a user's sense of control in a setting. Using strategies determined in the literature review, the proposed design will contain a number of significant elements that, in conjunction with appropriate and proximate services, will create an environment optimized for healing and recovery.



2.1.3 Effects of Domestic Abuse

The psychological effects of fear, exposure to violence, and loss can be devastating. Upon leaving their abusive partner, women experience great losses as they leave their home, possessions, neighborhoods, jobs, contact with friends, and all that is familiar (Abrahams, 2007; Anderson & Saunders, 2003). A change in relationship status has also been found to be a difficult adjustment for women as they are no longer filling the role of a wife-mother (Anderson & Saunders, 2003). For many women, this gender role is an important aspect of self and is an additional loss to process. A woman's responsibilities also change when she leaves her partner, and she must often accept new responsibilities such as starting a new job, taking children to new a new daycare, and securing housing and financial resources.

In addition to significant losses, it is well recognized that Post-Traumatic Stress Disorder (PTSD) and depression are frequently associated with domestic violence (Housekamp & Foy, 1991; Kemp, Rawlings & Green 1995; Stein & Kennedy 2001). These mental health effects impact all areas of a woman's world. PTSD affects a woman's healthy functioning and is characterized by symptoms that fall into three major categories. These categories, according to the American Psychological Association (2000) are summarized as 1) re-experiencing the traumatic experience; 2) avoidance of stimuli associated with the trauma with a related feeling of numbness and 3) increased arousal.

These symptoms include such experiences as recollections of the abuse, difficulty sleeping, a detachment from others, difficulty concentrating, and heightened sensitivity to stimuli also known as hypervigilance (American Psychiatric Association, 2000). The following



features described by the American Psychiatric Association (2000) have also been found to coincide with PTSD and may include, “impaired affect modulation, self-destructive and impulsive behavior, dissociative symptoms, somatic complaints, feelings of ineffectiveness, shame, despair or hopelessness, feeling permanently damaged, a loss of previously sustained beliefs, hostility, social withdrawal, feeling constantly threatened, impaired relationships with others, or a change from the individual’s previous personality characteristics” (Section 309.81).

Based on these documented physical and psychological effects, it is evident domestic abuse has devastating effects on a woman’s health and ability to function normally. The next section looks at the process of healing and recovery and extrapolates the key themes that can be used in the design of a trauma-informed environment.

2.2 *Healing and Recovery*

Since the goal of this practicum is to investigate how interior design can be used as tool to facilitate recovery and healing within second-stage housing, an important task is to determine the key concepts of recovery and healing from domestic abuse. This exploration will include investigation into domestic abuse and trauma literature. The focus of this section is to review the recovery process outlined by three key authors, and determine common themes. These authors, Judith Herman (1997), Mary Ann Dutton (1992) and Hilary Abrahams (2007) all present a process of recovery for survivors of abuse and trauma. Each author approaches this process from a unique perspective, but all retain common principles of 1) safety, 2) empowerment, 3) social support, and 4) psychological



healing, that will be explored further in this section. These common concepts have been extracted based on their reoccurrence and the emphasis given by each author. Extracted themes will then be used to inform the spatial criteria for a healing space designed specifically for survivors of domestic violence.

Judith Herman (1997) is the author of *Trauma and Recovery: The aftermath of violence—from domestic abuse to political terror*. Her work is chosen because it is well recognized in the field, and according to Susan Rubin Suleiman (2008) Herman “is one of the pioneering clinicians in the field as well as a major player in the theoretical debate” (p. 276). *Empowering and Healing the Battered Woman: A Model for Assessment and Intervention* is authored by Mary Ann Dutton (1992). This work is chosen because it is one of the few books that addresses the specific issues of recovery pertaining to women who have experienced domestic abuse. There is a larger body of literature pertaining to the process of recovery of generalized trauma, but few works are directed specifically toward women and domestic abuse recovery. The third book, called *Supporting Women After domestic Violence: Loss, Trauma and Recovery* by Hilary Abrahams (2007) is chosen because, like Dutton, Abrahams is one of the few writers discussing the recovery process specific to women and domestic abuse. In addition, Abrahams takes an approach grounded in Maslow’s concept of human needs, (Maslow, 1987 as cited in Abrahams, 2007) as opposed to the more typical posttraumatic stress disorder perspective taken by Herman and Dutton. While recognizing the significant effects of domestic abuse and the symptoms that appear similar to post-traumatic stress disorder, Abrahams (2007) argues that a perspective based on Maslow’s ideas may be more empowering for



women since it may avoid the stigma of a psychological diagnosis while still pursuing appropriate treatment and means of recovery. This alternate perspective on the same issues lends additional validity to the common conclusions reached by the various theorists.

2.2.1 Description of the Key Writings

Judith Herman (1997), in her book, *Trauma and Recovery: The aftermath of violence—from domestic abuse to political terror* synthesizes the three stages of psychological trauma recovery. Herman's book is written from the more general perspective of recovery from psychological trauma. Domestic abuse falls within this category of trauma, but the recovery process is less prescriptive than other authors since it discusses the general principles of recovery. Herman's three stages of recovery from psychological trauma include: 1) Safety 2) Remembrance & Mourning and 3) Reconnection with ordinary life.

These stages include providing safety in relation to a woman's body, her emotions and thinking, and in relation to others. In Herman's view, establishing safety is the most essential criteria before further healing can occur. Safety is achieved through a process of gaining a sense of control, starting first with control over one's body and radiating out towards the environment. This begins with the woman's health and moves toward securing a safe place to live and securing economic resources. Herman insists that it is necessary for the process to occur in conjunction with social support.

The second stage, *remembrance and mourning*, is an emotional and exhausting process where a woman must learn to express her



traumatization in words within a therapeutic environment. This stage also includes a time of mourning and grief for the losses that the trauma caused.

The third stage, *reconnection with ordinary life*, is the stage in which a recovering woman reclaims her life. This involves establishing new relationships, appropriate trust, facing fear in life and new freedom.

Herman (1997) discusses these three stages within an understanding that psychological trauma is based on “disempowerment and disconnection from others” (p. 133). Consequently, recovery is “based on empowerment of the survivor and the creation of new connections” (Herman, 1997, p. 133). Restoring control to the survivor is essential to recovery since “trauma robs the victim of a sense of power and control” (Herman, 1997, p. 159). This means ensuring the survivor has choice and is involved in the decision making process. Empowerment is seen as the primary guiding principle that informs all methods of healing. Additionally, a connection with others is seen as extremely important to healing. Herman sees healing only as being possible within the context of relationships. This too informs the emphasis of the recovery, and will have implications for the design of an environment in which recovery can occur.

Mary Ann Dutton (1992), in her book, *Empowering and Healing the Battered Woman: A Model for Assessment and Intervention* describes the goals of domestic violence intervention as: 1) Protection; 2) Choice Making/ Problem Solving and 3) Healing Posttraumatic Effects. Dutton approaches this discussion as a clinical psychologist and focuses on specific strategies within each stage. For our purposes, we will look at these strategies more generally to determine relevant themes that have



implications in the design process.

Just as within Herman's assessment, Dutton (1992) believes that "...safety must always remain a first priority" (p. 93). In fact, it is critical to establish a sense of safety before healing of posttraumatic effects is appropriate (Dutton, 1992). Dutton (1992) states that "...a safe physical and emotional space is necessary in order to begin posttraumatic therapy" (p. 130). Dutton's second intervention called *Making Choices* is a process that facilitates empowerment through decision-making. According to Dutton (1992):

Choice making is a means of empowerment. It includes a basic choice about leaving or remaining in the relationship that was and/or continues to be abusive. Further, there are many other choices the woman faces. Unlike work with many other trauma victims (e.g., combat veterans, those raped by strangers, victims of accident or natural disaster), a major component of the intervention is protecting the woman from ongoing victimization by actual or threatened violence and abuse. Although no battered woman has power to control her partner's violent behaviors or threats, she can empower herself by joining with others to have control over her actions to reduce the risk of victimization. (p. 115)

Dutton proposes a number of specific strategies aimed at facilitating choice-making behavior. These include, encouraging self-nurturance, increasing knowledge about battering and its effects, increasing social support, increasing economic resources, challenging cognitions, challenging socialized sex-role beliefs, increasing behavioral skills, increasing coping strategies, and providing advocacy (p. 118-127). This list focuses on empowering a woman to make decisions, and to take control of her actions. In combination with the support of others, this is a



powerful combination to “reduce the risk of victimization” (Dutton, 1992, p. 155).

The final stage of intervention is *Healing Posttraumatic Effects*. This involves a process with a qualified professional in which a woman engages in posttraumatic therapy. According to Dutton, (1992), “... posttraumatic therapy with battered women is organized as several overlapping therapeutic processes (1) reexperiencing the trauma, (2) shame reduction, (3) rage reduction, (4) facilitating the grief reaction, (5) making meaning of the victimization, and (6) rebuilding a new life” (p. 133).

Dutton maintains that there are some unique challenges to therapeutic interventions for domestic abuse survivors. These challenges are created because the abuse occurs within a once “loving and trusting relationship” (Dutton, 1992, p. 132), the abuse occurs repeatedly and potentially over an extended period of time, it includes multiple forms of abuse, and the threat of abuse continues even after leaving the relationship (Dutton, 1992). In order to address these specific issues, Dutton (1992) recommends that, “...interventions focused on healing and recovery must accompany a continued focus on choice making or empowerment as well as on crisis issues” (p. 132). The continual need to focus on empowerment and crisis issues including continued safety, will be important to the design of an appropriate, trauma-informed environment.

Hilary Abrahams (2007), in her book, *Supporting Women After Domestic Abuse: Loss Trauma and Recovery* discusses the journey to recovery traveled by women who leave abusive relationships. Based on a study of 23 women in the UK, Abrahams adopts a framework for understanding domestic abuse and the recovery process, based on



Maslow's concept of human needs (Maslow, 1987 as cited in Abrahams 2007). She also proposes that recovery from the losses associated with abuse mirrors the process of bereavement. These two perspectives emerged from her study of women who left an abusive relationship and stayed in refuges¹ in UK. We will briefly look at Abrahams two perspectives and the key points that emerge from her study.

Using Maslow's hierarchy of needs as a foundation, Abrahams explains how women who have experienced abuse are fighting to maintain their basic level needs such as safety, security, and physiological needs. Unfortunately, because these needs are not fully met, they are unable to attain higher level of needs such as belongingness, esteem and self-actualization. She explains that, due to additional factors of control and coercion associated with an abusive relationship, isolation and fear result. When this occurs, women, are left with "only the basic drive to survive and maintain life for themselves and their children" (p. 22). These women are struggling to maintain basic needs of life, but as Abrahams stresses, these women are not passive in their attempt to meet their needs. They are continuing to "take positive action"(p. 22) in their lives to take care of themselves and gain safety where they are able. Abrahams proposes that understanding the effects of domestic violence within the framework of Maslow's concept of human needs is more appropriate for the majority of survivors than a diagnosis of PTSD. She believes that this view prioritizes a woman's ability and capacity to take action in her own life to enact positive change. It also recognizes the importance of community in the recovery process and prioritizes physical and mental safety.

1 A refuge in the UK is a similar typology as a domestic abuse shelter in North America.



Secondly, Abrahams names the three stages of recovery that mirror the phases of bereavement: 1) Reception, 2) Recognition and 3) Reinvestment. These phases are specific to domestic abuse survivors, but are not static. They consist of a fluid process where women may move back and forth between each phases throughout the recovery process. The following is a brief look at Abrahams three phases:

1) Recognition

This phase occurs after initial separation from the abusive partner and mirrors the first stage of bereavement. Abraham found that after leaving, women were physically and mentally exhausted. She also observed that “they were fearful of being found, of those around them, the new environment and of the future. For varying periods of time afterwards, women felt numbed, confused and dazed, with no clear recollection of their actions” (p. 42).

2) Recognition

This second phase occurs after the initial impact of the change has subsided and women begin to look forward to future concerns. This is a time where women actively work through the negative effects of domestic abuse. During this phase Abraham has identified that women must deal with the loss, anger and oscillating emotions associated with the effects of abuse. The process of rebuilding includes establishing safety, trust and empowerment. It also includes provision for changing needs. During this time, Abrahams stresses the need for effective counseling skills, support and advocacy.



3) Reinvestment

The final phase includes the move from the refuge to independent life. During this stage, many of the women are still concerned with safety issues and benefit from the assistance of support workers. According to Abrahams, “key elements in successful support giving were a jointly prepared support plan, clear aims and objectives and regular contact. Both practical and emotional support were necessary in helping women to bridge the gap between the refuge life and the new community” (p. 102).

Concluding the phases of recovery and rebuilding, Abraham discusses the six elements that were selected by the women as being essential to “effective support giving and were seen as crucial in successful transition to independent living” (p. 14). These six elements are “physical and mental safety, respect, a non-judgmental approach, being believed, time to talk and be heard and mutual support” (p. 14). These elements in conjunction with the three phases of recovery will be important factors that inform the design of *River Tree*. In comparison with the other two authors, Dutton (1992) and Herman (1997), key themes in recovery are extracted.

2.2.2 Themes of Recovery: Design Guidelines

Four main themes of recovery, with significant design implications, resonate throughout the writings of these authors, and are congruent with the ten principles of trauma-informed services outlined by Elliot et. al (2005). These four common themes that will form the core design



guidelines are 1) Safety, 2) Empowerment, 3) Social Support and 4) Psychological Healing. The following is a closer look at these principles which will later be used to inform the design of *River Tree*.

2.2.2.1 Safety

Safety is an immediate concern for women who have left an abusive relationship. According to Anderson and Saunders (2003), “besides having to cope with the traumatic effects of pre-separation violence, many battered women are subject to ongoing or escalated violence after leaving” (p. 179). According to studies by Raphael (1999), Tutty (1998), and Wuest and Merrit-Gray (1999) “harassment and intimidation by batterers ranged from begging, sending flowers, and threatening suicide to pressuring the children for more information, making menacing phone calls, trumping up false child abuse charges against her, and threatening to ‘blow’ her head off” (as cited in Anderson Saunders, 2003, p.180). Safety is considered a primary goal in recovery and a prerequisite to full healing (Abrahams, 2007, Dutton, 1992, & Herman, 1997). As such, it is important to ensure physical safety at the second-stage house. According to Dutton (1992), it is possible for some healing and recovery to occur prior to the cessation of abuse, but “intensive focus on healing can only occur once abuse and ongoing threats of it have stopped” (p. 129). For women who seek help in second-stage housing, safety must be provided through physical protection from the abuser as well as through the provision of basic needs, essential resources, and emotional safety.

Second-stage housing provides safe accommodations within a confidential location. As previously mentioned, women who leave an



abusive relationship are often at a high risk of abuse from their partner who is seeking them out. As such, the building should be located within a safe neighborhood where the location will remain undisclosed to the general public. It is preferable that the location be “unobtrusive within its neighborhood context” (Refuerzo & Verderber, 1990, p. 47) and restrict views by a set-back from the road, vegetation, or other physical barriers (Refuerzo & Verderber, 1990). Additional security measures include surveillance systems, and alarm systems (Abrahams, 2007, p. 84).

Safety requires security and physical protection, but it can also mean the provision for basic needs and essential resources. Without these necessities, a person may be at risk of harm, or at the very least will have trouble focusing on any other concerns. As Stensrud (2005) explains, “unless basic needs such as safety, shelter, food, and clothing are met, it is unreasonable to expect that one would be able to focus on much else” (p. 10). Since women who choose to leave an abusive relationship “often have insufficient personal resources and require additional services and support” (Anderson & Saunders, 2003, p. 164) it is important that second-stage housing offer necessary food, clothing and household items during their stay. This has been seen as a critical service for women who were interviewed in a Saskatchewan study by Stensrud (2005). A shelter resident in the Saskatchewan study (Stensrud, 2005) describes how important these items were for her, “we came in here with two little bags of clothes, that’s all we had, and through donation and that, my kids are fine, and I don’t have to worry about buying them clothes, shoes, jackets...and things like that really weighed on me before and now they don’t” (Stensrud, 2005, p. 17).

Second-stage houses commonly receive donations such as clothes,



toys and household items. These items can be made available to the families during their stay and collected for future use in their permanent home (Stensrud, 2005). Through these donations, families can collect many necessary items that will help them establish their future home. When designing the home, it will be essential to provide adequate storage for these donations.

Emotional security is also a concern for women leaving an abusive relationship. According to Herman (1997), abuse may cause feelings of uncertainty and unreliability where women feel unsafe within their own bodies and in interactions with others. According to Abrahams (2007), “the unpredictable nature and timing of the abuse removed from them any sense of physical or mental safety. As a result, they were unable ever to be at ease, or to trust what was going on around them” (p. 19). For many women, trust in the world, others, and themselves must be rebuilt during the process of recovery (Abrahams 2007; Dutton, 1992; Herman, 1997). Emotional safety can be fostered through healthy relationships between the staff and residents and provision for basic health needs.

As we will see in subsequent sections, the need for safety in a women’s life has implications for how the interior can foster a sense of safety. According to Herman (1997), “establishing safety begins by focusing on control of the body and gradually moves outward toward control of the environment” (p. 160). This focus on control, in addition to creating a sense of safety, will inform the design of safe housing.

2.2.2.2 Empowerment

Empowerment is an important component to healing and recovery from abuse (Abrahams, 2007; Dutton, 1992; Herman, 1997). Empowerment



is a broad topic, but it is essentially seen as a process whereby people “gain a sense of control or mastery over their affairs” (Kasturirangan, 2008, p. 1467). It is facilitated by “equipping people with the requisite knowledge, skills, and resilient self-beliefs of efficacy to alter aspects of the lives over which they can exercise some control” (Ozer & Bandura 1990, p. 472). Because survivors of abuse have experienced disempowerment by their abusive partner, it is especially important to restore control back to the survivor (Herman, 1997).

Choice-making is a part of empowerment and involves an awareness of choices, a belief in the ability to make choices, and the necessary skills and resources to enact change (Dutton, 1992; Ozer & Bandura, 1990). Making independent decisions is not always an easy task for women who have previously been restricted from making their own decisions. In some abusive relationships, women are not even allowed to use the phone without permission (Abrahams, 2007). Slowly, through building self-esteem, making decisions on their own, and being able to trust their support providers, these women are able to take control of their lives.

Second-stage housing facilitates empowerment by offering women choices and equipping them with the skills and knowledge necessary to make changes in their lives. This is accomplished by providing access to essential services such as counseling, childcare, employment resources, advocacy, and referral within a secure, and respectful environment. Empowerment is also encouraged by facilitating connections to services within the community. Gaining financial stability through employment is a significant way in which many women gain control over their lives and make plans for their future. Many second-stage housing services are



directed toward helping women provide for their children and their own needs over the long term. Group and individual counseling deals with a range of issues including choice and control in each woman's life. In all interactions, it is imperative that empowerment is facilitated through a continued effort to give control to the survivor. This is encouraged by ensuring that the women are the primary decision-makers in the process of recovery (Elliott et. al. 2005; Herman, 1997).

Although design cannot create empowerment, it has the potential to support the process of empowerment that is occurring in individual lives. In this section, we have seen how empowerment involves restoration of control to the individual. It stands to reason that a built environment that reduces the perception of unequal control, encourages personal choice, and is flexible will facilitate empowerment.

2.2.2.3 Social Support

A key component of healing, recovery and empowerment for women is a connection to social support (Dutton, 1992). This is also an important aspect of healing emphasized by Herman (1997) and Abrahams (2007). In fact, social support networks have been identified as a key determinant of health for all women by the Public Health Agency of Canada (2009). Additionally, a key component to the empowerment process according to Parsons, Gutierrez and Cox (1997) is validation through collective experience. It is important during the empowerment process to feel that one's voice is legitimized through a shared experience. Herman (1997) emphasizes that healing from psychological trauma can only occur in the context of relationships. In fact, Herman states that "in her renewed connections with other people, the survivor



re-creates the psychological faculties that were damaged or deformed by the traumatic experience. These faculties include the basic capacities for trust, autonomy, initiative, competence, identity, and intimacy” (p. 133). Abrahams (2007) found that women who survived domestic abuse greatly valued the mutual support they received from other women. The women interviewed were staying in a refuge in the UK, which is equivalent to a shelter in North America. According to Abrahams (2007), the support of other residents “showed women that they were not alone in what they had endured and provided strength and support within the refuge, companionship and a chance to resume the sort of everyday conversation which might be expected in daily life—the weather, health, shopping and television, as well as what was happening in the refuge” (p. 60).

These woman have come from an abusive relationship where regular social interaction was either forbidden or made extremely difficult through controlling behaviors. According to a Leanne, a women in Abrahams study, mutual support was very important during her stay at the refuge. She expresses this when she states “‘when you’ve been through domestic violence, the last thing you want is to be on your own. But here, you’ve got the choice. You can go to your bedroom and be on your own, or you’ve got the choice. You can go to your bedroom and be on your own, or you can sit in the living room with everybody else’” (Abrahams, 2007, p. 76).

In the proposed second-stage housing design, it will be essential to create spaces for the women to connect to one another, as well as space for themselves. Concepts of privacy in environmental design will be used to inform how the built environment can facilitate both connection to



others and privacy for one's self through the control of the environment. These concepts will be discussed further in later sections.

2.2.2.4 Psychological Healing

As mentioned previously, domestic abuse drastically affects a woman's life and psychological health. This is seen through changes in the way she views herself, her sense of safety, sense of control, relationship with others, and sense of meaning in the world. Because of these and other negative psychological effects, women may experience symptoms of post-traumatic stress disorder. These have previously been described within three main categories: 1) re-experiencing the traumatic experience; 2) avoidance of stimuli that is associated with the trauma with a resulting feeling of numbness; and 3) increased arousal (American Psychiatric Association, 2000). Herman (1997) describes how the incessant, chronic trauma may result in a situation where survivors "no longer have any baseline state of physical calm or comfort" (p. 86). In addition, the hyperarousal typical of post-traumatic stress disorder may be heightened. Sounds such as a raised voice, sudden movement, doors slamming or thunderstorms can trigger exaggerated anxiety (Dutton, 1992; Herman, 1997). This particular effect has implications for an environment that can facilitate healing and recovery. Since hyperarousal is a negative effect, environments that promote high levels of arousal would not be acceptable. Therefore, environments with low levels of stimuli should be designed. Additionally, because chronically traumatized women may no longer have a "baseline state of physical calm or comfort" (Herman, 1997, p. 86), comfortable and calming spaces should be encouraged. To design such spaces, we will look at the concept of restorative design and



biophilic design in the design response section.

The process of healing from psychological effects may include therapy such as the post-traumatic therapy described by Mary Ann Dutton. This process includes the following stages: 1) re-experiencing the trauma; 2) shame reduction; 3) anger work; 4) facilitating the grief process; 5) making meaning of the victimization; and 6) building a new life (Dutton, 1992). This process is understandably exhausting for women. This is especially evident during the first stage where re-experiencing the trauma may illicit just as intense feelings as if the abuse was happening (Dutton, 1992). Therefore, it would be reasonable to assume women may need emotional restoration or rejuvenation during this process. Concepts of restoration in the built environment will be discussed further in the section entitled *Restorative Design*.

2.2.3 Themes of Recovery: Design Guidelines for Children

According to Mental Health America (2010), children need both physical and mental health. Basic needs for good physical health include, “nutritious food, adequate shelter and sleep, exercise, immunizations, and a healthy living environment” (para 2). The basic needs for children’s mental health include: “unconditional love from family, self-confidence and high self-esteem, the opportunity to play with other children, encouraging teachers and supportive caretakers, safe and secure surroundings, and appropriate guidance and discipline” (Mental Health America, 2010, para 3).

In domestic abuse, many of the requirements for good health have been denied. As a result, children experience negative effects in



many areas. According to Lewis-O'Conner et al. (2006), the negative outcomes for infants and young children are evident in the following areas: social, emotional and cognitive deficits; brain chemistry and functioning; health outcomes and posttraumatic stress. For school-age and older children, these effects are evidenced through mental health issues, substance problems, and the attitudes that violence is acceptable (Lewis-O'Conner et. al., 2006). Additionally, "the autonomic hyperarousal state of hypervigilance and impaired concentration may compromise the learning ability of most school-age and high school students" (Arroyo & Eth, 1995, p. 30). The list of negative outcomes on children as a result of domestic abuse is substantial. For the purposes of this project, an exhaustive exploration into the effects is not necessary, but it is important to recognize domestic abuse can have a negative affects on all areas of a child's well-being. One of the focuses of this project is to create spaces that will integrate the important components for healthy childhood development and therapy.

The following exploration looks at the healing process for children within the framework of safety, empowerment, social support and psychological healing. These four themes of the healing process were identified as important for women surviving abuse. Due to the obvious developmental differences between children and adults, these categories will be modified to suit the healing needs of children. It is important to note there are additional elements to the healing process for children, but these four themes have been chosen for their relevance to this project and the importance to the healing process. Each section will look at an aspect of healing for children and how it may be facilitated through design.



2.2.3.1 Safety

Safety is a critical need for children, especially for those who have been exposed to domestic abuse. Safety is critical for healing because “children need to have a sense of security in all aspects of their lives so that they can grow up to be healthy and productive adults” (Centre of Knowledge on Healthy Child Development, 2010, para 3). For children exposed to abuse, this core developmental need has been disrupted and needs to be restored. According to Greenwald (2005), “kids feel safe when they know what to expect and what to do – when they feel that things are under control” (p. 37). This can be encouraged through enforcing consistent rules, preventing violence, and maintaining a daily routine (Greenwald, 2005, p. 37). The importance of safety is reaffirmed by Indira Gajraj and Andrew Bremness (2004) as they identify ensuring safety as a critical component to the first stage of the healing process (p. 16).

Second-stage housing also provides security for children through the provision for critical needs such as proper nutrition, exercise, access to proper health care, and other necessities. It is evident through this discussion that safety for children requires a consistent, caring environment. Implications for the interior environment may include child specific spaces that provide a sense of security through defined boundaries while still allowing for the autonomy of a child to grow by offering opportunities for freedom and choice within a safe, protective sphere.

The requirement for a sense of safety has implications for design as it will be important to create clear boundaries between spaces, particularly those that will be used frequently by children. Some ways in which boundaries can be made clear is by creating definable thresholds



between spaces. Thresholds have also been found to be an important design element in privacy and for a sense of control in space as identified in the previous section. A non-institutional, smaller-scale atmosphere will also likely contribute to a sense of safety as children may feel there is a greater sense of familiarity. This may create less anxiety and may appear less intimidating for children (McGowan & Kruse, 2003). Additional issues of safety will be addressed through the creation of an empowering, developmentally appropriate space.

2.2.3.2 Empowerment/Increased Individual Functioning

Due to age and developmental differences, empowerment is different for children than adults. For the purposes of this discussion, empowerment for children will be defined as increasing individual functioning. For children, increasing self-management skills and strength-building is important for trauma treatment (Greenwald, 2005). By developing self-management skills, children improve their physical and psychological safety and affect regulation (Greenwald, 2005). This has many positive effects including an increased “sense of safety and security, because the more they are able to control themselves the better they are treated by others and the more supportive their environment becomes. At the same time, kids become more competent and confident, as well as emotionally stronger, and are able to handle progressively greater challenges” (Greenwald, 2005, p. 33). For younger children, play is extremely important for normal child development. Encouraging play can be seen as empowering for children since it encourages normal, healthy childhood development. Additionally, play is an important component of psychotherapy with children (Van Horn & Lieberman, 2006). Play is



important since it is “the child’s primary mode of symbolic expression. In play, children can repeat anxiety-provoking situations in order to master them and alter the outcomes of frightening events to make them more palatable” (Van Horn & Lieberman, 2006, p. 93). Empowerment is fostered in children by helping them develop the skills and strengths necessary for healthy development and functioning. Equipped with necessary skills and strength, children have a greater chance at success throughout their life.

Empowerment through improved individual functioning can be facilitated by designing developmentally appropriate spaces that will encourage growth and recognition of personal strengths. In order to limit the scope of this project, focus will be placed on preschool children ages two to six years. This age was chosen because these children are not yet in school and will spend a substantial amount of their time at the second-stage house. While acknowledging this is a limitation to the project, it is likely the principles of safety, empowerment, social support and psychological healing for women and children of preschool age will still have a positive effect on other age groups. The guidelines used to create a developmentally appropriate environment for preschool age children will be informed by the Best Practices Licensing Manual for Early Learning and Child Care Centres (Government of Manitoba, 2005) and the Interior Design Graphic Standards (McGowan & Kruse, 2003). From these sources, guidelines for important developmentally appropriate and empowering characteristics included in the design will be:

- Equipment sized for children ages 2-6
- Ample space for accessible design
- Private space allowing for one or two children
- Plenty of space to display children’s work

- 
- Natural light provided by windows that will constitute a minimum of 10 per cent of the floor space
 - Low window sills and windows that frame interesting views
 - Ability to control ventilation with windows and fans
 - Opportunity for children to choose their own play activity
 - Quiet and active play separated, and partitions created so children must walk around activity spaces
 - Wet and dry regions incorporated to facilitate different types of developmentally appropriate activities
 - Dry region to include an active zone and a quiet zone
 - Incorporation of activities such as dramatic play, fine motor skills, block activities, sand and water tables, and large muscle activities
 - Opportunity to engage in activities that promote creativity, literacy and science related knowledge
 - Multicultural and inclusive experiences
 - Flexibility
 - Connecting the child to nature
 - Stimulating wonder and joy

These general guidelines, will be used to create a developmentally appropriate and empowering space for preschool children.

2.2.3.3 Social Support/Parent-Child Relationship

According to Berger (2008), “all theories of development agree that healthy human development depends on social connections” (p. 191). As previously discussed, increasing social support for women is critical to recovery and involves the connection of women to each other and connections with other supportive people. Connection to other children,



child care providers, family, and the wider community is all important for children, but the key relationship that is critical during recovery is the parent-child relationship. According to the National Child Traumatic Stress Network (2010), “an essential component of intervention with all children is the priority of supporting and strengthening the relationship between the non-offending parent and the child. For most children, a strong relationship with a parent is a key factor in helping a child heal from the effects of domestic violence” (para. 3). This is particularly evident for young children, when attachment is critical for healthy development (Centre of Knowledge on Healthy Child Development, 2010). According to Lieberman and Van Horn (2007), “one of the most damaging by-products of early trauma is the loss of the parents as a safe haven from danger and a secure base from which to explore. Treatment involves identifying and practicing ways of repairing this loss of trust by fostering empathic recognition and response to social and emotional cues between the parent and the child” (p. 125). Fostering connection, trust, and attachment between child and mother is an important component of healing for children. By recognizing this importance, second-stage housing should provide ample opportunity for mothers and children to connect.

Depending on their level of development and age, connection to peers may play a greater or lesser role in their lives. The parent-child bonding that has been seen as critical to healing can be facilitated through therapeutic interventions and simply through opportunities for parents and children to spend one-on-one time together as a family. This can occur within the individual family suites, or in varying degrees within the common spaces throughout the house. The need for social support



can also be facilitated through provision for various levels of privacy. Within the supervised activity spaces, children should be provided space for both individual and group play. Additionally, a child's bedroom can be an excellent place for children to experience privacy. According to Stewart-Pollack and Menconi (2005), children experience privacy different than adults, and the residential bedroom is an important place to experience time alone within the familiar residence. In their bedroom, "a child can fantasize, develop self-identity, and most of all exercise some control over access to his or her world" (Stewart-Pollack & Menconi, 2005, p. 81). Individual bedrooms, or individual spaces within bedrooms, will be a place where privacy can be achieved for children. This may include the provision of small, enclosed spaces. According to Stewart-Pollack & Menconi (2005), "enclosure satisfies strong needs for privacy, represents protection from the outside world, and furnishes the feeling of belonging (place attachment) to a specific place" (p. 80).

2.2.3.4 Psychological Healing

Exposure to trauma, such as domestic abuse, greatly impacts the psychological well-being of a child. It has been found that many children exposed to trauma exemplify post-traumatic stress disorder (Smith, Perrin, Yule & Clark, 2010) in addition to other negative effects. Healing from domestic abuse often includes a component of therapeutic treatment to foster psychological healing. In second-stage housing, counseling is provided to help children heal from these effects. Some techniques may include play therapy and mother-child therapy. For older children, therapy may include retelling the trauma in order to facilitate trauma resolution (Greenwald, 2005). According to the National Child Traumatic



Stress Network (2010), mental health treatment can help children by giving them a chance to talk “and make sense of their experiences in the presence of a caring and neutral counselor” (para. 4). As a result of exposure to abuse, children may develop “cognitive distortions or misunderstandings about what has happened or why it happened such as blaming themselves, blaming the victim, and blaming police or other authorities who attempt to intervene” (National Child Traumatic Stress Network, 2010, para. 4). A therapist can help work through these issues with children and correct misunderstandings (National Child Traumatic Stress Network, 2010).

Of utmost importance for psychological healing is that it occur within a safe environment. This is critical for a child to trust and open up to the counselor. It has also been suggested that a healing environment may include contact with nature or features of nature (Ulrich et al. 1991). Contact with the outdoors is seen as important for children in child-care settings (Government of Manitoba, 2005). For these reasons, nature should be incorporated in the interior. As well, provision for safe exploration of the outdoors should be encouraged.

2.2.3.5 Conclusion

The importance of safety, increasing individual functioning, parent-child relationship, peer relationship, and connection with nature will be exemplified in the child care spaces. The common areas and individual rooms will also be spaces where these characteristics will be incorporated. A discussion of the specific design elements and concepts used to achieve these goals will be discussed in the final chapter, called *Design Proposal*.



2.3 Design Concepts

The goal of this practicum project is to design an environment that facilitates healing and recovery. To achieve this goal, the environment must be sensitive to the trauma that woman and children have experienced and compatible with the healing and recovery process. In the section 2.2 *Healing and Recovery*, four themes of healing were identified from the literature and will be used as design guidelines. These were identified as: safety, empowerment, social support, and psychological healing. This section of the literature review explores how design concepts and elements can be used to convey the four identified themes of healing and create a recovery environment for trauma-survivors. Concepts of territory and privacy have been chosen to directly respond to the healing and recovery themes of safety, empowerment, and social support. Concepts of restorative design have been chosen to address the final theme of psychological healing.

Each theme of healing and recovery adopted now as design guidelines, corresponds to a specific design concept. Figure 3 visually depicts how the earlier part of the literature review connects with the design response.

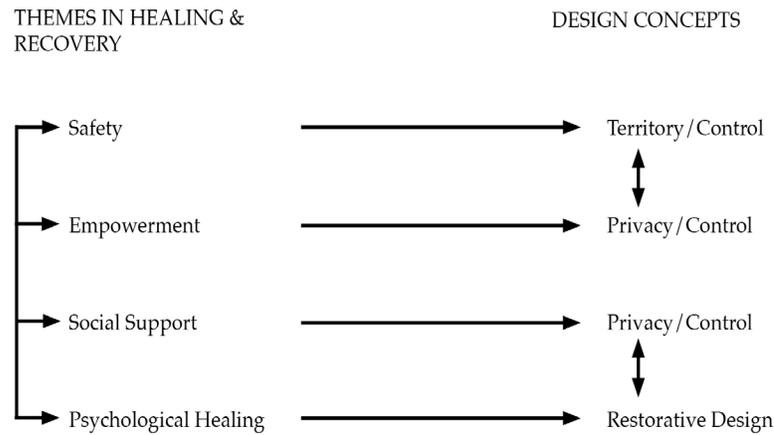


Figure 3. Connection between Healing and Recovery Literature Review and Design Concepts Literature Review.

The following is an outline of the connections between each theme in the recovery process and the corresponding design concept.

1) Safety, has been identified as a primary goal in healing and recovery (Refer to section 2.2.2.1: Safety) and requires protection from the abuser. This protection involves the ability to control who enters or leaves a space. This type of control is directly addressed through the concept of territory and will be reviewed in light of the writings of John Habraken and in light of some of the concepts of environmental psychology.

2) Empowerment was identified as a core theme in the healing and recovery process (Refer to section 2.2.2.2: Empowerment). Essential to empowerment are the concepts of privacy and control within the built environment, which is reviewed in light of some of the concepts of environmental psychology and the design suggestions of Julie Stewart-Pollack and Rosemary Menconi (2005).

3) Social Support is another key theme in the healing and recovery



process (Refer to section 2.2.2.3: Social Support). Since the trauma of abuse involved disempowerment and separation from others, healing involves the re-creation of connection to others (Herman, 1997). The full concept of privacy speaks to this theme in recovery since privacy is a dialectic process of separation from, and connection to, others. Design strategies that promote connections to others and allow for the regulation of the interaction with others are strategies that will facilitate social support.

4) Psychological Healing is the final theme identified in the review of the healing and recovery process (refer to 2.2.2.4: Psychological Healing). Theories such as attention restoration theory, stress-reduction theory and applications of restorative and biophilic design will be included. While psychological healing may be one of the more difficult concepts to realize through design, the literature suggests that design informed by nature can have healing effects.

There is some crossover between the concepts described in the design response. Territory and privacy overlap because they both deal with the concept of control, specifically, "an individual's control of access to self" (Gifford, 2002, p. 225). Therefore, although the concepts of territory and privacy are proposed to apply to specific themes of recovery, they will overlap with multiple themes. Concepts of privacy and restorative design cross over because, as will be discussed, privacy offers an opportunity for emotional release (Westin, 1967) and the potential for rejuvenation and recovery (Penderson, 1997), just as restorative design offers an opportunity for rejuvenation (Kaplan & Kaplan, 1989; Ulrich, 1991).

For ease of discussion, this portion of the literature review is divided



into two parts: *Control and the Built Environment*, and *Restorative Design*. *Control and the Built Environment* investigates concepts in environmental psychology and architecture that enhance a user's sense of control within a space. *Restorative Design* investigates the way that natural elements can be integrated into the interior to achieve a restorative and potentially healing environment. This will lay the groundwork for design strategies that will inform the design of *River Tree*. This review discusses the current concepts and theories that pertain to the four themes of recovery and healing. The final chapter, *Design Proposal*, synthesizes the information gathered in all three sections of the literature review, and explains why specific design choices were made in light of this knowledge.

2.3.1 Control and the Built Environment

As mentioned in the section 2.2.2.2 it is critical that every component of the recovery process reaffirm a woman's sense of control because it is essential for the process of empowerment, and is a common element in all the themes of the healing process. The built environment can facilitate a user's sense of control and support this essential concept of trauma recovery. In this section, concepts of territory are discussed relative to writings of architect N. John Habraken (1997) and relative to concepts in environmental psychology. Using concepts from prominent authors in environmental psychology, Irwin Altman (1976), Alan Westin (1967), and design application from Julie Stewart-Pollack & Rosemary Menconi (2005), privacy is proposed as a design application that facilitate healing and recovery.

2.3.1.1 Territory

An important way the built environment exemplifies control, according to Habraken, is through territory. Territorial control is the power to determine “what comes in and what stays out” (Habraken, 1997, p. 127). People control space through such actions as opening and closing partitions and using objects to delineate the areas they occupy and desire to control. Territorial depth is the succession of territories, one inside another and is “measured by the number of boundary crossings needed to move from the outer space to the innermost territory” (p. 137). For example, a bedroom territory is situated within the territory of the house, which is situated within the neighborhood territory.

From an environmental psychology point of view, territoriality according to Gifford (2002) is defined as:

...a pattern of behavior and attitudes held by an individual or group that is based on perceived, attempted, or actual control of a definable physical space, object, or idea that may involve habitual occupation, defense, personalization, and marking of it. (p. 150)

In this definition, we see that territoriality involves a set of behaviors used to ascertain control of physical space. Involved in these behaviors are actions such as occupation and the capacity to disallow entry. Acts taken within the space to make it our own and related to our sense of identity are referred to as personalization, and defining space through placement of objects is called marking (Gifford, 2002). It is evident that the built environment is used to define territory. People manipulate the physical environment through behavior such as erecting walls, adding doors, and placing objects to mark territory and identity. It is proposed that environments that allow for the user to make changes to their



environment, and control physical forms within the environment are ideal for establishing territory. Environments that are flexible allow for changes to be made by the user and are thus proposed in the design of *River Tree*.

Concepts of control and territory are closely linked to notions of privacy. Strategies to improve control over territory are also found in concepts of privacy. The following section is a more in-depth look at privacy and its role in facilitating a sense of control in the environment.

2.3.1.2 Privacy

Privacy is defined by social psychologist Irwin Altman (1976) as “selective control of access to the self or to one’s group” (p. 8). Privacy involves controlling one’s exposure to other people. It involves the constant choice about how much contact we have with others. According to Altman (1976), privacy is a dialectic process and a “continually changing process, which can range from wanting to be accessible to others, to wanting to be alone” (p. 12). The physical environment is a significant factor in regulating privacy and provides opportunities to carry out the ever-changing needs for social interaction and separation. Gifford (2002) explains that “the physical environment plays a key role in facilitating privacy regulation; it can either make the task easy or force those with few architectural resources to become creative in their search for privacy” (p. 231).

Privacy is a factor for well-being and according to Dahrl M. Penderson (1997), “privacy is an important human need” (p. 147). Alan Westin’s (1967) theory that privacy is important for four essential factors is recognized as a good framework for research (Gifford, 2002) and an accepted theory in environmental psychology. Westin (1967) proposes



that privacy is important for 1) communication, 2) our sense of control and autonomy, 3) our sense of identity, and 4) emotional release. Research conducted by Dahrl Penderson (1997) has reaffirmed many of Westin's (1967) views, but has also brought forward additional benefits of privacy. According to Penderson (1997), privacy allows for the opportunity for rejuvenation and recovery. These additional benefits of privacy are relevant for trauma-survivors as it was concluded in section 2.2.2.4 that survivors undergo an intense recovery process and it is reasonable to assume that they will need emotional restoration or rejuvenation.

As previously mentioned, design can facilitate or hinder the users ability to regulate privacy. The more conducive the environment is to privacy related needs, the more likely that the users of the space will experience the positive benefits of privacy. Since restoring a sense of control is essential to the empowerment process for trauma survivors, an optimal environment is one that encourages a sense of control through privacy.

It is evident that an individual's ability to control interaction with others is important for healthy functioning and critical for a second-stage house where women are in the recovery process. The ability to regulate interaction with others is key to the concept of privacy (Altman, 1976). This includes both separation from people and connection to others. The opportunity to connect with others is especially important for women leaving abusive relationships since they may have been prevented from having contact with others and, as a result, may be in need of supportive relationships (Abrahams, 2007 & Herman, 1997). The benefits of social interaction and the need for community are seen as important factors in healing from abuse (Abrahams, 2007). As such, it is important for the



design to facilitate interactions between the women. As discussed in section 2.2.3.3 it is also important to support family relationships between the mother and her children. Design elements that facilitate privacy within a family setting are needed to support these connections. Using the forthcoming list compiled by authors Stewart-Pollack and Rosemary Menconi (2005) as a guideline, the plan for *River Tree* will include many of the design elements identified as important for privacy.

In *Designing for Privacy and Related Needs*, Julie Stewart-Pollack and Rosemary Menconi (2005) describe the key characteristics of the built environment that promote privacy. These characteristics are an excellent summary of literature pertaining to design for privacy related needs. They are:

- Spatial Hierarchy
 - Progression of space from less private to more private
- Spatial Depth
 - The number of spaces required to pass through in order to get from one point to another
- Circulation Paths
 - Providing places where people can pause and interact with others and the environment
 - Generous and well lit spaces
 - Adjacency to common areas
 - Opportunity to provide coherence or order in the environment
 - Opportunity to encourage mystery as the spaces unfold
 - Increased mystery if the spaces that unfold have a connection to nature



- Sociofugal & Sociopetal² Spaces
 - The use of sociofugal arrangements to discourage interaction and communication in order to promote solitude or anonymity in high-density areas
 - The use of sociopetal arrangements to encourage interaction and support the need for intimacy
- Thresholds
 - Places of transition
 - Implied and literal barriers
 - Symbols of territory or connection
- Stimulus Shelters
 - Places to pause and gain reprieve from over-stimulation in the environment
 - Potential to be restorative as spaces provide a chance “to get away from situations that demand too much directed attention”
 - Rooms within rooms that offer privacy while still possessing a sense of connection with others (examples include alcoves and window seats)
- Light
 - Natural light to promote physical and emotional health
 - Potential for restoration since it “is always changing, never uniform, with variations of brightness and contrast of shadows. This quality of natural light helps to create involuntary attention. It provides qualities of mystery, fascination and connection” (p. 58).

² Sociopetal furniture arrangements are groupings of furniture facing one another and allowing comfortable distance for discussion. For example, a circular furniture arrangement is often considered to be sociopetal. A sociofugal seating arrangement discourages interaction, facilitating a sense of autonomy. Linear seating arrangements typical of waiting rooms are often considered to be sociofugal.

- 
- Lower light levels in private areas
 - Light to come from at least two different directions to facilitate restoration
 - Color
 - Warm colors for active and social spaces
 - Cool colors for calm spaces
 - Warm light to reflect nature's aesthetically pleasing qualities
 - Prospect & Refuge
 - Opportunity to see without being seen
 - Human preference for spaces that offer security, while at the same time being able to see the world beyond
 - Architectural elements: e.g. cloister, window seat

It is important to recognize that privacy needs are in constant flux.

It is critical for the users of the space to have the opportunity for both privacy and interaction, and to be able to control those interactions. When designing for privacy, therefore, one must provide a variety of environments that allow for social interaction within a large group, interaction on a more intimate level, and opportunities for complete privacy. Designing to allow for choice is one way in which the interior will encourage empowerment, social support, and control in the environment. By providing an interior that facilitates choice, it can support and reflect the healing that is occurring in the lives of the women in recovery.

This section has presented the key concepts of privacy in the environment. The list by Stewart-Pollack and Menconi (2005) has provided a framework for the environmental elements that foster privacy. Interestingly these authors propose that there is an overlap between



concepts of privacy and restorative design. In the following discussion, restorative design is reviewed. Within this review, notions of privacy will also be evident. Both of these concepts have positive implications for an environment that is most suitable for trauma-survivors.

2.3.2 Restorative Design

There is growing empirical evidence that exposure to nature, or natural-like features in the environment can promote healing and have a restorative effect in people. Since the goal of this project is to facilitate the healing and recovery process for trauma-survivors, restorative design is explored as a means to facilitate the healing and recovery needs of trauma-survivors. This section includes an investigation into the prominent theories of restorative environments, as well as an examination of biophilic design as a strategy to promote restoration.

2.3.2.1 Restorative Environments

Humans have long displayed a preference for nature, but proof of its benefits have remained largely under-researched. Within the last three decades, however, there has been increasing interest in qualitative research on the impact nature can have on human health. Primary quantitative research on the positive effects of nature have centered around restorative environments. Restoration is the process of replenishing depleted resources (Hartig, Bringlimark & Grindal Patil, 2008, p.140), and restorative environments are places where humans experience recovery from depleted resources as a result of mental fatigue and stress. The two major theories proposed for the way we replenish our resources are found



in *Attention Restoration Theory* by Rachel Kaplan and Stephen Kaplan (1989) and in *Stress Reduction* by Roger Ulrich (Ulrich, Simons, Losito, Fiorito & Zelson, 1991). These authors propose that nature incorporated into the environments in which we live, work, and play make better spaces to facilitate healing and restoration. This project proposes that, by incorporating nature into the interior environment of a second-stage house, recovery and healing can be promoted by reducing stress in the environment, giving a chance to 'get away', and appealing to resident's innate desire as humans to connect to nature.

2.3.2.1.1 Attention Restoration Theory

Stephen and Rachel Kaplan (1989) propose that through daily tasks and demands on our attention, we deplete our capacity to direct our attention. Directed attention is used daily and includes the conscious focus on tasks and goals. Kaplan and Kaplan suggest that we require periodic restoration in order to replenish this depleted capacity that occurs over time. They propose that by providing opportunities for fascination where no effort is required, we can replenish our mental capacity and ability to focus our attention. Specific features of the natural environment promote restoration by giving opportunity to mentally 'get away' from everything. According to attention restoration theory, recovery of directed attention is most prevalent in environments that offer the following four features: 1) fascination, 2) being away, 3) extent, and 4) compatibility.

1) Fascination. Restoration is encouraged through effortless attention with interesting aspects of the environment. Shifting attention to something interesting and that does not require effort to engage, can



help restore one's mental capacity to direct attention.

2) Being away. Attaining psychological distance from the pressures and demands of life can promote restoration of directed attention. It is not always necessary to be removed to a different location all together to achieve the sense of being away. According to Kaplan (1995) "a change in the direction of one's gaze, or even an old environment viewed in a new way can provide the necessary conceptual shift" (p. 173).

3) Extent. This concept refers to the idea of being in a different world. This feeling can occur in environments that feel significant in scope and give the perception of connection to a larger whole.

4) Compatibility. The space must be functional and tasks should be easily carried out to reduce the fatigue on directed attention and to support human effectiveness.

In addition to the concepts mentioned above, Kaplan and Kaplan (1989) have found people prefer environments that demonstrate coherence, complexity, legibility, and mystery. These characteristics are also recognizable in natural settings. Coherence involves the organization of a space and is demonstrated through an ordered setting. Complexity refers to "the richness of the elements in a setting" (Kaplan, Kaplan & Ryan, 1998, p. 14) which offer variety and multiple positive stimuli. Legibility refers to how easily an environment is to "understand and to remember" (Kaplan & Kaplan, 1989, p. 55). Finally, mystery refers to a sense of enticement, or a sense of being drawn into a space. It is the promise of more intriguing or interesting experiences further ahead. These characteristics, according to Kaplan, Kaplan & Ryan (1998), contribute to the amount of comfort people feel in a place.

According to Kaplan and Kaplan (1989), the criteria for a restorative



environment are readily recognizable in natural environments. This concept has been validated by Hartig, Mang and Evans (1991) in their study with restoration from cognitive fatigue. Their research demonstrated a connection between natural environments and recovery from mental fatigue. Although restoration is prevalent in natural environments, these are not the only places where restoration can be achieved. Interior spaces can be designed to incorporate natural features that encourage fascination, a sense of being away, and the perception of extent and compatibility. This can be done while providing the preferred characteristics of coherence, complexity, legibility, and mystery. In the earlier discussion on privacy, Stewart-Pollack & Menconi (2005) offered some suggestions about the way the environment can foster both restoration and privacy while incorporating many of the features the Kaplan's suggest. Additionally, biophilic design that will be discussed later, offers design suggestions that connect strongly to the Kaplan's restorative characteristics. These strategies for incorporating nature into the interior, have the potential to bring restorative characteristics of the outdoor environment, inside.

2.3.2.1.2 Stress Reduction

A second theory of restorative environments is based on the concept of stress reduction. Roger Ulrich is a pioneer in this field and proposes that certain natural environments and features possess stress reducing characteristics that aid in restoration and healing. According to Ulrich et al. (1991), "restoration or recovery from stress involves numerous positive changes in psychological state, in levels of activity in physiological systems, and often in behaviors or functioning, including



cognitive functioning or performance" (p. 202). Viewing natural scenes has been proven to illicit restorative effects. In a study on recovery from viewing a stressful movie, Ulrich found individuals recovered faster when they were exposed to natural settings as opposed to urban settings (Ulrich et al. 1991). There was improved recovery as seen by self-ratings and physiological responses such as heart period, muscle tension and skin conductance. This study showed there is a positive correlation between nature and recovery. This and other studies (Ulrich, 1984) suggest nature has a positive impact on recovery from stress.

Ulrich has been instrumental in bringing the healing potential of nature into the built environment, particularly in health care, and his research has shown humans possess an innate preference for natural environments. Whether our restoration is accomplished through attention restoration, relief from stress, or an innate affiliation to nature, it is clear contact with nature and nature-like forms can promote restoration. Design strategies that facilitate this contact have already been discussed in light of an attention restoration perspective (Kaplan & Kaplan, 1989). Additional design strategies for integrating nature and the healing and restorative potential will be discussed in the following section called *Biophilic Design*.

2.3.2.2 Fostering Restorative Environments through Biophilic Design

In the previous section, it was proposed that restorative environments reflect characteristics found in natural environments. That proposition suggests that restoring one's capacity for directed attention and reducing stress can have restorative effects. A second set of characteristics that enhance a connection to nature and the positive



benefits of restorative and stress-reducing effects found in nature is biophilic design.

Biophilic design originated from the belief that humans have an affinity for life and life-like processes. This theory, called biophilia, was proposed by E. O. Wilson (1984) and, as discussed, has been supported by studies that show nature has a positive effect on humans (Ulrich et al. 1991, Kaplan & Kaplan, 1989). Although the origins of human's affinity for life have been questioned (Wood, 2001), it appears that humans display common preferences for nature. The core concepts behind biophilic design according to Kellert (2005) include *organic design* and *vernacular design*. Organic design is informed by nature and processes found in nature. Vernacular design involves the integration of local culture, history, materials, and ecology to create a strong sense of place. For the purposes of creating a restorative environment that is inclusive and relevant for trauma survivors from multiple cultures, the focus of this discussion will be on organic design and how it can facilitate a restorative environment. Aspects of vernacular design will be integrated to a much smaller extent into the design through the use of local materials and nature that is consistent with the ecology of Winnipeg, Manitoba. Since there will be a strong focus on organic design, the following is a brief overview of this concept.

Organic design is design that celebrates the processes, forms, and characteristics of nature. It is design that reflects nature, is informed by nature, and facilitates an experience with nature. According to Stephen Kellert (2005), organic design can be categorized into three distinct experiences with nature. These include experiences that are direct, indirect, and symbolic. In the built environment, direct experiences



include natural light, natural ventilation, plants, soil, water, geological forms, fire, animal life, direct views of nature, and exposure to water. Indirect experiences may occur in environments that reflect nature and natural processes. This experience is facilitated through natural materials and forms that depict broad conceptual interpretations of nature. Design that is informed by concepts of restorative design (Kaplan & Kaplan, 1989) and the theory of prospect and refuge (Appleton, 1996) may also facilitate indirect contact with nature (Kellert, 2005).

The final category of organic design, according to Kellert (2005), is symbolic experience that is facilitated through “representation, allusion and metaphor” (p. 150). Often evident in ornament and decoration, natural forms can be expressed by mimicking forms found in nature. This can be achieved through curvilinear forms, pattern, fractal geometry, and other forms of biomimicry. Using patterns that repeat with slight variations instead of exact replications seem to “constitute wholes that appear coherent, organized, and attractive” (Kellert, 2005, p. 160) and mimic natural process.

This project aims to incorporate aspects of biophilic design in order to create opportunities for restoration and potential healing. As biophilic design is a large topic, synthesis of the main concepts of biophilic design is required. This project will utilize the eight characteristics of a biophilic building that have been proposed by Judith Heerwagen and Betty Hase (2001) and have also been discussed by Stephen Kellert (2005) as a framework for biophilic design. These characteristics will be strategically integrated into the design to facilitate a connection to nature and, in turn, a restorative effect on the users of the space. A discussion about the most relevant use of these characteristics in a trauma-informed



environment will be discussed in the Design Proposal chapter. These eight characteristics are as follows:

1. Prospect
2. Refuge
3. Water
4. Biodiversity
5. Sensory Variability
6. Biomimicry
7. A Sense of Playfulness
8. Enticement

1. *Prospect* refers to a place that offers a view into the distance.
2. *Refuge* is a place of enclosure and shelter. As previously discussed in the section on privacy, window seats and alcoves are excellent interior features that facilitate prospect and refuge.
3. Integration of *water*, or water-like features is considered a characteristic of biophilic design and may have healing or restorative benefits. The strategic location of *River Tree* near the Seine River offers a visual and physical connection to water.
4. *Biodiversity* is the integration of varied types of vegetation and animals. In the interior, biodiversity may be integrated through strategic views to the exterior environment.
5. *Sensory variability* incorporates changes in “environmental color, temperature, air movement, textures, light over time, and spaces” (Heerwagen, Hart, 2001, Table 1) and encourages integration of “natural rhythms and processes” (Kellert, 2005, Table 5.1).
6. *Biomimicry* is design informed by nature or natural processes and may include patterns, forms, and textures inspired by nature. Patterns called



fractals are evident in nature and may facilitate biophilia. Fractal characteristics are those that exemplify “self-similarity at different levels of scale with random variation in key features rather than exact replication” (Heerwagen, Hart, 2001, Table 1). This is evident in the form of a tree as the branches become progressively smaller while still maintaining similar characteristics and form as the larger branches.

7. *A Sense of Playfulness* is defined as “incorporation of décor, natural materials, artifacts, objects, and spaces whose primary purpose is to delight, surprise, and amuse” (Heerwagen, Hart, 2001, Table 1). For the design of a second-stage house, this characteristic should be used carefully and sparingly. It should only be used to enhance the expression of organic design and restorative environments and should be used with the healing and recovery needs of women and children in mind.
8. Finally, the characteristic of *enticement* involves discovery and complexity and has similar features as the concept of mystery described by Kaplan and Kaplan (1989).

These eight characteristics in conjunction with the concepts discussed throughout this literature review will be used to inform a design that facilitates the recovery and healing needs of women and children. Inspiration drawn from natural materials in the surrounding area will be used to inform the material pallet. This inspiration (Figure 4) expresses the local ecology of Manitoba and encourages an integration of natural materials. As mentioned previously, the final design choices in relation to a trauma-informed approach will be discussed in the Design Proposal chapter.

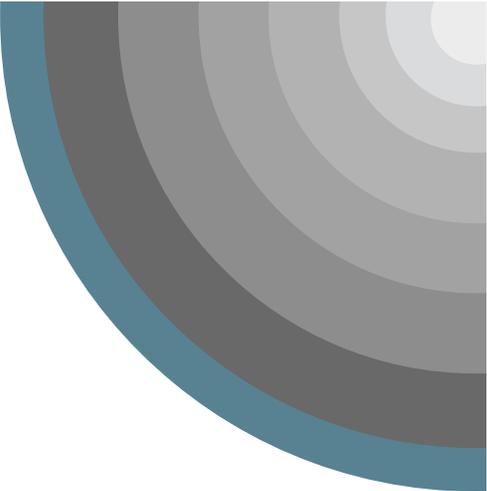
This chapter has presented potential design strategies to achieve



the four design goals of safety, empowerment, social support and psychological healing. These design response concepts provide a foundation from which to approach the design. The main concepts of territory, privacy, and restorative design have been proposed as design strategies. The next chapter includes an investigation of precedents that display these three design strategies successfully. These precedents will offer inspiration and practical strategies to achieve the design intention of this project.



Figure 4 . Material inspiration depicting the local ecology of Manitoba and fostering restorative design and a connection to nature. Photos by Naomi Duddridge.



CHAPTER THREE

PRECEDENT ANALYSIS



3 PRECEDENT ANALYSIS

The following three precedents demonstrate characteristics of trauma-informed, and healing environments. Each precedent satisfies one or more of the design concepts that were identified as important in the creation of a trauma-informed environment (Section 2.3, *Design Concepts*). The concepts are:

- Territory
- Privacy or Control
- Restorative Design

These precedents offer practical design strategies that will be used to inform the successful design of *River Tree*. In this section, each project is reviewed for its potential application to the final design proposal.



3.1 *Strachan House*

Strachan House is an innovative housing project in Toronto, Ontario that provides short and long-term housing to chronically homeless men and women. A key component to this project's success was the designer's understanding of the specific needs of its clients. By working with the men and women who would use the space, the design solution became a response to the specific needs of this group. Strachan House pushes the conventional boundaries of housing to exemplify how, through collaboration and understanding of the needs of the user, exciting and successful projects are born.

Using the concept of a 'city within a city' (Levitt Goodman Architects, n.d.), the architects incorporated characteristics of the urban environment through spatial organization and materials. The three-storey industrial building incorporates materials such as exposed timber, concrete, and unpainted surfaces to reflect the urban environment to which many of the residents were accustomed (Klassen, 2003). Within the interior there are a variety of spaces where "streets, defined by colored concrete paths, provide an organic streetscape meandering among the little plazas, gathering spots, living and dining rooms, balconies, nooks and cul-de-sacs" (Klassen, 2003, p. 47). Each floor has a main street with four 'houses' on each street. These 'houses' are a grouping of four to seven private rooms with a common kitchen, dining, and washing area. Through conversations with the future users, the architects learned it was important for the client "that they be able to define and build their own housing area" (Levitt Goodman Architects, n.d.). Personalization of space was encouraged through design considerations such as the porches outside each room (Klassen, 2003).

STRACHAN HOUSE



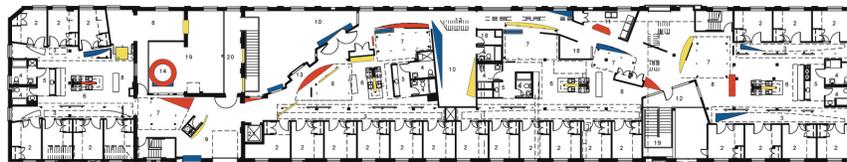
Figure 5. Common Kitchen. Image courtesy of Levitt Goodman Architects.



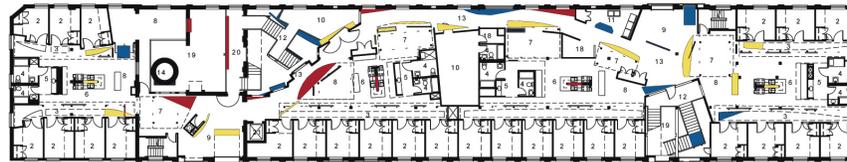
Figure 6. Atrium. Image courtesy of Levitt Goodman Architects.



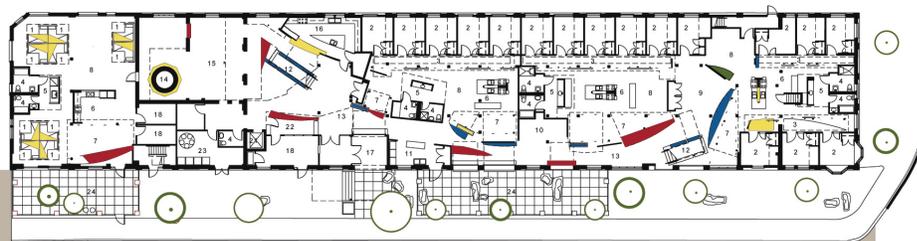
Figure 7. Individual Suite. Image courtesy of Levitt Goodman Architects.



THIRD FLOOR PLAN



SECOND FLOOR PLAN



GROUND FLOOR PLAN

- | | | | | | |
|--------------------------------|------------------------------|--------------------------------------|------------------------|---------------------|------------------------|
| 1. Sleeping nooks. | 5. Wash areas. | 9. Shared lounge for pair of houses. | 13. Street. | 17. Front Entrance. | 21. Elevator. |
| 2. Bedroom. | 6. Kitchen. | 10. Shared lounge for floor. | 14. Chimney. | 18. Staff. | 22. Reception. |
| 3. Bedroom porch with trellis. | 7. House porch with trellis. | 11. Laundry Room | 15. Townhall. | 19. Open to Below. | 23. Garbage/Recycling. |
| 4. Washrooms. | 8. Shared room for house. | 12. Stairs | 16. Community Kitchen. | 20. Bridge. | 24. Enclosed Terrace. |

LEGEND

Figure 8. Strachan House Floor Plan. Image courtesy of Levitt Goodman Architects. Figure 5-8. Copyright permission obtained January 14, 2010.



An additional feature of this project is the two large staircases at either end of the 'main street'. These staircases visually connect the three floors and encourage a stronger sense of community throughout the building (Levitt Goodman, n.d.). According to Klassen (2003), "during bi-weekly Town Hall meetings, the stair is transformed into part theatre, part observatory, as residents participate in the discussions from various levels, perches and vantage points" (p. 44).

Strachan house was chosen as a precedent because it exemplifies how territory and privacy design considerations facilitate a user's sense of control within a space. These components have been identified as important to facilitating a trauma-informed environment (section 2.3, Design Concepts). Through the innovative floor plan and the graduation of public and private space, this project facilitates healthy communal living, while providing individual spaces for residents to personalize and control. The use of nooks and unprogrammed space provides opportunity to find refuge amidst the public realm. Design innovations such as a half door in the private areas allows users to control their interactions with others. These half doors act as windows into the suites and can be opened to allow for community interaction, or closed for more privacy. Each house, containing five to six individuals, has a common room that can be shared between the members. This is an additional way that social interaction is fostered between small groups of individuals.

Strachan house is an example of successful community housing that is designed to meet the current and specific needs of a user. It exemplifies how understanding the issues surrounding the project and the users can help create new and effective solutions that best meet the users needs.



3.2 Seven Directions

Seven Directions, designed by Pyatok Architects and located in Oakland, California, is a project that displays how community, culture, and individuals can be joined to create a place of hope and healing. This project the result of extensive collaboration between the architects and the Native American community in Oakland (Yellowman, 2006).

Seven Directions consists of five floors; two floors for health services and three floors for residential apartments. Features of this building include dental, medical, and nutritional services, courtyards for gathering, and affordable housing. The project expresses Native American values through symbolism and interior artwork and design. (Pyatok Architects, n.d.). For example, the image of the Medicine Wheel is laid into the lobby floor, visually expressing the healing and cultural emphasis of the building. Visible from the lobby is the Garden of Seven Generations. This is an important aspect of the building that can be seen from all floors. In the *Seven Directions Promotional Video* produced by the Native American Health Center (2007), Darby Price (Cherokee), a board member of the Native American Health Center, describes the significance of the garden:

“This has a lot of spiritual significance that’s very important from a Native American point of view – a kind of holistic approach of being connected to nature and the earth. So, we wanted people to be able to come outside here, especially in times of stress” (Native American Health Center, 2007, 5:39).

This precedent demonstrates how using privacy regulating techniques in the built environment can create a sense of community while allowing for individual privacy. Through successful incorporation of both communal areas and residential spaces, the space creates

SEVEN DIRECTIONS

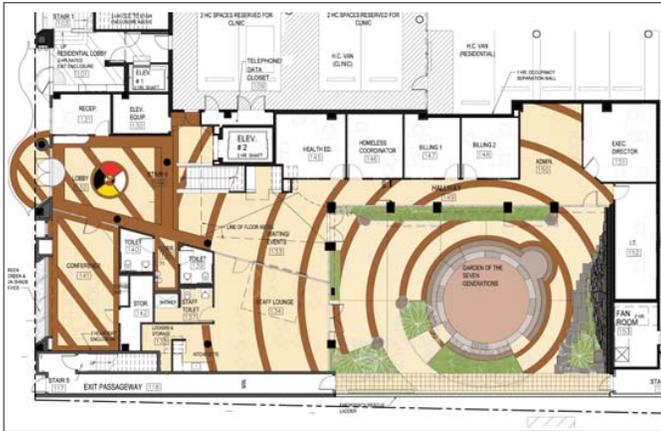


Figure 9. First Floor Plan. Image courtesy of Pyatok Architects.



Figure 10. Exterior of Seven Directions. Image courtesy of Pyatok Architects.

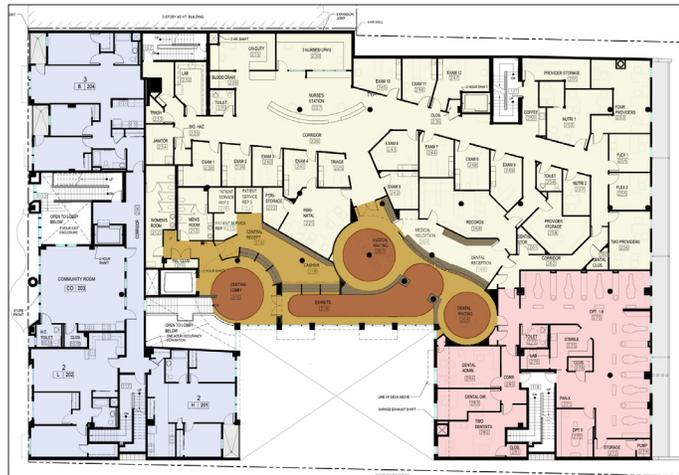


Figure 11. Second Floor Plan. Image courtesy of Pyatok Architects.

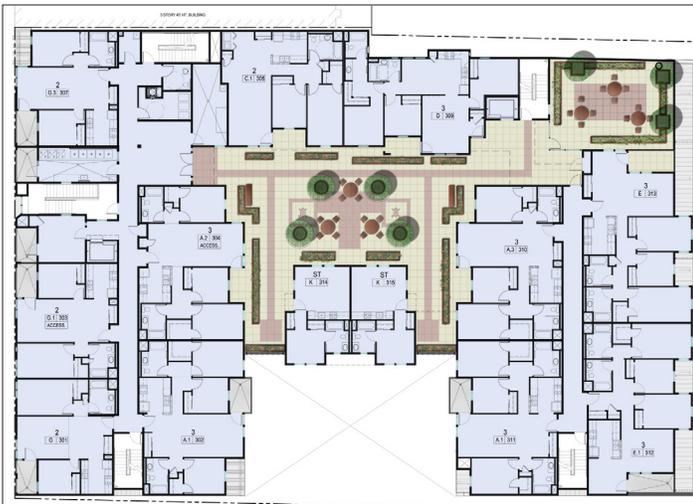


Figure 12. Third Floor Plan. Image courtesy of Pyatok Architects.

Figure 9-12. Copyright permission obtained January 26, 2010.



both a sense of community and individuality. This is achieved through the provision of communal courtyard areas on each floor. The suites are organized around communal areas that provide semi-private spaces where interaction between residents is encouraged.

Seven Directions incorporates concepts of biophilia that are important to facilitating a restorative environment. This is evident in the exterior courtyards and through the integration of natural materials such as wood and stone. The Garden of the Seven Generations is a public courtyard that includes a stone wall, native plants, and a large talking circle comprised of a circular bench that seats around 50 people (Kimura, 2009). Nature is also incorporated into the interior through the use of natural materials and native art.

Strategies used to achieve privacy, and a restorative environment are exemplified in Seven Directions and will be used to inform many of the design choices made for *River Tree*. For example, the way Seven Directions' pays attention to the privacy and social needs of users through the provision of common spaces, will be incorporated into *River Tree*. Additionally, *River Tree* will incorporate the use of courtyards and outdoor spaces to invoke a healing and restorative environment.



3.3 Hospice Hawaii

Hospice Hawaii is a case study designed by R-2ARCH in Maui, Hawaii. This project depicts the successful design of a therapeutic environment and the integration of restorative design. The floor plan demonstrates an intentional connection between the exterior and interior environment. Pockets of space carved out for courtyards maximize views to the exterior environment. The floor plan sweeps in a subtle semi-circle, and is punctuated by peninsulas of bedrooms, kitchens, and therapy rooms. As Verderber and Refuerzo (2006) explain, “the various architectural elements are hinged and juxtaposed to create an informal, organic network of interconnected spaces, indoors and out; this concept yields a non-institutional circulation flow, and this informality further emphasizes a sense of smallness in scale, versus institutionalism” (p. 84).

This project demonstrates how a well-designed building can facilitate therapeutic connections to nature through the merging of interior and exterior environments. It also demonstrates strategies to promote social interaction and enhance comfort within a space. It exemplifies the importance of informal seating areas such as window seats and alcoves for social interaction. These design considerations facilitate a more intimate and human scale environment within a large building. This attention to residential character also offers comfort and empowerment to its inhabitants.

Hospice Hawaii was chosen because of the strong person-to-nature connection that exemplifies restorative design, as well as for the use of spaces that demonstrate territory, access to privacy and provision for social interaction. From this project, we learn how architectural elements can be used to accomplish specific design goals similar to the goals of a

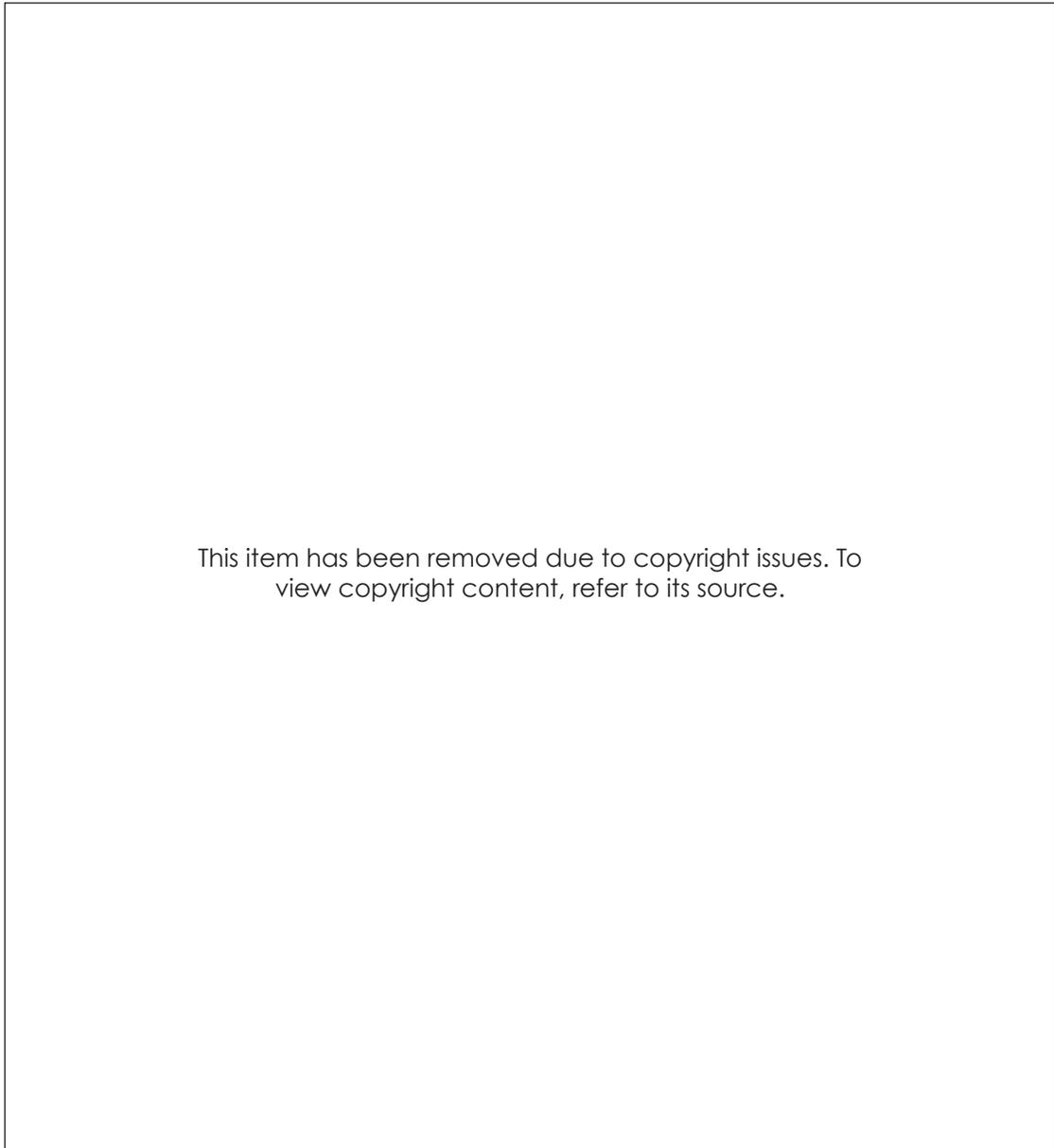


Figure 13. "Annotated floor plan of Hospice Hawaii, depicting the manner in which nature is interwoven into the architectural parti as a series of intermediary outdoor rooms" (Verderber & Refuerzo, 2006, Figure 4.31, p. 85). Image property of Taylor and Francis Books UK.



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Figure 14. "Rendering of the view of the courtyard and restorative gardens. A high degree of transparency is achieved, establishing a continuum between interior and exterior realms. Broad roof overhangs shield bedrooms from excessive sunlight" (Verderber & Refuerzo, 2006, Figure 4.32, p. 86). Image property of Taylor and Francis Books UK.

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Figure 15. "Rendering of the restorative gardens, and the skylights in the residential domain articulating interior spaces along the central circulation spine" (Verderber & Refuerzo, 2006, Figure 4.33, p. 87). Image property of Taylor and Francis Books UK.



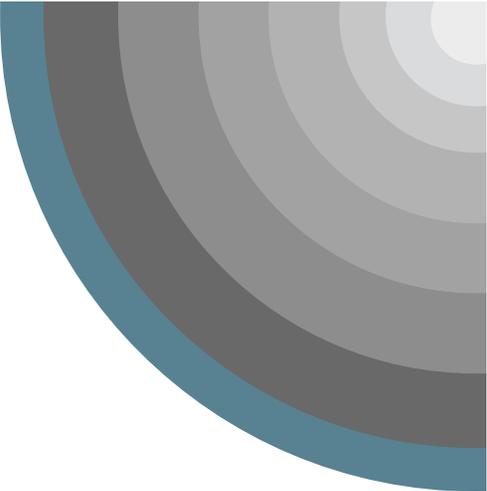
trauma-informed environment.

Privacy is fostered through the use of moveable furniture and partitions to offer either private or semi-private bedrooms, allowing the user to manipulate their environment to best suite their preferences. According to Verderber and Refuerzo (2006),

“In response to the need to be flexible to accommodate families of varying sizes and their preferences, often on short notice, the bedrooms are sized to allow for transformation from, in effect, a private to a semi-private bedroom. Folding walls, hide-away desks, and storage elements on wheels give the administration a broad range of the options needed in order to respond to local cultural imperatives and traditions” (p. 84).

Features such as built-in alcoves, views of nature, natural light and access to outdoor spaces demonstrate a connection with nature. Built-in window seating provide views to the outdoors during poor weather and can be used as places of retreat and rejuvenation. This seating plays a dual role since it also encourages informal social interaction. Meaningful views of nature are intentionally established from each patient’s bedroom and natural light is drawn into the interior through large windows. Semi-transparent screened window walls in the residential rooms are a unique design choice that open up views to the outdoors while maintaining privacy. In the public spaces, the use of clerestory windows and skylights draw in natural light. Each bedroom has been designed with easy access to a semi-private garden, again reinforcing the connection between the interior and exterior spaces.

Hospice Hawaii demonstrates how privacy, social interaction and nature-based design can be integrated into the design of a therapeutic environment. Strategies such as flexibility and visual connections from the interior to exterior will be considered in the design of *River Tree*.



CHAPTER FOUR

DESIGN PROGRAMMING



4 DESIGN PROGRAMMING

The literature and precedent review have set a strong foundation of design guidelines and goals. Using these to inform the design process, a program is set in place. This program includes specific design planning to be used in the final design. This discussion will include a site and building analysis, a description of the programming for the building, a building code analysis and a conceptual framework.

4.1 *Site and Building Analysis*

The River Clayton Apartments, located at 61 Clayton Drive in Winnipeg, Manitoba, were selected as the site for this project. This site was chosen for its proximity to a multitude of services including schools, daycare centers, medical services, and grocery stores. To see a sample list of many amenities within the surrounding area, refer to Figure 16. This location offers easily accessible public transportation, thus providing the opportunity to access a multitude of resources within the surrounding community and city. The nearest bus stop is one block away, and access to downtown Winnipeg is only a thirty minute bus-ride. The surrounding neighborhood is also considered to be a culturally and ethnically diverse community. This is seen as an asset since the women and children will

FIGURE 16: AMENITIES IN SURROUNDING AREA
 AMENITIES WITHIN 15 MINUTES* WALKING DISTANCE

* Unless indicated with a * all services are within a 15 minute walking distance.

AMENITY	LOCATION	INFORMATION
SCHOOLS		
St. George School	151 St. George Road	Early & Middle Years
Lavallee School	505 St. Anne's Road	Early & Middle Years
Glenlawn Collegiate*	770 St. Marys Road - *20 minute walk	High School
FAMILY RESOURCES		
Salvation Army Multicultural Center	51 Morrow Avenue	Life & Employment Enhancement Program (LEEP) Family Foundations - Pre & Postnatal care including Public Health Nurse, Dietician & Outreach worker Families are Us (Parents with children age five and under) Kids Summer Camp Friday Afternoon Kids Club (age 7-12)
St. George School	151 St. George Road	Family Center Before & After Program Lighthouse Program (Afterschool program age 9-16)
Lavallee School	505 St. Anne's Road	Family Center Community Kitchen
GROCERY		
The Real Canadian Superstore	215 St. Anne's Road	Full service grocery store
Safeway	2 Alpine Avenue	Full service grocery store

CHILDCARE

Morrow Avenue Child Care - Lavallee West Site	505 St. Anne's Road	Ages 5-12
		Community Access Program Site
Morrow Avenue Child Care - Rene Deleurme Centre Preschool	511 St. Anne's Road	Ages 2-5
Morrow Avenue Child Care - Centre 24/7	533 St. Anne's Road	Infants and Preschool
St. Anne's Day Nursery	425 St. Anne's Road	Infants and Preschool

HEALTH AND MEDICAL

A & A Natural Food Supplements	187 Worthington Avenue	Natural Foods
Borowski's Health Foods LTD	437 St. Anne's Road	Health Foods
The Herbal Market	290 St. Anne's Road	Natural Health Services
Pathway Rehabilitation	9-484 St. Anne's Road	Rehabilitation Services
Berrydale Family Medical Centre	417 St. Anne's Road	Physician
Windsor Park Medical Centre*	159 St. Anne's Road - *25 minute walk	Physician
Kas-Sky Wholistic Health Care*	561 St. Anne's Road - *30 minute walk	Holistic Health Service
St. Boniface Hospital*	490 Tache Avenue - *4.7 km or 8 minute drive	Hospital

This list was compiled based on internet searches for services in the St. Vital area. The services in closest proximity to 61 Clayton Avenue were included in this list. As this is intended only as a sample of services, it is recognized that many services options may be missing, but this list serves the purpose of providing evidence that the surrounding area is well equipped with community services to support the needs of the women and children staying at *River Tree*.

Estimation of walking time is based on the approximate walking distance from 61 Clayton Ave to the service location. This was calculated using Google maps directions. URL: <http://maps.google.com/>



be from various backgrounds, and multicultural services offered in the surrounding community will be tailored toward inclusiveness. The safety of the neighborhood and accessibility to permanent housing were also a consideration. Housing and apartment prices in the area are relatively low, giving women the option to move into affordable, safe housing in the same neighborhood where they and their children have established social networks and support services. Moving into the same neighborhood offers women a smooth transition into independent living where they can lean on the supports they established during their time at the second-stage housing and where they have an opportunity to use the services offered at the site (Forrester-Sprague, 1991).

The safety and relative seclusion of this specific site was also a factor in choosing this apartment building. The building is located on the river which offers concealment and privacy. It is located in a residential area with single family housing on the south side and apartments on the north. Parking is available on the north and east side of the building. There is also ample outdoor space at the back of the site in addition to a public park immediately adjacent to the building. This outdoor area will provide opportunities for outdoor interaction and will include gardens, a safe place for children to play, and beautiful, restorative views. This building offers a courtyard with the potential to be developed into a sheltered and secure recreation or relaxation space. There are many opportunities to draw daylight in from the East and South. The building is large enough to incorporate necessary services such as a common kitchen, multiple counseling offices, child supervision, substantial storage, and residential suites. For site images refer to Figures 20-23.

Figure 17. Site Analysis

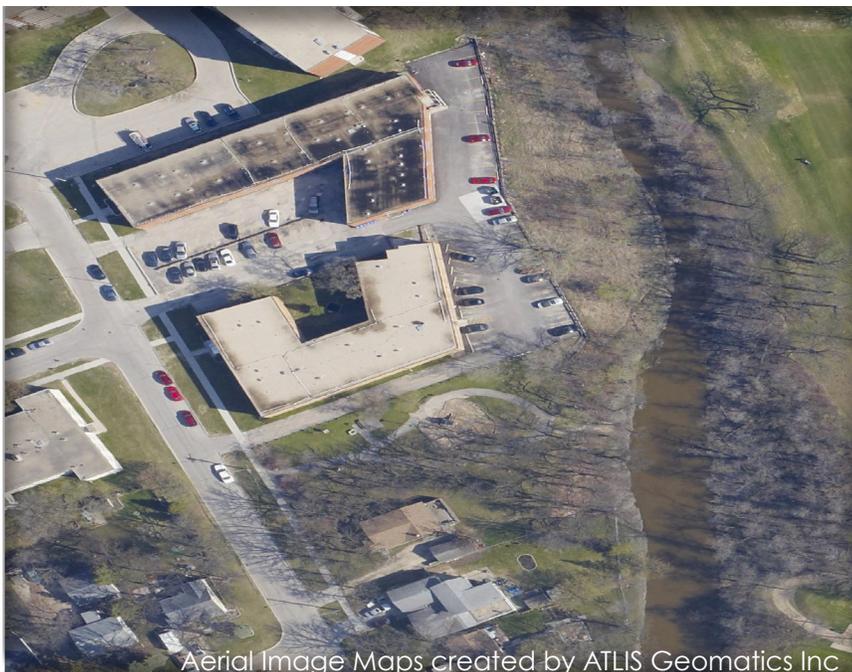
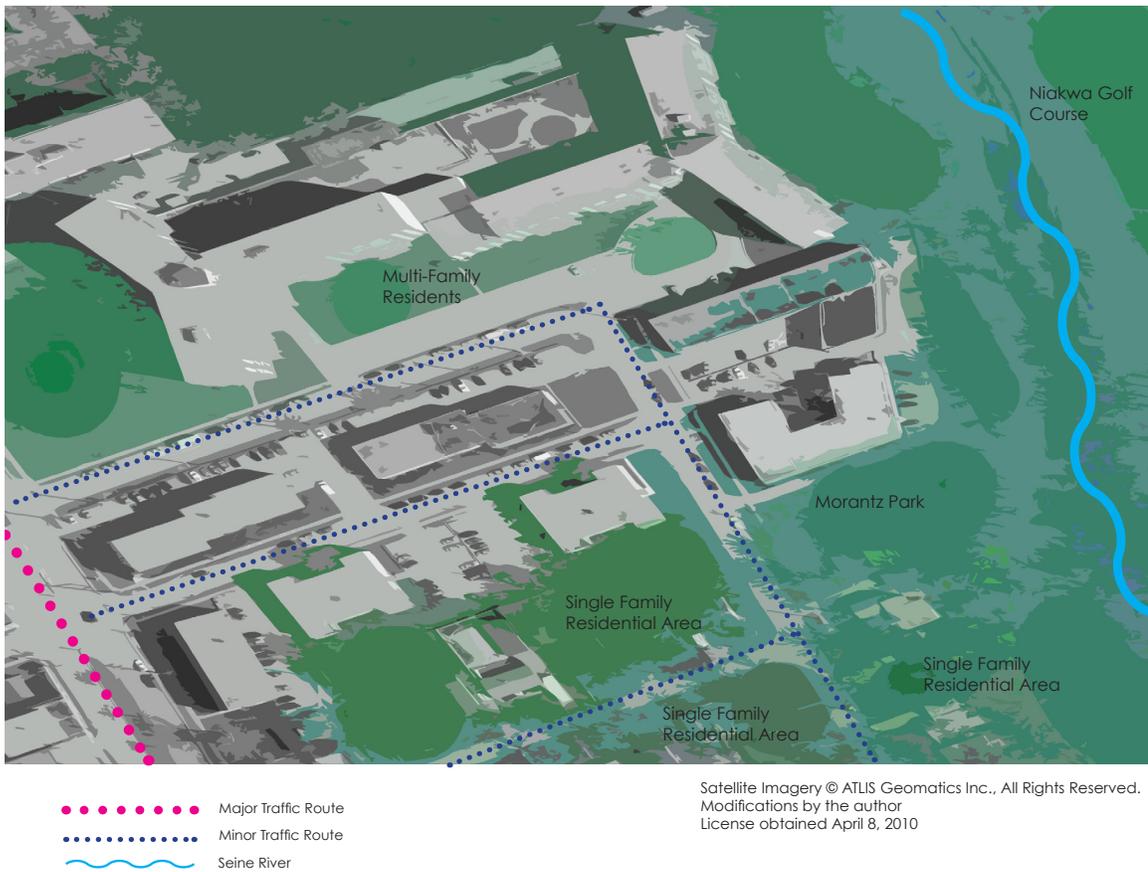


Figure 18. Satellite Image of 61 Clayton Drive. Satellite Imagery © ATLAS Geomatics Inc.. All rights Reserved. License obtained April 8, 2010.

This site and building have many opportunities for development, but there are some constraints that will have to be considered. It may be necessary to incorporate visual barriers to block views into the building from the public park and street. Access to the courtyard will also have to be considered since currently there is no direct access from the building. Changes to the building exterior may be necessary since it appears institutional and is clad in an unattractive orange brick. There are accessibility issues that will have to be addressed, and extra precautions will need to be taken to ensure children are safe near the river. The location of the supporting walls will also need to be considered as they are located along the central hallway and may pose some structural limitations. These limitations need to be considered but will not cause major negative implications for the project.

Overall, this site and building are ideal for the design of a second-stage house. The site boasts access to many surrounding resources, a safe neighborhood, and substantial outdoor space. The building has ample room to incorporate both individual and communal activities as indicated by the program in section 4.2 and opportunities for contact with nature.

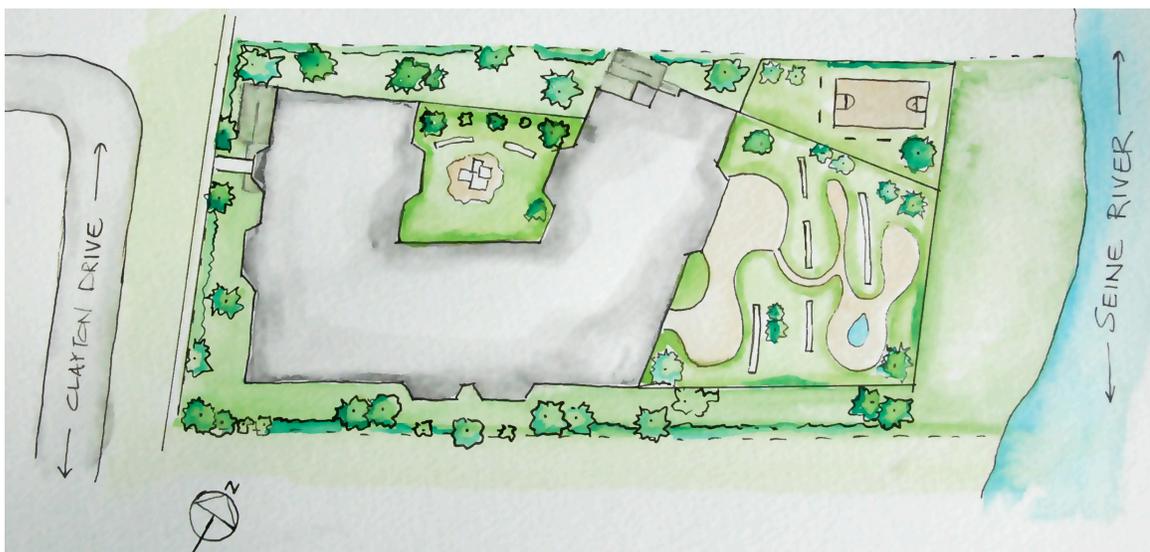
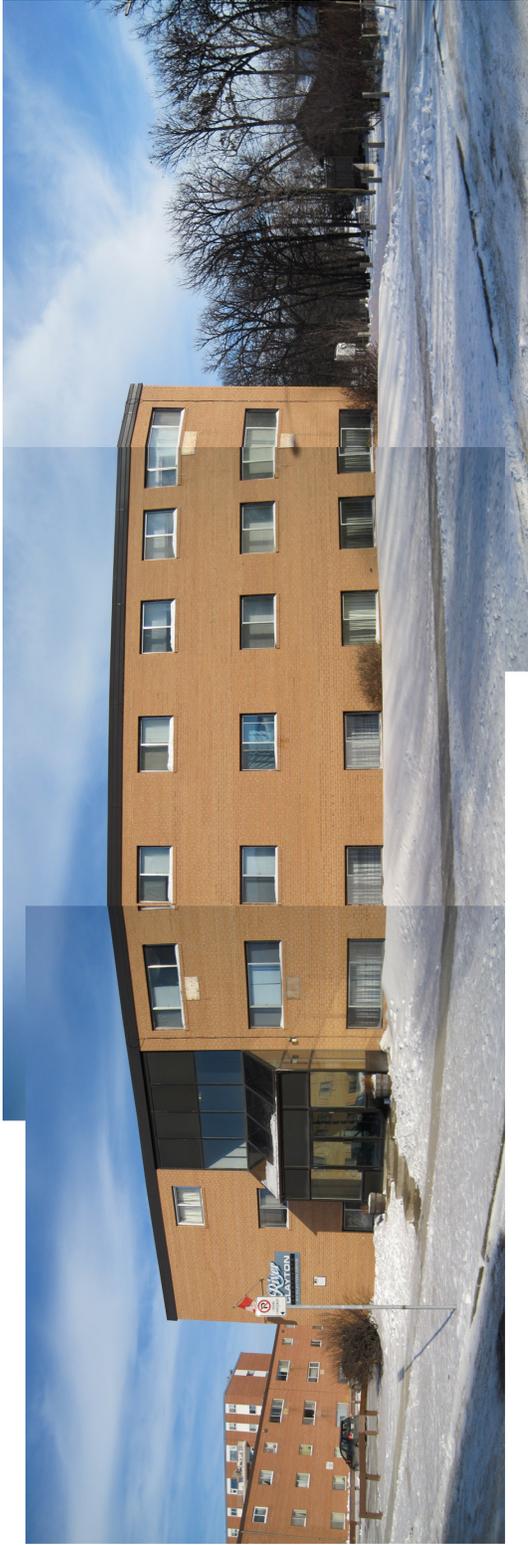


Figure 19. Site view with proposed landscape development



West Exterior - View from Clayton Drive



South view down Clayton Drive
Single Family Residential



Entrance



North view down Clayton Drive
Multi Family Residential

Figure 20. Site Images 1. Photographs by Naomi Duddridge.



North Exterior - January 12, 2010



North Exterior - October, 2009

Figure 21. Site Images 2. Photographs by Naomi Duddridge.



East View



View of Seine River

Figure 22. Site Images 3. Photographs by Naomi Duddridge.



South Exterior - View from Morantz Park



Morantz Park in October

Figure 23 . Site Images 4. Photographs by Naomi Duddridge.



4.2 Program Requirements

These program requirements for this project have been formulated based on the specific needs of the hypothetical client and users, (section 1.1.2: Client and section 1.1.3: Users), typical components of a transitional house as outlined by Joan Forrester Sprague (1991), and the specific recovery needs of women and children who have survived domestic abuse (section 2.1: Characteristics and Effects of Domestic Abuse and section 2.2: Healing and Recovery).

4.2.1 Typical Transitional Housing Design

Transitional housing design varies based on the philosophy of the client, existing services in the community, and the needs of the users. However, according to Joan Forrester Sprague (1991, p. 32), there are basic components that are typical of transitional housing. These are:

- Furnished single rooms or suites of rooms
- Furnished or partly furnished shared or private apartments
- Private and/or community kitchens and dining space
- Offices, counseling, and community spaces
- Childcare space, both indoors and outdoors
- Storage for a family's possessions
- Adjunct functions such as job training or a business

4.2.1.1 Program: Women & Children

The following is a brief description of the program requirements for the primary users of the space. These requirements are:

- 
- Private apartments for individual families
 - Community kitchen
 - Lounge spaces
 - Communal dining area
 - Exercise space
 - Outdoor spaces/play area
 - Space for computer training
 - Storage and display for donated items
 - Communal laundry facilities
 - Supervised child activity space for preschool aged children (2 to 6 years old)

River Tree will provide private apartments as opposed to shared accommodation to facilitate control of space and family connection. According to the literature review, it is important for second-stage housing to offer spaces for privacy and the opportunity to control space through personalization and ownership. Privacy will be facilitated by ensuring that the suites have adequate sound-proofing to minimize sound transfer (see appendix 8.2, Building Code Analysis for full detail of wall construction). Additionally, it is important to foster the parent-child relationship through one-on-one interaction. This is important for child development and is important for healing.

In addition to privacy, the literature review revealed the importance of social support in healing and recovery. It is important to facilitate informal and formal social interaction between residents and foster a sense of community within the house. This will be facilitated through a community kitchen, lounge spaces for informal interaction, exercise room, outdoor spaces, computer training, donated item storage and display,

and communal laundry facilities.

Empowerment has also been identified as an important component of the recovery process. One way empowerment is fostered is through access to resources. Resources such as the community kitchen provide

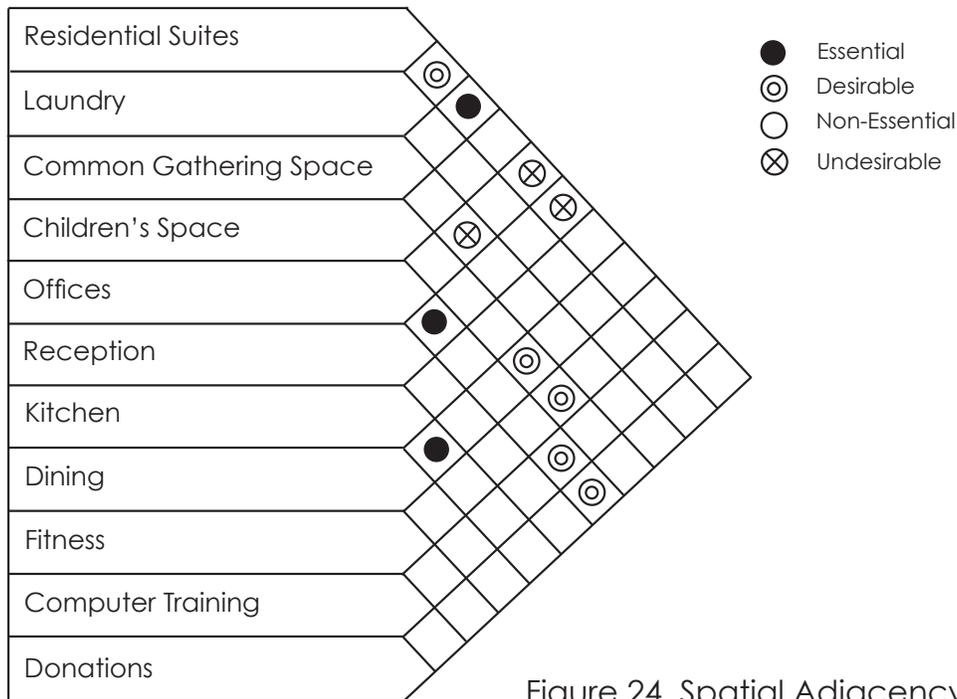
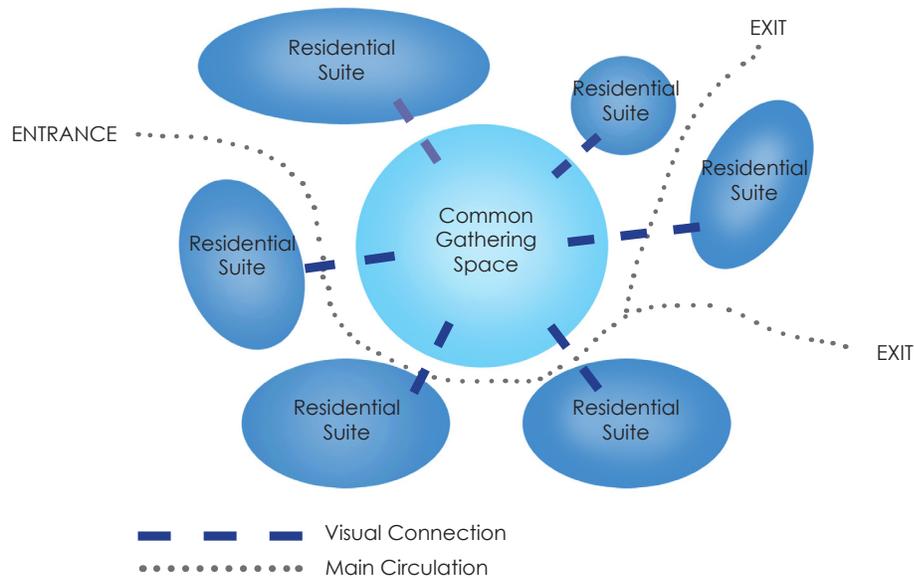


Figure 24. Spatial Adjacency Matrix.

training and nutritional counselling that empower women to lead healthier lives. Spaces such as the computer training space, exercise room, and donated items storage and display also facilitate an increased sense of empowerment through access to information, skill building, health promoting activities, and material resources. These material resources may include necessary items such as clothing and toys as well as household items such as furniture that can “provide not only opportunities for personalization but also for continuity if items can be taken to permanent housing” (Forrest- Sprague, 1991, p. 64). Supervised child-care activity spaces designed for a maximum daily usage of two

hours per child will also be made available to provide the flexibility needed for women to be involved in counseling and skill building activities.

Figure 25. Residential Zoning Study



4.2.1.2 Program: Staff

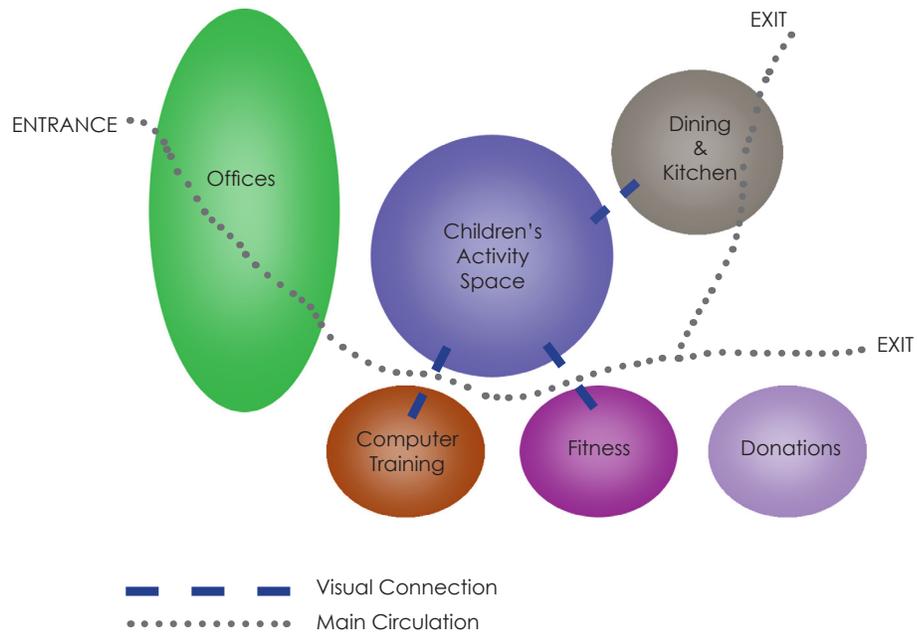
The services and programs offered at *River Tree* will include individual counselling, group counselling, children's counselling, life-skills building, and child supervision. Based on these support programs and information from Forrester Sprague (1991) and W.I.S.H (2009), *River Tree* will include spaces for an executive director, two women's counsellors, a children's counsellor, an administrative assistant, two program coordinators, child supervision staff, and group therapy space. It will be critical that the counselling offices do not allow sound transfer. In order ensure privacy and confidentiality, the walls should be constructed in

order to meet or exceed standards for private offices (see appendix 8.2, Building Code Analysis for full detail of wall construction).

The program for the secondary users will be as follows:

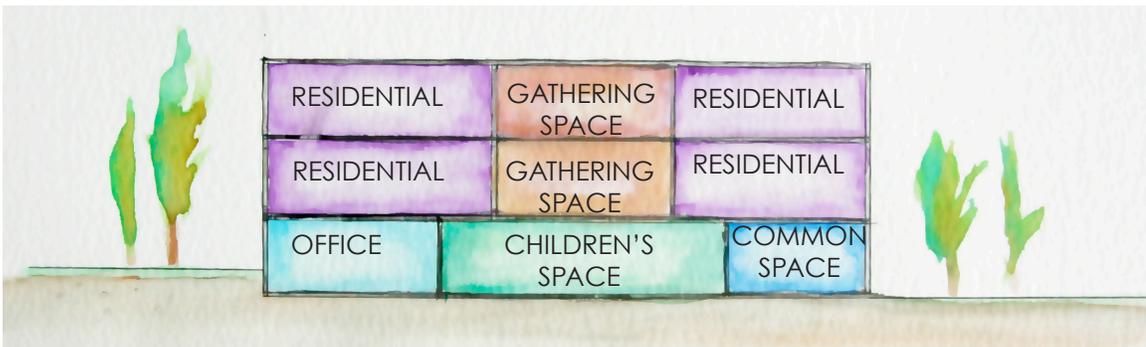
- Children's Counsellor office
- Group Therapy room
- Large administration/greeting area
- Women's Counselor offices (two)
- Program Coordinator offices (two)
- Executive Director office

Figure 26. Support Services Zoning Study



The office spaces must facilitate a healthy work environment that supports the activities of the users. These activities include listening and talking to clients, working on computers, and storing information and personal belongings. These spaces must also support daily activities and must include a staff room with an eating area, washrooms, and storage spaces. The clients who use the space will also require a waiting area and access to washrooms. The support spaces for the staff and clients are as follows:

- Waiting area
- Washrooms
- Staff room
- Kitchenette
- Eating area/meeting space for staff and volunteers
- Storage for files and administrative supplies



PROGRAM

RESIDENTIAL

- TWO 4-BEDROOM SUITES
- SIX 3-BEDROOM SUITES
- ONE 2-BEDROOM SUITE
- TWO 1-BEDROOM SUITES

GATHERING SPACE

- GATHERING SPACE ON EACH FLOOR
- LAUNDRY ON EACH FLOOR
- WASHROOM

CHILDREN'S SPACE

- DYNAMIC PLAY ROOM
- OBJECT PLAY
- WET PLAY
- QUIET SPACE
- WASHROOMS

OFFICE

- RECEPTION & ADMINISTRATION
- TWO PROGRAM COORDINATOR OFFICES
- CHILDREN'S COUNSELING OFFICE
- TWO WOMEN'S COUNSELING OFFICES
- EXECUTIVE DIRECTOR OFFICE
- GROUP THERAPY
- STAFF ROOM
- WASHROOM

COMMON SPACE

- ONE YOGA/FITNESS SPACE
- ONE COMPUTER TRAINING SPACE
- KITCHEN
- DINING
- DONATION SPACE
- WASHROOMS

Figure 27. Zoning & Program Study



Figure 28. Concepts and Application Considerations drawn from the Literature Review

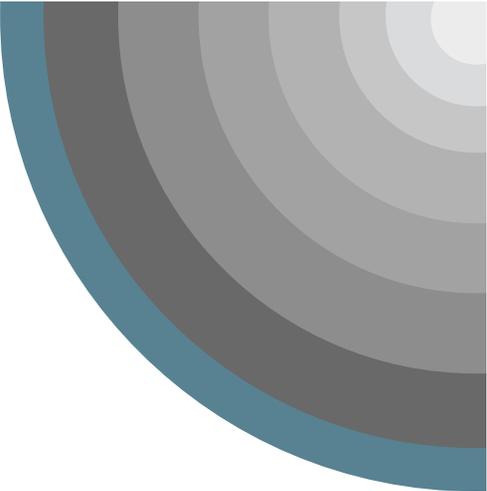
Healing & Recovery Issues	Description	Design Concepts from Literature & Precedent Review	Design and Application Considerations Inferred from Literature Review
<p>Safety (Herman, 1997; Dutton, 1992; Abrahams, 2007)</p>	<p>Includes:</p> <ul style="list-style-type: none"> • A focus on protection from intruders • The ability to control one's immediate environment • Ability to regulate contact with people • Non-institutional atmosphere • Provision of essential resources 	<p>Screens Transitions & Thresholds Prospect & Refuge Spatial Depth Spatial Hierarchy Flexible environments Non-institutional and focus on a human scale Availability of food, shelter, clothes and household items Territoriality</p>	<p>Direct views into the building are restricted through screens</p> <ul style="list-style-type: none"> • Vegetation • Window screens • Fence <p>Alarm system</p> <p>Progression from public to private spaces</p> <ul style="list-style-type: none"> • Counselling on basement floor near street • Access to the outdoors in protected courtyard and at the rear of building <p>Clear, legible environments achieve through the use of thresholds and clear definition of activities and spaces</p> <p>Opportunities for personalization</p> <p>Semi-transparent materials</p> <p>Moveable partitions</p> <p>Ample space - prevent feeling of being crowded</p> <p>Control of temperature, lighting, operable windows</p> <p>Acoustic barriers</p> <p>Tactile and sensory stimulation</p> <p>Avoid long hallways</p> <p>Circulation punctuated with areas of interest and pockets of social interaction</p> <p>Soft material</p> <p>Common kitchen with food available</p> <p>Space to display donations including clothes and furniture</p> <p>Large pantry</p> <p>Alcoves</p> <p>Window Seats</p> <p>Multiple smaller scale play or gathering spaces</p> <p>Transitional spaces marking changes in activities</p> <p>Progression from public to private space</p>



Healing & Recovery Issues	Description	Design Concepts from Literature & Precedent Review	Design and Application Considerations Inferred from Literature Review
<p>Empowerment (Heirman, 1997; Dutton, 1992; Abrahams, 2007)</p>	<p>Includes:</p> <ul style="list-style-type: none"> • Focus on control of the environment • Choice • Ability to manipulate environment and regulate social interaction • Access to information and needed services • Ownership and personalization 	<p>Program Considerations</p> <ul style="list-style-type: none"> • Resource/Library • Counseling • Childcare <p>Flexible environments Promote individual display of creativity Thresholds Territoriality Non-institutional and focus on a human scale Prospect & Refuge Spatial Depth Spatial Hierarchy</p>	<p>Provision for a variety of levels of social interaction</p> <ul style="list-style-type: none"> • Each floor has gathering spaces • Opportunity to retreat to private residence • Acoustical separation between social and private space <p>Modular furniture/flexible seating arrangements Semi-transparent materials Moveable partitions Ample space - prevent feeling of being crowded Control of temperature, lighting, operable windows Clear definition of spaces Consider windows from suites facing a gathering space Resources grouped on one floor Certain resources such as computer services are accessible 24/7 Consider views of gardens and access to the outside Territory - Allow personalization in individual suites Comfort and residential concepts Promote display of art created by both mothers and children Large donation area provide opportunities to choose articles for suites and personalization</p>



Healing & Recovery Issues	Description	Design Concepts from Literature & Precedent Review	Design and Application Considerations inferred from Literature Review
<p>Social Support/Community (Herman, 1997; Dutton, 1992; Abrahams, 2007)</p>	<p>Includes:</p> <ul style="list-style-type: none"> • Opportunities for connection with others • Ability to regulate social interaction • Control of environment is given to the users of the space 	<p>Visual connection to other activities and spaces</p> <p>Spatial Hierarchy</p> <p>Social regulating techniques</p> <p>Minimal physical constraints</p> <p>Flexibility</p> <p>Thresholds</p> <p>Prospect & Refuge</p> <p>Spatial Depth</p> <p>Spatial Hierarchy</p> <p>Inclusive spaces for children</p>	<p>Consider grouping residences around common areas</p> <p>Consider atrium connecting floors</p> <p>Provide for a variety of levels of social interaction</p> <ul style="list-style-type: none"> • Each floor has gathering spaces • Opportunity to retreat to private residence • Acoustical separation between social and private space <p>Spaces for Children</p> <ul style="list-style-type: none"> • Incorporate moveable partitions • Sensory stimuli through changes in floor finishes and color • Fixtures and furniture at child height <p>Opportunity for social interaction on all levels</p> <p>Ample space in suites to invite others to visit</p> <p>Common kitchen</p> <p>Dining - offer clusters of seating that can be arranged for small to large group seating</p> <p>Display of artwork by residents</p>
<p>Psychological Healing (Herman, 1997; Dutton, 1992)</p>	<p>Includes:</p> <ul style="list-style-type: none"> • Restorative and therapeutic environments • Opportunities for Attention Restoration • Opportunities for Stress Reduction • Positive Connection to Nature 	<p>Natural light</p> <p>Prospect and Refuge</p> <p>Connection to the outdoors</p> <p>Stimulus Shelters</p> <p>Views to the outdoors</p> <p>Images of nature</p> <p>Areas with low levels of stimuli</p> <p>Outdoor spaces</p> <p>Fascination</p> <p>Extent</p> <p>Being Away</p> <p>Compatibility</p>	<p>Porches</p> <p>Windows</p> <p>Walk out basement level</p> <p>Windows facing appealing views</p> <p>Acoustic control</p> <p>Natural Materials</p> <p>Interior images and art that reflect nature</p> <p>Incorporate natural features such as water and trees</p> <p>Low lighting</p> <p>Acoustical control</p> <p>Warm colors</p> <p>Comfortable seating</p> <p>Garden - accomplishment & pride</p> <p>Ponds, fountains, benches, chairs and tables</p>



CHAPTER FIVE

DESIGN PROPOSAL



5 Design Proposal

This chapter discusses the design of *River Tree*, a second-stage housing design that responds to the literature and precedent investigations of this project. Using the knowledge and insight gained from extensive exploration of the effects and healing of trauma and domestic abuse, *River Tree* is the synthesis of this learning. Using the design guidelines identified through the *Healing and Recovery* literature investigation, the proposed project aims to create a healing and trauma-informed environment (see section 1.2.2).

The following four design guidelines have been identified: safety, empowerment, social support, and psychological healing. In order to accomplish the objectives set out by the design guidelines, concepts in environmental psychology have been explored. The primary concepts of privacy, territory, and restorative design were chosen to most effectively facilitate the project objectives. Through the application of these concepts, the final design facilitates safety, empowerment, social support and psychological healing and creates a space that fosters recovery.

5.1 Safety

Safety is considered an essential component to healing from



domestic abuse. In response to this criteria, careful site selection is critical. To review *River Tree's* site choice criteria, refer to Section 4.1, *Site and Building Analysis*. It is also essential that the building interior remains as safe as possible and prevents unwanted visitors. This is achieved first through the organization, programming and use of security systems in the building. For a full explanation of the security measures refer to appendix 8.3, Security Measures. The offices and reception are located on the lower level and are entirely separated from the residential suites. Alarm and surveillance systems are in place, and access to the suites is restricted from the public (See appendix 8.3, Security Measures). The enclosed courtyard offers a protective outdoor environment that is surrounded by the building and is visible from all three floors, thus making it an ideal environment for children to play.

In addition to the functional requirements to maintain safety, *River Tree* seeks to create a sense of security. By using the concept of enclosure to embody safety, the design incorporates a central core that is protected from public view and is shared by only the residents. This core acts as a hub of activity and is surrounded by the residential suites. It is a constant reminder of the shared experience and strength of the residents and is a safe place for women and children to gather daily. Metaphorically, it represents an emerging seed surrounded by a protective outer shell. In a similar manner, *River Tree* creates a protective, supportive environment from which growth is fostered.

5.2 Empowerment

As mentioned in the literature review (see Section 2.2.2.2), an



important component of the healing process is empowerment. Essential to empowerment is an increased sense of control within an individual's life. With this in mind, *River Tree* has been designed to facilitate choice. By utilizing the privacy regulation technique of spatial depth described by Stewart-Pollack & Menconi (2005) in Section 2.3.1.2, the interior offers a progression of spaces ranging from completely private suites to common public spaces.³ These spaces are connected through proximity and various levels of transparency. The folding walls separating the suites from the common areas allow for control over visual connection between suites and the common areas. Transparent screens have been utilized throughout the space to offer visual transitions between rooms, thus facilitating an interchange of privacy and connection.

The literature review also revealed that through personalization of space an individual establishes territory and thus exercises a form of control. *River Tree* facilitates this form of personal control in the environment by utilizing flexible furniture and elements in the space. Flexible elements include the desks in the individual suites, window seats designed as a series of individual seats, and moveable seating in the common areas. The furniture designed for the window seats is flexible but also capitalizes on the opportunity for privacy within a larger room. By placing desks and seating within the alcove, one can withdraw from the activities in the room while remaining within the larger context of social interaction.

River Tree also facilitates empowerment by providing services on site. With close access to supports, residents have the opportunity to gain skills and knowledge to further their journey to independence and

³ In order to accommodate safety concerns, the public spaces are only for the residents of the house and are not accessible by the general public.



recovery. Resources are located on the same level as the offices and are easily accessible. These services include one-on-one counselling, group counselling, family counselling, computer training, fitness facilities, access to material goods through donations, and supervised children's activity spaces. The children's space offers children an opportunity to engage in developmentally appropriate activities and socialize with other children their age.

5.3 Social Support

Social Support has been identified in the literature review as an important aspect in the recovery of domestic abuse (see Section 2.2.2.3). Women repeatedly expressed their gratitude for the support they received from other women while staying in shelter environments (see Section 2.2.2.3). *River Tree* facilitates this support by providing opportunities for women to connect with one another in the common spaces. These spaces facilitate large and small group connection.

Opportunities for informal interaction are fostered by the fact that the common area is the central activity space of the house and, therefore, creates an environment that encourages residents to engage with each other. The common area is central to the design of *River Tree* and is the core that all other spaces relate and reflect through form and design elements. One particular design element where a conceptual connection of all space is facilitated is through the flooring pattern. A radial flooring pattern is employed in the design to subtly join all the rooms in the house to the common area, reinforcing the sense of community and connection. The suites are visually connected to the gathering



spaces allowing yet another form of connection to occur between the individual and the group. This is facilitated through a folding wall, allowing for user control over the amount of visual connection between the suites and common areas. The three floors are connected visually through openings that act as important design element to invoke a sense of connection, community and shared experience.

5.4 Psychological Healing

The literature review revealed that the recovery process includes an aspect of psychological healing (see Section 2.2.3.4) Using the concepts of restorative design to address this aspect of healing, *River Tree* will incorporate many of the strategies outlined in the literature review (see Section 2.3.2).

A design element that has the potential to provide both privacy and restoration is the window seat. Offering an opportunity for what Appleton (1975) has coined *prospect and refuge*, the window seat offers a view of the expansive outside world while being protected within the interior. It offers a chance to see without being seen, an experience that may have restorative qualities because it brings one into contact with nature and offers the potential to experience *fascination* (Kaplan & Kaplan, 1989). Research has shown that visual contact with nature can have healing and restorative effects (Ulrich, 1991, Kaplan & Kaplan, 1989). This design element also integrates a sense of *being away* and *extent* that Kaplan and Kaplan (1989) have proposed encourages restoration. The window seats in *River Tree* are integrated into each suite. They offer large windows that frame attractive exterior views while simultaneously allowing



sunlight deep into the interior. They offer the opportunity for restoration and the option of withdrawing into a more private setting within a larger social context.

Natural materials and forms are integrated into *River Tree* to encourage indirect contact with nature. This type of contact fosters *sensory variability*; a biophilic design concept that has the potential to encourage restoration. Inspiration drawn from local ecology has been used to inform the material pallet (See Figure 4). Through large curving glass partitions, organic materials, and living plants, *River Tree* incorporates an indirect and symbolic experience of nature. Natural forms and materials are celebrated through materials such as 3form resin that integrates organic material. Wood, slate, aquariums and living walls integrate nature through their texture, smell, and visual connection with the biological world. Light is drawn into the large common spaces through the curved windows and the large skylights above, filtering light down to the lower level. Concepts of *coherence* and *complexity*⁴ are reflected in the material pallet and the consistent forms within the interior.

Finally, direct contact with nature is readily available on site. The courtyard offers a protective environment to enjoy nature, while the space in the rear of the building allows for contact with nature through gardens and walking paths that have been programmed for the space. The location near the Seine River creates opportunities for contact with *water*, a characteristic of biophilic design (see section 2.3.2.3) and provides many trees near the site.

⁴ According to Kaplan & Kaplan (1989) coherence and complexity are characteristic of favorable environments that people prefer. See section 2.3.2.1.1.



EXTERIOR DEVELOPMENT & SITE IMAGE

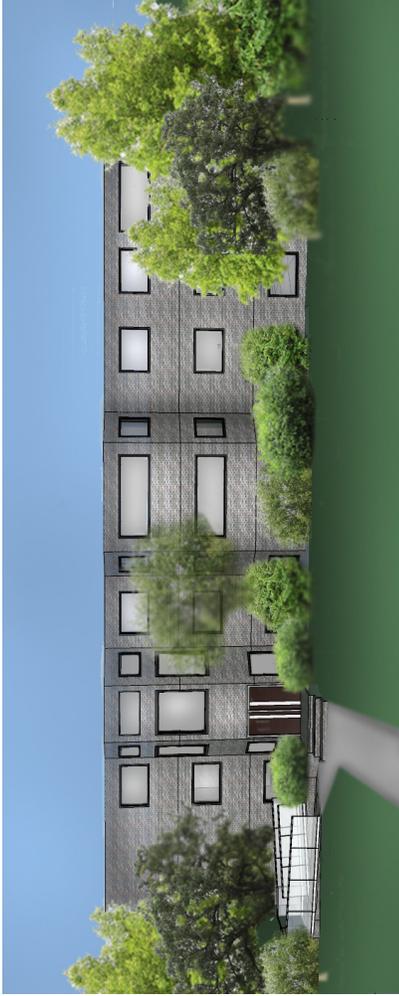


Figure 29. Exterior Elevation - Main Entry



Figure 30. Courtyard Perspective

Satellite Image of 61 Clayton Drive.
Satellite Imagery © ATUS Geomatics Inc.. All rights Reserved. License obtained April 8, 2010.
Modifications to image by Naomi Duddridge.

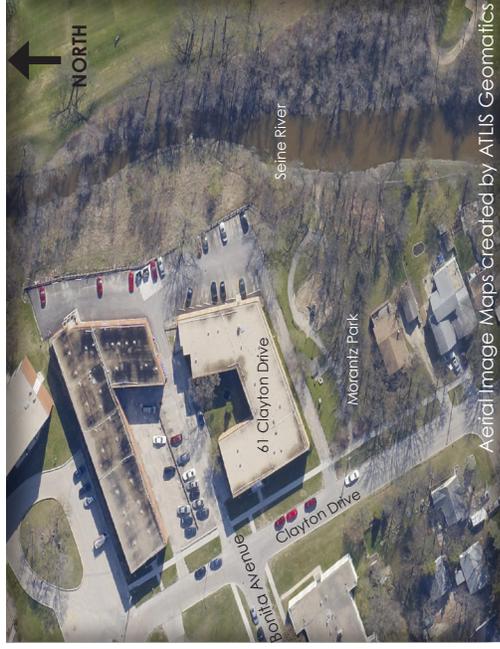


Figure 31. Site Image

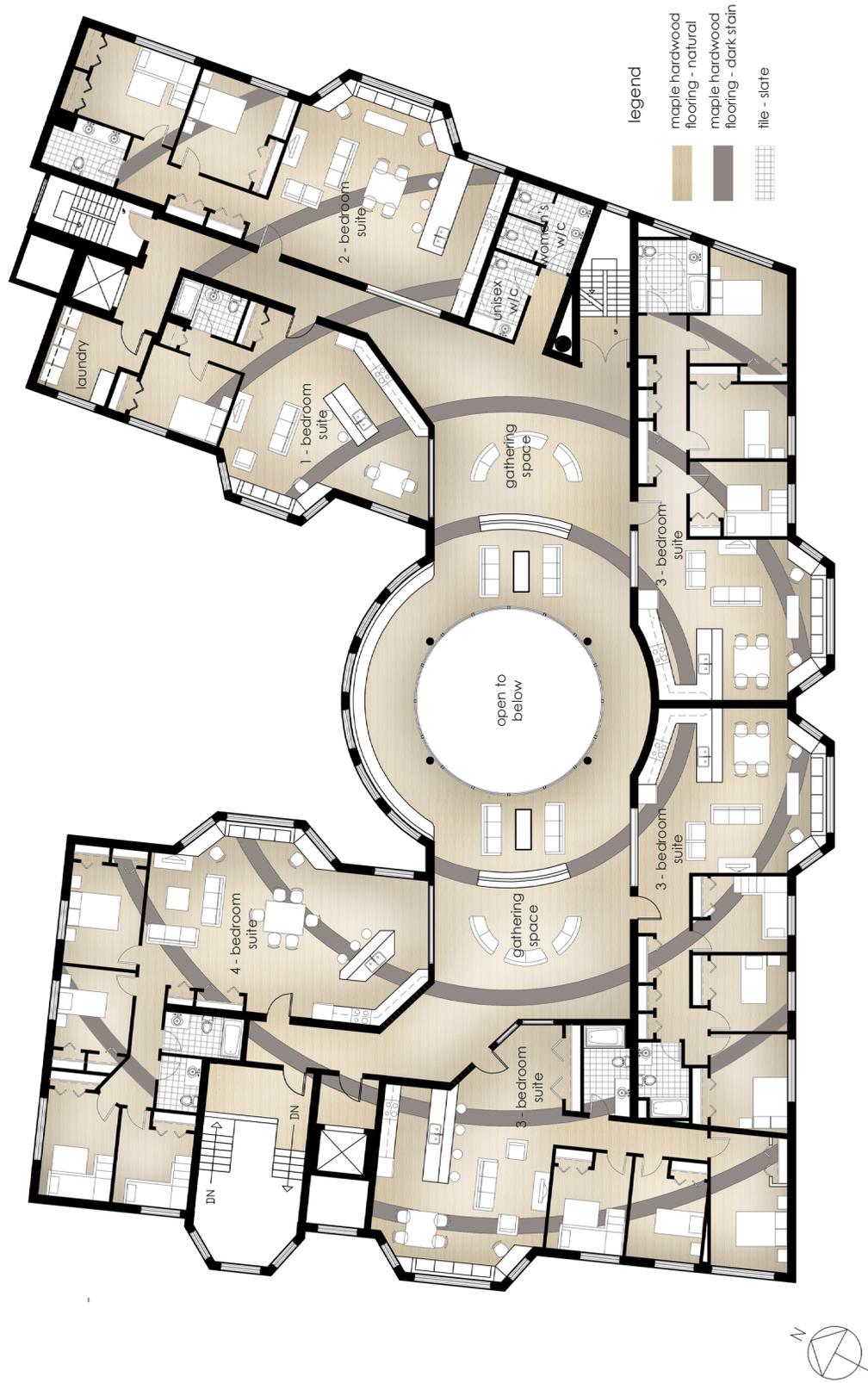


FIGURE 32 | BASEMENT FLOOR PLAN | Flooring Material

FLOORING MATERIAL



FIGURE 34 | SECOND FLOOR PLAN | Flooring Material



FLOORING MATERIAL

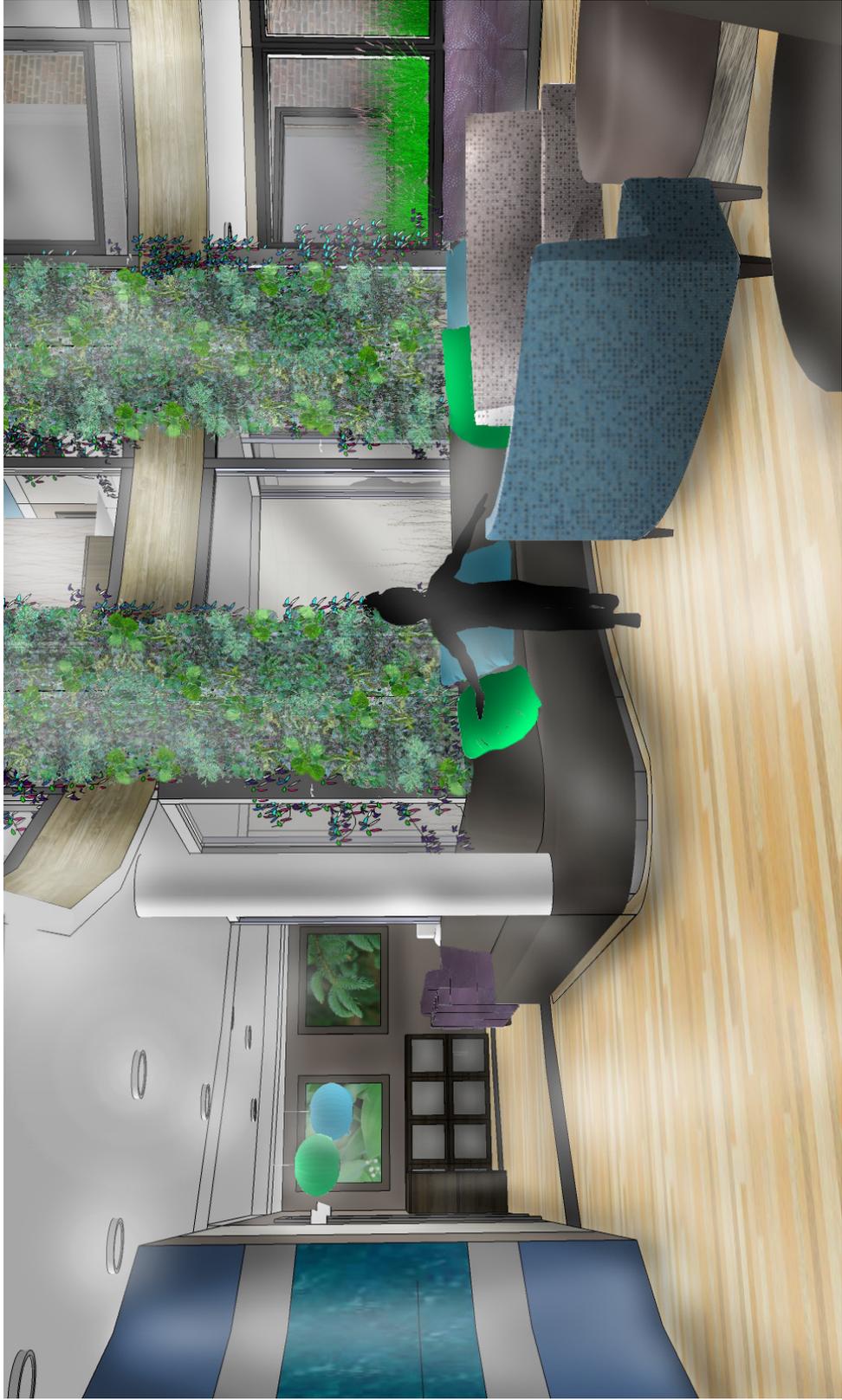


FIGURE 35 | COMMON SPACE | First Floor





FIGURE 36 | COMMON SPACE | First Floor 2



FIRST FLOOR PERSPECTIVE



FIGURE 37 | LARGE COMMON SPACE



SECOND FLOOR PERSPECTIVE



FIGURE 38 | COMMON SPACE | Wall Open



SECOND FLOOR PERSPECTIVE



FIGURE 39 | COMMON SPACE | Wall Closed



SECOND FLOOR PERSPECTIVE



FIGURE 40 | RESIDENTIAL SUITE | Wall Open





FIGURE 41 | RESIDENTIAL SUITE | Wall Closed

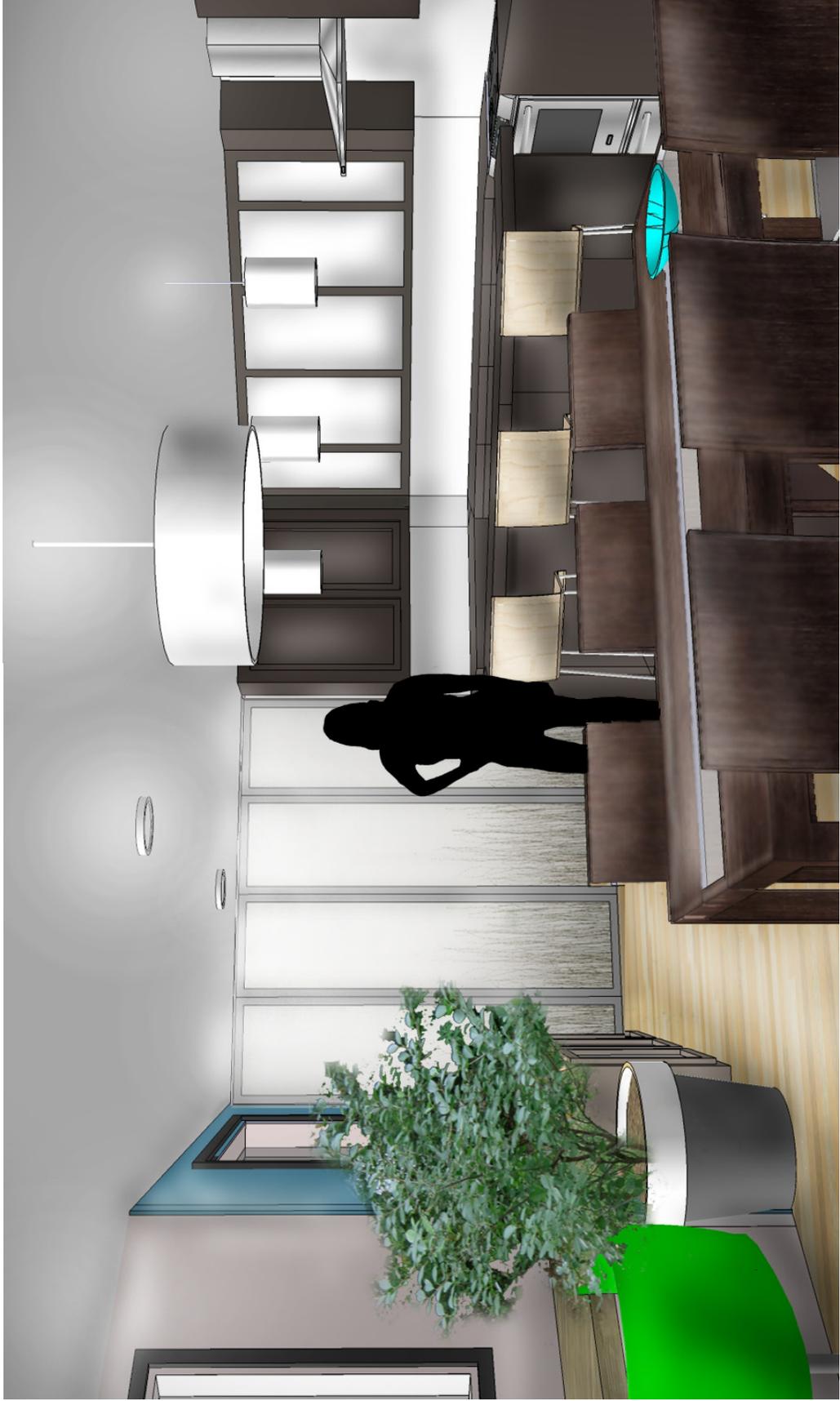




FIGURE 42 | CHILDREN'S ACTIVITY SPACE

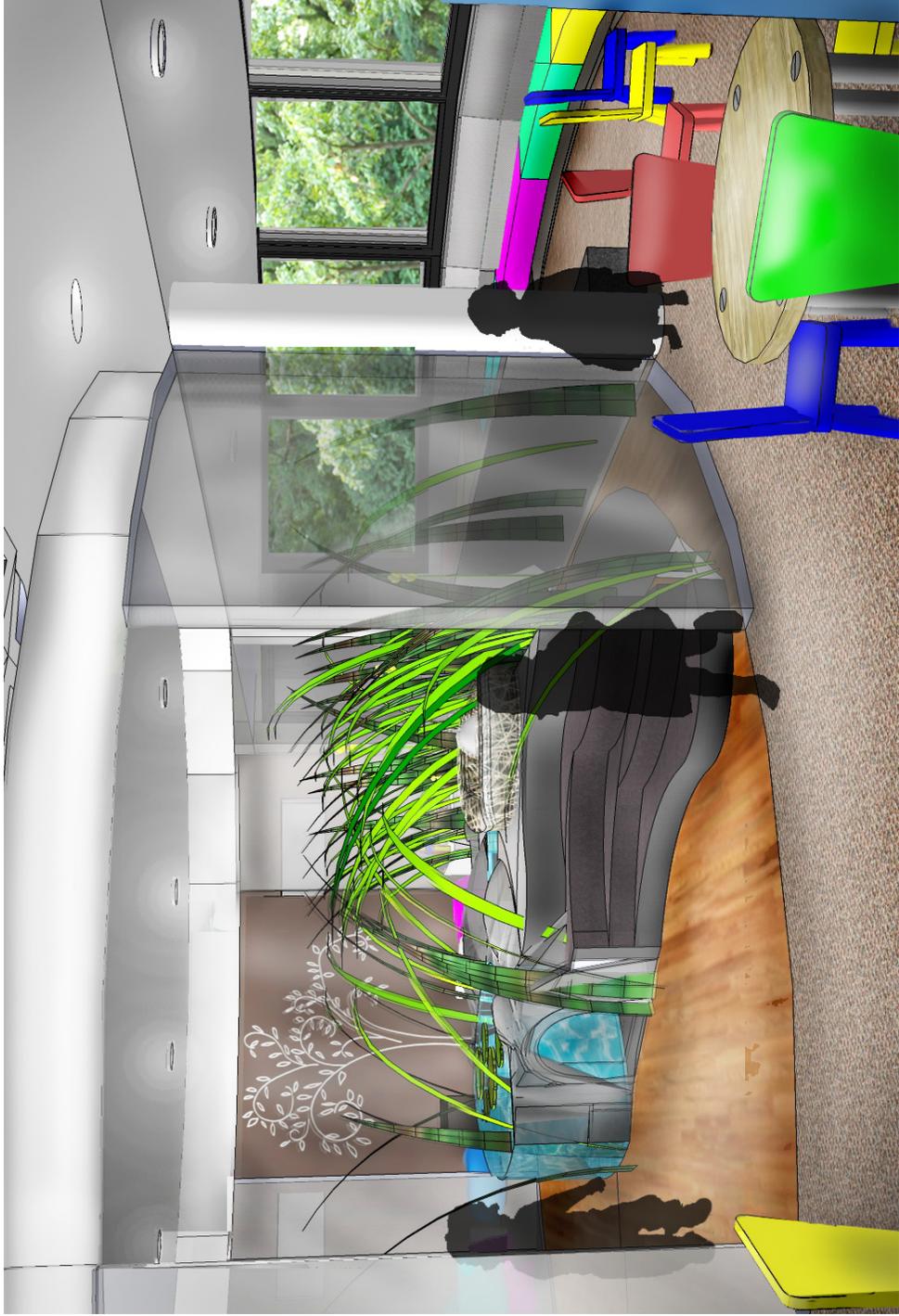




FIGURE 43 | CHILDREN'S ACTIVITY SPACE 2



BASEMENT FLOOR PERSPECTIVE



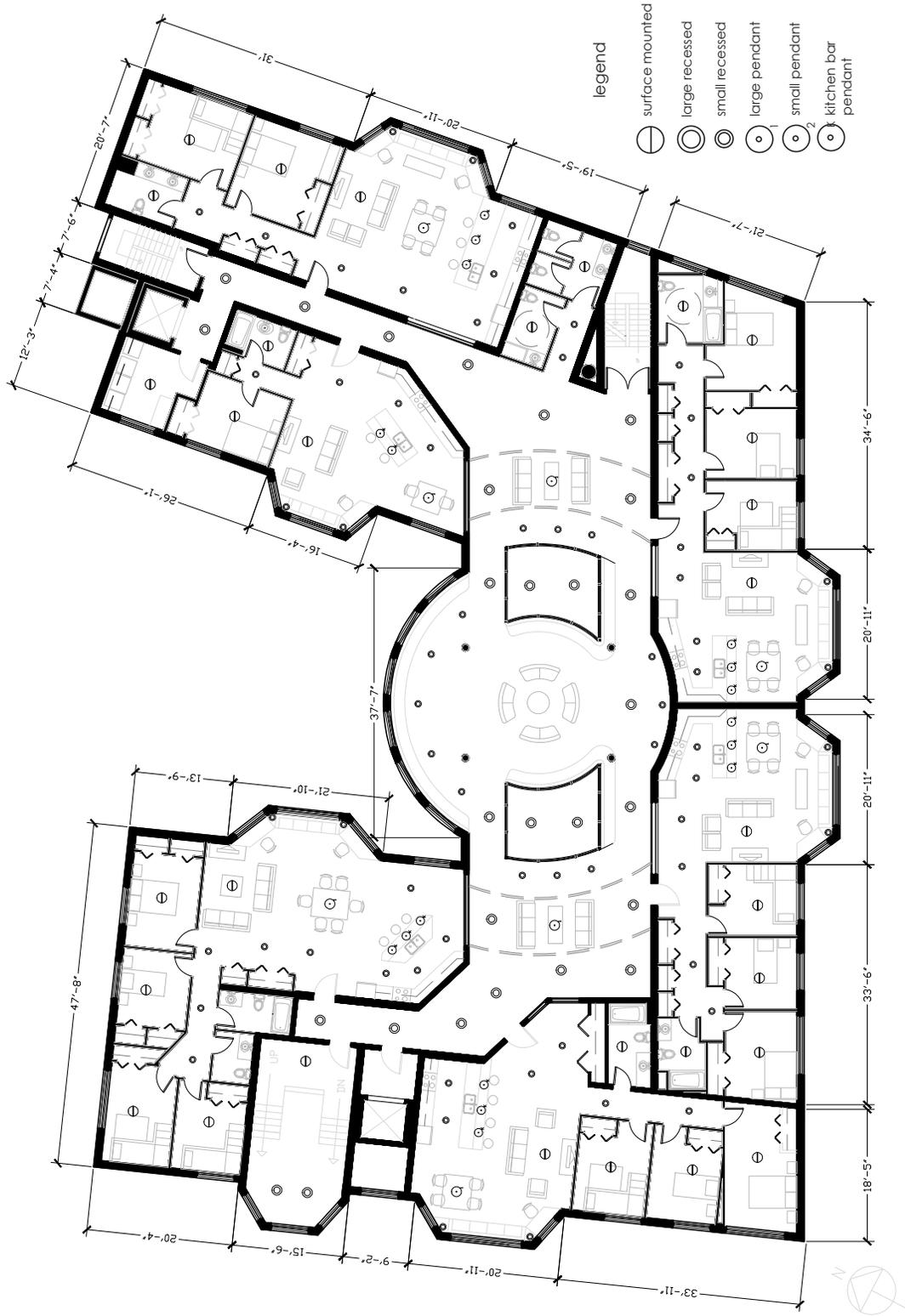
FIGURE 44 | SECTION THROUGH COMMON AREAS & CHILDREN'S ACTIVITY SPACE



SECTION



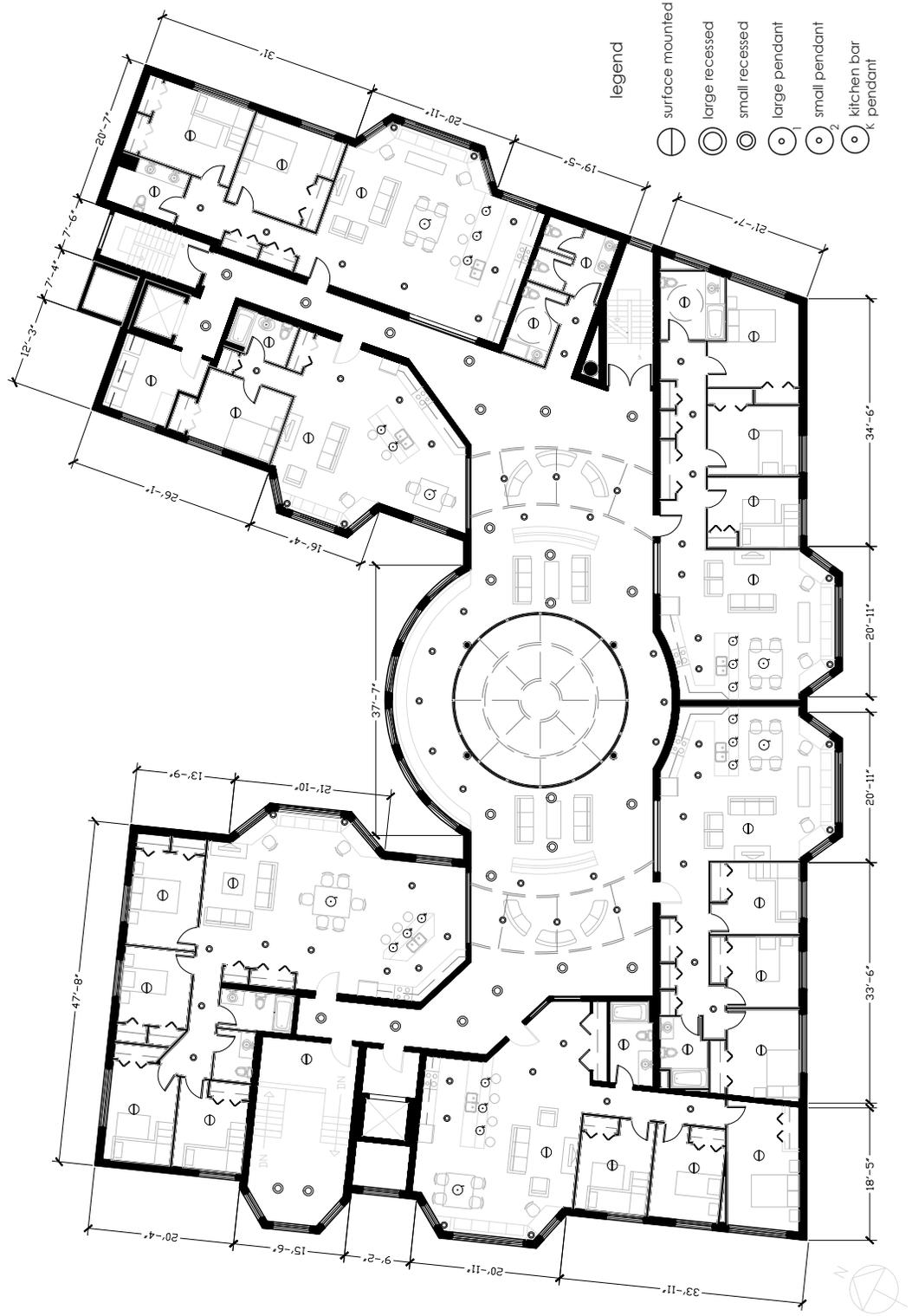
FIGURE 46 | FIRST FLOOR LIGHTING PLAN



LIGHTING PLAN



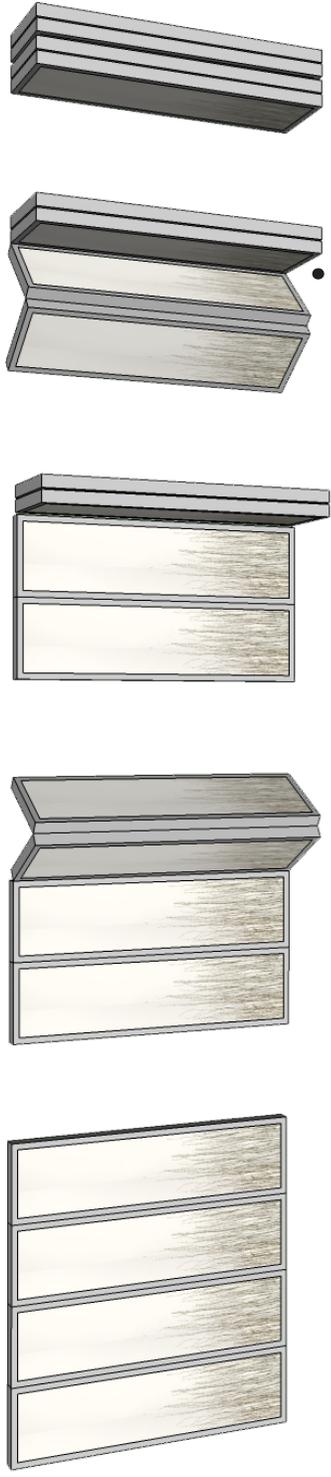
FIGURE 47 | SECOND FLOOR LIGHTING PLAN



LIGHTING PLAN



FIGURE 48 | FOLDING WALL DETAIL



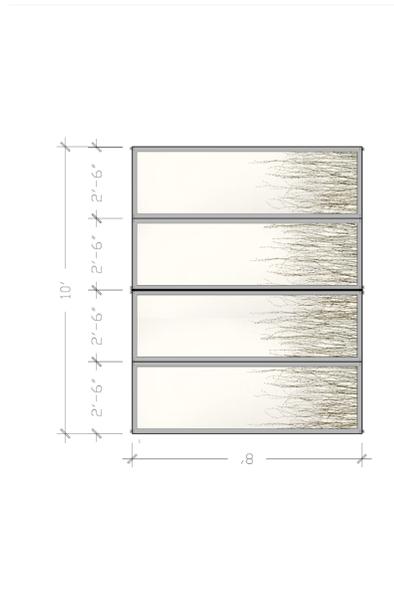
The folding wall separating each suite from the common area offers choice and control to the users of the space. These walls enable the users of the space to control the amount of visual and physical access they have with others. This ability to regulate interaction in space, reflects the concepts of choice and control central to empowerment. The doors allow the user of the space to control the permeability of the space and thus facilitate the dialectic process by which one seeks both the need for privacy and the need for connection.

The act of opening and closing these doors is an exercise of choice and an illustration of control of space. It is, therefore, important that the process of opening and closing reflects the empowerment process. These doors, massive in both weight and size, must move with surprising ease. Reflective of the overall experience of the center where large obstacles in a persons life can be overcome, these doors are a reminder of the capacity in each person to do great things. Critical to the design of these doors is that they move smoothly and with minimal effort. This is achieved through the ball bearings in the wheels that ride in the tracks located on the floor and the ceiling. As a person engages with the door, the doors shall respond easily and fluidly to the actions of the body, thus enhancing the sense of control and empowerment.

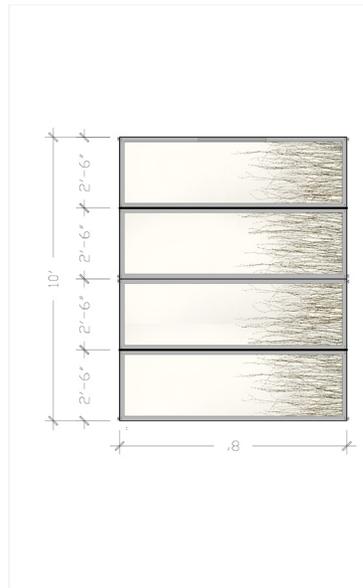




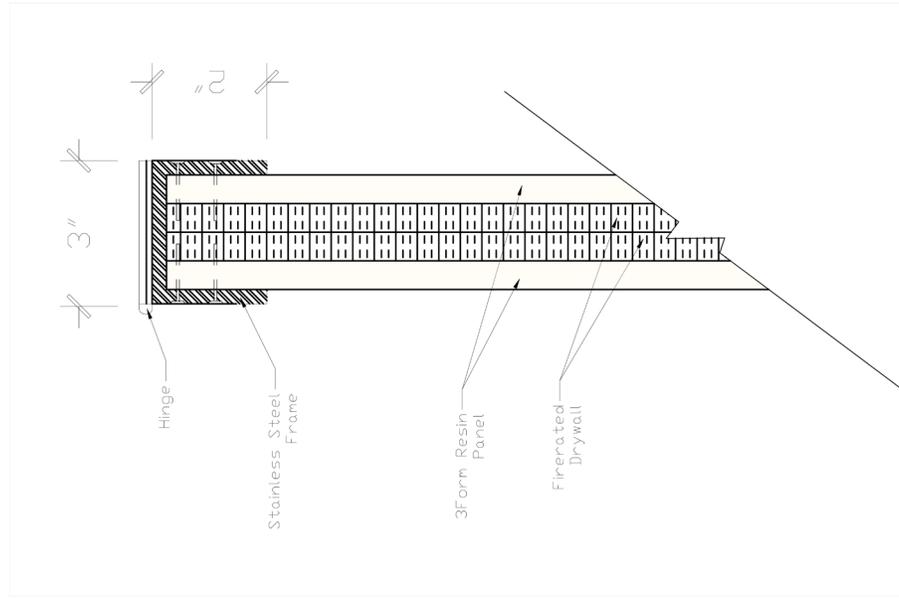
FIGURE 49 | FOLDING WALL DETAIL 2



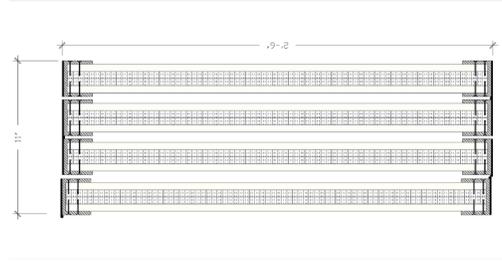
Interior Elevation - Wall in Closed Position



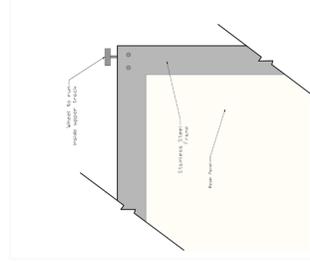
Exterior Elevation - Wall in Closed Position



Detail of Wall Panel - Plan View



Plan View of Wall in Open Position



Detail of Wall Panel - Elevation View

Note: The folding doors are designed to close automatically in the case of a fire. An electromagnet is programmed to release when the fire alarm is initiated causing a weighted counterbalance to draw the doors closed.

WALL DETAIL



FIGURE 50 | TABLE DETAIL

This table is constructed of solid walnut and maple wood planks connected by simple tongue and groove joints. The material was chosen because of its tactile and natural qualities. The wood invites one to touch and interact with the piece. The wood grain is visually appealing and the smell of wood invokes closer interaction. The joinery is visible, yet understated and the aesthetic is consistent with the overall aesthetic of River Tree. The tongue and groove joints are both visual and tactile elements that express the connections that are being made in River Tree. This expression is further reinforced by the joining of two different types of wood. This table reflects the use of two types of wood also seen in the floor design of River Tree.



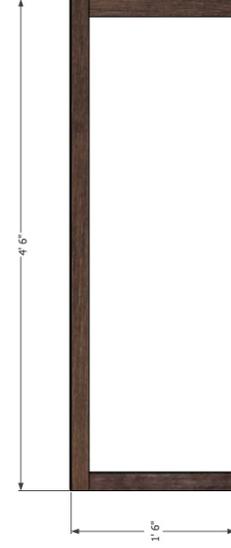
Perspective View



Plan View



Elevation View #2



Elevation View #1

TABLE DETAIL



FIGURE 51 | MATERIAL PALLET



- 1 Main Flooring
- 2 Accent Flooring
- 3 Privacy Curtains
- 4, 5 & 6 Paint Colors
- 7 Area Rug
- 8, 9 & 10 Countertop
- 11 & 13 Flooring Tile
- 12 & 16 Partitions
- 14, 15, 17 & 20 Upholstery for furniture
- 18 & 19 Upholstery for accent furniture and cushions

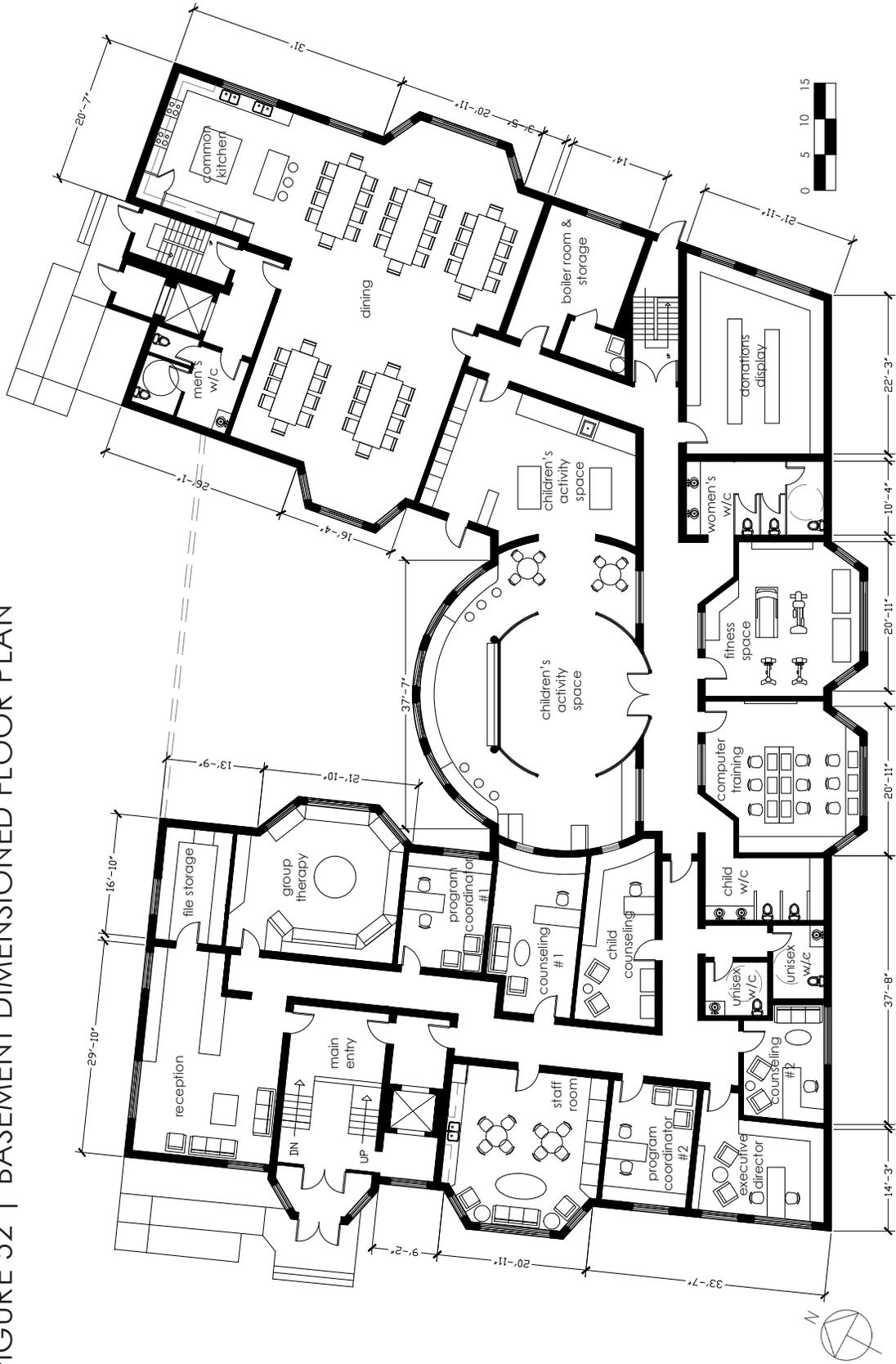
MATERIAL PALLET



1. Model Hardwood Inc.
 - a. Hard Maple
 - b. Finish: Semi-Gloss
 - c. Stain: No Stain
2. Model Hardwood Inc.
 - a. Hard Maple
 - b. Finish: Semi-Gloss
 - c. Stain: Victorian
3. Maharam
 - a. Privacy Curtain
 - b. Collection: Increment
 - c. Color: 005 Delight
 - d. 50% Polyester, 50% Trevira CS Bioactive Polyester
4. Benjamin Moore
 - a. Paint Color
 - b. Name: Silver Satin
 - c. Color: OC-26
5. Benjamin Moore
 - a. Paint Color
 - b. Name: Metropolis
 - c. Color: CC-546
6. Benjamin Moore
 - a. Paint Color
 - b. Name: Province Blue
 - c. Color: 2135-40
7. Shaw Contract Group
 - a. Carpet tile
 - b. Style name: vivid shadow tile
 - c. Style number: 59506
 - d. Color name: starry night
 - e. Color number: 04500
 - f. Commercial Grade
8. Artistic Tile
 - a. Resin 12x12 tile
 - b. Riverstone Collection
 - c. Clear with Botticino & Seashells
9. DuPont Corian
 - a. Solid Surface
 - b. Dusk
10. DuPont Corian
 - a. Solid Surface
 - b. Glacier White
11. Olympia tile/stone
 - a. Slate 12 x 12
 - b. Color: Nero (Charcoal)
12. 3Form
 - a. Resin Panel
 - b. Product Line: Varia Ecoresin
 - c. Style: Bear Grass Fade
13. Ceratec
 - a. Ceramic Tile 19.75 x 19.75
 - b. Name: Imola
 - c. Color: Nickel 50 BY
14. Maharam
 - a. Fabric Upholstery
 - b. Collection: Cipher
 - c. Color: 001 Spirit
 - d. 54% Polyester, 46% Rayon
 - e. Abrasion: 30,000+ double rubs
15. Maharam
 - a. Fabric Upholstery
 - b. Collection: Cipher
 - c. Color: 012 Plume
 - d. 54% Polyester, 46% Rayon
 - e. Abrasion: 30,000+ double rubs
16. 3Form
 - a. Resin Panel
 - b. Product Line: Varia Ecoresin
 - c. Style: Birch
17. Maharam
 - a. Fabric Upholstery
 - b. Collection: Skate
18. Maharam
 - a. Fabric Upholstery
 - b. Collection: Hallingdal by Kvadrat
 - c. Color: 805
 - d. 70% Wool, 30% Viscose
 - e. Abrasion: 100,000 + cycles, Martindale method
19. Maharam
 - a. Fabric Upholstery
 - b. Collection: Hallingdal by Kvadrat
 - c. Color: 901
 - d. 70% Wool, 30% Viscose
 - e. Abrasion: 100,000 + cycles, Martindale method
20. Edelman
 - a. Leather Upholstery
 - b. Luxe Calif – Pitch Brown (LU48)
 - c. 100,000 double rubs
- c. Color: 009 Mulberry
- d. 48% Polyester, 26% Acrylic, 26% Cotton
- e. Abrasion: 100,000+ double rubs



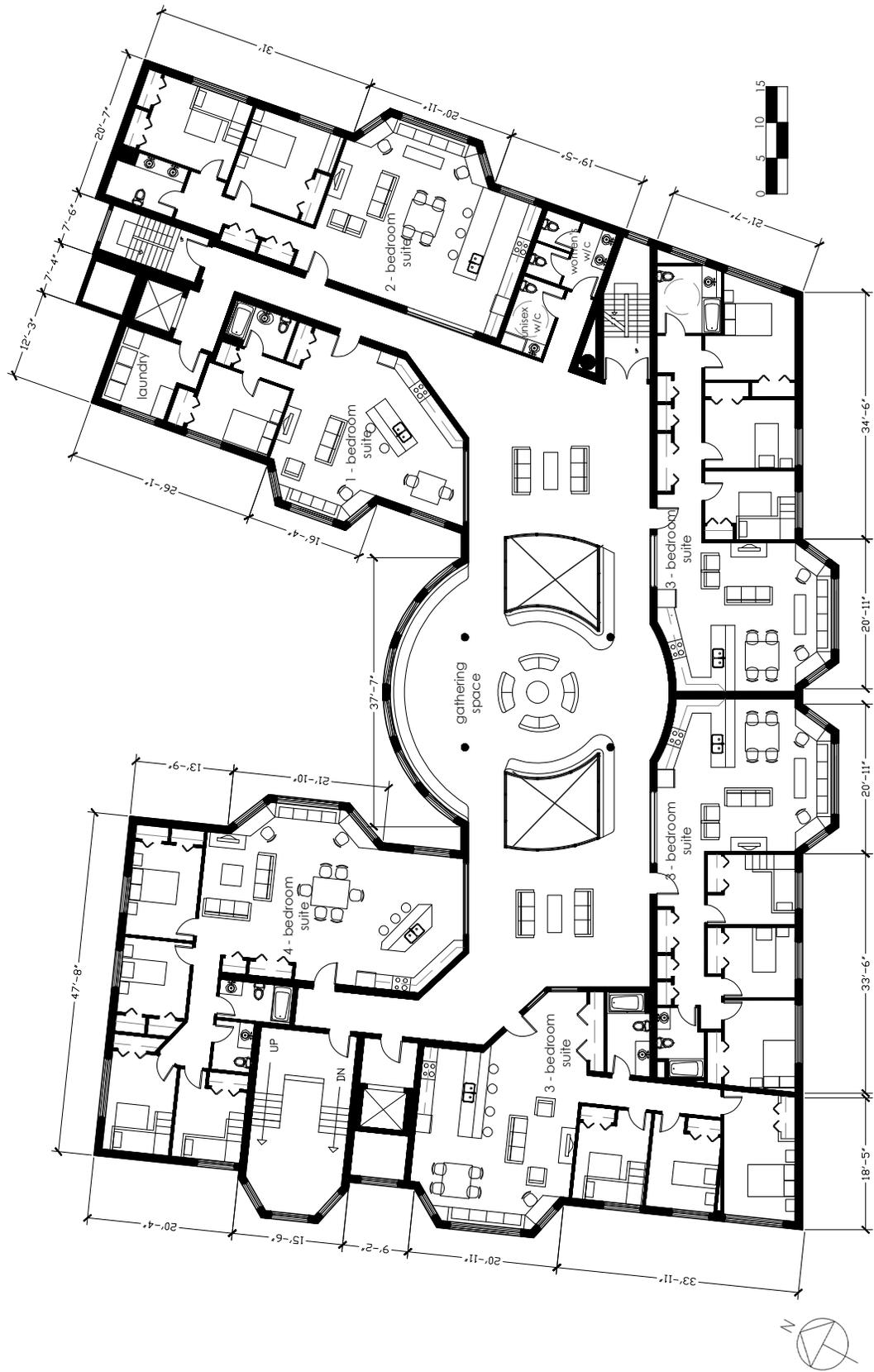
FIGURE 52 | BASEMENT DIMENSIONED FLOOR PLAN



DIMENSIONED FLOOR PLAN



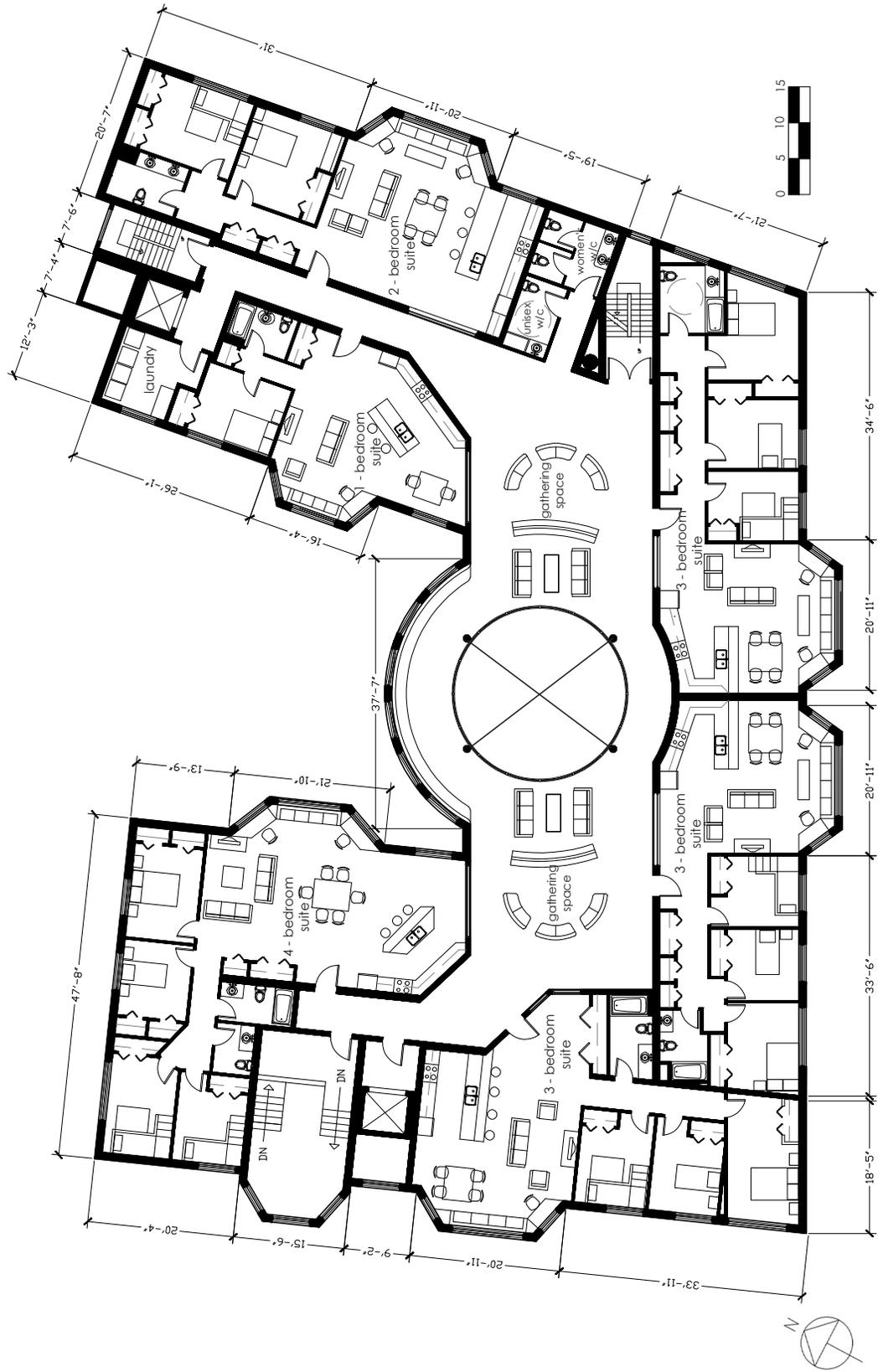
FIGURE 53 | FIRST DIMENSIONED FLOOR PLAN



DIMENSIONED FLOOR PLAN



FIGURE 54 | SECOND DIMENSIONED FLOOR PLAN



DIMENSIONED FLOOR PLAN



5.5 Strengths and Limitations

5.5.1 Strengths:

This design most successfully achieved the theoretical ideas and objectives of *social support*, *empowerment*, and *safety* by offering spaces that promote social interaction, elements that encourage choice, and spaces that speak of protection and enclosure. Concepts of *social support* were expressed through the provision of social spaces concentrated in the core of the building. These spaces vary in size and arrangement, encouraging both small and large group interaction. Located in the center of the house, these community areas encourage a sense of connection and express the centrality of community within the house. The circular shape of the large group area also exemplifies social connection and equality.

Empowerment is most effectively expressed through design elements such as moveable furniture and partitions. These components exemplify the concepts of choice and provide the opportunity to exercise control over the interior environment. Control and choice are key components of empowerment; thus these elements invoke a sense of mastery over one's situation. By providing opportunity to change one's environment and regulate social interaction, the space becomes more empowering to the individual.

The theoretical concept of *safety* was successfully integrated into the design by encouraging a sense of enclosure and protection. By ensuring a continued sense of protection from the outside world was maintained, the house was designed to create a haven within the exterior walls. The central common area and courtyard offer protected spaces



where women can join together with one another and their children. Surrounded by the individual suites, these common areas offer protected large group areas which are sheltered from unwanted intrusions.

5.5.2 Limitations:

The theoretical concept of *psychological healing* was more challenging to transfer to the design. Using *restorative design* as a means to achieve this goal, many aspects of the natural world were integrated into the interior. Although successful in integrating many of these concepts, this design could not fully explore the person-nature connection due to the critical need for safety and protection. The building was designed to restrict views and access from the outside; therefore, the connection with the exterior world was minimal. Concepts in restorative design such as a strong connection to the natural world were more difficult to achieve because the interior-exterior relationship could not be fluid but instead needed to remain one of separation for safety. This area could be explored further and with potentially greater success if the location of the building had been more secluded and had larger grounds that could be used as buffer zones from the public to private spaces.

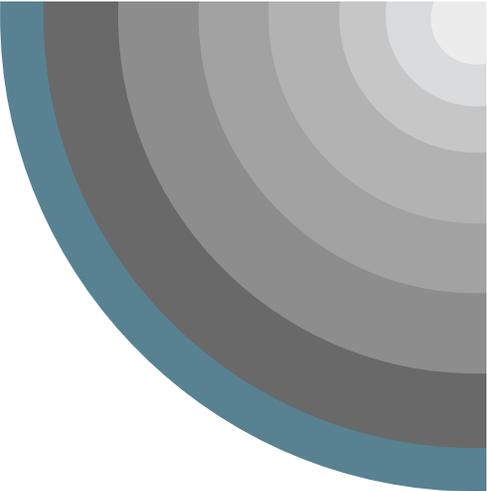
The design of *River Tree* is theoretical in nature, and it is recognized that design elements such as the circular common space that spans two floors may be costly in the renovation of an existing building. This element is central to creating a sense of community and critical to the design language that invokes open, curving, vertical spaces as opposed to closed, angular, and oppressive spaces. This design element was included because it is critical to expressing the theoretical concepts of



social support, empowerment, safety, and psychological healing through design, but it is recognized that this element would be less costly in new construction as opposed to a renovation.

5.6 Summary

River Tree has been designed to accommodate the needs of survivors of abuse, their journey of healing and social-psychological needs. Through a process of literary investigation, design guidelines and goals specific to this population were formed. The design of a second-stage house has integrated these guidelines and goals to produce a home that has the potential to foster healing. Through the understanding of the needs of the client, their specific situation, and a trauma-informed approach this project demonstrates how interior design can be used to create an environment conducive to healing and recovery.



CHAPTER SIX

CONCLUSION



6 Conclusion

This practicum investigates how interior design can be used to create a healing and trauma-informed environment for survivors of domestic abuse. Using key themes of healing and recovery from trauma as design guidelines, this project approaches the design from a unique perspective. It opens up a dialogue between trauma literature and design, and bridges the gap between trauma theory and tangible design. Informed by knowledge of the specific needs of survivors, this project demonstrates how trauma specific literature can be used in design to create spaces that truly respond to the needs of domestic abuse survivors and support the healing process.

This project also demonstrates the application of environmental psychology concepts that facilitate a trauma informed and healing space. The concepts explored in the design are: territory; privacy; and restorative design. The design elements and concepts in this project respond to the key themes of recovery and, therefore, produce a trauma-informed design. Assuming that an environment designed to respond to the specific healing and recovery needs of survivors is most effective in promoting the healing process, *River Tree* is an example of a space ideally designed for healing to occur.



6.1 Further Study

In order to determine the true success of the design, further study into the impact that the design of *River Tree* would have on its inhabitants would be necessary. Since this design is theoretical in nature, it is difficult to determine with certainty the success of the design for the potential inhabitants of the space. In order to test the success of this design, it would be necessary to build the project and perform post occupancy evaluations. These evaluations could then be compared to post occupancy evaluation reports for other second-stage houses. This would demonstrate the specific ways that the design was successful.

Further exploration of the healing and recovery process for children and the implications for design is another an area for further study that has the potential to strengthen the design of trauma informed spaces. Additionally, further exploration into the specific design implications of culture is suggested for further research.

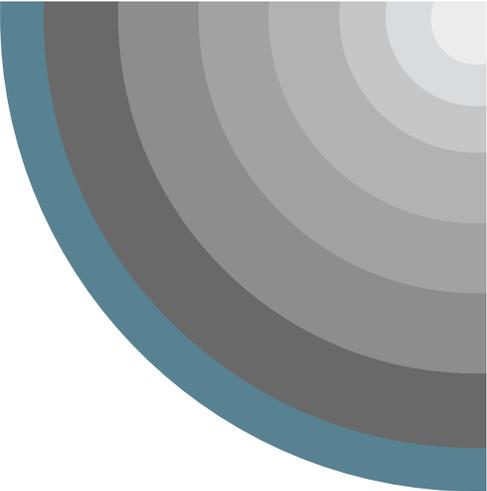
6.2 Implications for Designers

This project offers a framework that can be useful for interior designers working on similar projects. The four key themes of recovery are a framework that designers can use to inform their design. This enables designers to make choices based on an informed knowledge of trauma and healing and, therefore, increases the potential for sensitive, and healing designs. The proposed design of *River Tree*, offers spatial concepts that can be re-appropriated to future designs. Specifically, the central common space that is easily accessed by each suite, a protected courtyard for safe interaction with the natural world, the provision for large



and small group interactions, the integration of restorative concepts into the interior, the opportunity for privacy and connection, and the ability to control one's environment are key spatial concepts that can be used to inform future designs for trauma survivors.

Through an exploration of trauma recovery, and relevant concepts in environmental psychology, the design of *River Tree* is a successful example of theory and practical design merging to produce a trauma-informed and healing environment. The proposed design is a tangible example of how an interior can create a sense of safety, empowerment, social support, and psychological healing that work together to create a space conducive to the healing process. In conclusion, this project opens up a discussion about the meaningful ways in which interior design can impact the lives of women and children who have survived domestic abuse.



REFERENCES

7 References

- Abrahams, H. (2007). *Supporting women after domestic violence: Loss, trauma and recovery*. Philadelphia, PA: Jessica Kingsley Publishers.
- Alpha House Inc. (2008). 'Live Life Empowered' campaign to launch at annual fundraising dinner! Retrieved April 22, 2009, from http://www.alphahouseinc.com/web_leadarticle5.htm
- Alpha House Inc. (n.d.). *About Us*. Retrieved April 22, 2009, from http://www.alphahouseinc.com/web_aboutus.htm
- Altman, I. (1976). A conceptual analysis. *Environment and Behavior*, 8, 7-29. doi:10.1177/001391657600800102
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: American Psychiatric Association.
- Anderson, D. K., & Saunders, D. G. (2003). Leaving an abusive partner: An Empirical review of predictors, the process of leaving, and psychological well-being. *Trauma Violence and Abuse*, 4, 163-191. doi:10.1177/1524838002250769
- Appleton, J. (1975). *The experience of landscape*. London: John Wiley & Sons, Ltd.
- Arroyo, W., & Eth, S. (1995). Assessment following violence-witnessing trauma. In E. Peled, P. G. Jaffe, & J. L. Edleson (Eds.), *Ending the cycle of violence: Community response to children of battered women* (pp. 27-42). Thousand Oaks, CA: Sage Publications, Inc.
- Baker, C., Holditch Niolon, P., & Oliphant, H. (2009). A descriptive analysis of transitional housing programs for survivors of intimate partner violence in the United States. *Violence Against Women*, 15, 460-481.



doi:10.1177/1077801208330933

Canadian Mortgage and Housing Corporation. (1997). *A place to go: An evaluation of the next step program for second-stage housing in Canada*. Toronto, ON: SPR Associates Inc.

Centre of Knowledge on Healthy Child Development. (2009, February 24). *The importance of attachment*. Retrieved April 10, 2010, from http://www.knowledge.offordcentre.com/index.php?option=com_content&view=article&id=226:the-importance-of-attachment&catid=59:what-do-children-need&Itemid=114

Coalition Against Violence. (n.d.). *The cycle of violence: why do women stay in violent relationships?* Retrieved September 16, 2009, from <http://www.coalitionagainstviolence.ca/The%20Cycle%20of%20Violence.htm>

Dault, G. M. (1999, July 17). Designing a real home for the homeless: The creators of Strachan House, a factory converted to individual units for the homeless, succeeded in mixing architecture and social aims. And Janna Levitt and Dean Goodman earned a Governor-General's medal for it. *The Globe and Mail*, 15. Toronto, ON. Retrieved December 10, 2009, from Canadian Newsstand Major Dailies. (Document ID: 1121422261)

Domestic Abuse Intervention Programs. (2008). *Wheel Gallery*. Retrieved September 16, 2010, from <http://www.theduluthmodel.org/wheelgallery.php>

Domestic Abuse Intervention Project. (n.d.). *Power and Control Wheel* [PDF]. Retrieved July 8, 2010, from <http://www.theduluthmodel.org/wheelgallery.php>

Dutton, M. (1992). *Empowering and healing the battered woman: A*



model for assessment and intervention. New York, NY: Springer Publishing Company.

Elliott, D. E., Bjelajac, P., FalLOT, R. D., Markoff, L. S., & Glover Reed, B. (2005). Trauma-informed or trauma-denied: Principles and implementation of trauma-informed services for women. *Journal of Community Psychology*, 33(4), 461-477. doi:10.1002/jcop.20063

Evans, G. W., & McCoy, J. M. (1998). When buildings don't work: The role of architecture in human health [Electronic Version]. *Journal of Environmental Psychology*, 18, 85-94.

Gifford, R. (2002). *Environmental psychology: Principles and practice* (3rd ed.). Colville, WA: Optimal Books.

Government of Alberta, Children and Youth Services. (n.d.). What is Abuse? Retrieved September 16, 2009, from <http://www.child.gov.ab.ca/home/836.cfm>

Government of Manitoba. (2005). *Best practices licensing manual for early learning and child care centres* [PDF]. Retrieved September 16, 2009, from <http://www.gov.mb.ca/fs/elccmanual/index.html>

Government of Manitoba. (n.d.). *Domestic violence: The cycle of violence and how you can break it*. Retrieved September 16, 2009, from <http://www.manitoba.ca/justice/domestic/cycleofviolence/index.html>

Greenwald, R. (2005). *Child trauma handbook: A guide for helping trauma-exposed children and adolescents*. Binghamton, NY: The Haworth Maltreatment and Trauma Press.

Hagedorn, J. (2005, August). *Learning through our clients' eyes. The Manitoba experience: Assessing the needs and satisfaction of women using Manitoba shelters* [PDF]. The Manitoba Association of



Women's Shelters. Retrieved September 15, 2009, from <http://www.maws.mb.ca/learning.htm>

Harris, M., & Falloot, R. D. (2001). Envisioning a trauma-informed service system: A vital paradigm shift [Electronic Version]. *New Directions for Mental Health Services*, 89, 3-22.

Hartig, T., Mang, M., & Evans, G. W. (1991). Restorative effects of natural environment experiences. *Environment and Behavior*, 23(3), 3-26. doi: 10.1177/0013916591231001

Hartig, T., Bringslimark, T., & Grindal Patil, G. (2008). Restorative environmental design: What, when, where, and for whom? In S. R. Kellert, J. H. Heerwagen, & M. L. Mador (Eds.), *Biophilic design: The theory, science and practice of bringing buildings to life*. Hoboken, NJ: John Wiley and Sons Inc.

Heerwagen, J., & Hase, B. (2001). Building biophilia: Connecting people to nature in building design. *Environmental Design + Construction*. Retrieved June 20, 2010, from http://www.edcmag.com/Articles/Feature_Article/18f9f635d8697010VgnVCM100000f932a8c0_____

Herman, J. L. (1997). *Trauma and recovery: The aftermath of violence - from abuse to political terror* (Rev. ed.). New York, NY: Basic Books.

Houskamp, B. M., & Foy, D. W. (1991). The assessment of posttraumatic stress disorder in battered women. *Journal of Interpersonal Violence*, 6, 367-375. doi:10.1177/088626091006003008

Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge, NY: Cambridge University Press.

Kaplan, R., Kaplan, S., & Ryan, R. L. (1998). *With people in mind: Design and management of everyday nature*. Washington, DC: Island Press.

- 
- Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology, 15*, 169-182.
- Kasturiranga, A. (2008). Empowerment and programs designed to address domestic violence. *Violence Against Women, 14*(12), 1465-1475.
doi:10.1177/1077801208325188
- Kellert, S. R. (2005). *Building for life: Designing and understanding the human-nature connection*. Washington, DC: Island Press.
- Kemp, A., Rawlings, E. I., & Green, B. L. (1991). Post-traumatic stress disorder (PTSD) in battered women: A shelter sample [Electronic Version]. *Journal of Traumatic Stress, 4*(1), 137-148.
- recovery. Philadelphia, PA: Jessica Kingsley Publishers.
- Kimura, D. (2009). Connecting housing and health: Two nonprofits join forces to build Seven Directions. *Affordable Housing Finance, April/May 2009*. Retrieved January 28, 2010, from <http://www.housingfinance.com/ahf/articles/2009/apr-may/0409-regional-Connecting-Housing-and-Health.htm>
- Klassen, F. (2003). Transformable personal space within a communal setting: Housing for the homeless. In R. Kronenburg (Ed.), W. Y. Chii, & J. Lim (Co-Eds.), *Transportable Environments 2 [Electronic Version]: [theory, context, design and technology]* (pp. 44-49). New York: Spon Press Taylor & Francis Group.
- Lee, M. (2006). Cree (Nehiyawak) teaching. *Four Directions Teachings.com*. Retrieved June 18, 2010, from <http://www.fourdirectionsteachings.com/transcripts/cree.html>
- Levitt Goodman Architects. (n.d.). *Strachan House*. Retrieved November 11, 2009, from <http://levittgoodmanarchitects.com/project?p=strachan&c1=residential&c2=None>

- 
- Lewis-O'Conner, A., Sharps, P. W., Humphreys, J., Gary, F. A., & Campbell, J. (2006). Children exposed to intimate partner violence. In M. M. Feerick & G. B. Silverman (Eds.), *Children exposed to violence*. Baltimore, Maryland: Paul H. Brookes Publishing Co. Inc.
- Lieberman, A. F., & Van Horn, P. (2007). Assessment and treatment of young children exposed to traumatic events. In J. D. Osofsky (Ed.), *Young children and trauma: Intervention and treatment*. New York, NY: The Guilford Press.
- McGowan, M., & Kruse, K. (2003). *Interior graphic standards*. Hoboken, NJ: John Wiley & Sons.
- Mental Health America. (2010). *Factsheet: What every child needs for good mental health*. Retrieved April 8, 2010, from <http://www.mentalhealthamerica.net/go/information/get-info/children-s-mental-health/what-every-child-needs-for-good-mental-health/what-every-child-needs-for-good-mental-health>
- National Child Traumatic Stress Network. (2010). *Interventions for children exposed to domestic violence: Core principles*. Retrieved April 9, 2010, from http://www.nctsnet.org/nccts/nav.do?pid=typ_dv6
- Native American Health Center. (2007). *Native American health center: Seven directions [Video File]*. Retrieved from <http://www.nativehealth.org/7Dvideo.html>
- Ozer, E. M., & Bandura, A. (1990). Mechanisms governing empowerment effects: A self-efficacy analysis [Electronic Version]. *Journal of Personality and Social Psychology*, 58(3), 472-486.
- Parsons, R. J., Gutierrez, L. M., & Cox, E. O. (1997). A model for empowerment practice. In L. M. Guitierrez, R. J. Parsons, & E. O. Cox (Eds.), *Empowerment in social work practice: A sourcebook*. Pacific



Grove, CA: Brooks/Cole Pub. Co.

Pendersen, D. M. (1997). Psychological functions of privacy [Electronic Version]. *Journal of Environmental Psychology*, (17), 147-156.

Public Health Agency of Canada. (2010). *What Determines Health?* Retrieved March 11, 2010, from <http://www.phac-aspc.gc.ca/ph-sp/determinants/index-eng.php#determinants>

Pyatok Architects. (n.d.). *Seven Directions Apartments and Health Clinic*. Retrieved March 17, 2010, from <http://www.pyatok.com/portfolio/7D.html>

Rubin Suleiman, S. (2008). Judith Herman and Contemporary Trauma Theory. *Women's Studies Quarterly*, 36(1 & 2, Spring/Summer), 276-281. doi:10.1353/wsq.0.0016

Smith, P., Perrin, S., Yule, W., & Clark, D. M. (2010). *Post traumatic stress disorder: Cognitive therapy with children and young people*. New York, NY: Routledge Taylor & Francis Group.

Stein, M. B., & Kennedy, C. (2001). Major depressive and post-traumatic stress disorder comorbidity in female victims of intimate partner violence [Electronic Version]. *Journal of Affective Disorders*, 66, 133-138.

Stensrud, A. (2005). *Toward a better understanding of the needs of shelter users: A consultation with shelter residents and workers* [PDF]. Provincial Association of Transitional Houses and Services of Saskatchewan. Retrieved from http://www.abusehelplines.org/past_projects.php

Stewart-Pollack, J., & Menconi, R. M. (2005). *Designing for privacy and related needs*. New York, NY: Fairchild Publications.

Tutty, L. M., & Goard, C. (2002). *Woman abuse in Canada: An overview*.



In L. M. Tutty & C. Goard (Eds.), *Reclaiming self: Issues and resources for women abused by intimate partners* (pp. 25-42). Halifax, NS: Fernwood Publishing and Resolve.

Ulrich, R. S. (1984). View through a window may influence recovery from surgery [Electronic Version]. *Science*, 224, 420-421.

Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*, 11, 201-230.

Van Horn, P., & Lieberman, A. F. (2006). Child-parent psychotherapy and the early trauma treatment network: Collaborating to treat infants, toddlers, and preschoolers. In M. M. Feerick & G. B. Silverman (Eds.), *Children exposed to violence* (pp. 87-105). Baltimore, Maryland: Paul H. Brookes Publishing Co. Inc.

Vancouver Coastal Health. (n.d.). *Aboriginal terminology - Aboriginal health*. Retrieved June 19, 2010, from <http://aboriginalhealth.vch.ca/terms.htm>

Verderber, S. F., & Refuerzo, B. J. (2006). *Innovations in hospice architecture*. London: Taylor & Francis.

Walker, L. E. (1979). *The battered woman*. New York, NY: Harper & Row Publishers Inc.

Walker, L. E. (1984). *The battered woman syndrome*. New York, NY: Springer Publishing Company.

Walker, L. E. (1992). Forward. In M. Dutton, *Empowering and healing the battered woman: A model for assessment and intervention*. New York, NY: Springer Publishing Company.

Westin, A. F. (1967). *Privacy and freedom*. New York, NY: The Association of the Bar of the city of New York.

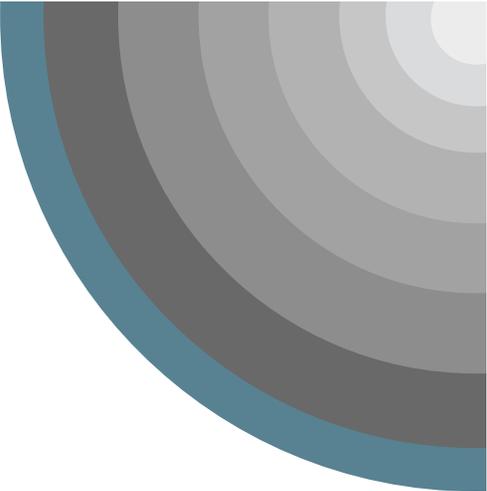


Wilson, E. O. (1984). *Biophilia: The human bond with other species*.
Cambridge, MA: Harvard University Press.

Women In Second-Stage Housing Inc. (2009). *Orientation Manual*.
Unpublished manuscript.

Wood, J. R. (2001). Biophilia and the Gospel: Loving nature or worshipping
God? In H. Boersma (Ed.), *Living in the lamplight: Christianity and
contemporary challenges to the Gospel* (pp. 154-176). Vancouver,
BC: Regent College Publishing.

Yellowman, S. (2006). Building our future. *Strong Medicine, Special Edition*.
Retrieved from http://www.nativehealth.org/news_strongmedicine.html



APPENDIX



8.1 Figure 55. Program Chart

Zoning	Space	Approx. Sq Ft	User	Activity	Furniture/ Fixtures and Equipment	Spatial Characteristics
Program Space - Basement Level						
Counseling and Office Space	Reception and Administrative activities	180	Administrative Assistant	Greeting, answering phone, maintenance of security cameras files	Desk, lockable file storage, chair, computer, monitor for security cameras	Open, desk located near entrance, clear view of entrance & exit for security, warm colors
	File Storage & Photocopier	140	Administrative Assistant and Staff	Storage of Files and Photocopying	File Cabinets, Photocopier	Functional, Well-lit
	Small Waiting Area	250	Clients	Waiting, reading	Seating for four, table, storage for magazines	Located near entrance, restricted views into counseling rooms



Zoning	Space	Approx. Sq Ft	User	Activity	Furniture/ Fixtures and Spatial Characteristics
	Child Counselor	260	Counselor, Mother & Child	Play therapy, phone calls, reading, email, document writing, meeting clients	Activities such as sand table, art materials, toys, seating for two adults and a child, storage for files, book storage, desk, computer, storage for toys, consider a sink
	Group Therapy	430	12 Women and 1 Counselor	Group Counselling	Discussion, meetings, counselling Restorative design that includes views of nature, natural materials, a sense of security and enclosure and a warm, inviting atmosphere
	5 Office Spaces (2 Counselors) (2 Program Coordinators and an Executive Director	180 each	Counselor & Client	Phone calls, reading, email, document writing, meeting clients	Seating for two, storage for files, book storage, desk, phone, computer Warm, calming and inviting atmosphere. Soft seating, nature-like accents, window coverings
	Staff Room	400	Staff & Volunteers	Staff meetings, lunch room, storage for volunteers	Tables, chairs, couches, kitchen appliances, storage and counters, lockable storage Warm colors, include attractive images, places to display announcements



Zoning	Space	Approx. Sq Ft	User	Activity	Furniture/ Fixtures and Spatial Characteristics
	Washrooms	200	Staff, Volunteers & Clients	Accessible washrooms	Sink & Toilets Clean and bright
Child Space	Dynamic Play	400	Children, Volunteers & mothers	Dry gross motor play	Central play structure, toys, seating Fun, child-centered environment, bright colors and durable materials, nature inspired images and objects
	Object/ Wet Play	400	Children, Volunteers & mothers	Wet fine motor play	
	Quiet Space	490	Children, Volunteers & mothers	Dry fine motor play and reading	Soft seating, bookshelves, storage for toys, cushions to sit on garden Warm, less stimulating environment, view to outdoors
	Child Washroom	150	Children under 6	Washrooms	Child-height Cheerful, clean
Group Space	Kitchen	350	Mothers, Children, Volunteers & Staff	Nutrition training, house appliances, meals	Pantry, kitchen Functional, durable, clean, light colours, lighting for tasks



Zoning	Space	Approx. Sq Ft	User	Activity	Furniture/ Fixtures and Spatial Characteristics
	Dining	1400	Seating for 50	Eating, games, crafts, computer training	Tables, chairs, high chairs, booster seats Durable, calming, view to gardens at rear of the building, soft lighting
	Washrooms	190	Female (3)	Washroom	Minimum of 1 accessible washroom Clean and bright
		140	Male (2)	Washroom	Minimum of 1 accessible washroom Clean and bright
	Computer Training	380	12 Women and instructor	Computer Instruction	12 Computers, Large screen View to screen from each computer is unabstracted, ambient lighting, storage for instruction material
	Yoga/Fitness	380	Women	Yoga and Fitness Exercises	Exercise equipment, storage of mats, video screen, speakers for music Natural light, natural materials, calming atmosphere, play space for children near by
	Donations	450	Casual occupancy	Storage and "retail" display for donated goods	Tables, clothes display, toy storage, shelving Organized, halogen lighting



Zoning	Space	Approx. Sq Ft	User	Activity	Furniture/ Fixtures and Spatial Characteristics
Residential First Floor					
Residential	4 - bedroom	1500	Mother and 3 to 6 children	Sleeping, eating, cooking, washroom, watching tv, reading	4 bedrooms, 1 half-bath, 1 full bath, living space, dining space, kitchen
	3-bedroom A	1100	Mother and 4 children	Sleeping, eating, cooking, washroom, watching tv, reading	3 bedrooms, 1 full bathroom, living space, dining space, kitchen
	3- bedroom B	1100	Mother and 4 children	Sleeping, eating, cooking, washroom, watching tv, reading	3 bedrooms, 1 full bathroom, living space, dining space, kitchen
	3- bedroom C	1100	Mother and 4 children	Sleeping, eating, cooking, washroom, watching tv, reading	3 bedrooms, 1 full bathroom, living space, dining space, kitchen



Zoning	Space	Approx. Sq Ft	User	Activity	Furniture/ Fixtures and Spatial Characteristics
	2- bedroom	1180	Mother and 2 children	1 to 2 Sleeping, eating, cooking, washroom, watching tv, reading	2 bedrooms, 1 full bathroom, living space, dining space, kitchen Warm, with natural finishes and views to the outside and common areas
	1- bedroom	700	Mother	Sleeping, eating, cooking, washroom, watching tv, reading	1 bedroom, 1 full bathroom, living space, dining space, kitchen Warm, with natural finishes and views to the outside and common areas
Gathering	Common Space	2100	Women & Children	Playing, talking, relaxing, meeting, small crafts	Fixed and flexible seating, space for tables if desired Open, sense of connection to others, light colors, plenty of natural light, durable materials
	Washroom	200	2 female, 1 unisex, accessible washroom	Washroom & change table	Toilet, sink, change table Clean and bright
	Laundry	110	Residents	Laundry	3 washers & dryers, table to fold clothes, storage Natural light, window to view courtyard



Zoning	Space	Approx. Sq Ft	User	Activity	Furniture/ Fixtures and Spatial Characteristics Equipment
Residential Second Floor					
Residential	4 - bedroom	1500	Mother and 6 children	3 to 6 Sleeping, eating, cooking, washroom, watching tv, reading	4 bedrooms, 1 half-bath, 1 full bath, living space, dining space, kitchen
	3-bedroom A	1100	Mother and 4 children	2 to 4 Sleeping, eating, cooking, washroom, watching tv, reading	3 bedrooms, 1 full bathroom, living space, dining space, kitchen
	3- bedroom B	1100	Mother and 4 children	2 to 4 Sleeping, eating, cooking, washroom, watching tv, reading	3 bedrooms, 1 full bathroom, living space, dining space, kitchen
	3- bedroom C	1100	Mother and 4 children	2 to 4 Sleeping, eating, cooking, washroom, watching tv, reading	3 bedrooms, 1 full bathroom, living space, dining space, kitchen



Zoning	Space	Approx. Sq Ft	User	Activity	Furniture/ Fixtures and Spatial Characteristics
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	Washroom	200	2 female, 1 unisex, accessible washroom	Washroom & change table	Toilet, sink, change table Clean and bright
	Laundry	110	Residents	Laundry	3 washers & dryers, table to fold clothes, storage Natural light, window to view courtyard

8.2 Building Code Analysis

The following building code analysis is based on the National Building Code of Canada 2005 (NBC 2005). All direct quotes are taken from the NBC 2005. Any summaries that the author has made are based on this code and are intended to summarize the requirements for the specific project called *River Tree*.

3.1.2.1. Major Occupancy Classification

Three major occupancy types are found in River Tree. Based on Table 3.1.2.1, the major occupancies include:

- 1) Group A, Division 2: *Assembly occupancies* not elsewhere classified in Group A
- 2) Group C, Division - : *Residential occupancies*
- 3) Group D, Division - : *Business and personal services occupancies*

3.1.3. Multiple Occupancy Requirement

3.1.3.1 Separation of Major Occupancies

Based on Table 3.1.3.1 in NBC, 2005, the minimum *fire-resistance* rating of *fire-separation* is 1 hour between all adjoining major occupancies in *River Tree*.

Building Area

- 1) Each floor is 10,000 sqft
- 2) Total 30,000 sqft

Building Height

2 storeys facing 1 street

3.1.17. Occupant Load

3.1.17.1 Occupant Load Determination

1) "The *occupant load* of a *floor area* or part of a *floor area* shall be based on

- a) the number of seats in an *assembly occupancy* having fixed seats,
- b) 2 persons per sleeping room in a *dwelling unit*, or
- c) the number of persons for which the area is designed, but not less than that determined from Table 3.1.17.1 for *occupancies* other than those described in Clauses (a) and (b), unless it can be shown that the area will be occupied by fewer persons" (NBC, 2005, 3-29 Division B).

Based on Table 3.1.17.1, the *occupant loads* of the building are as follows:

Dwelling units on 1 st Floor	26 residents total
Dwelling units on 2 nd Floor	26 residents total
Common Area 1 st Floor (non-fixed & fixed seats)	26 residents
Common Area 2 nd Floor (non-fixed & fixed seats)	26 residents
Office	6 counseling 6 being counseled 1 admin staff 2 Volunteers
Pre-school supervised activity space	16 children



Dining	2 staff supervision 50 people
Maximum intended occupancy	61 people

3.2 Building Fire Safety

3.2.2.6 Multiple Major Occupancies

"...in a building containing more than one major occupancy, the requirements of this Subsection for the most restricted major occupancy shall apply to the whole building" (NBC 2005, 3-34 Division B).

3.2.2.44 Group C, up to 3 storeys, Noncombustible Construction

1) "A *building* classified as Group C is permitted to conform to Sentences (2) provided

- a) it is not more than 3 *storeys* in *building height*, and
- b) it has a *building area* not more than the value in table 3.2.2.44

2) The *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

- a) except as permitted by Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
- c) roof assemblies shall have a *fire-resistance rating* not less than 1 h, and
- d) *loadbearing walls*, columns and arches shall have *fire-resistance rating* not less than that required for the supported assembly" (NBC, 2005, 3-44 Division B).



Summary:

Construction: Noncombustible

Floor Assemblies: Fire separation with 1 hour fire-resistance rating

Load bearing beams and columns: Fire-resistance rating of 1 hour

Sprinklered: Yes

3.2.4.1 Determination of Requirement for a Fire Alarm System

A fire alarm is required.

3.2.7.3. Emergency Lighting

1) "Emergency lighting shall be provided to an average level of illumination not less than 10 lx at floor or treat level in

- a) exits
- b) principal routes providing access to exit in open floor areas
- g) public corridors..." (NBC, 2005, 3-88 Division B).

3.2.8 Mezzanines and Openings through Floor Assemblies

The interconnected floor space between the basement storey and the first floor will be separated by 1 hour glass wall separations.

3.3 Safety within Floor Areas

Fire separation between suites with a fire-resistance rating of 1 hour.

3.3.1.4 Public corridor

As required by this section and 3.3.4.2 (1), the residential suites must be separated from the public corridor by a fire separation. "...a *public corridor* shall be separated from the remainder of the storey by a *fire*



separation” (NBC, 2005, 3-93 Division B).

For other occupancies:

- 4) “No fire separation is required in a sprinklered floor area between a public corridor and
 - a) provided the travel distance from any part of the floor area to an exit is not more than 45 m [147 ft]” (NBC, 2005, 3-93 Division B).

3.3.1.9. Corridors

River Tree shall conform to the following:

- 1) “The minimum width of a public corridor shall be 1,100mm (3’-7”)” (NBC, 2005, 3-95 Division B).
- 7) “Except for a dead end corridor that is entirely within a suite, a dead end corridor is permitted provided it is not more than 6 m (19’-8”) long” (NBC, 2005, 3-96 Division B).

3.3.1.22 Common Laundry Rooms

- 3) “The fire separation required by Sentence (1) is not required to have a fire-resistance rating if the floor area in which a laundry room is located is sprinklered throughout” NBC, 2005, 3-99 Division B).

3.3.4. Residential Occupancy

3.3.4.2 Fire Separations

- 1) “...*suites of residential occupancy shall be separated from each other and the remainder of the building by a fire separation having a fire-resistance rating not less than 1 h*”. (3-106 Division B)

In order to conform to 3.3.4.2, the folding doors in each suite are designed to close automatically in the case of a fire. These doors are fire-rated to



1 hour. An electromagnet programmed to release when the fire alarm sounds and a weighted counterbalance will draw the doors closed.

3) Conforming to the requirements of 3.3.4.2 (3) (a & b) “floor assemblies within a dwelling unit need not be constructed as *fire separations*” (3-107 Division B).

3.3.4.4 Egress from Dwelling Units

Based on the information in this section, it is required that direct access to a *public corridor* is provided from each *dwelling unit*.

3.3.4.3 Storage Rooms

Sprinklers must be provided in the storage rooms and the storage room “shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance* rating not less than 1h” (3-107 Division B).

Section 3.4 Exits

3.4.2.1 Minimum Number of Exits

Must provide at least 2 exits.

3.4.2.5. Location of Exits

1) “...if more than one *exit* is required from a *floor area*, the *exits* shall be located so that the travel distance to at least one *exit* shall be not more than:

a) “40 m (131 ft) in a *business and personal services occupancy*”

c) “45 m (147 ft) in a *floor area* that contains an *occupancy* other than



high-hazard industrial occupancy, provided it is is sprinklered throughout" (3-114 Division B).

Travel distance: Maximum distance to at lease one exit on each floor is: 72'-0".

3.4.3.2 Exit Width

Using the calculations specified in this section of the NBC 2005, the existing exit width is sufficient.

b) "8 mm [0.026'] per person for a stair consisting of steps whose rise is not more than 180 mm (7") and whose run is not less than 280 mm (11")" (3-115 Division B).

Current exit capacity: stair width 3'-0"

Based on calculation of 8 mm (0.026') per person:

Capacity of stair = 115 people

Intended max. occupancy = 61

3.4.4 Fire Separation of Exits

3.4.4.1 Fire-Resistance Rating of Exit Separation

1) "Every exit shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than that required by Subsection 3.2.2" (NBC, 2005, 3-116 Division B).

Fire-Resistance Rating required: 1 hour

3.4.5. Exit Signs

Exit signs that conform to section 3.4.5. shall be included above or

adjacent to each exit.

3.4.6 Types of Exit Facilities

3.4.6.6. Ramp Slope

(See Article 3.8.3.4.)

3.4.6.10 Doors

1) "The distance between a stair riser and the leading edge of a door during its swing shall be not less than 300mm [1'-0"]" (NBC, 2005, 3-116 Division B).

Section 3.7. Health Requirements

3.7.2.2 Water Closet

1) Water closets shall be provided for each sex assuming that the occupant load is equally divided between males and females, unless the proportion of each sex expected in the building can be determined with reasonable accuracy.

Based on Table 3.7.2.2.A for *Assembly Occupancy* and assuming that the number of people requiring the use of a water closet not provided by their own dwelling unit is 26, the first and second floor shall provide water closets conforming to the following:

Female: Water closet: 2 Lavatory: 1

Male: Water closet: 1 Lavatory: 1

Request for an exception to provide 1 unisex water closet that is



universally accessible, and one female bathroom with two water closets. This request for exception is based on the reasonable assumption that there will be significantly more female than male users of the space.

Based on Table 3.7.2.2.B *Business and Personal Services Occupancy* the number of water closets and lavatories shall be as follows:

Female: Water closet: 1	Lavatory: 1
Male: Water closet: 1	Lavatory: 1

Using the requirements for primary schools and day-care centres, the children's activity space shall provide one water closet for every 30 males and one water closet for every 25 females.

Request for an exception to provide 1 unisex water closet for the occupant load of 16 children under the age of 6.

3.8.2.1 Areas Requiring a Barrier-Free Path of Travel

Barrier-free access and path of travel provided on all three floors.

3.8.2.3 Washrooms Required to be Barrier-Free

Minimum of 1 barrier free washroom per floor.

3.8.3.3 Doorways and Doors

1) "Every doorway that is located in a *barrier-free* path of travel shall have a clear width not less than 800mm [2'8"] when the door is in the open



position.

2) Doorways in a path of travel to at least one bathroom within a *suite* of *residential occupancy* shall have a clear width not less than 800mm (2'8") when doors are open" (NBC, 2005, 3-143 Division B).

10) "Unless equipped with a power door operator, a door in a *barrier-free* path of travel shall have a clear space on the latch side extending the height of the doorway and not less than

a) 600 mm beyond the edge of the door opening if the door swings toward the approach side, and

b) 300 mm beyond the edge of the door opening if the door swings away from the approach side" (NBC, 2005, 3-144 Division B).

Section 5.9. Sound Transmission

5.9.1.2. Required Protection from Noise

1) "...a *dwelling unit* shall be separated from every other space in a *building* in which noise may be generated by construction providing a sound transmission class rating not less than 50..." (NBC, 2005, 5-11 Division B).

The National Building Code of Canada (2005) specifies that dwelling units must be separated from every other space in a building by a wall construction that meets or exceeds a STC rating of 50. According to Interior Graphic Standards (McGowan & Kruse, p. 65) personal offices with confidential privacy requirements need to meet or exceed a sound transmission class rating (STC) of 50-55.

In order to achieve an STC rating of 55, the wall construction should conform to wall type W15h specified in the National Building Code of Canada (2005). This wall construction should be specified between suites



and between counseling offices. According to the National Building Code of Canada (2005, p. A-89, Division B) wall type W15h consists of:

- Two rows 38 mm (1 -1/2") x 89 mm (3-1/2") studs, each spaced 400 mm (16") or 600 mm (24") o.c. on separate 38 mm (1-1/2") x 89 mm (3-1/2") plates set 25 mm (1") apart
- 2 layers of 12.7 mm (1/2") Type X gypsum board¹

This W15h wall construction when loadbearing has a fire-resistance rating of 1 hour and when non-loadbearing has a fire-resistance rating of 1.5 hour. This meets and exceeds the fire-resistance rating for the building construction as specified by the National Building Code of Canada (2005).

1 Imperial measurements included by the author

8.3 Security Measures

Security is a critical component to the successful design of a second-stage house. Initial security measures include ensuring the building is setback from the road and using vegetation to block direct views into the interior. Electronic security strategies consist of surveillance cameras, monitoring equipment, and keycard locks to prevent unwanted intrusions.

Surveillance cameras are located at each entrance to the building. The main entry consists of a vestibule where visitors are monitored by cameras and must speak with the receptionist via intercom. If visiting a resident, they must use the intercom to speak to the resident who can then grant access into the building. Once the visitor reaches the desired floor, the resident must physically open the door for the visitor. Residents of *River Tree* may use their keycards at any entrance to enter the building.

If a visitor is granted access by the receptionist, they must descend a flight of stairs, or use the elevator to access the lower level. On the lower level, they are again monitored by cameras and are granted access by the receptionist via intercom.

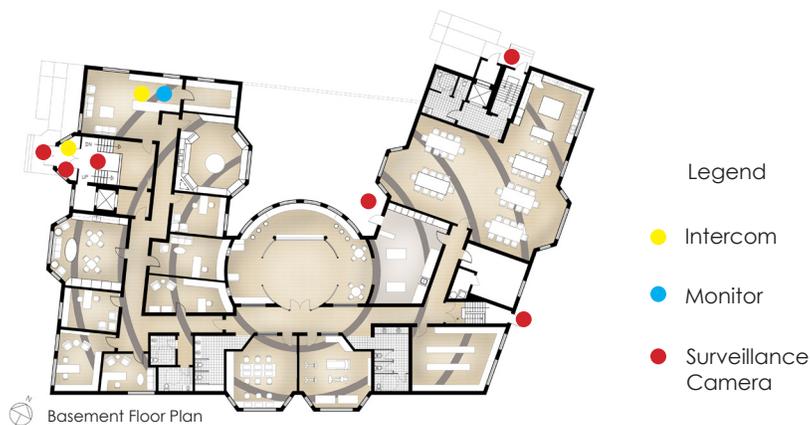


Figure 56: Security Measures - Basement Floor

All doors leading into the building or individual residential suites are protected by keycard access. Surveillance cameras are located at every entry into the building and at the main entry on each floor. These security measures protect the residents by ensuring that everyone who enters the building must go through two layers of security. The first layer of security is on the main floor where visitors are monitored and must be granted access to the entry. The second layer of security is on each floor where visitors are again monitored, either by the receptionist or by the resident, and must be granted access to the individual floor.

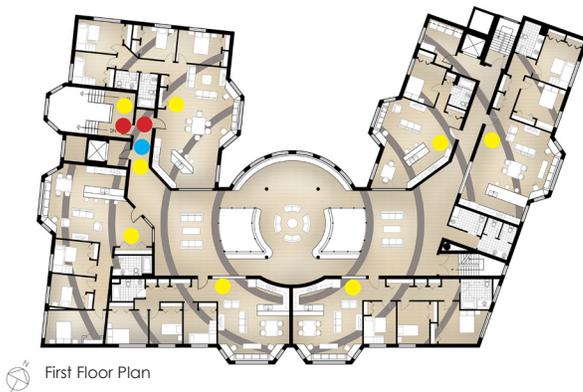


Figure 57: Security Measures - First Floor

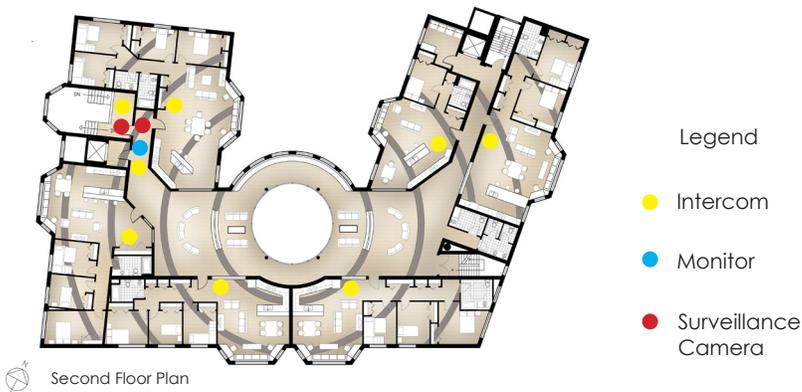


Figure 58: Security Measures - Second Floor