

Restorative Environments

A campus for trafficked youth in Chiang Rai, Thailand

Kyle Boyd

A thesis submitted in partial fulfillment of the requirements for the
degree of Master of Architecture

Committee:

Anne Marie Borys

Gundala Proksch

Rick Mohler

University of Washington 2014

Program Authorized to Offer Degree: Architecture

© Copyright 2014

Kyle Boyd



Table of Contents

<i>Chapter 01: Introduction</i>	<i>01</i>
<i>Chapter 02: Theoretical Framework</i>	<i>07</i>
<i>Chapter 03: Design Objectives</i>	<i>19</i>
<i>Chapter 04: Site</i>	<i>25</i>
<i>Chapter 05: Design Response</i>	<i>43</i>
<i>Chapter 06: Conclusions</i>	<i>71</i>
<i>Appendix</i>	<i>73</i>
<i>List of Figures</i>	<i>83</i>
<i>Works Cited</i>	<i>87</i>

Chapter 01: Introduction

Trafficking women and children for sexual exploitation is the fastest growing criminal enterprise in the world.¹ It is not an issue isolated to a specific culture or class, but it is increasingly prevalent in developing countries, especially Eastern Europe, Africa, and Asia. As minority populations leave political oppression or economically disadvantaged and disenfranchised individuals struggle to survive, many are exploited, either unwittingly through their own actions or deliberately through forceful coercion. Generally the easiest targets for this exploitation – the trafficked individuals – are young people. In the north of Thailand, political refugees are arriving from Laos and Myanmar, fleeing oppression, only to arrive in Thailand penniless and without the means to survive. These families are left with no choice but to put their children to work, placing them at great risk for further exploitation as sex workers.

Many non-governmental organizations (NGOs) work to combat these issues and rescue trafficked children out of this modern day slavery. Saving children from forced labor or the horrors of the sex trade is laudable, but the depraved nature of the children's circumstance makes this process problematic as well. While certainly the conditions in which these children are living

is abominable, their identity and world is wrapped up in the sex trade. Often they exhibit elements of Stockholm syndrome, identifying with their captors, and at the very least, they know little else outside of their tortuous world of oppression. This heartbreaking situation means that their rescue is a traumatic, painful, and disorienting process that leaves them homeless and identity-less. NGOs are not only fighting the oppressors, rather, their task is also focused on healing and restoring the shattered person and world of each victim they rescue.

Trafficked victims often have nowhere to live after escaping or being rescued. Orphanages and other similar facilities are generally not equipped to adequately address the multiplicity of challenges faced by a victim. Additionally, foster care and orphanages are often the most dangerous places in regards to trafficking. Homelessness is a high risk factor for engaging in human trafficking, so there is a need for dedicated facilities where victims can receive adequate care, supervision, and education.

How NGOs rescue trafficked victims would not seem to be an architectural problem. After all, other than ensuring basic shelter for trafficked survivors, NGOs must resolve a plethora of life-threatening problems that would seem to take precedence over

¹ Hepburn, Stephanie, and Rita J. Simon. *Human Trafficking around the World: Hidden in Plain Sight*

the children's spatial environment. And yet, research has shown that spatial environments do have a profound effect on mood and emotion, and thus can have both positive and negative effects on healing processes; the rehabilitative process can benefit from utilizing and adapting contemporary building design and technology to improve and ground the lives of children exiting human trafficking. In this way, architects and designers can contribute to the process of healing and rehabilitating those who have been affected by human and sex trafficking.

will explore how architectural space can contribute to the rehabilitation process of human trafficking victims in Chiang Rai, Thailand. In particular, this thesis posits that healthy, thoughtfully designed spaces can go beyond meeting the shortage of housing for older sex-trafficked children to also bring dignity, healing and restoration to them. To investigate this proposition, it will specify the parameters of a restorative environment for a hypothetical client, Thai Freedom House, an NGO that operates in the northern province of Chiang Rai, Thailand. As a group of Americans and Thai nationals dedicated to seeing trafficked survivors wholly restored and successfully reintegrated into society, Thai Freedom House's mission is to rescue and restore formerly enslaved children through family and community



01 Chiang Rai Night Bazaar

Setting up of the Chiang Rai Night Bazaar during twilight.

involvement, love, and care. For the purpose of this thesis, the population served by Thai Freedom House will be 10 to 16-year-olds. Although the sex trafficking literature reviewed will refer to all persons under 18 as “children,” the analysis of the spatial needs of the thesis population will use the age-specific terms of either “youth” or “teens.” Especially when referencing trafficking victims, children are classified as under 18. This is helpful in classifying the trafficked population as having been victimized by adults. However, the connotation of children is less helpful when designing, which requires a fine-tuned understanding of developmental age. Accordingly to address the spatial needs of the population typically served by Thai Freedom House, this thesis will use “youth” and “teenagers” that is found in child development literature. The age group 10 to 16 actually crosses between that literature’s definition of children (under 11) and youth (12 to 17), but given their exposure, considering them as youth or teens seems justified.

The thesis postulates that aiding the restoration process of teenagers exiting trafficking can be best accomplished in the environs of a dedicated, thoughtfully designed facility. Specifically this thesis proposes a long-term facility organized as a campus, serving teenagers in Chiang Rai, Thailand. Exploring the

proposition set forth in this thesis requires an investigation of the psychological, housing, and environmental needs of rescued victims as well as strategies for mitigating these needs through refuge, health, learning, and community along with designing in the Thai cultural context, all of which are aspects of creating an architecture of healing for Thai youth rescued from sex slavery. These concepts are investigated in the following chapter.



Chiang Rai

02 South East Asia

Chiang Rai is the northern-most urban center in Thailand



03 Project Site

View into tapioca plants and mountains

Chapter 02: Theoretical Framework

² *United States. 2003. Trafficking in persons report.*

³ *Schandel, Willem Van, Lenore Lyons, and Michele Ford. Labour Migration and Human Trafficking in Southeast Asia: Critical Perspectives.*

⁴ *Podhisita, Chai, Anthony Pramualratana, Uraivan Kanungsukkasem, Maria J. Waver, and Regina McNamara. Socio-cultural context of commercial sex workers in Thailand: an analysis of their family, employer, and client relations*

⁵ *Thomas, Dorothy Q., and Sidney Jones. A Modern Form of Slavery: Trafficking of Burmese Women and Girls into Brothels in Thailand*

⁶ *Shigekane, R. Rehabilitation and community integration of trafficking survivors in the United States*

This chapter will further develop the problems of human trafficking, the effects that the trafficking experience has on victims, and the current lack of solutions to house and care for rescued individuals. Five dimensions are then explored as contributing factors to addressing the needs of the rescued youth through the proposed campus design. The five dimensions studied here form the framework for understanding a therapeutic campus, including reducing stress, practicing life skills, addressing youth's environmental needs, designing transitional residential environments, and designing in the Thai context.

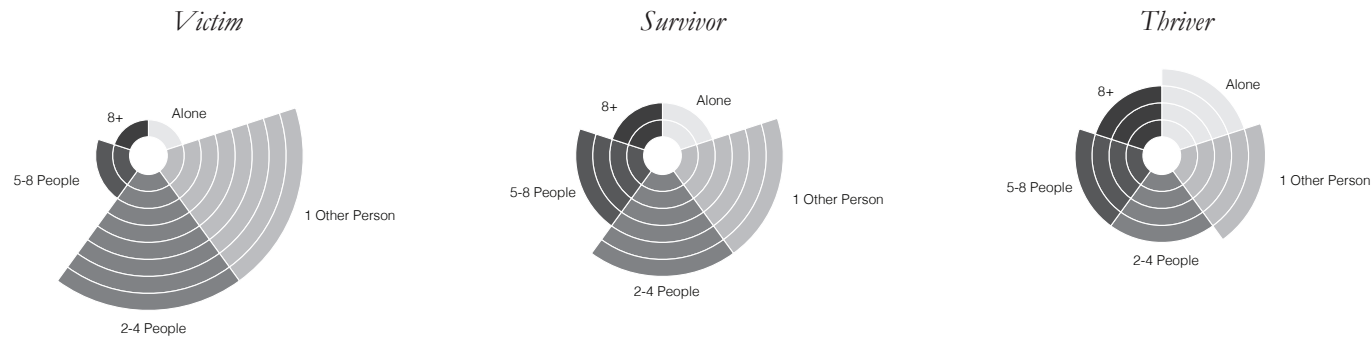
Human and Sex Trafficking in Thailand

Human trafficking is a modern day form of slavery that is frighteningly more prevalent than the average Westerner would like to believe. Children, those under 18 years of age, are increasingly becoming targets for trafficking. From 2003 to 2007, 20 percent of all trafficked victims were children, a rate that increased to 27 percent by 2010. The United Nations definition of human trafficking is helpful: "human trafficking is a process by which people are recruited in their community and exploited by traffickers using deception and/or some form of coercion to lure and control them."² Women and children are the highest reported victims of human trafficking with children making

up 15-20 percent of victims worldwide. Thailand is one of the world's centers of human trafficking, with estimates ranging from 50,000 to 2 million people who are currently victims of human trafficking.³ While 73 percent of trafficked victims in Thailand were trafficked for sexual exploitation, and 25 percent for forced labor, for the purposes of this thesis, the focus will be on the sex trafficked individuals, but not exclude those trafficked for other means. Trafficking and prostitution in Thailand are very complex issues with a multiplicity of causes, including economic dependence of impoverished families, large migrant and refugee populations, lack of education, lack of law enforcement, and cultural customs.⁴

Psychological Effects on Trafficked Youth

Treatment and theory on human trafficking survivors has borrowed heavily from other traumatized groups such as domestic violence, torture survivors, and refugees.⁵ Psychologists have recognized that being held captive for prolonged time periods can cause significant psychological trauma.⁶ Traffickers use their psychological power to control their victims, preying upon the victim's helplessness and terror, and destroying the victim's sense of self and identity. Psychological trauma from trafficking is manifested in many symptoms, from "hyper-



04 Social Comfort

Diagrams illustrating the transition into comfort in society

vigilance, anxiety, agitation, passivity, helplessness, and an inability to actively engage with the world or to exercise initiative. Over time, somatic symptoms such as insomnia, tension headaches, gastrointestinal disturbances, and abdominal, back, or pelvic pain may appear.”⁷ Those trafficked into the sex industry report severe depression and hopelessness, difficulty sleeping, feelings of shame and worthlessness, and “numbness leaving them unable to feel.”⁸ They are also often physically brutalized and inflicted with infections or sexually transmitted diseases. Often victims report anger and violence at their helplessness. This shame and anger is often turned inwards, and suicides, self-mutilation, drug abuse and high-risk behavior is common among trafficked individuals.

Many trafficked victims in Thailand are political refugees intentionally leaving their homes to escape oppression and violence in the surrounding countries of Laos, Cambodia, and Myanmar. After experiencing trauma in their home countries, refugees flee to Thailand where they encounter additional stress. They suffer stress related to bereavement of leaving their country, and the loss of power and status in becoming a refugee. This is often marked by helplessness and a loss of control. They also suffer because of their drastic change in environment and acclimating to a new culture. Once trafficked, these refugees go

through the same challenges, changes, and stressors all over again, leaving them severely lacking in an identity or sense of self and life skills. “Imagine, young girls, some of them just teenagers, being plucked out of the only society that they know—that of the perpetrator. They don’t even know how to buy things at the store, they haven’t even walked around the block.”⁹ This can be extremely disorienting for anyone, but especially for children. After being freed, these victims require extensive counseling as many trafficked individuals suffer complex post-traumatic stress disorders and psychological damage.

Given the psychological state of trafficking victims, this thesis draws upon evidence-based research for the design of healthcare and other rehabilitative environments to develop both the program and design of the campus.

Housing Shortages

Few organizations, NGOs or otherwise, are capable of providing shelter to human trafficked victims, primarily due to lack of resources and attention paid to the issue. If any shelters are available at all, they are often temporary as a lack of resources and funding prevents long-term accommodations.¹⁰ Most shelters are shared with or focused on victims of domestic violence

⁷ Shigekane, R. *Rehabilitation and community integration of trafficking survivors in the United States*

⁸ Shigekane, R. *Rehabilitation and community integration of trafficking survivors in the United States*

⁹ Shigekane, R. *Rehabilitation and community integration of trafficking survivors in the United States*

¹⁰ Tzvetkova, Marina. *NGO responses to trafficking in women*

and trafficked youth especially are out of place in women's shelters. While experiences can be similar, shelters specifically for trafficking victims are beneficial and accommodations for teenagers are essential. Often housing for trafficked victims is simply a hotel stay before being returned to their town or village so long-term shelters are a great need. While some victims can return to a family or adults can find their own place in society, most trafficked youth have no option but going to foster care or orphanages. In Chiang Rai specifically, orphanages are common, yet most are full, unsatisfactory, or at the very least, ill-equipped to deal with the complex issues facing children rescued from trafficking. The lack of adequate housing means that many youth are put back into similar situations that lead to their trafficking in the first place, reinforcing a vicious cycle.

Addressing the Spatial Needs of Rescued Youth

The above exploration of the psychological and housing needs of youth rescued from trafficking suggests that they require long-term housing and counseling services that are oriented to the needs of youth. Long before modern day science, the healing effects of space and environment were thoughtfully considered and explored. In ancient Greece, temples to the god of medicine and healing, Asclepius, were designed specifically to surround patients

with nature, music, and art, to promote harmony and healing.¹¹ Even in the 19th century, Florence Nightingale, the founder of modern nursing, recognized negative effects of different hospitals by evaluating survival rates. She attributed poor medical performance to hospital design and construction, especially regarding overcrowding, light, and ventilation.¹² However, as medicine has become more advanced in the last centuries, focus has shifted to the technological aspects of healing. It is well-documented that depression and stress have negative impacts on health, and it is becoming increasingly clear that elements of design affect mood and stress levels. Researchers have produced a growing body of evidence showing that design can have direct positive and negative effects on health and healing, which this thesis refers to as "rehabilitative architecture." The dimensions of rehabilitative architecture explored in the remaining pages of this chapter include: (1) strategies for reducing stress, which can include opportunities for engaging with nature and physical activity, creative activities such as painting, weaving, throwing pots, and music-making, social activities such story-telling, dancing, and sports; (2) opportunities for practicing life skills; (3) creating environments and spaces specifically for youth. This chapter also explores possibilities for creating a long-term residential facility

¹¹ *Gesler, Wilbert M. Healing places*

¹² *Kisacky, Jeanne Susan. Restructuring Isolation: Hospital Architecture, Medicine, and Disease Prevention*

for rescued youth within the Thailand cultural context. It ends by establishing a relationship among these dimensions: stress reduction, practice opportunities, long-term transitional housing, youth's special needs, and the Thai cultural context.

Healthy Environment

When seeking to rehabilitate human trafficked victims where stress levels are very high, reducing stress is very important. While the campus is not primarily a healthcare facility, lessons learned in the health care and rehabilitative design fields are appropriate in providing a safe and healthy environment and addressing the many physical, emotional, and psychological issues faced by the trafficked victims.

Reducing Stress

Poorly designed environments have the potential to affect stress levels, especially negatively.¹³ Stress is a direct negative in itself, but stress has many serious direct links to general health and well-being, such as negative psychological, physiological, neuroendocrine, and behavioral changes.¹⁴ Environment and behavior research has yielded abundant evidence that the quality of architectural space can help reduce stress through safety, exposure to nature, daylight, and ventilation.



05 Healthy Environment

*REHAB Basel/ Herzog and
De Meuron
A healthy environment for
recovering spinal patients*

¹³ See Ulrich, 1991 &
Ulrich et al., 2006

¹⁴ See Gatchel, Baum,
& Krantz, 1989 &
Ulrich, 1991



06 Natural Ventilation

(Upper Left)
 Cassia Coop / TYIN Tegnestue
 Project in Thailand makes use of operable windows to facilitate ventilation

07 Natural Daylighting

(Upper Right)
 Maggie's Center / Richard Rogers + Partners
 Spaces are lit naturally via well placed openings.

08 Access to Nature

(Left)
 Maggie's Center / Richard Rogers + Partners
 Access to gardens is available, even in downtown London.



Reducing Stress through Safety

Human trafficked victims, like many survivors of trauma, often suffer from debilitating fear and anxiety of being returned to the traumas they have suffered. There is real danger of violent recapture in Thailand, and providing protection from this danger is necessary to protect the rescued youth. However because the fears and feeling of outside threats are often greater than the actual risks, reinforcing safe enclosure and protection can alleviate this fear and stress. Safety from other victims and from self are also important considerations. The trauma suffered by the trafficked youth often leads to sudden outbursts of anger, difficulty controlling emotion, or self-mutilation. Promoting monitoring of these potential violent behaviors between youth is important in providing safety.¹⁵ Reducing isolation by designing spaces such that views in and out are not obstructed can help youth feel safer.

Reducing Stress through Access to Nature

The biophilia hypothesis suggests that humans generally respond positively to natural environments and there have been many studies that show strong evidence that this is true.¹⁶ When presented with views of the outdoors in both medical and non-medical settings, restoration from stress is consistently

observed. An increase in positive self-reported emotions such as pleasantness and calmness as well as decreases in anxiety, anger, and other negative feelings are generally reported after viewing and interacting with natural environments.¹⁷ Many studies have found that playing outdoors, especially in gardens, has many benefits for youth, including their social play and motor abilities.¹⁸ Views of greenery from inside hospital rooms, even when the natural environment is not experienced directly, has been shown to improve the healing process and lead to shorter hospital stays. Similarly, studies of students and office workers have shown that a pleasant view of the natural environment has improved productivity and performance. Views of gardens, landscapes, and the outdoors have restorative effects on mood and psychosomatic effects such as reduced heart rates and lower blood sugar. Conversely, a lack of windows has been linked with high rates of anxiety and depression.¹⁹

¹⁵ *Coren, Esther, Hos-sain, Rosa, Pardo, Jordi Pardo, Veras, Mirella MS, Chakraborty, Kabita, Harris, Holly, Martin, Anne J. Interventions for promoting reintegration and reducing harmful behaviour and lifestyles in street-connected children and young people.*

¹⁶ *Wilson, 1984*

¹⁷ *See Hartig, Book, Garvill, Olsson & Gärling, 1995, Ulrich, 1979, Ulrich, 1979, Van den Berg, Koole, & Van der Wulp, 2003*

¹⁸ *Children's Environmental Learning and the Use, Design and Management of School grounds.*

¹⁹ *Sternberg, Esther M. Healing Spaces: The Science of Place and Well-being*



09 Art Therapy

*A local artist's, Somluk
Pantiboon, studio in Chiang Rai.*

Gardens

In other studies, direct interaction with the natural world, specifically through gardens, have been shown to provide restorative effects for patients, families, and staff of hospitals.²⁰

In addition to the positive effects of exposure to nature, gardens have other benefits such as social interaction and support, and control and calm in the midst of other stressful environments.²¹

Art

Artwork is also another means for reducing stress; studies point to a pattern similar to contact with nature.²² Additionally, practicing artwork has been shown to be both beneficial personally and helpful in psychological treatment. Over the past century psychotherapists, such as Freud and Jung have explored the relationships between the subconscious and artwork, and more recently art therapy as a profession has grown into accepted usage for both children and adults.²³ Samuel Gladding, one of the premier art therapists, has explored many mediums of the arts as counseling tools such as music, dance, visual art, literature, and drama. Viewing others' work, as well as practicing art, such as painting or performing, is beneficial in stress reduction and psychiatric therapy.²⁴

²⁰ See Marcus & Barnes, 1999, Sherman, Varni, Ulrich, & Malcarne, 2005, Ulrich, 1999

²¹ Ulrich 2008

²² See Carpman & Grant, 1993, Ulrich, 1991, & Ulrich & Gilpin 2003

²³ See Kramer, 1958, McNiff, 1981 & Rubin, 1978

²⁴ Gladding

Lighting

Daylight has been shown in a multitude of studies as an effective way to reduce stress and improve mood, even in patients suffering from severe depression. Daylight and regular exposure to a full spectrum of lighting, or simply sunlight, has been shown to improve mood and health, primarily by increasing the amount of melatonin in the brain. In particular, depressed patients in psychiatric units recover faster in rooms with more daylight. Additionally, daylight has also been shown to improve student performance and test scores and even infants in intensive care who are exposed to diurnal sun cycles have demonstrated developmental benefits physically and behaviorally.²⁵

Natural Ventilation

Natural ventilation has also been shown to increase health benefits and reduce stress in healing individuals. For example, studies have shown that operable windows can decrease hospital stays by 7 to 8 percent. Exposure to outdoor air, whether through natural ventilation or simply being outside, can reduce stress and contribute to the healing and rehabilitation process.²⁶

Practicing Life Skills

Victims of trafficking are often severely behind in their social and academic development due to the circumstances of their trauma, and they have few skills outside of the work they were performing while trafficked. In order to reintegrate safely and successfully into greater society, the youth need to gain social and life skills, as well as academic ones. The learning and development process is key to youths' recovery and to being able to re-enter their communities as productive citizens. Collaborative and community learning is an effective method in recovering from trauma. Both in navigating recovery and in learning skills among trauma survivors, family and teachers are the most impactful and positive influences. The most resilient youth and healthy recoveries come from relationships in which the provider (the teacher, family member, or social worker) and the victim are both actively planning and participating in development. Likewise, in learning actual skills, collaboration and trust between teacher and student lead to greater growth. Building on the ideas of John Dewey and Lev Vygotsky, learning through doing is important in developing social, academic, and life skills. This allows for entry of participants with different levels of development, and encourages the victims and learners to become the helpers and teachers.²⁷

²⁵ Ulrich et al., 2006

²⁶ Sternberg, Esther M. *Healing Spaces: The Science of Place and Well-being*

²⁷ See *Learning Together and Beyond Learning By Doing*

Addressing Youths' Environmental Needs

Youth are at a delicate point in their lives, moving from childhood to adulthood. Traumatized youth, such as victims of human trafficking, are even more tenuously balanced between childhood and adulthood. They have experienced great tragedy and affliction that is difficult for any mature adult to face and process, yet because of these experiences they developmentally still identify with aspects of childhood. Like any teenager, they are distrustful and cynical; they are trying to find truth in the world, and establish their place in it. Even more so, victims of human trafficking have generally not been treated in ways that foster trust, or belief in the goodness in the world around them. As noted child design expert Christopher Day notes, “[Youth are] trying to find out what the world is. Though inexperienced enough to easily deceive, any dishonesty they meet breeds cynicism - deeply destructive and often precursor to nihilism. It’s vital therefore, that teenagers experience ‘the world is true.’”²⁸

²⁸ Day, Christopher, Midbjer, Anita. *Environment and children : Passive lessons from the everyday environment.*

²⁹ Zelechowski, Amanda D., Sharma, Ritu, Beserra, Kari, Miguel, Jennifer L., DeMarco, Mia, Spinazzola, Joseph. *Traumatized youth in residential treatment settings: Prevalence, clinical presentation, treatment, and policy implications*

Youth are also very social, and need places where they can interact. Public spaces where socializing and strutting and showing off can take place are important. Niches, window seats and alcoves where more private interactions can take place are important elements to incorporate. Considering a variety of social spaces for differing numbers of people is important too, as is having space for both quiet and noisy socializing.

Designing Transitional Residential Environments

A place to live, and a stable home, is critical throughout life, but especially important during certain developmental stages, such as the transition from childhood to adulthood. For trafficked youth, stable housing is that much more important, as virtually everything else in their lives is in flux. A lack of stable housing, among other things, can prevent development toward self-sufficiency. It is therefore vital that youths have a stable, safe place to call home while they recover and rehabilitate after rescue.²⁹

The United States has a growing population of young homeless people, many of them exiting the foster care system. Similar to the trafficked youth in Thailand, these young people have nowhere to go, and are often suffering from some sort of trauma, abuse, or addiction. The Transitional Living Program (TLP) provides

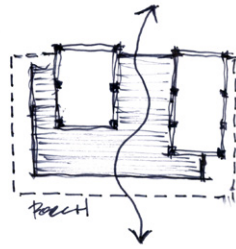
funding for longer-term housing for these homeless youth. The TLP serves youth 16 to 21 years of age, and provides host homes, group homes, or other transitional housing for 18 months while helping them to prepare for independent living. Typically, the housing is supervised, and residents work with staff on a plan for integration into living on their own.³⁰

While most of the homes funded by TLP are targeted at older, and more independent young people than the population served by Thai Freedom House, it offers some pre-independent transitional housing models. One such home is the Rediscovering Group Home in Waltham, Massachusetts. Residential caregivers are onsite 24 hours a day for supervision and guidance. On entry and periodically throughout their time in the group home, the residents are evaluated on their progress towards independence. Privileges are “granted based on age, responsibility, and in proportion to the trust they have earned.”³¹

Programmatically, the Rediscovery Group Home is a cluster of houses where fourteen male residents live. Each house provides shared sleeping rooms, kitchen, and entertainment space. All other needs, such as schooling or library, are met outside the home. While formal lessons and workshops are taught by staff to instruct residents in specific life skills, informal day-to-day lessons are learned by intentional interaction with the caregivers and fellow residents.

³⁰ Nicoletti A, *Aging out of foster care*.

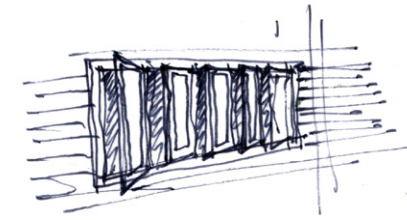
³¹ *Rediscovering Home Website*



Outdoor Porch



Large Overhangs



Operable Windows



Bamboo Screens

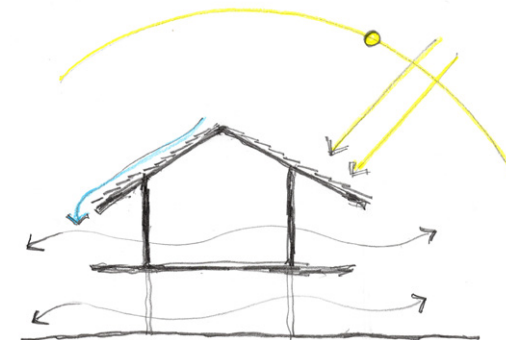
Designing in the Thai Context

According to the Hofstede framework, the Thai culture is generally a collectivist one with the desires and needs of the group superior to that of the individual. Thais work very hard to maintain a broad social network, and this network is central to Thai life, often even more so than self. While these groups can form through geography, social involvement, work, or school, family is the most central group.³² The well-being and happiness of family, even very extended families, is important in Thai culture.³³ This aspect of Thai culture makes the feelings of isolation and removal that occur in trafficking situations that much more difficult, and also affects treatment.

Encouraging and enabling social connections to form quickly and strongly among trafficked victims and their care providers is extremely important in both building trust, value, and worth. Promoting a strong community is vital in any trauma treatment, but especially in the Thai context.

The importance of family and community is reinforced in traditional Thai housing. Common housing types in the north of Thailand include the Lan Na house and the Shan house. Both are characterized by large eaves, stilt construction, and hardwood

and bamboo, and most importantly shared community space. Generally the houses are arranged in a cluster of two to five houses in one yard. The main components of the house are the porch or *toen*, the bedrooms, the kitchen, and the yard. The *toen* is a multipurpose space for relaxation, greeting and welcoming guests, and sleeping for sons and fathers, and is the central space. Often it is shared by multiple houses. Next to the *toen* is the bedroom where all other members of the family sleep. The bedroom has two doors, one opening to *toen* and the other to the kitchen.³⁴



10 Diagrams of Thai House Elements

³² *The Hofstede Center.*

³³ *Working with the Thais: A guide to managing in Thailand*

³⁴ See Krug, Sonia, Duboff, Shirley. *The kamthieng house & The Thai house: History and evolution.*



11 Traditional Thai House

Lifted off of the ground and large overhangs.



12 Thai Granary

Space below structures allows for shaded gathering space.

Chapter 03: Design Objectives

It is clear that survivors of the horrors of human trafficking need a place where they can heal and rehabilitate. This thesis is based on the idea that architectural interventions can contribute to the healing process, and help trafficked youth be successful in their journey towards recovery and reintegration. The goal of this thesis is to provide trafficked youth with a spatial environment that can support the rehabilitative process. This environment will include transitional housing that is laid out within the Thai residential tradition, overseen by resident caregivers, and located within a secure campus that encourages individual introspection, socializing in varied groups, and active engagement with the natural environment. Thoughtful design and craft of the campus will communicate the intrinsic self-worth of the young victims, and reinforce the care offered by Thai Freedom House. The campus should be first and foremost a safe place, but also a place where joy and healing can begin to replace the fear and pain of trafficking.

To begin accomplishing this goal, information on the nature and needs of trafficked victims has been collected. Primarily this data is collected through interviews and correspondence with representatives of the Thai Freedom House and other similar organizations, as well as visiting Chiang Rai. It must be noted

that while this thesis seeks to address many of the issues faced by NGO's such as Thai Freedom House, it is first and foremost a theoretical project, and not a client-driven approach. Thai Freedom House is primarily a source of information, rather than the driver of the project. Secondary research is conducted on other aspects and influences through literature reviews, much of which is contained in the previous chapter.

The conceptual position this thesis takes is based largely on the functional, cultural, and experiential needs of the trafficked victims. The project will be designed in an iterative and intuitive manner that will develop and change throughout the design process. A realistic approach to the project will focus primarily on experiential character and tectonics, that is, the details of how youth interact with and experience the project on a human level. Secondly, the project will focus on the realities of designing and building in a non-first world environment, care for resource conservation, and ease of construction will influence the design approach.

Goals and Objectives

Goals and objectives have been created for the campus from the preceding research. The primary aims of the project are fourfold:

- 1) provide a place of refuge where the victims of trafficking can safely rehabilitate,
- 2) provide adequate services for both healing and learning,
- 3) help youth engage in a loving, supportive community, and
- 4) promote health and wellness through design practices.

Introspection, protection, and privacy are also essential aspects to a child processing the trauma to which they have been subjected; therefore refuge spaces where youth can safely meditate and receive counseling will help youth in the healing process. Establishing a network of caring relationships in the youth's lives is vital in showing their worth and drawing them out of the isolation of the sex industry. A learning environment is important to help the youth recover from a lack of development and growth associated

with trafficking. Finally, creating healthy spaces is important in reducing stress, which leads to better well-being, especially in depression or trauma cases. Meeting these goals will create a place where the youth can heal and be restored.

Provide a place of refuge where the victims of trafficking can safely rehabilitate
The primary function of the campus is refuge; the campus is a place of protection and safety for the rescued victims of sex trafficking. The first and most evident implication of refuge is a protective barrier between the outside world and the safety of the campus. This barrier, a massive, continuous wall, will satisfy the needs of the youth to clearly see and experience their safety. The wall is a symbol of the power of the campus as a refuge, and its constant presence throughout the campus is a source of comfort. Additional site characteristics in regards to refuge are its relation with the city of Chiang Rai. The campus will be removed from downtown Chiang Rai and self-contained and sheltered from the outside world. It is vital for the youth to know and to feel that they are safe and protected from the predators and people from which they have been rescued. The campus will also provide ample refuge spaces, places where privacy and introspection can

occur. Group homes will house 6-10 youths, where they can establish their own place of refuge. The proposed campus will also provide refuge spaces that are places of communal sanctuary, where counseling, prayer, and meditation can occur, as well as small interior refuges, where youth can privately and securely spend time.

Provide adequate services for both healing and learning

Youth who are victims of sex trafficking are often developmentally stunted due to their traumatic experiences, and their circumstances also leaves them with little academic education or life skills. The campus will provide means for the youth to develop and learn both academic and life skills. The campus will have a high-tech learning and community center, which will be comprised of classrooms, studios (for music, art, and drama), tutoring spaces, library spaces, counseling spaces, and a large community kitchen. The community and learning center will be the primary place where youth learn in more formalized environments, but throughout the campus there will be gardens, play areas, and social spaces where behavioral, emotional, and developmental skills can be learned.

Help youth engage in a loving, supportive community

The nature of sex trafficking is isolating and leads to social detachment. Therefore, the campus must provide the youth a strong network of community, and reinforce that they are not alone in their healing process. The relational connections will happen at all scales in the campus. Youth will interact with each other throughout the campus; by bringing dedicated volunteers and the youth together in one location, shared experiences and care can aid in the healing process. The buildings and outdoor spaces must be arranged so as not to be in isolation. This is a matter of safety and protection, as trauma of the youth's past often manifests itself in violence. But it is also a means of reinforcing the love and care that the individuals are receiving, that they are no longer alone, oppressed, and cut off. Community spaces in the campus will include outdoor spaces, a learning and community center, and shared transitional housing.

Promote health and wellness through design practices

Especially in cases of trauma or psychological un-wellness, the spatial environment has been shown to greatly affect mood and stress. The campus will help reduce stress and promote health through careful design by making use of daylight and access to sunlight, promoting access to nature and views of nature, and art, drama, and music. At a site level, views of northern Thailand's mountains are important, as well as sunrise and sunset views. The learning and community center will feature art and music classes, storytelling, and performances. Because of northern Thailand's climate, natural ventilation is frequently used throughout the region, especially in traditional housing. Likewise, natural ventilation will be a key aspect in promoting healthy healing in the campus.

Design Objectives for the Site and Buildings

In addition to meeting the goals discussed, the campus design will utilize some specific design strategies to create spaces that foster rehabilitation.

Lighting

Careful attention will be paid to the lighting quality and access to daylight of indoor spaces. The architecture of the campus will seek to use natural daylight as the primary means for illumination, and control light quality.

Nature

There are many studies pointing to the myriad benefits of interaction with nature. In the campus, this will occur through gardens, outdoor social spaces, and views to the mountains. The campus will feature a number of gardens where the residents can experience and impact the natural world intimately. Views to these spaces from bedrooms and classrooms are important. Additionally, views out of the campus to the surrounding mountains will also be an integral piece to the layout of buildings and primary spaces.

Clarity in Construction

The architectural elements should be clear and legible, to communicate a simplicity and honesty. Spaces should be easily understandable and clear in their function.

Program

The campus will be home to up to 60 youth with about a dozen resident caretakers. The program of the campus will provide indoor and outdoor cognitive, physical, social, and artistic learning spaces, residential spaces, and administrative spaces.

Living

The main spaces for living are transitional group housing. Each house will accommodate 8-10 youth, with 24-hour resident takers. Like traditional Thai housing the home will be arranged around shared community spaces. Each house will also incorporate a bathroom and kitchen.

Social

Gardens throughout the campus will foster interaction among residents, as well as outdoor community spaces between buildings. A soccer pitch and other outdoor recreation spaces will allow for more formal social activities. The community center will also function as a hub of social interaction.

Learning

Learning will occur throughout the campus, through interactive and experiential learning to more formalized academic instruction. The campus school will provide classrooms for three levels of formal instruction in language, math, and science. In addition to academic classes, extracurricular classes and programs will be offered in culture, and the arts to help residents gain life skills. Practicing life skills will occur though outdoor garden spaces where traditional Thai agriculture will be practiced.

Performance and Art

Space for performances, storytelling, recital and other performance-based community building activities will be provided. Also studio spaces, both in classroom atmospheres and in more introspective, private settings will allow youth to learn about and practice different art mediums as self-expression, growth, and therapy.

Spiritual

Counseling services will be provided and resident will be encouraged to address the trauma and experiences of trafficking through prayer, reading, worship, and group therapy sessions.

Chiang Rai is the northernmost large city in Thailand. It was established in 1262 AD as a capital city in the reign of King Mangrai. Chiang Rai City is the capital city of the Chiang Rai Province, which is home to 1.1 million residents. Around 12.5% of the population belongs to the hill tribes, which are minority ethnic groups primarily in the North of Thailand. Similarly to Native Americans in the United States, historically the hill tribe people have been treated as second-class citizens. Small villages, mostly populated by sustenance farmers, surround the city. Chiang Rai is often the first major destination for many refugees from the neighboring countries to the north, and the proliferation of oppressed and mistreated populations makes Chiang Rai a target for exploitation.

Site Selection Rationale

The site is in a remote area surrounding Chiang Rai, to remove youth from the context and danger in which they were trafficked. As a safety measure, remoteness will help to ensure that the campus is not known by traffickers. However, the campus must also be close enough to local schools and community that they can begin reintegration back into outside society when they are able.



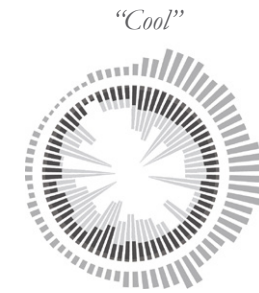
13 Chiang Rai
*Contrast between the rice fields
(left) and bustling downtown
(right)*

Climate

Chiang Rai's climate is classified as a tropical wet and dry climate. The winter months (November through March) are fairly dry and warm. Temperatures peak in April, when average daily maximums are around 34.9 °C (94.8 °F). From May to October, Chiang Rai receives most of its rainfall, with July, August, and September averaging over 12 inches per month. During this monsoon season, the temperatures are generally somewhat cooler.

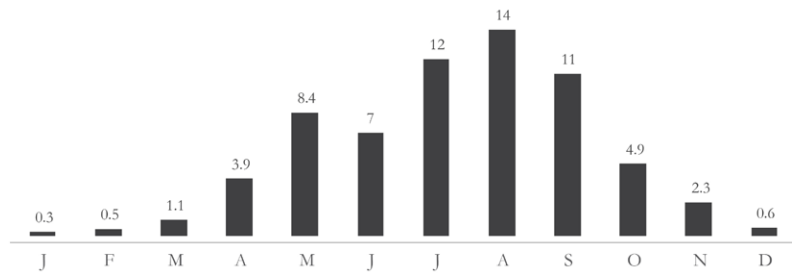
Topography

The city of Chiang Rai City lies between mountain ranges in the alluvial Mae Kok River plain. Outside of the dense city center, the valley is covered with farmland, primarily rice fields. The city is located 55 kilometers (34 mi) southwest of the Golden Triangle, where Laos, Myanmar, and Thailand meet. The site itself is nestled among the farmland to the southwest of the city. The site sits at the base of the foothills of the Daen Lao Range but the sites' topography is flat.



14 Prevailing Winds

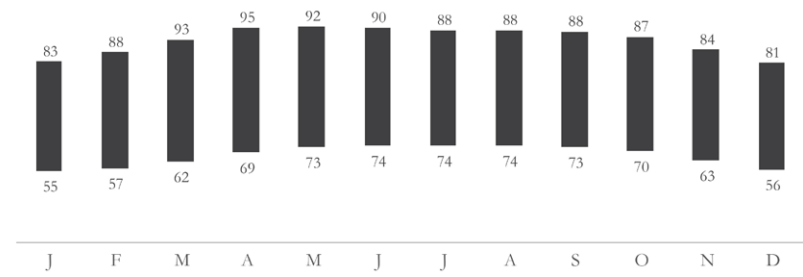
The wind primarily comes from the south and east, especially during the hotter months



Precipitaion in inches

15 Precipitation

During the rainy season (July to September), Chiang Rai recieves a very large amount of rain



Average Maximum and Minimum Temperatures

16 Temperature

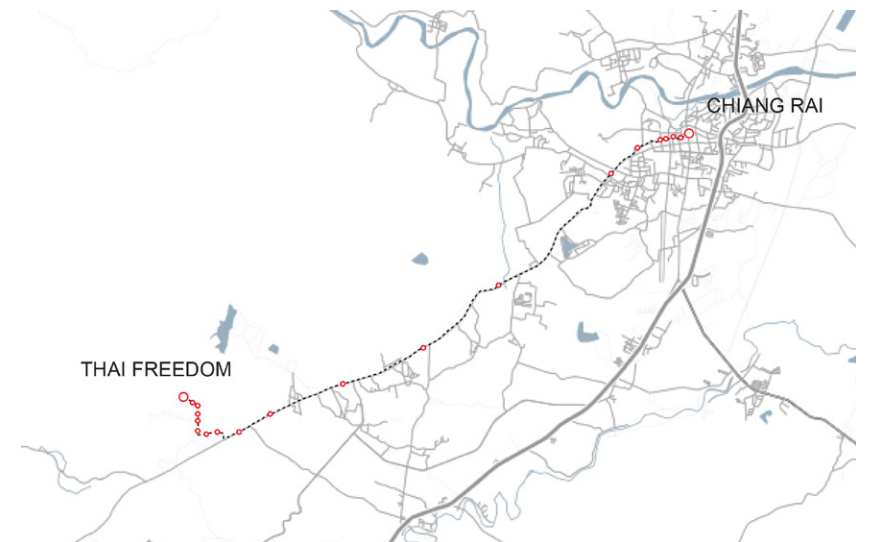
Thailand is typically characterized as having 3 seasons, cool, hot, and wet.

Approach to the Site

The drive from the urban downtown to the site is about 40 minutes, travelling mainly through rural farmland and a few small villages. The primary route, along the Old Chiang Mai road (Route 1) quickly leaves the city and enters rural farmland. The site is accessed via a small dirt road, the road winds through a small village for about a mile. One mile further up the dirt path lies the site.

Site

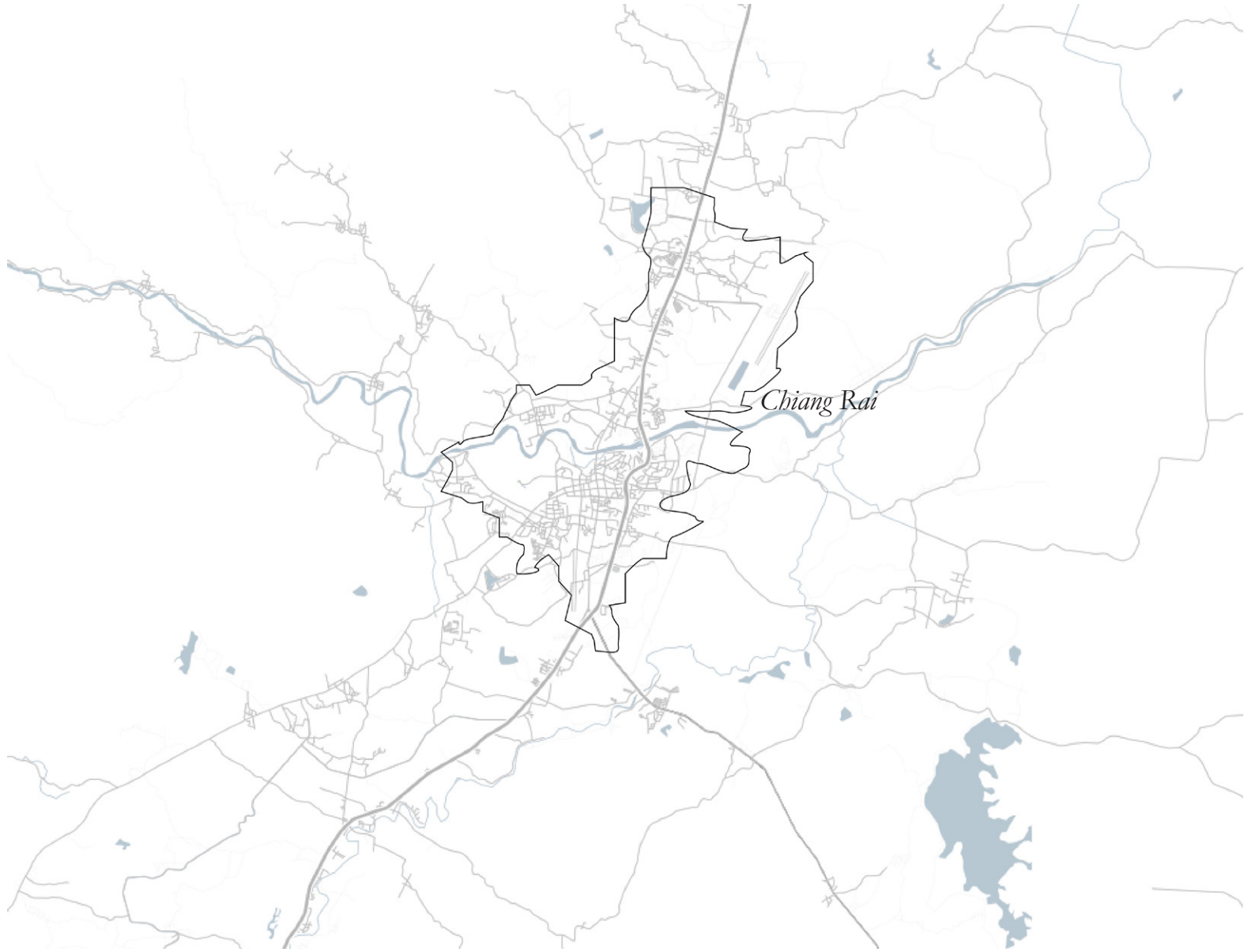
The primary context for the site is the surrounding vegetation. As with all of northern Thailand, the site is lush and densely vegetated. As existing farmland, there is a mix of natural and planted growth. The vegetation creates spatial qualities throughout the site, with thresholds and boundaries delineated by transitions between different vegetation.

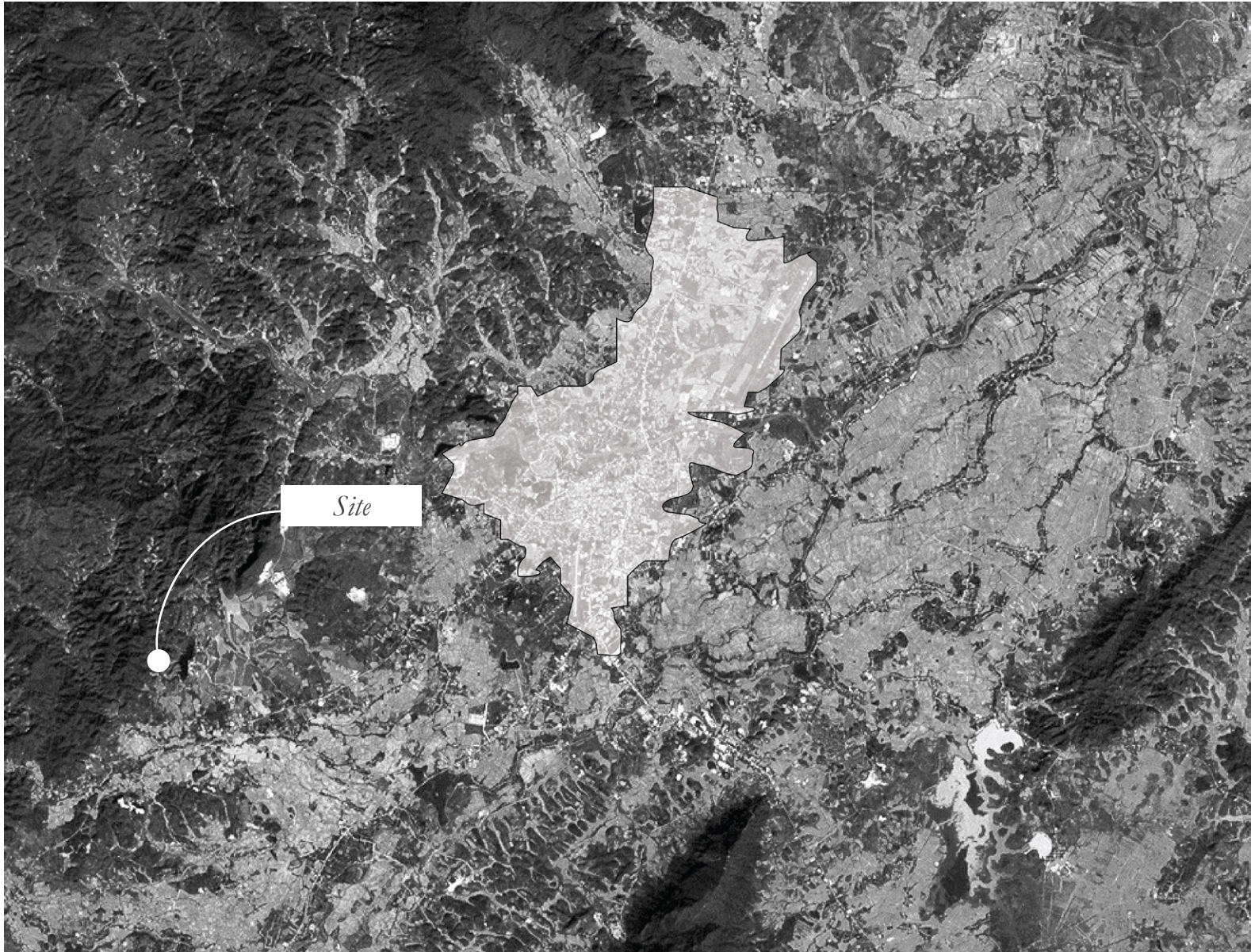


17 Driving to the Site

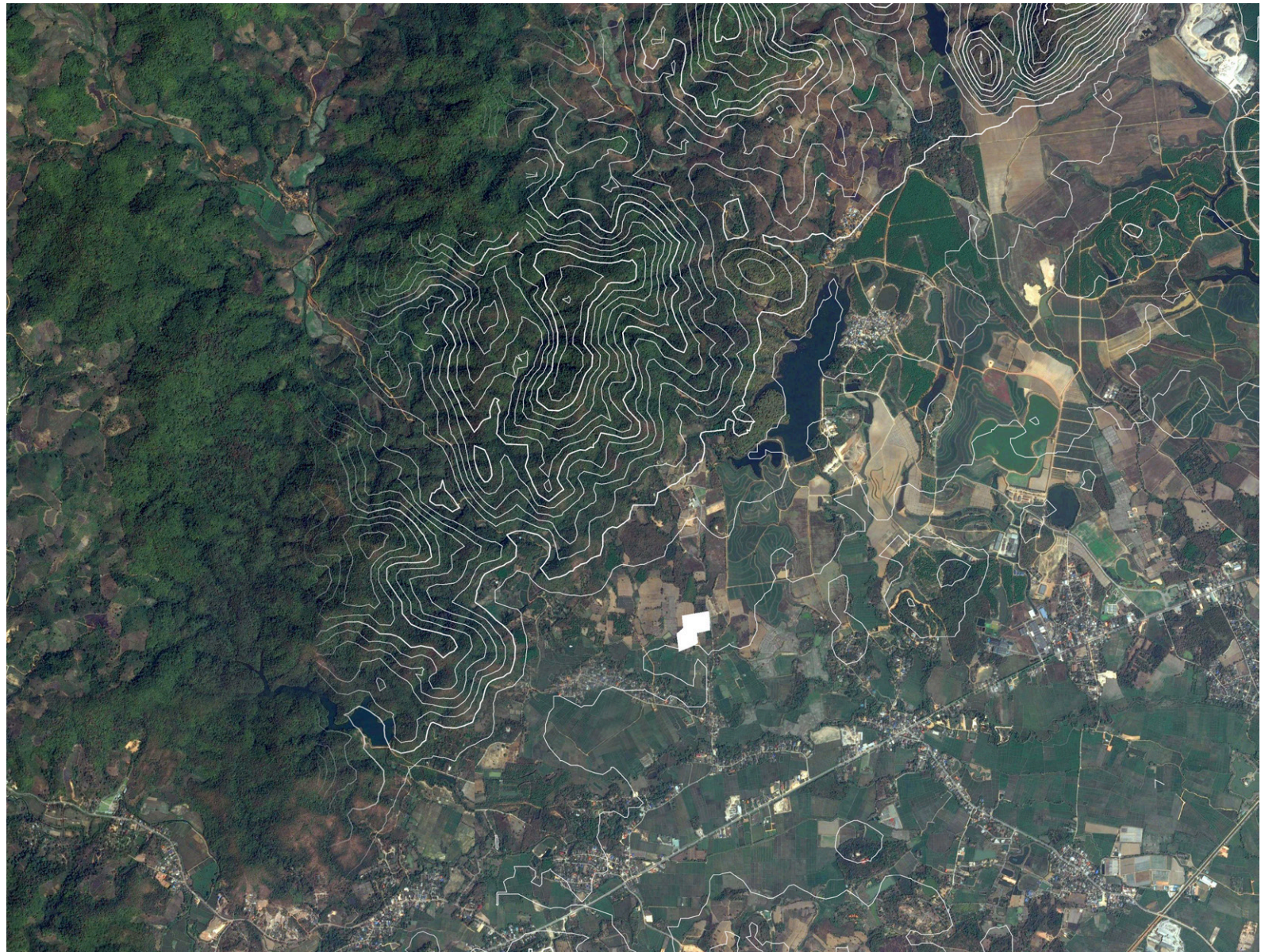
*The city is quickly left behind,
and most of the drive is rural
farmland.*

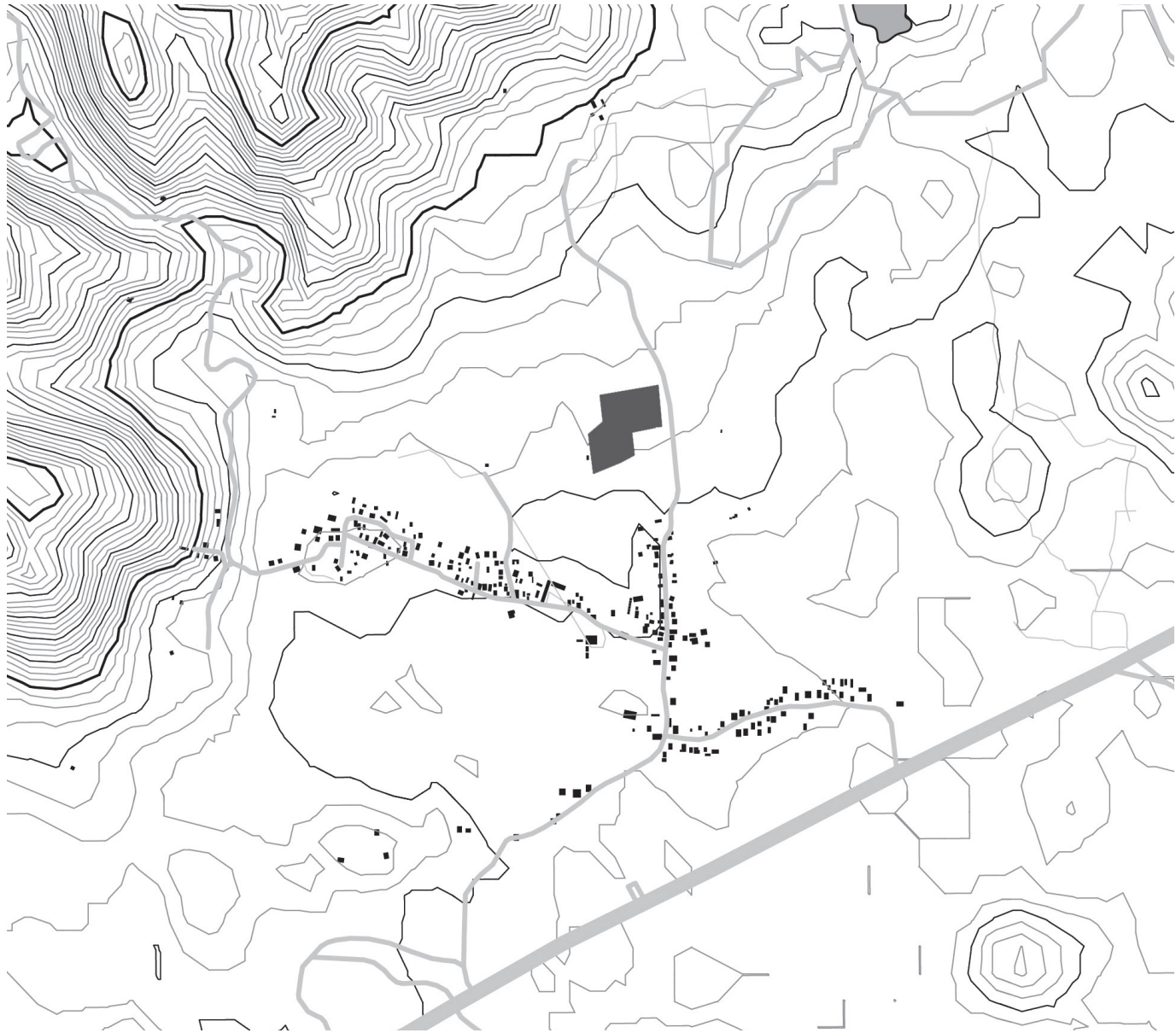






¹⁹Chiang Rai Topography





21 Adjacent Context



22 Immediate Site Context

Teak



Lychee Trees



Tapioca



Bamboo



Lychee Trees



?



Banana



Bamboo







²⁴ Tapioca and Mountains Beyond





²⁵ Banana trees





26 Bamboo and brush windbreaks

Chapter 05: Design Response

Design inquiry began at the crux of these inputs: meshing the safety and protection spatial strategies with an environmentally responsive and ecologically conscious approach. These youth, whose lives have been torn apart due to grossly violated personal boundaries, are left often with extreme difficulties in navigating the boundaries and thresholds of life, both spatially and socially. The transitions between spaces, the boundaries and thresholds, is the focus of the exploration.

This exploration started with diagramming strategies for responding to the humidity and heat, as well as strategies for safety, protection, and navigating thresholds. These ideas were then integrated into the existing spatial qualities of the site, and an approach to the design began to emerge.



Full Height Wall



Half Height Wall

Walls for Enclosure and Protection



Trees



Vegetation



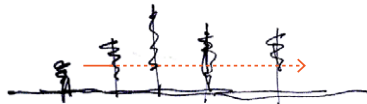
Louvers



Screen



Permeable Boundaries

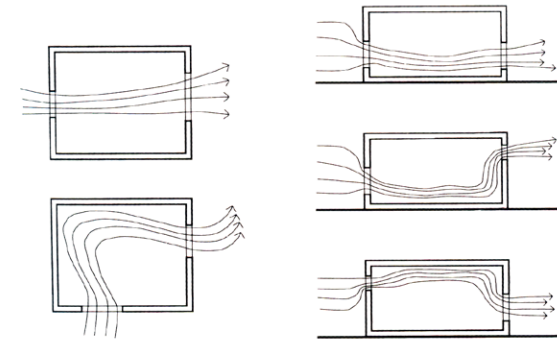


Thresholds



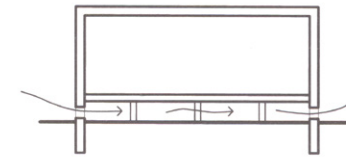
Spaces

Layers of Spaces and Thresholds



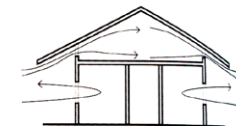
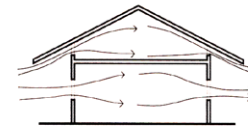
Openings - Ventilation

Opposite openings should be considered to direct airflow.



Lifted off Ground

Buildings should be lifted off of the ground to maximize ventilation.



Cross-Ventilation

Maximizing air movement across the building helps to cool the space. Width should be kept below 15 m.

Site Plan

The site plan makes use of the vegetation and builds upon the spatial qualities that already exist. The site is divided into a more private side to the north and a more social side to the south. The residences – the most intimate space - are nestled in the lychee grove, while the community center separates the social side of the site from the intimate side.



The Wall

The site is wrapped in a protective wall. The wall is more of a psychological response rather than a physical deterrent to outside “attackers” as a symbol of protection for the residents, helping them to feel safe and secure. The wall is higher around the more intimate side of the site, and then steps down slightly around the more social side, expressing the nature of each space. At its highest, the wall is a protective 8 feet of seemingly impenetrable cast-in-place concrete. At the more open, social side of the site, the wall transitions to wooden slats, 4 to 5 feet tall.

The wall is broken only in one place, where it slides past itself, hiding the entry and exit building. The entrance is subdued and hidden, allowing the incoming residents to arrive at the site and slowly enter.

The Grove

The lychee tree grove in the northeast corner of the site; it is an existing plantation approximately 120 meters by 90 meters, with lychee trees planted 10 meters on center. The grove is the most intimate space in the campus. The residences are clustered together in a sort of village, mostly contained within the existing boundaries of the lychee trees. The residences are slipped between

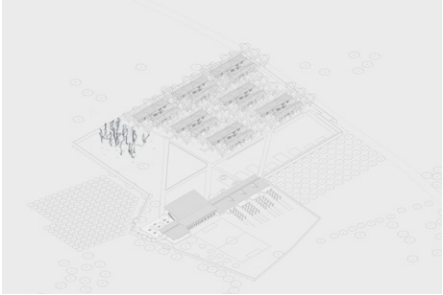
the lychee trees, allowing all of the trees to remain intact. A few site walls and underbrush begin to suggest boundaries between different residences, and paths are formed beneath the protection and shade of the lychee trees.

Meditation Garden

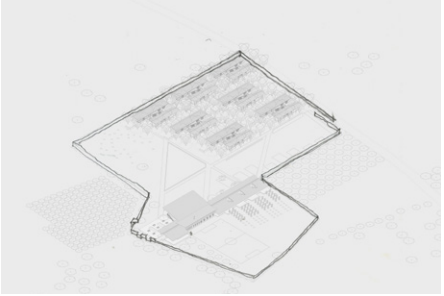
To the west of the grove is the meditation garden. The garden spaces provide an outdoor space where residents can go alone or in small groups to reflect, pray, or meditate within the protective rows of planting.

Outdoor Social Space

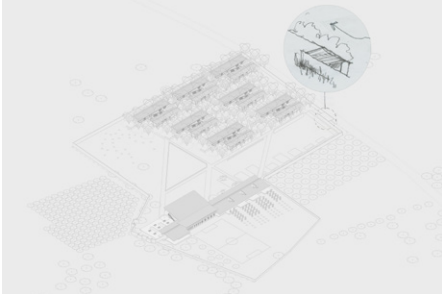
To the south of the community center lies the agricultural and learning gardens and the playfield. Football (soccer) is the most popular sport in Thailand, but the field can be used for other recreational activities. The field retain some of the existing banana trees, as well as a showcase for learning other sustainable agricultural practices. Crops would include rice, corn, pineapples, as well as vegetable and fruit gardens. The learning gardens serve both as a place for socializing and working together, as well as a place of learning.



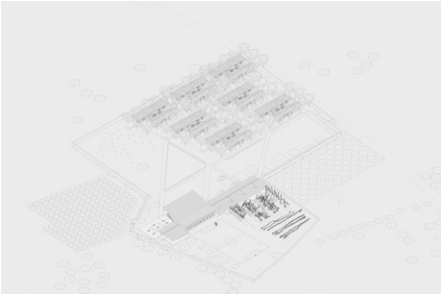
Meditation Gardens



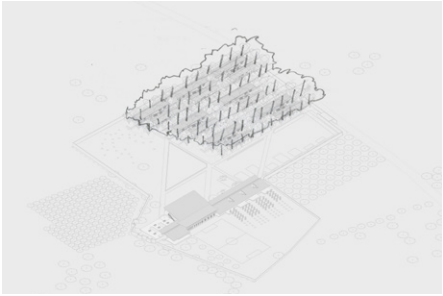
Wall



Entrance



Agriculture Gardens



The Grove





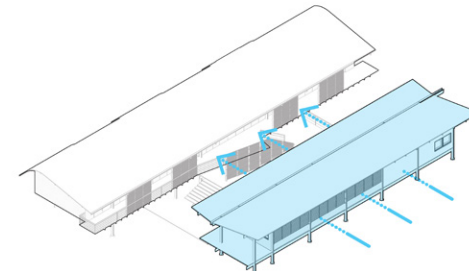
30 Conceptual Site Section

Residences

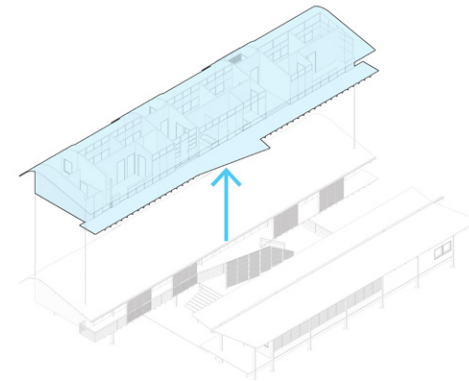
The residences are laid out in bars, with each bar slipped in between a row of lychee trees. The bars are organized with respect to program: the southern bar is more collectively and socially focused, while the northern bar is more intimate and private. An outdoor porch, like those found in traditional Thai architecture, separates the two.

The residence is entered via this outdoor porch. Wide stairs invite residents up to the porch, where meals, small gatherings, and informal activities can occur during nice weather. These activities can migrate underneath the bar when weather dictates. This underneath, unprogrammed space allows these trafficked victims to shape and mold their own semipublic space to meet their needs.

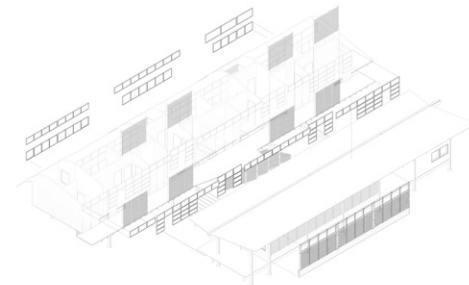
The social bar contains the kitchen, living space, storage, and a smaller reading room. Its south wall, the one facing the majority of the rest of the site, is made up of louvered screens, allowing for viewst out to the site and to the mountains beyond. The kitchen and the living space give a chance for the residents to gather



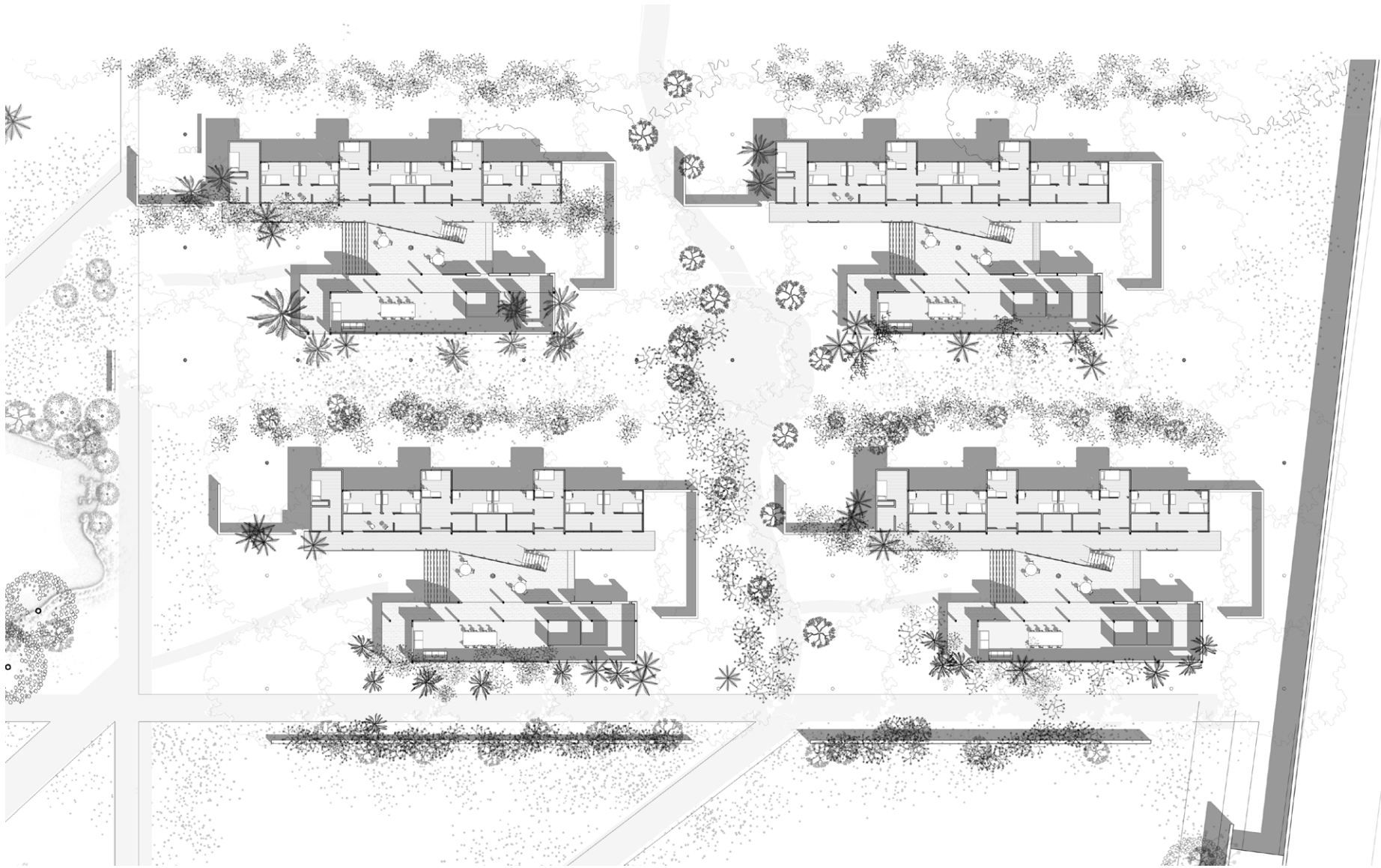
Social Screening the Intimate



Intimate Space Lifted Into Lychee Canopy



Lowered Screens and Openings Provide Protection



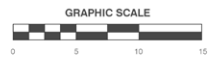
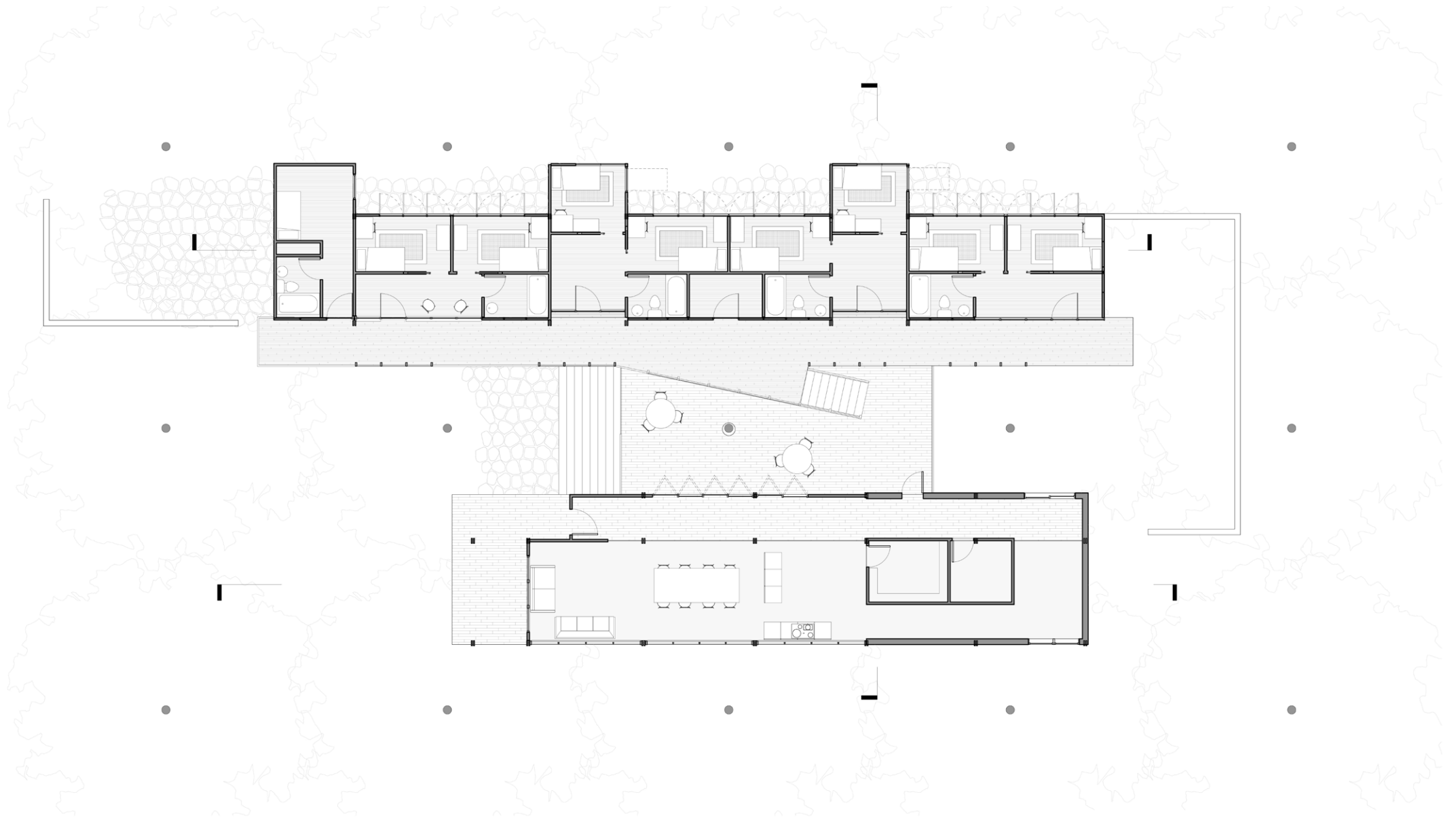
32 Village Plan

together and grow over shared meals and communal experiences. This social bar also serves as a screen for the rest of the residence. The bar protects the more intimate spaces, and is the mediator between the most intimate and the social spaces.

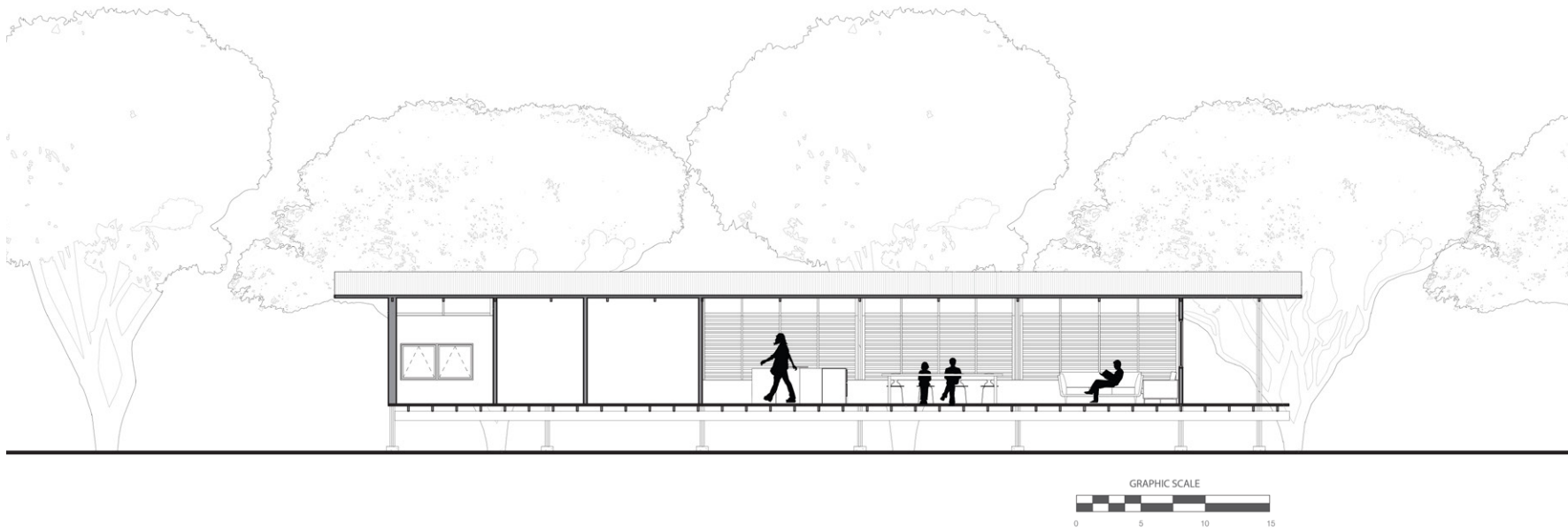
The bedrooms are entered via another stairway off the porch that is canted into the porch space. This stairway leads to an open air corridor that connects the bedroom spaces. This corridor and the stairs itself, are protected by a series of wood slat screens. These screens protect the entrances to the living quarters and allow residents to gauge what is occurring in the porch and social spaces to decide if they are comfortable entering.

Each bedroom is paired, providing each resident a companion and helping them to not feel completely isolated. A small shared living room joins the pair of bedrooms, as well as a bathroom. The wall of the living space is made up of operable windows, allowing the residents to open out into the corridor. The bedrooms also have operable windows, allowing the resident to control their exposure. Each bedroom looks out to a lychee tree, so that every resident has a connection to nature, through a specific tree. The on-site care-giver's room is at the end of the row of bedrooms.

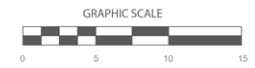
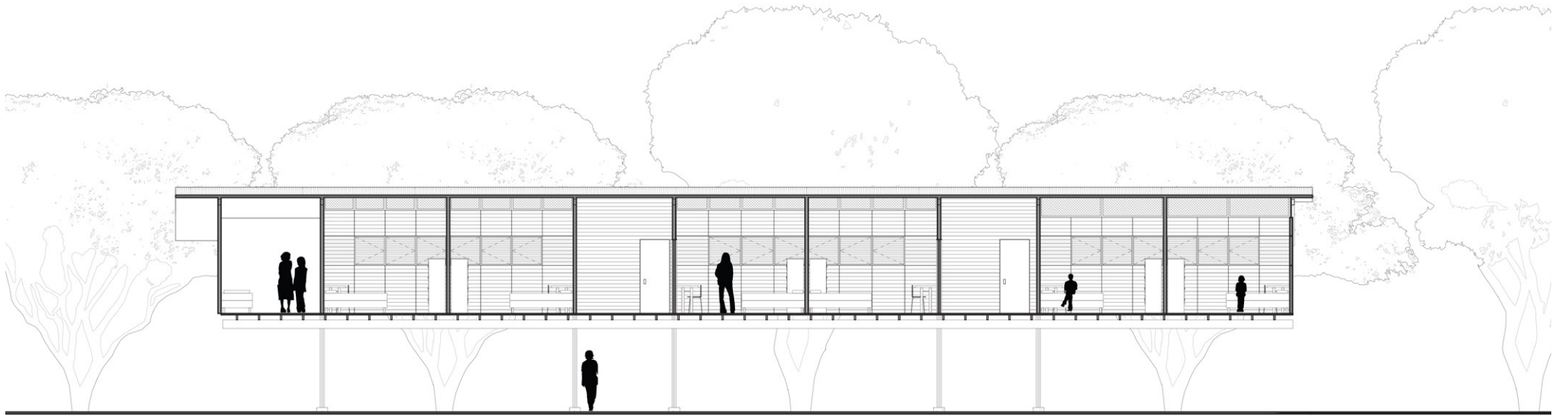
In section, the residences are lifted off the ground. The bedrooms are lifted a full story into the lychee tree canopy, leveraging the protection they provide. The social spaces peer out from under the canopy, through trunks and branches to space beyond. The sectional differences between the ground, social space, and the private space reinforce the thresholds between each space.



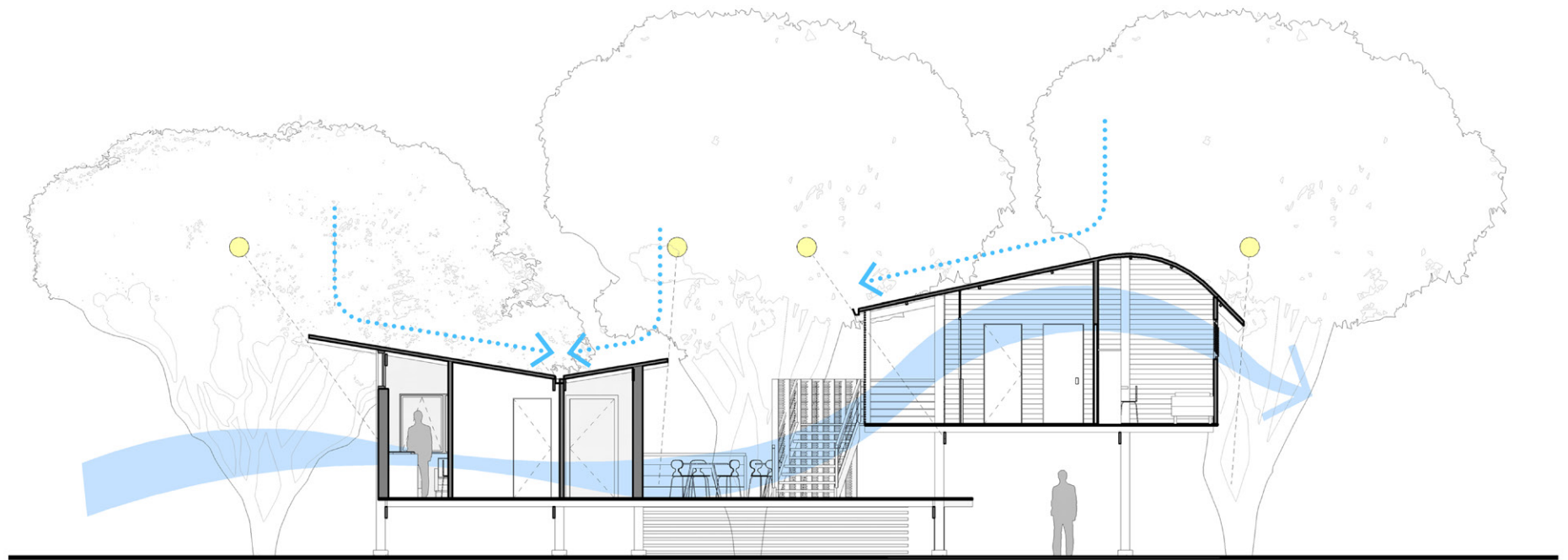
33 Residence Plan



34 Lower Level Section



35 Upper Level Section



36 Climatic Strategies

37 View from Entry





Community Center

The community center is a conceptual extension of the wall, separating the southern, social side of the site from the more private northern side. The building contains space for learning a communal gathering, as well as more private spaces for studying and counseling.

Classrooms

The classrooms are laid out along the east side of the building, separated from one another by small garden spaces. These garden spaces allow for circulation between the classrooms out to the learning gardens and activity field, or access to the classroom space via a secondary entrance. The classrooms have a direct connection with the learning gardens, and can be opened up during pleasant weather.

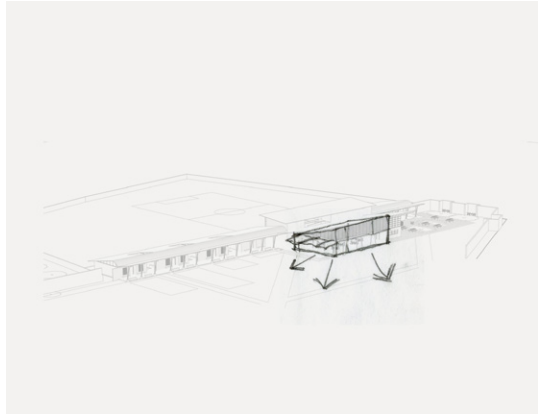
The curved roof promotes cooling airflow, and allows for collection of water to supply the learning gardens during dry months. The roof also shades the walls of the classrooms, helping the spaces to stay cool. Mesh screens above allow for cross-ventilation.

Front Porch

The community center is anchored by the collective gathering space. This space functions as interior dining space, auditorium space, and performance space. This space is the front porch of the community center, where everyone can gather. The auditorium is oriented back to the rest of the site, communicating with the residences.

Intimate Space

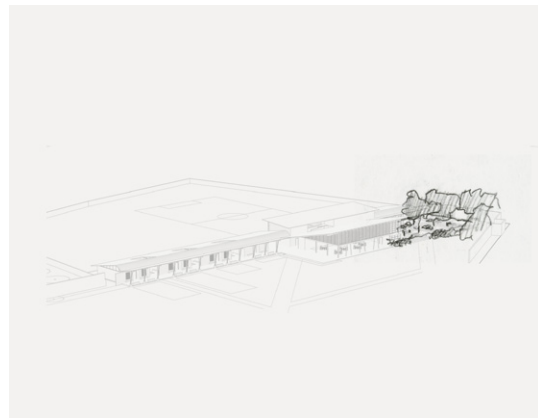
The intimate space in the community center is protected by the surrounding more social spaces. On the ground floor, the library is tucked behind the auditorium and the classrooms. A computer space and study space are contained within the library. Above the library, in the most intimate protected space, are hang-out space and counseling space. This counseling space is wrapped in a louvered screen, providing an additional layer of protection.



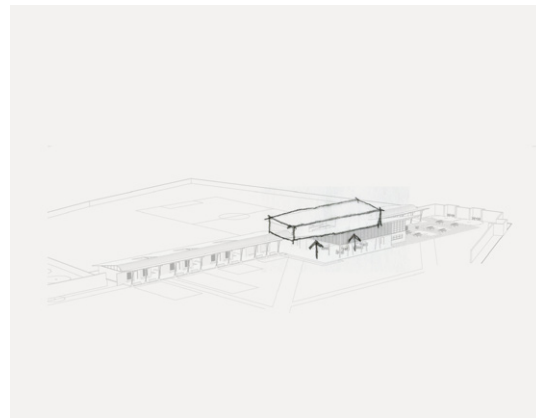
Front Porch



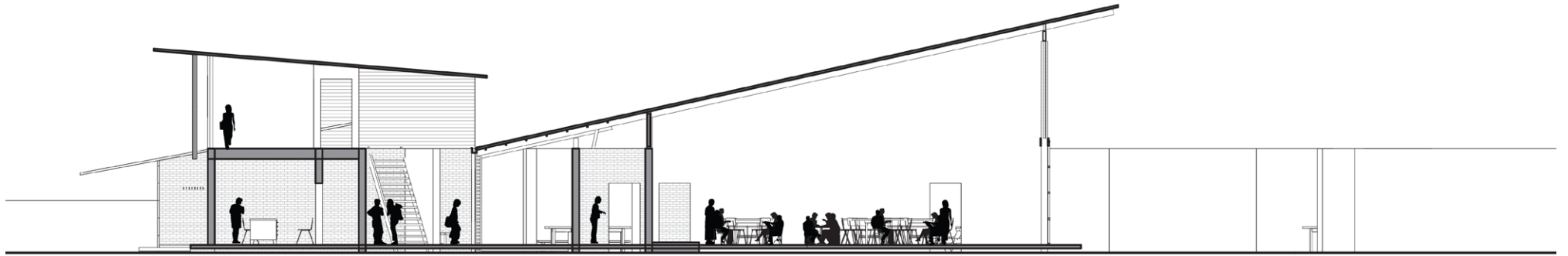
Gardens between Classrooms



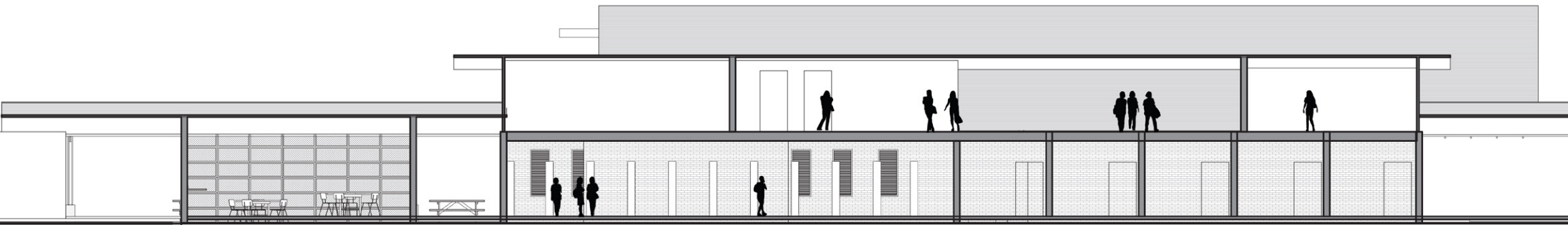
Outdoor Eating



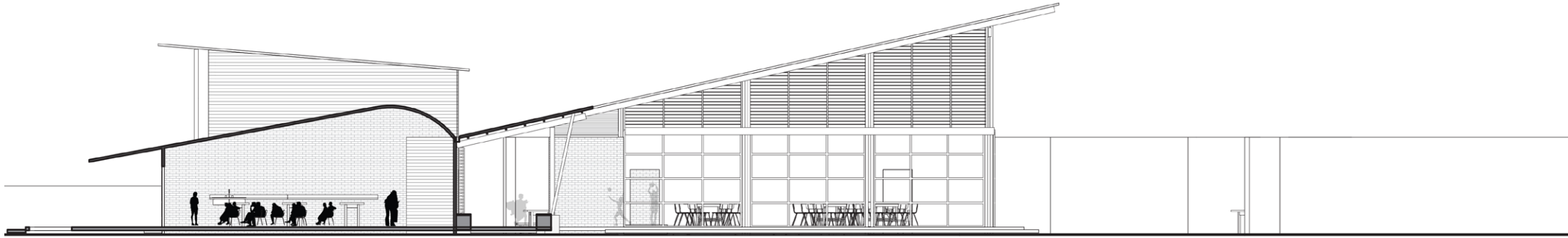
Intimate Space



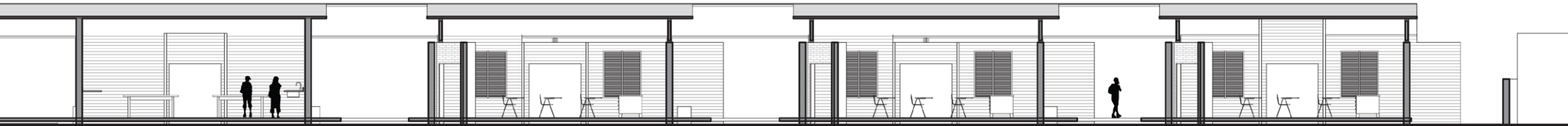
40 Section Through Auditorium



41 Longitudinal Section

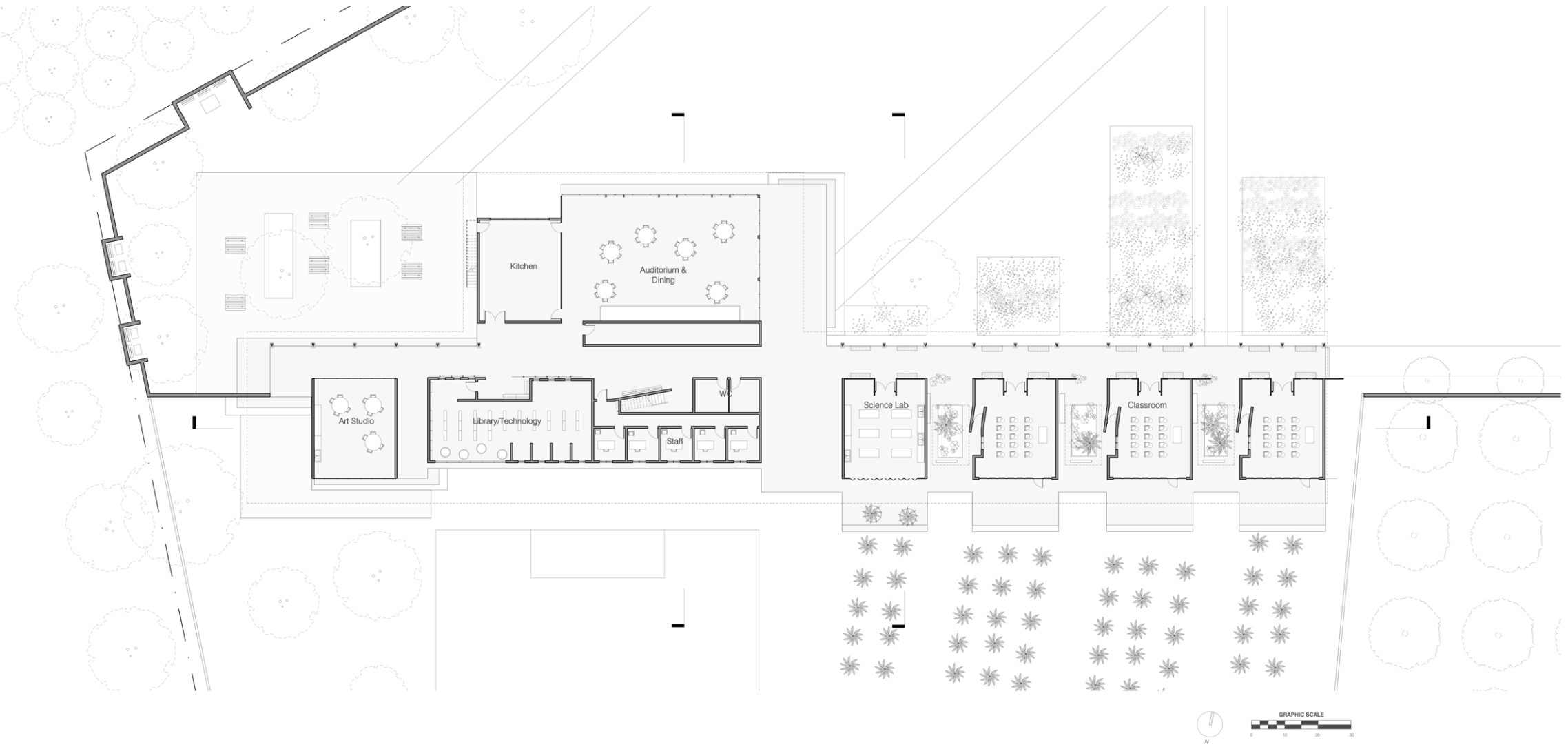


42 Section Through Classroom



GRAPHIC SCALE

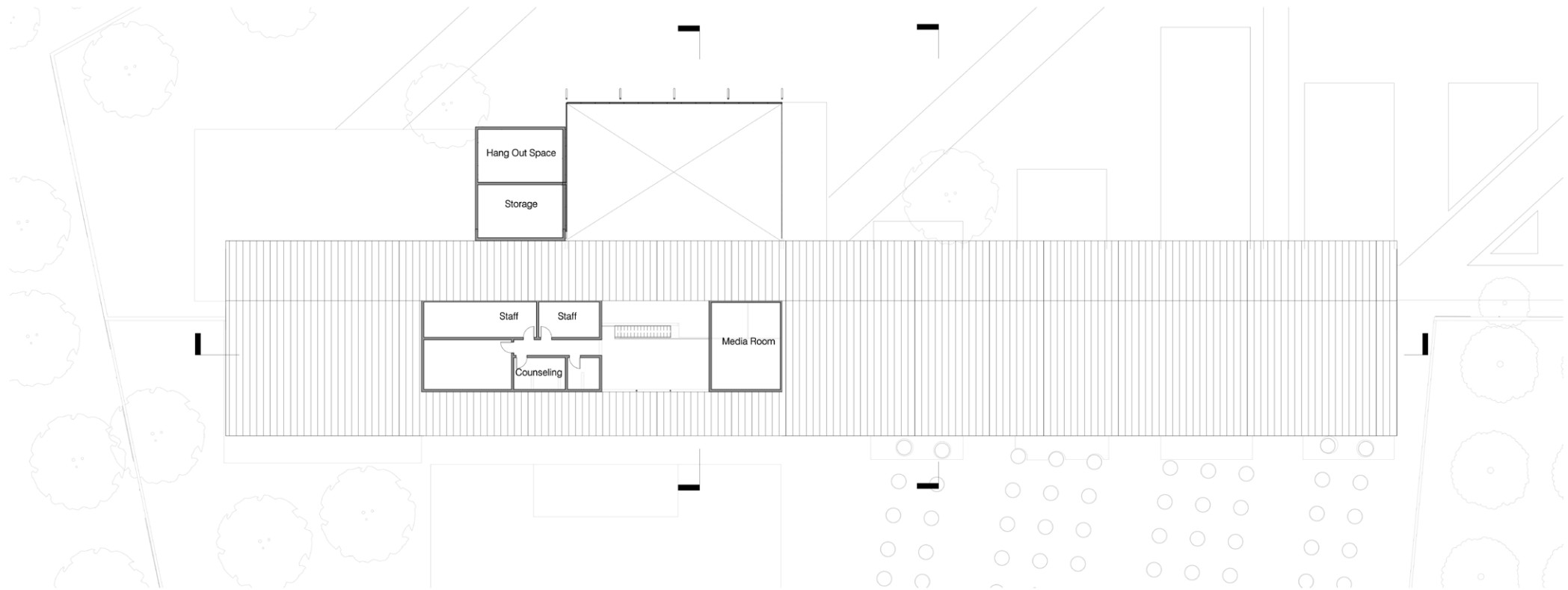




43 Community Center Lower Level



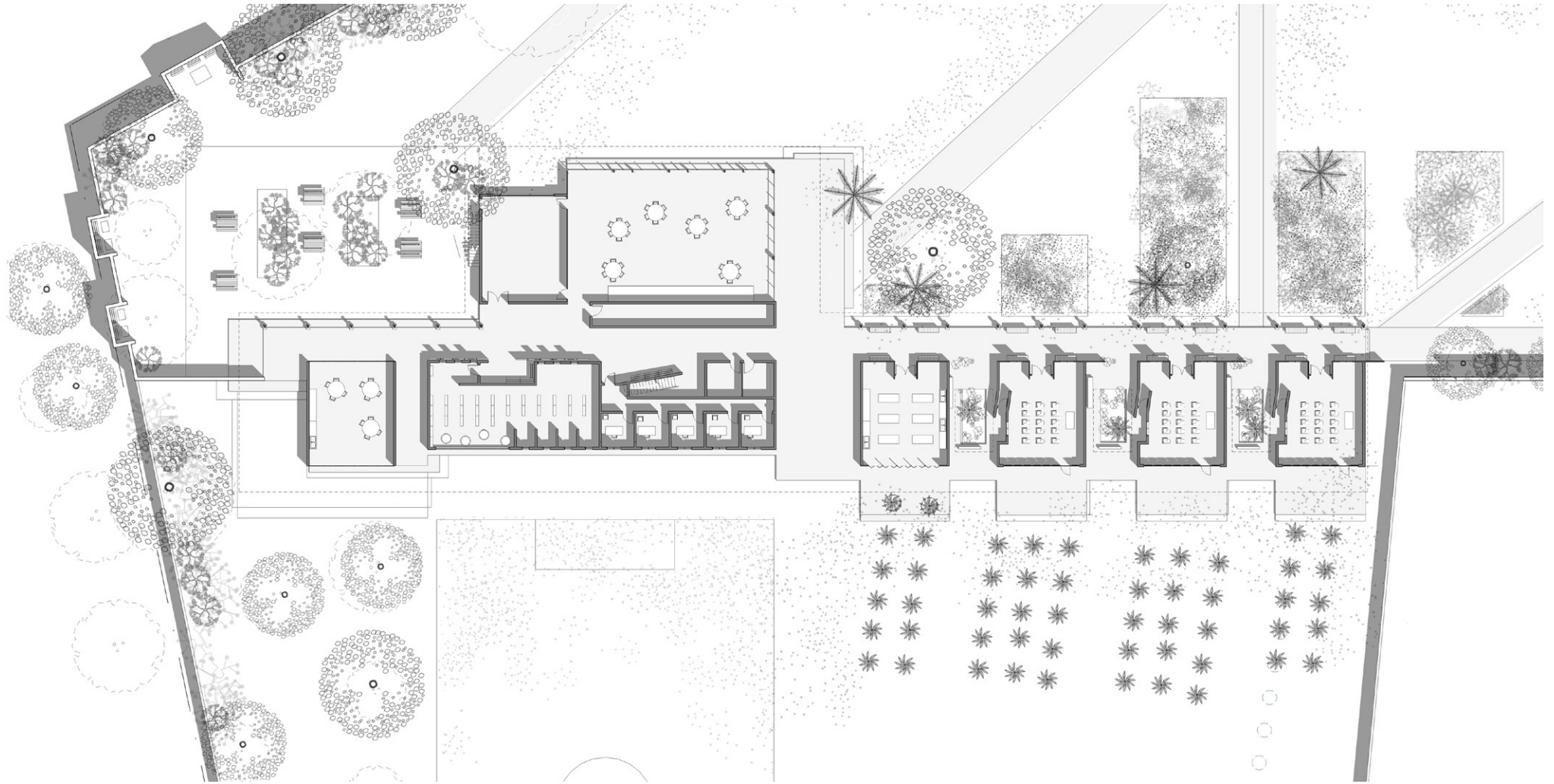
44 Entry to Community Center



45 Community Center Upper Level



46 View from Community Center





48 View into Community Center & Residences

Chapter 06: Conclusions

This thesis asked whether architectural design could have a role in addressing a serious social problem, human trafficking. More specifically, it asked whether architectural design can be a part of restoring health and well-being to rescued victims. It is not difficult to imagine that a poorly designed and constructed environment could impede the healing process, so it was a reasonable hypothesis that the opposite was true.

Thus, beginning from the knowledge that spatial environments can effect mood and emotions, the basic strategy was to provide a healthy, therapeutically tuned campus. This meant providing consistent natural ventilation, plenty of natural light, and the integration of natural materials—both building materials and plant materials. The particular strategies by which these widely recognized essentials were integrated were derived from the local vernacular approach to construction. While assuring that the design would be climatically sensitive, elements of the vernacular also served the therapeutic intentions. They can provide a sense of feeling “at home” to the residents even though the spatial environment is completely new to them. A sense of feeling at home can be a powerful element of a holistic approach to emotional healing.

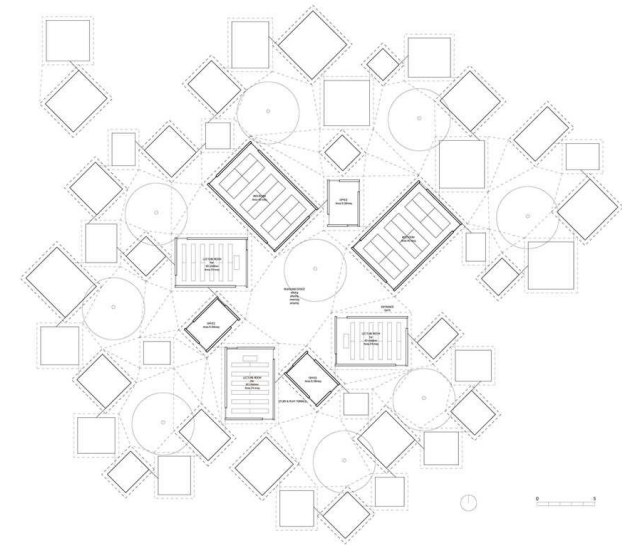
The principle architectural strategies, beyond accommodating the program of activities that are most appropriate, that went beyond the provision of a therapeutic environment and address the needs of victims of trafficking were site zoning of indoor and outdoor spaces, the creation of multiple layers of spatial boundaries, and careful design of thresholds. The whole site was organized along a gradient from personal and intimate spaces to increasingly social community spaces. Wall and screen elements were then used throughout to provide a sense of security by marking the boundaries of each type of space. Thresholds between spatial types were made deliberate to give residents a sense of choice, to put them in control of passage from secluded spaces to more social spaces.

Though the campus designed for victims of human trafficking has things in common with other closed communities such as monasteries or retreat centers, there are design choices that address this distressed population. Architecture can be part of society’s response to care for rescued victims of trafficking, and can play an important role in the healing and restoration of those who have been oppressed, enslaved, and mistreated.

Architectural Precedents

Mukwano Home / Koji Tsutsui & Associates

The Mukwano Home is a children's home for orphans in Rakai, Uganda. Although the project budget was only \$30,000, the project provides a safe and comfortable environment where the orphans can develop their community like a family. The architect utilized simple construction techniques (brick wall and wooden roof structure) to minimize costs as well allow the children to participate in some of construction process. The project is divided into 8 hut like buildings that contain classrooms and dormitories. The huts are joined around a central courtyard, and their roofs extend to provide shade. The design intent is to create a "village like" shape as much as possible, while retaining a functional relationship between each hut." The children have classes under the big tree situated in the center of the courtyard and they can run, play, and work in shade of the canopies of the huts comfortably, even with the harsh Ugandan sun and heat.³⁵



49 Plan

³⁵ See Koji Tsutsui website and Iwan Baan photography website



50 Courtyard Surrounded by Structures

(Upper Left)



51 Classroom Space

(Upper Right)

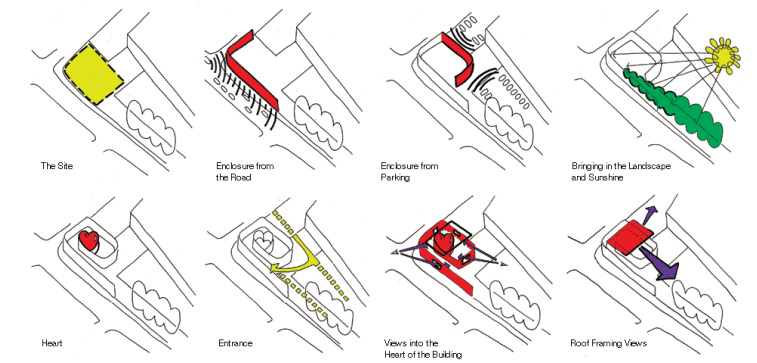
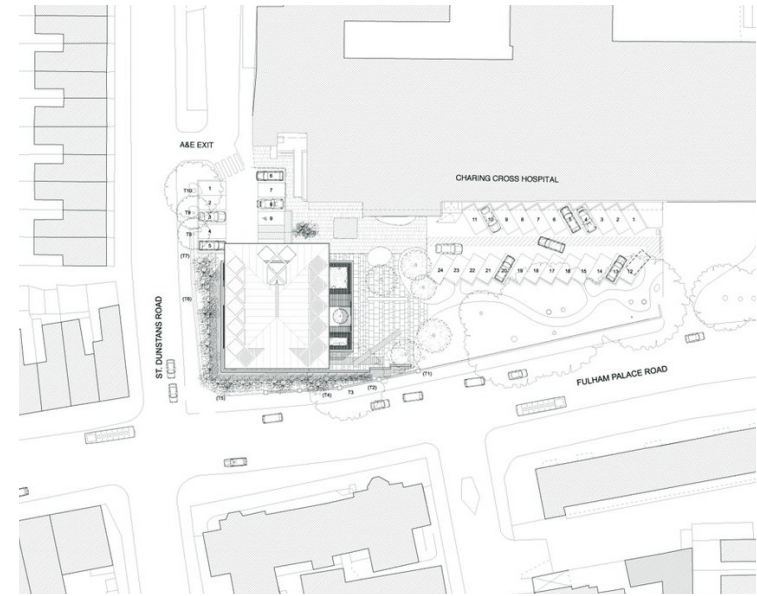
52 View From Outside

(Right)



Maggie's Centre / Rogers Stirk Harbour + Partners

Maggie's Centres in Great Britain are a network of centres offering free support to anyone affected by cancer. The centres supplement medical treatment with nutritional, emotional, and social care. The centre designed by Richard Rogers in London is an excellent example of the institutional building that feels like a home. The Centre is composed of four parts: a wall wrapping around all four sides, a kitchen, private and semi-private meeting and sitting rooms, and the expansive roof that sails over and unites all spaces. The wall, painted a bright energizing orange, encircles the center along with a row of birch trees, providing privacy and seclusion from the business of the centers surrounding urban context. Inside, the light filled kitchen and meeting rooms provide ample space for solitary contemplation, social gathering and eating spaces, and private rooms for consultation, as well as administrative spaces for staff. Throughout the center are winter gardens, both inside and out, that promote a connection to nature, even in downtown London.³⁶



53 Overall Plan

(Top)

54 Conceptual Diagrams

(Bottom)



55 Aerial View

(Upper Left)



56 Hang Out Space

(Upper Right)

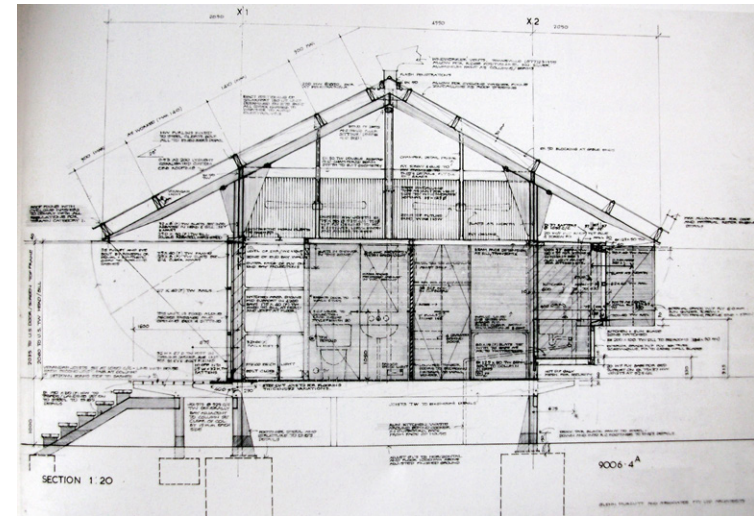
57 View from Gardens

(Right)



Marika Alderton House / Glenn Murcutt

Glenn Murcutt's Marika Alderton House is a project in a similar climate as Chiang Rai, albeit south of the equator in Australia. His work is characterized by a strong understanding of the natural environment, and his architecture response accordingly. In this project, the walls are moveable and light, allowing the structure to be opened almost everywhere, becoming practically a pavilion. Large overhangs protect from the sun, and the walls are made up of screens or light panels. The project was built for a local Aboriginal artist and her partner, and the house incorporates many aboriginal design principles.



58 Construction Documents



59 Approach to Building
(Top)

60 Living Space
(Bottom)

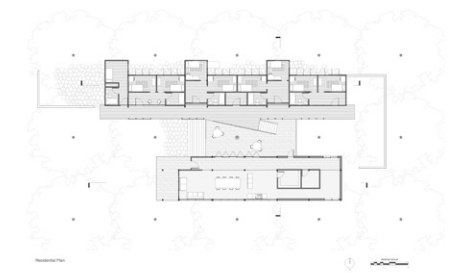
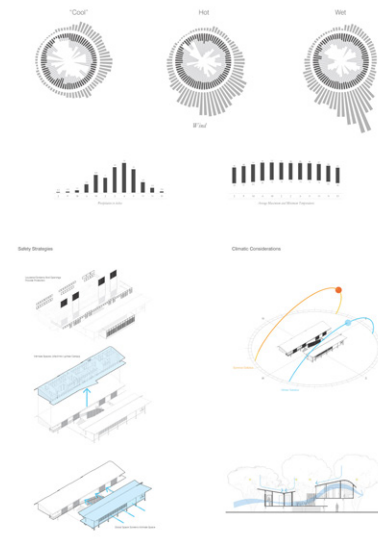


Presentation Boards

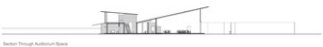
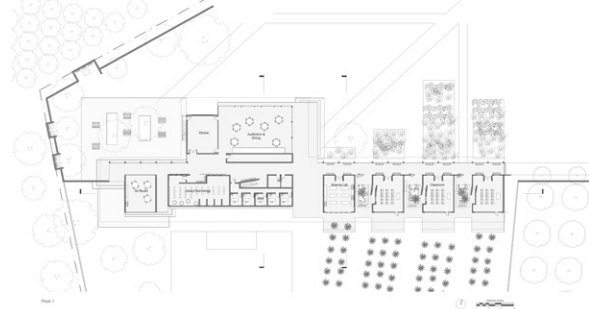
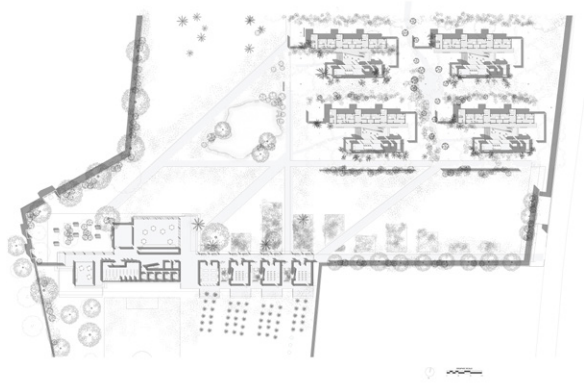


RESTORATIVE ENVIRONMENTS:
A campus for trafficked youth in Chiang Rai, Thailand

Images of Architecture Process Presentation - Kiat Boon / Faculty Member Sushida Pichai and the Malee Boon



61 Boards from Presentation



Acknowledgements

Thanks primarily to my love Beth, none of this would be possible without your unwavering loyalty, dinners, late nights, love, and encouragement!

Thanks to my family, who has supported, encouraged, challenged, and loved me throughout all of my years.

Thanks to friends for keeping me sane in studio, and providing a life outside of it.

List of Figures

All images created by author unless notes otherwise

02	01 Chiang Rai Night Bazaar	29	17 Driving to the Site
04	02 South East Asia	31	18 Chiang Rai Context <i>Google Maps Street View</i>
06	03 Project Site	32	19 Chiang Rai Topography
08	04 Social Comfort	33	20 Surrounding Topography <i>Underlay Courtesy of Google Maps</i>
10	05 Healthy Environment <i>www.berzogdemuron.com</i>	34	21 Adjacent Context <i>Underlay Courtesy of Google Maps</i>
11	06 Natural Ventilation <i>http://www.tyinarchitects.com/works/cassia-coop-training-centre/</i>	35	22 Immediate Site Context
11	07 Natural Daylighting <i>Architecture of Hope</i>	36	23 Vegetated Site Sections <i>Underlay Courtesy of Google Maps</i>
11	08 Access to Nature <i>Architecture of Hope</i>	38	24 Tapioca and Mountains Beyond
13	09 Art Therapy	40	25 Banana trees
17	10 Diagrams of Thai House Elements	42	26 Bamboo and brush windbreaks
18	11 Traditional Thai House <i>http://static.panoramio.com/photos/large/47257627.jpg</i>	44	27 Strategies for Safety + Climatic Responsive Strategies <i>Climate Strategies from Stay Cool</i>
18	12 Thai Granary <i>http://art-culture.cmu.ac.th/en/museum/lanna-traditional-houses-museum</i>	46	28 Site Plan
26	13 Chiang Rai	48	29 Site Strategies
27	14 Prevailing Winds	50	30 Conceptual Site Section
28	15 Precipitation	51	31 Residence Strategies
28	16 Temperature	52	32 Village Plan

54	33 Residence Plan	73	49 Plan
55	34 Lower Level Section	74	50 Courtyard Surrounded by Structures
56	35 Upper Level Section	74	51 Classroom Space
57	36 Climatic Strategies	74	52 View From Outside <i>http://www.kt-aa.com/</i>
57	37 View from Entry	75	53 Overall Plan <i>http://ivan.com/photo_MUKWANO_Home_Uganda_Koji_Tsutsui.php</i>
59	38 View from Porch	75	54 Conceptual Diagrams <i>http://ivan.com/photo_MUKWANO_Home_Uganda_Koji_Tsutsui.php</i>
62	39 Community Center Strategies	76	55 Aerial View <i>http://ivan.com/photo_MUKWANO_Home_Uganda_Koji_Tsutsui.php</i>
63	40 Section Through Auditorium	76	56 Hang Out Space <i>Architecture of Hope</i>
63	41 Longitudinal Section	76	57 View from Gardens <i>Architecture of Hope</i>
64	42 Section Through Classroom	77	58 Construction Documents <i>Glenn Murcutt: buildings and projects</i>
65	43 Community Center Lower Level	78	59 Approach to Building <i>Glenn Murcutt: buildings and projects</i>
66	44 Entry to Community Center	78	60 Living Space <i>Glenn Murcutt: buildings and projects</i>
67	45 Community Center Upper Level	79	61 Boards from Presentation
68	46 View from Community Center		
69	47 Community Center Context		
70	48 View into Community Center & Residences		

Works Cited

- Aalto, Alvar, Timo Tuomi, Kristiina Paatero, and Eija Rauske. 1998. *Alvar Aalto in seven buildings: interpretations of an architect's work = Alvar Aalto in sieben Bauwerken : Interpretationen des Lebenswerkes eines Architekten*. Helsinki: Museum of Finnish Architecture.
- Aftercare for Victims of Sex Trafficking: The Love146 Strategy | The Collaborative Exchange." *The Collaborative Exchange*. N.p., n.d. Web. 25 May 2014.
- Architecture for Humanity (Organization), . 2012. *Design like you give a damn*. [2], [2]. New York; London: Abrams.
- Benard, Bonnie. 1993. *Fostering resiliency in kids*. *Educational Leadership* 51 (3): 44-8.
- Biurrun, F. Javier, Mateo Closa, Alfred Linares Soler, and Alvar Aalto. 1991. *El Sanatorio de Paimio, 1929-1933: Alvar Aalto : la arquitectura entre la naturaleza y la máquina*. Barcelona: Servei de Publicacions de la UPC.
- Brooks, Bryan, and Rick E. Mohler. 2013. *Body and spirit: crafting an architectural language of redemption*. <http://hdl.handle.net/1773/25254>.
- Children's Environmental Learning and the Use, Design and Management of School grounds. *Children, Environment and Learning*, n.d. Web. 25 May 2014.
- Clawson, Heather J., Amy Salomon, and Lisa Goldblatt Grace. 2007. *Treating the hidden wounds: trauma treatment and mental health recovery for victims of human trafficking*. [Washington, DC]: Dept. of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.
- Collins, Mary Elizabeth, Paris, Ruth, Ward, Rolanda L.,. 2008. *The permanence of family ties: Implications for youth transitioning from foster care*. *AJOP American Journal of Orthopsychiatry* 78 (1): 54-62.
- Coren, Esther, Hossain, Rosa, Pardo, Jordi Pardo, Veras, Mirella MS, Chakraborty, Kabita, Harris, Holly, Martin, Anne J., 2013. *Interventions for promoting reintegration and reducing harmful behaviour and lifestyles in street-connected children and young people*. *EBCoH Evidence-Based Child Health: A Cochrane Review Journal* 8 (4): 1140-272.
- Crisp, Barbara., 1998. *Human spaces : Life-enhancing designs for healing, working, and living*. Gloucester, MA; Cincinnati, OH: Rockport Pub. ; distributed to the book trade and art trade in the U.S. by North Light Books.
- Day, Christopher, Midbjer, Anita., 2007. *Environment and children : Passive lessons from the everyday environment*. Amsterdam; London: Architectural.
- Dudek, Mark., 2005. *Children's spaces*. Amsterdam; London: Architectural Press.
- Dudek, Mark. 2000. *Kindergarten architecture: space for the imagination*. London: Spon Press.

- Feinberg, Sandra, Keller, James R., 2010. *Designing space for children and teens in libraries and public places*. Chicago: American Library Association.
- Fromont, Françoise. 1995. *Glenn Murcutt: buildings and projects*. New York: Whitney Library of Design.
- Gardner, Simon, Pindar Sidisunthorn, and Vilaiwan Anusarnsunthorn. 2000. *A field guide to forest trees of northern Thailand*. Bangkok: Kobjai Pub. Project.
- Gatchel, Robert J., and Andrew Baum. 1983. *An introduction to health psychology*. Reading, Mass: Addison-Wesley.
- Gesler, Wilbert M., 2003. *Healing places*. Lanham, Md: Rowman & Littlefield.
- Gladding, Samuel T. 1998. *Counseling as an art: the creative arts in counseling*. Alexandria, VA: American Counseling Association.
- Goldstein, Sam, Brooks, Robert B., 2005. *Handbook of resilience in children*. New York: Kluwer Academic/Plenum Publishers.
- Hadjiyanni, Tasoulla, Porlitzki, Melanie, Preble, Hannah., 2014. *The placelessness of sex Trafficking—Instilling consciousness through Minnesota's experience*. *JOID Journal of Interior Design* 39 (1): 1-16.
- Hammond, Lynn C., and Linda Gantt. 1998. "Using Art in Counseling: Ethical Considerations". *Journal of Counseling & Development*. 76 (3): 271-276.
- Harris, J. Irene, Erbes, Christopher R., Engdahl, Brian E., Thuras, Paul, Murray-Svank, Nichole, Grace, Dixie, Ogden, Henry, Olson, Raymond H.A., Winkowski, Ann Marie, Bacon, Russ, Malec, Catherine, Campion, Kelsey, Le, TuVan., 2011. *The effectiveness of a trauma focused spiritually integrated intervention for veterans exposed to trauma*. *JCLP Journal of Clinical Psychology* 67 (4): 425-38.
- Hartig T, A Böök, J Garvill, T Olsson, and T Gärling. 1996. "Environmental influences on psychological restoration". *Scandinavian Journal of Psychology*. 37 (4): 378-93.
- Holmes, Henry, Suchada Tangtongtany. Tomizawa, Roy., 1995. *Working with the Thais : A guide to managing in Thailand*. Bangkok: White Lotus.
- Imvornizzi, Luca., Warren, William, Lui, Gretchen., 1988. *Thai style*. Bangkok, Thailand: Asia Books.
- Jencks, Charles, Heathcote, Edwin., 2010. *The architecture of hope : Maggie's cancer caring centres*. London: Frances Lincoln.
- Kaplan, Rachel, and Stephen Kaplan. 1989. *The experience of nature: a psychological perspective*. Cambridge: Cambridge University Press.
- Kaplan, Rachel, Kaplan, Stephen., 1989. *The experience of nature : A psychological perspective*. Cambridge; New York: Cambridge University Press.

- Kaplan, Stephen, and Kaplan, Rachel., 1982. *Cognition and environment : Functioning in an uncertain world*. New York: Praeger.
- Kara, Siddharth., 2009. *Sex trafficking : Inside the business of modern slavery*. New York: Columbia University Press.
- Koch-Nielsen, Holger. 2002. *Stay cool: a design guide for the built environment in hot climates*. London, UK: James & James.
- Koenig, Linda J., 2004. *From child sexual abuse to adult sexual risk : Trauma, revictimization, and intervention*. Washington, DC: American Psychological Association.
- KOJI TSUTSUI ARCHITECT & ASSOCIATES." KOJI TSUTSUI ARCHITECT & ASSOCIATES. Accessed December 12, 2014. <http://www.kt-aa.com/>.
- Kramer, Edith, and Laurie Wilson. 1979. *Childhood and art therapy: notes on theory and application*. New York: Schocken Books.
- Kramer, Edith. 1993. *Art as therapy with children*. Chicago: Magnolia Street Publishers.
- Krug, Sonia., Duboff, Shirley., 1982. *The kamthieng house : Its history and collections : A classic example of northern Thai residential architecture of the nineteenth century*. Bangkok: Siam Society.
- Lee M., . 2014. *Gendered discipline and protective custody of trafficking victims in Asia*. *Punishment Soc. Punishment and Society* 16 (2): 206-22.
- Lefairre, Liane, Ingeborg de Rooode, and Rudi Fuchs. 2002. *Aldo van Eyck: the playgrounds and the city*. Amsterdam: Stedelijk Museum.
- Lloyd, Rachel., 2011. *Girls like us : Fighting for a world where girls are not for sale, an activist finds her calling and heals herself*. New York: HarperCollins Publishers.
- Malone, Karen and Paul Tranter. "Children's Environmental Learning and the Use, Design and Management of School grounds." *Children, Youth and Environments* 13(2), 2003. Retrieved [date] from <http://colorado.edu/journals/cye>
- Marcus, Clare Cooper, and Marni Barnes. 1999. *Healing gardens: therapeutic benefits and design recommendations*. New York: Wiley.
- McCarter, Mark Caillo., 2002. *Strengthening the well-being of people & place : A town center design proposal for sitio cantaba, samar, Philippines*.
- McNiff, S. 1981. *The arts and psychotherapy*. Springfield, IL: Thomas.
- Mukwano Home - Koji Tsutsui." *Iwan Baan - Photography*. Accessed July 12, 2014. http://iwan.com/photo_MUKWANO_Home_Uganda_Koji_Tsutsui.php.

- NATO *Advanced Research Workshop on Developing Strategies to Deal with Post-Conflict Trauma in Children*, Donnelly, Jill., *Developing strategies to deal with trauma in children a means of ensuring conflict prevention security and social stability : Case study : 12-15-year-olds in Serbia*. in IOS Press ; IOS Press/Lavis Marketing [distributor] [database online]. Amsterdam; Headington, 2005.
- Nicoletti A, . 2007. *Aging out of foster care*. *Journal of Pediatric and Adolescent Gynecology* 20 (3): 205-6.
- Piper, Geoffrey., 2002. *Process and product, sticks and mud : A case study design of a children's village for Majiwa, Kenya*.
- Potter, Amy C.,. 2000. *Cross cultural practice : The design of a school for an orphanage near Bangalore, India*.
- Rafferty, Yvonne., 2007. *Children for sale: Child trafficking in southeast Asia*. *Child Abuse Review* 16 (6).
- Rediscovering Home | Rediscovery." *Rediscovering Home | Rediscovery*. Accessed December 12, 2014. <http://www.rediscoveryinc.org/rediscovering-home>.
- Roberts, Jay W. 2012. *Beyond learning by doing: theoretical currents in experiential education*. New York, NY: Routledge.
- Rogoff, Barbara, Carolyn Goodman Turkanis, and Leslee Bartlett. 2001. *Learning together children and adults in a school community*. Oxford: Oxford University Press. <http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=140872>.
- Rubin, Judith Aron. 1984. *Child art therapy: understanding and helping children grow through art*. New York: Van Nostrand Reinhold.
- Ruthai Chaihongrak. Freeman, Michael., 2002. *The Thai house : History and evolution*. Taitien, Bangkok: River Books.
- Schendel, Willem van., Lyons, Lenore, Ford, Michele., 2012. *Labour migration and human trafficking in southeast Asia : Critical perspectives*. Milton Park, Abingdon, Oxon; New York, NY: Routledge.
- Schiraldi, Glenn R. 2000. *The post-traumatic stress disorder sourcebook: a guide to healing, recovery, and growth*. Los Angeles, Calif: Lowell House.
- Senda, Mitsuru., 1992. *Design of children's play environments*. New York: McGraw-Hill.
- Sharp, Shane., 2010. *How does prayer help manage emotions?* *Social Psychology Quarterly* 73 (4): 417-37.
- Sherman, S. A., J. W. Varni, R. S. Ulrich, and V. L. Malcarne. 2005. "Post-occupancy evaluation of healing gardens in a pediatric cancer center". *LANDSCAPE AND URBAN PLANNING*. 73 (2-3): 167-183.
- Shigekane, R.,. 2007. *Rehabilitation and community integration of trafficking survivors in the united states*. *Peace Research Abstracts Journal* 44 (3).

- Stamps AE* 3rd. . 2008. *Some findings on prospect and refuge theory: II. Perceptual and Motor Skills* 107 (1): 141-58.
- Studio Mumbai, 2003-2011: maneras de hacer y de fabricar = ways of doing and making*. 2011. Madrid: El Croquis.
- The Hofstede Center. (2014, April 24). Geert Hofstede. Retrieved from The Hofstede Center: <http://geert-hofstede.com/geert-hofstede.html>
- Thomas, Dorothy Q., Jones, Sidney., *Asia Watch Committee* (U.S.), *Women's Rights Project* (Human Rights Watch)., 1993. *A modern form of slavery : Trafficking of Burmese women and girls into brothels in Thailand*. New York: Human Rights Watch.
- Tsutsui, Koji. *Low-cost school and home for HIV orphans, Rakai, Uganda*. in *Holcim Foundations [database online]*. [cited 07/26 2014]. Available from http://sr.holcimfoundation.org/dnl/b2444bb4-d908-421f-b49b-5ffbc855d0c/Holcim.Awards08_AME_Silver.pdf.
- Tyack, David B., and Elisabeth Hansot. 1990. *Learning together: a history of coeducation in American schools*. New Haven: Yale University Press.
- Tzyetkova, Marina., 2002. NGO responses to trafficking in women. *Gender & Development* 10 (1): 60-8.
- Ulrich, R. S. 1979. *Visual landscapes and psychological well-being*. *Landscape Research*, 4, 17-23.
- Ulrich, R.S. and Laura Gilpin., 2003. *Healing arts: Nutrition for the soul*. San Francisco: Jossey-Bass.
- Ulrich, Roger S. "A theory of supportive design for healthcare facilities." In *Journal of healthcare design: proceedings from the... Symposium on Healthcare Design. Symposium on Healthcare Design*, vol. 9, p. 3. 1997.
- Ulrich, Roger S. "Effects of healthcare environmental design on medical outcomes." In *Design and Health: Proceedings of the Second International Conference on Health and Design*. Stockholm, Sweden: Svensk Byggtjänst, pp. 49-59. 2001.
- Ulrich, Roger S., Craig Zimring, Xuemei Zhu, Jennifer DuBose, H. Seo, Y. Choi, Xiuobo Quan, and Anjali Joseph. "A review of the research literature on evidence-based healthcare design." *Health environments research & design journal* 1, no. 3 (2008): 61-125.
- Ulrich, Roger S., Robert F. Simons, Barbara D. Losito, Evelyn Fiorito, Mark A. Miles, and Michael Zelton. 1991. "Stress recovery during exposure to natural and urban environments". *Journal of Environmental Psychology*. 11 (3): 201-230.
- United States., Office of the Under Secretary for Global Affairs., United States, Department of State., *Trafficking in persons report*. in *Office of the Under Secretary for Global Affairs [database online]*. [Washington, D.C.], 2003.

- van den Berg, Agnes E, Sander L Koole, and Nickie Y van der Wulp. 2003. "Environmental preference and restoration: (How) are they related?" *Journal of Environmental Psychology*. 23 (2): 135-146.
- Van Esterik, Penny. 2000. *Materializing Thailand*. Oxford; New York: Berg.
- Viano, Emilio. 1992. *Intimate violence : Interdisciplinary perspectives*. Washington: Hemisphere Pub. Corp.
- Villanueva, Ray. 2007. *Architecture for people who need it: a model for sustainable development in developing nations*. Thesis (M. Arch.)—University of Washington, 2007.
- Warner, Malcolm. 2003. *Culture and management in Asia*. London; New York: Routledge.
- Weber, Willi, Yannis, Simos., 2014. *Lessons from vernacular architecture*. Abingdon, Oxon; New York: Earthscan, from Routledge.
- Whitehouse, Sandra, James W. Varna, Michael Seid, Clare Cooper-Marcus, Mary Jane Ensberg, Jenifer R. Jacobs, and Robyn S. Mehlenbeck. 2001. "Evaluating a children's hospital garden environment: utilization and consumer satisfaction". *Journal of environmental psychology*. 21 (3): 301-314
- Wilson, Edward O. 1984. *Biophilia*. Cambridge, Mass: Harvard University Press.
- Zelechoski, Amanda D., Sharma, Ritu, Berra, Kari, Miguel, Jennifer L., DeMarco, Mia, Spinazzola, Joseph. 2013. Traumatized youth in residential treatment settings: Prevalence, clinical presentation, treatment, and policy implications. *J Fam Viol Journal of Family Violence* 28 (7): 639-52.