



Place, Experience, & Atmosphere through Visual Representation

Understanding the process and experience of recovery for substance abuse disorders, and how to design and visually represent an atmosphere of comfort, healing, and connection to nature in a rehabilitation center.

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“In a fragment of a second you can understand: Things you know, things you don’t know, things you don’t know that you don’t know, conscious, unconscious, things which in a fragment of a second you can react to: we can all imagine why this capacity was given to us as human beings - I guess to survive. Architecture to me has the same kind of capacity. It takes longer to capture, but the essence to me is the same. I call this atmosphere. When you experience a building and it gets to you. It sticks in your memory and your feelings. I guess that’s what I am trying to do.”

Peter Zumthor
Thinking Architecture

Acknowledgements

First, I would like to thank Adam, my husband, for his support and encouragement during my time at Drexel. From reading early drafts, to taking care of the dogs, and making me dinner during my several late nights, this could not have been possible without you. I love you so much.

Next, I would like to thank my family. Mom, you've always listened to my breakdowns over project deadlines and celebrated my achievements. Dad, thank you for always providing a laugh and wisdom when I needed it the most. You always made the stressful days much better because of that. Abby & Alison, I am so lucky to have you both as sisters. Thank you for the many FaceTime chats, coffee, love, and encouragement.

Also, I would like to thank Susie. Somehow, you always manage to be there for me even from 1,100 miles away. Thank you for your endless support, jokes, and pep talks during my education. You're the best friend I could ever have.

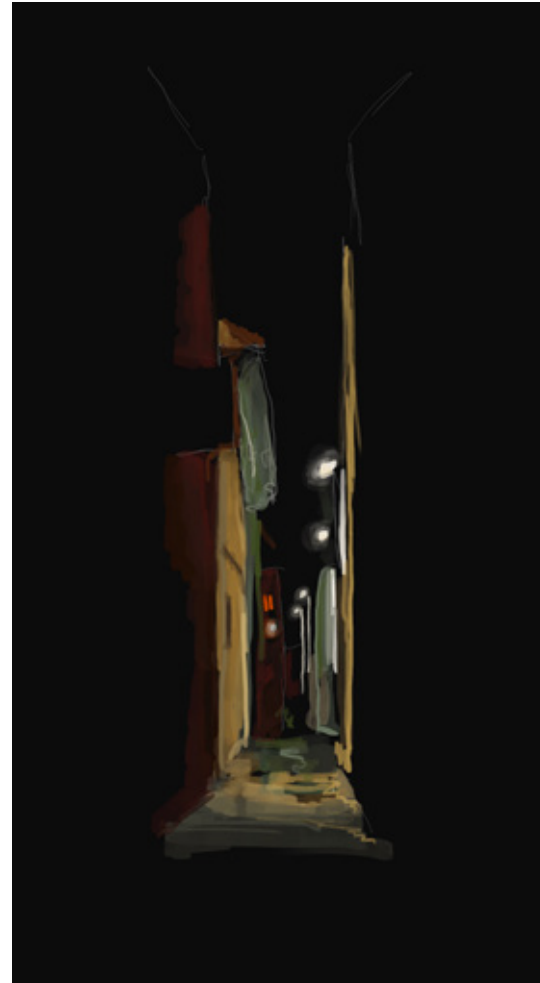
Additionally, I would like to thank Rachel, my thesis advisor, for her unwavering support and confidence in my abilities throughout my entire thesis. You were always patient, kind, and helpful during this process. I could not have asked for a better thesis advisor. Truly, thank you.

Lastly, I would like to thank the faculty in the Interior Design program at Drexel. You all embrace students' passions, and your support and encouragement are what makes this program one of the best. I will never forget my time with each of you, and thank you for everything you have taught me along the way.



INTRODUCTION

My passion for sketching and rendering styles started during my 2nd year of undergrad after my study abroad trip to Italy. I was captivated by the expressive, emotional, and messy “hand” qualities of the sketches I created during our time in Rome. The power of drawing by hand ingrained memories from that trip I ordinarily would’ve overlooked. For example, the sketch above was from a sunny afternoon in Piazza del Popolo. I distinctly remember recovering from a cold, and sketching this scene as quickly as possible because of my pounding headache. I was sitting on a smooth cobblestone ground, and sketching as hundreds of people passed through the piazza. I remember a saxophone player, who was playing jazz music for tips. I remember our teacher explaining the technique of drawing a large crowd of people in gestural squiggles and abstract forms. Lastly, I remember that there was scaffolding over the right dome at that time, which required us to mirror the left to our best abilities. Small, ingrained details like these contributed to my memory and perception of Rome. This realization sparked my interest in the psychological study of place, experience, and atmosphere (how people feel, think, and perceive a space based on tangible and intangible qualities). My thesis explores how we, as designers, use various tools like sketching, watercolor, collage, and realistic renderings to adequately express these emotions, memories, and perceptions of spaces we design. Applying this to a rehabilitation center for those recovering from substance abuse, I experiment with visually conveying a “home-like, lived-in” place of comfort, community, and connection to nature.



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01

Topic

Thesis Research Overview
Literature Review

Thesis Research Overview

The research was broken up into three sections. First, it was important to emphasize the significance of place in the built environment. Place has a vital role in architectural design. It affects all facets of experience, and defines the who, what, where, and when of a building and the people who inhabit, experience, and interact with a space. Everyone's background (sex, gender identity, race, class, culture, etc) drastically influences how they perceive a space, and the memories and thoughts they attribute to it.

Second was to discuss the components that contribute to perception of a place. This includes **Space:** the basic foundation of any place. A space is void, and is the absence of mass, and detail. **Material:** Which incorporates details of color and texture, providing another level of complexity in the differentiation of a place. **Time:** which relates to materials and how they change with use and age. **Atmosphere:** is affected by space, material, and time. For Peter Zumthor, the phenomenology of atmosphere contributes to the "soul" of a place. And lastly **occupancy:** is the interaction, dwelling, and inhabitation of humans in a place.

Once parts one and two were understood, I could then implement my research to visual representation of spaces as a means of expressing place, atmosphere, and experience in order to better understand their strengths in every phase of a design process. In my research, I find that it is not the medium or technique that leads to representing the intangible qualities of place. So, how does one design the unseen? How can visual representation express these intangible components of atmosphere, emotion, time and experience?

1 Emphasizing the significance of place in the built environment

Place has a vital role in architectural design. It affects all facets of experience, and defines the who, what, where, and when of a building and the people who inhabit, experience, and interact with a space.

2 Understanding and identifying the key architectural components that contribute to the perception of a place:

Space
Material
Time
Atmosphere
Occupancy

3 Exploring the significance of visual representation as a means of expressing place, atmosphere, and experience in order to better understand their strengths in every phase of a design process.

Place, Experience, and Atmosphere through Visual Representation

Introduction

Issues of place and experience have been engaged by many designers and architects and are increasingly relevant today. As pointed out by an editor from *Architectural Review*, photo-realistic visualization is now the commonplace, and architects and designers are now turning to the communicative potential of place and experience that go beyond aesthetic qualities (2020). In 1977, Charles Moore and Kent Bloomer argued that architects have historically overlooked human social experience because of an overemphasis on seeing as the primary sensory activity (O'Neill). Simply stated, architects and designers focus on visual importance above all other senses. In design, visual information—drawings, dimensions, BIM models, marketing images—is most tangible and accessible. However, more intangible aspects like place, atmosphere, and experience are what give an indescribable, emotional layer to a designed space. As designers, understanding these intangibles is paramount, and the question of how to represent these phenomena—feeling beyond seeing—is crucial for design.

In *Design for Sensory Reality*, Juhani Pallasmaa asks “How, then, does the designer concretise these multiple and often vague experiences in his or her working process and how are they communicated to the craftsmen and builders?” My own questions are similar: What is visual representation’s role in the design process? How does visual representation provide multiple viewpoints of how a project is used, viewed, and with which people interact? How does it represent other senses such as hearing, smell, taste, and touch? I intend my thesis to explore aspects of place, atmosphere, and experience that impact our relationship, both physically and psychologically in an interior space; and further, to consider how these qualities are represented in the design process. From hand drafting, to collage, to model building, to hyper-realistic renderings, designers have a variety of representational tools available to communicate their intentions. This literature

Understanding Place in the Built Environment

Place grounds architecture and experience. Place provides dimension and form in the relationship between physical settings, individual and group activities, and meanings (Najafi). In the literature, concepts of “place identity,” “sense of place,” and “place attachment,” all help describe a person’s relationship to a place (Najafi). Further, there are several facets to identity that inform relation to place, including gender, race, class, sexuality, and the relationship of a building to the physical body (Giesecking). One intriguing aspect of place experience is that one individual’s perception will be completely different from another’s, depending on the identity characteristics that they uniquely possess. Pallasmaa states, “We identify ourselves with this space, this place, this moment and these dimensions as they become ingredients of our very existence. Architecture is the art of mediation and reconciliation.” (1996)

Edward Relph extensively studied the concept of place in architecture, suggesting that, “without a thorough understanding of place as it has human significance, one would find it difficult to describe why a particular place is special and impossible to know how to repair existing places in need of mending. In short before we can properly prescribe, we must first learn how to accurately describe A—a central aim of phenomenological research” (1976). Relph was concerned that much of what is built is “placeless” and that when architects lack intentionality and insight, the outcomes of their works will lack originality and will not foster an attachment to place. Relph states, “The casual eradication of distinctive places and the making of standardized landscapes results from an insensitivity to the significance of place.” For Relph, this is largely due to mass production, and the priority of efficiency, which has replaced unique and diverse cultural experiences with “anonymous space and exchangeable environments.”

Christian Norberg-Schulz, a Norwegian architect, author, and educator is another important contributor to the idea of place. He published works on phenomenology arguing for the “spirit of place” in modernist architecture. In discussing the work of Norberg-Schulz, Anna Anderson states, “it was the foothold he found phenomenology and his attention to place, the spirit of the place or the *genius loci*, which secured him this standing. This spirit, he argued, would have to be taken into account by the architect in order for meaningful architecture to be created.” (2018). Many architects have been influenced by the work of Norberg-Schulz, including architect Paolo Portoghesi, who argued that Norberg-Schulz “will be remembered in the history of our discipline as the greatest and most persuasive assorter of the fact that any work of architecture belongs to a place, and therefore first of all is ‘local.’” (1988)

This concept of architecture belonging in a place, being “local”, along with the counterpoint of ‘placelessness,’ is also evident in the work of Henry Klum in Puerto Rico. He criticized modernist architectural movements as ‘hollowed values from abroad’ suggesting modernism was “Alive alright with intellectual vengeance, but void of spirit and man’s inner needs.” His core principles were focused on the needs of Puerto Rican people, and the local climate and building conditions. In writing about Klum’s work Cesar Cruz states, “his legacy should be seen in terms of bending and willing modern architecture in pursuit of more humane, and environmentally and culturally sensitive living environments for Puerto Rico’s urban, suburban, and rural populations.” (2019)

In summary, place has a vital role in architectural design. It affects all facets of experience, and defines the who, what, where, and when of a building and the people who inhabit, experience, and interact with a space. Swiss architect and theorist Peter Zumthor states, “Every building is built for a specific use in a specific place and for a specific society. My buildings try to answer the questions that emerge from these simple facets as precisely and critically as they can.” (2009)

Elements of Place in the Built Environment

Having established the significance of place, it is worth discussing specific elements that contribute to a sense of place. This literature review will focus on five components: space, material, time, atmosphere, and occupation.

Space is the basic foundation of any place. A space is void, and is the absence of mass, and detail. In discussing space, Pierre von Meiss states, “Architectural space is the immaterial that we define with the material. Delimiting a portion of the world in order to render habitable, this is the very essence of architectural design” (2013). Meiss describes the significance of a building having an interior and exterior, and the vital role both sides play in designing for spatial qualities. Furthermore, Meiss emphasizes the significance of limits in architectural space, both by an uninterrupted boundary (walls, planes, edges) or, as Meiss describes, “by a group of markers (for example, four columns) between which the observer establishes relationships enabling comprehension of a implicit limit” (2013).

Material incorporates details of color and texture, providing another level of complexity in the differentiation of a place. Color has the ability to affect one’s mood, and texture appeals to our

sense of touch and sight. In *Thinking Architecture*, Zumthor discusses the significance of materiality, asking whether it is the materials in a ballroom that influence the atmosphere, or the people who inhabit the room together, dancing across the floor (2009). Zumthor states, “I am convinced that a good building must be capable of absorbing the traces of human life and thus taking on a specific richness” (Zumthor, 2009). This can be seen through patina, roughness and scratches on a surface, wear and age of a brass doorknob, etc. The materials in a space, beyond aesthetics and practicality, possess a history of past, present, and future life, which contribute to this richness Zumthor describes. In *Material and Mind*, Christopher Bardt suggests that materials shape our minds, and have the ability to hold time (2019). Pallasmaa likewise suggests that materials that are natural and show patina and age deepen our experience in a place, stating, “patina and wear adds the enriching experience of time; matter exists in the continuum of time.”¹ (1996)

Time relates to materials and how they change with use and age. Pallasmaa emphasizes the power of time in architecture, and explains that it has the ability to detach us from the present, and slow down time entirely. “Buildings and cities are the instruments and museums of time. They enable us to see and understand the passing of history” (1996). David Leatherbarrow also discusses the influence of time on architecture, stating “Time does not pass in architecture, it accumulates.. If it passed, it would leave no trace--but the reverse is true. Everyone around us exhibits signs of its history, its development or deterioration. All physical things, especially bodies and buildings, offer themselves to visual experience as sedimentations of actions and behaviors” (2008). They enable us to see and understand the passing of history” (1996). David Leatherbarrow also discusses the influence of time on architecture, stating “Time does not pass in architecture, it accumulates.. If it passed, it would leave no trace--but the reverse is true. Everyone around us exhibits signs of its history, its development or deterioration. All physical things, especially bodies and buildings, offer themselves to visual experience as sedimentations of actions and behaviors” (2008).

Atmosphere is affected by space, material, and time. For Zumthor the phenomenology of atmosphere contributes to the “soul” of a place. In *Atmospheres*, Zumthor considers nine aspects in constructing an experience: the body of architecture, material compatibility, the sound of a space, the temperature of space, surrounding objects, between composure and seduction, tension between interior and exterior, levels of intimacy, and the light on things (2006). The intriguing

part about Zumthor's nine considerations is that very few of them are physical characteristics, but instead describe how a space feels to each individual. Additionally, Pallasmaa states, "Paradoxically, we grasp the atmosphere before we identify its details or understand it intellectually. In fact, we may be completely unable to say anything meaningful about the characteristics of a situation, yet have a firm image, emotive attitude, and recall of it" (2014).

Atmosphere arguably is the most significant aspect of place—emphasized by Zumthor as the key to architectural quality, because of its ability to speak to each individual and carry a natural presence (2006). It is the emotional and indescribable experience, difficult to pin down, but essential to a place. According to Pallasmaa, "The haptic qualities concealed in visual perceptions have a crucial role in the feel of the architectural design. We touch, hear, smell, and taste through vision, but unfocused peripheral perceptions seem to have a more important role in our experience of spatial qualities, situations, atmospheres, and feelings" (2019).

Occupation is the interaction, dwelling, and inhabitation of humans in a place. Occupation encompasses all of the identity characteristics discussed in Giesking's description of the facets that contribute to a person's relationship to a place--gender, race, class, sexuality, culture, etc. Occupation describes how people will use a space, and the purpose that it serves for the community in which it is located. Dana Arnold describes the relationship architecture and interiors have on experience stating, "The different groups, bringing different sets of ideas and experiences to bear on the places that they encounter, spontaneously have different experiences in their encounters (Arnold). Furthermore, Arnold points out the unanticipated shifts in cultural context designers can inflict on a place when designing in a location that serves multiple cultures and communities.

Understanding these elements of place is useful because, as noted by Moore and Bloomer, much writing and design work focuses on visual and tangible aspects. Time, atmosphere, and occupation are more nuanced and less tangible and concrete, both in written scholarship and in built form. However, as described by Pallasmaa and Zumthor, aspects of materiality, atmosphere, and time are factors of place that influence an experience far more than the columns or walls of a building.

Visual Representation

Having discussed place, along with specific elements that contribute to place, I now turn to the significance of visual representation as a means of expressing place, atmosphere, and experience. Pallasmaa frames a helpful critique, arguing, "Our current obsession with novelty and uniqueness as a sole criterion of architectural quality is detaching architecture from its mental and experiential ground and turning it into a production of fabricated visual imagery. Today's products of architectural virtuosity may amaze us, but they are usually unable to touch our soul because their expression is detached from the existential and primordial ground of human experience and it has lost its ontological ground and echo." (2011)

Essentially, Pallasmaa explains that the missing component from visual imagery today is human experience, and although an intangible component of design, it is feasible and important to consider it in the design process and the making of place. Human experience provides something genuine, something authentic. It combines the best properties of something inspired, yet handmade--something human. This basic understanding is, in my opinion, a large contributing factor to the success of designers like Peter Zumthor, Zaha Hadid, Tatiana Bilbao, and Alexander Daxbock, who consider atmosphere, experience, and place during the design process.

With an arsenal of tools at our disposal, how do designers use collage, sketching, model building, hyper-realism, and even video to convey qualities of atmosphere, experience, and place? From creating "lived in" elements, such as a coffee cup or draped blanket on a sofa, to adding familiar sounds such as rain or chirping birds from an open window, these are a few examples of how qualities can be conveyed and represented to bring an emotional response to a viewer. With the advancement of technology in the 21st century, the possibilities of representation have greatly expanded.

The literature suggests that the relationship between hand and digital methods can be seen as a fluid relationship, rather than a divide. In *Material and Mind*, Christopher Bardt discusses the relationship of hand and digital software in the car industry, explaining that the beauty of a hand sculpted model of a vehicle speaks to the "soul" and "transmission of emotion" that cannot adequately be expressed solely in digital space. He suggests that hand drawing is a fundamental aspect of perception, creating an experience that links eye and hand (2019). Likewise, an editor from *Architectural Review* points out that the beauty of hand drawn design process is the ability to convey messier qualities of a space--intangible qualities like experience and atmosphere (2020).

In comparing Renzo Piano's napkin sketch of the Shard, and Zaha Hadid's paintings to the BIM models of these projects, the significance of a hand drawn process to express intangible qualities becomes clear.

In a similar vein, Tatiana Bilbao, an architect based in Mexico, embraces collage and drawing in the design process. Bilbao's work is primarily focused on creating spaces that allow those who inhabit it to create their own story, and their own way of living. Bilbao discusses her inspiration behind collage, which stemmed from a reading by Rafael Moneo about the understanding of what a piece of architecture does to a city. Bilbao says, "Every piece of architecture comes into context as part of a collage" (Frearson, 2019). This means that a building is in a close relationship with buildings around it, and a city forms a complex collage of varying shapes, sizes, and styles. Bilbao argues that collage accepts all personalities, diversities, and complexities that are not solely her ideas. Collage allows for multiple views to be represented, and keeps any sense of permanence away from the client and design process. While not explicitly stated, the variety of viewpoints in representation for Bilbao speaks to the myriad facets of occupation and experience in place. The strength in Bilbao's process is the ability for multiple viewpoints and experiences to be represented, and provides depth to the viewer that ordinarily would not exist in a highly perfected digital image. This concept in Bilbao's practice speaks to a "lived in" and less perfected quality of visual representation. This is not to imply that her renderings are imperfect, but more that they allow for room of interpretation, flexibility, and a sense of relation to the viewer.

During a lecture at Columbia University, Bilbao discusses Ways of Life and how the use of collage allowed for this project to turn from a theoretical competition to a real home. Bilbao asked, "What will this place promote?" (Bilbao). She then created a chart of possible activities in a house and combined that with the various emotions and ways in which those activities make people feel. Bilbao further explored six of those spaces in a collage format (Figures 1-4), which she described as "Six strings of life: Connection with Neighbors -- Self -- Communicable & Collective -- Semi Individuality -- Temporariness -- Family" ("Tatiana Bilbao Estudio"). Bilbao then traced the six collages into one drawing (Figure 5), and she does this to define the shape of the house. Bilbao explains that this process explores the importance of understanding the diverse ways of living and allows people to define their house (Bilbao). This process pushed the boundaries of why Bilbao designs homes, and furthermore, the purpose each space serves, both individually and communally.

Looking briefly at Bilbao's other works, the relationship between people, communities,

and nature become recurring themes across her projects. She aims to create evocative, flexible, and meaningful spaces that allow humans to connect to their emotions, activities, and bodies. "Everything starts with our body in design" states Bilbao (Bilbao). Bilbao leverages this understanding, and the use of collage strengthens those relationships.

Architect and illustrator Alexander Daxbock also focuses his works on exploring different visual methods, and how to represent time, emotion, and atmosphere in his design process. But unlike Tatiana Bilbao, who banned renderings from her studio, Daxbock embraces advanced technology, and combines it with other modes of representation to establish a dialogue for the viewer that expresses senses beyond the visual, and allows them to fill in the gaps of the unseen (Baldwin). This counterpoint is important as it indicates that it is not the medium or technique that leads to representing the intangible qualities of place. So, how does one design the unseen? How can visual representation express these intangible components of atmosphere, emotion, time and experience?

These questions hint at what this thesis is attempting to answer. How can designers use aspects of collage, sketching, model building, hyper-realism, and even video to convey intangible qualities of place? My goal is to explore the design elements that contribute to emotional and atmospheric experiences of place, and visualization methods that explore and represent these qualities in the design process.



Fig 1. Ways of Life. House in Lake Edersee, Germany. Tatiana Bilbao ESTUDIO.



Fig 2 Ways of Life. House in Lake Edersee, Germany. Tatiana Bilbao ESTUDIO.



Fig 4 Ways of Life. House in Lake Edersee, Germany. Tatiana Bilbao ESTUDIO.



Fig 3 Ways of Life. House in Lake Edersee, Germany. Tatiana Bilbao ESTUDIO.



Fig 5 Ways of Life. House in Lake Edersee, Germany. Tatiana Bilbao ESTUDIO.

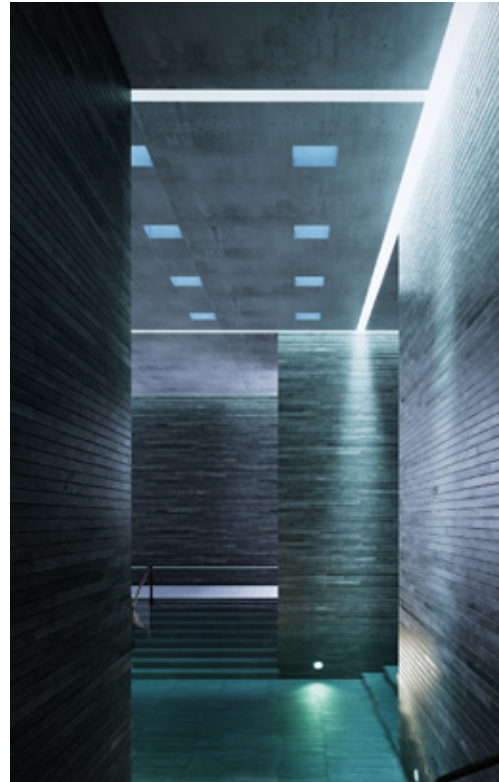
O2 Design Agenda

Precedents

Design Probe 1: Scale

Design Probe 2: Materials

Design Probe 3: Experience



Peter Zumthor's Therme Vals



Peter's House // Studio David Thulstrup



NOMA 2.0 // Bjarke Ingles Group



Mazatlan Aquarium // Tatiana Bilbao

precedents

Without an identified program, it was important to look at a variety of different types of spaces that represent aspects of place in the built environment in order to gain a better understanding of how these elements can be used in a variety of settings.

First is Peter Zumthor's Therme Vals. Built over the only thermal springs in the Graubunden Canton in Switzerland, The Therme Vals is a hotel and spa in one which combines a complete sensory experience. The use of materiality, texture, tones, and natural light contributes to the atmosphere of the space. The building is very intertwined with the natural environment, and this setting clearly exudes a calming and serene feeling in a hospitality setting.

Second is a residence called Peter's House by Studio David Thulstrup. Situated in the Islands Brygge harbour-side district of Copenhagen, this home salvages and embraces brick and steel from the garage on the original site. The use of dark reflective mirrors in the atrium, natural and textural materials, and plants create a space that appeals to a multitude of senses.

Third is Noma 2.0 by Bjarke Ingles Group. This is a great example of place and experience in a restaurant setting. Based on the traditional nordic farm typology of the saeder, it echoes the historical significance of architecture in the area. The use of all local materials for furniture, and commissions by local artisans, the place inside and out speaks to the area. The menu changes seasonally depending on the local game and produce grown on site. The use of skylights allow guests to embrace the seasons and weather, which further reiterates the buildings connection to the surrounding environment.

Lastly, the Mazatlan Aquarium by Tatiana Bilbao was studied to illustrate the strength of a unique representation method in the process of design. Bilbao's greatest challenge with the aquarium was trying to adequately represent what happens in the gulf. This project included a variety of rendering methods, collage floor plans, and diagrams to visualize her intent. Her renderings reiterate a playful and vibrant experience surrounded by nature.

design probes

The design probes were a starting point to better understand the topic, and identify potential design approaches. This was a way to explore further areas of study, to document our findings, and use this information for our future work.



design probe 1 - scale

I modified a photograph from a trip, and drew over top of it in a collage style. This represents the scale of my exploration of different representation styles



design probe 2 - materials

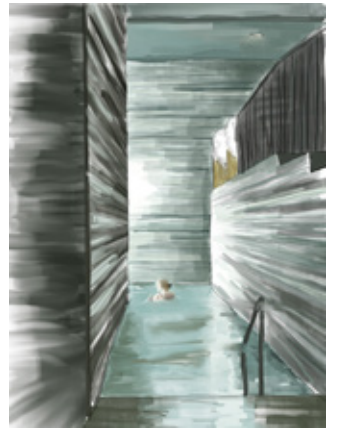
Different materials were altered and experimented with qualities such as layering, transparency, light, shadow, rigid, soft, texture, and patina.



"My grandmothers house shaped my childhood. I always think of fall leaves, apple picking, and her orange shag carpet"

design probe 3 - experience

A friend described a memorable place from her childhood. She spoke about her grandmothers house in Maine, and described several things she remembered, such as sight, smell, memories, etc.



Sketches

Throughout this thesis, it was important to develop and explore different qualities that contribute to the perception of space, place, and experience in relationship to the program. This includes tangible qualities like light, shadow, depth, scale, and materiality, and intangible aspects like moods, comfort, feelings, and memories attributed to the place.



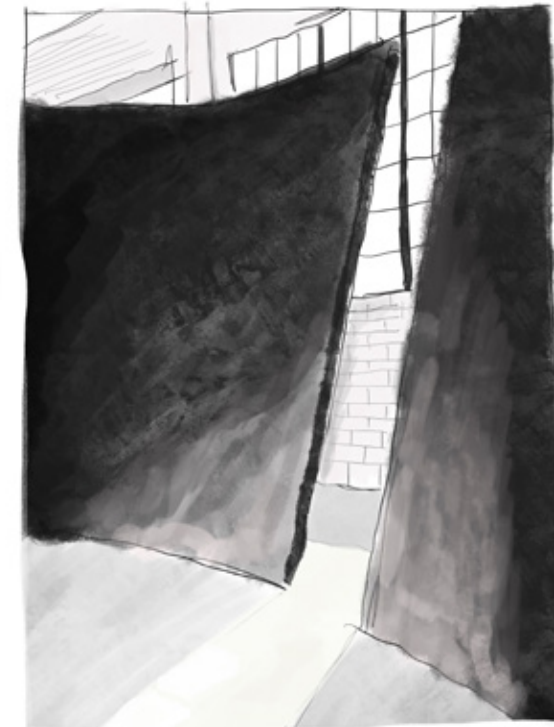
shadow - darkness - materiality - familiarity
source unknown



depth - reflection - warmth - color
Source: Laretta Viniarelli



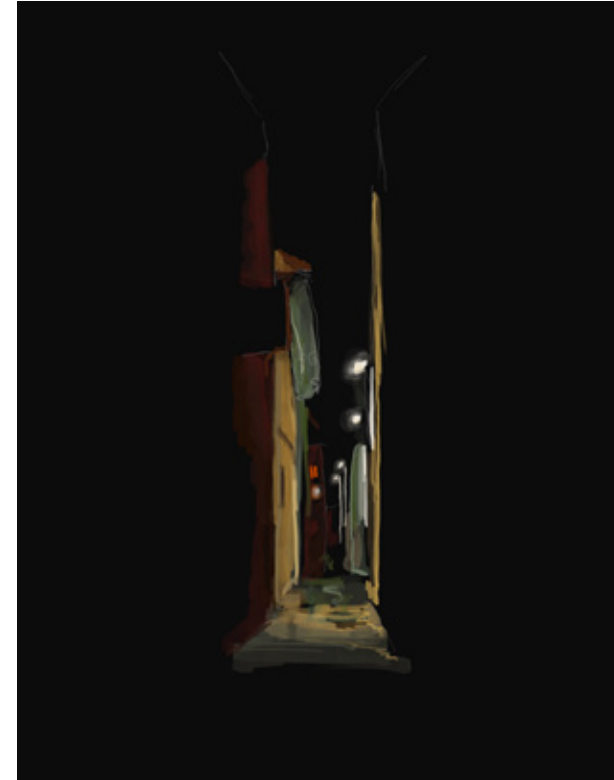
texture - contrast - collage
magazines, paint, and fabric



scale - lighting - greyscale
Source: Richard Serra - Under the Influence



darkness - contrast - light - familiarity - alone
Drawing Reference: Bill Brandt, 1937, London



darkness - contrast - depth - reflection - familiarity
Source Unknown

03

program

The Opioid Epidemic
Program & Background Research
Patient, Staff, and Family Schedules

Yeah, this is better than HBO, Cinemax, Showtime, everything combined. You don't need no cable, you don't have to watch TV. You just gotta sit out here. You see drama, you see soap opera, you see violence, crime. "

Excerpt from an interview by Jeffrey Stockbridge with Robert (2nd from the right)



Photos by Jeffrey Stockbridge

the “why”

The opioid epidemic has affected the United States at devastating rates over the past 20 years. In 2019, an estimated 10.1 million people aged 12 and older misused opioids in the past year. Specifically, 9.7 million people misused prescription pain relievers and 745,000 people used heroin (U.S Department Of Health and Human Services). Despite the large number of those with an addiction, only 11% of those with an addiction receive treatment in the United States (Partnership to End Addiction).

Being from Philadelphia, which is ranked 5th in the United States for drug-related activity, is what inspired the program of choice. 1,150 drug overdose deaths occurred in Philadelphia in 2019, with the highest number of deaths occurring in Kensington, Philadelphia. Additionally, three out of 10 Philadelphia Residents personally know someone who has died of opioid use. (Philadelphia Department of Public Health).

the “how”

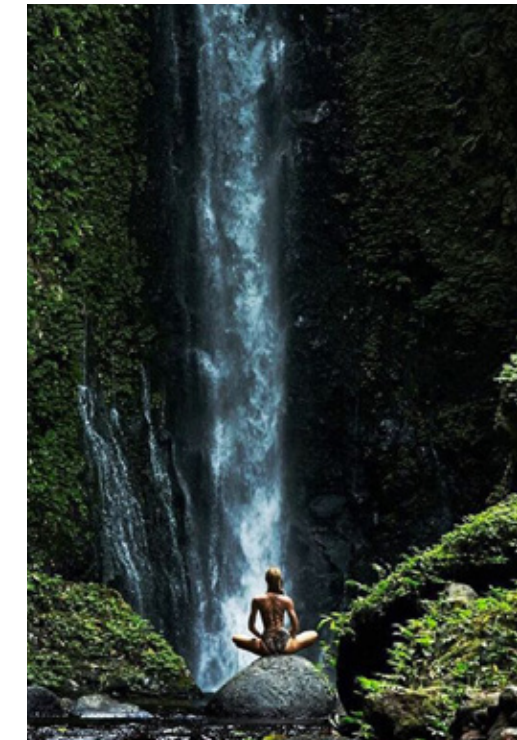
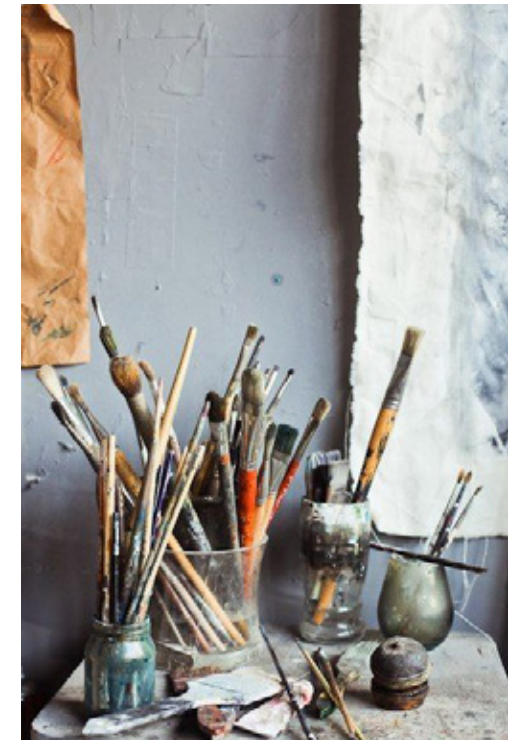
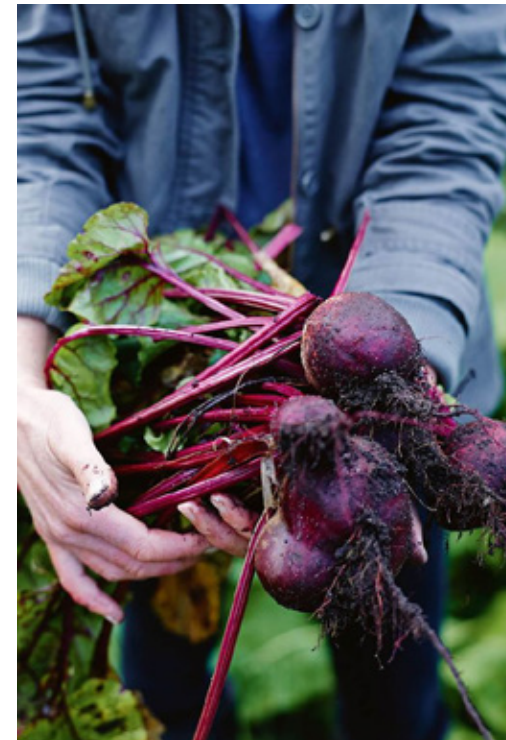
An inpatient residential rehabilitation center for those recovering from substance abuse disorders.

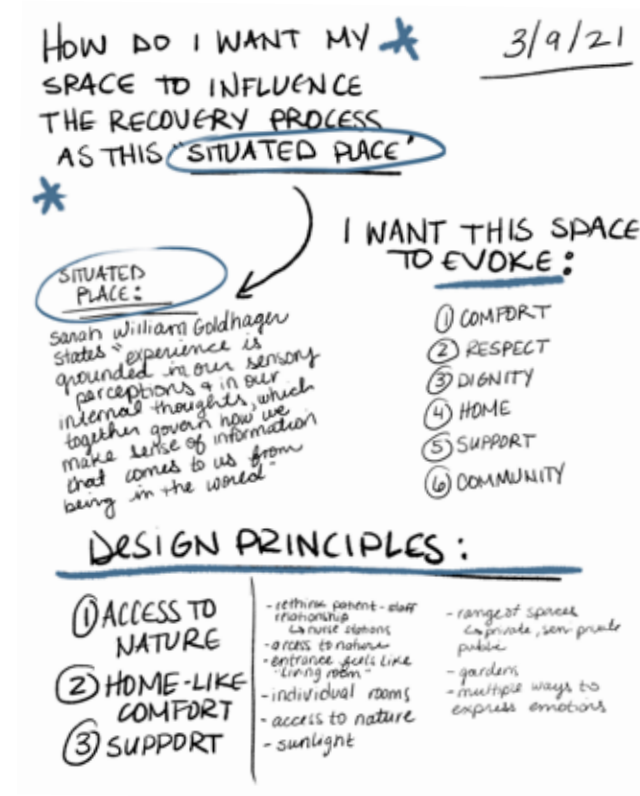
While all rehab centers incorporate traditional therapy methods, such as talk therapy and Cognitive Behavioral Therapy, research shows that **personal satisfaction during rehab is a strong motivator to remain in treatment and complete the program.**

This is a key component to maintain long-term recovery.

In addition, the use of these alternative therapies can help people feel **more at ease, more productive** in treatment response, and **better able to cope with challenges** both in detox and rehab.

Alternative therapies include art therapy, horticulture therapy, meditation, and equine therapy.





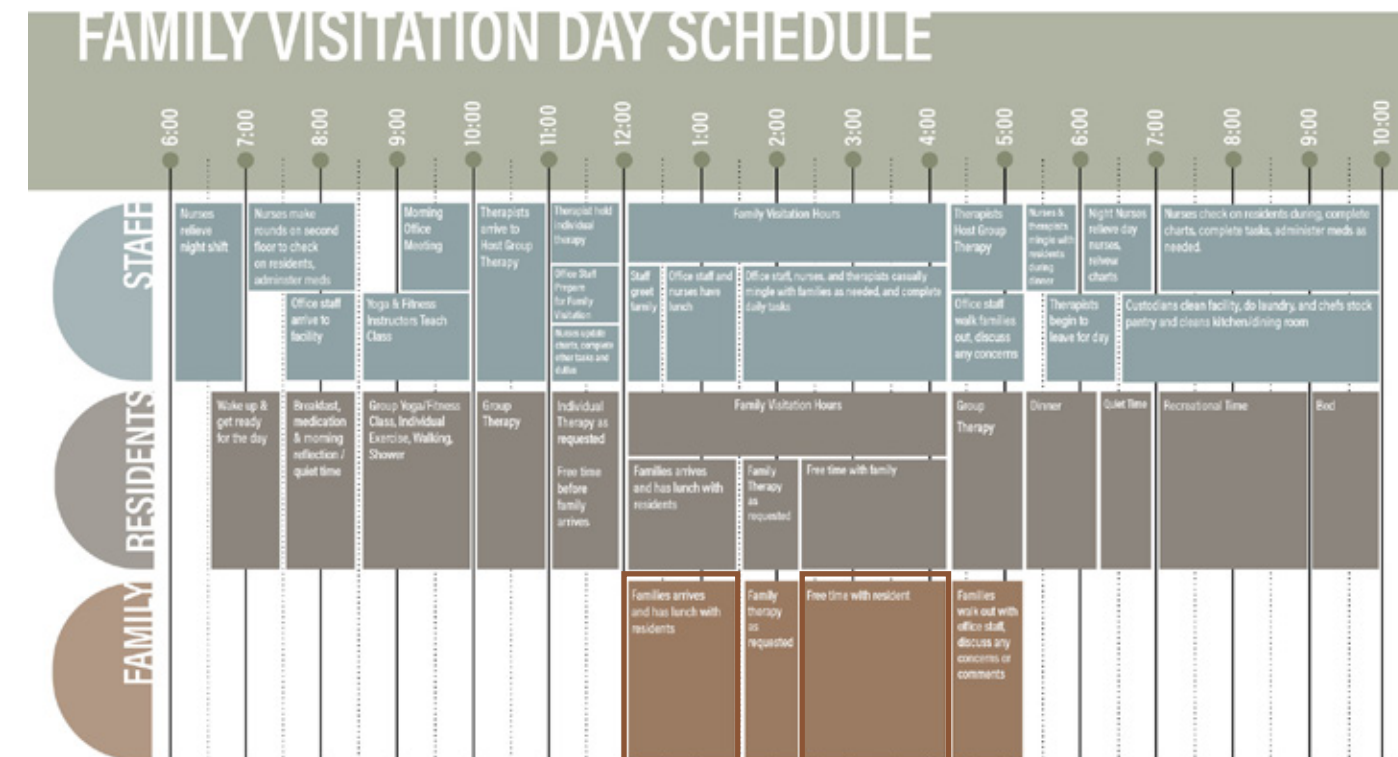
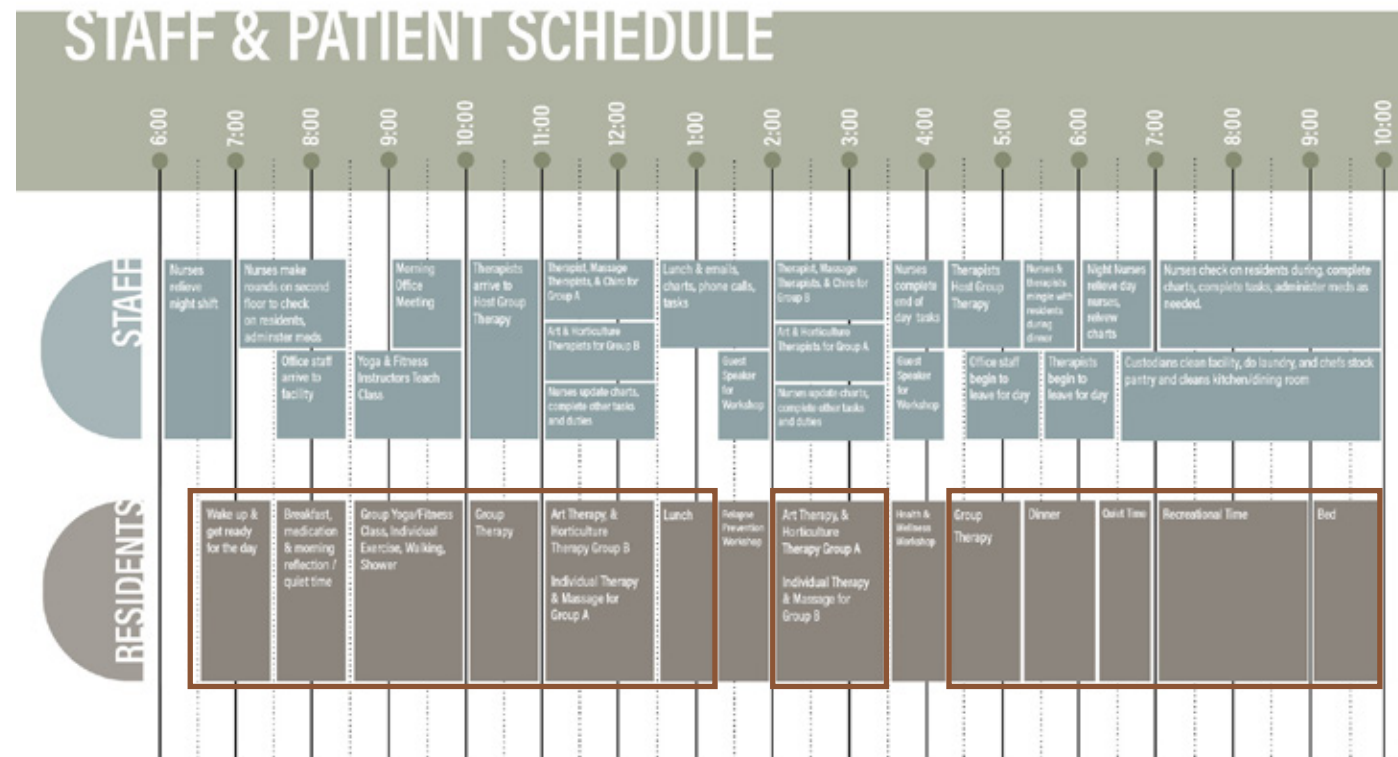
the questions

Once identifying the reasoning for the program, and how inpatient rehabilitation centers can benefit the healing process, questions started to form about how I wanted this space to influence the recovery process. There are various conditions this space needed to evoke, such as feeling comforting, providing a respectful environment to those in recovery, treating residents with dignity, making a space that feels like a home, creating a supportive environment, and establishing a community.

How could this be done from a design standpoint? From rethinking the patient to staff relationships, the style of a nurses station, and providing access to nature and sunlight, etc., these concepts flourished into an assiduously designed space to influence a residence recovery process.

the schedules

An important step in the design process was developing a schedule for both staff and residents on a normal day, and a staff, residents, and family schedule on visitation days. This was a useful process to understand the relationship the staff has to the residents, and also helped identify the key spaces that are used most frequently, so commonly used, essential spaces were shown appropriately in the final design.





04

Site

- Site Context and Background Information
- Site Documentation
- Site Analysis Diagrams
- Design Principles
- Existing Conditions
- Master List of Spaces
- Bubble Diagram of functions and adjacencies

the site

Located at 7111 Sheaff Lane, Fort Washington, PA is a 36,000sf mansion that was designed by Rafael Vinoly, the designer of the Kimmel Center. Situated on 50 acres of land, this location was ideal for a rehabilitation center because of its close proximity to Philadelphia. Whether by bus, train, or from the Philadelphia International Airport the location is very convenient for travel. Additional site requirements included plenty of green space, a close connection to nature, abundance of natural light, and a courtyard.

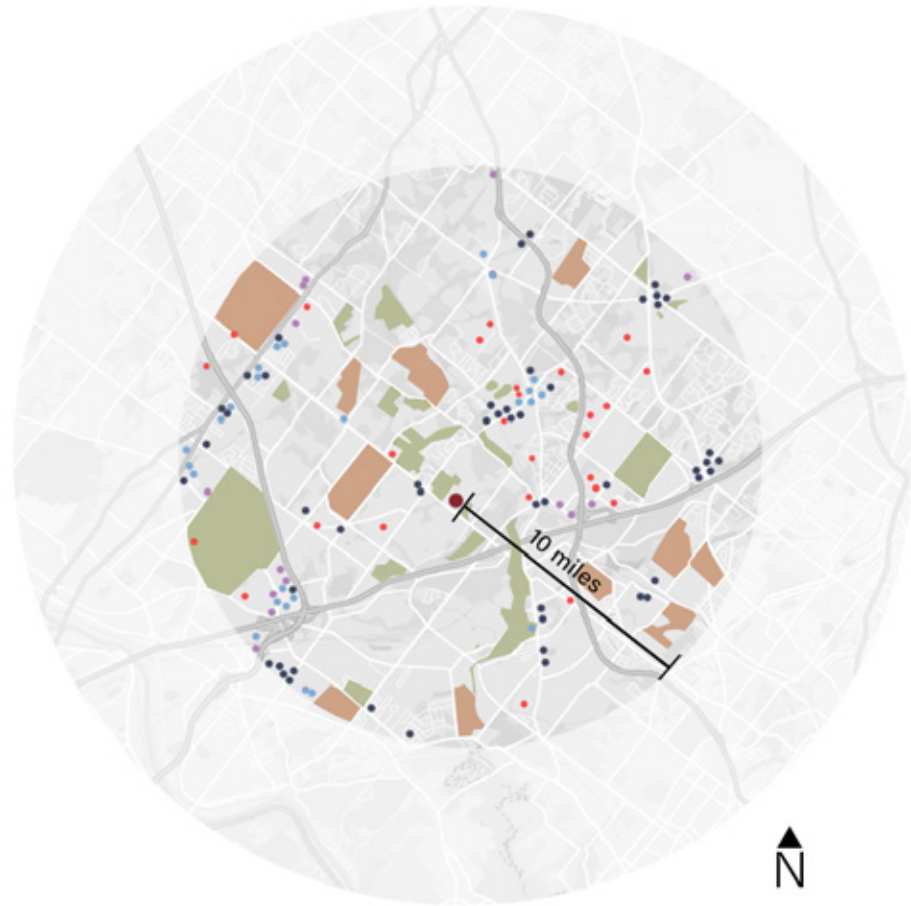
After locating a site I analyzed transportation, amenities, and other inpatient rehab centers within a ten mile radius.



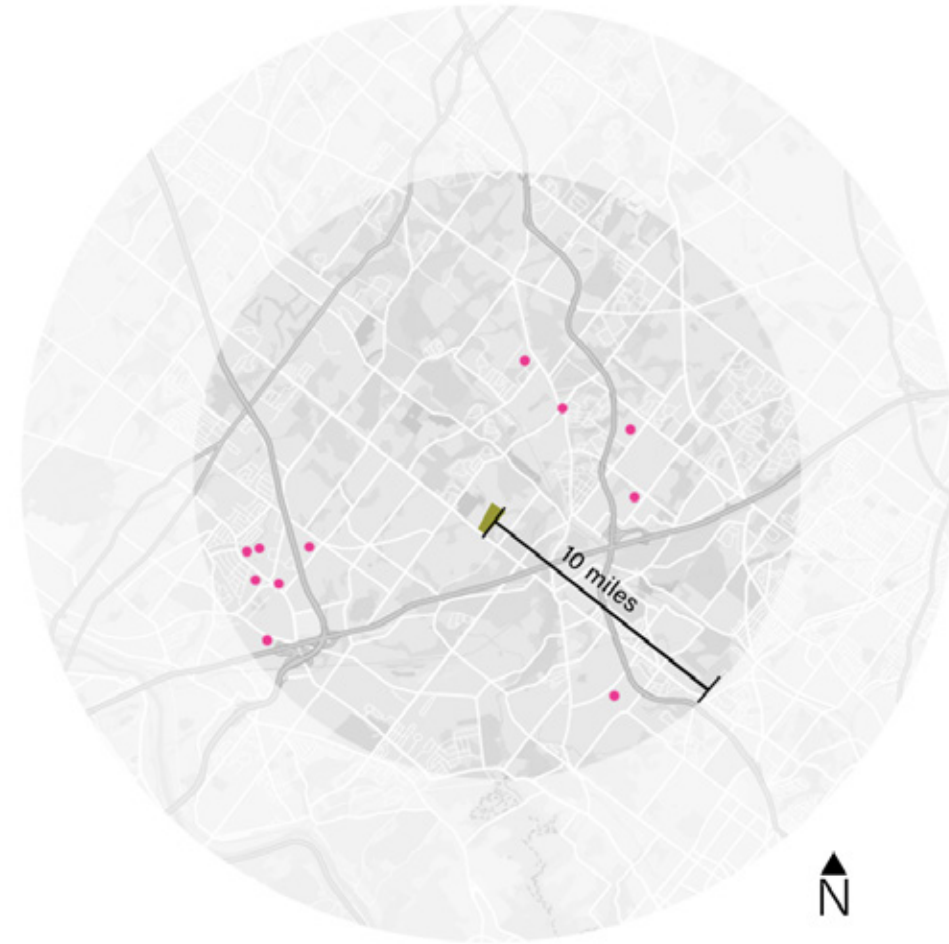
transportation

- CAR ROUTE FROM CENTER CITY
- TRAIN ROUTE FROM 30TH STREET STATION





- amenities**
- SITE
 - COUNTRY CLUBS
 - PARKS & TRAILS
 - HOTELS
 - SCHOOLS
 - RETAIL
 - FOOD



- surrounding inpatient rehabs**
- SITE
 - IN-PATIENT REHAB WITHIN 10 MILES

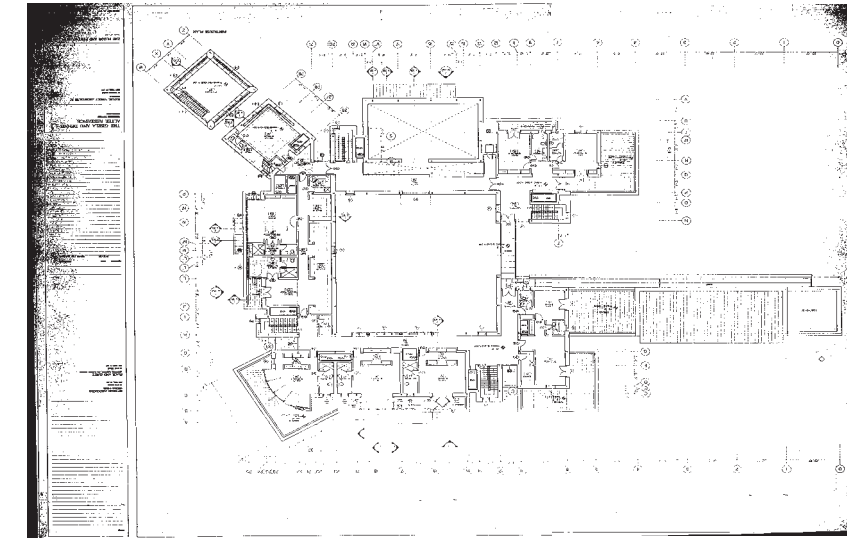
existing conditions

Existing photographs of the site show the beauty of this mansion, and how much natural light, green space, and unique architectural and interior elements this space encompassed.

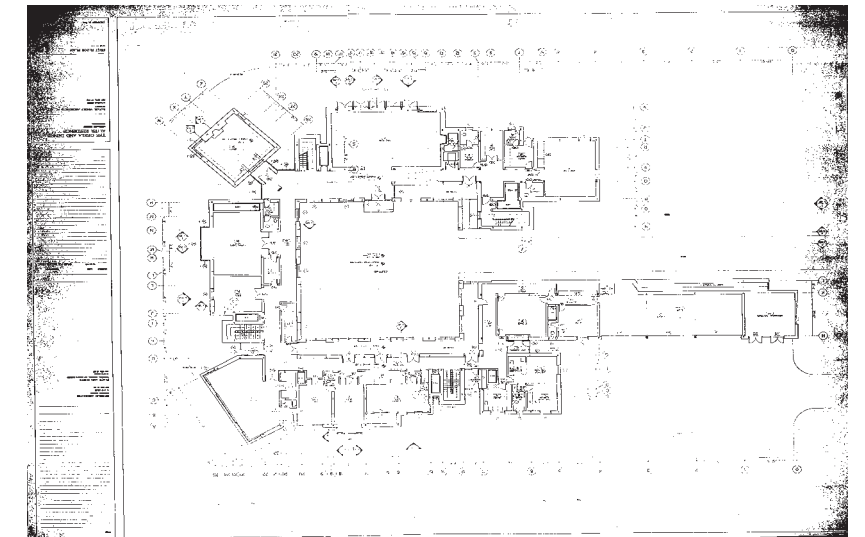
Images 2 and 7 feature the exterior entrance into the courtyard and the ramp that provided access from the first floor to the bridge over the courtyard (images 8 & 11)



Existing Site + Interior Photographs



Original Floor Plan Level 2



Original Floor Plan Level 1

Design Principles

1 Access to Nature

The first principle is Access to Nature. It has been known for centuries that human connection to nature can have positive impacts for individuals. Natural daylight and access to nature can lead to decreased levels of stress, normalize sleep schedules, lower patient recovery time, and increase treatment success. This will be implemented by incorporating gardens, courtyards, planters, larger windows, exterior gardens and walking paths, natural ventilation, and water elements. Interior finishes will include natural, sustainable, and tactile materials, and soft lighting.

2 Home-like Comfort

The second is hospitality-like comfort. The goal of this facility is to make it feel as least institutional as possible. This includes everything from rethinking the nurses stations, to making a patient entrance feel like a living room. Patients are given their own individual room where they can create a home environment. Simple customization options are available for patients, and amenities will be provided like wifi, tv, music, and video games. Additionally, treating patients with respect, dignity, and empathy is a key factor amongst staff to encourage a welcoming environment. Interior aspects such as paint colors, furniture finishes and selections, and artwork are considered as well. In order to create the most seamless way-finding and accessibility for patients, there will be a clear separation between back-of-house spaces and patient areas. This minimizes distractions and aids in easier way-finding for patients.

3 Supportive Community

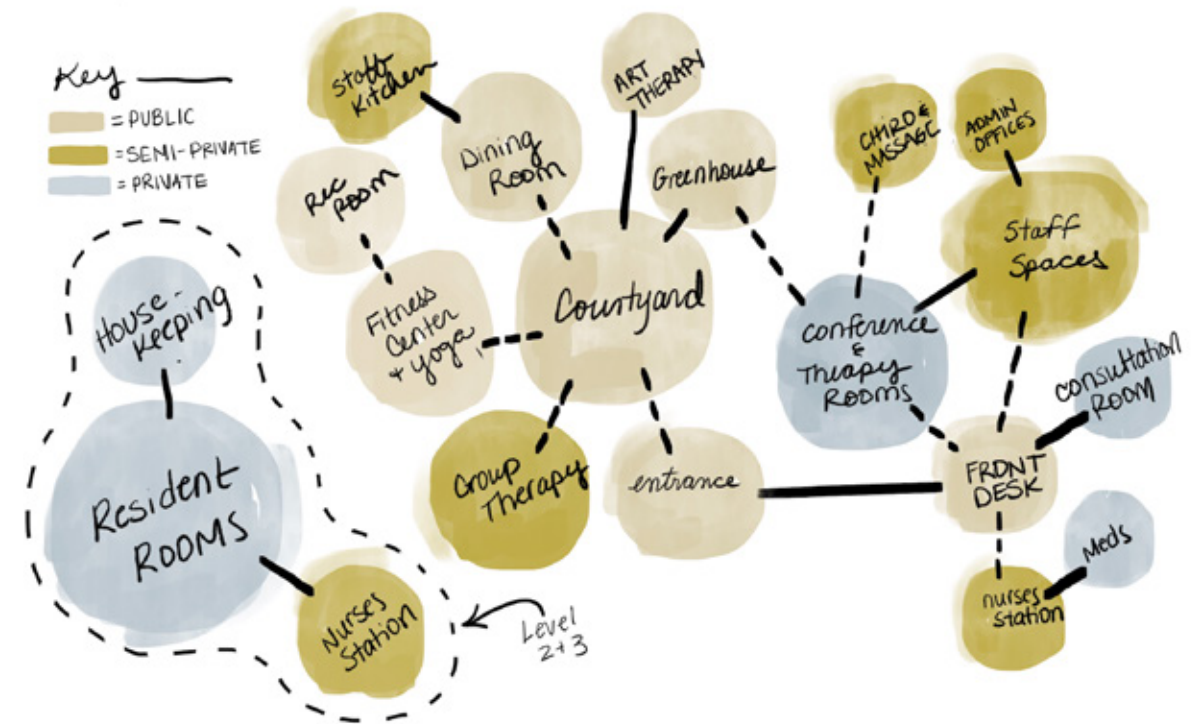
The third is creating an encouraging community. This will be done by providing a wide range of spaces--public, private, semi-private, large group, small group, family spaces, etc. Providing a multitude of ways to express emotions like art therapy and gardening have proven beneficial as well, and are insightful during individual therapy sessions. There will be areas of respite to encourage group-healing like lounges, recreation rooms, outdoor spaces, and dining spaces.





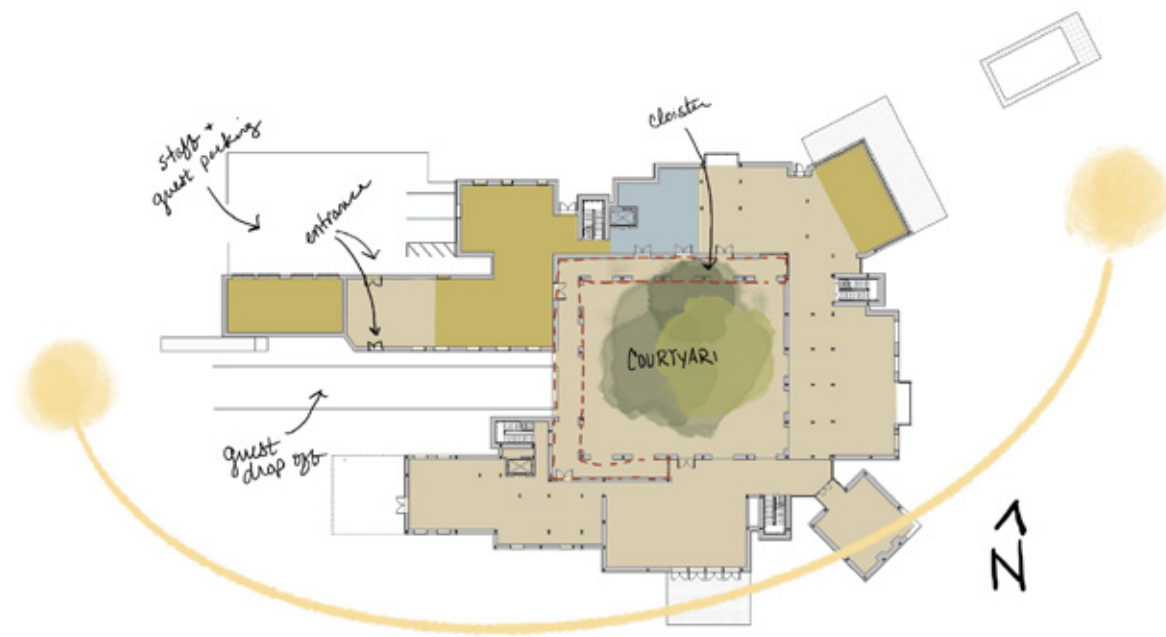
program

In order to gain a better understanding of spaces required, I broke down each place needed into different categories--staff spaces, resident spaces, amenity spaces for residents, and support spaces for both staff and residents. I included miscellaneous spaces such as horse stables and the outdoor pool because these spaces are on the property, but not directly associated with the main house's square footage.



bubble diagram

Once determining the spaces required, I made a diagram that broke these spaces into three categories--public spaces, semi-private, and private. Adjacencies were that were necessary are a solid line, and preferred adjacency is dashed. There is a clear centralization of the courtyard, which is one of the most significant spaces in this facility.



Initial Program-In-Site

the process

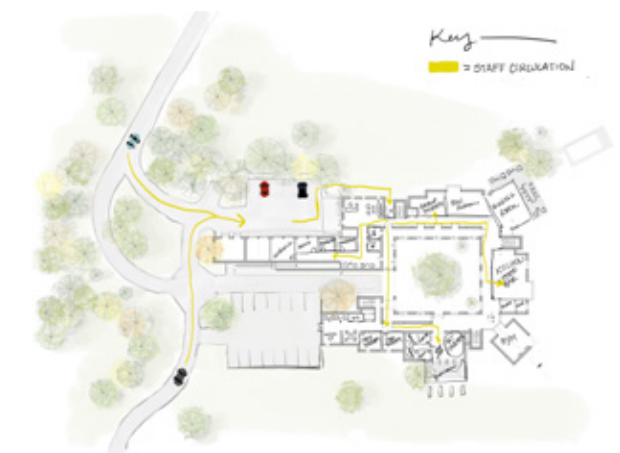
Once program and bubble diagrams were finalized, next was putting the program into the site, and process blocking diagrams. The site-in-program was a starting point as to where private, semi-private, and public spaces should be located. Key decisions included location of entrances, the sun path, and how to carefully plan circulation between staff, patients, and visitors. This includes limiting distractions for residents from back of house spaces, and allowing visitors to only access specific areas on visitation day for safety and privacy.



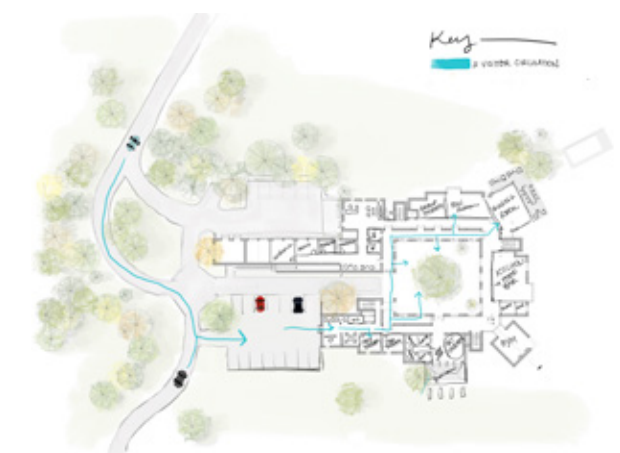
Initial Blocking Diagram with Site



Patient Circulation Diagram



Staff Circulation Diagram

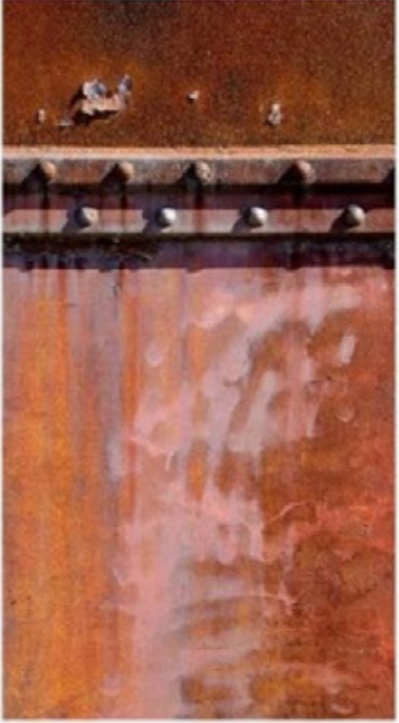


Visitor Circulation

Softness



Patina



Detail



Weathered



Seamless



Cold



Texture



Reflection



05

Final Design

Site Plan
Floor Plans
Sections
Renderings

site plan

The site plan shows the separation of staff/patient entrance, and the family entrance. These entrances were separated because oftentimes families drop patients off at rehab, and returning to that entrance could be emotional or triggering for either the patient or family members. This separate entrance for family

patient & staff
entrance

family
entrance

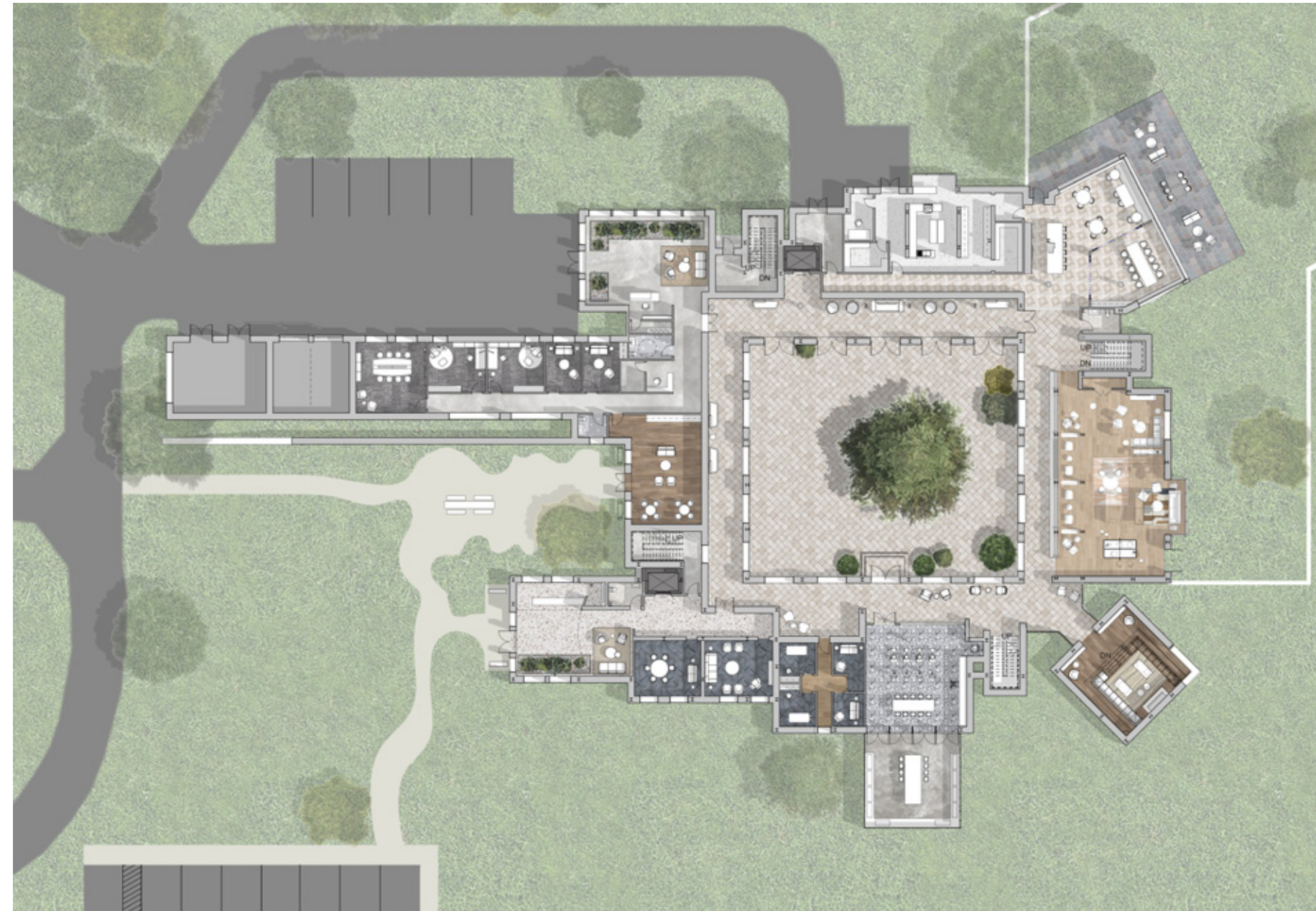


50 FT

floor plan level 1

Taking a closer look at the first floor plan, we can further discuss the separation of spaces. On the NW corner of the floor plan is the patient and staff entrance as previously mentioned. All staff spaces, consultation rooms, a nurses station, secured medication, and break rooms are located here. The break room has access to the forecourt, which provides a connection to nature for staff to enjoy during the day. The reception will feel like a living room--comforting, calming, and familiar. The idea is to keep this facility as least institutional as possible. Everything from altering the concept of the nurses station, to the type of reception desk has all been thought out. The commercial kitchen is at the north side of the building for ease of access to deliveries. Other staff areas remain together, and access to the commercial kitchen, delivery bay, and basement elevator are through a separate hallway to aid in easier way finding and less distractions for residents. A few other features on the first floor include a dining room with a formal dining area that can be kept open, or closed off with sliding partitions for special gatherings. The dining room also has a residents cafe kitchen for quick grab-and-go snacks, drinks, and fruit. The large rec room in the middle of the east side includes a large bookshelf along the corridor, various seating options, and games. Group therapy takes place in the room on a diagonal on the south east corner. A sunken living room creates a comfortable environment where patients will spend a significant amount of their time, further emphasizing the feeling of home. On the south end there is the art studio/greenhouse which features pottery, easels, and therapeutic horticulture activities. Finally, separate from the art studio are therapy rooms for physical therapy, massage, and individual counseling.

The visitor entrance on the south west side features double height ceiling on the south wall, and a balcony above that overlooks the living room from the second floor. This space features a large art piece by Claudy Jongstra made out of wool. Also, the visitor wing is directly connected to two family therapy rooms, and is close to the display in front of the art studio to showcase residents work in both art therapy and free time while at the facility.



list of spaces

courtyard, patient entrance, reception, coat storage, 1 ADA restroom, 1 restroom, nurses station, secured medical closet, 2 patient intake rooms, 2 private offices, 1 conference room, 1 staff lounge, 4 staircases, 2 elevators, delivery bay, kitchen walk-in freezer, kitchen manager's office, commercial kitchen, pantry, dining room, outdoor patio, pool, recreational room, group therapy room, art studio, greenhouse, 2 massage therapy rooms, family entrance, reception, coat storage, ADA restroom, 2 family therapy rooms

floor plan level 2

This is the second floor. All residents have their own rooms which contain a desk, a queen size bed, and a television. Patient rooms are at the outside perimeter so the pathway along the courtyard remains unobstructed. All doors to patient rooms are intentionally not placed directly on the corridor in order to provide an additional feeling of security and privacy. Also, beds are not directly visible upon entry into each suite. Again, this gives people another layer of privacy, and does not make them feel exposed.



list of spaces

15 private rooms, 2 open living rooms, gym, locker storage, 1 public restroom, 1 staff lounge, outdoor patio, 2 nurses stations



Section a-a

This section cuts laterally through the greenhouse, art studio, courtyard, and dining room on the first floor. On the second floor it cuts through two patient rooms, and the corridor. The enlarged portion below the entire section was a way to experiment how to represent movement through this space. This shows a sequence of a person sitting in the courtyard, then walking into the enclosed patio and sitting in the hanging chair. Then they walk through the double doors and through the dining room to go out to the back patio to sit.

Both sections illustrate a hybrid and collage method.



section b-b

This section cuts longitudinally through the family entrance which shows the balcony, double height windows, and slanted skylights. It then moves on the corridor leading into the family therapy spaces. Next, you see the art studio featuring the display case, and beside that is a staircase and the seating area outside of group therapy. The 3-story tower on the left has group therapy on the first floor, a gym on the second floor, and a yoga/meditation room on the third floor. From right to left on the second floor, it starts with the balcony, then moves on to a patient suite. Following that is the hallway featuring the custom bookcase/seating area. This was designed for this space because as previously stated, I wanted to make sure all patient suite entrances were placed off of the corridor for a layer of privacy. The bookcase features three built in benches situated between bookshelves, and have wood wall slats behind the benches both for natural light to fill the hallway behind, and also allows for semi-private moments. Beside that is a nurses station, and the entrance to the gym.

The next section of perspectives is in order of the resident schedule previously shown. The starting point is from intake, which happens when a patient first arrives to the facility. Following that is the day to day schedule of a patient in recovery.

exploration

There are several different ways to represent spaces--entourage versus no entourage, lighting, time of day, rendering styles, elements that illustrate use of a space, and so on. Below are four ways in which visual representation was explored through this thesis. Hand drawn and hybrid renderings allow an opportunity for the viewer to make connections to what is shown, while also having some room to "fill in the blanks". It is not too detailed, which is highly beneficial. It allows the viewer to engage with, rather than react to, place. Engagement allows someone to look at a space, and draw their own conclusions and connections about what the space represents, how it feels, and how it could be used. Reacting, instead of engaging, has been found to be distracting to a client/viewer, from the point of the rendering in the first place, and they get caught up in the small details. Throughout the next section you will see these varying types of rendering styles.



Hand Drawn



Hybrid



Realistic



Realistic

arrival

This is the forecourt in front of the building. This is what a family and patient will see when arriving to the facility. This space can be used during family visitation hours, and staff breaks.



intake

The patient intake and reception entrance was designed with comfort and calmness in mind. The use of a living room layout for seating, lush green plantings, and plenty of indoor light contribute to a welcoming and serene first impression for patients



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wake up

Starting at the beginning of the day is a resident's wake up time. They have one hour to wake up, journal, sit by the window, or get ready for breakfast. This view includes components called "life elements", such as the sneakers on the floor, a book on the bed, and a jacket draped over the chair. You will notice this in several views.



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breakfast

From 7:30 - 8:30 is breakfast, and this view is taking place in the dining room. Shown is a Nanawall, a set of glass sliding walls that separates an area for family/group dining, and small events. To the right is the resident kitchen.



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free time

From 7:30-8:30, residents can eat breakfast and then enjoy some free time before the next activity.

This view showcases the lengthy bookcase, and the built-in window seats. From group activities like ping-pong, board games, and video games, to individual activities like reading a book in the window or in an Eames chair, this space was intended to offer options to all personalities and preferences



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exercise

Group exercise and yoga is 8:30-10:00. During this time, a resident can exercise in the courtyard, the second floor gym, make laps around the corridor, or do a different productive activity. You will see several renderings of this courtyard because this space was considered one of the most significant areas in this facility. It is centrally located, allows residents with access to the outdoors, and provides views from the second floor.



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group therapy

Next on the schedule is group therapy from 10:00-11:00. This space was designed as a sunken living room to exude a cozy, comforting space that feels like a living room you could find in a home. This space serves as group therapy most days, but can be used during free time, quiet time, and guest speakers for workshops.



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art & horticulture therapy

Next is alternative therapy from 11:00-12:30, and 2:00-3:30. During this time half of the residents have art therapy, and the other half has one-on-one therapy. This switches in the afternoon session from 2:30-3:30 for the other half



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lunch

Shown here is lunch in the courtyard, This further illustrates variety and options residents have for several activities.



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group therapy

After lunch is another session of art and horticulture therapy, and also 2 45 minutes workshops with experts about topics ranging from relapse prevention to health and wellness. After those activities is evening group therapy from 4:15-5:15 shown here. Again, this shows the flexibility of the space, and allows for a different place group therapy can be held. Because there are two sessions a day, it is beneficial to change up the place of group therapy



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group therapy

Here is another viewpoint for group therapy. This view is situated as if it were from one of the residents sitting in their chair.

This could allow for a viewer to put themselves into this space, instead of overlooking the scene in the previous slide.



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dinner

Here we see dinner on the outdoor patio from 5:15-6:15. This patio is directly off of the indoor dining room, which allows for options and variety for residents.



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quiet time

This second floor corridor features the custom bookshelf and built-in bench seating. This was designed specifically for this area because this corridor is wider than the 3 other sides. All resident suites were designed to be recessed off of the corridor. This allows for patients to walk behind the bookshelf to access the 3 suites. The corridor on all sides were designed to be clear in order for patients to walk laps in the morning, and for ease of way finding.



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recreational time

The last view of a residents day-to-day schedule is in the courtyard during evening recreational time from 7:00-9:00. You can see the patio with its doors open, and the hanging chairs and plants that fill this space. Additionally, you can see the views of the second and first floor corridors; reinforcing connections from the interior to the exterior.



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family visitation day arrival

The next three views are what a family visitation day would look like. The family entrance features a wool art piece by Claudy Jongstra, double height windows, and a balcony accessible from the second floor. This was the only double height space in the facility, and this space resembles hope and a new beginning for families visiting their resident. The addition of the skylight draws one's eye upward, which has been said to subconsciously promote optimism for individuals.



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visitation day free time

The last view of this presentation is the outdoor patio from the opposite side. This features the existing pool and pergola. There are many varieties of seating, and this space offers many activities like swimming, outdoor exercise, outdoor group dining, and other outdoor activities.



06 Appendix

Expert Interview
Case Study

Interview

Interview with Pat Crilley
Vice President of Operations
Daylight Recovery Center
West Palm Beach, FL



Q. What is your role at your facility?

- a. My title is vice president of operations of an organization that owns 4 different facilities with all different levels of care. Everything from detox to outpatient services across three states. My job is operational in nature.

Q. What is the main goal/purpose of your facility?

- a. Provide compassionate realistic safe care to people fresh off the streets from substance use. The detox and residential services are the first step in the journey. It's our unique responsibility to introduce people to what a life in recovery looks like. We don't do too many clinical services because the brain isn't ready to digest the information yet. Safe, confident, comfortable, realistic care.

Q. Who are the types of people that come to your facility?

- a. We are licensed for adults 18+ primary diagnosis - substance use disorder

Q. What are the different departments in your facility?

- a. Behavioral health tech staff, nursing staff, kitchen and food service, medical staff(nurse prac, doctors), Administration, admissions, and billing.

Q. How many people work at your facility?

- a. 47 employees: The ratio in of patient to nurses differs from state to state

Q. What activities take place at this facility?

- a. yoga, team building exercises, beach trips, and casual activities. Art therapy, religious services, recreation, weight lifting equipment, massage and chiro. Programming schedule is relatively light, but not every second of every day is occupied by something to allow patients flexibility. We have electronics and ping pong tables. We have music therapy, etc. Some are optional and some are not. Group therapy is required.

Q. Is there any special equipment you have at your facility you find essential?

- a. We have a biosound bed at our WV location

Q. What is the square footage of your facility?

- a. Just shy 13,000. Number of licensed beds is 30. Average length of stay is between 2-4 weeks. It depends where people are coming from in their recovery. We have 1, 2, and 3 bedroom layouts. All of the food is done from a commercial kitchen. They prepare all of the food because that's the requirement for these two levels of care.

Q. How does the design of your facility differ from other places? How is it the same?

- a. It's more similar in nature than different. It's strategically done like this from a regulatory and compliance standpoint. A lot of things need to be the same. Our layout is cool though. All rooms are down one corridor, and it was done on purpose for safety to watch and observe patients. The kitchen area is unique as well. We have soft serve machines and lots of snacks are available. There is a small sitting area with a playstation and tv, and a cool outdoor area that is enclosed with bamboo. There is one other room that's multi-purpose. About 1000sf. We have a fish tank and a tv with groups for yoga, activities, old school arcade games, and gym equipment. It's great to offer flexibility and variety.

Q. Are there any safety/security issues?

- a. Safety is always top priority. We don't want it to be really easy for people to harm themselves. An alarm system is required in Florida for fire safety and a camera system. All of the doors are automatically locked with a key fob system.

Q. If money was unlimited, what would you add to your facility?

- a. Yeah! If money wasn't a thing in pennsylvania I would want a pool. In florida I would want more outdoor areas less--a yard and a robust outdoor area. In WV I would want newer technology and an upgrade in general.

Q. Do you work with patients first hand?

- a. Absolutely, I really enjoy it. I have the freedom to close the door to my office, but I'm in recovery myself and I was in the same spot, so I like to work with patients. I've been clean for awhile, went to school, and followed instructions. I like that I can put personal responsibility on that.

Q. What does recovery look like for most patients?

- a. It feels extremely uncomfortable starting recovery. I was extremely confused. It could have been a room that was a square, and I still would have felt lost and confused. Gradually, things became better. Things that were beneficial have nothing to do with the layout of a space, but more so the metaphysical. The connection to another person, and anything that contributed to that made me feel more comfortable. When I felt like I wasn't alone I could better connect with where I was. There was nothing dramatic in rehab. Some of the group stuff may have been dramatic, but that was the time and place for it. Outside of that, there was nothing over the top, threatening, obtuse. Everything was comfortable and mild. There was always an effort for things to be warm, inviting, and comforting. Working through the abnormality that I felt after not using drugs was insane. I didn't know what comfort or safety or security looked like. Everything is bright, but nothing smacks you in the face. You want a place to feel as non-institutional as possible. Every opportunity to make a person feel like they aren't in rehab is what we need. On Fridays I go get donuts for everyone and bring them to the facility, because in that moment people feel like they aren't in rehab, and people aren't confined. I find it more difficult when things are institutional. My personal philosophy is : make people feel like they are not in an institution because they'll be better equipped to deal with their sh*t in a place that doesn't make them feel crazy. Feel like a home and not a rehab. New friends. New experiences. You'll have the best outcome.

Q. Anything else you want to add about recovering from addiction?

- a. Recovery is absolutely awful. I hated myself and everyone around me. But I followed instructions, and took advantage of things. It was relatively quick, but it's an awful and uncomfortable place to be. I want a comfortable bed. I want comfort. When you're using drugs, a bed isn't even accounted for. We would sleep on the floor, and some people have never even slept on a bed who are in recovery. It contributes to the ideas of home. If you're going to be stuck in a place that is getting your sh*t together, you need to feel comfortable and cared for. You're not going to get good outcomes if everything you have is sh*tty. Have good pillows, and good food, and comfortable beds. You can tell people they should be thankful they have this bed to recover, but you need a creature comfort type of environment. Compassionate staff. Care. Go to any length to make sure people feel comfortable where they're at.

CASE STUDY

Maggie's Leeds Centre
Harehills, UK
Heatherwick Studio



Background Info & History

Maggie's Centre is a charity that provides free practical and emotional support for people with cancer. The 462 sq metre centre, located within the campus of St. James's University Hospital in Leeds, is the charity's 26th centre in the UK and the first completed healthcare project designed by the studio.

Maggie's Leeds is designed as a group of three large-scale planters, built on a sloped site, that each encloses a counselling room. These surround the 'heart' of the centre - the kitchen - as well as more social spaces for group activities including a library and exercise room.

Drawing upon the philosophy of Maggie's and the belief that great design can help people feel better, Maggie's Leeds uses several 'healthy' materials and energy-saving techniques. The building's structure is built from a prefabricated and sustainably-sourced spruce timber system. Porous materials such as lime plaster help to maintain the internal humidity of the naturally-ventilated building, which has been achieved through careful consideration of the building's form and orientation.



Design Concept

The interior of the centre explores everything that is often missed in healing environments: natural and tactile materials, soft lighting, and a variety of spaces designed to encourage social opportunities as well as quiet contemplation. Window sills and shelves are intended for visitors to fill with their own objects to create a sense of home. The studio has also designed two tables, inspired by the building's timber fins and built from cork and engineered beech timber, which reside in the heart of the centre.

The rooftop garden, designed by award-winning landscape designers Balston Agius, is inspired by Yorkshire woodlands and features native English species of plants, alongside areas of evergreen to provide warmth in the winter months. Inspired by Maggie Keswick Jencks' love of gardening, visitors are encouraged to participate in the care of the 23,000 bulbs and 17,000 plants on site.



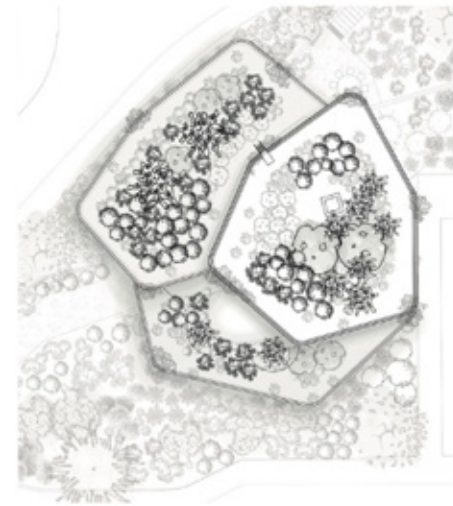
Floor Plan



Ground Floor

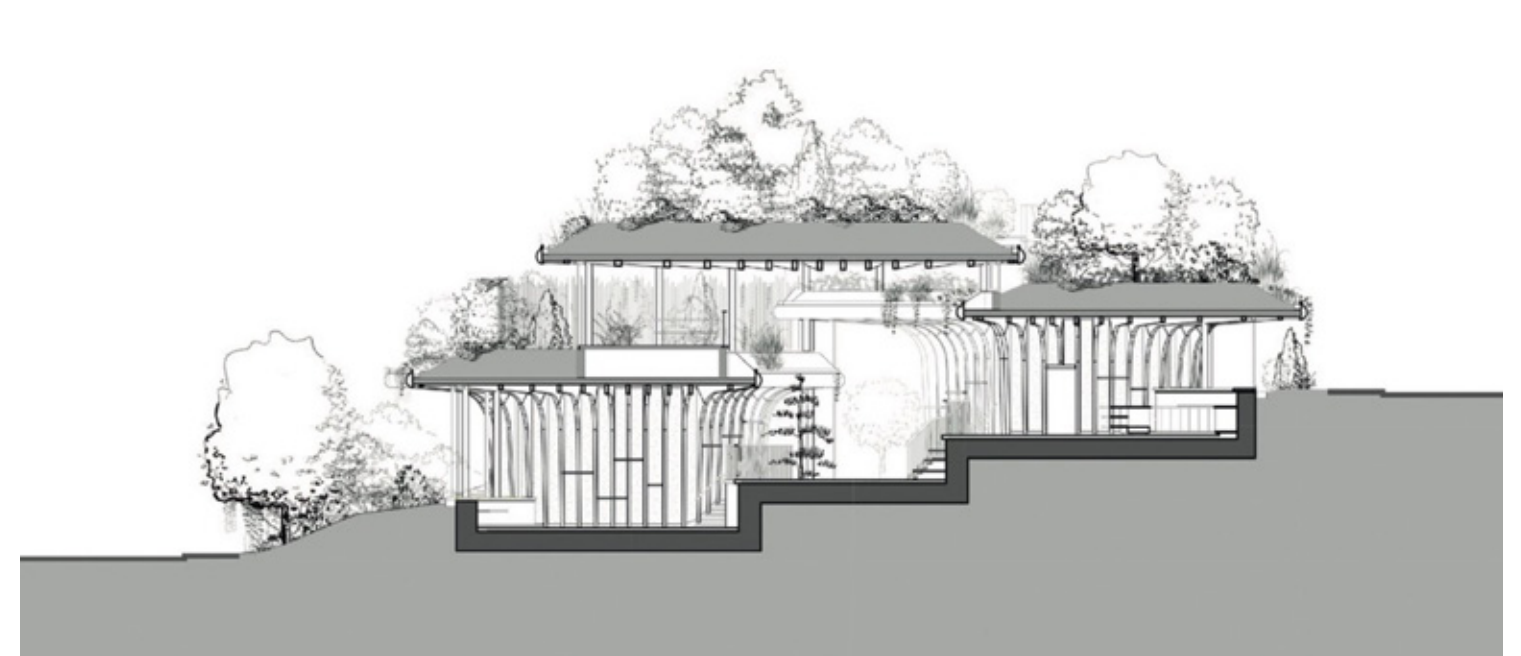


Mezzanine Floor



Roof Floor

Section



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